

Cardinal-Hickory Creek 345-kV Transmission Line Project

FINAL ENVIRONMENTAL IMPACT STATEMENT

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Appendices

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**US Army Corps
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APPENDIX A

Detailed Electricity Characteristics

ELECTRIC GENERATION AND TRANSMISSION LOAD FORECASTS

The electric generation and transmission load forecasts for Dairyland Power Cooperative (Dairyland) are part of Rural Utilities Service’s (RUS’s) evaluation of Dairyland’s loan application. Improving transmission system reliability is one of the purposes of the Cardinal-Hickory Creek Project (C-HC Project). An important factor in system reliability planning is the projection of future load forecasts, both regional and local. One of the significant factors affecting those forecasts is the projected changes in population levels, and the associated effects on the regional and local economies. This section provides a summary of the Midcontinent Independent System Operator, Inc.’s (MISO’s) historical electricity sales, regional load forecasts through 2026, Wisconsin and Iowa state population projections from 2010 through 2040, and Dairyland load forecasts through 2035.

Midcontinent Independent System Operator, Electric Generation, and Transmission Load Forecasts

Within MISO, as shown in Table A-1, electricity use has generally increased in Wisconsin and Iowa since 1990. Historical electricity usage in Wisconsin was 49,198 gigawatt hours (GWh) in 1990, 65,146 GWh in 2000, and 69,495 GWh in 2014. In Iowa, it was 29,437, 39,088, and 47,202 GWh in those same years, respectively. Compound annual average growth rates were 1.45% and 1.99%, respectively, over that period (Gotham et al. 2016)

Table A-1. MISO Historical Wisconsin and Iowa Gross Electricity Use (1990–2014)

Year	Annual Electricity Retail Sales (GWh)		
	Wisconsin	Iowa	Total
Historical			
1990	49,198	29,437	78,635
2000	65,146	39,088	104,234
2010	68,752	45,445	114,197
2011	68,612	45,655	114,267
2012	68,820	45,709	114,529
2013	69,124	46,705	115,829
2014	69,495	47,202	116,697
Compound Annual Average Growth Rates (%)	1.45	1.99	–

Source: Gotham et al. (2016)

The following sections describe the MISO load forecast methodologies and results for projected future electricity uses.

10-Year Load Forecast Methodology

The State Utility Forecasting Group (SUGF) prepared an independent 10-year load forecast for the MISO. Figure A.1 shows the 10 local resource zones (LRZs) for which MISO provided load forecasts. As can be seen for the C-HC Project area, central and eastern Wisconsin are in LRZ 2, the southwestern portion of Wisconsin is in LRZ 1, and Iowa is in LRZ 3 (Gotham et al. 2016).

Econometric models were developed for each state to project annual retail sales of electricity. Forecasts of metered load at the LRZ level were developed by allocating the portion of each state's sales to the appropriate LRZ and adjusting for estimated distribution system losses. LRZ seasonal peak demand projections were developed using peak conversion factors, which translated annual electricity into peak demand based on historical observations assuming normal weather conditions. MISO system level seasonal peak projections were developed from the LRZ forecasts by using coincidence factors. Energy efficiency (EE), demand response (DR), and distributed generation (DG) adjustments were made at the LRZ level and the MISO system-wide level based on a study of those factors performed by Applied Energy Group for MISO (Gotham et al. 2016).

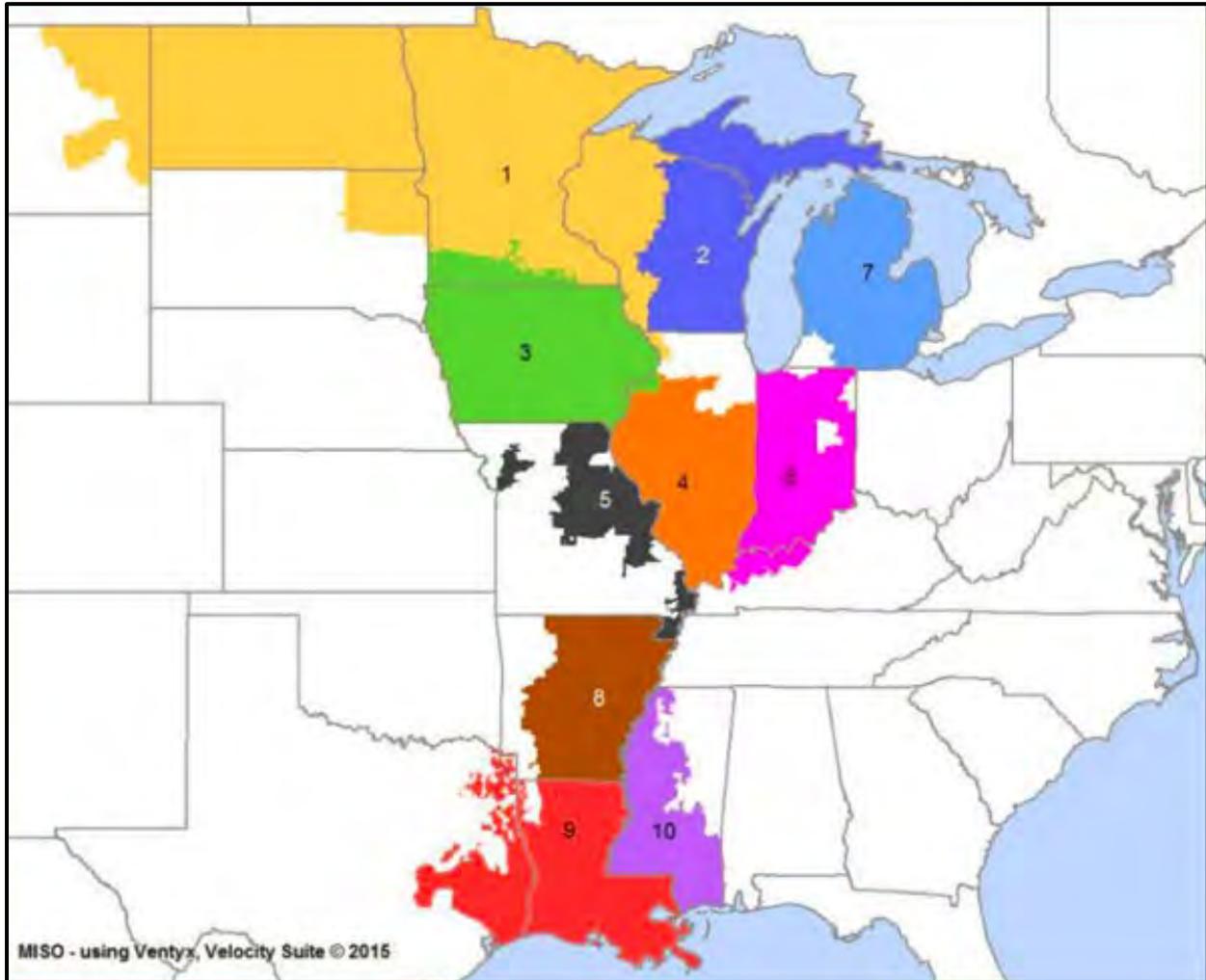


Figure A.1. MISO 2015 planning year local resource zones map (Gotham et al. 2016).

The state econometric models were developed using publicly available information for electricity sales, prices for electricity and natural gas, personal income, population, employment, gross state product, and annual cooling and heating degree days. Economic and population projections acquired from IHS Global Insight and price projections developed by SUFG were used to produce projections of future retail sales. Weather variables were held constant at their 30-year normal values (Gotham et al. 2016).

LRZ-level electricity forecasts were developed by allocating the state electricity forecasts to the individual LRZs on a proportional basis. The EE/DR/DG adjustments were made at the LRZ level. Additionally, losses associated with the distribution system were added to produce a forecast at the metered load level (Gotham et al. 2016).

LRZ summer and winter non-coincident peak demand projections were developed using peak conversion factors that are based on normal weather conditions and are determined from historical relationships between average hourly load for the year, summer and winter peak levels for the year, and weather conditions at the time of the peak demand. Because these conversion factors are held constant for the forecast period, the LRZ peak demand projections without the EE/DR/DG adjustments have the same growth rates as the electricity projections (Gotham et al. 2016).

10-Year Load Forecasts

As shown in Table A-2, in the MISO region electricity load is forecasted to increase from 667,822 GWh in 2015 to 783,121 GWh in 2026, without adjusting for EE/DR/DG, an increase of 115,299 GWh or a 1.46% compound annual average growth rate. When adjusting for EE/DR/DG, it is forecasted to increase to 774,270 GWh, an increase of 106,448 GWh and a 1.35% compound annual average growth rate. Thus, implementing EE/DR/DG measures in the MISO area is projected to result in an annual average 0.11% reduction in electricity use from 2015 through 2026 (Gotham et al. 2016).

Table A-2. MISO Gross and Net Electricity Forecasts (2015–2026)

Year	Total (in GWh)		
	Forecast without EE/DR/DG Adjustments	Forecast with EE/DR/DG Adjustments	Difference
2015	667,822	667,822	0
2016	687,202	685,935	-1,267
2017	700,281	698,377	-1,904
2018	712,549	709,986	-2,563
2019	722,754	719,505	-3,249
2020	731,733	727,768	-3,965
2025	774,010	766,048	-7,962
2026	783,121	774,270	-8,851
Total (GWh)/ Compound Annual Average Growth Rates (%)			
2015–2020	63,911 / 1.84	59,946 / 1.73	-0.11
2015–2026	115,299 / 1.46	106,448 / 1.35	-0.11
2017–2026	82,840 / 1.25	75,893 / 1.15	-0.10

EE/DR/DG = energy efficiency, demand response, and distributed generation

Source: Gotham et al. 2016

Electricity demand is forecasted to increase by 14,158 GWh total and 1.69% annually in Wisconsin from 2015 through 2026 (prior to any EE/DR/DG adjustments), and Iowa is projected to increase by 10,181 GWh total and 1.84% annually (Table A-3) (Gotham et al. 2016).

Table A-3. MISO Wisconsin and Iowa Gross State Electricity Forecasts (2015–2026)*

Year	Annual Electricity Retail Sales (in GWh)		
	Wisconsin	Iowa	Total
Historical			
2010	68,752	45,445	114,197
2014	69,495	47,202	116,697
Projections			
2015	69,762	45,912	115,674
2016	71,401	47,563	118,964
2017	73,183	48,179	121,362
2018	74,892	48,954	123,846
2019	76,213	49,902	126,115
2020	77,267	50,834	128,101
2025	82,774	55,132	137,906
2026	83,920	56,093	140,013
Total (GWh)/Compound Annual Average Growth Rates (%)			
2015–2026	14,158 / 1.69	10,181 / 1.84	–
2017–2026	10,737 / 1.53	7,914 / 1.70	–

* Without EE/DR/DG Adjustments

Source: Gotham et al. (2016)

The compound annual average growth rates of the LRZ non-coincident peak demand projections with and without the EE/DR/DG adjustments are shown in Table A-4. Within the three LRZs overlaying the C-HC Project area, demand is projected to increase by 1.49% to 1.68% annually without adjusting for EE/DR/DG levels, and 1.32% to 1.59% annually with adjustments for EE/DR/DG levels (Gotham et al. 2016).

Table A-4. Forecasted State and LRZ Electricity Load Changes (2017–2026)

State/LRZ Zone	Forecast without EE/DR/DG Adjustments		Forecast with EE/DR/DG Adjustments	
	Total Change (GWh)	CAGR (%)	Total Change (GWh)	CAGR (%)
State Retail Sales				
Iowa	7,914	1.70	–	–
Wisconsin	10,737	1.53	–	–
LRZ Annual Metered Load				
1	16,812	1.68	15,762	1.59
2	9,811	1.49	9,785	1.49
3	7,772	1.66	6,045	1.32

LRZ = local resource zone

EE/DR/DG = energy efficiency, demand response, and distributed generation

CAGR = compound annual average growth rate

Source: Gotham et al. (2016)

There are a number of factors affecting hourly load demand, such as humidity, wind speed, temperature, and so forth. Of all the weather-related factors, temperature is the most important one to determine the timing and magnitude of the peak. A closer look at the historical relationships between hourly loads and hourly temperatures shows that temperature has a significant impact on annual electricity demand, zonal peak winter and summer hourly loads, and when seasonal peaks occur. The summer peak demand in each LRZ is forecasted to increase by 1.17% to 1.41% annually from 2017 through 2026 when adjusting for EE/DR/DG, and winter peak demand is forecasted to increase by 1.04% to 1.35% annually (Gotham et al. 2016).

MISO Modeling Methodologies and Processes

As a precursor to the Multi-Value Project (MVP) discussion, MISO first conducted the Regional Generation Outlet Study (RGOS). First, MISO identified where generation would be located in the study area for a specific year (for the MVPs, it was 2021). Because one of the main purposes of the MVPs was compliance with Renewable Portfolio Standards (RPSs), likely locations were identified for new renewable electricity generation facilities within each state. Those new renewable generation locations were added to other existing and new electric generation sources in the study area (Dairyland et al. 2016).

MISO then determined how best to reliably convey the electricity from those generators to customers. To obtain the most cost-effective solution to the RPSs, MISO evaluated a number of different scenarios. In one scenario it was assumed that each state would build enough in-state renewable electricity generation facilities to comply with its respective RPSs, and then also build the required transmission systems (i.e., MISO placed numerous renewable facilities in each state). In another scenario, MISO assumed that states would purchase the most economical renewable electricity from facilities regardless of their locations, and would build the required transmission systems to distribute the electricity. Through this iterative process, MISO tested whether local renewable generation facilities alone were more or less expensive than a mix of local and upper Great Plains renewable electricity generation facilities. Based on the results of RGOS, stakeholders selected the alternatives to be evaluated during the MVP process (Dairyland et al. 2016).

While the RGOS study focused on the ability to transmit renewable electricity, MISO expanded its analysis during the MVP process to evaluate which transmission lines, when considered with the whole portfolio, would provide reliability benefits to and reduce congestion on the regional electrical grid. MISO conducted the MVP analyses using the following four future scenarios:

- Business as Usual with Mid-Low Demand and Energy Growth Rates;
- Business as Usual with Historic Demand and Energy Growth Rates;
- Carbon Constraint; and
- Combined Energy Policy.

Each future scenario had differing assumptions for each variable, such as how quickly demand for electricity would grow and the price of natural gas (Dairyland et al. 2016).

In 2011, MISO and stakeholders selected (by near consensus) the 345-kilovolt (kV) transmission line option between Dubuque County, Iowa, and Dane County, Wisconsin. Stakeholders agreed that the 17 MVPs were “no regrets” projects, namely that they provided a robust solution to a number of challenges. MISO recently reconfirmed this robustness in its second Triennial Review of the MVP Portfolio (MISO 2017). The C-HC Project is one of the 17 MVPs (Dairyland et al. 2016).

Wisconsin and Iowa Population Projections

A significant factor in forecasting changes in future electricity usage in an area is the projected changes in population levels, and the associated changes in economic activity that are generated by that increase in population. Thus, the following sections provide population projections for Wisconsin and Iowa for the 2010 to 2040 period.

WISCONSIN POPULATION PROJECTIONS

Table A-5 provides a summary of the Wisconsin population levels for every 5 years from 1980 through 2010, and population projections from 2010 through 2040. Wisconsin's population in 2040 is projected to be nearly 6,500,000, a gain of more than 800,000 people (14%) from 2010 (Egan-Robertson 2013).

Table A-5. Wisconsin Population Levels (1980–2010) and Projections (2010–2040)

Year	Population	Change from Previous 5-Year Period	
		Quantity	Percent
Population Levels			
1980	4,705,642	–	--
1985	4,771,758	66,116	1.4
1990	4,891,769	120,011	2.5
1995	5,134,123	242,374	5.0
2000	5,363,715	229,572	4.5
2005	5,584,522	220,807	4.1
2010	5,686,986	102,464	1.8
Change 1980–2010			
Total Change	–	981,344	20.9
Average Annual Change	–	32,711	0.70
Population Projections			
2010	5,686,986	–	–
2015	5,783,015	96,029	1.7
2020	6,005,080	222,065	3.8
2025	6,203,850	198,770	3.3
2030	6,375,910	172,060	2.8
2035	6,476,270	100,360	1.6
2040	6,491,635	15,365	0.2
Change 2010–2040			
Total Change	–	804,649	14.1
Average Annual Change	–	26,822	0.47

Source: Egan-Robertson (2013)

From 2010 to 2040, 57 of Wisconsin's 72 counties are projected to increase in population. Of these, 25 are expected to exceed the state's total growth rate of 14.1% (0.47% average annual growth). Within the C-HC Project area, Dane County is projected to have one of the fastest-growing population levels in Wisconsin. The Grant County population is projected to peak in 2030, Iowa County will peak in 2035, and Dane and Lafayette Counties will peak in 2040 (Egan-Robertson 2013).

IOWA POPULATION PROJECTIONS

As shown in Table A-6, populations in the state of Iowa are projected to increase by over 459,000 people (15.2%) from 2010 through 2040. In Clayton County, where the C-HC Project would be located, the population level is projected to remain unchanged for the 30-year period. For neighboring Dubuque County, the population is projected to increase by almost 10,700 people (11.5%) from 2010 through 2040 (State Data Center 2009).

Table A-6. Iowa Population Levels and Projections (2010–2040)

State/County	Census 2010	Projected 2040	Quantity Change	Total/Average Annual Change (%)
State of Iowa	3,028,666	3,487,942	459,276	15.2 / 0.51
Clayton County*	17,530	17,366	-164	-0.94 / -0.03
Dubuque County	93,303	103,994	10,691	11.46 / 0.38

* Located in the C-HC Project area

Source: State Data Center (2009)

POTENTIAL CHANGE IN FUTURE STATEWIDE ELECTRICITY USE BASED ONLY ON POPULATION CHANGES

In 2015, the average annual electricity consumption for a U.S. residential utility customer was 10,812 kWh a year (i.e., 10.812 megawatt hours [MWh]) (U.S. Energy Information Administration 2017). The Wisconsin average household size was 2.43 people per household in 2011–2015 (U.S. Census Bureau 2017). Using this information as an assumption for calculating potential electricity needs using a broad estimation method, it means that the increase of 804,649 people in Wisconsin from 2010 to 2040 could result in a total increased use of 3,580,191 MWh (an average annual increase of 119,340 MWh). Similarly, the increase of 459,276 people in Iowa from 2010 to 2040 could result in a total increased use of 2,043,495 MWh (an average annual increase of 68,116 MWh).

Dairyland’s Electric Load Forecasts

Dairyland’s system consists of 24 distribution and 17 municipal systems. Two of the municipal systems are served directly by distribution systems. The distribution systems comprising the Dairyland system include the following Class A members:

- Allamakee-Clayton IA-74 MiEnergy MN-32
- Barron WI-40 Oakdale WI-25
- Bayfield WI-63
- People’s MN-59
- Chippewa Valley WI-19
- Pierce-Pepin WI-32
- Clark WI-29 Polk-Burnett WI
- Dunn WI-49 Price WI-58
- Eau Claire WI-53 Richland WI-35
- Freeborn-Mower MN-61
- Riverland WI-37
- Hawkeye IA-52
- Scenic Rivers WI-43
- Heartland IA-98
- St. Croix WI-51
- Jackson WI-47
- Taylor WI-21
- Jo-Carroll IL-44
- Tri-County MN-32
- Jump River WI-57
- Vernon WI-41

The total system serves more than 258,000 accounts in four states: Wisconsin, Minnesota, Iowa, and Illinois. Load forecasts are developed for each of the member systems and summed to determine Dairyland’s forecast.

LOAD FORECASTING METHODOLOGY OVERVIEW

The major demographic and economic factors impacting future growth in the Dairyland system are population, real per-capita income, and total employment. Continued growth potential exists on the Dairyland system as the rural economy is expected to suffer less from the current economic troubles, and transportation expansion improves access to rural areas (Dairyland 2016a).

Dairyland’s load forecast was developed using a bottom-up forecasting approach. This approach consists of developing individual load forecasts for each of the member distribution systems and municipal systems that are served by Dairyland. These individual results are then summed to determine Dairyland’s forecast.

On November 16, 2016, Dairyland’s Board of Directors approved the 2016 Load Forecast (Dairyland 2016a) for the 2016–2035 period. The analyses for this report reflect historic electricity and peak demand data through December 2015, and provide new projections through 2035. It focuses not only on the results for the entire Dairyland system, but also includes projections for each of the 25 Class A Cooperatives and for the Class D (municipal utility) systems. The following information was obtained from that load forecast.

OVERALL LOAD FORECASTS

As shown in Table A-7, total electricity requirements in the Dairyland service area are forecasted to increase by an average annual rate of 2.5% from 2015 to 2025, and by 1.5% from 2015 to 2035 (Dairyland 2016a).

Table A-7. Dairyland Forecasted Total Electricity Requirements (2016–2035)

Year	Total Electricity Requirements (MWh)	Peak Month	Load Factor (%)
Historical			
2010	4,944,408	August	62.60
2015	5,155,659	August	59.18
Projections			
2016	5,280,222	July	59.59
2017	5,348,680	July	59.76
2018	5,410,395	July	59.69
2019	5,460,911	July	59.69
2020	5,489,286	July	59.65
2025	6,593,397	July	59.78
2030	6,775,233	July	59.95
2035	6,956,174	July	60.04
Average Annual Growth Rates (MWh / %)			
2010–2015	42,250 / 0.84	–	-1.12
2015–2025	143,774 / 2.49	–	0.10
2015–2035	90,026 / 1.51	–	0.07

Source: Dairyland (2016a)

As shown in Table A-8, the greatest growth is expected to occur in the general and large commercial and industrial classes, with electricity sales expected to grow at an average annual rate of 2.5% and 3.0%, respectively, over 20 years (Dairyland 2016a).

Dairyland estimated that transmission line losses are 4.5%.

Table A-8. Dairyland Power Cooperative Total System Average Annual Growth Projections (2016–2035)

Consumers/Sales	Average Annual Growth (%)
Consumers	
Residential Consumers	1.1
General Commercial and Industrial Consumers	2.8
Large Commercial and Industrial Consumers	3.3
<i>Subtotal</i>	<i>1.1</i>
Sales	
Residential sales	0.9
General Commercial and Industrial Consumers	2.5
Large Commercial and Industrial Consumers	3.0
<i>Subtotal</i>	<i>1.6</i>
Summer Coincident Peak	1.5

Source: Dairyland (2016a)

MEMBER COOPERATIVE LOAD FORECASTS

Dairyland also prepared annual growth projections for each of its Class A members, by type of consumer. Most of the members are projected to have increases in loads from 2015 through 2035, ranging from 0.1% to 8.5% average annual growth, depending on the type of consumer for any given member (Dairyland 2016a).

Load Forecast and Population Changes Summary

As shown in Table A-9, annual rates of change in electricity use are forecasted to be 1.35% in the MISO region, 1.69% in Wisconsin, and 1.84% in Iowa from 2015 to 2026; populations will increase by 0.47% annually in Wisconsin and 0.51% in Iowa from 2010 to 2040; and electricity use will increase by 1.75% annually in the Dairyland service area from 2015 to 2035.

Table A-9. Summary of Forecasted Electrical Use and Population Growth Rates

Forecast	Change	Rate of Change (%)
MISO 2015–2026		
Total without EE/DR/DG Adjustments	115,299 GWh	1.46*
Total with EE/DR/DG Adjustments	106,448 GWh	1.35*
Wisconsin Total	14,158 GWh	1.69*
Iowa Total	10,181 GWh	1.84*

Forecast	Change	Rate of Change (%)
Population Projections 2010–2040		
Wisconsin		
Total Change	804,649 people	14.15
Average Annual Change	26,822 people	0.47 [†]
Iowa		
Total Change	459,276 people	15.16
Average Annual Change	15,309 people	0.51 [†]
Dairyland Power Cooperative Load Forecast 2016–2035		
Total Change	1,800,515 MWh	34.92
Average Annual Change	90,026 MWh	†

* Compound annual average growth rate

† Average annual rate of change

EE/DR/DG = energy efficiency, demand response, and distributed generation

Dairyland’s Current Electrical System Management Characteristics and Issues

Dairyland’s total energy requirements, which consist of energy sales to Class A (distribution) and Class D (municipal) members, increased from over 4.9 million MWh in 2010 to over 5.1 million MWh in 2015, for a total of over 211,000 MWh and at an annual average growth rate of 0.8% (Table A-10). There was a temporary decrease in electricity requirements from 2011 to 2012, and from 2014 to 2015. In both of those years the Dairyland service area experienced noticeably fewer heating degree days (HDD) than average (Dairyland 2016a).

Table A-10. Dairyland Historical Total Electricity Requirements (2010–2015)

Year	Total Electricity Requirements (MWh)	Peak Month	Load Factor (%)
Historical			
2010	4,944,408	August	62.60
2011	4,980,626	July	58.12
2012	4,947,117	July	53.28
2013	5,187,011	July	56.41
2014	5,337,896	July	63.17
2015	5,155,659	August	59.18
Change 2010–2015			
Total Electricity Use (MWh)	211,251	–	–
Annual Average Growth Rate (%)	0.8	–	-1.12

Source: Dairyland (2016a)

The electrical system and flows in southwestern Wisconsin have been affecting how the system is operated. First, two electrical generation facilities have been retired in the Cassville, Grant County, Wisconsin area:

- E.J. Stoneman Generating Station
 - Nameplate: 40 MW
 - Construction begun in 1950 by Dairyland, commissioned in 1952
 - Originally a coal-fired power plant with two units, closed in 1993 for economic reasons
 - Later sold and converted to a woody-biomass burning facility, and began operation again in October 8, 2010
 - Plant closed in December 2015
- Nelson Dewey Generating Station
 - Nameplate: 220 MW
 - Coal-fired power plant with two units
 - Owned by Wisconsin Power and Light Company, an Alliant Energy company
 - Plant closed in December 2015

These generation retirements, among other changes, have increased the reliance on the local transmission system due to the need to bring electricity from more remote generation sources (Dairyland et al. 2016).

Second, these power plant retirements have increased the power flow on the Dairyland-owned Stoneman–Nelson Dewey 161-kV transmission line. Power flow also has increased on the Turkey River–Stoneman 161-kV transmission line, of which Dairyland and ITC Midwest LLC each own a segment. Power usually flows from the 345-kV transmission source at the Hickory Creek Substation near Dubuque, Iowa, toward Wisconsin on the 161-kV transmission lines, causing high flows on them. As a result, these transmission lines could overload under some contingencies (Dairyland et al. 2016).

Third, when congestion is present on the system, higher cost generation is dispatched from the east to reduce power flows from Iowa towards Wisconsin (Dairyland et al. 2016).

Finally, there are MISO Operating Guides that affect Dairyland’s system in the southwestern Wisconsin area, to respond to multiple outages and protect transmission lines from potential overloads during high load periods. An Operating Guides consists of pre-planned procedures that are initiated under pre-determined operating conditions of the transmission system to alleviate conditions such as line overloads. A last resort in one of these Operating Guides is the potential for shedding load (i.e., not providing electricity) to maintain equipment loading under their maximum loading capabilities. This includes some Dairyland member loads in southwestern Wisconsin. Operating Guides are normally used as interim measures and are not normally long-term solutions (Dairyland et al. 2016).

Renewable Electricity Projects and Programs

As shown in Table A-11, Dairyland and its member cooperative system have four thermal and 32 renewable generation facilities operating or soon to be operating.

Table A-11. Dairyland and Member Cooperative Electric Generation Facilities/Power Purchases

Electric Generation Type and Facility	Location	Operational/Power Purchase Year	Electricity Generation (MW)
Thermal Facilities			
Weston No. 4 Coal-Fired Power Plant	Wausau, WI	June 2008	158 (30% of 525, is Dairyland)
John P. Madgett Station – coal	Alma, WI	Nov 1979	400
Genoa Station No. 3 (G-3) – coal	La Crosse, WI	1969	379

Appendix A. Detailed Electricity Characteristics

Electric Generation Type and Facility	Location	Operational/Power Purchase Year	Electricity Generation (MW)
Elk Mound Combustion Turbines – natural gas or fuel oil	Elk Mound, WI	June 2001	70
<i>Subtotal Thermal</i>			1,007
Renewable Facilities*			
Flambeau Hydroelectric Station	Ladysmith, WI	1951	22.0
Sartell Hydroelectric Project	Sartell, MN		
Barton Wind Farm	Kensett, IA	Feb 2017	80.0 (50% of 160, is Dairyland)
Quilt Block Wind Farm	Platteville, WI	Late 2017	98.0
Winnebago Wind Power Project	Thompson, IA	Sept 2008	20.0
McNeilus Wind Farm	Adams, MN	Oct 2003	18.0
Solar	Centuria, WI	2017	1.0
Solar	New Auburn, WI	2017	2.5
Solar	Strawberry Point, IA	2017	1.3
Fambeau GroSolar Partners – solar	Phillips, WI	2017	2.5
SoCore Energy – solar	Viola, WI	2017	0.5
SoCore Energy – solar	Roberts, WI	2017	2.2
SoCore Energy – solar	Conrath, WI	2017	1.0
SoCore Energy – solar	Necedah, WI	2017	1.5
SoCore Energy – solar	Menomonie, WI	2017	1.0
SoCore Energy – solar	Medford, WI	2017	2.0
SoCore Energy – solar	Liberty Pole, WI	2017	1.0
SoCore Energy – solar	Hillsboro, WI	2017	1.0
SoCore Energy – solar	Town of Hallie, WI	2017	1.0
SoCore Energy – solar	Mt. Hope, WI	2017	1.0
SoCore Energy – solar	Arcadia, WI	2017	1.0
Minnesota Three, LLC – solar	Oronoco, MN	2014	0.4
CEC Solar #1034, LLC – solar	Westby, MN	2014	0.4
City of Galena, IL – solar	Galena, IL	2012	0.3*
Timberline Trail Landfill Gas-to-Energy Generating Station	Bruce, WI	2006	5.6
Central Disposal Landfill Gas-to-Energy Generating Station	Lake Mills, IA	2006	4.8
Seven Mile Creek Landfill Gas-to-Energy Generating Station	Eau Claire, WI	2004	4.0
Norm-E-Lane Biogas	Chili, WI	2008	0.6
Bush Brothers Biogas	Augusta, WI	2012	0.6
Big Ox Energy Riceville, LLC Biogas	Riceville, IA	2012	0.6
Bach Farms Biogas	Dorchester, WI	2009	0.6
USEMO Biogas	Chaseburg, WI	2012	0.05
<i>Subtotal Renewables</i>			276.45
Total			1,283.45

Note: The cooperatives either own and operate, or purchase power from the facilities listed.

* Excess energy is sold to Dairyland, and is not included in the total.

Sources: Dairyland (2016b, 2016c, 2017a, 2017b)

Dairyland is a founding member of the National Renewable Cooperative Organization, an organization of cooperatives promoting the development of renewable energy resources (Dairyland 2017b). Dairyland and its member cooperatives have historically and are continuing to implement several renewable energy programs, including development of wind and solar facilities. The advantages of multiple projects in separate locations include diversified weather, distributed grid infrastructure impacts, and locally based renewable energy (Dairyland 2016b).

As the costs of solar panels have declined, Dairyland and the member cooperatives have a new focus on developing solar electric generating facilities. They recently signed power purchase agreements for 15 utility-scale solar generation projects in southwestern Wisconsin and northeastern Iowa, ranging from 0.5 to 2.5 MW each and totaling 20.5 MW of generation (see Table A-11). In addition to these commercial facilities, there are over 850 consumer-owned distributed generation solar installations in the Dairyland service area (Dairyland 2016b).

Dairyland also supports farm animal waste-to-electric facility developments in its region. It does so by purchasing the electricity generated from several animal waste anaerobic digesters. These digesters biodegrade the liquid and manure wastes from cows and other livestock, converting it into methane gas, which is then used to power an electric generator (Dairyland 2017a).

Dairyland also has developed a *Solar for Schools* renewable energy and education initiative. This initiative not only includes installation of solar facilities on campuses, but also provides education and workforce training for the students. Under this program, solar installations were constructed at a technical college and three schools, shown in Table A-12 (Dairyland 2016d).

Table A-12. Dairyland and Member Cooperative Solar for Schools Electric Generation Facilities

School	Location	Operational Year	Electricity Generation (kW)
Western Technical College – Independence Campus	Independence, WI	Fall 2016	1.6
Alma Area School (K-12)	Alma, WI	Fall 2016	12
Cochrane-Fountain City School (K-12)	Fountain City, WI	Fall 2016	12
De Soto Area Middle and High School	De Soto, WI	Fall 2016	12

Source: Dairyland (2016d)

Dairyland has also developed an *Evergreen Renewable Energy Program*. Dairyland’s members distribute renewable electricity to their consumers, who voluntarily support renewable electricity development by paying \$1.50 more each month for each block of 100 kWh (1.5 cents/kWh). These additional funds are then used to support development of new renewable electricity facilities and programs (Dairyland 2017a).

Load and Demand-Side Management

Dairyland and its member systems currently offer a variety of load management and Demand-Side Management (DSM) programs designed to shift load from on-peak periods and to reduce system peak demands. The ultimate objectives of DSM programs are to lower rates, delay the need to construct new power plants, improve system efficiency and reliability, stimulate consumer interest in more efficient appliances, and reduce harmful environmental emissions associated with electrical generation (Dairyland 2016a).

Historic DSM efforts have primarily focused on management of electric water heating and electric space heating loads. Over the past few years, the summer peak demand has been more directly targeted for load

management, including the control of air conditioning systems and voluntary interruptions of large commercial and industrial loads (Dairyland 2016a).

It is estimated that Dairyland currently has 90 to 140 MW of direct load control during the winter months (at the substation) and an additional 35 MW of daily load control of electric thermal storage (ETS) systems. It is also estimated that the Dairyland system currently has 60 to 90 MW of summer load control, including voluntary interruptions of large commercial and industrial facilities. These impacts are estimated for peak days under extreme weather conditions (Dairyland 2016a).

Changing Load Characteristics

Although the consumer base of Dairyland's member systems has traditionally been composed primarily of rural agricultural consumers, the composition of members is becoming increasingly suburban due to housing development within commuting distance of the region's larger cities. The most recent Dairyland survey (2013) indicated that about 21% of residential accounts included a farm. In recent years, the strongest growth has occurred in the large commercial and industrial class as small manufacturing plants, large-scale agricultural loads, large retail stores, and industrial facilities have located in rural and suburban areas. Over the past 10 years, the number of loads reported with connected capacity greater than 1,000 kilovolt-amperes (kVA) has increased from 61 to 110 (Dairyland 2016a).

In June 2010, Dairyland joined the MISO system. This change, combined with the possibility of additional environmental legislation, created a great deal of uncertainty as to what the future of the industry might look like (Dairyland 2016a).

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APPENDIX B

List of Tribes Contacted

TRIBES CONTACTED BY RURAL UTILITIES SERVICE IN THE NEPA PROCESS

Rural Utilities Service (RUS) contacted federally recognized tribes on three different occasions during the development of the draft environmental impact statement for the Cardinal-Hickory Creek Project (C-HC Project).

On October 17, 2016, RUS mailed the first round of letters to 26 tribes announcing the public scoping period and public meetings held on October and November for the National Environmental Policy Act (NEPA) process (Table B-1). The list of tribes contacted was generated from lists compiled by RUS and Dairyland Power Cooperative, American Transmission Company LLC, and ITC Midwest LLC (herein called the Utilities).

Table B-1. Tribes Contacted on October 17, 2016

Apache Tribe of Oklahoma	Iowa Tribe of Kansas and Nebraska	Meskwaki Nation – Sac and Fox Tribe of the Mississippi in Iowa	<i>Sa ki wa ki</i> – Sac and Fox Nation of Oklahoma
Bad River Band of Lake Superior Chippewa Indians	Kickapoo Tribe of Oklahoma	Miami Tribe of Oklahoma	Sokaogon Chippewa Community Mole Lake Band
<i>Bah Kho-je</i> – Iowa Tribe of Oklahoma	Lac Courte Oreilles Band of Lake Superior Chippewa Indians	<i>Ne ma ha ki</i> – Sac and Fox Nation of Missouri	St. Croix Chippewa Indians of Wisconsin
Fond du Lac Band of Lake Superior Chippewa	Lac du Flambeau Band of Lake Superior Chippewa Indians	Oneida Nation of Wisconsin	Stockbridge-Munsee Band Community Band of Mohican Indians
Forest County Potawatomi	Lac Vieux Desert Band of Lake Superior Chippewa Indians	Prairie Band Potawatomi Nation	Winnebago Tribe of Nebraska
Fort Belknap Indian Community	Little Traverse Bay Bands of Odawa Indians	Prairie Island Indian Community	Minnesota
Ho-Chunk / Winnebago Nation of Wisconsin	Menominee Indian Tribe of Wisconsin	Red Cliff Band of Lake Superior Chippewa	

On November 17, 2016, RUS mailed the second round of letters to 26 tribes announcing the addition of two more public scoping meetings held in December in the proposed project area (Table B-2). The list of tribes contacted was generated from lists compiled by RUS and the Utilities.

Table B-2. Tribes Contacted on November 17, 2016

Apache Tribe of Oklahoma	Iowa Tribe of Kansas and Nebraska	Meskwaki Nation – Sac and Fox Tribe of the Mississippi in Iowa	<i>Sa ki wa ki</i> – Sac and Fox Nation of Oklahoma
Bad River Band of Lake Superior Chippewa Indians	Kickapoo Tribe of Oklahoma	Miami Tribe of Oklahoma	Sokaogon Chippewa Community Mole Lake Band
<i>Bah Kho-je</i> – Iowa Tribe of Oklahoma	Lac Courte Oreilles Band of Lake Superior Chippewa Indians	<i>Ne ma ha ki</i> – Sac and Fox Nation of Missouri	St. Croix Chippewa Indians of Wisconsin
Fond du Lac Band of Lake Superior Chippewa	Lac du Flambeau Band of Lake Superior Chippewa Indians	Oneida Nation of Wisconsin	Stockbridge-Munsee Band Community Band of Mohican Indians
Forest County Potawatomi	Lac Vieux Desert Band of Lake Superior Chippewa Indians	Prairie Band Potawatomi Nation	Winnebago Tribe of Nebraska
Fort Belknap Indian Community	Little Traverse Bay Bands of Odawa Indians	Prairie Island Indian Community	Minnesota

Apache Tribe of Oklahoma	Iowa Tribe of Kansas and Nebraska	Meskwaki Nation – Sac and Fox Tribe of the Mississippi in Iowa	Sa ki wa ki – Sac and Fox Nation of Oklahoma
Ho-Chunk / Winnebago Nation of Wisconsin	Menominee Indian Tribe of Wisconsin	Red Cliff Band of Lake Superior Chippewa	

On September 28, 2017, RUS mailed the third round of letters to 57 tribes initiating the Section 106 process and soliciting information about any specific historic properties or important tribal resources in the area of potential effects (Table B-3). The list of tribes contacted in this round was generated from lists compiled by RUS, the Utilities, the U.S. Army Corps of Engineers, and the U.S. Fish and Wildlife Service. The tribes listed in Table B-3 were also contacted on December 3, 2018, January 15, 2019, January 31, 2019, and February 21, 2019 to announce changes in the DEIS public review period and public meetings due to the partial lapse in funding for the Federal government that occurred December 22, 2018 through January 25, 2019.

Table B-3. Tribes Contacted September 28, 2017, through February 21, 2019

Absentee Shawnee Tribe of Oklahoma	Flandreau Santee Sioux Tribe	Lac du Flambeau Band of Lake Superior Chippewa Indians of Wisconsin	Sisseton Wahpeton Oyate
Alabama-Quassarte Tribal Town	Fond du Lac Band of Lake Superior Chippewa	Lac Vieux Desert Band of Lake Superior Chippewa Indians of Michigan	Sokaogon Chippewa Community of Wisconsin
Apache Tribe of Oklahoma	Forest County Potawatomi	Little Traverse Bay Bands of Odawa Indians	Spirit Lake Tribe
Bad River Band of Lake Superior Chippewa Indians of Wisconsin	Fort Belknap Indian Community	Mille Lacs Band of Ojibwe	St. Croix Chippewa Indians of Wisconsin
<i>Bah Kho-je</i> – Iowa Tribe of Oklahoma	Fort Peck Assiniboine and Sioux Tribes	Oneida Nation of Wisconsin	Standing Rock Sioux Tribe
Bay Mills Indian Community	Grand Portage Band of Lake Superior Chippewa	Red Cliff Band of Lake Superior Chippewa Indians of Wisconsin	Stockbridge-Munsee Band Community Band of Mohican Indians
Bois Forte Band of Chippewa	Grand Traverse Band of Ottawa and Chippewa Indians	Red Lake Band of Chippewa Indians	Three Affiliated Tribes (Mandan, Hidatsa and Arikara Nation)
Caddo Nation of Oklahoma	Hannahville Indian Community	Rosebud Sioux Tribe	Turtle Mountain Band of Chippewa Indians
Cayuga Nation of New York	Ho-Chunk Nation	Sac and Fox Nation of Missouri in Kansas and Nebraska	Upper Sioux Community, Minnesota
Cherokee Nation	Iowa Tribe of Kansas and Nebraska	Sac and Fox Nation of Oklahoma	White Earth Nation
Cheyenne and Arapaho Tribes of Oklahoma	Iowa Tribe of Oklahoma	Sac and Fox Tribe of the Mississippi in Iowa	Winnebago Tribe of Nebraska
Cheyenne River Sioux Tribe	Kickapoo Traditional Tribe of Texas	Saginaw Chippewa Indian Tribe of Michigan	Yankton Sioux Tribe
Chippewa Cree Tribe of the Rocky Boy's Reservation of Montana	Kickapoo Tribe in Kansas	Santee Sioux Tribe of Nebraska	
Citizen Potawatomi Nation	Kickapoo Tribe of Oklahoma	Sault Ste. Marie Tribe of Chippewa Indians	
Crow Creek Sioux Tribe	Lac Courte Oreilles Band of Lake Superior Chippewa Indians of Wisconsin	Shakopee Mdewakanton Sioux Community of Minnesota	

APPENDIX C

Alternatives Development Process

ALTERNATIVES DEVELOPMENT PROCESS FOR THE CARDINAL-HICKORY CREEK PROJECT ENVIRONMENTAL IMPACT STATEMENT

This appendix was written to support the initial development of transmission line route alternatives for the draft environmental impact statement (EIS). Since the initial development of alternatives, based on pre-defined transmission line subsegments, alternatives have been refined and are presented in Chapter 2. This appendix also serves as a preliminary summary of potential resource impacts for each action alternative, which was used as an alternative evaluation tool to ensure the six action alternatives were reasonable and technically feasible.

BACKGROUND

Rural Utilities Service (RUS) used the 27 transmission line segments defined by Dairyland Power Cooperative, American Transmission Company LLC, and ITC Midwest LLC (the Utilities) to develop full alternative transmission line routes connecting the existing Cardinal Substation in Dane County, Wisconsin, with the Hickory Creek Substation in Dubuque County, Iowa (Figure C.1). RUS opted to use the Utilities-defined segments to develop transmission line routes (also referred to as action alternatives) for this environmental impact statement (EIS). The rationale for using the Utilities-defined segments is: 1) to maintain consistency with the state regulatory processes that will be followed by the Utilities to obtain a Certification of Public Convenience and Necessity in Wisconsin and Iowa, and 2) to provide consistent information to the public about the proposed transmission line routes.

The 27 transmission line segments were further broken down into 158 subsegments by the Utilities. RUS used the subsegments to assemble the six action alternatives that are summarized in Chapter 2. All transmission line subsegments, except for four, are included in at least one action alternative considered in this EIS. The incorporation of the majority of the potential subsegments into the action alternatives will facilitate any future reconfiguring of alternatives without the need for substantial revisions to resource impact analyses.

It is important to note, the alternatives are described below as starting on the east end of the project area, at the Cardinal Substation in Dane County, Wisconsin, and ending at the Hickory Creek Substation in Dubuque County, Iowa.

BRIEF DESCRIPTION OF THE ACTION ALTERNATIVES

The following sections briefly describe each of the six action alternatives considered in this EIS. The alternative descriptions are provided at the segment level. Table C-1 lists the subsegments used to assemble each complete alternative route.

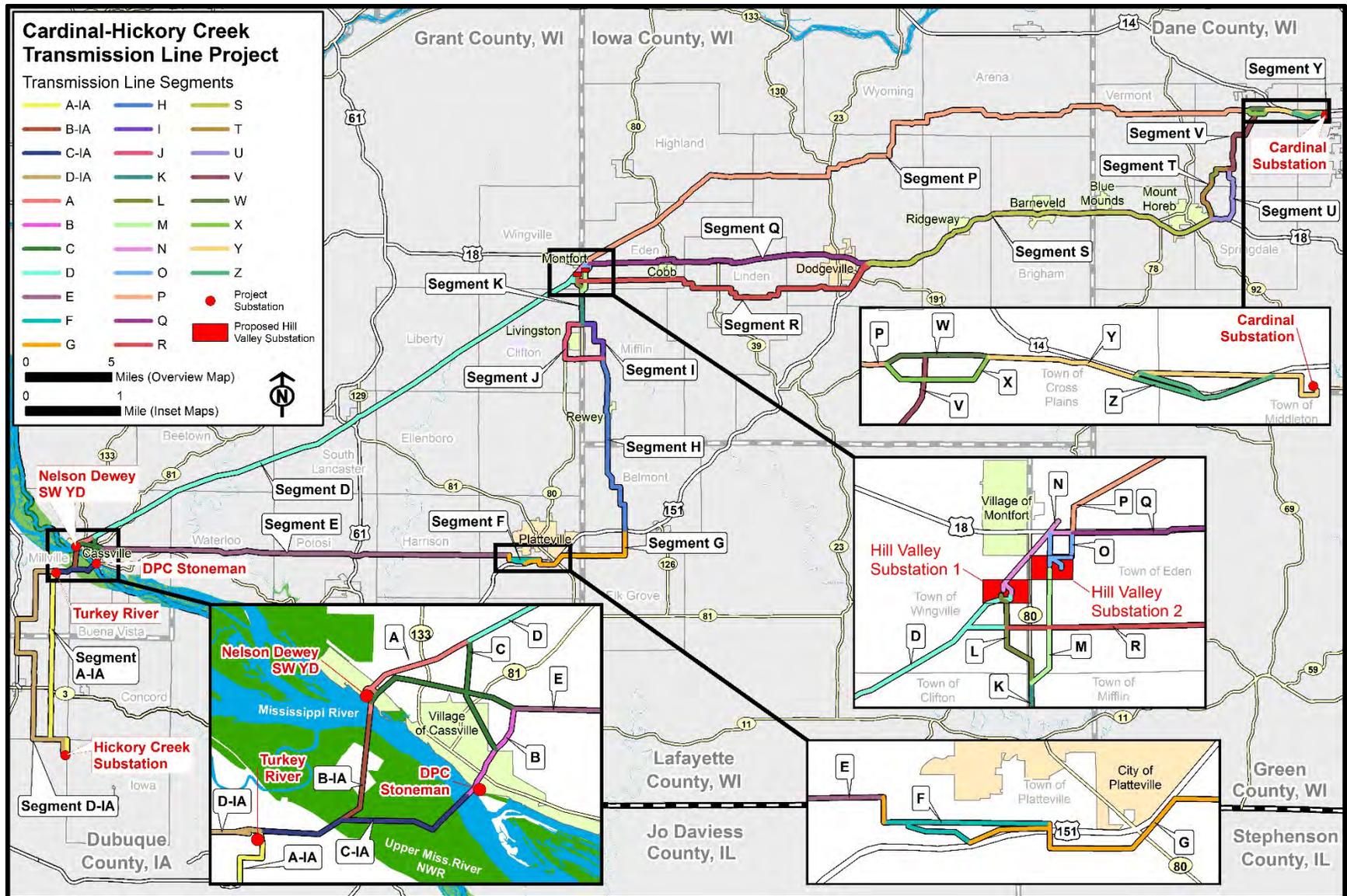


Figure C-1. Segments used to develop the six action alternatives.

Alternative 1: North Corridor Baseline

Starting on the east end of Alternative 1 at the Cardinal Substation, Segments Y and W would follow the existing 69-kilovolt (kV) transmission line to Segment P. Segment P would be a section of new transmission line right-of-way (ROW) located along the northern half of the Cardinal-Hickory Creek Project (C-HC Project) study area. Segment P would then connect with Segment N before connecting to the new Hill Valley Substation near Montfort, Wisconsin. Although either Hill Valley Substation alternative (S1 or S2) could be used, it is assumed that Substation Alternative S1 would be constructed for Alternative 1. Segments D and A would then connect the new Hill Valley Substation with the Nelson Dewey Substation, just northwest of Cassville, Wisconsin.

Once the C-HC Project transmission line exits southward from the Nelson Dewey Substation, it would cross the Mississippi River using the remainder of Segment A and Segment B-IA to connect with Segment A-IA which terminates at the Hickory Creek Substation in Clayton County, Iowa. Under this alternative, the existing 161/69-kV double-circuit configuration at the existing Stoneman Substation Mississippi River crossing would be removed, which would also result in a modification of the physical structure of the Stoneman Substation.

Alternative 2: North Corridor with Southern Variation

Alternative 2 would follow much of the same route as Alternative 1. It would leave the Cardinal Substation following Segments Z, Y, X, P, and O; through the new Hill Valley Substation Alternative 2; then follow Segment D before nearing the Mississippi River, where it would cross southeast on Segment C; follow part of Segment B to the Stoneman Substation; exit south of the Stoneman Substation and cross the Mississippi River on the remainder of Segment B; and then follow Segment C-IA and western Segment D-IA into the Hickory Creek Substation.

Alternative 3: North–South Crossover Corridor

Alternative 3 also would initially follow Alternative 1 along segments Y, W, P, and O. The alternative uses the new Hill Valley Substation Alternative 2, although either substation location is feasible. The alternative would generally exit south out of the Hill Valley Substation and follow Segments M and K south. North of Livingston, the alternative would follow Segment I on the east side of the town; then south again on Segment H, then traverse west on Segments G, F, and E; then turn south to follow Segment B and to the Stoneman Substation in Cassville, Wisconsin. The alternative would cross the Mississippi River on the remainder of Segment B, and then follow the eastern Segments C-IA and A-IA into the Hickory Creek Substation.

Alternative 4: South Baseline Corridor

Alternative 4 would leave the Cardinal Substation and traverse westerly on Segments Y and W; just south of Cross Plains it would generally traverse south along Segments V and T until it passes just east of Mount Horeb. Alternative 4 would then follow U.S. Highway 18 along Segment S, until it reaches and then passes on the north side of Dodgeville and traverses west on Segment Q and N; then follow Segment O south in the new Hill Valley Substation Alternative 2.

After leaving the substation, the transmission line would go south on Segments M and K; then just north of Livingston it would follow Segment I on the east side of the town; then south again on Segment H, then traverse west on Segments G, F, and E; then turn south to follow Segment B and to the Stoneman

Substation; cross the Mississippi River on the remainder of Segment B, and then follow the eastern Segments C-IA and A-IA into the Hickory Creek Substation.

Alternative 5: South Alternative Corridor

Alternative 5 would follow much of the same route as Alternative 4, with a few adjustments. It would initially leave the Cardinal Substation and traverse westerly on Segments Y and W. Just south of Cross Plains it would generally traverse south along Segments V and U to pass just west of Klevenville. The alternative would then pass on just south of Mount Horeb, heading southwest along U.S. Highway 18 and along Segment S; then diverge just east of Dodgeville and follow Segment R south of Dodgeville. The alternative would turn west again, traversing north on Segment L to enter the new Hill Valley Substation Alternative 1.

After leaving the substation, the transmission line would travel south on Segments L and K; then just north of Livingston it would follow Segment J to go around the west side of the town; then south again on Segment H, then traverse west on Segments G, F, E, and C; then turn south to the Nelson Dewey Substation. After leaving the Nelson Dewey Substation, the alternative turns south on Segment A and then follows Segment B-IA and the western Segment D-IA into the Hickory Creek Substation. Under this alternative, the existing 161/69-kV double-circuit configuration at the existing Stoneman Substation Mississippi River crossing would be removed, which would also result in a modification of the physical structure of the Stoneman Substation.

Alternative 6: South–North Crossover Corridor

Alternative 6 would initially follow the southernmost route from the Cardinal Substation, using Segments Z, Y, and X. Just south of Cross Plains it would generally traverse south along Segments V and T until it passes just east of Mount Horeb. The alternative then turns southwest along U.S. Highway 18 and along Segment S, until it reaches and then passes on the north side of Dodgeville and traverses west on Segments Q and N into the new Hill Valley Substation Alternative 1.

Once leaving the Hill Valley Substation the route would cross into the southern portion of the Alternative 1 route. It would follow a portion of Segment L before then following Segments D and A to the Nelson Dewey Substation, just northwest of Cassville, Wisconsin. Once the line exits southward from the Nelson Dewey Substation, it would cross the Mississippi River using the remainder of Segment A and Segment B-IA, and generally traverse south on Segment A-IA to terminate at the Hickory Creek Substation in Clayton County, Iowa. Under this alternative, the existing 161/69-kV double-circuit configuration at the existing Stoneman Substation Mississippi River crossing would be removed, which would also result in a modification of the physical structure of the Stoneman Substation.

Table C-1. Details of Proposed Transmission Line Segments

Segment Name*	Action Alternatives					
	1 North Baseline	2 North Alternate	3 North–South Crossover	4 South Baseline	5 South Alternate	6 South–North Crossover†
Z		X				X
Z02						X
Z01B		X				X
Z01A		X				

Segment Name*	Action Alternatives					
	1	2	3	4	5	6
	North Baseline	North Alternate	North-South Crossover	South Baseline	South Alternate	South-North Crossover†
Y	X	X	X	X	X	X
Y08	X	X	X	X	X	X
Y07	X	X	X	X	X	X
Y06B	X		X	X	X	
Y06A	X		X	X	X	X
Y05	X	X	X	X	X	X
Y01B	X	X	X	X	X	X
Y01A	X	X	X	X	X	X
X		X				X
X02		X				X
X01		X				
W	X		X	X	X	
W04	X		X	X	X	
W03	X		X	X	X	
W02	X		X			
W01	X		X			
V				X	X	X
V06				X	X	
V05				X	X	
V04				X	X	X
V03				X	X	X
V02				X	X	X
V01				X	X	X
U					X	
U02					X	
U01					X	
T				X		X
T05				X		X
T04				X		X
T03				X		X
T02				X		X
T01				X		X
S				X	X	X
S13				X	X	X
S12				X	X	X
S11D					X	
S11C						X
S11B					X	X

Segment Name*	Action Alternatives					
	1	2	3	4	5	6
	North Baseline	North Alternate	North-South Crossover	South Baseline	South Alternate	South-North Crossover†
S11A					X	
S10D				X		X
S10C				X		X
S10B				X		X
S10A				X		X
S09				X	X	X
S08				X	X	X
S05				X	X	X
S04				X	X	X
S03				X	X	
S02				X		
S01						X
R					X	
R15					X	
R14						
R13						
R11						
R10						
R09					X	
R08					X	
R07					X	
R06					X	
R05					X	
R04					X	
R03					X	
R02					X	
R01					X	
Q				X		X
Q06				X		X
Q05				X		X
Q04				X		X
Q03				X		X
Q02				X		X
Q01				X		X
P	X	X	X			
P09	X	X	X			
P08	X	X	X			
P07	X	X	X			

Segment Name*	Action Alternatives					
	1	2	3	4	5	6
	North Baseline	North Alternate	North–South Crossover	South Baseline	South Alternate	South–North Crossover†
P06	X	X	X			
P05	X	X	X			
P04	X	X	X			
P03	X	X	X			
P02	X	X	X			
P01	X	X	X			
O		X	X	X		
O03		X	X	X		
O02		X	X			
O01		X	X	X		
N	X	X	X	X	X	X
N07	X	X	X	X	X	X
N06	X			X		X
N05	X			X		X
N04	X	X	X	X		X
N03	X				X	X
N01	X				X	X
Substation Alternatives						
Hill Valley Substation 2		X	X	X		
Hill Valley Substation 1	X				X	X
M			X	X		
M02			X	X		
M01			X	X		
L	X				X	X
L05	X				X	X
L04					X	
L03					X	
L02					X	
L01					X	
K			X	X	X	
K01			X	X	X	
J					X	
J04					X	
J03					X	
J02					X	
J01					X	

Segment Name*	Action Alternatives					
	1	2	3	4	5	6
	North Baseline	North Alternate	North-South Crossover	South Baseline	South Alternate	South-North Crossover†
I			X	X		
I09			X	X		
I08			X	X		
I07			X	X		
I06			X	X		
I05			X	X		
I02			X	X		
I01			X	X		
H			X	X	X	
H09			X	X	X	
H07			X	X	X	
H06			X	X	X	
H03			X	X	X	
H02			X	X	X	
H01			X	X	X	
G			X	X	X	
G09			X	X	X	
G08			X	X	X	
G06			X	X	X	
G04			X		X	
G01			X	X	X	
F			X	X	X	
F06			X		X	
F04			X		X	
F03				X		
F02				X		
F01			X	X	X	
E			X	X	X	
E19			X	X	X	
E18			X	X	X	
E16			X	X	X	
E14			X	X	X	
E13			X	X	X	
E12			X	X	X	
E10			X	X	X	
E09			X	X	X	
E07			X	X	X	
E06			X	X	X	

Segment Name*	Action Alternatives					
	1	2	3	4	5	6
	North Baseline	North Alternate	North-South Crossover	South Baseline	South Alternate	South-North Crossover†
E04			X	X	X	
E03			X	X	X	
E01			X	X	X	
D	X	X				X
D10	X	X				X
D09B						
D09A	X	X				X
D08	X	X				X
D05	X	X				X
D04	X	X				X
D03	X	X				X
D01	X	X				X
C	X	X			X	
C04					X	
C03		X				
C02B					X	
C02A	X				X	
C01		X				
B		X	X	X		
B04			X	X		
B03			X	X		
B02		X	X	X		
B01		X	X	X		
A	X				X	X
A03	X					X
A02	X					X
A01C	X					
A01B						X
A01A	X				X	X
Iowa						
C-IA		X	X	X		
B-IA	X				X	X
A-IA	X		X	X		X
D-IA		X			X	

* Table C-1 was developed using version 5 of the Utilities' routing data. Since this table was developed, additional route subsegments have been added to several segments. These additional subsegments were not included in the preliminary screening process.

† For the FEIS, Alternative 6 was adjusted to be consistent with the C-HC Project route ordered by the Public Service Commission of Wisconsin. Adjustments to Alternative 6 accommodate the use of Segment X south of Cross Plains and the potential combined use of Segments S10B, S10C, S11B, and S11C (along U.S. Highway 151) to allow for ongoing discussions between the Utilities and the Wisconsin Department of Transportation.

SUMMARY OF PRELIMINARY RESOURCE IMPACTS BY ALTERNATIVE AND SUBSEGMENT

As part of the alternatives development process, RUS also conducted a preliminary evaluation of potential resource impacts for each action alternative considered in this EIS. This preliminary evaluation is not intended to replace detailed impact analysis the environmental consequences section of this EIS. Instead, this preliminary evaluation was used to determine the reasonableness and technical feasibility of the action alternatives carried forward for detailed analysis. Table C-2 summarizes the evaluation factors used to conduct the preliminary resource impact review. Table C-3 summarizes the results of the preliminary evaluation. These factors are also presented for each action alternative in Table C-4 through Table C-10.

Table C-2. Preliminary Resource Impact Evaluation Factors

Variable	Units of Measurement, within the 300-foot Corridor	Total or Subcategories per Subsegment
Length	Feet and miles	Total
Study Area	Acres within 300-ft analysis area	Total
Off-ROW Access Roads	Number	Total
High-Potential Rusty Patched Bumble Bee (RPBB) Habitat	Acres	Total
Steep Slopes	Acres	Total (slopes equal to and greater than 30%)
Prime Farmlands	Acres	Total (prime farmland and farmland of statewide importance)
Land Cover	Acres	<ul style="list-style-type: none"> • Forested • Urban/Developed
Sensitive Receptors	Number	Total (including residences, schools, hospitals, daycares, churches/cemeteries)
Wetlands	Acres	Total (based on Cowardin Classifications)
Floodplains	Acres	Total (100-year floodplains)
Water bodies	<ul style="list-style-type: none"> • Number of streams crossed • Acres 	Total
Environmentally sensitive areas	Acres	Total

Table C-3. Summary of Preliminary Resource Impacts by Action Alternative

Variable	Alt. 1	Alt. 2	Alt. 3	Alt. 4	Alt. 5	Alt. 6
Length (miles)	99	104	116	119	124	105
Study Area (acres)	3,607.3	3,763.3	4,256.2	4,364.8	4,549.1	3,868.6
Off-ROW Access Roads (number)	65.2	66.5	46.7	35.6	40.6	53.8
High-Potential RPBB Habitat (acres)	156.8	175.1	158.4	106.7	95.7	116.4
Steep Slopes (acres)	346	341.7	346.6	184.0	194.6	173.5
Prime Farmland (acres)	1,769.2	1,860.3	2,518.4	3,076.9	3,228.8	2,449.3
Land Cover Forested (acres)	1,050.9	1,073.7	1,048.3	475.3	480	457.1
Land Cover Urban (acres)	139.3	194.4	219.9	612.7	524.5	600.3

Appendix C. Alternatives Development Process

Variable	Alt. 1	Alt. 2	Alt. 3	Alt. 4	Alt. 5	Alt. 6
Sensitive Receptors (number)	22	43	59	81	59	45
Wetlands (acres)	160.9	196.9	172.5	96.7	78.5	97.5
Floodplains (acres)	304.3	295	226.8	171.3	169.1	238.8
Water bodies (number)	94	95	98	102	118	107
Water bodies (acres)	24.4	20.5	17.3	16.5	18.9	22.8
Environmentally sensitive areas (acres)	69.3	96.3	107.4	112.0	88.6	71.1

Table C-4. Resource Summary for Alternative 1

Sub-segment	Length (miles)	Study Area (acres)	High-Potential RPBB Habitat (acres)	Steep Slopes (acres)	Prime Farmland (acres)	Land Cover Forest (acres)	Land Cover Urban (acres)	Sensitive Receptors (number)	Wetlands (acres)	Floodplains (acres)	Water Bodies (number)	Water Bodies (acres)	Env. Sensitive Areas (acres)
Y08	0.7	25.0	10.8	2.0	10.5	16.5	1.4	0.0	2.8	0.0	0.0	0.0	0.0
Y07	0.0	1.6	0.0	0.0	1.6	0.0	0.4	0.0	0.2	0.0	0.0	0.0	0.0
Y06B	1.4	51.7	18.8	4.0	37.6	10.7	2.0	0.0	6.7	14.6	5.0	0.7	18.3
Y06A	0.1	3.2	3.2	0.0	3.2	0.2	0.8	0.0	0.1	1.6	3.0	0.1	0.1
Y05	0.5	19.4	19.4	0.0	17.7	0.5	4.8	0.0	0.2	6.5	1.0	0.0	0.0
Y01B	0.2	20.3	20.3	0.0	14.6	2.4	6.6	3.0	1.1	1.6	2.0	0.0	0.0
Y01A	0.6	18.6	7.6	0.0	11.8	1.6	8.5	0.0	0.0	0.3	1.0	0.1	0.3
W04	0.1	3.3	0.0	0.0	3.3	0.0	1.2	0.0	0.0	0.0	0.0	0.0	0.0
W03	0.6	21.2	0.0	0.0	18.5	1.5	5.4	4.0	0.4	0.3	0.0	0.0	0.0
W02	0.3	9.5	0.0	0.6	2.5	4.6	1.5	1.0	0.0	0.0	0.0	0.0	0.0
W01	0.2	6.7	0.0	0.9	0.0	4.9	0.8	0.0	0.0	0.0	0.0	0.0	0.0
P09	23.6	857.8	49.8	123.6	282.8	481.9	15.7	3.0	85.5	55.6	29.0	0.8	1.5
P08	0.4	16.3	0.0	0.0	16.3	0.0	4.6	1.0	0.0	0.0	0.0	0.0	0.0
P07	2.5	89.3	0.0	6.2	50.2	22.9	3.2	0.0	0.3	0.0	1.0	0.0	0.1
P06	1.8	66.1	0.0	0.9	43.7	6.5	10.9	1.0	0.0	0.0	0.0	0.0	0.0
P05	2.9	105.2	0.0	8.6	56.9	30.7	2.4	1.0	0.3	0.0	3.0	0.0	0.0
P04	0.9	33.5	0.0	1.6	29.2	6.4	3.6	0.0	0.0	0.0	0.0	0.0	0.0
P03	3.1	113.4	24.4	14.4	33.2	56.2	2.9	0.0	0.7	4.9	3.0	0.2	0.8
P02	8.7	316.6	1.8	20.7	122.9	86.8	4.4	1.0	4.4	1.7	14.0	0.1	17.7
P01	0.3	10.2	0.0	0.0	7.3	2.6	0.6	0.0	0.0	0.0	0.0	0.0	0.0
N07	0.2	6.0	0.0	0.0	0.0	0.0	0.9	0.0	0.0	0.0	0.0	0.0	0.0
N06	0.0	0.3	0.0	0.0	0.3	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0
N05	0.2	8.6	0.0	0.0	8.6	0.0	2.7	0.0	0.0	0.0	0.0	0.0	0.0

Appendix C. Alternatives Development Process

Sub-segment	Length (miles)	Study Area (acres)	High-Potential RPBB Habitat (acres)	Steep Slopes (acres)	Prime Farmland (acres)	Land Cover Forest (acres)	Land Cover Urban (acres)	Sensitive Receptors (number)	Wetlands (acres)	Floodplains (acres)	Water Bodies (number)	Water Bodies (acres)	Env. Sensitive Areas (acres)
N04	0.0	0.6	0.0	0.0	0.6	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0
N03	0.3	10.5	0.0	0.0	10.5	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0
N01	0.7	23.5	0.0	0.0	21.1	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0
Hill Valley Sub 1	0.0	9.7	0.0	0.0	9.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
L05	0.0	1.5	0.0	0.0	1.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
D10	0.1	5.2	0.0	0.0	5.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
D09A	0.5	19.1	0.0	0.0	19.1	0.0	0.6	0.0	0.0	0.0	0.0	0.0	0.0
D08	14.5	527.5	0.0	27.1	245.2	65.4	6.5	1.0	20.7	49.6	10.0	4.0	0.0
D05	0.3	11.5	0.0	0.0	11.5	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0
D04	14.5	526.7	0.0	72.3	192.9	130.1	7.6	1.0	11.2	80.7	14.0	6.6	0.0
D03	0.9	29.6	0.0	0.3	19.4	0.6	1.8	1.0	0.0	0.0	0.0	0.0	0.0
D01	1.6	59.5	0.0	8.6	19.7	10.7	0.0	0.0	0.5	0.0	0.0	0.0	0.0
C02A	0.1	4.1	0.0	0.0	0.0	0.0	3.4	0.0	0.0	0.7	0.0	0.0	0.3
A03	1.0	35.7	0.0	11.4	9.9	10.6	2.2	0.0	0.0	0.0	1.0	0.0	0.0
A02	0.2	7.6	0.0	2.5	4.5	1.1	0.7	0.0	0.0	1.7	0.0	0.0	0.0
A01C	0.1	3.1	0.7	0.0	0.0	0.0	0.0	0.0	1.1	0.0	0.0	0.0	0.0
A01A	0.1	5.1	0.0	0.0	0.0	0.0	4.1	0.0	0.0	5.0	0.0	4.5	0.4
B-IA	2.1	77.5	0.0	8.4	53.1	10.1	0.3	0.0	23.4	49.5	0.0	6.3	29.8
A-IA	12.3	445.5	0.0	31.9	372.6	85.4	25.0	4.0	1.3	30.0	7.0	1.0	0.0
Total	98.6	3,607.3	156.8	346.0	1,769.2	1,050.9	139.3	22.0	160.9	304.3	94.0	24.4	69.3

Table C-5. Resource Summary for Alternative 2

Sub-segment	Length (miles)	Study Area (acres)	High-Potential RPBB Habitat (acres)	Steep Slopes (acres)	Prime Farmland (acres)	Land Cover Forested (acres)	Land Cover Urban (acres)	Sensitive Receptors (number)	Wetlands (acres)	Floodplains (acres)	Water Bodies (number)	Water Bodies (acres)	Env. Sensitive Areas (acres)
Z01B	0.8	28.3	14.4	0.1	25.1	5.8	9.3	1.0	3.2	2.1	1.0	0.0	9.5
Z01A	0.8	26.6	26.6	4.8	14.5	11.9	5.2	0.0	4.5	4.0	3.0	0.1	8.2
Y08	0.7	25.0	10.8	2.0	10.5	16.5	1.4	0.0	2.8	0.0	0.0	0.0	0.0
Y07	0.0	1.6	0.0	0.0	1.6	0.0	0.4	0.0	0.2	0.0	0.0	0.0	0.0
Y05	0.5	19.4	19.4	0.0	17.7	0.5	4.8	0.0	0.2	6.5	1.0	0.0	0.0
Y01B	0.2	20.3	20.3	0.0	14.6	2.4	6.6	3.0	1.1	1.6	2.0	0.0	0.0
Y01A	0.6	18.6	7.6	0.0	11.8	1.6	8.5	0.0	0.0	0.3	1.0	0.1	0.3
X02	0.8	29.6	0.0	0.0	29.5	0.0	2.5	0.0	7.2	10.2	0.0	0.0	0.0
X01	0.5	17.2	0.0	0.9	2.9	7.6	3.0	0.0	0.0	0.0	0.0	0.0	0.0
P09	23.6	857.8	49.8	123.6	282.8	481.9	15.7	3.0	85.5	55.6	29.0	0.8	1.5
P08	0.4	16.3	0.0	0.0	16.3	0.0	4.6	1.0	0.0	0.0	0.0	0.0	0.0
P07	2.5	89.3	0.0	6.2	50.2	22.9	3.2	0.0	0.3	0.0	1.0	0.0	0.1
P06	1.8	66.1	0.0	0.9	43.7	6.5	10.9	1.0	0.0	0.0	0.0	0.0	0.0
P05	2.9	105.2	0.0	8.6	56.9	30.7	2.4	1.0	0.3	0.0	3.0	0.0	0.0
P04	0.9	33.5	0.0	1.6	29.2	6.4	3.6	0.0	0.0	0.0	0.0	0.0	0.0
P03	3.1	113.4	24.4	14.4	33.2	56.2	2.9	0.0	0.7	4.9	3.0	0.2	0.8
P02	8.7	316.6	1.8	20.7	122.9	86.8	4.4	1.0	4.4	1.7	14.0	0.1	17.7
P01	0.3	10.2	0.0	0.0	7.3	2.6	0.6	0.0	0.0	0.0	0.0	0.0	0.0
O03	0.3	9.2	0.0	0.0	9.2	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0
O02	0.5	17.9	0.0	0.0	16.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0
O01	0.3	9.5	0.0	0.0	9.2	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0
N07	0.2	6.0	0.0	0.0	0.0	0.0	0.9	0.0	0.0	0.0	0.0	0.0	0.0
N04	0.0	0.6	0.0	0.0	0.6	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0

Appendix C. Alternatives Development Process

Sub-segment	Length (miles)	Study Area (acres)	High-Potential RPBB Habitat (acres)	Steep Slopes (acres)	Prime Farmland (acres)	Land Cover Forested (acres)	Land Cover Urban (acres)	Sensitive Receptors (number)	Wetlands (acres)	Floodplains (acres)	Water Bodies (number)	Water Bodies (acres)	Env. Sensitive Areas (acres)
Hill Valley Sub 2	0.0	10.4	0.0	0.0	9.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
D10	0.1	5.2	0.0	0.0	5.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
D09B	0.4	15.7	0.0	0.0	14.1	0.0	2.2	0.0	0.0	0.0	1.0	0.0	0.0
D08	14.5	527.5	0.0	27.1	245.2	65.4	6.5	1.0	20.7	49.6	10.0	4.0	0.0
D05	0.3	11.5	0.0	0.0	11.5	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0
D04	14.5	526.7	0.0	72.3	192.9	130.1	7.6	1.0	11.2	80.7	14.0	6.6	0.0
D03	0.9	29.6	0.0	0.3	19.4	0.6	1.8	1.0	0.0	0.0	0.0	0.0	0.0
D01	1.6	59.5	0.0	8.6	19.7	10.7	0.0	0.0	0.5	0.0	0.0	0.0	0.0
C03	0.6	20.7	0.0	4.7	0.8	9.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
C01	0.7	24.3	0.0	7.4	9.7	11.2	0.7	1.0	0.0	0.0	0.0	0.0	0.0
B02	0.5	17.1	0.0	2.8	10.4	4.7	11.4	20.0	0.0	0.9	0.0	0.0	0.4
B01	0.1	4.2	0.0	0.0	0.0	0.0	0.4	0.0	0.0	4.0	0.0	3.8	1.0
D-IA	16.2	585.4	0.0	26.5	486.2	77.6	70.8	8.0	0.5	13.4	12.0	0.2	0.0
C-IA	2.4	87.3	0.0	8.2	29.6	23.6	0.3	0.0	53.6	59.5	0.0	4.6	56.8
Total	103.2	3,763.3	175.1	341.7	1,860.3	1,073.7	194.4	43.0	196.9	295.0	95.0	20.5	96.3

Table C-6. Resource Summary for Alternative 3

Sub-segment	Length (miles)	Study Area (acres)	High-Potential RPBB Habitat (acres)	Steep Slopes (acres)	Prime Farmland (acres)	Land Cover Forested (acres)	Land Cover Urban (acres)	Sensitive Receptors (number)	Wetlands (acres)	Floodplains (acres)	Water Bodies (number)	Water Bodies (acres)	Env. Sensitive Areas (acres)
Y08	0.7	25.0	10.8	2.0	10.5	16.5	1.4	0.0	2.8	0.0	0.0	0.0	0.0
Y07	0.0	1.6	0.0	0.0	1.6	0.0	0.4	0.0	0.2	0.0	0.0	0.0	0.0
Y06B	1.4	51.7	18.8	4.0	37.6	10.7	2.0	0.0	6.7	14.6	5.0	0.7	18.3
Y06A	0.1	3.2	3.2	0.0	3.2	0.2	0.8	0.0	0.1	1.6	3.0	0.1	0.1
Y05	0.5	19.4	19.4	0.0	17.7	0.5	4.8	0.0	0.2	6.5	1.0	0.0	0.0
Y01B	0.2	20.3	20.3	0.0	14.6	2.4	6.6	3.0	1.1	1.6	2.0	0.0	0.0
Y01A	0.6	18.6	7.6	0.0	11.8	1.6	8.5	0.0	0.0	0.3	1.0	0.1	0.3
W04	0.1	3.3	0.0	0.0	3.3	0.0	1.2	0.0	0.0	0.0	0.0	0.0	0.0
W03	0.6	21.2	0.0	0.0	18.5	1.5	5.4	4.0	0.4	0.3	0.0	0.0	0.0
W02	0.3	9.5	0.0	0.6	2.5	4.6	1.5	1.0	0.0	0.0	0.0	0.0	0.0
W01	0.2	6.7	0.0	0.9	0.0	4.9	0.8	0.0	0.0	0.0	0.0	0.0	0.0
P09	23.6	857.8	49.8	123.6	282.8	481.9	15.7	3.0	85.5	55.6	29.0	0.8	1.5
P08	0.4	16.3	0.0	0.0	16.3	0.0	4.6	1.0	0.0	0.0	0.0	0.0	0.0
P07	2.5	89.3	0.0	6.2	50.2	22.9	3.2	0.0	0.3	0.0	1.0	0.0	0.1
P06	1.8	66.1	0.0	0.9	43.7	6.5	10.9	1.0	0.0	0.0	0.0	0.0	0.0
P05	2.9	105.2	0.0	8.6	56.9	30.7	2.4	1.0	0.3	0.0	3.0	0.0	0.0
P04	0.9	33.5	0.0	1.6	29.2	6.4	3.6	0.0	0.0	0.0	0.0	0.0	0.0
P03	3.1	113.4	24.4	14.4	33.2	56.2	2.9	0.0	0.7	4.9	3.0	0.2	0.8
P02	8.7	316.6	1.8	20.7	122.9	86.8	4.4	1.0	4.4	1.7	14.0	0.1	17.7
P01	0.3	10.2	0.0	0.0	7.3	2.6	0.6	0.0	0.0	0.0	0.0	0.0	0.0
O03	0.3	9.2	0.0	0.0	9.2	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0
O02	0.5	17.9	0.0	0.0	16.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0
O01	0.3	9.5	0.0	0.0	9.2	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0
N07	0.2	6.0	0.0	0.0	0.0	0.0	0.9	0.0	0.0	0.0	0.0	0.0	0.0

Appendix C. Alternatives Development Process

Sub-segment	Length (miles)	Study Area (acres)	High-Potential RPBB Habitat (acres)	Steep Slopes (acres)	Prime Farmland (acres)	Land Cover Forested (acres)	Land Cover Urban (acres)	Sensitive Receptors (number)	Wetlands (acres)	Floodplains (acres)	Water Bodies (number)	Water Bodies (acres)	Env. Sensitive Areas (acres)
N04	0.0	0.6	0.0	0.0	0.6	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0
Hill Valley Sub 2	0.0	10.4	0.0	0.0	9.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
M02	0.6	22.5	0.0	0.0	16.0	0.0	0.2	0.0	1.0	0.0	1.0	0.0	0.0
M01	0.7	24.6	0.0	0.0	23.7	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0
K01	2.0	70.9	0.0	0.0	70.9	0.0	11.8	1.0	0.3	0.0	1.0	0.0	0.0
I09	0.7	25.5	0.0	0.0	25.5	0.0	2.2	0.0	0.7	0.0	0.0	0.0	0.0
I08	1.0	36.4	0.0	0.3	33.6	0.1	0.1	0.0	2.3	2.4	2.0	0.5	0.0
I07	0.3	12.9	0.0	0.0	12.9	0.0	1.6	0.0	0.0	0.0	0.0	0.0	0.0
I06	0.2	6.4	0.0	0.0	6.4	0.0	1.0	1.0	0.6	0.0	1.0	0.0	0.0
I05	0.6	20.6	0.0	0.0	20.4	0.0	2.6	0.0	0.0	0.0	0.0	0.0	0.0
I02	0.3	11.8	0.0	0.0	11.8	0.0	1.8	1.0	0.0	0.0	0.0	0.0	0.0
I01	0.1	3.0	0.0	0.0	3.0	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0
H09	2.0	70.9	0.0	0.0	69.1	2.0	10.8	3.0	0.0	0.0	1.0	0.0	0.0
H07	1.4	49.9	0.0	0.0	49.9	0.1	6.6	1.0	0.0	0.0	0.0	0.0	0.0
H06	3.4	116.7	0.0	0.9	106.2	2.0	15.4	2.0	0.0	0.0	2.0	0.0	0.0
H03	0.6	21.1	0.0	0.1	17.1	0.0	2.9	2.0	1.1	0.0	1.0	0.0	0.0
H02	3.3	119.2	0.0	0.2	109.6	1.1	4.3	3.0	0.3	0.0	1.0	0.2	0.0
H01	0.5	18.2	0.0	0.0	18.2	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.7
G09	1.5	54.2	0.0	0.0	54.2	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0
G08	3.7	133.9	0.0	0.0	133.9	0.4	1.1	1.0	1.1	0.0	3.0	0.0	0.0
G06	1.8	67.1	0.0	0.0	67.1	0.1	11.0	3.0	1.5	0.0	0.0	0.0	0.0
G04	0.9	31.9	0.0	0.0	31.9	0.0	4.2	0.0	0.0	0.0	0.0	0.0	0.0
G01	0.3	9.8	0.0	0.0	9.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
F06	0.2	7.0	0.0	0.0	7.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
F04	0.6	20.1	2.3	0.0	20.1	0.6	0.3	0.0	0.0	0.0	0.0	0.0	0.0

Appendix C. Alternatives Development Process

Sub-segment	Length (miles)	Study Area (acres)	High-Potential RPBB Habitat (acres)	Steep Slopes (acres)	Prime Farmland (acres)	Land Cover Forested (acres)	Land Cover Urban (acres)	Sensitive Receptors (number)	Wetlands (acres)	Floodplains (acres)	Water Bodies (number)	Water Bodies (acres)	Env. Sensitive Areas (acres)
F01	0.3	9.4	0.0	0.0	9.4	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0
E19	4.0	145.7	0.0	17.5	75.7	31.7	2.0	0.0	0.4	2.8	4.0	0.4	9.7
E18	0.4	15.5	0.0	0.0	5.7	0.0	1.6	1.0	0.0	0.0	0.0	0.0	0.0
E16	4.1	151.0	0.0	24.3	60.8	35.5	1.9	1.0	2.4	7.7	7.0	1.1	0.0
E14	0.8	31.0	0.0	0.1	17.5	0.0	1.2	0.0	0.5	0.0	0.0	0.0	0.0
E13	0.2	8.7	0.0	0.0	7.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
E12	0.4	16.0	0.0	0.0	16.0	0.3	0.6	0.0	0.0	0.0	0.0	0.0	0.0
E10	4.6	166.3	0.0	27.9	70.5	43.8	3.5	0.0	2.0	0.0	2.0	1.4	0.0
E09	0.6	21.1	0.0	0.8	5.7	2.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0
E07	3.9	140.0	0.0	28.1	37.1	38.9	2.7	0.0	0.2	32.4	0.0	2.2	0.0
E06	0.6	25.5	0.0	0.3	8.0	3.0	0.9	0.0	0.0	0.0	0.0	0.0	0.0
E04	0.5	18.6	0.0	0.2	7.8	2.2	0.7	0.0	0.0	0.0	0.0	0.0	0.0
E03	0.3	11.7	0.0	0.0	8.4	0.0	2.2	0.0	0.1	0.0	0.0	0.0	0.0
E01	3.5	126.7	0.0	14.7	41.5	25.8	1.1	0.0	0.4	0.0	1.0	0.1	0.0
B04	0.4	13.5	0.0	3.1	6.3	4.7	0.2	0.0	0.0	0.0	1.0	0.0	0.0
B03	0.1	4.3	0.0	1.7	1.1	3.4	0.0	0.0	0.0	0.0	1.0	0.0	0.0
B02	0.5	17.1	0.0	2.8	10.4	4.7	11.4	20.0	0.0	0.9	0.0	0.0	0.4
B01	0.1	4.2	0.0	0.0	0.0	0.0	0.4	0.0	0.0	4.0	0.0	3.8	1.0
C-IA	2.4	87.3	0.0	8.2	29.6	23.6	0.3	0.0	53.6	59.5	0.0	4.6	56.8
A-IA	12.3	445.5	0.0	31.9	372.6	85.4	25.0	4.0	1.3	30.0	7.0	1.0	0.0
Total	116.9	4,256.2	158.4	346.6	2,518.4	1,048.3	219.9	59.0	172.5	226.8	98.0	17.3	107.4

Table C-7. Resource Summary for Alternative 4

Sub-segment	Length (miles)	Study Area (acres)	High-Potential RPBB Habitat (acres)	Steep Slopes (acres)	Prime Farmland (acres)	Land Cover Forested (acres)	Land Cover Urban (acres)	Sensitive Receptors (number)	Wetlands (acres)	Floodplains (acres)	Water bodies (number)	Water bodies (acres)	Env. Sensitive Areas (acres)
Y08	0.7	25.0	10.8	2.0	10.5	16.5	1.4	0.0	2.8	0.0	0.0	0.0	0.0
Y07	0.0	1.6	0.0	0.0	1.6	0.0	0.4	0.0	0.2	0.0	0.0	0.0	0.0
Y06B	1.4	51.7	18.8	4.0	37.6	10.7	2.0	0.0	6.7	14.6	5.0	0.7	18.3
Y06A	0.1	3.2	3.2	0.0	3.2	0.2	0.8	0.0	0.1	1.6	3.0	0.1	0.1
Y05	0.5	19.4	19.4	0.0	17.7	0.5	4.8	0.0	0.2	6.5	1.0	0.0	0.0
Y01B	0.2	20.3	20.3	0.0	14.6	2.4	6.6	3.0	1.1	1.6	2.0	0.0	0.0
Y01A	0.6	18.6	7.6	0.0	11.8	1.6	8.5	0.0	0.0	0.3	1.0	0.1	0.3
W04	0.1	3.3	0.0	0.0	3.3	0.0	1.2	0.0	0.0	0.0	0.0	0.0	0.0
W03	0.6	21.2	0.0	0.0	18.5	1.5	5.4	4.0	0.4	0.3	0.0	0.0	0.0
V06	0.2	7.0	0.0	0.3	3.4	2.4	1.4	0.0	0.0	0.0	0.0	0.0	0.0
V05	0.1	2.4	0.0	0.0	0.5	0.4	0.4	0.0	0.0	0.0	0.0	0.0	0.0
V04	3.0	107.5	0.0	8.3	35.1	37.5	9.5	1.0	0.0	0.0	2.0	0.0	0.0
V03	0.7	25.6	0.0	0.7	18.3	0.5	1.2	0.0	0.4	0.0	0.0	0.0	0.0
V02	0.4	14.0	0.0	0.1	6.5	3.6	0.4	0.0	0.0	0.0	0.0	0.0	0.0
V01	0.3	9.0	0.0	0.0	8.1	1.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0
T05	0.8	27.5	0.0	0.1	23.3	4.0	4.7	2.0	0.1	0.0	0.0	0.0	0.0
T04	0.5	20.4	0.0	0.0	13.7	4.5	0.2	0.0	0.0	0.0	0.0	0.0	0.0
T03	1.3	47.2	0.0	1.8	23.6	15.4	0.3	0.0	0.5	0.0	3.0	0.0	0.0
T02	0.4	16.0	0.0	0.0	2.3	0.1	2.5	0.0	0.0	0.0	0.0	0.0	0.0
T01	1.2	44.1	0.0	1.1	15.4	10.5	1.7	0.0	1.0	0.0	1.0	0.0	1.0
S13	10.4	379.8	13.3	1.2	195.7	26.0	100.0	2.0	4.9	0.1	23.0	0.1	6.8
S12	0.5	19.4	0.0	0.0	8.4	0.0	14.1	0.0	0.3	0.0	2.0	0.0	0.0
S10D	0.4	12.6	0.0	0.0	10.8	0.0	11.3	0.0	0.0	0.0	0.0	0.0	0.0

Appendix C. Alternatives Development Process

Sub-segment	Length (miles)	Study Area (acres)	High-Potential RPBB Habitat (acres)	Steep Slopes (acres)	Prime Farmland (acres)	Land Cover Forested (acres)	Land Cover Urban (acres)	Sensitive Receptors (number)	Wetlands (acres)	Floodplains (acres)	Water bodies (number)	Water bodies (acres)	Env. Sensitive Areas (acres)
S10C	0.2	5.5	0.0	0.0	2.9	0.0	2.8	1.0	0.0	0.0	0.0	0.0	0.0
S10B	0.8	28.9	0.0	0.1	18.6	0.6	10.6	0.0	0.0	0.0	1.0	0.0	16.7
S10A	0.1	2.7	0.0	0.0	2.7	0.0	0.8	0.0	0.0	0.0	0.0	0.0	0.2
S09	3.6	131.6	0.0	0.6	71.8	12.8	32.6	1.0	0.0	0.1	7.0	0.0	0.0
S08	1.6	83.2	0.0	0.0	82.5	0.0	13.6	1.0	0.0	0.0	0.0	0.0	0.0
S05	0.0	2.2	0.0	0.0	2.2	0.0	0.6	0.0	0.0	0.0	0.0	0.0	0.0
S04	0.9	32.0	0.0	0.0	27.6	0.0	8.8	0.0	0.0	0.0	0.0	0.0	0.0
S03	3.1	109.8	0.0	0.6	50.0	3.5	20.9	1.0	0.2	0.3	5.0	0.0	0.0
S02	0.1	3.7	0.0	0.0	3.7	0.0	1.2	0.0	0.0	0.0	0.0	0.0	0.0
Q06	0.6	20.5	0.0	0.0	14.8	0.0	1.5	0.0	0.0	0.0	0.0	0.0	0.0
Q05	1.0	36.3	0.0	0.0	34.6	0.5	17.1	0.0	3.8	0.0	2.0	0.0	0.0
Q04	0.5	19.1	0.0	0.0	19.1	2.8	14.4	2.0	0.0	0.0	0.0	0.0	0.0
Q03	0.5	19.8	0.0	0.0	19.8	0.4	5.4	0.0	0.0	0.0	0.0	0.0	0.0
Q02	13.2	479.7	0.0	0.0	467.3	2.0	155.1	17.0	4.2	6.3	8.0	0.2	0.0
Q01	1.1	39.0	0.0	0.0	33.1	0.0	10.8	2.0	0.0	0.0	0.0	0.0	0.0
O03	0.3	9.2	0.0	0.0	9.2	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0
O01	0.3	9.5	0.0	0.0	9.2	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0
N07	0.2	6.0	0.0	0.0	0.0	0.0	0.9	0.0	0.0	0.0	0.0	0.0	0.0
N06	0.0	0.3	0.0	0.0	0.3	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0
N05	0.2	8.6	0.0	0.0	8.6	0.0	2.7	0.0	0.0	0.0	0.0	0.0	0.0
N04	0.0	0.6	0.0	0.0	0.6	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0
Hill Valley Sub 2	0.0	10.4	0.0	0.0	9.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
M02	0.6	22.5	0.0	0.0	16.0	0.0	0.2	0.0	1.0	0.0	1.0	0.0	0.0
M01	0.7	24.6	0.0	0.0	23.7	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0

Appendix C. Alternatives Development Process

Sub-segment	Length (miles)	Study Area (acres)	High-Potential RPBB Habitat (acres)	Steep Slopes (acres)	Prime Farmland (acres)	Land Cover Forested (acres)	Land Cover Urban (acres)	Sensitive Receptors (number)	Wetlands (acres)	Floodplains (acres)	Water bodies (number)	Water bodies (acres)	Env. Sensitive Areas (acres)
K01	2.0	70.9	0.0	0.0	70.9	0.0	11.8	1.0	0.3	0.0	1.0	0.0	0.0
I09	0.7	25.5	0.0	0.0	25.5	0.0	2.2	0.0	0.7	0.0	0.0	0.0	0.0
I08	1.0	36.4	0.0	0.3	33.6	0.1	0.1	0.0	2.3	2.4	2.0	0.5	0.0
I07	0.3	12.9	0.0	0.0	12.9	0.0	1.6	0.0	0.0	0.0	0.0	0.0	0.0
I06	0.2	6.4	0.0	0.0	6.4	0.0	1.0	1.0	0.6	0.0	1.0	0.0	0.0
I05	0.6	20.6	0.0	0.0	20.4	0.0	2.6	0.0	0.0	0.0	0.0	0.0	0.0
I02	0.3	11.8	0.0	0.0	11.8	0.0	1.8	1.0	0.0	0.0	0.0	0.0	0.0
I01	0.1	3.0	0.0	0.0	3.0	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0
H09	2.0	70.9	0.0	0.0	69.1	2.0	10.8	3.0	0.0	0.0	1.0	0.0	0.0
H07	1.4	49.9	0.0	0.0	49.9	0.1	6.6	1.0	0.0	0.0	0.0	0.0	0.0
H06	3.4	116.7	0.0	0.9	106.2	2.0	15.4	2.0	0.0	0.0	2.0	0.0	0.0
H03	0.6	21.1	0.0	0.1	17.1	0.0	2.9	2.0	1.1	0.0	1.0	0.0	0.0
H02	3.3	119.2	0.0	0.2	109.6	1.1	4.3	3.0	0.3	0.0	1.0	0.2	0.0
H01	0.5	18.2	0.0	0.0	18.2	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.7
G09	1.5	54.2	0.0	0.0	54.2	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0
G08	3.7	133.9	0.0	0.0	133.9	0.4	1.1	1.0	1.1	0.0	3.0	0.0	0.0
G06	1.8	67.1	0.0	0.0	67.1	0.1	11.0	3.0	1.5	0.0	0.0	0.0	0.0
G01	0.3	9.8	0.0	0.0	9.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
F03	1.1	41.0	7.8	0.0	41.0	2.4	0.4	0.0	0.0	0.0	0.0	0.0	0.0
F02	0.4	13.6	5.4	0.0	12.8	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
F01	0.3	9.4	0.0	0.0	9.4	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0
E19	4.0	145.7	0.0	17.5	75.7	31.7	2.0	0.0	0.4	2.8	4.0	0.4	9.7
E18	0.4	15.5	0.0	0.0	5.7	0.0	1.6	1.0	0.0	0.0	0.0	0.0	0.0
E16	4.1	151.0	0.0	24.3	60.8	35.5	1.9	1.0	2.4	7.7	7.0	1.1	0.0

Appendix C. Alternatives Development Process

Sub-segment	Length (miles)	Study Area (acres)	High-Potential RPBB Habitat (acres)	Steep Slopes (acres)	Prime Farmland (acres)	Land Cover Forested (acres)	Land Cover Urban (acres)	Sensitive Receptors (number)	Wetlands (acres)	Floodplains (acres)	Water bodies (number)	Water bodies (acres)	Env. Sensitive Areas (acres)
E14	0.8	31.0	0.0	0.1	17.5	0.0	1.2	0.0	0.5	0.0	0.0	0.0	0.0
E13	0.2	8.7	0.0	0.0	7.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
E12	0.4	16.0	0.0	0.0	16.0	0.3	0.6	0.0	0.0	0.0	0.0	0.0	0.0
E10	4.6	166.3	0.0	27.9	70.5	43.8	3.5	0.0	2.0	0.0	2.0	1.4	0.0
E09	0.6	21.1	0.0	0.8	5.7	2.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0
E07	3.9	140.0	0.0	28.1	37.1	38.9	2.7	0.0	0.2	32.4	0.0	2.2	0.0
E06	0.6	25.5	0.0	0.3	8.0	3.0	0.9	0.0	0.0	0.0	0.0	0.0	0.0
E04	0.5	18.6	0.0	0.2	7.8	2.2	0.7	0.0	0.0	0.0	0.0	0.0	0.0
E03	0.3	11.7	0.0	0.0	8.4	0.0	2.2	0.0	0.1	0.0	0.0	0.0	0.0
E01	3.5	126.7	0.0	14.7	41.5	25.8	1.1	0.0	0.4	0.0	1.0	0.1	0.0
B04	0.4	13.5	0.0	3.1	6.3	4.7	0.2	0.0	0.0	0.0	1.0	0.0	0.0
B03	0.1	4.3	0.0	1.7	1.1	3.4	0.0	0.0	0.0	0.0	1.0	0.0	0.0
B02	0.5	17.1	0.0	2.8	10.4	4.7	11.4	20.0	0.0	0.9	0.0	0.0	0.4
B01	0.1	4.2	0.0	0.0	0.0	0.0	0.4	0.0	0.0	4.0	0.0	3.8	1.0
C-IA	2.4	87.3	0.0	8.2	29.6	23.6	0.3	0.0	53.6	59.5	0.0	4.6	56.8
A-IA	12.3	445.5	0.0	31.9	372.6	85.4	25.0	4.0	1.3	30.0	7.0	1.0	0.0
Total	119.2	4,364.7	106.6	184.0	3,076.90	475.3	612.8	81.0	96.7	171.4	102.0	16.5	112.0

Table C-8. Resource Summary for Alternative 5

Sub-segment	Length (miles)	Study Area (acres)	High-Potential RPBB Habitat (acres)	Steep Slopes (acres)	Prime Farmland (acres)	Land Cover Forested (acres)	Land Cover Urban (acres)	Sensitive Receptors (number)	Wetlands (acres)	Floodplains (acres)	Water Bodies (number)	Water Bodies (acres)	Env. Sensitive Areas (acres)
Y08	0.7	25.0	10.8	2.0	10.5	16.5	1.4	0.0	2.8	0.0	0.0	0.0	0.0
Y07	0.0	1.6	0.0	0.0	1.6	0.0	0.4	0.0	0.2	0.0	0.0	0.0	0.0
Y06B	1.4	51.7	18.8	4.0	37.6	10.7	2.0	0.0	6.7	14.6	5.0	0.7	18.3
Y06A	0.1	3.2	3.2	0.0	3.2	0.2	0.8	0.0	0.1	1.6	3.0	0.1	0.1
Y05	0.5	19.4	19.4	0.0	17.7	0.5	4.8	0.0	0.2	6.5	1.0	0.0	0.0
Y01B	0.2	20.3	20.3	0.0	14.6	2.4	6.6	3.0	1.1	1.6	2.0	0.0	0.0
Y01A	0.6	18.6	7.6	0.0	11.8	1.6	8.5	0.0	0.0	0.3	1.0	0.1	0.3
W04	0.1	3.3	0.0	0.0	3.3	0.0	1.2	0.0	0.0	0.0	0.0	0.0	0.0
W03	0.6	21.2	0.0	0.0	18.5	1.5	5.4	4.0	0.4	0.3	0.0	0.0	0.0
V06	0.2	7.0	0.0	0.3	3.4	2.4	1.4	0.0	0.0	0.0	0.0	0.0	0.0
V05	0.1	2.4	0.0	0.0	0.5	0.4	0.4	0.0	0.0	0.0	0.0	0.0	0.0
V04	3.0	107.5	0.0	8.3	35.1	37.5	9.5	1.0	0.0	0.0	2.0	0.0	0.0
V03	0.7	25.6	0.0	0.7	18.3	0.5	1.2	0.0	0.4	0.0	0.0	0.0	0.0
V02	0.4	14.0	0.0	0.1	6.5	3.6	0.4	0.0	0.0	0.0	0.0	0.0	0.0
V01	0.3	9.0	0.0	0.0	8.1	1.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0
U02	3.2	116.2	0.0	0.2	77.0	17.1	8.9	0.0	1.9	3.9	5.0	0.0	0.7
U01	1.0	38.0	0.0	0.0	14.9	0.0	7.9	0.0	0.1	0.0	1.0	0.0	0.0
S13	10.4	379.8	13.3	1.2	195.7	26.0	100.0	2.0	4.9	0.1	23.0	0.1	6.8
S12	0.5	19.4	0.0	0.0	8.4	0.0	14.1	0.0	0.3	0.0	2.0	0.0	0.0
S11D	0.4	14.3	0.0	0.0	13.8	0.0	5.0	0.0	0.0	0.0	0.0	0.0	3.5
S11B	0.9	37.4	0.0	0.1	26.0	0.1	10.1	0.0	0.0	0.0	0.0	0.0	17.7
S11A	0.1	3.7	0.0	0.0	3.7	0.7	1.3	0.0	0.0	0.0	0.0	0.0	0.3
S09	3.6	131.6	0.0	0.6	71.8	12.8	32.6	1.0	0.0	0.1	7.0	0.0	0.0

Appendix C. Alternatives Development Process

Sub-segment	Length (miles)	Study Area (acres)	High-Potential RPBB Habitat (acres)	Steep Slopes (acres)	Prime Farmland (acres)	Land Cover Forested (acres)	Land Cover Urban (acres)	Sensitive Receptors (number)	Wetlands (acres)	Floodplains (acres)	Water Bodies (number)	Water Bodies (acres)	Env. Sensitive Areas (acres)
S08	1.6	83.2	0.0	0.0	82.5	0.0	13.6	1.0	0.0	0.0	0.0	0.0	0.0
S05	0.0	2.2	0.0	0.0	2.2	0.0	0.6	0.0	0.0	0.0	0.0	0.0	0.0
S04	0.9	32.0	0.0	0.0	27.6	0.0	8.8	0.0	0.0	0.0	0.0	0.0	0.0
S03	3.1	109.8	0.0	0.6	50.0	3.5	20.9	1.0	0.2	0.3	5.0	0.0	0.0
R15	1.9	65.0	0.0	0.5	35.0	12.2	9.8	0.0	1.1	0.0	4.0	0.0	0.0
R10	0.1	3.1	0.0	0.0	1.9	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0
R09	7.6	275.7	0.0	0.1	233.3	5.5	43.5	11.0	9.8	5.9	11.0	0.2	0.0
R08	0.3	9.4	0.0	0.0	9.4	0.0	1.2	0.0	0.0	0.0	0.0	0.0	0.0
R07	1.0	37.0	0.0	0.0	37.0	1.1	2.9	0.0	0.8	0.0	1.0	0.0	0.0
R06	1.3	46.4	0.0	0.0	39.7	0.1	5.5	1.0	1.9	1.1	2.0	0.1	0.0
R05	1.0	35.0	0.0	0.1	31.1	9.6	0.1	0.0	3.3	0.5	3.0	0.0	0.0
R04	0.3	11.2	0.0	0.0	11.2	0.0	1.4	0.0	0.2	0.0	1.0	0.0	0.0
R03	5.7	207.7	0.0	0.0	203.1	0.5	44.8	10.0	4.4	1.8	6.0	0.3	0.0
R02	0.2	6.6	0.0	0.0	5.4	0.0	0.7	0.0	0.0	0.0	0.0	0.0	0.0
R01	0.3	9.9	0.0	0.0	9.9	0.0	1.3	0.0	0.0	0.0	0.0	0.0	0.0
N07	0.2	6.0	0.0	0.0	0.0	0.0	0.9	0.0	0.0	0.0	0.0	0.0	0.0
N03	0.3	10.5	0.0	0.0	10.5	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0
N01	0.7	23.5	0.0	0.0	21.1	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0
Hill Valley Sub 1	0.0	9.7	0.0	0.0	9.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
L05	0.0	1.5	0.0	0.0	1.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
L04	0.3	12.3	0.0	0.0	11.2	0.7	0.3	0.0	0.5	0.0	1.0	0.0	0.0
L03	0.0	1.5	0.0	0.0	1.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
L02	0.5	17.0	0.0	0.0	17.0	0.0	0.3	0.0	0.0	0.0	1.0	0.0	0.0
L01	0.2	8.7	0.0	0.0	8.7	0.0	1.5	0.0	0.0	0.0	0.0	0.0	0.0

Appendix C. Alternatives Development Process

Sub-segment	Length (miles)	Study Area (acres)	High-Potential RPBB Habitat (acres)	Steep Slopes (acres)	Prime Farmland (acres)	Land Cover Forested (acres)	Land Cover Urban (acres)	Sensitive Receptors (number)	Wetlands (acres)	Floodplains (acres)	Water Bodies (number)	Water Bodies (acres)	Env. Sensitive Areas (acres)
K01	2.0	70.9	0.0	0.0	70.9	0.0	11.8	1.0	0.3	0.0	1.0	0.0	0.0
J04	0.8	29.8	0.0	0.0	29.8	0.0	2.9	0.0	0.0	0.0	0.0	0.0	0.0
J03	1.0	37.7	0.0	0.0	37.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0
J02	1.0	38.0	0.0	0.0	38.0	0.0	4.6	1.0	0.0	0.0	0.0	0.0	0.0
J01	2.2	80.9	0.0	0.0	80.9	0.0	8.6	1.0	2.1	0.0	1.0	0.0	0.0
H09	2.0	70.9	0.0	0.0	69.1	2.0	10.8	3.0	0.0	0.0	1.0	0.0	0.0
H07	1.4	49.9	0.0	0.0	49.9	0.1	6.6	1.0	0.0	0.0	0.0	0.0	0.0
H06	3.4	116.7	0.0	0.9	106.2	2.0	15.4	2.0	0.0	0.0	2.0	0.0	0.0
H03	0.6	21.1	0.0	0.1	17.1	0.0	2.9	2.0	1.1	0.0	1.0	0.0	0.0
H02	3.3	119.2	0.0	0.2	109.6	1.1	4.3	3.0	0.3	0.0	1.0	0.2	0.0
H01	0.5	18.2	0.0	0.0	18.2	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.7
G09	1.5	54.2	0.0	0.0	54.2	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0
G08	3.7	133.9	0.0	0.0	133.9	0.4	1.1	1.0	1.1	0.0	3.0	0.0	0.0
G06	1.8	67.1	0.0	0.0	67.1	0.1	11.0	3.0	1.5	0.0	0.0	0.0	0.0
G04	0.9	31.9	0.0	0.0	31.9	0.0	4.2	0.0	0.0	0.0	0.0	0.0	0.0
G01	0.3	9.8	0.0	0.0	9.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
F06	0.2	7.0	0.0	0.0	7.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
F04	0.6	20.1	2.3	0.0	20.1	0.6	0.3	0.0	0.0	0.0	0.0	0.0	0.0
F01	0.3	9.4	0.0	0.0	9.4	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0
E19	4.0	145.7	0.0	17.5	75.7	31.7	2.0	0.0	0.4	2.8	4.0	0.4	9.7
E18	0.4	15.5	0.0	0.0	5.7	0.0	1.6	1.0	0.0	0.0	0.0	0.0	0.0
E16	4.1	151.0	0.0	24.3	60.8	35.5	1.9	1.0	2.4	7.7	7.0	1.1	0.0
E14	0.8	31.0	0.0	0.1	17.5	0.0	1.2	0.0	0.5	0.0	0.0	0.0	0.0
E13	0.2	8.7	0.0	0.0	7.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Sub-segment	Length (miles)	Study Area (acres)	High-Potential RPBB Habitat (acres)	Steep Slopes (acres)	Prime Farmland (acres)	Land Cover Forested (acres)	Land Cover Urban (acres)	Sensitive Receptors (number)	Wetlands (acres)	Floodplains (acres)	Water Bodies (number)	Water Bodies (acres)	Env. Sensitive Areas (acres)
E12	0.4	16.0	0.0	0.0	16.0	0.3	0.6	0.0	0.0	0.0	0.0	0.0	0.0
E10	4.6	166.3	0.0	27.9	70.5	43.8	3.5	0.0	2.0	0.0	2.0	1.4	0.0
E09	0.6	21.1	0.0	0.8	5.7	2.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0
E07	3.9	140.0	0.0	28.1	37.1	38.9	2.7	0.0	0.2	32.4	0.0	2.2	0.0
E06	0.6	25.5	0.0	0.3	8.0	3.0	0.9	0.0	0.0	0.0	0.0	0.0	0.0
E04	0.5	18.6	0.0	0.2	7.8	2.2	0.7	0.0	0.0	0.0	0.0	0.0	0.0
E03	0.3	11.7	0.0	0.0	8.4	0.0	2.2	0.0	0.1	0.0	0.0	0.0	0.0
E01	3.5	126.7	0.0	14.7	41.5	25.8	1.1	0.0	0.4	0.0	1.0	0.1	0.0
C04	0.5	19.8	0.0	5.9	6.6	7.6	0.6	0.0	0.0	0.0	0.0	0.0	0.0
C02B	1.0	37.5	0.0	14.5	11.8	18.7	1.6	0.0	0.1	2.4	0.0	0.1	0.0
C02A	0.1	4.1	0.0	0.0	0.0	0.0	3.4	0.0	0.0	0.7	0.0	0.0	0.3
A01A	0.1	5.1	0.0	0.0	0.0	0.0	4.1	0.0	0.0	5.0	0.0	4.5	0.4
B-IA	2.1	77.5	0.0	8.4	53.1	10.1	0.3	0.0	23.4	49.5	0.0	6.3	29.8
A-IA	12.3	445.5	0.0	31.9	372.6	85.4	25.0	4.0	1.3	30.0	7.0	1.0	0.0
Total	124.0	4,549.1	95.7	194.6	3,228.8	480.0	524.5	59.0	78.5	169.1	118.0	18.9	88.6

Table C-9. Resource Summary for Alternative 6

Sub-segment	Length (miles)	Study Area (acres)	High-Potential RPBB Habitat (acres)	Steep Slopes (acres)	Prime Farmland (acres)	Land Cover Forested (acres)	Land Cover Urban (acres)	Sensitive Receptors (number)	Wetlands (acres)	Floodplains (acres)	Water bodies (number)	Water bodies (acres)	Env. Sensitive Areas (acres)
Z02	0.7	26.9	26.9	0.2	19.8	1.7	3.0	0.0	2.6	9.1	9.0	0.6	4.6
Z01B	0.8	28.3	14.4	0.1	25.1	5.8	9.3	1.0	3.2	2.1	1.0	0.0	9.5
Y08	0.7	25.0	10.8	2.0	10.5	16.5	1.4	0.0	2.8	0.0	0.0	0.0	0.0
Y07	0.0	1.6	0.0	0.0	1.6	0.0	0.4	0.0	0.2	0.0	0.0	0.0	0.0
Y06A	0.1	3.2	3.2	0.0	3.2	0.2	0.8	0.0	0.1	1.6	3.0	0.1	0.1
Y05	0.5	19.4	19.4	0.0	17.7	0.5	4.8	0.0	0.2	6.5	1.0	0.0	0.0
Y01B	0.2	20.3	20.3	0.0	14.6	2.4	6.6	3.0	1.1	1.6	2.0	0.0	0.0
Y01A	0.6	18.6	7.6	0.0	11.8	1.6	8.5	0.0	0.0	0.3	1.0	0.1	0.3
X02	0.8	29.6	0.0	0.0	29.5	0.0	2.5	0.0	7.2	10.2	0.0	0.0	0.0
V04	3.0	107.5	0.0	8.3	35.1	37.5	9.5	1.0	0.0	0.0	2.0	0.0	0.0
V03	0.7	25.6	0.0	0.7	18.3	0.5	1.2	0.0	0.4	0.0	0.0	0.0	0.0
V02	0.4	14.0	0.0	0.1	6.5	3.6	0.4	0.0	0.0	0.0	0.0	0.0	0.0
V01	0.3	9.0	0.0	0.0	8.1	1.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0
T05	0.8	27.5	0.0	0.1	23.3	4.0	4.7	2.0	0.1	0.0	0.0	0.0	0.0
T04	0.5	20.4	0.0	0.0	13.7	4.5	0.2	0.0	0.0	0.0	0.0	0.0	0.0
T03	1.3	47.2	0.0	1.8	23.6	15.4	0.3	0.0	0.5	0.0	3.0	0.0	0.0
T02	0.4	16.0	0.0	0.0	2.3	0.1	2.5	0.0	0.0	0.0	0.0	0.0	0.0
T01	1.2	44.1	0.0	1.1	15.4	10.5	1.7	0.0	1.0	0.0	1.0	0.0	1.0
S13	10.4	379.8	13.3	1.2	195.7	26.0	100.0	2.0	4.9	0.1	23.0	0.1	6.8
S12	0.5	19.4	0.0	0.0	8.4	0.0	14.1	0.0	0.3	0.0	2.0	0.0	0.0
S10D	0.4	12.6	0.0	0.0	10.8	0.0	11.3	0.0	0.0	0.0	0.0	0.0	0.0
S10C	0.2	5.5	0.0	0.0	2.9	0.0	2.8	1.0	0.0	0.0	0.0	0.0	0.0
S10B	0.8	28.9	0.0	0.1	18.6	0.6	10.6	0.0	0.0	0.0	1.0	0.0	16.7

Appendix C. Alternatives Development Process

Sub-segment	Length (miles)	Study Area (acres)	High-Potential RPBB Habitat (acres)	Steep Slopes (acres)	Prime Farmland (acres)	Land Cover Forested (acres)	Land Cover Urban (acres)	Sensitive Receptors (number)	Wetlands (acres)	Floodplains (acres)	Water bodies (number)	Water bodies (acres)	Env. Sensitive Areas (acres)
S10A	0.1	2.7	0.0	0.0	2.7	0.0	0.8	0.0	0.0	0.0	0.0	0.0	0.2
S09	3.6	131.6	0.0	0.6	71.8	12.8	32.6	1.0	0.0	0.1	7.0	0.0	0.0
S08	1.6	83.2	0.0	0.0	82.5	0.0	13.6	1.0	0.0	0.0	0.0	0.0	0.0
S05	0.0	2.2	0.0	0.0	2.2	0.0	0.6	0.0	0.0	0.0	0.0	0.0	0.0
S04	0.9	32.0	0.0	0.0	27.6	0.0	8.8	0.0	0.0	0.0	0.0	0.0	0.0
S01	3.2	112.4	0.0	0.1	57.4	0.0	23.5	1.0	0.0	1.0	4.0	0.1	1.4
Q06	0.6	20.5	0.0	0.0	14.8	0.0	1.5	0.0	0.0	0.0	0.0	0.0	0.0
Q05	1.0	36.3	0.0	0.0	34.6	0.5	17.1	0.0	3.8	0.0	2.0	0.0	0.0
Q04	0.5	19.1	0.0	0.0	19.1	2.8	14.4	2.0	0.0	0.0	0.0	0.0	0.0
Q03	0.5	19.8	0.0	0.0	19.8	0.4	5.4	0.0	0.0	0.0	0.0	0.0	0.0
Q02	13.2	479.7	0.0	0.0	467.3	2.0	155.1	17.0	4.2	6.3	8.0	0.2	0.0
Q01	1.1	39.0	0.0	0.0	33.1	0.0	10.8	2.0	0.0	0.0	0.0	0.0	0.0
N07	0.2	6.0	0.0	0.0	0.0	0.0	0.9	0.0	0.0	0.0	0.0	0.0	0.0
N06	0.0	0.3	0.0	0.0	0.3	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0
N05	0.2	8.6	0.0	0.0	8.6	0.0	2.7	0.0	0.0	0.0	0.0	0.0	0.0
N04	0.0	0.6	0.0	0.0	0.6	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0
N03	0.3	10.5	0.0	0.0	10.5	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0
N01	0.7	23.5	0.0	0.0	21.1	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0
Hill Valley Sub 1	0.0	9.7	0.0	0.0	9.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
L05	0.0	1.5	0.0	0.0	1.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
D10	0.1	5.2	0.0	0.0	5.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
D09A	0.5	19.1	0.0	0.0	0.0	0.0	19.1	0.0	0.6	0.0	0.0	0.0	0.0
D08	14.5	527.5	0.0	27.1	245.2	65.4	6.5	1.0	20.7	49.6	10.0	4.0	0.0
D05	0.3	11.5	0.0	0.0	11.5	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0

Appendix C. Alternatives Development Process

Sub-segment	Length (miles)	Study Area (acres)	High-Potential RPBB Habitat (acres)	Steep Slopes (acres)	Prime Farmland (acres)	Land Cover Forested (acres)	Land Cover Urban (acres)	Sensitive Receptors (number)	Wetlands (acres)	Floodplains (acres)	Water bodies (number)	Water bodies (acres)	Env. Sensitive Areas (acres)
D04	14.5	526.7	0.0	72.3	192.9	130.1	7.6	1.0	11.2	80.7	14.0	6.6	0.0
D03	0.9	29.6	0.0	0.3	19.4	0.6	1.8	1.0	0.0	0.0	0.0	0.0	0.0
D01	1.6	59.5	0.0	8.6	19.7	10.7	0.0	0.0	0.5	0.0	0.0	0.0	0.0
A03	1.0	35.7	0.0	11.4	9.9	10.6	2.2	0.0	0.0	0.0	1.0	0.0	0.0
A02	0.2	7.6	0.0	2.5	4.5	1.1	0.7	0.0	0.0	1.7	0.0	0.0	0.0
A01B	0.2	8.6	0.5	0.0	0.0	0.0	0.0	0.0	8.0	0.0	0.0	0.0	0.3
A01A	0.1	5.1	0.0	0.0	0.0	0.0	4.1	0.0	0.0	5.0	0.0	4.5	0.4
D-IA	16.2	585.4	0.0	26.5	486.2	77.6	70.8	8.0	0.5	13.4	12.0	0.2	0.0
B-IA	2.1	77.5	0.0	8.4	53.1	10.1	0.3	0.0	23.4	49.5	0.0	6.3	29.8
Total	105.2	3,868.6	116.4	173.5	2,449.3	457.1	600.3	45.0	97.5	238.8	107.0	22.8	71.1

Table C-10. Resource Summary for Subsegments Not Included in Alternatives

Sub-segment	Length (miles)	Study Area (acres)	High-Potential RPBB Habitat (acres)	Steep Slopes (acres)	Prime Farmland (acres)	Land Cover Forested (acres)	Land Cover Urban (acres)	Sensitive Receptors (number)	Wetlands (acres)	Floodplains (acres)	Water Bodies (number)	Water Bodies (acres)	Env. Sensitive Areas (acres)
D09B	0.4	15.7	0.0	0.0	0.0	0.0	14.1	0.0	2.2	0.0	1.0	0.0	0.0
R11	1.0	34.1	0.0	0.6	12.9	6.5	7.9	1.0	0.7	0.0	2.0	0.0	0.0
R13	0.4	17.3	0.0	0.0	11.4	4.1	4.3	0.0	0.2	0.0	2.0	0.0	0.0
R14	0.3	12.5	0.0	0.0	8.2	0.3	3.3	0.0	0.1	0.0	0.0	0.0	0.0
S11C	0.1	1.9	0.0	0.0	1.9	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0
Total	2.2	81.5	0	0.6	34.4	10.9	30.6	1.0	3.2	0.0	5.0	0.0	0.0

APPENDIX D

Best Management Practices

BEST MANAGEMENT PRACTICES

This section presents an overview of the best management practices (BMPs) discussed in the draft environmental impact statement (DEIS) for the proposed Cardinal-Hickory Creek Project (C-HC Project). A BMP is defined by 40 Code of Federal Regulations (CFR) 130 as a practice, or combination of practices, that have been determined to be most effective and practicable in preventing or reducing the amount of pollution generated by diffuse sources to a level compatible with water quality goals.¹ The typical BMPs for the project would be maintained throughout the project area in Wisconsin and Iowa. In certain cases in Wisconsin, BMPs and prescribed steps would be taken in compliance with State-required impact minimization measures. These BMPs would be implemented in conjunction with the environmental commitments discussed in Table 3.1-4 in Section 3.1. BMPs would be applied throughout the entire length of the proposed project. Specific environmental commitments would apply to certain areas within the project area, such as the Upper Mississippi River National Wildlife and Fish Refuge (Refuge) or other areas where special conditions occur. These BMPs would be implemented, where appropriate, during design, construction or operations by Dairyland Power Cooperative, American Transmission Company LLC, and ITC Midwest LLC (the Utilities) and are embedded in numerous policies and orders. This section is organized to describe BMPs related to construction timing, environmental and agricultural monitors, and resource topic.

Construction Timing

The seasonal timing of construction could affect the severity of construction impacts to croplands, wetlands, high-quality natural areas, threatened and endangered species, and the potential spread of invasive species and plant diseases (e.g., oak wilt). Limiting construction to winter months or to times of the year when plants are dormant and the ground is frozen could reduce many adverse impacts. However, the urgency of some projects, the need to perform construction during scheduled electric outages, and the availability of skilled labor cannot always accommodate winter scheduling, especially on long or complex projects.

One way to avoid impacts to threatened or endangered species is to avoid construction during the active nesting or spawning period. To protect fish habitat during spawning seasons, activities such as bridge placement or dredging that would occur below the ordinary high-water mark (OHWM) would be restricted for trout streams and navigable tributaries to trout streams. The Utilities have developed construction protocols that would minimize or eliminate construction-related impacts on certain protected species, including seasonal restrictions, movement barriers, and other methods. The Utilities will coordinate with the U.S. Fish and Wildlife Service (USFWS), Wisconsin Department of Natural Resources (WDNR), and the Iowa Department of Natural Resources (IDNR) on project schedule to ensure protection of threatened and endangered species.

Environmental and Agricultural Monitors

Independent third-party environmental monitors (IEMs) could be required by the Public Service Commission of Wisconsin (PSCW) to monitor construction of the C-HC Project transmission line. Construction activities subject to monitoring and reporting by the IEMs could include activities that affect wetlands and bodies of water, habitats and occurrences of protected species, archaeological sites, agricultural fields, state and Federal properties, or private properties with specific issues such as organic farming practices or the disposition of cleared trees. The IEM is responsible for reporting incidents and

¹ Note, this definition comes from the Clean Water Act but the term is commonly applied to measures and practices to minimize impacts from construction and disturbance activities.

potentially stopping work, if appropriate, when construction practices violate any applicable permit, approval, order condition, or agreement with regulatory agencies or are likely to cause unanticipated impacts to the environment or private properties. In lieu of a required IEM, the Utilities' standard practice is to have a qualified member of the utility staff or trained contractor serve as a monitor for special resource concerns.

Visual Quality and Aesthetics Best Management Practices

Electric transmission lines sometimes can be routed to avoid areas considered scenic. Routes can be chosen that pass through commercial/industrial areas or along land use boundaries. The form, color, or texture of a line can be modified to somewhat minimize aesthetic impacts. There are some choices available in transmission structure color and construction material. Structures installed for the C-HC Project would be constructed of rust-brown oxidized steel, which may blend better with wooded landscapes. Stronger conductors can minimize line sag and provide a sleeker profile.

Agricultural Best Management Practices

Each agricultural landowner would be consulted regarding farm operations (e.g., irrigation systems, drainage tiles), locations of farm animals and crops, current farm biological security practices, landowner concerns, and use of access routes. Potential impacts to each farm property along the route would be identified, and where practicable, construction impact minimization measures may be implemented. Site-specific practices would vary according to the activities of the landowner/farm operator, the type of agricultural operation, the susceptibility of site-specific soils to compaction, the degree of construction occurring on the parcel, and the ability to avoid areas of potential concern.

Short-term impacts to agricultural lands would be mitigated by providing compensation to producers and by restoring agricultural lands to the extent practicable. Where appropriate, minimization techniques, such as topsoil replacement and deep tilling, may be used.

Long-term impacts associated with constructing the transmission line across agricultural lands would be minimized through careful consideration of alignment routing and individual structure siting. Where possible, siting in agricultural areas would be along fence lines or between fields or along public road right-of-way (ROW) so that the proposed structures would be located along the edge of the land area used for agricultural purposes. If conflicts occur, landowners would be consulted during the real estate acquisition process to accommodate landowner needs to the extent practicable.

In the case of organic farms, landowners would be consulted to minimize potential impacts to their organic farming status due to the transmission line routing or construction. Methods to minimize impacts could include offsetting the transmission line structures from the property line so that tree lines or other buffers would be maintained. Additionally, construction vehicles may be cleaned before entering the organic farm parcels, in accordance with input from the landowner. Furthermore, to protect organic farms during vegetation management activities once the line is in operation, herbicide would not be applied within portions of the ROW where the landowner does not wish to introduce it.

Drain tiles are common in portions of Wisconsin and Iowa, and there is no consistent data source to identify them. During the final design process, landowner input would be obtained to place structures such that impacts to drain tiles would be minimized to the extent practicable. During construction, matting may be used to more evenly distribute the weight of heavy equipment, and low ground-pressure construction equipment may also be used. After construction, damaged drain tiles would be repaired to preconstruction conditions.

If construction activity occurs during wet conditions and soils are rutted, repairing the ruts as soon as possible could reduce the potential for impacts. However, if improperly timed, impact minimization work on rutted soil could compound the damage already present. Allowing a short time for the soil to begin drying and then using a bulldozer to smooth and fill in the ruts is a common BMP. Soils would be evaluated to determine when the soil is friable enough to allow rutting to be remediated properly.

To minimize soil compaction during construction in agricultural lands, low-lying areas, saturated soils, or sensitive soils, low-impact machinery with wide tracks could be used. When construction of the line is complete, the soil in the ROW in fields that were accessed by heavy construction traffic should be checked for compaction (such as with a soil penetrometer) and compared with penetrometer readings on soils outside the ROW, as necessary. If compaction within the ROW is detected, either the landowner would be compensated for lost productivity or appropriate equipment should be used to restore the soil tilth. Figure D-1 through Figure D-4 illustrate how ruts made by heavy equipment could be repaired.

Problems with potential damage to soil productivity from the impacts of soil mixing, soil compaction, and soil erosion would be lessened by:

- Identifying site-specific soil characteristics and concerns from the landowner and farm operator before construction begins.
- Avoiding areas where impacts might occur by altering access routes to the construction sites.
- Using existing roads or lanes used by the landowner.
- Using construction mats, ice roads, or low ground-pressure or tracked equipment to minimize compaction, soil mixing, rutting, or damage to drainage systems.
- Segregating topsoils or soil horizons during excavation and construction to minimize soil mixing.
- Decompacting soils following construction with appropriate equipment until the degree of soil compaction levels on the ROW is similar to soils off the ROW.
- Avoiding construction and maintenance activities during times when soils are saturated.



Figure D-1. Minor soil rutting in pastureland



Figure D-1. Rutting of topsoil in cropland—no soil mixing.



Figure D-2. Ruts being smoothed with blade.

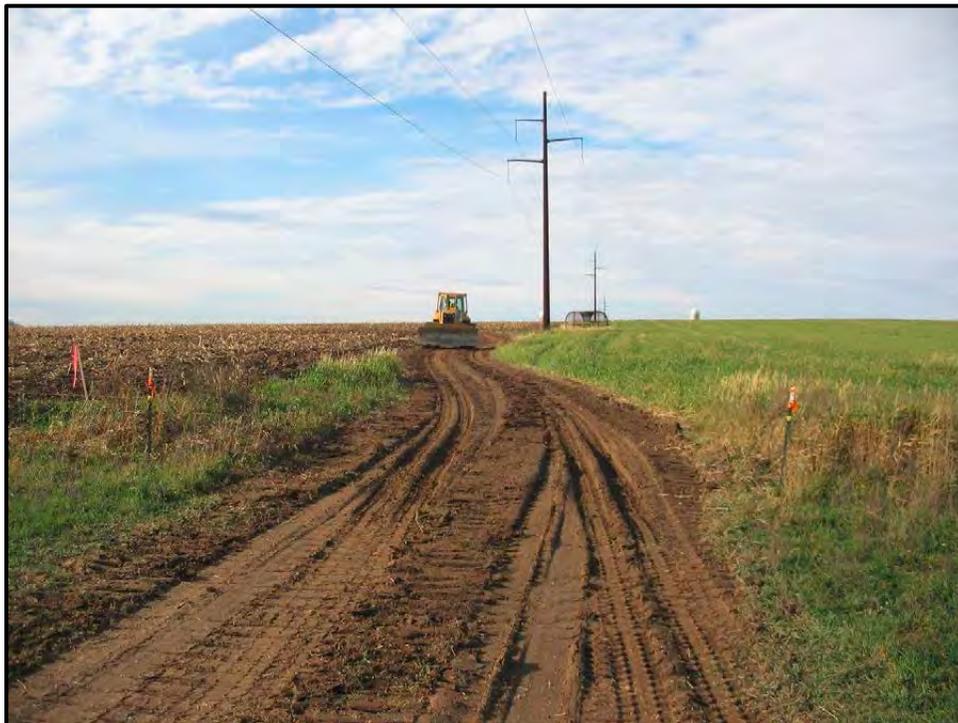


Figure D-3. Smoothing out ruts by backblading with a dozer.

Best Management Practices for Protected and Rare Species and their Habitats

The USFWS, WDNR, and IDNR will be consulted during the environmental review phase of the C-HC Project. Appropriate conservation measures, mitigation measures, and BMPs identified by these agencies will be incorporated into an avoidance and minimization plan by the Utilities and implemented during construction.

Impacts to protected and rare species can usually be avoided or minimized by modifying the route, changing the design of the transmission line, reducing the workspace at a particular location, employing special construction techniques, planning construction during times of the year when the species is not present or active, or using exclusionary devices.

An example of a common BMP is reptile exclusion fencing in areas where habitat is likely to support rare turtles, snakes, or salamanders. During times when the animal may be present or enter into the construction zone, fencing is installed to exclude these animals. The fencing prevents the animal from entering into harm's way. Immediately before work begins in suitable turtle habitat, a ground survey is conducted, and any turtles found in the area are relocated to a nearby suitable habitat. When the area is known to be clear of turtles, plastic fencing is placed around the work area to keep rare turtles out. Figure D-5 shows an area fenced to keep rare turtles away from the construction zone. This fencing is removed when construction and restoration in the area are completed.

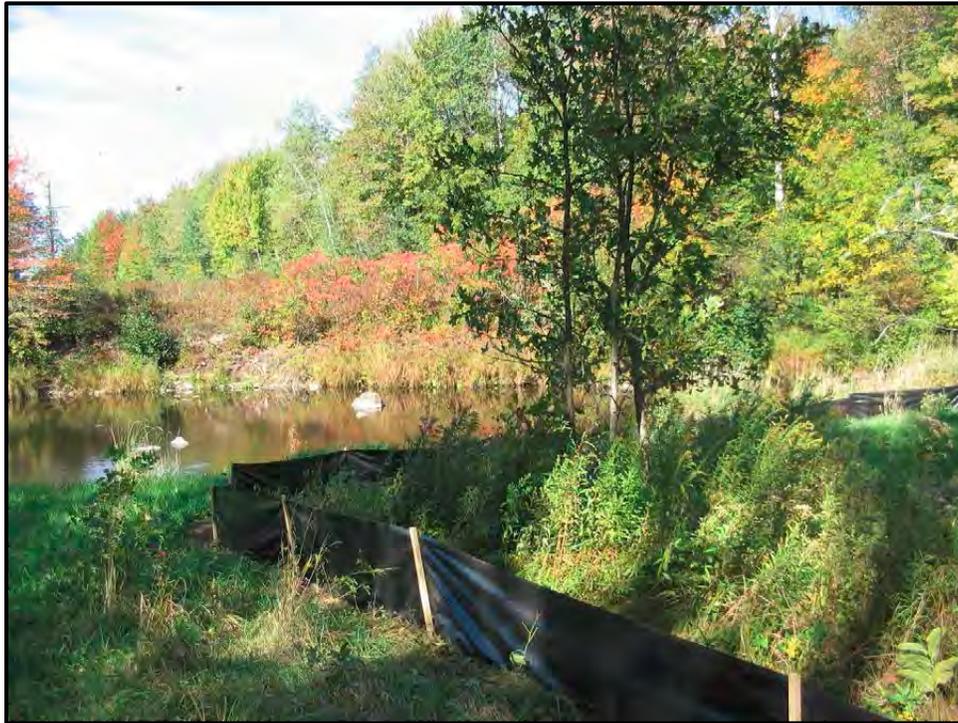


Figure D-4. Turtle exclusion fence.



Figure D-5. Close-up of bird flight diverters used on shield wires of a transmission line.

Best Management Practices for Migratory Birds

Bird flight diverters (BFDs) are a common BMP used to mitigate impacts to avian species. BFDs would be installed on shield wires when overhead transmission lines are built in areas heavily used by rare birds or large concentrations of birds or in specific areas within known migratory flyways. The purpose of BFDs is to make the line more visible so that birds can see it and fly under or over the wires to avoid colliding with them. Several designs of BFDs are available (Figure D-6). Ideally, BFDs should be noticeable by birds but should not draw unwanted attention by people. BFDs would be installed as outlined by the Avian Powerline Interaction Committee (APLIC 2012) and/or manufacturer's recommendations and would be inspected periodically and replaced when necessary.

There are a number of avian-protection considerations that will occur throughout the design and construction of the C-HC Project:

- Design standards for this project will meet avian-safe guidelines as outlined by APLIC for minimizing potential avian electrocution risk.
- The Utilities will work with the IDNR and WDNR to determine locations where state-listed bird species habitat is present, and implement appropriate measures to avoid and/or minimize impacts to those species.
- The Utilities have also worked with USFWS to identify measures to minimize avian impacts at the Mississippi River crossing location. These measures are discussed in detail in the Alternative Crossing Analysis report and include limiting structure height through the Refuge, horizontal configuration, and installation of bird flight diverters.
- The Utilities factored existing avian data into the routing and siting process, including known eagle nest locations and designated Important Bird Areas.

- The Utilities will identify locations in coordination with USFWS, WDNR, and IDNR where the installation of BFDs will be recommended to minimize the potential for avian collisions.

Removal of woody vegetation and trees within habitat for threatened and endangered bird species will occur outside of the nesting season for those species. During the nesting season, the Utilities will complete a field review of the final ROW to identify existing stick nests prior to clearing woody vegetation and trees. Tree-clearing crews will also be trained to stop work and notify environmental staff if they discover an unanticipated nest. Any identified active nest will be avoided during the nesting season.

Best Management Practices for Invasive Species

Standard BMPs have been developed by the Wisconsin Council on Forestry to avoid and minimize the spread of invasive species. The Utilities would use the appropriate BMPs based on conditions encountered in the ROW, according to the degree of invasiveness, severity of the current infestation, and susceptibility of non-infested areas to invasion (see attachment at the end of this appendix).

It is the Utilities' standard practice to restore work areas either by allowing the native seed bank to regenerate, or applying a seed mix that is consistent with preconstruction conditions and would not include invasive species (or that is appropriate to the surrounding area in work locations that were previously forested or shrubland). The Utilities follow BMPs during construction to avoid introducing invasive species into areas where they did not previously exist.

Additional evaluation would be conducted on the selected route to further identify invasive species, their locations, and locations where site-specific BMPs would be appropriate. Appropriate BMPs would be implemented during construction.

Because construction measures may not be completely effective in controlling the introduction and spread of invasive species, post-construction activities are often required. Uninfested natural areas, such as high-quality wetlands, forests, and prairies, would be surveyed for invasive species following construction and site revegetation. If new infestations of invasive species due to construction of the C-HC Project are discovered, measures should be taken to control the infestation. Each exotic or invasive species requires its own protocol for control or elimination. Techniques to control exotic/invasive species include the use of pesticides, biological agents, hand pulling, controlled burning, and cutting or mowing. The WDNR or IDNR, as applicable, would be consulted to determine the best methods for control of encountered invasive species.

Standard revegetation goals often required by WDNR permits include the following:

- Final site stabilization in wetlands that were non-forested prior to construction, and on streambanks, requires reestablishment of vegetation at least 70% of the type, density, and distribution of the vegetation that was documented in the area prior to construction; or
- Final site stabilization in wetlands requires the reestablishment of native or pre-existing perennial vegetation to at least 70% vegetative cover.

Best Management Practices for Stray Voltage

“Stray voltage” is a special case of low-level voltage in which a voltage is present across points (generally grounded metal objects) in which a current flow is produced when an animal comes into contact with them. It can be caused by premises wiring or from off-premises sources. Transmission lines do not, by

themselves, create stray voltage because the transmission system operates and is configured differently than the distributed system. Transmission lines, however, can induce voltage on a distribution circuit that is parallel and closely adjacent to the transmission line. If the proposed transmission lines parallel or cross distribution lines, appropriate engineering can be taken to address any induced voltages. When stray voltage is a concern, electrical measurements in confined livestock areas should be conducted using established testing procedures with the appropriate equipment by qualified personnel. These testing protocols have been developed to collect a science-based set of data useful in the analysis of possible stray voltage exposure including the source, both on-farm versus off-farm.

Investigation and avoidance of stray voltage can be achieved through a variety of proven and acceptable methods, such as additional grounding or the installation of an equipotential plane. In Wisconsin, farm operators may receive technical assistance from the Wisconsin Rural Electric Power Services (REPS) program, which is jointly managed by the PSCW and the Wisconsin Department of Agriculture, Trade, and Consumer Protection (DATCP). DATCP provides an ombudsman, a veterinarian, an energy technical advisor, and a program assistant to the REPS program. REPS staff members provide information about stray voltage and power-quality issues; work to answer regulatory questions; conduct on-farm and distribution-system investigations that can help farmers work with the utility or electrician to resolve a power-quality concern; provide a format for dispute resolution; and continue to research electrical issues. REPS staff also works with farmers, their veterinarians, and nutritionists to resolve herd health and production.

Surface Waters Best Management Practices

Impacts to waterways can be avoided by rerouting the line away from the waterway, adjusting pole placements to span the resource overhead, constructing the line under the resource, or constructing temporary bridge structures across the resource.

Work below the OHWM of waterways would be avoided to the extent practicable; the most likely activity would be withdrawing water to stabilize excavations. Before moving construction equipment and material between waterway construction locations where equipment or materials are placed below the OHWM of a waterway, standard inspection and disinfection procedures would be incorporated into construction methods as applicable (see Wisconsin Administrative Code [WAC] NR 329.04(5)).

Methods to minimize impacts to water bodies include avoiding pole placements adjacent to the resource, using WDNR- and IDNR-approved erosion control methods, and using alternative construction methods such as helicopter construction.

In coordination with WDNR and IDNR, an erosion control plan would be prepared once a route is ordered, and BMPs would be employed to minimize the potential for erosion and to prevent any sediments from entering waterways. Proper erosion control would be necessary for all construction activities, especially those that may affect water resources. BMPs should be employed before, during, and immediately after construction of the project to reduce the risk of excess siltation into streams. Erosion controls would be regularly inspected and maintained throughout the construction phase of a project until exposed soil has been adequately stabilized.

Several waterways would be crossed for construction access. These crossings would require a temporary clear span bridge (TCSB). The use of properly designed temporary bridge structures would avoid the necessity of driving construction equipment through streams.

TCSBs would be placed to avoid in-stream disturbance. Each TCSB would consist of construction mats, steel I-beam frames, or other similar material placed above the OHWM on either side to span the

streambank. Preparation for setting the bridge may include minor blading and excavation confined to the minimum area necessary for safe bridge installation. Removal of low-growing trees, shrubs, and other shoreline vegetation would be kept to a minimum.

The use of TCSBs would be minimized where possible by accessing the ROW from either side of the stream or by using existing public crossings to the extent practical. The Utilities would work with private landowners to identify alternative access routes to further reduce the use of stream crossings, if possible.

For those streams that would not be crossed by construction vehicles and where stream-crossing permits have not been acquired, wire would be pulled across those waterways by boat, by helicopter, or by a person traversing across the waterway. Wire-stringing activity may require that waterways be temporarily closed to navigation.

Wetlands Best Management Practices

Impacts to wetlands can be avoided, for example, by

- Routing the transmission line away from wetlands or the edges of wetlands;
- Adjusting pole placements to span wetlands or limit equipment access in wetlands, wherever practicable; and
- Using WDNR- and IDNR-approved erosion control methods on adjacent lands.

Construction methods that can reduce impacts to wetlands include

- Conducting construction activities when wetland soils and water are frozen or stable and vegetation is dormant;
- Using construction matting and wide-track vehicles to spread the distribution of equipment weight when crossing wetlands during the growing season or when wetlands are not frozen;
- Using alternative construction methods and equipment such as helicopters, marsh buggies, and vibratory caisson foundations;
- Careful cleaning of construction equipment and mats after working in areas infested by invasive species; and
- Using vibratory caisson foundations that eliminate the need for concrete or other fill.

Matting can provide a safe, stable work surface and travel lane for cranes, concrete, and other equipment needed during transmission line construction. Mats provide protection by spreading the weight of the equipment over a broader area to reduce compaction and prevent deep ruts from forming. While the mats may cause some depression of the underlying soils and crushing of the perennial vegetation, this impact is less than if matting is not used. Matting generally preserves native plant rootstocks so that the preconstruction vegetation can reestablish more quickly after construction is completed. Figure D-7 and Figure D-8 show the use of mats in different wetland conditions. Tracked vehicles and high-flotation tires can be used in some instances in lieu of mats.

Alternative construction equipment such as marsh buggies and helicopters and alternative foundations can be used to further reduce the impact of construction in wetlands. Helicopters have been successfully used for the construction of the foundations, for the erection of the towers, and for wire stringing.

Ice roads can provide some of the same benefits as matting when used in wetlands. Ice roads are intended to create a stable surface for driving heavy equipment. They are usually created by clearing the initial

layer of snow. This allows for frost to accumulate deep into the soil. A track vehicle (bombardier, bulldozer, etc.) is repeatedly driven across the ROW to drive the frost deeper into the soil. Sometimes the ROW can be flooded with water to provide an additional ice layer to the surface. Snow that falls on an ice road is usually cleared. However, compressing snow on top of the road can serve as insulation to keep the frost in the soil.

For construction projects that include the replacement of existing transmission structures in wetlands, structure types, construction timing, construction methods, and the wetland types are reviewed to determine the least impact to the resource. Typical construction methods include cutting the pole off at or just below the ground surface.

If a steel structure on a concrete foundation needs to be removed from a wetland, the concrete would be removed to a depth of about 2 feet and wetland soils from adjacent new foundation locations would be used to backfill the old foundation holes. The wetland soils would then be graded to approximate the original wetland contours.



Figure D-6. Mats in wet meadow.



Figure D-7. Timber mats being placed in wooded wetland.

Woodlands Best Management Practices

To minimize the spread of oak wilt, the cutting or pruning of oak trees would be conducted in accordance with WAC PSC 113.051 (April 15–July 1). Other recommended restricted times that fall outside of this window may also be followed (e.g., WDNR or local restrictions) if practicable. In Iowa, oak trees may be removed during maintenance activities but pruning oak trees would only occur during dormant periods.

Practices that minimize the spread of emerald ash borer (*Agrilus planipennis*) would be employed for the project. All of the project area in Wisconsin would be located in the emerald ash borer quarantine area. The IDNR has also identified emerald ash borer as being present in much of eastern Iowa, including parts of Clayton County and Dubuque County where the project is proposed to cross. Additionally, the Iowa Department of Agriculture and Land Stewardship—under the authority of Iowa Code Chapter 177A, including Sections 5, 7, 11, 12, 13, 14, 16, 17, and Iowa Administrative Code Chapter 46.15—issued Order No. ENT-14-1 that establishes quarantine practices for the emerald ash borer. Practices that minimize the spread include avoiding movement of ash wood products (logs, posts, pulpwood, bark and bark products, and slash and chipped wood from tree clearing) and hardwood firewood from emerald ash borer quarantine areas to nonquarantine areas (see, for example, WAC ATCP 21.17). Where ash wood products cannot be left on-site, alternative plans would be developed to meet the requirements.

Some of the Wisconsin portion of the project would be located within the gypsy moth (*Lymantria dispar*) quarantine area. Standard practices used in the quarantine area to avoid the spread of gypsy moth damage include inspections and avoiding movement of wood products (logs, posts, pulpwood, bark and bark products, firewood, and slash and chipped wood from tree clearing) from gypsy moth quarantine areas to nonquarantine areas, according to WAC ATCP 21.10.

Special Areas of Resource Concern Best Management Practices

Conservation Easements

Conservation land interests, to the extent data were available, were considered in the routing and siting process to inform the selection of proposed route segments while avoiding, to the extent practicable, properties with recorded conservation land interests. There are many types of conservation easements and encumbrances that exist today. Some of the conservation easements are held by state and federal agencies, while other conservation land interests are held by private organizations. These land rights are generally not known until the easement acquisition process begins with the landowner of record or are identified during public outreach. Efforts would be made to work with landowners to accommodate existing agreements or to make them whole if there are additional monetary burdens landowners would incur.

Cultural Resources and Human Remains

If unanticipated archaeological resources or human remains are identified during construction, the Utilities shall stop work at that location and shall immediately report it to the Utilities' Construction Manager and Environmental Monitor. Work shall not commence in that location until the Wisconsin Historical Society or Iowa State Historic Preservation Office (SHPO) and PSCW are notified and direction sought from the Wisconsin Historical Society or Iowa SHPO. Interested tribes would also be notified during this time. Construction may resume after the direction is followed and the qualified archaeologist's reports, if any, are received and approved by the Wisconsin Historical Society or Iowa SHPO.

Upper Mississippi River National Wildlife and Fish Refuge

In developing their alternatives for crossing the Mississippi River, the Utilities have applied the USFWS's revised mitigation policy of avoid, minimize, mitigate (USFWS 2016). Under this policy, an applicant for use of USFWS lands must first demonstrate that impacts to Refuge lands cannot be avoided. Once this showing has been made, USFWS must evaluate compatibility, impact minimization, and then compensation/mitigation.

After concluding that the Refuge could not be avoided to meet the project's purpose and need, the Utilities evaluated how it could minimize the impact to the Refuge. The following are minimization steps that the Utilities propose to take in the Refuge:

- For the portion of the C-HC Project within the Refuge, preliminary low-profile structures are proposed with a design height of approximately 75 feet to reduce the likelihood of avian collisions.
- The structures would be horizontal-symmetrical H-frame structures on concrete foundations with a typical span length of approximately 500 feet and would consist primarily of tubular steel H-frame structures.
- All conductors on these low-profile structures would be placed on one horizontal plane and the shield wire would be marked with avian flight diverters.
- For Alternatives 1, 5, and 6, where the C-HC Project would cross the Mississippi River at the Nelson Dewey Substation, additional minimization steps are proposed:

- The Utilities propose to relocate the existing transmission lines that cross the Mississippi River at Stoneman Substation and revegetate those Refuge lands within the existing ROW.
- The Utilities also propose to revegetate portions of the Refuge to replicate some of the natural vegetative breaks. These measures would be developed in conjunction with existing revegetation programs that are currently in place within the Refuge. The intent of possible revegetation efforts would be to expand the extent of mature woodlands to provide additional vegetative breaks in order to reduce the visual impacts of the transmission line.

Revegetation at the Refuge would be conducted in concert with USFWS review and direction and in compliance with applicable North American Electric Reliability Corporation (NERC)-regulated vegetation standards. As with the design of the project, the Utilities would work closely with the USFWS to identify the location, type, and overall revegetation plan that would be appropriate for the project and this specific location of the Refuge.

In addition to the measures outlined above, the Utilities would employ site-specific minimization and mitigation measures to be identified before construction in consultation with the USFWS.

LITERATURE CITED

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U.S. Fish and Wildlife Service (USFWS). 2016. Final Mitigation Policy. *Federal Register* 8(224):83440–83492. Available at: <https://www.fws.gov/ecological-services/es-library/pdfs/81FR83440.pdf>. Accessed June 21, 2018.

Rights-of-Way Best Management Practices for Invasive Species

This is a consolidated list of BMPs, taken from the "Transportation & Utility Rights-of-Way BMPs" manual. For more information as well as guidance on how to implement the BMPs listed below, view the full manual at: <http://dnr.wi.gov/invasives/bmp.htm>.

Soil Disturbance BMPs

Planning

- BMP SD 1:** Prior to implementing activities scout for and locate invasive species infestations, consistent with the scale and intensity of operations.
- BMP SD 2:** Consider the need for action based on: 1) the degree of invasiveness; 2) severity of the current infestation; 3) amount of additional habitat or hosts at risk for invasion; 4) potential impacts; and, 5) feasibility of control with available methods and resources.
- BMP SD 3:** Plan activities to limit the potential for introduction and spread of invasive species, prior to construction.

Activities

- BMP SD 4:** Minimize soil disturbance which may include using existing roads, access points, staging areas and alternative construction.
- BMP SD 5:** Avoid invasive species populations when feasible and minimize the spread of invasive species during soil disturbance activities.
- BMP SD 6:** Prior to moving equipment out of an infested area and then into an uninfested area, clean soils, seeds, plant parts, or invertebrates from exterior surfaces, to the extent practical.
- BMP SD 7:** Stabilize disturbed soils as soon as possible.
- BMP SD 8:** Use non-invasive cover crops or native seed for revegetation.
- BMP SD 9:** Provide appropriate resources in identification of known invasive species for corridor workers.

Vegetation Management and Inspection/Monitoring BMPs

Planning

- BMP VM 1:** Prior to implementing activities scout for, locate and document invasive species infestations, consistent with the scale and intensity of operations.
- BMP VM 2:** Plan activities to limit the potential introduction and spread of invasive species, prior to construction.
- BMP VM 3:** Assess current available resources and seek new resources to prevent invasive species spread.

Activities

- BMP VM 4:** Prior to moving equipment out of an infested area and then into an uninfested area, clean soils, seeds, plant parts, or invertebrates from exterior surfaces, to the extent practical.
- BMP VM 5:** Inspect and clean clothing, footwear and gear for soils, seeds, plant parts, and invertebrates before and after activities.
- BMP VM 6:** Carefully dispose of soils, seeds, plant parts or invertebrates found during inspection and cleaning.
- BMP VM 7:** Locate and use staging areas that are free of invasive plants to avoid spreading seeds and other viable plant parts.

- BMP VM 8:** Consider the likely response of invasive species when conducting activities that result in disturbed soil, increased sunlight, fire, etc.
- BMP VM 9:** Ensure that invasive species control treatments are applied within the appropriate time window.
- BMP VM 10:** Monitor right-of-ways during day-to-day activities and post-management activities; determine necessary treatments based on presence of invasive species.
- BMP VM 11:** Provide training in identification, control and prevention of known invasive species to employees and contractors performing vegetation management

Transport of Materials BMPs

Planning

- BMP TM 1:** Take steps to avoid the movement of invasives to non-infested areas during transport activities.
- BMP TM 2:** Prior to transporting materials, manage the load to limit the spread of invasive species.
- BMP TM 3:** Prior to moving equipment out of an infested area and then into an uninfested area, clean soils, seeds, plant parts, or invertebrates from exterior surfaces, to the extent practical.
- BMP TM 4:** Dispose of soils, seeds, plant parts or invertebrates found during inspection and cleaning.
- BMP TM 5:** Establish staging areas and temporary facilities in locations that are free of invasive species.
- BMP TM 6:** Use soil and aggregate material from sources that are free of invasive species.
- BMP TM 7:** Manage stock piles to limit the spread of invasive species.
- BMP TM 8:** Do not transport woody material that may contain invasive species.
- BMP TM 9:** If you must transport woody material that may contain invasive species, bring them to a designated area for appropriate disposal.
- BMP TM 10:** Keep and reuse onsite materials rather than importing new materials.

Revegetation and Landscaping BMPs

Planning

- BMP RV 1:** Plan activities to limit the potential introduction and spread of invasive species, prior to revegetation.
- BMP RV 2:** Select appropriate species for revegetation and landscaping activities.

Activities

- BMP RV 3:** Inspect and clean clothing, footwear and gear for soils, seeds, plant parts, or invertebrates before and after activities.
- BMP RV 4:** Prior to moving equipment out of an infested area and into an uninfested area clean soil and debris from exterior surfaces, to the extent practical, to minimize the risk of transporting propagules.
- BMP RV 5:** Revegetate disturbed soils as soon as feasible to minimize invasive species establishment.
- BMP RV 6:** Where site conditions permit, allow natural revegetation of the ground layer to occur.
- BMP RV 7:** Ensure the species specified in the plan are the ones being used.
- BMP RV 8:** Monitor the revegetation site.

For more information on best management practices for invasive species, contact:
Thomas Boos, DNR Forest Invasive Plant Specialist, 608.266.9276



U.S. Environmental Protection Agency **Construction Emission Control Checklist**

Diesel emissions and fugitive dust from project construction may pose environmental and human health risks and should be minimized. In 2002, EPA classified diesel emissions as a likely human carcinogen, and in 2012 the International Agency for Research on Cancer concluded that diesel exhaust is carcinogenic to humans. Acute exposures can lead to other health problems, such as eye and nose irritation, headaches, nausea, asthma, and other respiratory system issues. Longer term exposure may worsen heart and lung disease.² We recommend USDA RUS consider the following protective measures and commit to applicable measures in the EIS.

Mobile and Stationary Source Diesel Controls

Purchase or solicit bids that require the use of vehicles that are equipped with zero-emission technologies or the most advanced emission control systems available. Commit to the best available emissions control technologies for project equipment in order to meet the following standards.

- On-Highway Vehicles: On-highway vehicles should meet, or exceed, the EPA exhaust emissions standards for model year 2010 and newer heavy-duty, on-highway compression-ignition engines (e.g., long-haul trucks, refuse haulers, shuttle buses, etc.).³
- Non-road Vehicles and Equipment: Non-road vehicles and equipment should meet, or exceed, the EPA Tier 4 exhaust emissions standards for heavy-duty, non-road compression-ignition engines (e.g., construction equipment, non-road trucks, etc.).⁴
- Low Emission Equipment Exemptions: The equipment specifications outlined above should be met unless: 1) a piece of specialized equipment is not available for purchase or lease within the United States; or 2) the relevant project contractor has been awarded funds to retrofit existing equipment, or purchase/lease new equipment, but the funds are not yet available.

Consider requiring the following best practices through the construction contracting or oversight process:

- Establish and enforce a clear anti-idling policy for the construction site.
- Use onsite renewable electricity generation and/or grid-based electricity rather than diesel-powered generators or other equipment.
- Use electric starting aids such as block heaters with older vehicles to warm the engine.
- Regularly maintain diesel engines to keep exhaust emissions low. Follow the manufacturer's recommended maintenance schedule and procedures. Smoke color can signal the need for maintenance (e.g., blue/black smoke indicates that an engine requires servicing or tuning).
- Retrofit engines with an exhaust filtration device to capture diesel particulate matter before it enters the construction site.
- Repower older vehicles and/or equipment with diesel- or alternatively-fueled engines certified to meet newer, more stringent emissions standards (e.g., plug-in hybrid-electric vehicles, battery-electric vehicles, fuel cell electric vehicles, advanced technology locomotives, etc.).
- Retire older vehicles, given the significant contribution of vehicle emissions to the poor air quality conditions. Implement programs to encourage the voluntary removal from use and the marketplace of pre-2010 model year on-highway vehicles (e.g., scrappage rebates) and replace them with newer vehicles that meet or exceed the latest EPA exhaust emissions standards.

² https://www3.epa.gov/region1/eco/diesel/health_effects.html

³ <http://www.epa.gov/otaq/standards/heavy-duty/hdci-exhaust.htm>

⁴ <http://www.epa.gov/otaq/standards/nonroad/nonroadci.htm>

Fugitive Dust Source Controls

- Stabilize open storage piles and disturbed areas by covering and/or applying water or chemical/organic dust palliative, where appropriate. This applies to both inactive and active sites, during workdays, weekends, holidays, and windy conditions.
- Install wind fencing and phase grading operations where appropriate, and operate water trucks for stabilization of surfaces under windy conditions.
- When hauling material and operating non-earthmoving equipment, prevent spillage and limit speeds to 15 miles per hour (mph). Limit speed of earth-moving equipment to 10 mph.

Occupational Health

- Reduce exposure through work practices and training, such as maintaining filtration devices and training diesel-equipment operators to perform routine inspections.
- Position the exhaust pipe so that diesel fumes are directed away from the operator and nearby workers, reducing the fume concentration to which personnel are exposed.
- Use enclosed, climate-controlled cabs pressurized and equipped with high-efficiency particulate air (HEPA) filters to reduce the operators' exposure to diesel fumes. Pressurization ensures that air moves from inside to outside. HEPA filters ensure that any incoming air is filtered first.
- Use respirators, which are only an interim measure to control exposure to diesel emissions. In most cases, an N95 respirator is adequate. Workers must be trained and fit-tested before they wear respirators. Depending on the type of work being conducted, and if oil is present, concentrations of particulates present will determine the efficiency and type of mask and respirator. Personnel familiar with the selection, care, and use of respirators must perform the fit testing. Respirators must bear a NIOSH approval number.

Children's Health

- Per Executive Order 13045 on Children's Health⁵, EPA recommends the lead agency and project proponent pay particular attention to worksite proximity to places where children live, learn, and play, such as homes, schools, and playgrounds. Construction emission reduction measures should be strictly implemented near these locations in order to be protective of children's health.

⁵ Children may be more highly exposed to contaminants because they generally eat more food, drink more water, and have higher inhalation rates relative to their size. Also, children's normal activities, such as putting their hands in their mouths or playing on the ground, can result in higher exposures to contaminants as compared with adults. Children may be more vulnerable to the toxic effects of contaminants because their bodies and systems are not fully developed and their growing organs are more easily harmed. EPA views childhood as a sequence of life stages, from conception through fetal development, infancy, and adolescence.

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APPENDIX E

Special Status Plants List

Table E-1. Special Status Plant Species with the Potential to Occur in Counties Crossed by the Cardinal-Hickory Creek Project

Common Name	Scientific Name	State Status		Federal Status
		Iowa	Wisconsin	
Alderleaf buckthorn	<i>Rhamnus alnifolia</i>	SC		
American speedwell	<i>Veronica americana</i>	SC		
Back's sedge	<i>Carex backii</i>	SC		
Balsam fir	<i>Abies balsamea</i>	SC		
Blue giant hyssop	<i>Agastache foeniculum</i>	E		
Bog bedstraw	<i>Galium labradoricum</i>	E		
Bog birch	<i>Betula pumila</i>	T		
Bog bluegrass	<i>Poa paludigena</i>	SC		
Bog willow	<i>Salix pedicellaris</i>	T		
Bunchberry	<i>Cornus canadensis</i>	T		
Canada plum	<i>Prunus nigra</i>	E		
Carey's sedge	<i>Carex careyana</i>	SC		
Chinquapin oak	<i>Quercus muehlenbergii</i>		SC	
Christmas fern	<i>Polystichum acrostichoides</i>		SC	
Cinnamon fern	<i>Osmunda cinnamomea</i>	E		
Crowfoot clubmoss	<i>Lycopodium digitatum</i>	SC		
Cutleaf watermilfoil	<i>Myriophyllum pinnatum</i>	SC		
Drooping bluegrass	<i>Poa languida</i>	SC		
Dwarf scouringrush	<i>Equisetum scirpoides</i>	SC		
Earleaf foxglove	<i>Tomanthera auriculata</i>	SC		
Eastern prairie fringed orchid	<i>Platanthera leucophaea</i>			T
False mermaid-weed	<i>Floerkea proserpinacoides</i>	E		
Field sedge	<i>Carex conoidea</i>	SC		
Fireberry hawthorn	<i>Crataegus chrysocarpa</i>	SC		
Flat-top white aster	<i>Aster pubentior</i>	SC		
Frost grape	<i>Vitis vulpina</i>	SC		
Glandular wood fern	<i>Dryopteris intermedia</i>	T		
Glomerate sedge	<i>Carex aggregata</i>	SC		
Golden saxifrage	<i>Chrysosplenium iowense</i>	T		
Golden-seal	<i>Hydrastis canadensis</i>		SC	
Grape-stemmed clematis	<i>Clematis occidentalis</i>	SC		
Grass pink	<i>Calopogon tuberosus</i>	SC		
Great Plains ladies'-tresses	<i>Spiranthes magnicamporum</i>	SC		
Great water-leaf	<i>Hydrophyllum appendiculatum</i>		SC	
Green violet	<i>Hybanthus concolor</i>	T		
Heart-leaved skullcap	<i>Scutellaria ovata</i> ssp. <i>ovata</i>		SC	
Hedge nettle	<i>Stachys aspera</i>	SC		

Appendix E. Special Status Plants List

Common Name	Scientific Name	State Status		Federal Status
		Iowa	Wisconsin	
Hidden sedge	<i>Carex umbellata</i>	SC		
Hill's thistle	<i>Cirsium hillii</i>	SC	T	
Hooker's orchid	<i>Platanthera hookeri</i>	T	SC	
Intermediate sedge	<i>Carex media</i>	SC		
Jeweled shooting star	<i>Dodecatheon amethystinum</i>	T		
Jeweled shooting star	<i>Primula fassettii</i>		SC	
Kentucky coffee-tree	<i>Gymnocladus dioicus</i>		SC	
Kidney-leaf white violet	<i>Viola renifolia</i>	T		
Lanced-leaved buckthorn	<i>Rhamnus lanceolata</i> var. <i>glabrata</i>		SC	
Leathery grape fern	<i>Botrychium multifidum</i>	T		
Ledge spikemoss	<i>Selaginella rupestris</i>	SC		
Limestone oak fern	<i>Gymnocarpium robertianum</i>	SC	SC	
Limestone rockcress	<i>Arabis divaricarpa</i>	SC		
Low bindweed	<i>Calystegia spithamea</i>	SC		
Low sweet blueberry	<i>Vaccinium angustifolium</i>	T		
Marginal shield fern	<i>Dryopteris marginalis</i>	T		
Mead's milkweed	<i>Asclepias meadii</i>			T
Meadow bluegrass	<i>Poa wolfii</i>	SC		
Mountain maple	<i>Acer spicatum</i>	SC		
Mountain ricegrass	<i>Oryzopsis asperifolia</i>	SC		
Muskroot	<i>Adoxa moschatellina</i>	SC		
Narrowleaf pinweed	<i>Lechea intermedia</i>	T		
Narrow-leaved vervain	<i>Verbena simplex</i>		SC	
Nodding onion	<i>Allium cernuum</i>	T		
Nodding pogonia	<i>Triphora trianthophora</i>		SC	
Northern adder's-tongue	<i>Ophioglossum pusillum</i>	SC		
Northern black currant	<i>Ribes hudsonianum</i>	T		
Northern lungwort	<i>Mertensia paniculata</i>	E		
Northern monkshood	<i>Aconitum noveboracense</i>	T		T
Northern panic-grass	<i>Dichanthelium boreale</i>	E		
Oak fern	<i>Gymnocarpium dryopteris</i>	T		
October lady's-tresses	<i>Spiranthes ovalis</i> var. <i>erostellata</i>		SC	
Oval ladies'-tresses	<i>Spiranthes ovalis</i>	T		
Ovate spikerush	<i>Eleocharis ovata</i>	SC		
Pale false foxglove	<i>Agalinis skinneriana</i>	E		
Pale purple coneflower	<i>Echinacea pallida</i>		T	
Partridge berry	<i>Mitchella repens</i>	T		
Pearly everlasting	<i>Anaphalis margaritacea</i>	SC		
Pinesap	<i>Monotropa hypopithys</i>	T		

Appendix E. Special Status Plants List

Common Name	Scientific Name	State Status		Federal Status
		Iowa	Wisconsin	
Pinnatifid spleenwort	<i>Asplenium pinnatifidum</i>		T	
Prairie bush clover	<i>Lespedeza leptostachya</i>		E	T
Prairie dock	<i>Silphium terebinthinaceum</i>	SC		
Prairie false-dandelion	<i>Nothocalais cuspidata</i>		SC	
Prairie Indian-plantain	<i>Arnoglossum plantagineum</i>		SC	
Prairie ragwort	<i>Packera plattensis</i>		SC	
Prairie turnip	<i>Pedimelum esculentum</i>		SC	
Prickly rose	<i>Rosa acicularis</i>	E		
Purple angelica	<i>Angelica atropurpurea</i>	SC		
Purple cliff-brake fern	<i>Pellaea atropurpurea</i>	E		
Purple milkweed	<i>Asclepias purpurascens</i>		E	
Putty root	<i>Aplectrum hyemale</i>		SC	
Richardson sedge	<i>Carex richardsonii</i>	SC		
Rock clubmoss	<i>Lycopodium porophilum</i>	T		
Rock clubmoss	<i>Huperzia porophila</i>		SC	
Rock sandwort	<i>Minuartia michauxii</i>	SC		
Rosy twisted stalk	<i>Streptopus roseus</i>	T		
Rough bedstraw	<i>Galium asprellum</i>	SC		
Rough buttonweed	<i>Diodia teres</i>	SC		
Sage willow	<i>Salix candida</i>	SC		
Saskatoon service-berry	<i>Amelanchier alnifolia</i>	SC		
Scarlet hawthorn	<i>Crataegus coccinea</i>	SC		
Schweinitz's sedge	<i>Carex schweinitzii</i>		SC	
Sedge	<i>Carex cephalantha</i>	SC		
Shadbush	<i>Amelanchier sanguinea</i>	SC		
Short's rock-cress	<i>Boechera dentata</i>		SC	
Showy lady's slipper	<i>Cypripedium reginae</i>	T		
Slender mountain-ricegrass	<i>Oryzopsis pungens</i>	E		
Slender sedge	<i>Carex tenera</i>	SC		
Slim-leaved panic grass	<i>Dichanthelium linearifolium</i>	T		
Smooth-sheathed sedge	<i>Carex laevivaginata</i>		E	
Snowberry	<i>Symphoricarpos albus</i>	SC		
Solomon's seal	<i>Polygonatum pubescens</i>	SC		
Spotted coralroot	<i>Corallorhiza maculata</i>	T		
Spreading chervil	<i>Chaerophyllum procumbens</i>		SC	
Spreading hawthorn	<i>Crataegus disperma</i>	SC		
Spurge	<i>Euphorbia commutata</i>	SC		
Sterile sedge	<i>Carex sterilis</i>	SC		
Summer grape	<i>Vitis aestivalis</i>	SC		

Appendix E. Special Status Plants List

Common Name	Scientific Name	State Status		Federal Status
		Iowa	Wisconsin	
Tall cotton grass	<i>Eriophorum angustifolium</i>	SC		
Three-flowered melic grass	<i>Melica nitens</i>	-	-	-
Tree clubmoss	<i>Lycopodium dendroideum</i>	T		
Twinflower	<i>Linnaea borealis</i>	T		
Twinleaf	<i>Jeffersonia diphylla</i>	T	SC	
Upland boneset	<i>Eupatorium sessilifolium</i>	SC		
Valerian	<i>Valeriana edulis</i>	SC		
Velvet leaf blueberry	<i>Vaccinium myrtilloides</i>	T		
Wafer-ash	<i>Ptelea trifoliata</i> ssp. <i>trifoliata</i> var. <i>trifoliata</i>		SC	
Western prairie fringed orchid	<i>Platanthera praeclara</i>	T		T
White lady's-slipper	<i>Cypripedium candidum</i>		T	
Wilcox's panic grass	<i>Dichanthelium wilcoxianum</i>		SC	
Wild hyacinth	<i>Camassia scilloides</i>		E	
Woolly milkweed	<i>Asclepias lanuginosa</i>		T	
Yellow monkeyflower	<i>Mimulus glabratus</i>	T		
Yellow trout-lily	<i>Erythronium americanum</i>	T		

Note: E = Endangered; SC = Special Concern; T = Threatened

APPENDIX F

DEIS Public Comment Report

Cardinal-Hickory Creek 345-kV Transmission Line Project Draft Environmental Impact Statement Public Comment Report

Prepared for

**U.S. Department of Agriculture
Rural Utilities Service**



Committed to the future of rural communities

Prepared by

SWCA Environmental Consultants

October 2019

**CARDINAL-HICKORY CREEK 345-KV
TRANSMISSION LINE PROJECT
DRAFT ENVIRONMENTAL IMPACT STATEMENT
PUBLIC COMMENT REPORT**

Prepared for
**U.S. Department of Agriculture
Rural Utilities Service**
1400 Independence Avenue SW, Mail Stop 1671, Room 2244
Washington, D.C. 20250-1571

Prepared by
SWCA Environmental Consultants
200 West 22nd Street, Suite 200
Lombard, Illinois 60148
Telephone: (630) 705-1762
www.swca.com

October 2019

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- Appendix B.** Public Meeting Materials
- Appendix C.** Agency Notification Letters and Mailing List
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ABBREVIATIONS

APLIC	Avian Power Line Interaction Committee
CFR	Code of Federal Regulations
C-HC Project	Cardinal-Hickory Creek 345-kV Transmission Line Project
CO ₂	carbon dioxide
CPCN	Certificate of Public Convenience and Necessity
CRP	Conservation Reserve Program
DEIS	draft environmental impact statement
EIS	environmental impact statement
EMF	electromagnetic fields
FAA	Federal Aviation Administration
FEIS	final environmental impact statement
FERC	Federal Energy Regulatory Commission
IDNR	Iowa Department of Natural Resources
IUB	Iowa Utility Board
IVM	Integrated Vegetation Management
KOP	key observation point
kV	kilovolt
MFL	Managed Forestry Land
MISO	Midcontinent Independent System Operator, Inc.
MVP	Multi-Value Project
MW	megawatt
NEPA	National Environmental Policy Act
NERC	North American Electric Reliability Corporation
NHI	Natural Heritage Inventory
NHPA	National Historic Preservation Act of 1966
NOA	notice of availability
NPS	National Park Service
NST	National Scenic Trail
PA	Programmatic Agreement
PDF	portable document format file
PSCW	Public Service Commission of Wisconsin
QA/QC	quality assurance/quality control
Refuge	Upper Mississippi River National Wildlife and Fish Refuge
ROW	right-of-way

RPS	Renewable Portfolio Standards
RUS	Rural Utilities Service
SHPO	State Historic Preservation Office
SWCA	SWCA Environmental Consultants
USACE	U.S. Army Corps of Engineers
USDA	U.S. Department of Agriculture
USEPA	U.S. Environmental Protection Agency
WDNR	Wisconsin Department of Natural Resources
WisDOT	Wisconsin Department of Transportation

1 INTRODUCTION

1.1 Project Background

This report describes the public review and comment process implemented for the Draft *Cardinal-Hickory Creek 345-kV Transmission Line Project Environmental Impact Statement* between December 7, 2018, and April 1, 2019. The U.S. Department of Agriculture (USDA) Rural Utilities Service (RUS) prepared the draft environmental impact statement (DEIS) in compliance with the National Environmental Policy Act (NEPA) under guidance provided by RUS's *Environmental Policies and Procedures* (7 Code of Federal Regulations [CFR] 1970 et seq.). The purposes of the public review and comment process are to 1) ensure that all interested and affected parties are aware of the Cardinal-Hickory Creek Project (C-HC Project), and 2) provide the public with an opportunity to review and provide comments for the DEIS. Public comments collected during the DEIS public comment period will be used to help inform revisions to the final environmental impact statement (FEIS) for the C-HC Project.

The U.S. Fish and Wildlife Service (USFWS), U.S. Army Corps of Engineers (USACE), and U.S. Environmental Protection Agency (USEPA) are serving as cooperating agencies in the environmental review process. The National Park Service (NPS) is a participating agency.

This report also describes activities associated with the DEIS public comment period. Agency and public comments received during the public comment period are summarized. In addition, this report includes five appendices with supplementary information related to the public review and comment process:

- Appendix A Notices published in the *Federal Register*
- Appendix B Public Meeting Materials
- Appendix C Agency Notification Letters and Mailing List
- Appendix D Tribal Notification Letters and Mailing List
- Appendix E Local Government Notification Letters and Mailing List

To review public comment letters and public meeting transcripts received during the DEIS public comment period, visit the RUS website, as follows:

<https://www.rd.usda.gov/publications/environmental-studies/impact-statements/cardinal-%E2%80%93-hickory-creek-transmission-line>

2 DRAFT ENVIRONMENTAL IMPACT STATEMENT PUBLIC COMMENT PERIOD

RUS and SWCA Environmental Consultants (SWCA) developed a public involvement strategy to educate the public and interested parties about the C-HC Project, receive their input, and identify public concerns. Information provided by the public during the DEIS public comment period for the C-HC Project helps to develop the content and analysis in the FEIS. The following mechanisms helped RUS provide opportunities for public education and input during the public comment period.

2.1 Mailing Address

Through all project notifications and at the DEIS public meetings, stakeholders were encouraged to send written comments to RUS and SWCA. The mailing address provided was as follows:

SWCA Environmental Consultants
Attn: Cardinal-Hickory Creek EIS
80 Emerson Lane, Suite 1306
Bridgeville, Pennsylvania 15017

2.2 Email

SWCA established a project-specific email address for submittal of electronic DEIS public comments: comments@CardinalHickoryCreekEIS.us. RUS also collected comments on the DEIS through the project managers' email addresses: dennis.rankin@wdc.usda.gov and lauren.cusick@wdc.usda.gov. These email addresses were provided in the notice of availability (NOA) and all other project notifications for submittal of project-related comments.

2.3 Notice of Availability

The NOA was published in the *Federal Register* on December 7, 2018. The NOA serves as the official public announcement of the release of the DEIS and announces that RUS will hold six public meetings within the project area. The NOA published on December 7, 2018, initiated the 60-day public comment period, scheduled to conclude on February 5, 2019. The public comment period was extended to 116 days, ending on April 1, 2019, because of the partial lapse in funding for the Federal government (December 22, 2018, through January 25, 2019). The NOA includes a brief overview about the Proposed Action and alternatives, potential resource concerns, opportunities to provide comments and attend meetings, and RUS project contacts (see Appendix A).

On February 12, 2019, RUS published a notice in the *Federal Register*, which extended the public comment period to April 1, 2019 (see Appendix A). On February 27, 2019, RUS published a notice of rescheduled public meetings for 2 weeks in March.

2.4 Media Notifications

Legal announcements, display advertisements, and press releases were provided to newspapers, television stations, and radio stations during the DEIS public comment period and public comment meetings to notify the public about meeting details, the public comment period deadline, and basic details about the project within the project vicinity.

2.4.1 Newspapers

Legal notices were placed in local newspapers for 2 weeks in early December (the weeks of December 10 and 17, 2018) announcing the NOA and DEIS (Table 2-1). The legal notices (see Appendix A) identified locations where copies of the DEIS were available and information on how to comment. The announcements also stated that public meetings would be announced in January.

Table 2-1. Newspapers where Legal Notices were Placed

Newspaper	Address	Dates				
		Round 1	Round 2	Round 3	Round 4	Round 5*
<i>Dodgeville Chronicle</i>	106 West Merrimac Street, Dodgeville, Wisconsin 53533	December 6 and 13, 2018	January 10, 2019	January 17, 2019	February 7 and 14, 2019	February 28 and March 7, 2019
<i>Dubuque Telegraph-Herald</i>	801 Bluff Street, Dubuque, Iowa 52001	December 5 and 12, 2018	January 9, 2019	January 16, 2019	February 5 and 12, 2019 [†]	March 1 and 8, 2019
<i>Grant County Herald Independent</i>	208 West Cherry Street, Lancaster, Wisconsin 53813	December 6 and 13, 2018	January 10, 2019	January 17, 2019	February 7 and 14, 2019	March 7 and 14, 2019
<i>Platteville Journal</i>	25 East Main Street, Platteville, Wisconsin 53818	December 5 and 12, 2018	January 9, 2019	January 16, 2019	February 5 and 12, 2019	February 28 and March 7, 2019
<i>Tri-County Press</i>	223 South Main Street, Cuba City, Wisconsin 53807	December 6 and 13, 2018	January 10, 2019	January 17, 2019	February 7 and 14, 2019	February 28 and March 7, 2019
<i>Middleton Times/Star News/Mount Horeb Mail</i> (News Publishing Company, Inc.)	1126 Mills Street, Black Earth, Wisconsin 53515	December 13 and 20, 2018	January 10, 2019	January 24, 2019	February 7 and 14, 2019	February 28 and March 7, 2019
<i>Wisconsin State Journal</i>	1901 Fish Hatchery Road, Madison, Wisconsin 53713	December 6 and 13, 2018	January 7 and 14, 2019	January 13, 2019	February 4 and 11, 2019	February 25 and March 4, 2019

Notes: Round 1 was the NOA, Round 2 was the original notice for the public meetings, Round 3 was the cancellation notice, Round 4 was the extension of the public comment period, Round 5 was the notice of rescheduled meetings.

* For Round 5, the public requested that notice be placed in the *Guttenberg Press* (10 Schiller Street, Guttenberg, Iowa 52052) and the advertisements ran on February 27 and March 6, 2019.

[†] Because of an oversight by the *Dubuque Telegraph-Herald*, the display advertisement for the extension of the public comment period did not run on February 7 and 14, 2019.

In early January, legal notices and display advertisements were scheduled to run for 2 weeks announcing six public meetings. Because of the partial lapse in funding for the Federal government (December 22, 2018, through January 25, 2019), the meetings were postponed, and the notices were changed to cancellation notices, which ran in the newspapers instead. A round of legal notices and display advertisements ran in the newspapers the week of January 13, 2019, for all the papers, except one that ran the following week to notify the public of the change in the schedule. After the notice in the *Federal Register* of the extension of the public comment period, legal notices and display advertisements ran the weeks of February 4 and 11. The last round of legal notices and display advertisements ran the weeks of February 28 and March 7 for most of the papers (with one newspaper running the weeks of March 7 and March 14) to announce the rescheduled public meetings in March.

An example display advertisement is provided in Appendix B.

SWCA prepared press releases (see Appendix B) and sent them to the print or online media outlets listed in Table 2-2 on December 3, 2018, for the NOA and originally scheduled public meetings in January.

An additional press release went out on February 21, 2019, to notify the public of the rescheduled public meetings in March (Table 2-3). Press releases were also sent to the newspapers listed in Table 2-1 above.

Table 2-2. Print or Online Media Outlets where Press Releases were Distributed

Print or Online Media Outlet	
<i>Agri-View</i>	<i>Star News</i> (Cross Plains-Black Earth and Mazomanie, WI)
Exponent, University of Wisconsin-Platteville	<i>Republican Journal</i>
<i>Fennimore Times</i>	<i>The Country Today</i>
<i>Living Lake Country Reporter</i>	<i>Tri-County Press</i>
<i>Mineral Point Democrat Tribune</i>	Wisconsin Public Radio - Online
27 News at 10 – WKOW-TV	<i>Grant County Herald Independent</i>
<i>The Dodgeville Chronicle</i>	<i>Guttenberg Press</i>
<i>Middleton Times Tribune</i>	<i>The Platteville Journal</i>
<i>Telegraph Herald</i>	<i>Wisconsin State Journal</i>
WISC-TV	WMTV-TV

Table 2-3. Press Release Dates

Date	Press Release Topic
December 3, 2018	NOA and public meetings
January 15, 2019	Notice of meeting cancellation
January 31, 2019	Extension of public comment period
February 21, 2019	Rescheduled public meetings

2.4.2 Television Stations

Press releases were sent to the six television stations listed in Table 2-4.

Table 2-4. Television Stations where Press Releases were Distributed

Television Station	Location
WHA-TV (Wisconsin Public Television)	Madison, Wisconsin
WISC-TV	Madison, Wisconsin
WKOW-TV 27 News at 10	Madison, Wisconsin
WMTV-TV	Madison, Wisconsin
WHLA-TV (Wisconsin Public Television)	La Crosse, Wisconsin
KFXB-TV	Dubuque, Iowa

2.4.3 Radio Stations

Press releases were sent to the 24 radio stations listed in Table 2-5.

Table 2-5. Radio Stations Where Press Releases Were Distributed

Radio Station	
W215AQ 90.9 FM (Middleton and West Madison, Wisconsin)	97 FM (Platteville, Wisconsin)
WERN 88.7 FM (Madison, Wisconsin)	106.1 FM (Platteville, Wisconsin)
92.1 FM (Madison/Middleton, Wisconsin)	107.1 FM (Platteville, Wisconsin)
96.3 FM (Madison/Middleton, Wisconsin)	QueenB Radio (Platteville, Wisconsin)
1070 AM (Madison/Middleton, Wisconsin)	WSSW 89.1 FM (Platteville, Wisconsin)
WIBA 101.5 FM (Madison/Middleton, Wisconsin)	WSUP 91 FM (Platteville, Wisconsin)
WIBA 1310 AM (Madison/Middleton, Wisconsin)	97.3 FM (Dubuque, Iowa)
Z-104 (Madison/Middleton, Wisconsin)	101.1 FM The River (Dubuque, Iowa)
Wisconsin Radio Network	KAT 92.9 FM (Dubuque, Iowa)
WNWC 102.5 FM and AM, Life	KDTH 1370 AM (Dubuque, Iowa)
WDMP 810 AM/99.3 FM (Dodgeville, Wisconsin)	KNSY 89.7 FM (Dubuque, Iowa)
WHHI 91.3 FM (Dodgeville, Wisconsin)	Q107/5 FM (Dubuque, Iowa)

2.5 Direct Mailings

On December 3, 2018, letters were sent to Federal and state agencies, tribes, and members of the public notifying them of the availability of the DEIS for the C-HC Project, public meetings, and the public comment period. On January 15, 2019, a notice of cancelled public meetings was sent out to the same groups. On January 31, 2019, letters were mailed to these groups, notifying them of the extension of the public comment period to April 1, 2019. A final direct mailing was sent to these groups on February 21, 2019, notifying them of the rescheduled public meetings in March.

2.6 Information Available via the Internet

RUS developed a project website to provide information available to the public. The website address for the RUS website is as follows:

<https://www.rd.usda.gov/publications/environmental-studies/impact-statements/cardinal-%E2%80%93-hickory-creek-transmission-line>

The website includes project information in an easily accessible format (e.g., Section 508–compliant portable document format file [PDF]). It also includes an email address for submitting electronic comments. Documents available on the website include the following:

- Studies prepared by the Dairyland Power Cooperative, American Transmission Company LLC, and ITC Midwest LLC (referred collectively as *the Utilities*) (e.g., macro-corridor study, alternatives crossing analysis, and alternative evaluation study)
- *Federal Register* notices
- Scoping meeting materials
- A link to the Utilities’ project website (available at <http://www.cardinal-hickorycreek.com/>)
- Scoping report
- Scoping comments received during the scoping period

- DEIS
- Other appropriate information

2.7 Draft Environmental Impact Statement Public Comment Meetings

RUS held six public meetings to provide an overview of the C-HC Project DEIS, to present the RUS NEPA process and timelines, and to receive comments regarding the DEIS. Table 2-6 summarizes the meeting dates, times, locations, and estimated public attendance based on the meeting sign-in sheets. These six meetings were held throughout the project area.

Table 2-6. Draft Environmental Impact Statement Public Comment Meeting Dates, Times, and Locations

Date	Time	Venue/Location	Public Attendance
March 13, 2019	5:00–7:00 p.m.	Dodger Bowl Banquet Hall 318 King Street Dodgeville, Wisconsin 53533	96
March 14, 2019	5:00–7:00 p.m.	Deer Valley Lodge 401 West Industrial Drive Barneveld, Wisconsin 53507	76
March 15, 2019	5:00–7:00 p.m.	Guttenberg Municipal Building 502 South First Street Guttenberg, Iowa 52052	14
March 18, 2019	5:00–7:00 p.m.	Cassville Middle School Cafeteria 715 East Amelia Street Cassville, Wisconsin 53806	23
March 19, 2019	5:00–7:00 p.m.	Peosta Community Center 7896 Burds Road Peosta, Iowa 53068	18
March 20, 2019	5:00–7:00 p.m.	Madison Marriott West 1313 John Q Hammons Drive Middleton, Wisconsin 53562	78

2.7.1 Meeting Handouts and Materials

Handouts were made available at the sign-in table. All meeting materials distributed by RUS are contained in Appendix B. Meeting handouts included the following:

- Sign-in sheets
- Comment forms
- C-HC Project handout, covering the following topics:
 - Proposed project
 - Federal agency involvement
 - Purpose and need
 - Alternatives and resources analyzed
 - How to comment
 - Project area map

Informational display posters and maps were set up prior to the meeting, covering the topics identified in Table 2-7. The public was able to review the displayed information prior to the start of and after each meeting. Project overview maps were also available for public review. Copies of each informational display poster are provided in Appendix B.

Table 2-7. Public Meeting Stations

Station/Poster	Description
Welcome poster	Located outside venue room with directions to room
Welcome/sign-in table	Sign-in sheets, comment cards, project handout
RUS NEPA process and schedule	Poster describing RUS NEPA process and schedule overview
Resources/issues	Poster providing list of resources to be analyzed in the EIS, including cumulative impacts
Ways to provide comments	Comment station with comment cards encouraging people to submit written comments
Project maps	Maps of Alternatives 1 through 6 presented in the DEIS One map of the proposed Upper Mississippi River National Wildlife and Fish Refuge crossing One map of the N-9 transmission line retirement and tap line

3 METHODS FOR COMMENT COLLECTION AND ANALYSIS

RUS has reviewed all comments received through April 1, 2019, and these are summarized in this report. RUS will continue to review and consider comments received from the public throughout the EIS preparation.

RUS and SWCA collected comments using four methods.

First, written comments were collected using comment forms distributed at the public meetings, and the form was also posted on RUS's project website. A copy of the comment form is provided in Appendix B.

Second, verbal comments were recorded during the DEIS public meetings by a court reporter.

Third, comment forms or original letters were encouraged to be mailed to the following address:

SWCA Environmental Consultants
Attn: Cardinal-Hickory Creek EIS
80 Emerson Lane, Suite 1306
Bridgeville, Pennsylvania 15017

Fourth, comments were collected using the email address comments@CardinalHickoryCreekEIS.us. RUS also collected hardcopy and email comments from the public and agencies. All comments received by RUS were forwarded to SWCA for tracking and coding. As comments were received, throughout the comment period, SWCA followed a comment handling and processing protocol to ensure all comments were accurately reflected in the EIS comment database and this report.

All hardcopy comment letters and forms mailed to SWCA were date-stamped, scanned, and then saved into a project-specific electronic folder. Letters requesting additional information, a comment period extension, requests for additional public meetings, or a letter expressing safety or security concerns were flagged for immediate attention by the SWCA project manager.

Emailed comments were treated in a similar fashion. One difference is that the C-HC Project email account was periodically monitored throughout the comment period, and all emailed comment letters and attachments were entered into the comment database immediately after the close of the public comment period.

After all comments were saved in an electronic format, each commenter's contact information was entered into the database to update the project mailing list. Each letter submitted by an individual was also manually entered into the database and related to the commenter's contact information. For example, one commenter may have submitted several different comments. Within the comment database, all comments submitted by one individual are linked together. As comments were entered into the database, each letter was then saved as a PDF and renamed using the following naming convention: "Letter_[number]_[last name]." Letters with attachments were entered into the database following the same method listed above, and the attachments were saved in a folder for review and consideration when the EIS is drafted. Form letters (not developed by RUS) were also entered into the database, following the same process described for the comment letters.

After all letters, emails, and comment forms were entered into the comment database, SWCA coded all comments contained within each entry. It is important to note that one comment letter can contain several comments that relate to different topics, concerns, or issues. The coding structure provided in Table 3-1 illustrates how the various comment letters were organized. This comment coding structure is used in the remaining sections of this report to explain the number and types of comments received during the C-HC Project DEIS public comment period. At the completion of comment coding, the database was used to create reports that categorized the various comment types and to synthesize the submitted information presented within this report.

Throughout the comment entry and coding process, SWCA completed quality assurance/quality control (QA/QC) checks to ensure all comments were entered correctly and accurately. QA/QC was also used to ensure comment coding was consistent with the previously described coding structure.

Electronic copies of all comment letters and forms were provided to RUS for review upon close of the public comment period.

Table 3-1. Comment Coding Structure

Code	Description
AIR01	General air quality
AIR02	Air - dust
AIR03	Air - equipment emissions
AIR04	Climate change
ALT01	General alternatives/range of alternatives
ALT02	Proposed Action
ALT03	No Action Alternative
ALT04	Alts considered but eliminated from detailed study
ALT05	The original Proposed Action as scoped
ALT06	New alternative proposed
ALT07	Suggested modification to existing alternative
COM01	General communication infrastructure
CUL01	General cultural resources

Code	Description
CUL02	Historical site (non–Native American)
CUL03	Native American
CUL04	Site/traditional cultural property
DATA01	General data request
DATA02	Freedom of Information Act
DATA03	Mailing list or nothing to code
DATA04	Remove from mailing list
DATA05	Confirm receipt of letter
DATA06	Request for cooperating agency status
DATA07	Request for meeting with RUS
DECI01	General decision process
DECI02	Cooperating agency involvement
DECI03	Laws, policies, courts
DECI04	Case law
DECI05	Court decisions
DECI06	Violates law/regulation/policy
DECI07	Federal laws
DECI08	Endangered Species Act
DECI09	Other Federal agency policies
DECI10	State laws, policies
DECI11	County, municipal policies
DECI12	Section 106 consultation
DECI13	Objections - general
EDIT	Editorial, formatting, maps
EFF01	General effects analysis
EFF02	Cumulative effects analysis
EFF03	Addition of project(s) to cumulative effects scenario
EFF04	Mitigation/environmental commitments
GEO01	General geology
HAS01	General public health and safety
INFO01	Mailing list only or nothing to code (do not attach a flag)
INFO02	Request to be removed from mailing list (do not attach a flag)
INFO03	Request copy of <i>Federal Register</i> notice
INFO04	Other request for specific information
INFO05	Request for confirmation of receipt of letter
LAND01	General land use
LAND02	Agriculture
LAND03	Livestock/range
LAND04	Commercial
LAND05	Residential

Code	Description
LAND06	Mining
LAND07	Conservation easement
LAND08	Special designations
LAND09	Utility corridors
LAW01	Notice appeal of litigation
LITFIND01	Request for literature cited
LITREV01	Review literature cited
NEP01	General NEPA process
NEP02	Purpose and need
NEP03	Connected action
NOISE01	General noise
OOS01	General out of scope
OOS02	Position, no rationale
OOS03	Already addressed
OOS04	Procedural, already decided by law/reg/policy/direction
OOS05	Procedural, already addressed in DEIS
OOS06	Procedural, addressed through no action alternative
PALEO01	General paleontology
PUB01	General public involvement
PUB02	Collaboration, meetings
PUB03	Government-to-government consultation
PUB04	Comment period
PUB05	Request for correspondence
REC01	General recreation
REC02	Upper Mississippi River National Wildlife and Fish Refuge
REC03	Historic trails
REC04	State natural areas/state parks
REF01	References other project
SOCIO01	General socioeconomics
SOCIO02	Jobs
SOCIO03	Local economics
SOCIO04	Environmental justice
SOCIO05	Resource value
SOCIO06	Market values
SOCIO07	Nonmarket values
SOCIO08	Cost/benefit outcome
SOIL01	General soils
SOIL02	Disturbance, erosion, etc.
SOIL03	Compaction from project
SOIL04	Soil health/organic matter

Code	Description
SOIL05	Sub-soil/tilling/de-compaction
SOIL06	Sensitive soils
TRANS01	General transportation
TRANS02	Roadways
TRANS03	Waterways
TRANS04	Railroads
TRANS05	Aviation
TRANS06	Increased traffic
VEG01	General vegetation
VEG02	Threatened and endangered plant species
VEG03	Noxious weeds/invasive species
VEG04	Wetlands/riparian areas
VIS01	General visual resources
WAT01	General water resources
WAT02	Surface water/groundwater
WAT03	Water quantity/quality
WAT04	Mississippi River
WAT05	Watershed condition
WAT06	Floodplains
WLDLF01	General wildlife
WLDLF02	Migratory birds
WLDLF03	Habitat fragmentation
WLDLF04	Threatened and endangered wildlife

4 COMMENTS RECEIVED

Section 3, above, explains the comment coding structure used for processing all public comments received during the DEIS public comment period. The following sections provide a summary of the public comments received. Section 4.1 summarizes the number of comments received by entity or organization. Section 4.2 provides a table of all public comments received, how the public comments were coded, and the response from RUS.

4.1 Summary of Written Submissions

In total, 401 comment letters were received during either the DEIS public comment period beginning on December 7, 2018, and ending on April 1, 2019, or were included because the letters were late submissions for public scoping. Seven of these 401 comment letters were duplicate letters, and 54 were form letters or a variation of a form letter. Public comments were submitted using comment forms, letters, oral testimony, and emails. Government entities and organizations submitting comments are listed in Table 4-1. through Table 4-5. All other commenters were individuals, listed in Table 4-6. RUS will continue to review and consider comments received from the public throughout the EIS preparation.

Table 4-1. Federal Agencies that Submitted Comments

Government Agency	Date Letter was Received
U.S. Environmental Protection Agency	March 29, 2019
U.S. Department of the Interior NPS, Ice Age National Scenic Trail	March 20, 2019; March 27, 2019
U.S. Representative Mark Pocan	March 18, 2019
U.S. Senator Tammy Baldwin	March 21, 2019; April 2, 2019

Table 4-2. Native American Tribes that Submitted Comments

Tribe	Date Letter was Received
Cherokee Nation	December 27, 2018
Leech Lake Band of Ojibwe	December 6, 2018; February 26, 2019
Osage Nation	February 6, 2019
Pawnee Nation of Oklahoma	December 27, 2018
Saginaw Chippewa Indian Tribe of Michigan	December 17, 2018
Shakopee Mdewakanton Sioux Community	December 3, 2018

Table 4-3. State Agencies that Submitted Comments

Government Agency	Date Letter was Received
Iowa Department of Natural Resources	January 18, 2019; February 15, 2019
Iowa Office of the State Archaeologist	January 15, 2019
Wisconsin Department of Transportation	January 25, 2019

Table 4-4. Local Governments that Submitted Comments

Government Entity	Date Letter was Received
City of Dubuque	June 10, 2015; June 26, 2017
Mt. Horeb Area School District	March 23 and 29, 2019
Platteville Common Council	December 17, 2018
Town of Cross Plains	January 14, 2019
Town of Springdale	April 1, 2019
Town of Stark	March 22, April 17, and August 25, 2017; December 12, 2018; March 18, 2019
Village of Mt. Horeb	August 2, 2017; April 1, 2019

Table 4-5. Non-governmental Organizations that Submitted Comments

Organization	Date Letter was Received
Badger-Hawkeye Bridge Coalition	March 21 and 26, 2019
Driftless Defenders	March 13, 2019
Environmental Law & Policy Center	May 10, 11, and August 11, 2017; April 1, 2019
Friends of the Military Ridge Bike Trail	April 1, 2019

Organization	Date Letter was Received
Friendship Center	March 31, 2019
Iowa Chapter of the Sierra Club	February 3, 2019
Iowa County Pheasants Forever	March 21, 2018
Iowa Environmental Council	March 28, 2019
Minnesota Center for Clean Energy	April 1, 2019
SOUL Wisconsin	March 31, 2019
Twin Valley Commercial Centre Condo Association	March 20, 2019
The Utilities (i.e., American Transmission Company LLC, Dairyland Power Cooperative, and ITC Midwest LLC)	March 12, 2019
Western Dane Preservation Campaign	February 15, 2019
Whitetails Unlimited, Inc.	March 21, 2018
Wisconsin's Green Fire: Voices for Conservation	February 14, 2019

Table 4-6. Members of the Public that Submitted Comments

Members of the Public	Date Letter was Received
Addison, Steven W.	March 27, 2019
Addison-Jasso, Marjean	February 2, 2019 (x2); March 13 and 26, 2019; April 1, 2019
Akins, Tamlyn	March 8 and 15, 2019
Alexander, Mitchell	December 4, 2018 (x3)
Alexander, Barbara	March 30, 2019
Anderson, Susan	March 18, 2019
Anonymous	March 13, 2019
Anonymous	April 9, 2018
Arneson, Steve	December 17, 2019
Baker, Marie	January 18, 2019; March 8, 2019
Bartels, Michele	December 15, 2018
Batha, Jane	March 11, 2019
Bauer, Jeffery	March 11, 2019
Baum, Mary Kay	March 13 and 20, 2019
Bayuk, Catherine	April 1, 2019
Beckett, Caroline	March 13 (x2), 14, and 20, 2019
Beebe, Susan	February 27, 2017
Belkin, Gloria	March 18 and 20, 2019
Berg, Lynn	March 29, 2019
Berrie, Theresa	March 15, 2019
Bettner, Jane	April 1, 2019
Bettner Steele, Joan	March 31, 2019
Bindl, Victoria	March 25, 2019
Booth, Nate	March 31, 2019
Born, Stephen	December 18, 2018

Members of the Public	Date Letter was Received
Borns, Barbara L.	February 1, 2019
Bowar, Dan	March 20, 2019
Bradshaw, Roger	March 19, 20, 25, 26, and 29, 2019
Braig, Carla	March 19, 2019
Brandt, Janet	March 15, 2019
Brimeyer, Donna	April 2, 2018
Brock, JoAn	February 11, 2019
Brock, W.A.	February 11, 2019
Brock, Deb	February 15, 2019
Brookins, Rose	March 25, 2019
Brookins, Brad	March 22, 2019
Brothers, Ben	March 28, 2019
Brunton, Nancy	April 1, 2019
Buch, Bruce	March 21, 2019
Campbell, Donald H.	November 19, 2018; February 4, 2019; March 21, 2019 (x2)
Carol, Greg and Sharon	February 5, 2019
Citron, Michelle	March 13 (x2) and 25, 2019
Clougherty, Kevin	January 25, 2019
Clutter, David	March 20, 2019
Conlon, Roux	January 14, 2019
Conlon, Poppy	January 16, 2019
Conlon, Tim	March 18 and 20, 2019
Connolly, Richard	March 13, 2019
Cox, Nancy	March 20, 2019
Cox, Gary	March 29, 2019
Crossfield, Diane and Jeff	January 7, 2019
Crossfield, Jeff	March 14 and 20, 2019; April 4, 2019
Curran, Mike	February 3, 2019
Curtis D'Angelo, Betsy	April 1, 2019 (x2)
Davis, Francis	February 27, 2019
Day, Jan	February 1, 2019
Dettwiler, Ann L.	January 23, 2019
Dettwiler, Philip	January 23, 2019
Deutmeyer, Mike	March 19, 2019
Dolan, Jeff	March 15, 2019
Dolan, Bill	March 20, 2019
Dolan-Stroncek, Lea	March 13 and 31, 2019
Dolen, Bill	March 21 and 31, 2019
Donaldson Carr, Aimee	March 18, 2019
Dunn, John	April 1, 2019

Members of the Public	Date Letter was Received
Dunston Osborne, Gina	March 15, 2019
Durst, Jordan	March 19, 2019
Eide, Debra	February 1, 2019; March 12, 2019
Enloe, Robert	March 13, 2019
Faull, David W.	March 21, 2019
Ferrin, Todd	March 15, 2019
Fey, Nan	March 20, 2019
Fitzgerald, Charlanne	March 31, 2019
French, Jerry	March 31, 2019
French, Karol	March 31, 2019
Gaskill, Sharon	March 26, 2019
Gauger, Stephen	March 14, 2019
Gauger, D. Aimee	March 30, 2019
Gsuper, Laurie	March 20, 2019
Gerl, Zach	March 20, 2019
Giffey, David and Nancy	March 21, 2019
Gilman, Rebecca	March 7, 2019
Gilmartin, Mary	March 25, 2019
Gobel, Joseph	March 15, 2019
Godez, Michelle	March 14, 2019
Goebel	March 19, 2019
Goodman, Joel H.	March 13, 2019 (x2)
Goodman, Mike	March 20, 2019
Graney, Laurie A. and Richard W.	March 19, 2019
Grice, Linda	March 13 (x2) and 18 (x3), 2019
Grotz, Toby	April 1, 2019
Gurak, Douglas	January 6, 2019; March 29, 2019; April 1, 2019
Hahn, Cubby	February 20, 2019
Hamilton, Mary Jane	April 1, 2019
Hansen, Rick	February 22 and 27, 2017
Hansen, Beebe	February 27, 2017
Hanson, Andrew	January 31, 2019
Harms-Meyer, Tammy	January 23, 2019
Hart, Kristi	April 1, 2019
Heftman, Ronna and Ron	March 19, 2019
Himmelfarb, John	December 4, 2018
Howe, Ken	March 18 and 19, 2019
Howe, Jamie	March 19, 2019
Hughes, Sharon	March 13, 2019
Janczak, Sue	March 25, 2019

Members of the Public	Date Letter was Received
Jewell, Alan	April 1, 2019
Jordan, John	February 3, 2019
Jordan, Karen	February 3, 2019
Kabele, Sandra	March 4, 2019
Kaiser, Cathryn	March 24, 2019
Kalnius, Ivars	March 18, 2019
Karbusicky, Dana and Kurt	January 22, 2019
Kealy, Susan	April 1, 2019
Kealy, Chris	April 1, 2019
Kean, Bill	March 20, 2019
Keep, Lisa	March 13, 2019
Kelen, Linda	March 13, 2019
Kellsvig, Dawn and Paul	March 29, 2019
Kelley, Chris	December 4, 2018
Kettler, Peter	March 29, 2019
Kiefer, David	February 3, 2019
Kiep, Lisa	April 1, 2019
Klar, Susan	December 16, 2018
Klopp, Chris	March 15 (x2), 20, 24, 25, and 29, 2019
Klunick, Cheri and Jim	April 1, 2019
Koehler, Dale	March 25, 2019
Koel, Lois	January 27, 2019
Koerner, Gerald	March 21, 2019
Koffel, John	March 20, 2019
Krause, Jim and Susan	February 22, 2018
Krause, Sue	March 12, 2019
Kritz, Mary M.	January 6, 2019; March 29, 2019; April 1, 2019
Kurt, Dena	February 20, 2019; March 14, 15, 18, and 19, 2019; April 1, 2019
Kurth, Joel	April 1, 2019
Ladd, Chris	March 22, 2018 (x2)
Laufenberg, Susan and William	February 1, 2019
Laufenberg, Frank and Joann	February 4, 2019
Laufenberg, Richard	February 4, 2019
Leavenworth, Philip	March 13 and 14, 2019
Leibold, Susanne	February 5, 2019
Ley, Tomas J.	March 30, 2018
Lind, Carol	March 21, 2019
Loots-Gram, Diana	March 24, 2019
Ludington, Susan	January 30, 2019
Lueck, Jane	March 22, 2019

Members of the Public	Date Letter was Received
Luecke, Ron	March 25, 2019
Matthews, Roderick	February 4, 2019
McClean, Dan	March 19, 2019; April 1, 2019
McConnell, Patricia B.	March 13, 2019
McDonough, Ann	March 19, 2019
McGee, Nancy	March 26 and 31, 2019
McKernan, Dennis	March 14, 2019; April 4, 2019
Meuer, Carolyn J.	March 18, 2019
Meylor, David	April 1, 2019
Michael, William	March 31, 2019
Michaud, Susan	April 4, 2019
Michmerhuizen, Susan	March 31, 2019
Miller, JoAnn	February 1, 2019; March 14 and 15, 2019; April 1, 2019
Miller, Richard	March 15, 2019
Mittelstad, Mark	March 14, 2019
Moffet, Tom	March 21, 2019
Moffett, Les	March 30, 2019 (x2)
Moffett, Nancy	March 30, 2019
Moffett, Chad	April 1, 2019
Morton, Debora	March 28, 2019
Muller, Dona	March 29, 2019
Murphy, Patricia	April 1, 2019
Myers, Ellen	December 22, 2018; March 11 (x2), 20 (x2), 25 (x2), 2019
Nettesheim, Gregg	March 18, 2019
Nickels, Kenneth	March 26, 2019; April 1, 2019
Nobel, Amy	March 20, 2019
Nowak, Darlene	March 27, 2019
O'Brien, Karen	March 14, 2019 (x2)
Olmstead, Nancy	February 4, 2019
Patterson, Marlene J.	March 15, 2019
Patterson, Patrick L.	March 15 and 18, 2019
Phelan, Lori L.	March 13, 2019
Pincus, Judith	March 14, 2019
Pincus, Alan	March 14, 2019
Ploessl-Howe, Jamie	March 18, 2019
Plotkin, Julie	April 1, 2019
Polizzi, Cyra K.	March 31, 2019
Porter, Cynthia	April 1, 2019
Potter, Mandy	March 1, 2019
Powell, Marilyn	March 14, 2019

Members of the Public	Date Letter was Received
Powell, Barbara	March 29 and 31, 2019
Powell Curry, Karen	March 25, 2019
Prescott, Joseph	March 31, 2019
Pubilee, Jean	December 3 and 11, 2018; February 25 and 27, 2019
Quinn-Roberts, Erin	April 1, 2019
Randall, Doug and Sherrill	February 2, 2019
Reinders, Mary	March 14, 2019
Renor, Dana	March 17, 2019 (x2)
Reyal, Nancy	April 1, 2019
Riser, Karen	March 15, 2019
Rohe, Roger	March 9, 2019 (x3)
Rosenbaum, John	March 14, 2019
Ruppena, Ruth	December 3, 2018
Sandner, Frank	March 2, 20, and 25, 2019; April 1, 2019
Schilling, Fredericka	April 4, 2019
Schmidt, Brenda	February 5, 2019; March 20, 2019
Schmidt, Jane	February 7, 2019
Schmitz, James	March 15, 2019
Schmitz, Jim	March 19, 2019
Schultz, Mary	January 7, 2019
Schutz, Sue	April 4, 2019
Schwarzmann, Joe	March 13, 2019 (x2)
Schwarzmann, George	March 13 (x2) and 18 (x2), 2019
Schwoerer, Jane	February 7, 2019
Scott, Charley	April 1, 2019
Scott, Tim	March 20, 2019
Sella, Monica	March 13 and 14, 2019
Sharrow, Marilyn	February 2, 2019
Sharrow, Rory	February 5, 2019
Shay, G.	January 25, 2019
Shoemaker, Scott	December 3, 2018
Smith, Gene	March 18, 2019
Sonzogni, William	March 20, 2019
Spaay, Mary	March 13, 14, and 20, 2019
Spaulding, John	March 31, 2019
Spicer, Tom	January 3, 2019
Stanfield, David	March 17, 2017; March 14 and 25, 2019
Stauffacher, Joe	April 1, 2019
Steffen, Glen	March 14, 2019
Stevenson, Gordon R.	February 3, 2019

Members of the Public	Date Letter was Received
Stroncek, Gregory	January 22, 2019; March 31, 2019
Sturnick, Mark	March 13, 2019
Sukowaty, Mark G.	March 25, 2019
Swanson, Kathleen	March 21, 2019
Swedlund, David	March 31, 2019
Symon Hanson, Judy	December 30, 2018
Tenessen, Karen	March 31, 2019
Tharnstrom, Christine	March 24, 2019
Thomson, Grace	April 1, 2019
Townsend, Frank	February 27, 2019
Tremelling, Sherill	February 5, 2019 (x2)
Vieth, Lisa	March 21, 2019
Vosen, Grace	March 20, 2019
Voytovich, Marta	March 20, 2019 (x2)
Ward, Frank	March 19, 2019
Wardoor, John	March 20, 2019
Weiskircher, Julie	March 29, 2019
Wheat, Jeanette	February 7 and 9, 2019; March 20 and 22, 2019
Wiest, John	March 13, 2019
Winch, Marvin	March 14, 2019
Winingham, Mary	March 21, 2019
Winterwood, Charles	March 19 (x2) and 20, 2019
Woloszyk, Thomas W.	April 1, 2019
Wyman, M. Resha	January 16, 2019
Yaktus, Tracy	March 30, 2019
Zastrow, Lila, and Hendrickson, Dave	March 31, 2019
Zedler, Joy	January 14, 2019
Zimmerman, Beverly	March 13 and 31 (x3), 2019

SWCA identified 2,039 individual comments contained within the comment letters (excluding duplicates and form letter copies). A summary of the public comments received and organized by concern, issue, or resource topic is presented in Table 4-7, in order of the greatest number of comments received to the least number of comments received. It is possible that comments addressed multiple topics; therefore, comments may be included in multiple topics below.

Table 4-7. Summary of Draft Environmental Impact Statement Comments Received, by Topic

Topic	Number of Comments
Socioeconomics	537
Alternatives	388
NEPA/purpose and Need	292

Topic	Number of Comments
Wildlife	189
Vegetation	188
Land use	179
Decision process	155
Visual resources	140
Public health and safety	129
Effects analysis	128
Recreation	93
Water resources	67
Air quality/climate change	52
Public involvement	39
Soil	36
Cultural resources	30
Transportation	18
Noise	16
Geology	10
Total	2,686

In addition, there were 17 comments requesting additional information/maps or meetings, six comments that referenced other projects, nine editorial comments, four comments that cited literature that should be reviewed for the C-HC Project EIS, and 25 comments that required no further response.

4.1.1 Form Letters

Included in the 401 comment letters, 54 form letters were received that were variations of four distinct form letters. Table 4-8 shows the tally of key concerns captured in the form letters.

Table 4-8. Summary of Form Letter Comments Received, by Topic

Topic	Number of Comments
Air quality	1
Alternatives	3
Land use	2
Public health and safety	2
NEPA/purpose and need	2
Recreation	2
Review literature cited	1
Socioeconomics	6
Soil	3
Vegetation	3
Visual resources	4
Water resources	3

Topic	Number of Comments
Wildlife	5

4.2 Public Comments Received

Table 4-9 below provides the public comments received organized by comment code(s) and includes a response from RUS for each comment.

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Table 4-9. Draft Environmental Impact Statement Comments Received

Organization	Commenter Last Name	Comment Code(s)	Comment on DEIS	Agency Response to Comment
	Krause	NEP02	We have yet to be convinced of the need for this project, and have serious concerns about the negative impact it would have on the fragile environment of the Driftless region.	Comment noted.
	Krause	SOCIO06; SOCIO08	We believe the property owners along the proposed corridor will only not benefit from the project, but will suffer damages because of it. Rate payers will experience higher energy costs. People's property will be devalued. This will result in tax hikes to make up for lost revenue.	Comment noted. Potential impacts to social and economic conditions, including property values, are provided in EIS Section 3.12.
	Krause	LAND01	Irreputable damage will be done to a unique geographical region.	Comment noted.
	Arneson	OOS02	I do not want this power line, and doing what I can to stop it.	Comment noted.
	Crossfield	VEG02	This is to notify the Cardinal-Hickory Creek Power Line sighting personnel both federal US Department of Agriculture Rural Utilities and engineering SWCA Environmental Consultants of the occurrence of a rare and endangered fern, <i>Asplenium pinnatifidum</i> , on rock out-croppings either in or near the northern hill route proposed for the Cardinal-Hickory power line. This fern was discovered by botanist Dr. Hugh It is (recently deceased a synopsis of his University of Wisconsin career was printed on the on the front page of the Wisconsin State Journal Newspaper December 24, 2016). Discovery of the fern occurred in 1958 and was published in Transactions of the Wisconsin Academy of Sciences Arts + Letters, Volume 67, 1979. The discovery was re-examined by a knowledgeable person in November 2016 and was identified as still present. A concern for this powerline is that the same problems of access still present in this wild, private terrain also existed in 1958. I therefore believe no complete survey has ever been done in northeastern Iowa County for this fern then or since. I propose that a high tension power line through areas with a rare endangered species is incompatible with rare ecosystems, either through direct destruction of habitat or modification of fragile environment with wide clear cuts near vulnerable habitats.	EIS Section 3.3 has been revised to incorporate information about this species. <i>Asplenium pinnatifidum</i> is a fern species that is only found in Iowa County in Wisconsin. This fern is found at four sites: two located in Arena, one in Highland, and one in Brigham Wisconsin (Hanson and Hanson 1979). ¹ All four sites are outside the C-HC Project analysis area.
	Crossfield	LAND08; VEG01	This is to notify the Cardinal-Hickory Creek Power Line sighting agencies of US Department of Agriculture Rural Utilities and SWCA Environmental Consultants of the occurrence of a rare forest tract used for scientific research in or near your northern route powerline proposal. While I do not have the time to check into and attribute the published studies that have resulted from these investigations I hope engineering does. As I recall this study included monitoring the population of specific species of mosquito and its involvement in vectoring a viral brain infection of both animals and humans. This interdepartmental study by at least the University of departments that included Entomology and Veterinary Science. Within the last two years the landowner has been contacted by emeritus professor Dr. Barney Fosterday of the University of Wisconsin about the availability of this land to revisit this study. Since the habitat of this mosquito is very specific, an absolute requirement for renewing this investigation is that the forest be left undisturbed. I propose that a clear cut for a high-tension power line is incompatible with basic research in studying transmitted diseases of animals and humans. If the line goes directly over the sight it will be destroyed. If it goes anywhere near it will affect the results in unforeseen ways. Keep your power line away from basic research.	Comment noted. RUS and SWCA contacted Dr. Easterday about this comment. He informed us that he has no active research activities. Although there may be other research plots and activities near the proposed C-HC Project, these activities do not necessarily preclude the establishment of a utility right-of-way (ROW).
	Myers	HAS01; SOCIO01	I am opposed to the Cardinal-Hickory Creek (C-HC) Transmission Line Project for a number of reasons, including health issues, destruction of our environment, and serious economic impacts.	Comment noted.
	Myers	HAS01	The Project will have harmful and irreversible impacts on communities in its path. High-voltage power lines may have negative health effects, such as causing an increased risk of cancer and leukemia. Many people are concerned about other problems as well, due to stray voltage, and strong electromagnetic fields. The Mount Horeb Area School District owns land, purchased for future use, that is on the currently preferred route for these high-voltage (345 kilovolt) power lines. Would you want your children to go to school near massive transmission lines that could adversely affect their health? Would you want to live near them?	Potential impacts to human health from electric and magnetic fields (EMF) are discussed in Section 3.13.2 of the EIS. A discussion of studies of potential impacts on rates of childhood leukemia has been added to Section 3.13.1 of the EIS. The number of schools within 300 feet of the proposed transmission line has been updated in Section 3.13.2 of the EIS.
	Myers	SOCIO06; VIS01	The C-HC Transmission Lines are very obtrusive to the landscape and will decrease nearby property values, making homes and land difficult to sell, if they can be sold at all. I envision ghost-towns of abandoned homes and farms, people being forced to leave and lose everything. Real estate values could drop by as much as 40%, and tourism will suffer due to loss of scenic appeal.	Potential impacts to social and economic conditions, including property values and tourism, are provided in EIS Section 3.12. Potential impacts to visual quality and aesthetics are disclosed in EIS Section 3.11.
	Myers	NOISE01	The beauty and quiet of the driftless landscape will be destroyed by the presence of massive towers and buzzing wires, impacting plants and animals.	Comment noted.
	Myers	LAND08; REC04	The proposed routes cross sensitive lands and waterways, including State and Federal wildlife areas.	Comment noted. EIS Section 3.4 discloses potential impacts to wildlife. Potential impacts to water resources are disclosed in EIS Section 3.5.
	Myers	NEP02	Studies indicate that these lines are not needed! Demand for electricity has been flat or declining in Wisconsin, and we are one of the top ten states for grid reliability. Supply exceeds demand.	Comment noted. EIS Chapter 1 describes the need for the C-HC Project as well as the decisions facing the three Federal agencies that have received loan or permit applications for the C-HC Project.
	Myers	ALT04	We should focus on local renewable energy and energy efficiency, instead of transporting electricity from Iowa on massive transmission lines. This would be better for our health and the health of our environment.	Comment noted.
	Myers	OOS02	To conclude, there are seven municipalities, two counties (Dane and Iowa), the Mount Horeb Area School Board, and environmental organizations intervening in order to stop this project. Hundreds of other individuals have expressed their opposition, and numerous groups, such as The Driftless Defenders, S.O.U.L. of Wisconsin, and Western Dane Preservation Campaign have formed to prevent the construction of the C-HC Transmission Line. This project must be stopped immediately, before it damages the land and the people in the driftless area of Southwestern Wisconsin.	Comment noted.
Platteville Common Council	Stockhausen, et. al	ALT01	"The Platteville Common Council unanimously opposes the proposed route for the Cardinal Hickory Creek transmission line that skirts the City of Platteville along U.S. Highway 151. The reasons for our opposition are three-fold: • The other proposed option is a more direct route, less costly, and would impact fewer people.	EIS Section 3.10, Land Use, discloses the communities that have expressed concerns or opposition to the C-HC Project through comment letters and/or resolutions.
Platteville Common Council	Stockhausen, et. al	VIS01	Significant landmarks would be visually impacted by the proposed transmission line. Those landmarks include the Platteville "M" as well as the first state capitol site located near Belmont, and	Comment noted.

¹ Hanson, M.G., and R.P. Hanson. 1979. The northernmost station for *Asplenium pinnatifidum*. Wisconsin Academy of Sciences, Arts and Letters. Available at: <http://images.library.wisc.edu/WI/EFacs/transactions/WT1979/reference/wi.wt1979.mghanson.pdf>. Accessed May 28, 2019.

Organization	Commenter Last Name	Comment Code(s)	Comment on DEIS	Agency Response to Comment
Platteville Common Council	Stockhausen, et. al	SOCIO03	Platteville, as part of the larger tristate area, is a regional center for tourism.	Potential impacts to visual quality and aesthetics are disclosed in EIS Section 3.11, and potential impacts to social and economic conditions, including tourism, are disclosed in EIS Section 3.12.
Platteville Common Council	Stockhausen, et. al	VIS01	A new transmission line would be an unsightly addition along the major transportation corridor in our area.	Comment noted.
Platteville Common Council	Stockhausen, et. al	ALT01	We look forward to the elimination of the proposed route that includes Platteville in the upcoming months.	Comment noted.
Saginaw Chippewa Indian Tribe of Michigan	Jones	CUL03	At this time we do not have any information concerning the presence of any Indian Traditional Cultural Properties, Sacred Sites or other Significant Properties to the projected project area(s). This is not to say that such a site may not exist, just that this office does not have any available information of the area(s) at this time. This office would be willing to assist if in the future or during the construction there is an inadvertent discovery of Native American human remains or burial objects. Feel free to call my office if you have any questions or requests at 989-775-4751. We thank you for including this Tribe in your plans.	Thank you. Comment noted.
	Schultz	LAND02	I am writing this letter to say I am opposed to the Cardinal Hickory Creek EIS lines due to environmental concerns. I raise bees and the lines will kill my bees. [scientifically proven]	EIS Section 3.4 discloses potential impacts to insects.
	Schultz	NEP02	We don't need excess electrical energy and "for-profit company should be able to take private land	Comment noted.
	Schultz	SOCIO03	The Driftless Area is a jewel of environmental clarity" [untouched!] many tourists come to our area due to the clean undeveloped environment the lines will destroy future business and cause an economic collapse.	Potential impacts to visual quality and aesthetics are disclosed in EIS Section 3.11, and potential impacts to social and economic conditions, including tourism, are disclosed in EIS Section 3.12.
	Brock	SOCIO06	If the route chosen is on the South side of the railroad tracks running by the Deer Run neighborhood, the damage to property values could be very large. There will be losses imposed on all of the houses in the Deer Run neighborhood including ours. E.g. if the route is on the North side of the railroad tracks the damage will still be extensive and impacted property owners should be still be fully compensated. An unbiased commission should be formed to appraise the monetary value of the damages measured in a broad sense to include environmental damages. Property owners should be fully compensated for damages imposed on them.	Comment noted. Potential impacts to social and economic conditions, including property values, are provided in EIS Section 3.12. RUS has reviewed the recommended citations of additional peer-reviewed articles presented through public comments and has incorporated this information into the EIS.
	Brock	SOCIO08	We think that if the total value of damages all along any of the lengthy routes proposed for this line this amount could possibly outweigh the benefits of the line. At the very minimum a full accounting benefit-cost study like this is drastically needed and full compensation should be paid to those persons who suffer damages.	Comment noted. The PSCW is considering the project in terms of all requirements associated with Wisconsin Statute 196.491(3) as per their jurisdictional authority and responsibility. This includes consideration of costs and benefits for Wisconsin ratepayers (see Section 1.2.2.1 of PSCW [2019]). ² In terms of the Federal decision, as stated in NEPA regulations 40 CFR 1502.23, "For purposes of complying with the Act, the weighing of the merits and drawbacks of the various alternatives need not be displayed in a monetary cost-benefit analysis and should not be when there are important qualitative considerations."
	Brock	SOCIO06; SOCIO08	Otherwise ATC is indulging in improper taking of private property as well as causing environmental damages. Will forcing ATC to pay compensation to these damaged property owners and forcing it to pay the full costs of any environmental damages make power costs go up to power users if the line is built anyway? Yes, but power users, including us, should pay full costs per unit of power they use. It is wrong to force others to subsidize our power uses.	Comment noted.
	Brock	WLDF01; WLDF04	McKenna Pond is located at the corner of our subdivision's property. The Pond is a unique site that supports two significant populations of amphibians - the only known population of Eastern Newt, <i>Notophthalmus viridescens</i> , in Dane County and the southernmost known population of BlueSpotted Salamander, <i>Ambystoma laterale</i> , in Wisconsin. Any activity in this area could upset their habitat. The photo below, of the Blue-Spotted Salamander, was taken in my yard in 2010 and I have seen a few of them as recently as last summer. [picture of salamander] A 150-foot wide cut swath would run along the entire length of the new ATC electric line interfering in wildlife habitat. This would include clear cutting of trees, shrubs, bushes, grasses and wildflowers and would disturb or destroy the habitat for every animal species that inhabits the area- whether it be a protected, an endangered or an abundant life form. It may make this area essentially devoid of every animal species that inhabits the areas. That ranges from butterflies to bumble bees to deer and coyote. It would also create a "highway" through the habitat, for the animals to traverse, without the protective cover of the brush, trees and grasses. This provides advantages for some predators and disadvantages for smaller prey. It will upset the balance of the ecosystem and have a negative ripple effect throughout the greater area. And therefore, all along the hundreds of miles of this new ATC line, every plant and animal species that inhabits the area will be put in harm's way.	Comment noted. RUS reviewed the latest conservation status for the eastern newt and blue-spotted salamander, both of which have a conservation status of least concern, meaning the population status is stable. Potential impacts to wildlife, including amphibians, are disclosed in EIS Section 3.4.
	Brock	VEG01; VEG03; WLDF01	In some cases herbicides and other toxic chemicals will be used to keep the area open at a cost reduced from manual labor and machinery, but at what cost to the environment? And therefore, all along the hundreds of miles of this new ATC line, every plant and animal species that inhabits the area will be put in harm's way.	Comment noted. EIS Chapter 3 includes the following environmental commitments related to herbicide use: The Utilities will employ a Certified Pesticide Applicator for all herbicide applications within the C-HC Project. The Certified Pesticide Applicators will only use herbicides registered and labeled by the USEPA and will follow all herbicide product label requirements. Herbicides approved for use in wetland and aquatic environments will be used in accordance with label requirements, as conditions warrant. During the easement negotiation, landowners can decline the use of herbicides for vegetation management activities once the line is in operation. Therefore, no herbicides would be applied within portions of the ROW on which the landowner wishes not to introduce it.

² Public Service Commission of Wisconsin (PSCW). 2019. *Cardinal-Hickory Creek Transmission Line Final Environmental Impact Statement*. PSC Docket 5-CE-146. Issued May 2019. Available at: <http://apps.psc.wi.gov/pages/viewdoc.htm?docid=366195>. Accessed May 20, 2019. Note: This document is referred to frequently throughout the table, and therefore the full reference footnote is provided here at first mention only.

Organization	Commenter Last Name	Comment Code(s)	Comment on DEIS	Agency Response to Comment
	Brock	SOIL02; VEG04; WLDLF01	The Black Earth Creek and watershed runs along the proposed route. The proposed work could result in erosion and pesticides getting into the creek which would affect the wildlife negatively.	Comment noted. EIS Section 3.4 discloses potential impacts to wildlife. EIS Chapter 3 includes the following environmental commitments related to herbicide use: The Utilities will employ a Certified Pesticide Applicator for all herbicide applications within the C-HC Project. The Certified Pesticide Applicators will only use herbicides registered and labeled by the USEPA and will follow all herbicide product label requirements. Herbicides approved for use in wetland and aquatic environments will be used in accordance with label requirements, as conditions warrant. During the easement negotiation, landowners can decline the use of herbicides for vegetation management activities once the line is in operation. Therefore, no herbicides would be applied within portions of the ROW on which the landowner wishes not to introduce it.
	Brock	VEG01; WLDLF01	The proposed lines run through the Driftless area. It has a special eco system that could be harmed by the lines, as well as a home to many diverse animals and plants.	Comment noted. EIS Section 3.3 discloses potential impacts to vegetation. EIS Section 3.4 discloses potential impacts to wildlife.
	Brock	SOCIO06; VIS01	Specify, by name and location, residences and businesses you feel would lose value if the high voltage transmission line was built. Describe the changes you feel would cause the property values to drop. The Deer Run neighborhood in Cross Plains, where I currently live, consists of 30 homes. These houses would lose property value. The third proposed route would take some of their land away. If the lines are put in on their side, that is the south side of Highway 14, or the other side of it, the large tower will be visible and will therefore affect the esthetic value of the property. Anyone living along the proposed route will lose property value whether it is from the pole being directly on their property or having a close-up view of it from the property. Also, when the houses across the street lose value, your home loses value too.	Potential impacts to social and economic conditions, including property values, are provided in EIS Section 3.12.
	Brock	HAS01; SOIL02	With the flooding in our area last summer, our hill along Highway 14 experienced major erosion. We believe any further activity by it that involves the cutting of trees would only increase the likelihood of more erosion. The homes that sit on top of this bluff would experience land loss, aesthetic loss, and possibly danger to their homes.	EIS Section 3.2 discloses potential impacts to soils from erosion. EIS Section 3.13 has been revised to address public comments about potential impacts from severe weather events.
	Brock	LAND02	Farmers would be negatively affected as land will be taken away from them to build these towers. This is land they need to grow their crops on. Less crops means less income for them. They may also be impacted from an increased risk of stray voltage, which may affect their livestock. Here are two web pages with articles regarding stray voltage and farmers and milk production: https://www.twincities.com/2016/02/22/6-3m-judgment-in-minnesotadairy-farms-stray-voltage-suit-upheld/ from TwinCities.Com Pioneer Press, "\$6.3M judgment in Minnesota dairy farm's stray voltage suit upheld" and http://www.omafra.gov.on.ca/english/livestock/dairy/facts/strayvol.htm Ontario's Ministry of Agriculture, food and Rural Affairs "Dairy Cattle - Stray Voltage Problems in Livestock Production"	Comment noted. EIS Section 3.13 has been revised to include a discussion about stray voltage.
	Brock	NEP02	The newer houses in our neighborhood were built to be energy efficient. Many people in our neighborhood have made energy efficient upgrades to their homes over the years. I personally have changed virtually all light bulbs in my home to LED lightbulbs, installed a tankless water heater, added additional insulation in the attic and am considering adding insulation to the walls when I install new siding later this year. I replaced 9 skylights, about 1 & 1/2 dozen windows and doors, added ceiling fans, and upgraded my furnaces and air conditioners- I have two of each. With the trend being using less energy, we do not see a need for this line. There is data that shows that Wisconsin is steadily decreasing its energy use.	EIS Chapter 1 describes the need for the C-HC Project as well as the decisions facing the three Federal agencies that have received loan or permit applications for the C-HC Project.
	Brock	LAND02	This clear cutting will create expanses farmers would not be able to plant or harvest and areas they would have to drive across and work around. And any herbicides or other toxic chemicals will raise questions about the safety and quality of the crops raised in the vicinity.	Comment noted. Potential impacts to land use and farming is disclosed in EIS Section 3.10. EIS Chapter 3 includes the following environmental commitments related to herbicide use: The Utilities will employ a Certified Pesticide Applicator for all herbicide applications within the C-HC Project. The Certified Pesticide Applicators will only use herbicides registered and labeled by the USEPA and will follow all herbicide product label requirements. Herbicides approved for use in wetland and aquatic environments will be used in accordance with label requirements, as conditions warrant. During the easement negotiation, landowners can decline the use of herbicides for vegetation management activities once the line is in operation. Therefore, no herbicides would be applied within portions of the ROW on which the landowner wishes not to introduce it.
	Brock	REC01; REC04; SOCIO03	We have quite a lot of tourism area around here with the Ice Age Trail including, hiking, bird watching, snowshoeing, and cross-country skiing. All of it may be affected by the installation of such eyesores at these electric poles and the clear-cutting of wide swaths of land all along the path of the towers. • Fishing in Black Earth Creek may be affected. • There is potential for snowmobile and ATV paths to be disrupted. • Many tourists visit attractions in the Driftless area. They attend plays at American Players Theatre, visit House on the Rock, tour Frank Lloyd Wright's Taliesin, recreate in Blue Mounds and Governor Dodge state parks and even buy from the many farm stands offering local produce for sale.	Comment noted. EIS Section 3.10 discloses potential impacts to recreational areas and Section 3.12 discloses potential impacts to tourism.
	Brock	ALT01	The proposed yellow line option runs across the northern edge of my property. The proposed blue line option runs along the north side of highway 14, parallel to the proposed yellow line option, and immediately across the highway from my property. From my point of view, there is much similarity in these two proposed lines I am very concerned about how my property would be affected by placing this new electric line along the northern edge of my property.	Comment noted.
	Brock	SOIL02	The flooding of the summer of 2018 caused a great washout of soil and mature trees. Any additional disturbance to the soil could result in significantly greater problems, up to and including the stability of the ground in which the foundation of my home is located.	Comment noted. EIS Section 3.2 discloses potential impacts to soils, including soil erosion.
	Brock	SOCIO06; VIS01	Also, with my home being built on top of a bluff above highway 14, I am very concerned that the view outside my second story solarium would go from a beautiful nature filled scene, of the fields on the north side of the highway, with the many colors of nature with green fields and blue skies to one filled with clear cut swaths of essentially bare ground dotted with 180 foot rusted steel poles and multiple, long, heavy, dangling wires obstructing my view of the sky. I am concerned that at least 2 of the options for routes for this line, the yellow and blue ones, will cause many of the same end-results for my property. And I do believe that this will adversely affect the value of my home. Even the proposed red line is not so far removed to the north, beyond the yellow and blue proposed lines, that its effects on the view out my solarium windows would be much different.	Comment noted.

Organization	Commenter Last Name	Comment Code(s)	Comment on DEIS	Agency Response to Comment
	Brock	VIS01	I enjoy the vista of the rolling hills covered with green growing crops. Planting one of these towers in the middle of a landscape and clear cutting all around it will certainly decrease the aesthetics and my enjoyment, and that of my guests, in looking at it. My view from my house will go from being one of natural beauty to one marred by the presence of one of these 150' or so tall towers with wires just about at eye level. People have moved to this area to get away from the city. The last thing residents or sightseers want to look at are large utility poles with the land clear cut around them.	Comment noted.
	Brock	WAT02; WAT05	The clear cutting of land necessary for these poles could also result in problems with water retention for the Black Earth Creek watershed area. And, McKenna Pond is an active drainage area that should not be tampered with as it would increase the likelihood of flooding. This pond has been there for over 100 years.	Comment noted. Potential impacts to water resources and quality, including groundwater, are disclosed in EIS Section 3.5.
	Brock	VIS01	The Drift less area - these lands were never touched by glaciers and therefore has some of Wisconsin's most scenic landscapes. This landscape would be marred by the tall poles and power lines.	Comment noted.
	Brock	HAS01	The cause of the most recent fire in November 2018 is under investigation because "suspicion fell on PG&E after it reported power line problems nearby around the time the fire broke out." If the proposed CHC line, which would extend through lots of remote areas of Wisconsin served primarily by volunteer fire departments with limited equipment encountered a similar conflagration, would ATC and its partner companies be liable for the resulting damage and possible loss of life? New legislation should be passed that would make them accountable for damages caused by their towers and lines. If their shareholders automatically receive over a 10% profit on erecting the CHC towers, they should also be responsible for any damages caused by those structures. 11& The decision to install these towers should not be made only if it is thought it won't harm much of anything.	Potential impacts from wildfire are disclosed in EIS Section 3.13.
	Brock	SOCIO08	We must consider whether it cause benefit. Rather than just looking at how these towers and wires might cause harm to many areas and facets of the localities through which they would pass, we should be asking who will benefit from construction of these lines. It's not just that any given home or business or tourist attraction may or may not be harmed that should decide whether these towers will be built: It is important to determine if they will benefit from these lines. And if not them, who will? We all know the answer is that the only entity(ies) guaranteed to benefit are the ones doing the building. They are guaranteed at least 10% return on their investment. These lines are not needed and would not therefore benefit the citizens at large. In 2005 it was assumed that the growth in need for electricity, in the mid-states region, would be about 1.125% per year. That growth did not materialize due to energy saving devices and lifestyles. The price of solar power is going down and battery technology is improving.	Comment noted.
Iowa Department of Natural Resources	Schwake	DATA03	I previously provided comments on November 18, 2013 and have no additional concerns or comments to make at this time.	Comment noted.
Iowa Department of Natural Resources	Schwake	DATA03	I previously provided comments on November 18, 2013 and have no additional concerns or comments to make at this time. If you have any questions or comments, please contact me at the address shown below or call (515) 725-8399.	Comment noted.
	Alexander	NEP02; SOCIO08	Dennis The ATC Transmission Line from Dubuque County to Dane County is not needed. It is a burden on the taxpayers of Southwestern Wisconsin and shows no benefit to the residents.	Comment noted.
	Alexander	SOCIO06; WLDF01	I have property in the alternate route. If it is decided to build on the alternate route it would be catastrophic to my property value not to mention wildlife habitat.	Comment noted. Potential impacts to social and economic are provided in EIS Section 3.12. Potential impacts to wildlife are disclosed in EIS Section 3.4.
	Alexander	WLDF01	My property has rock bluffs that house various animals including bobcats.	Comment noted.
	Alexander	HAS01; LAND02	Dynamite would be used to erect the towers. We also have cattle and horses. Construction will affect these animals as well. Noise from the construction could scare the animals and possibly cause injury not to mention stray voltage.	Comment noted. Stray voltage has been added to the EIS in Section 3.13.
	Ladd	NEP02	I along with thousands of other residents in Iowa County, Dane County and Grant County are opposed to the line for the following reasons: Unneeded Boondoggle. Electricity demand is flat and declining. Wisconsin and the Midwest have excess power supply. Ellen Nowak, Chair of Wisconsin's Public Service Commission explained: "Right now, there's not a need for a lot [of] new generation of any source in Wisconsin". (Wisconsin Public Radio, January 19, 2017, www.wpr.org) Environmentally Destructive.	EIS Chapter 1 describes the need for the C-HC Project as well as the decisions facing the three Federal agencies that have received loan or permit applications for the C-HC Project.
	Ladd	LAND08; REC02	ATC's proposed huge high voltage transmission line and 17-story towers would run 125 miles through the unique and scenic Driftless Area, the Upper Mississippi River Fish and Wildlife Refuge, Military Ridge Prairie Heritage Area and several state parklands and recreation areas.	EIS Section 3.10 discloses potential impacts to recreational areas.
	Ladd	SOCIO08	Much Too Expensive. The proposed line will cost consumers more than \$1 billion for construction costs, debt service and maintenance costs. Probably much more!	Comment noted.
	Ladd	SOCIO03; SOCIO06	Damages Property Values and Economy. This giant transmission line will lower property values, lower revenues for counties and townships, and make homes, businesses and properties harder to sell.	Comment noted. Potential impacts to social and economic conditions, including property values and tourism, are provided in EIS Section 3.12.
	Ladd	SOIL06	Since you are an Environmental Protection Specialist I feel it is critically important for you to know that the GOLD COLORED Proposed Other Route of County Road B in Iowa County Wisconsin under your jurisdiction that runs from Dodgeville WI to Monfort WI spans some of Wisconsin's most prime farming soils.	Comment noted. EIS Section 3.10 discloses potential impacts to prime farmland and farmland of statewide importance.

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	Ladd	CUL02; LAND08	In addition, there are 2 Historic cemeteries (Bloomfield Cemetery and LAXEY Church and cemetery) and our Ladd Family Environmentally Sensitive Property located directly within this Proposed Other Route. See attached map that shows the location of our unique Ladd Family environmental properties, the Bloomfield Cemetery and the LAXEY Church and cemetery and a span of Wisconsin's most prime farming soils.	Potential impacts to historic properties and cultural resources, including cemeteries, are disclosed in EIS Section 3.9. The EIS uses the best available records and data provided by the Iowa and Wisconsin State Historic Preservation Office (SHPO) databases and site-specific surveys to identify potential historic properties within the alternatives. The EIS recognizes that additional historic properties may be present along one or more project alternatives, and the Iowa and Wisconsin SHPOs, RUS, the Utilities, and other consulting Federal agencies have drafted a programmatic agreement (PA) under Section 106 of the National Historic Preservation Act of 1966 (NHPA). This PA details a phased identification and treatment plan for cultural resources identified within the chosen alternative. This PA is included as an appendix of the EIS.
	Ladd	LAND08	Our family 4.66- and 287.91-acre properties are located directly within the Other Corridor and we have invested heavily through Governmental CRP and CREP programs into making our property a rare natural prairie and wildlife oasis working in conjunction with the nearby Public Iowa County Farm to the North.	EIS Section 3.10 has been revised to disclose potential impacts to lands enrolled in conservation programs such as the Conservation Reserve Program (CRP) and Managed Forestry Land (MFL) program.
	Ladd	WLDLF01; WLDLF02	Our family 4.66- and 287.91-acre properties with Pond, the LAXEY Creek Watershed, and the Iowa County Farm Public Pond is a migration flyway for Ducks, Geese and other migratory birds. We have had Trumpeter Swans come through and use our pond. Our property is established with prairie habitat, trees/shrubs (we planted approximately 20,000), freshwater springs and marshlands that are VERY unique to the area. Our area also hosts protected Bald Eagles including a nest just South of our Property line and we have seen Osprey at our pond. Whitetail Deer, Pheasants, Wild Turkey and other species of wildlife call our property home because there is hardly any other notable habitat for miles. • We allow various organizations including the Wisconsin Department of Natural Resources to come on our properties to perform studies on Songbirds, plants, Bats etc. SEE ATTACHMENTS. See also handwritten note on the attachment where Jennifer references that our property was 1 of only 2 out of 41 properties on which she encountered Upland Sandpipers.	EIS Section 3.4 discloses potential impacts to wildlife.
	Ladd	SOCIO01	The Cardinal Hickory Creek Transmission Line Project goes directly against the core values of the USDA's Rural Utilities Service (RUS) in that it does not provide a needed improvement to our rural community.	Comment noted.
	Ladd	SOCIO08	Furthermore, ATC should not be introducing a project the scope and magnitude of the Cardinal Hickory Creek Project without the proper due diligence of conducting a comprehensive cost-benefit analysis. ATC should be required to show the affected consumers that this line is highly necessary and that the benefits far outweigh the additional costs (both tangible and intangible) we will all face in Southwest Wisconsin if this line is built.	Comment noted.
	Publiee	ALT04	I am totally opposed to this 345 kv line going though saved open space. it's time to stop this marauding by electric companies. I would rather see property owners put up their own solar to use. solar and wind power would be a much better idea than putting this huge electric grid line through this area. The solar installation would be non generating of carbon. that is where we need to go. encourage loans to put solar and wind on these lands. that is as much better long term solution than this collaboration with electric power companies which keep looking for taxpayer subsidies. we don't want to subsidize these gigantic rich monsters anymore. they need to put some of their profits into the capability of the American people now. instead of taking, start giving.	Comment noted.
Town of Stark, Vernon County, WI	Danielson	ALT04	I especially appreciate the acknowledgement that you were not able to assemble the resources required for assessing a multipart, contemporary Non-Transmission Alternative (NTA) as many states are pursuing and as our Inter-Municipal Energy Planning Committee hoped RUS could. As utility interests author the vast majority of the data and planning that federal and state agencies consider, the NEPA process has never possessed greater potential in providing unbiased assessment of solutions with least environmental impact and maximized economic and CO2 reduction capabilities. I will be working with IMEPC in preparing comments about the NTA section.	Comment noted.
Pawnee Nation of Oklahoma	Reed	CUL03	The Pawnee Nation Office of Historic Preservation has received the information and materials requested for our Section 106 Review and Consultation. Consultation with the Pawnee Nation is required by Section 106 of the National Historic Preservation Act of 1966 (NHPA), and 36 CFR Part 800. Given the information provided, you are hereby notified that the proposal project location should have no potential to adversely affect the cultural landscape of the Pawnee Nation. Therefore, in accordance with 36 CFR 800.4(d) (1), you may proceed with your proposed project. However, please be advised that undiscovered properties may be encountered and must be immediately reported to us under both the NHPA and NAGPRA regulations. This information is provided to assist you in complying with 36 CFR Part 800 for Section 106 Consultation procedures.	Thank you. Comment noted.
	Kritz, Gurak	LAND02	Our farm is located at the elbow where the alternate route turns from E/W to N/S. The towers/line would be on our property for an estimated 1.2 miles and take an estimate 18 acres of our property out of production. As a landowner of a 217-acre farm in Wyoming Township, Iowa County, WI, I am writing to plead that the Public Service Commission (PSC) NOT approve the 345-kV transmission Line (aka Cardinal Hickory Creek Project [CHC]) because of the long-term negative impacts that it will have on our farm and the Driftless Region. Should the PSC approve the CHC and select the Northern route, our farm which has been in my family for generations, will be directly impacted because that route makes an elbow turn on our property and runs for about 1.2 miles along the entire north and west sides of the farm. Both sides are close to and highly visible from the farmhouse and buildings.	Comment noted.
	Kritz, Gurak	VEG01	Over half of the farm acreage is woodland that stretches Northward from our farm to the WI river (about 5 miles away) and extends West and East for miles. Bulldozing a 150-foot-wide corridor through this densely forested region would require the removal of thousands of trees and routine use of herbicides to suppress the re-growth of trees and brush.	Comment noted. Potential impacts to vegetation, including forests, are disclosed in EIS Section 3.3.
	Kritz, Gurak	VEG04	One of the areas that the Northern route runs through on our farm is a valley that drains water from four different valleys and then flows down to Lowery Creek and the WI river. In years of heavy rainfall, such as have been occurring in WI in recent years, this valley floor becomes a wetland. For the past two years we have been unable to drive our tractor and other farm equipment into this valley because the ground is too saturated and wet. Running the CHC Right of Way (ROW) though this valley does not seem to be a prudent and perhaps not even a feasible thing to do.	Comment noted.

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	Kritz, Gurak	LAND08; VEG04	The ROW that crosses our farm has two exits at opposite ends of Far Look Road. The ROW between those exits is an estimated 1.5 to 2 miles. To establish the ROW, all the cut trees and brush would have to be removed to one of the exits. Given the hilly terrain, it is likely that in addition to having to pull/drag the tree trunks, branches, brush, and large boulders cleared from our property to the Far Look exit that crosses our property, similar cleared debris from our neighbors ROWs would probably have to be hauled through our wetland valley and CRP field because those ROWs are located closest to the exit off our land. Not only would clearing a ROW be highly damaging to the valley wetland and destructive to the CRP field through which the ROW runs, the debris removal would require heavy tractor equipment and potentially the building of a sloped road at the point where the ROW crosses Far Look Road because there is a cliff at the point where the ROW meets Far Look that is too steep for tractors/bulldozers to climb.	Comment noted. Potential impacts to soils and geology are disclosed in EIS Section 3.2. Potential impacts to vegetation, including wetlands, are disclosed in EIS Section 3.3.
	Kritz, Gurak	LAND08	The 1.2 miles that the Northern route crosses our land includes cropland on the hilltops that is enrolled in the USDA's Conservation Reserve Program (CRP) and woodlands that are enrolled in WI's Managed Forestry Land program (MFL). While the WI Dept. of Agriculture estimates that 10.53 acres of our land will be crossed by the ROW, our calculation is that the ROW will affect twice that amount of land because of the farm's hilly topography.	EIS Section 3.10 has been revised to disclose potential impacts to lands enrolled in conservation programs such as the CRP and MFL.
	Kritz, Gurak	VEG03	Both the CRP and MFL have strict rules regarding how enrolled farmland should be managed. To comply with these rules, we spend most of our time during the Spring, Summer and Fall months working on weed control (Canada thistle, leafy spurge, field bindweed, purple loosestrife, wild parsnip, garlic mustard, weedy Canada goldenrod, ragweed, etc.). In the CRP fields, we also do spot mowing of weeds. Because old barbed wire fences are trellises for brush and weed trees, we have focused on removing them and the brush/trees that surround the CRP fields, including black locust, buckthorn, honeysuckle, box elder, prickly ash, barberry, etc.	Potential impacts to CRP- and MFL-enrolled properties have been included in EIS Section 3.10.
	Kritz, Gurak	DECI06; WLDLF01	In 2016 we received support from the USDA's Environmental Quality Incentive Program (EQIP) to control woody invasive brush and trees, do prescribed burns of 7 acres of woodland, and restore forestry edge ecology to increase habitat for at-risk prairie birds and animals. After working for years to improve the ecology of our crop fields and woodlands, we are dismayed by the possibility that the PSC may approve the CHC line and select the Northern route. As good land stewards, we find it difficult to understand how rules for land management set by the USDA and the State of WI can be set aside and an easement approved by another WI government agency, the PSC, that would allow a private corporation to build a transmission line on our farm, justified in the name of the public good. Preserving scenic and pristine woodlands and farmlands are also a public good.	Comment noted. EIS Section 3.10 includes a discussion of potential impacts to lands enrolled in state and Federal conservation programs as well as conservation easements.
	Kritz, Gurak	SOCIO07	Given my family's deep roots in this part of SW WI, I do not want to see this pristine farmland despoiled. We want future generations to enjoy it as our family has been blessed to be able to do for over a hundred years.	Comment noted.
	Kritz, Gurak	SOCIO03; SOCIO07	Tourists come to this part of Southwest WI because it is a scenic region that reminds people of how the country used to look before urbanization, industrialization, and superhighways became the rule. Small family farms with their red barns, Holstein cows, and crop fields (corn, hay, and oats) continue to operate in this part of WI although the region's economy has shifted in recent years toward tourism, recreation, and organic farming. Indeed, Wyoming township and Iowa County where the farm is located attract thousands of tourists. They come because the unglaciated land and viewsheds in the Driftless region are unique to this part of the USA and world. While here they (1) go to plays at American Players Theater (recently called America's best classical theatre by Terry Teachout, theatre critic for the Wall Street Journal), (2) enjoy Americana novelties at House on the Rock, (3) learn about one of America's greatest architect, Frank Lloyd Wright, and visit his home (Taliesin), (4) participate in biking, car races and other activity that occur here during the summer months, (5) hunt the abundant deer and turkey populations in the area in the Fall and winter, (6) visit the studios of artists who live/work in the Driftless area, (7) camp at Governor Dodge and Tower Hill State parks, and (8) participate in numerous other sporting, cultural, and recreational activities that take place in this area.	Comment noted.
	Kritz, Gurak	VIS01	It is unclear how these touristic activities would be impacted by the CHC line but it is certain that the region will be less attractive than it is now if 17 story high-voltage towers march across the hilltops.	Comment noted. Potential impacts to tourism are disclosed in EIS Section 3.12.
	Kritz, Gurak	LAND02; SOCIO03	Hopefully, the PSC will recognize that there is a synergy between the economy and ecology of the Driftless Region and urban areas in WI and elsewhere. Residents of the Madison metro benefit in many ways from their proximity to the rural Driftless region. They increasingly favor restaurants that sell organic and local food and they flock to the Farmers Markets on the square and elsewhere to buy produce, dairy products, and meat grown by organic farmers who live in rural Dane, Iowa, Grant and other surrounding counties. Because the Driftless hills and valleys are not ideal for today's agricultural technologies, which favor the flatter terrain that characterizes agriculture production in other parts of the rest of the Midwest, farming in this region is shifting toward organic farming which requires labor-intensive inputs and, therefore, can be done on smaller landholdings. Organic farmers will be negatively impacted by the proposed CHC line because voluminous amounts of herbicide will be required to keep the 150-foot corridors free of trees, brush, and noxious weeds. Although I was told at one of the PSC coping Sessions that landowners can request that herbicides not be used on their properties, if they are used on neighboring properties, land can still be impacted by herbicides because of groundwater seepage into underground reservoirs and springs.	EIS Section 3.10 has been revised to disclose potential impacts from herbicide drift to organic farms.
	Kritz, Gurak	WAT02; WAT03	To run the corridor across the hills and valleys on our farm and neighboring farms would require the cutting of thousands of trees on our property alone and would not only be heart breaking to us, but would contribute to soil runoff into the WI river, disrupt animal habitats, and make it more difficult to do farm operations on our crop fields. For decades, the State of Wisconsin has invested millions of dollars to purchase land near the WI river and to deter the runoff of soil and herbicides into the river. Today the WI river is a tremendous recreational haven for people who like to fish, hunt, canoe, hike, swim, and do other activities. While it is unclear whether the proposed Northern CHC line would be visible from the river, the soil erosion and herbicide runoff that would result if the Northern route is selected would almost certainly have a negative impact on downstream water quality.	Comment noted. Potential impacts to water resources and quality are disclosed in EIS Section 3.5.
	Kritz, Gurak	VIS01	We respectfully disagree that high powered transmission lines of the height proposed (15-18 stories high) should run through this type of hilly wooded landscape. Money would not compensate us or neighbors or future generations for the loss that would be sustained if the Northern route is selected. Having tall towers located on two sides of our property that are close to our farm buildings and highly visible from all rooms in our house would be very heartbreaking and stressful.	Comment noted.
	Kritz, Gurak	VIS01; WAT05	Before making a decision that would impact us, our neighbors, and future generations, it would be a good idea for PSC members and staff to visit the proposed routes and assess the damage that would occur to the watershed and the viewshed if the CHC line is approved.	Comment noted.

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	Kritz, Gurak	SOCIO08	Before making its decision, the PSC also needs to evaluate carefully whether the benefits of the proposed CHC line will outweigh the economic costs to consumers and the long-term negative impacts on the Driftless Region's environment and ecology.	Comment noted.
	Kritz, Gurak	LAND08	The Right-of-way (ROW; 150' wide) proposed for the northern corridor traverses our land inside our northern boundary from east to west and then turns south where it is both on the boundary (75' ROW on our land) and within our boundaries (150' ROW) at various points. In total the corridor traverses our land for just under 1.2 miles and would require about 18 acres for the ROW. Of these acres 10.4 acres are mature forest, enrolled in the Managed Forest Land (MFL) state program, that is a densely wooded area with many large Burr Oaks, White Oaks, Shagbark Hickories and Maple trees. The remaining 7.6 acres are cropland enrolled in the Conservation Reserve Program (CRP).	EIS Section 3.10 has been revised to disclose potential impacts to lands enrolled in conservation programs such as the CRP and MFL.
	Kritz, Gurak	WLDF01	I operate a trail camera for the Wisconsin Department of Natural Resources' Snapshot Wisconsin program. The camera is located in the MFL that would be impacted by the corridor and has documented the abundant wildlife on our farm, including Bobcats, Red Fox, Coyote, Raccoon, Opossum, Turkey, Deer and other species. Although not captured on camera, we saw a cougar on our land in 2016.	Comment noted. Potential impacts to wildlife are disclosed in EIS Section 3.4.
	Kritz, Gurak	WLDF02	The forests and CRP fields are home to a large number of rare songbirds and raptors including American Kestrels, Northern Harriers, Red-tailed Hawks, woodpeckers, Grosbeaks, Bobolinks, Henslow's sparrows, cerulean warblers and many other species.	Comment noted. EIS Sections 3.4 discloses potential impacts to birds.
	Kritz, Gurak	VEG03	Over the last 25 years we have worked very hard and spent a fair amount of money (mostly our own but we have received some cost share funds from the USDA and WI DNR) with the goal of reducing the density of invasive plants in the CRP fields without the use of herbicides. We have worked even harder to clear forest-edge invasive underbrush (Honey Suckle, Multiflora Rose, Buckthorn and others noxious brush and weeds) from our woodlands.	Potential impacts to CRP-enrolled properties have been included in EIS Section 3.10.
	Kritz, Gurak	VEG01	the woodlands include many very large and old White and Burr Oaks along with many impressive large Hickories. Several of the large White and Burr Oaks measure 3-4 feet in diameter and have the wide spreading branches that is their characteristic. That spreading structure of the oaks indicates that they are very old and grew for years in an open landscape before woodlands became the norm in this region of the Driftless. A couple of foresters who work in Iowa County have told us that some oaks on our farm may be the largest ones in SW WI. All of these large oaks are located in the woodlands that the ROW traverses. Others are located near the ROW and according to ATC's documents, trees with protruding branches near the ROW would also have to be cleared to protect the transmission lines. Clearing 10.4 acres of Managed Forests (and likely more on the edges of the ROW) would inflict immense damage to these woodlands and be personally painful to see.	Comment noted. Potential impacts for forested areas are disclosed in Sections 3.3 and 3.4 of the EIS.
	Kritz, Gurak	WLDF01; WLDF03	Doing so would remove/reduce animal habitat, create forest fragmentation, and produce a prodigious amount of biomass that would need to be dragged through the ROW and across our land to Far Look Road.	Comment noted.
	Kritz, Gurak	SOIL02	Given the hilly terrain, this would involve the use of heavy machinery that would tear up the forest floor and greatly increase the likelihood of erosion. I should also note that the MFL lands have an active spring that feeds the Lowery Creek watershed and then drains into the Wisconsin River after passing through the Taliesin ponds. The movement of eroded material and contaminants such as herbicides down this flow-way would have serious negative consequences over time and would not be significantly reduced by the erosion barriers that ATC proposes to use on steep slopes and fragile lands.	Comment noted. Potential impacts to soils, including erosion, is disclosed in Section 3.2 of the EIS.
	Kritz, Gurak	LAND02	Running the ROW through CRP fields would also have harmful effects. It is likely that some of the cropland would need to be taken out of the CRP to make way for towers. To maintain the ROW in the crop fields, we or a future owner would need to continue to do annual maintenance on that land, as we now do, although maintenance of the ROWs is supposedly the responsibility of ATC. We are skeptical that ATC would do meaningful annual maintenance on the ROWs that run through fields.	EIS Section 3.10 has been revised to disclose potential impacts to lands enrolled in conservation programs such as the CRP and MFL.
	Kritz, Gurak	VEG01; VEG03	If maintenance is not done annually, then invasive weeds would start to take over the ROW and become a nursery for wild parsnip, Canadian Thistle, garlic mustard and other noxious weeds that would spread seeds into our well-maintained CRP fields, creating more problems for us. Opportunistic fast-growing trees such as Box Elders multiply quickly and would probably take advantage of the ROW open space to grow. That would create future problems for ATC and, in different ways, for everyone else in the region because their seed pockets spread. This would be a horrid ending to decades of work devoted to improving stands of both cool weather and warm weather grass habitats.	Comment noted. Potential impacts related to invasive species are disclosed in Section 3.3 of the EIS.
	Kritz, Gurak	SOCIO05	In addition to concerns about the effect that the ROW would have on CRP and MFL land, it remains unclear to us whether ATC compensates landowners for the annual financial losses that would result from changes in program enrollments with the USDA and the State of Wisconsin. Financial loss is not our main concern, however – whatever the proposed ATC payments would be, they would not compensate us and the public for the ecological losses that would occur if the PSC approves the CHC and selects the Northern route.	EIS Section 3.10 has been revised to disclose potential impacts to lands enrolled in the CRP and MFL.
	Kritz, Gurak	SOCIO06; VIS01	The views from our farm cluster are spectacular. People passing our farm often stop and ask if they can take a picture of the farm. Unfortunately, if the northern CHC route is built, it would run through the woods/fields near our farmhouse and other farm buildings and the view from Far Look Road would be of dozens of tall CHC towers marching across the hilltops. Given that the CHC line consists of dozens of tall utility towers as high as 170 feet that would span the hills and valleys of our land for 1.2 miles, it is hard to believe that a state agency (the PSC) and a private corporation (ATC) make a decision that would destroy this pristine landscape. It was the impressive and expansive views of the Driftless region that drew us to return to this area when my spouse's mother died in 1994. We could not stay if the northern CHC transmission line were built and would have to take a major financial loss in order to distance ourselves from the monstrous destruction of the CHC transmission corridor. A major asset of the property, its viewscape, would become a major hindrance to prospective buyers.	Comment noted. Potential impacts to social and economic conditions, including property values and tourism, are provided in EIS Section 3.12. Potential impacts to visual quality and aesthetics are disclosed in EIS Section 3.11.
	Kritz, Gurak	ALT01; VEG01	While both the southern and northern routes would have major negative impacts on future viewsapes of the Driftless region, the northern route would entail immense damage to large tracts of mature woodlands. This is obvious from the satellite images.	Comment noted. Potential impacts to visual quality and aesthetics are disclosed in EIS Section 3.11.

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	Kritz, Gurak	REC04; VIS01	A major example is the more than 2-mile segment along County Road ZZ (CR ZZ). This is the Pleasant Ridge area immediately to the north of Governor Dodge State Park's northern boundary. The view from County Road ZZ encompasses a large area of the Wisconsin River valley and extends many miles to the north of the Wisconsin River to the Plain Hills. Closer to CR ZZ is the Rush Creek valley which is also breathtaking. Not only would this view be impaired by the presence of a seemingly unending row of massive 170-foot CHC towers, but the towers would become a defining feature of the view of the Uplands from the Wisconsin River Valley. The towers would also be visible from many vantage points within Governor Dodge State Park. The negative impacts on this impressive viewscape would almost certainly reduce its attraction to potential visitors to the region. Of course, the CHC corridor continues beyond the areas I have described, and the destructive impact would be reiterated in varying forms in these areas. The views of the rolling grasslands and protected areas from Route 18-151 would be very much degraded by the presence of the CHC towers even if the negative impacts of construction and maintenance were less.	Several key observation points (KOPs) were considered for visual simulations within Governor Dodge State Park, including one on the northern boundary. Because of vegetation obstruction and distance to the proposed C-HC Project, it was determined that no proposed structures would be visible from any of the locations within Governor Dodge State Park (see EIS Section 3.11). County Road ZZ was not selected as a KOP; however, adverse impacts to scenic quality that could occur along County Road ZZ have been characterized and disclosed generally and qualitatively in EIS Section 3.11.
	Kritz, Gurak	NEP02	I should make it clear that I agree with others (individuals and local governments) who have argued that there is NOT an economic need for the CHC nor a persuasive argument that it is needed for increased transmission reliability. The case for building the CHC transmission line must be based on a strong demonstration that there is a major need for the line. I do not think that such a case can honestly be made.	Comment noted.
Town of Cross Plains	Hyer	SOCIO06; SOCIO07	the proposed corridors for the Cardinal-Hickory Creek transmission line and towers will be too close to a large number of residences and farms in the Town of Cross Plains, substantially affecting their property values and quality of life.	Comment noted. Potential impacts to social and economic conditions, including property values, are provided in EIS Section 3.12.
Town of Cross Plains	Hyer	REC01; REC03; REC04	the proposed corridors for the transmission line would run through or near many natural, recreational/tourism and cultural resources, including the Dodgeville and Wyoming Oak Woodlands/Savanna Conservation Opportunity Area, Upper Mississippi River National Wildlife and Fish Refuge, Governor Dodge State Park, Military Ridge State Trail, Military Ridge Prairie Heritage Area, Pecatonica State Trail, the Ice Age National Scenic Trail and the proposed Driftless Area Trail	EIS Section 3.10 discloses potential impacts to recreational areas.
Town of Cross Plains	Hyer	REC01; SOCIO03	many tourists to the area visit in large part due to the beautiful natural setting of the Driftless Area and extensive opportunities for outdoor recreation;	EIS Section 3.12 discloses potential impacts to tourism.
Town of Cross Plains	Hyer	SOCIO06; VIS01	the proposed Cardinal-Hickory Creek transmission line would have significant negative aesthetic impacts on the surrounding region and would negatively impact businesses, tourism, property values, and property tax revenue;	Comment noted. Potential impacts to social and economic conditions, including property values and tourism, are provided in EIS Section 3.12.
Town of Cross Plains	Hyer	ALT04	there is a citizen preference for electrical demands of central and southwest Wisconsin to be met by local resources, such as energy efficiency, wind power, solar power, demand response, battery storage, and emerging technologies;	Comment noted.
Town of Cross Plains	Hyer	DECI13	BE IT RESOLVED, that the Town of Cross Plains Board of Supervisors is OPPOSED to the construction and operation of the proposed Cardinal-Hickory Creek transmission line. BE IT FURTHER RESOLVED, that the Town of Cross Plains Board of Supervisors calls upon the Wisconsin Public Service Commission, Wisconsin Governor, and the Wisconsin Legislature to oppose the construction and operation of the proposed Cardinal-Hickory Creek transmission line and not grant any permits, certificates or other approvals needed for the proposed transmission line.	Comment noted.
Town of Cross Plains	Hyer	SOCIO08	high-capacity transmission expansion projects increase the likelihood of additional transmission and electric customer investments in Wisconsin and regionally; and WHEREAS, the final cost of expansion projects including financing, operation and maintenance over 40 years can reach into billions of dollars and place significant financial burden on all Wisconsin ratepayers in addition to those in other states;	Comment noted.
Town of Cross Plains	Hyer	NEP02	demand for electricity in Wisconsin and adjacent states has been flat or in decline in recent years and utilities in affected service areas have projected no or minimal load growth in planning documents submitted to the PSC;	Comment noted. EIS Chapter 1 describes the need for the C-HC Project as well as the decisions facing the three Federal agencies that have received loan or permit applications for the C-HC Project.
Town of Cross Plains	Hyer	ALT01	other means of meeting energy demand claimed by the applicants must be considered, including comparable investment in accelerated energy efficiency, conservation, load management, and local renewable power options before high-capacity transmission is approved;	Comment noted. EIS Section 2.2.2 explains the rationale for dismissing non-transmission alternatives from detailed analysis.
Town of Cross Plains	Hyer	SOCIO03; SOCIO06	our responsibilities include protecting and enhancing natural and local economic assets, including scenic beauty and development potential that would be adversely impacted by 110 to 180 foot steel or concrete poles and wires for high voltage transmission; and WHEREAS, high-profile transmission lines tend to reduce property values and tourism due to their prominent visibility and perceived negative health effects creating adverse impacts on local economies in contrast to non-transmission alternatives such as energy efficiency, load management and local solar which tend to produce positive economic impacts;	Comment noted. Potential impacts to visual quality and aesthetics are disclosed in EIS Section 3.11. Potential impacts to social and economic conditions, including property values, are provided in EIS Section 3.12.
Town of Cross Plains	Hyer	ALT01; DECI10	Wisconsin State Statute 1.13(2) encourages local governmental units to define their energy planning priorities and State Statute 1.11 (2) encourages the WI PSC to study, develop, and describe appropriate alternatives to recommended courses of action for full public consideration before the scoping stage of utility applications and for preparation of the Impact Statement;	Comment noted. This comment is referring to the Public Service Commission Certificate of Public Convenience and Necessity (CPCN) process. The Federal EIS is not required to consider alternatives in the same manner as the Public Service Commission of Wisconsin (PSCW) or the Iowa Utility Board (IUB).

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Town of Cross Plains	Hyer	NEP02; SOCIO08	detailed explanations of the perceived need for regional transmission expansion have not been combined with a comprehensive comparison of long-term investment costs and returns for all energy investment options and provided for Wisconsin ratepayers stated in clear terms of monthly, average potential savings, long-term job creation, and carbon emission impacts.	Comment noted. The PSCW is considering the project in terms of all requirements associated with Wisconsin Statute 196.491(3) as per their jurisdictional authority and responsibility. This includes consideration of costs and benefits for Wisconsin ratepayers (see Section 1.2.2.1 of PSCW [2019]) ³ . In terms of the Federal decision, as stated in NEPA regulations 40 CFR 1502.23, "For purposes of complying with the Act, the weighing of the merits and drawbacks of the various alternatives need not be displayed in a monetary cost-benefit analysis and should not be when there are important qualitative considerations." As discussed in EIS Chapter 2, Section 2.2.2, non-transmission and low-voltage alternatives are not responsive to the applications to which the Federal agencies are responding, nor do they meet the six-point purpose and need described in EIS Chapter 1. The Federal EIS considers alternatives that are ripe for Federal consideration. What that means is that a proposal has been made for those alternatives or that it is reasonably foreseeable that they could be implemented in a time frame that would meet the need for the Federal action. Requirements for alternatives consideration under Wisconsin Statute 196.491(d) are very specific and separate from NEPA. Per their jurisdictional responsibilities, the PSCW is considering if and how the range of alternatives meets those requirements (see Section 1.2.2.1 of PSCW [2019]).
Town of Cross Plains	Hyer	ALT02	The Town of Cross Plains in Dane County requests that all efforts made to develop or enhance the energy system upon which our community relies and adhere to these energy investment priorities: a. Maximize cost-effective conservation, efficiency, and load management; b. Rely to the greatest extent possible on local, renewable generation; c. Support local ownership of energy generation that includes dispersed renewable energy to support the local economy, including the creation of sustainable jobs; d. Minimize the size, scale, voltage, and environmental impacts of electric transmission and generation.	Comment noted.
Town of Cross Plains	Hyer	ALT04; SOCIO08	Town of Cross Plains is without sufficient means to evaluate the current proposal in terms of these priorities. 3. Town of Cross Plains requests the Public Service Commission of Wisconsin to ask the applicants to provide potentially impacted landowners and Wisconsin ratepayers clear, consumer-friendly descriptions of the applicant's cost-benefit analysis concerning all energy investment options, their cost-benefit analysis being made available in open houses during the public outreach phase of this proposal and on the internet during the same time period. 4. Upon receipt of the application, Town of Cross Plains requests Public Service Commission of Wisconsin to ensure that the applicants provide a clear, consumer friendly, comprehensive, cost-benefit analysis incorporating comparisons of comparable investments in accelerated energy efficiency, load management, distributed generation (on site/community and other local, non-fossil fuel generation). The dollar amount applied to each of these non-transmission investment options should be no less than estimated total Wisconsin ratepayers would assume for the proposed project, with financing, maintenance and operation costs over 40 years. We ask that this analysis provide summaries of these comparisons with estimated, averaged impacts on typical monthly electric bills for residential and commercial customers in Wisconsin accommodating all costs.	Comment noted. The PSCW is considering the project in terms of all requirements associated with Wisconsin Statute 196.491(3) as per their jurisdictional authority and responsibility. This includes consideration of costs and benefits for Wisconsin ratepayers (see Section 1.2.2.1 of PSCW [2019]). In terms of the Federal decision, as stated in NEPA regulations 40 CFR 1502.23, "For purposes of complying with the Act, the weighing of the merits and drawbacks of the various alternatives need not be displayed in a monetary cost-benefit analysis and should not be when there are important qualitative considerations." As discussed in EIS Chapter 2, Section 2.2.2, non-transmission and low-voltage alternatives are not responsive to the applications to which the Federal agencies are responding, nor do they meet the six-point purpose and need described in EIS Chapter 1. Furthermore, it is outside the purview of the three Federal agencies to estimate changes in monthly utility bills. The Federal EIS considers alternatives that are ripe for Federal consideration. What that means is that a proposal has been made for those alternatives or that it is reasonably foreseeable that they could be implemented in a time frame that would meet the need for the Federal action. Requirements for alternatives consideration under Wisconsin Statute 196.491(d) are very specific and separate from NEPA. Per their jurisdictional responsibilities, the PSCW is considering if and how the range of alternatives meets those requirements (see Section 1.2.2.1 of PSCW [2019]).
Town of Cross Plains	Hyer	AIR03; ALT01	Upon receipt of the application, Town of Cross Plains requests Public Service Commission of Wisconsin to ensure that the application evaluates the economic outcomes on directly affected local economies for the high voltage transmission option, the low voltage transmission option and the non-transmission options. We ask that application include analysis of total carbon emission impacts over time for the same energy investment options.	EIS Chapter 4, Section 4.4 has been revised to estimate the carbon dioxide (CO ₂) emissions that could occur from generation sources that would benefit from the C-HC Project. This analysis compares two scenarios: 100% coal-generation sources benefitting from the C-HC Project and 100% wind-generation sources benefitting from the C-HC Project. This analysis provides a range of CO ₂ emissions from possible generation sources. Non-transmission and low-voltage alternatives are not analyzed for cumulative impacts because these alternatives are not carried forward for detailed analysis in the EIS.
Town of Cross Plains	Hyer	NEP02	The Town of Cross Plains Board of Supervisors has reviewed the proposed routes through the Town of Cross Plains. There are legitimate questions that ATC and PSC should address regarding the need for the Cardinal Hickory Transmission Line before resolving the appropriate route.	Comment noted.
Town of Cross Plains	Hyer	ALT01	If a new regional transmission line is needed, The Town has concerns about the proposed routes through the Town of Cross Plains. The Town does not believe the alternative route that creates a new transmission line through the northwest area of the Town should be pursued under any circumstances.	Comment noted.
Town of Cross Plains	Hyer	ALT02; NOISE01	Further the Town believes that there are problems with running these new regional larger transmission lines and new larger poles along the existing local transmission line route. There are more than a dozen instances where the existing line runs within a couple of hundred feet of existing residential houses. The new regional poles and lines appear to double the size of the required poles and easements widths. There is no question that the line noise will significantly increase.	Comment noted.

³ PSCW. 2019. *Cardinal-Hickory Creek Transmission Line Final Environmental Impact Statement*. PSC Docket 5-CE-146. Issued May 2019. Available at: <http://apps.psc.wi.gov/pages/viewdoc.htm?docid=366195>. Accessed May 20, 2019. Note: This document is referred to frequently throughout the table, and therefore the full reference footnote is provided here at first mention only.

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Town of Cross Plains	Hyer	SOCIO06	Literature suggests negative effects on residential property values for lines within 1,500 feet.	EIS Section 3.12 has been revised to include additional analyses and citations of peer-reviewed articles related to potential impacts to property values from the C-HC Project.
Town of Cross Plains	Hyer	HAS01	The literature is just beginning to document the health effects from long term exposure to electric magnetic fields. The existing transmission line route should only be pursued if the route is modified to avoid close proximity to existing residential properties.	Section 3.13 of the EIS discloses information about electric and magnetic fields.
Town of Cross Plains	Hyer	LAND02	The literature does not suggest negative impacts on the value of existing agricultural uses. The Town is predominately agricultural property.	Comment noted.
Town of Cross Plains	Hyer	ALT01; HAS01; NOISE01	The noise and health effects are documented in studies of lines within 500 to 750 feet of residences. There should be reasonable route modification options away from residential properties. ATC and affected Town residential property owners should work together to minimize the lines adverse effects on these residential properties.	Comment noted. Potential noise impacts, including noise estimates for nearby residences, from the C-HC Project are disclosed in Section 3.7 of the EIS.
	Zedler	VEG04	As an expert in restoration ecology—particularly in wetlands, rare species, introduced species, and adaptive resource management—I am writing to express my concerns with the deficiencies in the discussion of wetlands impacts in RUS's Draft Environmental Impact Statement (DEIS) on the Cardinal-Hickory Creek transmission line. I have a PhD in Botany and 50 years of teaching and research experience as an ecologist. From 1998-2016, I held the title of Aldo Leopold Chair of Restoration Ecology at the University of Wisconsin-Madison; I am now the Aldo Leopold Professor Emerita. My publications include over 260 journal articles and books on wetland ecology and restoration, including the effects of invasive species on wetlands. Wetlands might appear to be flat, but what you see on the ground is only a fraction of what makes up a wetland. These are three-dimensional ecosystems, with a vertical dimension, and they "don't take kindly" to disruptions, either above- or belowground. Aboveground, wetlands offer flight pathways and landing pads for insects, birds, and bats 24/7.	Comment noted.
	Zedler	WLDF01; WLDF02	Wetlands might appear to be flat, but what you see on the ground is only a fraction of what makes up a wetland. These are three-dimensional ecosystems, with a vertical dimension, and they "don't take kindly" to disruptions, either above- or belowground. Aboveground, wetlands offer flight pathways and landing pads for insects, birds, and bats 24/7.	Comment noted. EIS Section 3.3 discloses potential impacts to wetlands.
	Zedler	WLDF02	Powerlines add tall structures around and in wetlands. While proponents of the power line claim that cluttered airspace has no significant impact, a flight path that looks like open space can be lethal to birds attempting to fly through "openings." And birds that try to land in wetlands can be ensnared by wires that connect towers. Birds that fly in the daytime might be able to avoid powerlines, but those that fly in dim light are likely more vulnerable. A powerline that would dissect the Driftless Area on an east-west axis would be hard for north-south migrants to avoid. Birds that migrate every fall and spring don't need more obstructions.	Comment noted. EIS Sections 3.4 and 3.14 disclose potential impact to wildlife, including migratory birds. The C-HC Project would follow Avian Power Line Interaction Committee (APLIC) guidelines to minimize collision impacts, and electrocutions are not a high risk for this project due to the project design and conductor spacing greater than large avian wingspans.
	Zedler	VEG03	On the ground, powerline rights-of-way are cleared of trees and mowed, which changes upland ecosystems and invites weeds.	Comment noted. The EIS Section 3.3 discloses potential impacts to vegetation communities and impacts from invasive species.
	Zedler	HAS01	Electric lines cause wildfires	Potential impacts from wildfire are disclosed in EIS Section 3.13.
	Zedler	SOIL02; VEG03	in hilly topography, the removal of trees causes more surface water to flow downslope, carrying more soil and nutrients into flat spaces and their wetlands. The addition of nutrients to wetlands encourages weeds and discourages native species.	Comment noted. EIS Section 3.2 discloses potential impacts to soils, including soil erosion. EIS Section 3.3 discloses potential impacts to vegetation, including wetlands.
	Zedler	WAT02	Belowground, it might seem that plunking a power tower in a wetland has no effect. But the tower foundations inserted belowground interfere with flows of groundwater, as do the berms that connect towers for maintenance access.	Comment noted. Potential impacts to wetlands are disclosed in EIS Section 3.3. Potential impacts to groundwater are disclosed in EIS Section 3.5, and this section has been revised to explain in areas where the tower foundations intersect groundwater, any deflections in groundwater flow would be highly localized. There are no berms proposed for connecting transmission line structures.
	Zedler	VEG03; VEG04	Massive concrete bases displace native plants and animals—and reduce the wetland's ability to soak up flood waters, purify runoff, and store carbon in the soil. It doesn't take much of a change in water flow and water depth (i.e., the wetland hydroperiod) to shift a species-rich wetland to a weedy patch of alien cattails. Such shifts are aided by soil disturbance during construction. Even a 6-inch pile of dirt invites weedy shrubs and trees to invade a wet meadow or marsh. Wetlands don't take kindly to altered hydroperiods. Damages to wetlands can seem to be temporary, ending when the bulldozers leave and the wounds are covered by something green. But altered ecosystem structures and functions persist long-term, both above- and belowground.	Comment noted. EIS Section 3.4 discloses potential impacts to wildlife. EIS Section 3.3 discloses potential impacts from invasive species. EIS Section 3.1 includes the environmental commitments applicable to herbicide applications.
	Zedler	EFF04; VEG03	Powerlines challenge the ability of native species to persist in an ever-more-altered, human-dominated Earth. The parts of RUS's DEIS that I reviewed (discussed in more detail below) do not adequately assess potential impacts or to determine which mitigation efforts might reduce those impacts.	Comment noted.
	Zedler	EFF04; SOIL01	I did not see evidence that the authors understand how difficult it is to measure impacts to soil and peat, let alone how to restore damaged areas.	Comment noted.
	Zedler	LITREV01; VEG04	Nor did I see understanding of how ecosystem services relate to watershed position or wetland type, as is now known from field studies. There is no reference to scientific literature that is relevant to the issues noted—or to the uniqueness of any of the 300+ acres of wetlands that are in the project area—not their composition above and below ground nor their functions.	Comment noted.
	Zedler	EFF04	Claims that damages will be mitigated are unsupported by science.	Comment noted. The environmental commitments listed in EIS Section 3.1 would be included in, and thereby enforced by, applicable permits, authorizations, and orders issued by Federal and state agencies. These commitments may be revised as permits, authorizations, and orders actions are reviewed and issued, if deemed appropriate by the various decision-makers. Furthermore, a mitigation plan has been included as an appendix to the EIS to provide additional details about the mitigation measures to be implemented by the Utilities as part of the C-HC Project. The environmental commitments and mitigation measures have been reviewed and approved by Federal permitting agencies, such as RUS, USFWS, and USACE.

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	Zedler	ALT01; VEG04	It is in our own best interest to protect wetlands for their 3-D support of biodiversity and human well-being. Rather than exploiting natural resources to the maximum and allowing the Cardinal–Hickory Creek transmission line to be built across wetlands, RUS and citizens should consider alternatives that reduce waste of electrical power and harness greener sources of energy. No-build or non-transmission alternatives should be selected to ensure no net loss of existing wetlands and their functions.	Comment noted. Potential impacts to vegetation, including wetlands, are disclosed in EIS Section 3.3.
	Zedler	EFF01; VEG04	These are textbook generalities that show little attention to the diversity and productivity of the wetlands that will be damaged by the transmission line; this copy-and-paste language is insufficient to describe the specific wetlands that will be impacted here.	Comment noted.
	Zedler	EFF01; VEG04	The DEIS (page 148) describes the affected wetlands as “degraded” without justifying that label: The majority of wetlands within the resource evaluation area are composed entirely or in part of degraded wet meadow, shallow marsh, farmed wetland, hardwood swamp, and shrub carr communities (Eggers and Reed 1997). These degraded wetland communities are characterized by low plant diversity and dominance by various invasive species, most commonly reed canary grass and invasive cattails, and disturbance-tolerant native species, such as box elder (<i>Acer negundo</i>) and Eastern cottonwood. This text is not objective. Why are these wetlands considered degraded? How degraded are they? Which species have they lost already? Which services are missing or reduced? “Degraded” can mean anything from one minor issue to near-total shifts in structure and functions. Low diversity might or might not be due to some degrading stressor. Where are the data that led to this conclusion?	EIS Section 3.3 provides the best available information about the wetlands within the C-HC Project analysis area. The degraded wetlands are described as having a low plant diversity and are dominated by various invasive species, most commonly reed canary grass (<i>Phalaris arundinacea</i>) and invasive cattails (<i>Typha</i> spp.), and disturbance-tolerant native species, such as box elder (<i>Acer negundo</i>) and eastern cottonwood (<i>Populus deltoides</i>). RUS cannot speak to the conditions of these wetlands prior to their degradation (e.g., which species were lost) because we only have data associated with the current wetland conditions.
	Zedler	EFF01; VEG04	Table 3.3-1, on page 148, states that there are 309 total acres of wetlands within the Resource Evaluation Area. This is a very large amount of wetlands that will be impacted. What portion of the regional totals do these wetlands comprise? Which ecosystem services do they provide and at what levels? Simply totaling up acres does not make use of existing scientific data. The Nature Conservancy and the Wisconsin Department of Natural Resources have the ability to quantify predicted services for wetlands throughout the State of Wisconsin. See http://www.wetlandsbydesign.org/ , which provides a free interactive tool called Explorer. RUS should incorporate information about ecosystem services of the impacted wetlands into the EIS.	EIS Section 3.3.1.2 provides a discussion of the ecosystem services provided by wetlands and the types of wetlands that occur within the analysis area. Additionally, RUS coordinated with WDNR Natural Heritage Inventory (NHI) on characterization of natural wetland communities within the analysis area.
	Zedler	SOIL03; VEG04	The DEIS notes on page 155 that impacts will include “fill activities” and “tree clearing,” but states that “[n]o permanent fill in any wetlands for access road construction is proposed” which is contradicted by the plan to build access roads to power poles—roads that seem to be planned for a two year life followed by what?—removal with additional disturbance, or left in place as a permanent impact? These roads are described as 15 to 20 feet wide, leading to work platforms that might be 100 x100 feet. Once heavy vehicles are moved along these roads, they will compress the peat/organic soil, make ruts, and the indentations (compressed soil) will not recover.	The access roads and work platforms would not be constructed within jurisdictional waterways or wetlands. Therefore, the language referenced on page 155 of the DEIS is accurate. There would be no permanent fill of wetlands for the construction of access roads.
	Zedler	VEG03; VEG04	Depressions will have wetter hydroperiods that will likely attract weeds.	Comment noted. The EIS Section 3.3 discloses potential impacts from invasive species.
	Zedler	EFF01; VEG03	The DEIS also says that “no wetlands will be permanently impacted due to construction of the Hill Valley Substation or at any proposed lay down yards” (page 155). Earlier, the construction process is described as placing matting on the wetland soil, and elsewhere, construction is estimated to take 2 years. These are impacts that will have long-term effects on plants, animals and soils. How would machinery and matting be pre-treated to prevent importation of weed seeds? This has been a serious problem at the UW Madison Arboretum.	Wetland matting would be used during construction activities in areas where wetlands and other wet conditions occur along the line and access roads. However, there are no identified wetlands at the Hill Valley Substation alternative sites nor the laydown yards.
	Zedler	ALT02; SOIL01; VEG04	The DEIS also states on page 155 that “[t]ree clearing within forested wetlands would generally not be considered a wetland fill activity.” How much temporary fill? How much vehicle impact and compaction? How much inflow from tree-cleared ROWs? This discussion ignores the 3-D nature of wetland ecosystems. Impacts of compacted soil and peat would be very long-term; this section ignores all the impacts to soils and microbiota.	Comment noted. EIS Section 3.3 discloses potential impacts to wetlands from the C-HC Project. Per USACE regulations, tree clearing is not considered a wetland fill activity. Access roads would be built to avoid wetlands, and any temporary access needed for work in wetlands would involve constructing when wetland soils are frozen, use of equipment with low ground-pressure tires or tracks, or placement of construction matting to minimize soil disturbance. These and other environmental commitments can be found in EIS Section 3.1.
	Zedler	EFF01; EFF04; VEG04	The DEIS also states on page 155 that: Timber mats and other impact minimization techniques and BMPs would be used to prevent soil compaction and earth disturbance at temporary crossings. Wetlands temporarily impacted by construction access, staging areas, and access roads would be restored to original contours and reseeded with a site-appropriate mix of native wetland species. BMPs might lessen impacts, but to say they “prevent soil compaction” is not supported by science—or common sense. The DEIS implies that altered contours are the only impact, but this claim is not supported by science. If you create a tire rut, filling it with imported soil creates a second impact; it does not reverse the first impact. Reseeding is an action that can be taken, but it does not guarantee that anything seeded will grow and persist or that the species impacted will recover. There’s no indication that RUS has consulted the science-based wetland restoration literature. The DEIS’s discussion of impacts on page 155 contains text that is correct, but leaves the discussion incomplete: [T]he indirect impacts of the C-HC Project are likely to include increased sediment deposition in nearby wetlands, alteration of long-term wetland hydrology, and residual effects resulting from the fragmentation of wetland habitats that span the ROW. Fragmenting wetland habitats can affect adjacent areas by increasing edge habitat and altering light regimes, ultimately driving changes in wetland species composition and function. This analysis does not explain degrees of impact or which impacts cannot be minimized via mitigation efforts. These are all reasons to reject this project.	Comment noted. Impacts to all resources were based on professional review of scientific literature and reports as well as current data for the proposed project area.
	Zedler	EFF04; VEG04	The DEIS states that “Precautions would be implemented during construction,” including “revegetation of disturbed areas” and “the use of standard BMPs during construction and revegetation practices within disturbed areas” (page 155). Where are the corroborating data that suggest that “standard BMPs” are adequate in each of these types of wetlands and in these specific wetlands? Each wetland needs its own analysis of potential impacts and potential methods of mitigation. Where mitigation cannot compensate for losses, the project must be rejected.	A mitigation plan has been included as an appendix to the EIS to provide additional details about the mitigation measures to be implemented by the Utilities as part of the C-HC Project.
	Zedler	EFF01; VEG01	The DEIS states that “direct and indirect impacts from the C-HC Project on vegetation, including vegetation communities, special status species, and invasive species, would be both short and long term and moderate, depending on the location and extent of the impact.” (page 435–36). Where is the evidence that impacts would be moderate? Disturbance typically leads to permanent dominance by invasive plants. Once the invaders are present, they spread vegetatively beyond the introduction sites. These are not moderate impacts. RUS must consult the scientific literature and evaluate impacts based on current science.	Impact thresholds for vegetation, including wetlands and special-status plants, are defined in Section 3.3.2. Impacts to all resources were based on professional review of scientific literature and reports as well as current data for the proposed project area.
	Zedler	EFF02; VEG04	The DEIS also concludes that cumulative impacts would be “moderate” (page 436), but repetition of this conclusion does not make it true. The section on cumulative impacts mentions impacts to species but ignores the multiplicity of ecosystem services that are provided by wetlands—which services will be impacted and where? What will the cumulative—watershed-scale— impacts be?	EIS Chapter 4, Cumulative Impacts, has been revised to provide a characterization of the past, present, and reasonably foreseeable future projects that could impact the same

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				resources as the C-HC Project, within the lifespan of the C-HC Project and within the overlapping ecoregions.
	Zedler	EFF01; EFF04	This DEIS is far from adequate. The DEIS downplays the long-term impacts of the transmission line by exaggerating the effectiveness of mitigation measures and portraying many impacts as more short-term than they likely will be.	Comment noted. The environmental commitments listed in EIS Section 3.1 would be included in, and thereby enforced by, applicable permits, authorizations, and orders issued by Federal and state agencies. These commitments may be revised as permits, authorizations, and orders actions are reviewed and issued, if deemed appropriate by the various decision-makers. Furthermore, a mitigation plan has been included as an appendix to the EIS to provide additional details about the mitigation measures to be implemented by the Utilities as part of the C-HC Project. The environmental commitments and mitigation measures have been reviewed and approved by Federal permitting agencies, such as RUS, USFWS, and USACE.
	Zedler	EFF01; EFF04	The DEIS dismisses impacts that will be "mitigated," but "mitigated" typically means lessened, so that some damage will be permanent. The DEIS does not acknowledge that the degree of adverse impacts varies based not just on the mitigation measures implemented, but whether or not the mitigation efforts work in each case. It is not sufficient just to implement a BMP; results must be monitored and mid-course corrections made where problems persist.	Comment noted. The EIS does acknowledge both short-term and long-term impacts to resources from the C-HC Project. Environmental commitments are identified in Section 3.1 to help mitigate or repair many of the impacts. Effectiveness monitoring of some of the environmental impacts may be required, based on specific permit conditions.
	Zedler	EFF04; VEG04	It does not seem that RUS recognizes or understands the complexity of wetland functions. While "returning the disturbed land to preconstruction condition" should be the aim, such is rarely achieved. RUS should consult the scientific literature on "recovery debt" and incorporate this into the analysis and calculations for mitigation. The discussion of compensatory mitigation banking is incomplete and does not explain where the nearest mitigation bank is or whether the bank provides suitable wetland types to compensate for impacts to the wetlands that will be damaged by this project.	Potential impacts to vegetation, including wetlands, are disclosed in EIS Section 3.3. A mitigation plan has been included as an appendix to the EIS to provide additional details about the mitigation measures to be implemented by the Utilities as part of the C-HC Project. USACE has jurisdiction over waters of the U.S., including wetlands. As disclosed in EIS Chapter 1, the USACE may need to issue a permit under Section 404 of the Clean Water Act (CWA), for activities that discharge fill into waters of the U.S., including wetlands. Therefore, USACE has been closely involved in the development of the mitigation plan, which addresses compensatory mitigation that may be required under CWA Section 404.
	Zedler	ALT01; VEG04	Any of the alternative transmission line routes evaluated in the DEIS would have disastrous long-term—if not permanent—consequences for wetland ecosystems.	Comment noted. Potential impacts to vegetation, including wetlands, are disclosed in EIS Section 3.3.
	Zedler	EFF04; VEG04	The DEIS does not adequately identify and quantify the likely impacts, and it glosses over many identified impacts by implying they can be simply avoided or compensated through mitigation measures. I urge the RUS to do better in the final EIS by taking the following steps: more thoroughly evaluate the consequences that building the proposed transmission line would have on wetlands, including watershed-level and ecosystem-level impacts;	Potential impacts to 13 different resource topics, with defined resource-specific impact thresholds, are provided in EIS Chapter 3.
	Zedler	EFF04	better analyze and explain to the public the expected effectiveness of mitigation and restoration efforts, including which impacts could not be fully mitigated;	Comment noted. The environmental commitments listed in EIS Section 3.1 would be included in, and thereby enforced by, applicable permits, authorizations, and orders issued by Federal and state agencies. These commitments may be revised as permits, authorizations, and orders actions are reviewed and issued, if deemed appropriate by the various decision-makers.
	Zedler	ALT01; VEG04	give greater consideration to other options, such as the no-build alternative and non-transmission alternatives, that would avoid harming unique and irreplaceable wetlands.	Comment noted. RUS evaluates a range of alternatives as presented in EIS Chapter 2, including the no action alternative. As discussed in EIS Chapter 2, Section 2.2.2, non-transmission alternatives are not responsive to the applications to which the Federal agencies are responding, nor do they meet the six-point purpose and need described in EIS Chapter 1. The Federal EIS considers alternatives that are ripe for Federal consideration. What that means is that a proposal has been made for those alternatives or that it is reasonably foreseeable that they could be implemented in a time frame that would meet the need for the Federal action. Potential impacts to vegetation, including wetlands, are disclosed in EIS Section 3.3.
Iowa Office of the State Archaeologist	Doershuk	CUL01	We are in general agreement with the recommendations offered in the Burns & McDonnell April 2018 report authored by Kullen and House (Project No. 100247) but wish to emphasize to all parties the extremely sensitive nature of the cultural resources associated with the northern end of the project as presented.	Comment noted.
Iowa Office of the State Archaeologist	Doershuk	CUL03	There is a general absence of formal professional archaeological survey associated with the proposed project area yet there are many known cultural resources already recorded, testimony to the likely high density of yet-to-be-discovered sites. Especially in the general area where the A and D alternates come together to become Alternate C there are a large number of cultural resources (likely historic properties) in the form of mound groups. Past archaeological research and modern American Indian traditions both strongly support that these mounds are highly likely to contain ancient human remains (defined in the Iowa Code as those >150 years in age and therefore protected) as well as associated surrounding areas likely containing as yet unidentified habitation areas and/or ritual zones of NRHP significance.	The EIS uses the best available records and data provided by the Iowa and Wisconsin SHPO databases and site-specific surveys to identify potential historic properties within the alternatives. The EIS recognizes that additional historic properties may be present along one or more project alternatives, and the Iowa and Wisconsin SHPOs, RUS, the Utilities, and other consulting Federal agencies have drafted a PA under Section 106 of the NHPA. This PA details a phased identification and treatment plan for cultural resources identified within the chosen alternative. This PA is included as an appendix of the EIS.
Iowa Office of the State Archaeologist	Doershuk	CUL02; DEC110	The Kullen and House report also documents two historic period cemeteries (Millville and Goshen) that may be directly impacted by the project; these both contain, or may contain, human remains that meet the "ancient" threshold. In accordance with the Iowa Code sections protecting ancient human remains the scopes of work for field work recommended for both the mound resources and the historic cemeteries must be reviewed and approved by OSA prior to any ground disturbing activity (archaeological or construction) are undertaken.	The EIS uses the best available records and data provided by the Iowa and Wisconsin SHPO databases and site-specific surveys to identify potential historic properties within the alternatives. The EIS recognizes that additional historic properties may be present along one or more project alternatives, and the Iowa and Wisconsin SHPOs, RUS, the Utilities, and other consulting Federal agencies have drafted a PA under Section 106 of the NHPA. This PA details a phased identification and treatment plan for cultural

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				resources identified within the chosen alternative. This PA is included as an appendix of the EIS.
Iowa Office of the State Archaeologist	Doershuk	CUL03; PUB03	We also strongly recommend that substantive consultation with tribal representatives, especially but not limited to the HoChunk and Iowa tribes be undertaken.	Comment noted. Consultation between the Iowa and/or Wisconsin SHPOs, RUS, the Utilities, and affected tribal groups, and other consulting parties under Section 106 of the NHPA is currently underway to address potential adverse effects to historic properties. The Ho-Chunk Nation is one of the consulting parties invited to participate in the PA development. This consultation must be completed prior to the start of construction activities.
Iowa Office of the State Archaeologist	Doershuk	CUL04	Lastly we want to clarify that archaeological sites recorded IISites that take the form of an upward-pointing quadrilateral triangle are not tethered to a particular landscape position. These are sites for which precise spatial coordinates and position remain to be determined. So, as an example, 13CT464 is the recorded location of a Paleoindian projectile point, a rare and early cultural resource. The project documents indicate this resource is 905 feet from the Alternate D centerline (similarly triangle site 13CT461 is listed as 788 ft from the D centerline) – however this is inaccurate – we don't actually yet know where in the ¼section this discovery was made so it should serve as a "red flag" calling for particularly careful Phase I field investigation in the general vicinity.	Comment Noted. Archaeological sites 13CT460, 13CT461, and 13CT464 have been included within the Direct Impacts analysis for Alternatives 2 and 5, disclosed in EIS Section 3.9.
	Baker	SOCIO07	My husband and I moved to our present home one mile north of Governor Dodge State Park in 1988. We feel so fortunate to have raised our two daughters on this beautiful ridge bounded by two deep wooded valleys with ancient rock outcroppings and clear springs and streams on each side. We've all developed a strong love and connection to this incredibly unique and rare driftless area.	Comment noted.
	Baker	NEP02	The idea of 17 story towers for a high-voltage transmission line coming through here feels like a permanent violent attack on us and the land, especially because this line is not needed. Electricity demand is flat and projected to decline. Wisconsin and the Midwest have excess power supply and one of the most reliable regional grid systems in the U.S. This line would cost ratepayers more than \$1 billion for construction costs, maintenance and a guaranteed 10.2% over the 40-year life expectancy of the line.	Comment noted.
	Baker	SOCIO06	Our property values would be lowered, reducing revenues for counties and townships; and homes, businesses and properties would be harder to sell. Even the possibility of the line coming through has made it nearly impossible for some homeowners to sell now.	Comment noted. Potential impacts to social and economic conditions, including property values, are provided in EIS Section 3.12.
	Baker	SOCIO03	For years, this has been a popular area to own a vacation or retirement home, but now that appeal will disappear, and with it, valuable revenue to support schools, road and bridge maintenance, and local businesses. Tourism is a large part of our area income, but the ugly towers would repel, rather than attract visitors to places like American Players Theater, Taliesin, House On The Rock, Global View, Mineral Point's Shake Rag Alley and Opera House, as well as countless galleries and shops, restaurants, picturesque towns, and rivers, lakes, and parks.	Comment noted. Potential impacts to social and economic conditions, including property values and tourism, are provided in EIS Section 3.12.
	Baker	REC01	Hunting, fishing, kayaking, canoeing, biking, horseback riding, camping, swimming, snowshoeing, skiing, and other vacation activities would decline.	Comment noted. EIS Section 3.10 discloses potential impacts to recreation.
	Baker	LAND08	The towers and line would run 125 miles through the nationally significant Driftless Area, the Upper Mississippi River Fish and Wildlife Refuge, Black Earth Creek Watershed Area, Military Ridge Prairie Heritage Area, and several public state parklands and recreation areas.	Comment noted. EIS Section 3.10 discloses potential impacts to recreational areas.
	Baker	VEG02; WLDLF04	We have countless threatened and endangered plant and animal populations which would be hurt or destroyed.	Comment noted. EIS Sections 3.3 and 3.4 disclose potential impacts to threatened and endangered species. Furthermore, RUS consulted with USFWS regarding potential adverse effects to Federally listed species. The biological opinion for the C-HC Project is included as an appendix in the EIS.
	Baker	WLDLF02; WLDLF03	The wide swath under the lines would fragment critical ecosystems. According to University of Wisconsin research, southwest Wisconsin forests have warmer microclimates that help songbirds survive cold winters. Broken up forest fragments are less effective and increase bird mortality. CHC would create many forest fragments, threatening bird survival.	Potential impacts to wildlife species and migratory birds, including a discussion of habitat fragmentation, are disclosed in EIS Section 3.4.
	Baker	HAS01	The toxic sprays to control undergrowth would be harmful to the health of soil, water, plants, animals, and humans.	Comment noted. Potential impacts to wildlife are disclosed in EIS Section 3.4. Potential impacts to public health and safety are disclosed in EIS Section 3.13.
	Baker	DECI10	Wisconsin law clearly intends to avoid unnecessary impacts to the environment, including natural and cultural resources. Large sections of the proposed CHC transmission line do not follow the priorities set forth in Wisconsin law.	Comment noted.
	Baker	ALT02; ALT07	A line can lose 4.2 percent of generated power for every 100 miles traveled. Gridwise Alliance said Wisconsin is 39th out of 50 states in progress toward a modernized electric grid. More reliable 21st century energy models are already in place around the country. We should invest in clean solar energy, wind power, energy efficiency, and energy storage right here, providing jobs and a clean energy economy. The most realistic and low cost energy plan is for decentralized microgrids that generate power locally and can be coupled and then uncoupled when there's a danger of wide spread black outs, so are more reliable in preventing massive grid level failures. The electrical grids in New York State, as well as grids on our military bases, are being remade as microgrids. Clearly, the Department of Defense knows that decentralized grids are more reliable. And then there is hacking. On March 15, 2018 the Department of Homeland Security sent an alert laying out how our grid, power plants, and other utilities were hacked by the Russians. As for Wisconsin's grid reliability, US News and World Reports ranks us 7th in the nation in grid reliability.	Comment noted. As discussed in EIS Chapter 2, Section 2.2.2, non-transmission and low-voltage alternatives are not responsive to the applications to which the Federal agencies are responding, nor do they meet the six-point purpose and need described in EIS Chapter 1. The Federal EIS considers alternatives that are ripe for Federal consideration. What that means is that a proposal has been made for those alternatives or that it is reasonably foreseeable that they could be implemented in a time frame that would meet the need for the Federal action. Transferring to decentralized microgrids is beyond the scope of the Federal agencies' decisions and the analysis in the Federal EIS. Requirements for alternatives consideration under Wisconsin Statute 196.491(d) are very specific and separate from NEPA. Per their jurisdictional responsibilities, the PSCW is considering if and how the range of alternatives meets those requirements (see Section 1.2.2.1 of PSCW [2019]). The PSCW's decision is separate from the Federal decision under NEPA. EIS Section 3.13 has been revised to include a discussion about severe weather and security breaches.
	Baker	HAS01	Another problem with a large scale grid is fire danger. State officials have determined that electrical equipment owned by PG&E, including power lines and poles, was responsible for at least 17 of 21 major fires in Northern California last fall.	Potential impacts from wildfire are disclosed in EIS Section 3.13.

Organization	Commenter Last Name	Comment Code(s)	Comment on DEIS	Agency Response to Comment
	Baker	ALT04	Our energy related improvements could be accelerated by enhanced incentives/rebates on energy efficiency, load management, and development of onsite and community solar.	Comment noted. The Federal EIS considers alternatives that are ripe for Federal consideration. What that means is that a proposal has been made for those alternatives or that it is reasonably foreseeable that they could be implemented in a time frame that would meet the need for the Federal action. Incentives/rebates on energy efficiency, load management, and development of community solar is beyond the scope of the Federal agencies' decisions and the analysis in the Federal EIS.
	Baker	SOCIO06	I would like to make a request to include new sections in the EIS which aren't adequately or clearly addressed in previous Wisconsin transmission line EIS drafts: - A section using updated assessments of property values impacted by high voltage transmission lines	Potential impacts to property values are disclosed in EIS Section 3.12.
	Baker	SOCIO03; TRANS06	A section assessing negative impacts from reduced tourism, traffic reroutes and stalled economic developments	Comment noted. Potential impacts to social and economic conditions, including property values and tourism, are provided in EIS Section 3.12. Potential impacts to transportation are disclosed in EIS Section 3.8.
	Baker	REC02; WLDF02	A section on avian impacts from high tension wires crossing the 1.6-mile span of the Mississippi River Fish and Wildlife Refuge -	Comment noted. Potential impacts to avian species within the Upper Mississippi River National Wildlife and Fish Refuge (Refuge) are disclosed in EIS Section 3.14.
	Baker	ALT04	A section comparing Non-Transmission Alternatives and High Voltage Transmission benefits over 40 years	Comment noted. As discussed in EIS Chapter 2, Section 2.2.2, non-transmission and low-voltage alternatives are not responsive to the applications to which the Federal agencies are responding, nor do they meet the six-point purpose and need described in EIS Chapter 1. The Federal EIS considers alternatives that are ripe for Federal consideration. What that means is that a proposal has been made for those alternatives or that it is reasonably foreseeable that they could be implemented in a time frame that would meet the need for the Federal action.
	Baker	EFF03	A section assessing the impacts from the likely expansion of area wind and solar projects over 40 years resulting from the installation of the Hill Valley 345/138 kV substation	Comment noted. EIS Chapter 4, Cumulative Impacts, has been revised to provide a detailed characterization of the past, present, and reasonably foreseeable future projects that could impact the same resources as the C-HC Project, within spatial and temporal boundaries applicable to this project.
	Kurt	PUB02	I understand that the public RUS meetings have been cancelled because of the government shutdown. It is my understanding that they will be rescheduled at a later date. It was interesting to note that the only daytime meeting was scheduled for Dubuque County. The largest number of objections for the Iowa CHC Franchise application have been filed by Dubuque County Residents to date. To insure that Dubuque County Residents have the same opportunity to attend this meeting as residents in other communities, I urge the RUS to reschedule the Peosta, Iowa meeting to be held in the evening not during the day.	Comment noted. The meeting in Peosta was rescheduled for 5:00 to 7:00 p.m. on March 19, 2019.
	Stroncek	LAND02; SOCIO06	As a land, home and business owner along a proposed route of the CHC high voltage power line, I vehemently oppose this line for many reasons. 1. The proposed line could go directly over my land detrimentally effecting our seventh generation family run, organic, pasture-based farm; Seven Seeds Farm LLC, by taking land out of organic production under the power lines and towers with at least a 200 wide path including a buffer zone. Potentially 8.81 acres (200 ft. x 1920 ft./43560sq.ft.) could be lost for our organic production.	Comment noted. Impacts to agricultural lands and organic farms are presented in EIS Section 3.10.
	Stroncek	LAND02; SOCIO03	Our farm store which sells our organic grass-fed beef, organic pastured pork, chicken and eggs would be negatively impacted by the 160-foot ATC high voltage towers. The negative agritourism could easily discourage enough customers to put us out of business.	Comment noted. EIS Section 3.12 discloses the potential impacts to tourism. EIS Section 3.11 discloses potential impacts to visual quality and aesthetics.
	Stroncek	WLDF01	Our farm has spent the last 14 years returning our land to the way our forefathers found it We have planted 12,000 fruit and nut trees along key-lines (a water control system of 1% grade of berms and swales). We now have developed an extraordinary habitat for birds and other wildlife. I would hate to see this damaged by the ATC lines as herbicides are used in a 150 swath under the line.	EIS Chapter 3 includes the following environmental commitments related to herbicide use: The Utilities will employ a Certified Pesticide Applicator for all herbicide applications within the C-HC Project. The Certified Pesticide Applicators will only use herbicides registered and labeled by the USEPA and will follow all herbicide product label requirements. Herbicides approved for use in wetland and aquatic environments will be used in accordance with label requirements, as conditions warrant. During the easement negotiation, landowners can decline the use of herbicides for vegetation management activities once the line is in operation. Therefore, no herbicides would be applied within portions of the ROW on which the landowner wishes not to introduce it.
	Stroncek	ALT01	Seven Seeds Farm has two arrays of 14 KW of solar PV panels and two arrays of solar hot water panels. We are also sequestering Carbon with our regenerative farming practices as per Gabe Brown, Dirt to Soil. We are doing our part. I firmly believe that the environment would be better served with an emphasis with renewable energy grants for solar, wind and battery storage systems. It would be wise to take the savings from not doing the CHC power line and put it in renewable energy!	Comment noted.
	Stroncek	SOCIO03	The CHC line would desecrate the Driftless region that is an important in bringing tourist dollars to this region.	Potential impacts to visual quality and aesthetics are disclosed in EIS Section 3.11, and potential impacts to social and economic conditions, including tourism, are disclosed in EIS Section 3.12.
	Stroncek	ALT02	The macro-grid concept is outdated because of vulnerability to terrorism and the falling costs of renewable energy. The renewable costs will continue to fall over the next 2 decades making this CHC line appear like a dinosaur of technology.	Comment noted.
	Shay	HAS01	I have reviewed the EIS regarding children's health and chronic exposure to Extremely low Frequency Electromagnetic fields. While I agree that there is no direct evidence that ELF EMF causes Acute Lymphoblastic Leukemia, the study disregards the epidemiological association between exposures of 4 mGauss or more and leukemia. Please review the three attachments for more detailed information, G. Shay The Environmental Impact study considered the effect of extremely low frequency (ELF) electromagnetic field (EMF) on the health of children. Specifically Acute Lymphoblastic Leukemia (ALL). As of this date there is no significant evidence that ELF EMF has a direct causal relationship to ALL in children. However, over the last fifty years there has been a multitude of studies which show an epidemiological association to ALL with a chronic exposure to levels above 0.4 microtesla or 4 mGauss. The association showed a relative risk of 1.4 to 2 The Environmental Impact Study shows the Estimate	RUS has reviewed the reports referenced and Section 3.13 of the EIS discloses information about electric and magnetic fields and human health.

Organization	Commenter Last Name	Comment Code(s)	Comment on DEIS	Agency Response to Comment
			Peak Level for the C-HC Transmission line to be 5.7mG at 300 ft. Attached is a list of studies which evaluated the risks of health concerns. Most do not show a causal relationship between ELF EMF and child hood leukemia, but they express a low concern regarding the risk of cancer and cannot definitively declare that ELF EMF has a zero risk of ALL in children. A few of the studies reaffirm the association between chronic exposure and ELF EMF of 4mG and recommend that studies be continued. Science has great difficulty in proving a negative, but discretion dictates that there should be a 300 ft distance between structures and the midline of a transmission line. PSC 1992 Ruled against taking human health into consideration. The Commission changed because they could not say that health hazards did not exist. World Health Organization. The panel classified power frequency EMF as possibly carcinogenic based on a fairly consistent association between a doubling of risk of childhood leukemia and magnetic exposure above 0.4 micro Tesla or 4mGauss. 2003 National Institute of Environmental Health Sciences IARC. Exposure to 3-4 mGauss may increase the risk of ALL in children. 2015 European Commission Scientific Committee on energy and identified risks. ELF showed increase of childhood leukemia with average daily exposure about 3-4 M Gauss. IARC 2b classification of ELF EMF. Possible carcinogenic 2005	
	Shay	ALT07; HAS01	The PSC in the past has required utilities to provide estimates of magnetic fields that would be generated by a proposed transmission line. In its application a utility must report the number of schools, hospitals, daycare centers and residences within 300 ft of a proposed centerline. The magnetic field levels at 300 ft or more from a transmission centerline are similar to normal background levels. While there is no definitive evidence showing a direct causation of ELF EMF to childhood leukemia, the PSC in approving the C-HC project should make a concerted effort to place the lines no closer than 300 ft to structures where children may be present for a significant amount of time.	Section 3.13 of the EIS discloses information about electric and magnetic fields and human health.
Wisconsin Department of Transportation	Finkenbinder	TRANS02	WisDOT Planning Studies USH 14 Corridor (ATC Northern and ATC Southern Routes) A study was completed in 2010 on the USH 14 corridor from WIS 78 to USH 12/14, Mazomanie to Middleton. The purpose of the study was to collect and distribute environmental, socio-economic, and transportation data concerning USH 14 between Mazomanie and Middleton. The data is to be used as a source of information for future transportation decisions related to the corridor. A needs analysis that defined existing operational deficiencies and determines future corridor needs was conducted. Effective options to preserve the function of USH 14, increase safety, and identify short, intermediate, and long-term strategies and recommendations that will preserve the corridor in its current configuration for as long as possible were suggested. The study states that the majority of USH 14 mainline is to be maintained as a two-lane facility. Within the Cardinal-Hickory Line limits, intersection improvements were recommended at Stagecoach Road, Cleveland Road and Rocky Dell. Stagecoach Road intersection improvements occurred recently along with centerline/shoulder rumble strips between Stagecoach Road and Twin Valley Road. An Access Management Plan is also included in the study. This is a long-term vision for the corridor with goals to protect the function of the highway and preserve safety and capacity. Within the Cardinal-Hickory Line limits, potential new roadway intersections, removal of driveway access, road closures and frontage roads are recommended. No projects are currently planned or programmed for design and the prospect of expanding USH 14 on its current alignment seems low. US 18/151 Corridor (ATC Southern Route) An Environmental Assessment (EA) study was completed in 2013 on the USH 18/151 corridor from Dodgeville to Verona. The purpose of the study was to determine a proposed action to improve the level of safety and functionality as defined as a backbone route in WisDOT's Connections 2030 plan. Highlights and recommendations include the addition of four new interchanges, seven grade-separated crossings, additional frontage roads and eliminate 70 at-grade crossings. The corridor is divided into six sections (south to north), five of which are within the limits of the Cardinal-Hickory Transmission line project. All sections can be designed and constructed independently of the others or any combination when funding becomes available. Once this EA study was approved, WisDOT moved into the mapping phase of the corridor. This phase utilizes Wisconsin State Statute 84.295 (10) to officially map the corridor. This statute provides the DOT the authority to purchase Officially Mapped lands as right-of-way and serves as a link between the planning and preservation process and the final project design. The mapping phase is underway, but has been interrupted by a need to revisit the EA study. A development came forth near Barneveld, WI and affected the proposed alternative as defined in the study. This caused the study to re-evaluate the proposed action in this area. WisDOT Improvement Program, 2017-2022 (ATC and ITC Routes) USH 18/151 (ATC Southern Routes) - A new interchange construction project on the west side of Ridgeway at USH 18/151 and County ID was completed in 2018 - Resurfacing project scheduled for 2022 from Dodgeville to Mt. Horeb on USH 18/151 - Pavement replacement/bridge deck overlay in from STH 23 to USH 18 - New County Salt Storage Facility, south of the USH 151/CTH O interchange or along the east side of USH 151 just north of the STH 23 interchange USH 18/151 (ATC Southern Route Option) - Install new cable guard on USH 18 between Lunde Lane and CTH PB. USH 14 (ATC Northern and Southern Routes) Mill & overlay of USH 14 from Cross Plains to Middleton USH 61 (ITC Northern Routes) - Mill & overlay of USH 61 from Dickeyville to Lancaster of the known projects listed above, the one that will require the most coordination is the new interchange near Ridgeway along USH 18/151 at CTH ID. The applicants shall recognize that their facilities (structures or overhanging wires) constructed within WisDOT highway right-of-way may be in conflict with highway reconstruction or expansion projects in the future that are planned or unplanned. If WisDOT determines that any of the applicants' facilities within the highway right-of-way need to be moved because of such work in the future, the cost of relocating the facilities and planned power outages associated with the relocations will be the responsibility of the applicants	Thank you for your comment. EIS Section 3.8 has been revised to incorporate information provided in Wisconsin Department of Transportation (WisDOT's) comment letter.
Wisconsin Department of Transportation	Finkenbinder	EFF04; TRANS02	Highway Crossings The applicants should make every effort possible to limit the number of highway crossings. When crossings are necessary, the large "90-degree" support structures are not preferable. At the same time, long and gradual crossings should be avoided to reduce the length of transmission line overhang. A balance between the two would be preferred. WisDOT is willing to consider routing through interchanges. However, it is WisDOT's policy that overhead utilities be located as near as practical to the ROW line (UAP 09-15-25 3.1).	Thank you for your comment. Information from the WisDOT public comment letter has been added to EIS Section 3.8.
Wisconsin Department of Transportation	Finkenbinder	EFF04; TRANS01; TRANS02	Bridge Constraints The location of the proposed transmission lines next to existing highway structures is important to consider. There are some areas where future highway expansion is expected and certain highway structures may require replacement or rehabilitation in the future that is currently unplanned. It is reasonable to expect that a crane will be needed to work on these structures. The clearance between cranes and overhead transmission lines should be considered when selecting the final alignment and placement of the Cardinal-Hickory Creek line and structures. WisDOT suggests a 75-foot minimum offset between transmission line and bridges is a reasonable guideline to follow. Crane staging and OSHA offsets should be taken into consideration and may increase the minimum separation needed.	Thank you for your comment. Information from the WisDOT public comment letter has been added to EIS Section 3.8.
Wisconsin Department of Transportation	Finkenbinder	ALT02; EFF04; TRANS01	Clear Zone According to WisDOT's Facilities Development Manual (FDM), rigid structures like the applicants' structures should either be placed outside the clear zone along highways or be shielded from traffic. Clear zone distances vary due to multiple factors including highway design speed, highway traffic volumes, and highway side slopes. WisDOT provides guidance on defining these values in its Facilities Development Manual (FDM) Section 11-15, Attachment 1.9- http://wisconsindot.gov/rdwy/fdm/fd-11-15-att.pdf#d11-15a1.9 . It is important to consider somewhat conservative clear zone values to guard against future unknowns. It is also important to consider the possibility of increased clear zone requirements associated with future highway improvements. Clear zone distances also need to be considered for the work zones that are required for the construction of the	Thank you for your comment. Information from the WisDOT public comment letter has been added to EIS Section 3.8.

Organization	Commenter Last Name	Comment Code(s)	Comment on DEIS	Agency Response to Comment
			transmission line. Though a structure may technically be outside the defined clear zone, the equipment at the construction site required to build the structure may encroach into the clear zone. This equipment, though only a temporary hazard to traffic, needs to be shielded as long as it encroaches into the clear zone. This typically occurs at the structures that are placed just outside the clear zone line. The work zones can be shielded by the installation of a temporary concrete barrier with crash cushions along the paved highway shoulder. Every effort shall be made to minimize the number of locations where this is required by adjusting the size of the work zone.	
Wisconsin Department of Transportation	Finkenbinder	ALT07; TRANS02	There is an area along USH 18/151 just west of Barneveld where the applicant is proposing to route the Cardinal-Hickory Creek line within WisDOT right of way. The transmission line structures in this area would need to be installed within the clear zone. WisDOT opposes this proposal as it would require extending existing guardrail and installation of new guardrail to shield the structures. Increasing and introducing new obstructions within the clear zone is safety hazard to the traveling public and creates additional maintenance responsibilities for WisDOT.	Thank you for your comment. Information from the WisDOT public comment letter has been added to EIS Section 3.8.
Wisconsin Department of Transportation	Finkenbinder	LAND08; TRANS02	Rustic Roads If the Cardinal-Hickory Creek overhead transmission line project moves forward into construction, depending on which route is selected, it may negatively impact several designated "Rustic Roads" in southwest Wisconsin. These roads are identified as Rustic Road 70 and Rustic Road 75. The applicants shall make every effort possible to keep the new transmission line structures as far back from the rustic roads as possible to allow these roads to maintain their rustic designations.	EIS Section 3.8 has been revised to address this comment. A discussion of potential impacts to Wisconsin Rustic Roads has been added.
	Miller	PUB01; PUB02	I talked to you on the phone about the public meetings on the ATC lines that are rescheduled due to the government shutdown. I called the Guttenberg Press In Guttenberg, IA to see if they knew anything or ran any articles on the ATC line and they had no idea what I was talking about. This is small town Iowa and nobody I know in the area knows about this line or the meetings, so I'm glad they have been rescheduled. Apparently only the people whose property is directly affected by the line had to be notified by the company building it. If you could send the dates of the meetings that are going to be rescheduled to news@guttenbergpress.com If you could send them information about the line that would be great also. I will send them the articles I read in the Wisconsin State Journal also. That is how I found out about the project.	Comment noted. In response to this comment, RUS ran a legal notice and display advertisement notifying of the rescheduled public meetings in March in the Guttenberg Press.
	Sharrow	VEG01; WLDLF01	In some cases herbicides and other toxic chemicals will be used to keep the area open at a cost reduced from manual labor and machinery, but at what cost to the environment? And therefore, all along the hundreds of miles of this new ATC line, every plant and animal species that inhabits the area will be put in harm's way.	Comment noted. EIS Chapter 3 includes the following environmental commitments related to herbicide use: The Utilities will employ a Certified Pesticide Applicator for all herbicide applications within the C-HC Project. The Certified Pesticide Applicators will only use herbicides registered and labeled by the USEPA and will follow all herbicide product label requirements. Herbicides approved for use in wetland and aquatic environments will be used in accordance with label requirements, as conditions warrant. During the easement negotiation, landowners can decline the use of herbicides for vegetation management activities once the line is in operation. Therefore, no herbicides would be applied within portions of the ROW on which the landowner wishes not to introduce it.
	Sharrow	SOCIO06	I know from personal experience that people do not want a tower in their backyard. When we first moved to the area, we were looking at houses in the Waunakee area. We loved a particular house we were shown, until we walked into the backyard and saw a huge utility pole! We no longer had to wonder why the price for the house was cheaper than other comparable properties. It hardly needs to be said, but we dropped our interest in that house immediately upon seeing the tower.	Comment noted.
	Davis	OOS02	I hope I'm not too late to strongly object to the proposed ATC lines. My husband has dementia and I'm "no tech" but that doesn't mean that I'm not a firm believer in solar and wind energy.	Comment noted.
	Davis	ALT02	"Forward" is our motto here in Wisconsin. We should not be going backward using what is obsolete before it's even built.	Comment noted.
	Stevenson	OOS02	The foot print of the northern route for the proposed project crosses the farm where my family has lived for the past 45 years. Nearly all citizens in proximity to all proposed routes deeply oppose this project; I am among them. According to its website, the USDA-Rural Utilities Service, "...administers programs that provide much-needed infrastructure or infrastructure improvements to rural communities." I am disheartened that the USDA-RUS contemplates participation in this project.	Comment noted.
	Stevenson	ALT02; NEP02	There is no need for this project in nor will it provide any improvements to rural communities. A project like this sustains an antiquated system of interstate transmission of electrical energy from fossil-fueled power plants over webs of wire. In other parts of the world, systems like these, and those that wish to sustain them, are being abandoned.	Comment noted.
	Stevenson	SOCIO08	I agree that there will be economic benefits from the CHC Project, but only to the trinity of corporate investors that are guaranteed a 10% rate of return. On the other hand, my family and I will lose our farm. We will also pay higher electrical rates in order to maintain profits for these investors. Furthermore, Dairyland intends to request financial assistance from the U.S. Department of Agriculture Rural Utilities Service (RUS) to fund its anticipated 9% ownership interest in the C-HC Project.	Comment noted.
	Stevenson	HAS01	Significant research associates adverse human health impacts with exposure to high voltage power lines.	Section 3.13 of the EIS discloses information about electric and magnetic fields.
	Curran	NEP02	There is data that shows that Wisconsin is steadily decreasing its energy use.	Comment noted.
	Ley	PUB01; PUB02	Nobody calls me or lets me be notified of meetings. This is unjust. I need a call from you guys to have a meeting pacifically about my property of where the power lines are you're suggesting route. Your phone number of contacting does not work.	Comment noted. Follow-up telephone calls have been made.
	Ley	ALT07	Why are you running to residential area. when on the Northside of 18 there is commercial property and open parking lots?	EIS Chapter 2 discusses other routes considered for the C-HC Project.
	Ley	DATA07	Contact me to set up a meeting at 608-574-0299	Comment noted. Follow-up telephone calls have been made.
		NEP02	Please do not complete this line. The energy is not needed and money better spent improving city infrastructure.	Comment noted.
		ALT04	We can take care of our own in rural Wi. Maybe city could do the same; create own.	Comment noted.
	Campbell	AIR04	Continued use of coal, natural gas, and oil (approximately 60%, according to ATC) are not in the best interests of our climate. Why exacerbate an already dangerous global problem when we need to keep the average temperature increase at no more than 1.5 degrees Celsius above that at the	EIS Section 3.6 discloses potential impacts to air quality and climate change.

Organization	Commenter Last Name	Comment Code(s)	Comment on DEIS	Agency Response to Comment
			beginning of the industrial revolution, approximately 1850. Not that we can reverse the climatic processes already in progress, but we can slow the rate of atmospheric pollution by greatly reducing atmospheric pollution from power plant emissions.	
	Campbell	NEP02	Need has not been established, nor has a significant demand for electricity.	EIS Chapter 1 describes the need for the C-HC Project as well as the decisions facing the three Federal agencies that have received loan or permit applications for the C-HC Project.
	Campbell	ALT02	Renewable methods for electric power production are not a major part of ATC's application and this alone is a reason to reject the application.	Comment noted.
	Campbell	SOCIO06	Property values are already being seriously affected by this proposal.	Comment noted. Potential impacts to social and economic conditions, including property values, are provided in EIS Section 3.12.
	Campbell	SOCIO08	The fact that the ATC Cardinal-Hickory Creek proposal is based on the desires of the investors for a guaranteed return of 10.2% per year for 30-40 years, thanks to the ratepayers, clearly indicates ATC's purpose.	Comment noted.
	Ruppena	OOS02	We don't need it, we don't want it!	Comment noted.
	Shoemaker	DATA04	please take me off of the list of stakeholders. Thank you, Scott Shoemaker	Comment noted.
Shakopee Mdewakanton Sioux Community	Wabasha	CUL03	The Shakopee Mdewakanton Sioux Community is concerned with any disturbances of areas of potential historical significance, especially those areas that may contain objects of Dakota Culture, History, or Religion. At this time the Shakopee Mdewakanton Sioux Community chooses to leave direct consultation to the more local area tribes of the region (The States of Iowa and Wisconsin). However, Please keep us informed of the progress of this project.	Comment noted.
	Publiee	HAS01	no I oppose this profiteer going through our national land, putting up electrical transmission which can cause forest fires. look at what has happened to California forests with these electrical units going through forests and starting fires. this needs to stop. let electric lines go through towns where they are watched.	Section 3.13 of the EIS discloses potential impacts to public health and safety that could occur from wildfire.
	Publiee	ALT04	I also favor this area getting solar pout on line to be used instead of electricity. we need to start protecting our world with use of solar on tops of houses and businesses and green roofs, we cannot continue to allows this poisoning of the earth with coal electricity and the mercury it send all over. the mercury is killing us.	Comment noted.
	Kelley	SOCIO08	I am opposed to the creation and funding of the CHC line. I believe the primary impetus for the line is providing profit for the utility companies involved and ATC. The line will provide guaranteed return to ATC in the order of 10-12%. The line will increase costs to rate payers including businesses and private parties. Companies will use this to buy and sell electricity in other markets and generate profit with the benefits going to them not consumers.	EIS Chapter 1 describes the need for the C-HC Project as well as the decisions facing the three Federal agencies that have received loan or permit applications for the C-HC Project.
	Kelley	ALT01; NEP02	The electric demand has been relatively flat in this area. I believe other alternatives especially efforts in increasing energy efficiency would be more worthy of funding and would provide better long term returns.	Comment noted.
	Himmelfarb	NEP02	Long range studies indicate that there is no need for this transmission line, due to dramatic improvements in efficiency of operation. By the time this line would be built, it would be obsolete,	Comment noted.
	Himmelfarb	SOCIO08	but the rate payers would be stuck with paying for it anyway. This is a boondoggle.	Comment noted.
	Alexander	NEP02	The ATC Transmission Line from Dubuque County to Dane County is not needed.	Comment noted.
	Alexander	SOCIO08	It is a burden on the taxpayers of Southwestern Wisconsin and shows no benefit to the residents.	Comment noted.
	Alexander	SOCIO06; WLDLF01	I have property in the alternate route. If it is decided to build on the alternate route it would be catastrophic to my property value not to mention wildlife habitat. My property has rock bluffs that house various animals including bobcats.	Comment noted. Potential impacts to social and economic are provided in EIS Section 3.12. Potential impacts to wildlife are disclosed in EIS Section 3.4.
	Alexander	LAND02	We also have cattle and horses. Construction will affect these animals as well. Noise from the construction could scare the animals and possibly cause injury not mention stray voltage.	Comment noted. EIS Section 3.13 has been revised to include a discussion about stray voltage. EIS Section 3.7 has been revised to disclose potential noise impacts to livestock.
Leech Lake Band of Ojibwe	Burnette	CUL03; PUB03; PUB05	I believe you may have meant to send a separate letter addressed to each tribe with interests in this location rather than this letter you sent to the general public? When we receive the one addressed to our tribe, we could start a review.	Comment noted. The Leech Lake Band of Ojibwe were contacted in April 2019 about participating in the development of the Programmatic Agreement (PA) to satisfy NHPA Section 106 consultation responsibilities for the C-HC Project.
	Bartels	SOCIO03	I live in the driftless region near Platteville, WI 53818 and I don't want the Cardinal Hickory or any other big power lines near us...It would take away from our tourism as we have the world's largest M,	Potential impacts to visual quality and aesthetics are disclosed in EIS Section 3.11, and potential impacts to social and economic conditions, including tourism, are disclosed in EIS Section 3.12.
	Bartels	HAS01	and health issues due to unnecessary voltage coming near us and our animals	Section 3.13 of the EIS discloses information about electric and magnetic fields.
	Bartels	SOCIO06	Also, our properties would be reduced in value with these monsters near us...we would get nothing from this power?	Comment noted. Potential impacts to social and economic conditions, including property values, are provided in EIS Section 3.12.
	Bartels	SOCIO08	The few that make money from this, it wouldn't pay for what we would have to put up with in the long run.	Comment noted.
	Klar	HAS01	As a nurse I would like to voice my opposition to the Cardinal Hickory Creek EIS lines. They pose a danger to citizens that will be located near them. Peer reviewed articles state very clearly that they are a health risk. Please do not approve them.	Comment noted. Potential impacts to human health are disclosed in Section 3.13 of the EIS.
	Born	SOCIO07	The regional character of the Driftless region in southwestern Wisconsin - through which the Cardinal-Hickory transmission line would transect - is unique, not only ecologically and geologically, but also in terms of the region's people and communities. Having taught regional planning at the University of Wisconsin-Madison for many years, the importance of a region having a psychic identity in the minds of people and institutions is a critical factor in regional definition. The Driftless region exhibits that key characteristic - so much so that it has taken on a brand name in promoting ecotourism, the regional economy, and the overall quality of life. The maintenance of this regional character will be increasingly important to the	Comment noted. Potential impacts to social and economic conditions, including property values and tourism, are provided in EIS Section 3.12. Potential impacts to visual quality and aesthetics are disclosed in EIS Section 3.11. Potential impacts to social and economic are provided in EIS Section 3.12.

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			growth of recreation, tourism, and sustainable agriculture in the future. I cannot imagine any way that the proposed large-scale transmission corridor can do anything but diminish the regional character and identity of the Driftless.	
	Born	REC01; WAT02	he lighter-impact outdoor recreational activities - canoeing, kayaking, hiking, biking, birding, and angling - have found a "home" in the Driftless and are growing. These activities are dependent on the natural resource and scenic characteristics of the area, and have a positive consequential economic impact for people and communities within and near the region. Trout fishing is a good example. Trout depend on cold, clean and productive waters. The spring creeks laced through Driftless watersheds are one of the rarer and most vulnerable types of surface water resources in the world, and yet are abundant in the region, with thousands of miles of such streams available to recreationists (Born, Mayers and others, "Exploring Wisconsin Trout Streams", University of Wisconsin Press, 2014).	Comment noted. EIS Section 3.10 discloses potential impacts to recreation areas and Section 3.5 discloses potential impacts to water resources, including trout streams.
	Born	REC01; SOCIO03	A 2016 report released by the national conservation organization Trout Unlimited ("The Economic Impact of Trout Angling in the Driftless Area") indicates that total spending and economic impacts of recreational angling in the Driftless largely of Wisconsin, Iowa and Minnesota exceeds \$1 BILLION annually, and is growing. The environmental resources underpinning such recreational activities have been sustained, enhanced and restored by many partners over past decades. There has been a high level of investments by state and local governments, non-profit conservation organizations, local sports clubs, and private interests and landowners in stream improvement projects, wetland protection and restoration, prairie and woodland restoration, fisheries management, and public access. Millions of dollars and many thousands of hours of "sweat equity" by people who love and use the Driftless in myriad ways are part of the region's heritage.	Comment noted. EIS Section 3.10 discloses potential impacts to recreation areas and EIS Section 3.12 discloses potential impacts to tourism.
	Born	REC01; VIS01	One of the greatest losses associated with a major transmission line across this special region is the degradation of scenic and amenity resources. While the beauty of the area can be taken for granted, it is central to the region's character and life. Damage to these resources would diminish the recreational user and tourist's experience,	EIS Section 3.10 discloses potential impacts to recreational areas and Section 3.12 discloses potential impacts to tourism.
	Born	SOCIO06	as well as property values for many landowners Because these highly-valued scenic resources are among the surest victims of a huge transmission line, those impacts should be thoroughly and carefully assessed in the review process for the transmission line.	Comment noted. Potential impacts to social and economic conditions, including property values and tourism, are provided in EIS Section 3.12. Potential impacts to visual quality and aesthetics are disclosed in EIS Section 3.11.
	Born	NEP02	Finally, as a former Wisconsin State Energy director back in the 1970s, I hope the PSC will be especially diligent in its review of the need for this line, given flat demand and a changing energy picture in the imminent future.	Comment noted.
Cherokee Nation		CUL03	Wisconsin and Iowa are outside the Cherokee Nation's Area of Interest. Thus, this Office respectfully defers to federally recognized Tribes that have an interest in this landbase. Many thanks for the opportunity to comment upon this proposed undertaking.	Comment noted.
	Symon Hanson	OOS02	It would be a terrible thing to bring the proposed transmission line of ATC and its collaborators to southwest Wisconsin.	Comment noted.
	Symon Hanson	DECI06; VIS01	NATURAL BEAUTY/LAND USE PLAN: If you were to bring decision-makers to this area and drive the ridgetops, you would be able to see for miles in all directions, following the wooded hills, the nestled farms, fertile fields tilled by family farmers for a century – a gorgeous countryside. The huge towers would be an obstruction visible from every direction. Written into our Land Use Plan Section III 2. A. Recognize the critical role that farmland, open space, historical, architecture, scenic vista, landscapes and riverscapes, natural resources and designated features, scenic roadsplay in defining and enhancing the Town's distinctive rural character.	Comment noted. Potential impacts to visual quality and aesthetics are disclosed in EIS Section 3.11.
	Symon Hanson	LAND02	LOSS OF FARMLAND: The northern alternate route would cut across the farms of many of our friends and neighbors, Even the route along the highway would result in the loss of some agricultural land. Section II 1. Protect the lands suited for agricultural use in the Town so that the family farm and the Town's distinctive rural character and economic base may be preserved. I am not sure of the boundaries of the northern alternate route, but other townships in the area should have farmlands protected as well.	Comment noted. EIS Section 3.10 discloses potential impacts to prime farmland and farmland of statewide importance.
	Symon Hanson	LAND02; WLDLF01	PESTICIDES: We are already seeing the loss of bees harming our local honey producers. I understand pesticide use to clear the understory of the towers is widespread. Butterflies and other pollinators including bird species will be harmed.	Comment noted. EIS Chapter 3 includes the following environmental commitments related to herbicide use: The Utilities will employ a Certified Pesticide Applicator for all herbicide applications within the C-HC Project. The Certified Pesticide Applicators will only use herbicides registered and labeled by the USEPA and will follow all herbicide product label requirements. Herbicides approved for use in wetland and aquatic environments will be used in accordance with label requirements, as conditions warrant. During the easement negotiation, landowners can decline the use of herbicides for vegetation management activities once the line is in operation. Therefore, no herbicides would be applied within portions of the ROW on which the landowner wishes not to introduce it.
	Symon Hanson	SOCIO03	TOURISM: Southwest Wisconsin, particularly the Driftless Area, attracts tourist business in great part because of the natural beauty noted above.	Potential impacts to visual quality and aesthetics are disclosed in EIS Section 3.11, and potential impacts to social and economic conditions, including tourism, are disclosed in EIS Section 3.12.
	Symon Hanson	ALT02	EFFICIENCY: We know electricity is most efficient when used closer to its generators. It loses power over miles of wire. We have sufficient power generating capacity in Wisconsin much closer to communities using it.	Comment noted.
	Symon Hanson	ALT02	SUSTAINABILITY: While the line might carry some solar and wind generated electricity, the majority is still fossil fuel power.	Comment noted.
	Symon Hanson	SOCIO08	PROFIT MOTIVE: When profit is guaranteed it becomes the driving force behind these kinds of proposals. It seems to me a government promise of around 10% profit on the construction costs cannot result in economical decisions	Comment noted.
	Symon Hanson	NEP02	FALLING DEMAND: Finally, demand for electricity is flat or falling while population increases as more and more efficiencies are developed for commercial and household needs. Thank you and I urge you to reject this power transmission line.	Comment noted.

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	Spicer	ALT04	As a landowner, bnb operator, Town Treasurer, family man and small farmer I see no reason for this transmission line to be built. Let's turn a new page and head in the renewables direction, more local generation, and more conservation.	Comment noted.
	Spicer	OOS02	Let's preserve our landscape, we only get one chance at that. When Dr. Benjamin Spock M.D. ran for president he said, " It seems like a lot of what we call progress is really pollution." This falls in that category to me, and is extremely ugly to boot.	Comment noted.
	Conlon	NEP02	In regards to the proposal to put in giant power lines throughout Iowa and Wisconsin, I'm writing to voice my vehement opposition to this foolish proposal. The need for these power lines doesn't exist. The future is in renewable energy.	Comment noted.
	Conlon	REC01; REC04; SOCIO03	These lines would run right through the Driftless area — one of Wisconsin's most scenic landscapes, an important conservation resource, and home to such tourist attractions as American Players Theatre, Frank Lloyd Wright's Taliesin, the House on the Rock, and Blue Mound and Governor Dodge state parks. It is unconscionable to me that one of the most beautiful and unique areas in this country would be destroyed by hideous and unnecessary power lines.	Comment noted. EIS Section 3.10 discloses potential impacts to recreation areas and EIS Section 3.12 disclosure potential impacts to tourism.
	Wyman	NEP02	Consumption of electricity this side of the Mississippi River has been decreasing for the last 8 years. An additional line coming down from northeast of the proposed Cardinal Hickory Creek route is already being built with questionable need. Interest in and installation of local renewable energy sources in Wisconsin and Illinois are increasing rapidly, further decreasing justification for this line. The Cardinal Hickory Creek line would more logically head west where it might provide needed electricity for the future. However, NO further electric lines crossing the Mississippi River to run across Wisconsin can be justified!.	Comment noted.
	Conlon	REC01	My family owns a property on County Road Z in Wyoming Township near Spring Green, WI. The pristine beauty and natural habitats that are so important to the residents of the Driftless area of Wisconsin will be ruined by a high voltage power line.	Comment noted. Potential impacts to visual quality and aesthetics are disclosed in EIS Section 3.11.
	Conlon	NEP02	The power line is not needed, and is not in keeping with the forward-thinking residents of this area who know that there are other solutions to any "problem" this proposal is trying to alleviate. It will cost too much money and spoil one of the most beautiful places in the midwest. NO NO NO!	Comment noted. Potential impacts to visual quality and aesthetics are disclosed in EIS Section 3.11.
Iowa Department of Natural Resources	Moore	EFF04; VEG02; WLDF04	The Department has searched for records of rare species and significant natural communities in the project area and found no site-specific records that would be impacted by this project. However, these records and data are not the result of thorough field surveys. If listed species or rare communities are found during the planning or construction phases, additional studies and/or mitigation may be required.	Comment noted.
Iowa Department of Natural Resources	Moore	LAND08; REC04	This letter is a record of review for protected species, rare natural communities, state lands and waters in the project area, including review by personnel representing state parks, preserves, recreation areas, fisheries and wildlife but does not include comment from the Environmental Services Division of this Department.	Thank you for your review.
Iowa Department of Natural Resources	Moore	DEC110	This letter does not constitute a permit. Other permits may be required from the Department or other state or federal agencies before work begins on this project. Land or water under the jurisdiction of the State of Iowa is involved in the project area; therefore, a sovereign lands construction permit pursuant to Chapter 461A of the Iowa Code will be required for this project. Information about obtaining a permit is available from the Department website at: https://www.iowadnr.gov/Environmental-Protection/Land-Quality/Sovereign-Lands-Permits Please reference the following DNR Environmental Review/Sovereign Land Program tracking number assigned to this project in all future correspondence related to this project: 16428. If you have questions about this letter or require further information, please contact me at (515) 725-8464. Environmental Review requests can be submitted electronically to: SLER@dnr.iowa.gov	Comment noted.
	Karbusicky	DEC113	We are writing in OPPOSITION to the proposed Cardinal Hickory Creek power line.	Comment noted.
	Karbusicky	SOCIO08	The driving force is companies and corporations (in particular ATC), who are pushing this in order to make hundreds of millions of dollars, perhaps even billions, at the expense of hundreds of thousands of local residents and their future generations of families and community members. This is an age-old story: An outside entity, coming in to exploit & extract local resources, upsetting the balance of human & ecological lives - and then walking away with tons of money to put into 5th vacation homes for wealthy owners, CEO's, and VP's of large corporations & companies.	Comment noted.
	Karbusicky	NEP02	The driving force behind the project is clearly NOT an inherent need for more local electric power.	Comment noted. EIS Chapter 1 describes the need for the C-HC Project as well as the decisions facing the three Federal agencies that have received loan or permit applications for the C-HC Project.
	Karbusicky	ALT02	This whole project is predicated on OUTDATED energy sources! The lines may be completely obsolete just 15 years after completion! If that happens, then we have scarred the landscape, ruined lives, and spent zillions of dollars FOR NOTHING.	Comment noted.
	Karbusicky	DEC113	Citizen opposition to this project is OVERWHELMING. Farmers don't want it. Country residents don't want it. Parents don't want it. Environmentalists don't want it. Hunters and conservationists don't want it. Health experts don't want it. Local townsfolk don't want it. So...we're going to ignore all of this opposition, and build it anyway?? "That dog don't hunt."	Comment noted.
	Karbusicky	SOCIO03	This project will DEGRADE THE ECONOMY of SW Wisconsin. The area depends more and more on tourism, organic farming, outdoor pursuits, and the like. This project will destroy the appeal of this area of the state as it pertains to those purposes.	Potential impacts to visual quality and aesthetics are disclosed in EIS Section 3.11, and potential impacts to social and economic conditions, including tourism, are disclosed in EIS Section 3.12.
	Karbusicky	DEC101	Government needs to be responsive to the people. If people are going to regain their trust in their government, then these comments should be given ACTUAL WEIGHT. If this line is built anyway, in spite of obvious & widespread opposition from the people who will be affected the most, then people's cynicism about their government WILL BE JUSTIFIED. PLEASE DO NOT GRANT THE PERMIT for this project!	Comment noted.
	Dettwiler	DEC113	I write to strongly URGE this project be REJECTED.	Comment noted.
	Dettwiler	NEP02	My first objection to the line is in response to the fact that the U.S. Department of Energy data shows that electricity use in Wisconsin has declined. With that data in mind, why in the world would we need MORE expansion of transmission lines?	Comment noted. EIS Chapter 1 describes the need for the C-HC Project as well as the decisions facing the three Federal agencies that have received loan or permit applications for the C-HC Project.
	Dettwiler	VIS01	We have watched with great angst and nausea as we drove the interstates north and northwest in the past two years because we saw the ruthless way paths were made for the vehicles preparing the transmission lines; additionally the workers ravaged the trees and vegetation (even through the	Comment noted. The environmental commitments listed in EIS Section 3.1 include measures to avoid, minimize, or mitigate impacts to vegetation and other resources.

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			edge of a tree farm!) and clipped off branches that might interfere with lines in the future. The horrendous mess to the growth of any grass, bushes, trees, and brush was boldly apparent. Trees were demolished and left to lay. This past summer we saw the trees/logs were piled in wedges so assumed something would be done — at least for wood pulp — to make use or recycle that wood. This fall, the piles remained and they are left to rot. My biggest objection is the look of the poles: they are ugly brown and huge. They carry a minimum of eight cables and they are placed every one-quarter mile; additionally, in some cases they are very close to the road. They are clearly disrupting the beauty of our state.	These commitments would be included in, and thereby enforced by, applicable permits, authorizations, and orders issued by Federal and state agencies. These commitments may be revised as permits, authorizations, and orders actions are reviewed and issued, if deemed appropriate by the various decision-makers. Potential impacts to visual quality and aesthetics are disclosed in EIS Section 3.11.
	Dettwiler	VIS01	Must we have such grotesque poles and cables everywhere in our state/country? Can't we preserve beauty for beauty's sake?	Comment noted.
	Dettwiler	SOCIO08	And is it fair that a private company get to financially benefit from such annihilation, while the landowners and people living in that area have to financially support it? Whose pocketbook is going to get fatter because of this decision?	Comment noted.
	Dettwiler	SOCIO01	The economic impact and destruction of the environment are unavoidable results.	Comment noted.
	Dettwiler	NEP02	The demand for more energy is far from an established fact.	Comment noted.
	Dettwiler	SOCIO02	I am sure that the construction process employs a large number of skilled workers, and that is a good thing for the state's economy. It would be my guess that the majority of these workers do not come from our state. Most of them will leave us and move on to the next project.	Comment noted.
	Dettwiler	SOCIO03	What concerns me most is the impact on the homeowners, landowners and businesses that will be directly and negatively affected by what this project will leave behind. People who have spent their lives building businesses, farms and homes — who have been great stewards of the land and strong, faithful and generous supporters of their local towns and communities — will see the value of their efforts significantly diminished.	Comment noted. Potential impacts to social and economic are provided in EIS Section 3.12.
	Dettwiler	LAND08	The Driftless ecosystem is a natural environment that must be protected in the same way as areas like the Everglades, the forests of Northwestern United States, or any one of our national parks.	Comment noted. The Driftless Area is described in various sections including Section 3.2, 3.3, and 3.4.
	Dettwiler	VIS01	Those who live here, and have always lived here, will see their world of beautiful landscapes and picturesque natural features greatly diminished.	Comment noted.
	Dettwiler	SOCIO04	the majority of the residents of the Driftless region are middle-class families, and what they will gain from this power line project is higher electric rates and a far-less attractive environment for generations to come.	Comment noted.
	Dettwiler	VIS01	The towering poles are unsightly, the clear-cutting of trees and vegetation leaves the corridor bare and disfigured.	Comment noted.
	Dettwiler	DECI13	I strongly urge you to reject the proposed Cardinal-Hickory Creek power line project.	Comment noted.
	Harms-Myers	ALT01; LAND03	I wanted to voice my opposition to the alternative route near/thru Platteville Wi. We have a horse boarding facility that would be affected by the alternate route. We have recently had stray voltage issues due to the natural gas lines/sub-station that is on the corner of our property. I am concerned with the high voltage transmission lines, this will also give us stray voltage. We board about 20 horses, so this would greatly affect our income for the farm.	Comment noted. The topic of stray voltage is addressed in EIS Section 3.13.
	Clougherty	SOCIO03; VIS01	The area is a unique geographic and natural environment; environmentally unique in all the world. This unique natural environment, the Driftless Region, itself accounts for much of the tourism in the area. And the unspoiled rural nature of the region account for most of the rest. The proposed towers will change the impression those tourists have of the area, dramatically reduce tourism, and that loss of traffic will harm the area's businesses.	Comment noted. Potential impacts to social and economic conditions, including property values and tourism, are provided in EIS Section 3.12. Potential impacts to visual quality and aesthetics are disclosed in EIS Section 3.11.
	Clougherty	SOCIO08	Some of the rationale I have heard at area meetings is that this is an attempt to save costs / reduce expenses, and that it will improve grid reliability. But my understanding is that local residents, like me, will be required to pay for the cost of the project as part of, or another fee, on our electric bills.	Comment noted.
	Clougherty	NEP02	I also understand that Wisconsin ranks very highly for electrical transmission reliability, so not sure why adding a power line through this environmentally sensitive region is necessary.	Comment noted. EIS Chapter 1 describes the need for the C-HC Project as well as the decisions facing the three Federal agencies that have received loan or permit applications for the C-HC Project.
	Clougherty	ALT06	If the power transmission company needs more transmission capability, I believe running those lines in another area, like through Northern Illinois, would be a better solution.	Comment noted. EIS Chapter 2 discusses other routes considered for the C-HC Project.
	Koel	SOCIO08	On one side is a company that believes it will make a profit by building this infrastructure. On the other are businesses and homeowners that will be burdened with the cost, without real benefit, and lose tourism dollars due to the presence of the towers on the landscape.	Comment noted.
	Koel	NEP02	My concern is that these huge caissons are not needed in the area. Electric demand has dropped in the Midwest and the Northeast market is moving to the REV (http://www3.dps.ny.gov/W/PSCWeb.nsf/All/CC4F2EFA3A23551585257DEA007DCFE2?OpenDocument) initiative.	Comment noted. EIS Chapter 1 describes the need for the C-HC Project as well as the decisions facing the three Federal agencies that have received loan or permit applications for the C-HC Project.
	Koel	ALT02	This infrastructure appears to be a waste of money, time and materials based on archaic thinking.	Comment noted.
	Koel	SOCIO03	Once in place these structures will impact businesses and residents of the "driftless" area that rely on tourism dollars and will be difficult to remove when obsolete.	Potential impacts to visual quality and aesthetics are disclosed in EIS Section 3.11, and potential impacts to social and economic conditions, including tourism, are disclosed in EIS Section 3.12.
	Koel	SOCIO08	To add insult to injury these very people will be responsible for the cost of the abandoned-plant incentive if they are successful in stopping the project.	Comment noted.
	Koel	HAS01	These huge towers are a perfect target for terrorist attacks.	Comment noted. EIS Section 3.13 has been revised to address public comments about potential impacts from security breaches.
	Koel	SOCIO01	I would rather see Wisconsin's share of \$72 million spent on resilient micro-grids based on renewable sources.	Comment noted. As discussed in EIS Chapter 2, Section 2.2.2, non-transmission and low-voltage alternatives are not responsive to the applications to which the Federal agencies are responding, nor do they meet the six-point purpose and need described in EIS Chapter 1. The Federal EIS considers alternatives that are ripe for Federal

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				consideration. What that means is that a proposal has been made for those alternatives or that it is reasonably foreseeable that they could be implemented in a time frame that would meet the need for the Federal action. Transferring to decentralized microgrids is beyond the scope of the Federal agencies' decisions and the analysis in the Federal EIS.
	Ludington	DECI13; NEP02	The proposed Cardinal - Hickory Creek(CHC) power line is not needed and not wanted.	Comment noted.
	Ludington	SOCIO08	We know the line will benefit shareholders of ATC by providing a 10% guaranteed profit.	Comment noted.
	Ludington	NEP02; SOCIO08	We are told this line improves electrical grid reliability. Studies have shown that smaller power grids are more stable for the rural areas such as ours keeping service costs lower. Wisconsin already has among the nations' most reliable power grids. Demand for electrical power is flat. ATC claims it will lower costs for consumers. ATC has built many of these mega projects in the state. Even so, Wisconsin remains one of the most expensive states regarding electricity.	Comment noted.
	Ludington	OOS02	What a travesty and the destruction to our earth, our heritage for us and future generations.	Comment noted.
	Ludington	VIS01	Southwestern Wisconsin will be changed forever with the unsightly towers impacting our landscape.	Comment noted.
	Ludington	REF01	We have experienced the immense sadness and grief of the destruction of the ATC Badger Coulee line that litters our Wisconsin's unique landscape and ecosystems.	Comment noted.
	Ludington	SOCIO03	Wisconsin has long been a destination for tourism. The reason people travel to Wisconsin is in large part due to its unique scenery, natural beauty and ecosystem. The landscape the glaciers designed are world renowned and should not be devastated by the opportunistic ATC CHC proposal.	Potential impacts to visual quality and aesthetics are disclosed in EIS Section 3.11 and potential impacts to social and economic conditions, including tourism, are disclosed in EIS Section 3.12.
	Ludington	SOCIO03; SOCIO06	We have already experienced challenges to property sales and would expect lower property values, and less tourist interest in our area impacting all of our land use plans.	Comment noted. Potential impacts to social and economic conditions, including property values and tourism, are provided in EIS Section 3.12.
	Eide	ALT01; SOCIO07; VEG01	Our property is long and narrow along County Road Z on the first proposed northern ATC route. We were on the blue line. If a transmission line went through our land, it is so narrow that there would barely be anything left of the forest or prairie.	Comment noted.
	Eide	HAS01	And our home would be unhealthily close to the line.	Comment noted.
	Eide	NEP02	Is the need that great? Is there really a need at all?	Comment noted.
	Eide	OOS02	I grew up in Oregon, Illinois in northern Illinois, at the very southern tip of the driftless region, on a very large wooded acreage for which my father was forester. Nature has ALWAYS been a large part of my life, ALWAYS. I was a public school art teacher for 37 years, the last 19 in Wisconsin where I became more involved in Environmental Education, representing my teachers through teachers' union positions and our negotiation team. You see I also have a strong belief in FAIRNESS. My husband and I have been driving an hour each way to our jobs just so we can live where we do, on the lip of the beautiful and vast Wyoming Valley, north of Dodgeville WI. When we bought our home with a few acres, we purchased it WITHOUT huge towers and high voltage transmission lines. We moved here to escape that type of crowded, cluttered environment in the city. We moved to a unique and quite land, abundant with wildlife, forests, bluffs and prairies. We very much want our area to remain as it is. For the 23 years we have lived here we have cared for our forest habitat and the lives it supports. For 20 years we have been working on our prairie restoration, and most recently we have created a hopping, little wetlands habitat. With many many species of frogs, pickerel included. Last summer again a nest of hawks were hatched right at the edge of our woods. A fledgling landed on our deck rail. You can see that we have a strong relationship with our land.	Comment noted.
	Eide	ALT01	Alternatives to this line have not been adequately explored.	Comment noted.
	Eide	NEP02	Is it not needed, except for making excessive and unfair profit?	Comment noted.
	Eide	WLDLF01	The environmental impact is enormous. Wildlife already struggling to hold on to the habitat will lose even more at the hands of man. But man can prevent this.	Comment noted. Potential impacts to wildlife are disclosed in EIS Section 3.4.
	Eide	VIS01	It certainly is not aesthetically appealing.	Comment noted.
	Eide	SOCIO03	It will harm our tourism industry which is largely based on the beauty of this area.	Potential impacts to visual quality and aesthetics are disclosed in EIS Section 3.11, and potential impacts to social and economic conditions, including tourism, are disclosed in EIS Section 3.12.
	Eide	SOCIO07	The history of this area doesn't include giant electric towers.	Comment noted.
	Eide	SOCIO06	Property values will suffer more than they already have.	Comment noted. Potential impacts to social and economic conditions, including property values, are provided in EIS Section 3.12.
	Eide	HAS01	These lines are unhealthy. Who would want to live near one?	Comment noted.
	Eide	SOCIO08	Our people owning land and homes here will have to pay more in rate hikes and receive no advantage from this line, just a nasty scar on the land. * Why should any of us have to give up our land for this unnecessary project especially if it comes down to condemning it for eminent domain. This transmission line is not the right thing to do.	Comment noted.
	Hanson	REC03	Please accept this email as my comments on the Draft EIS for the proposed Cardinal-Hickory Creek powerline. I have been a member of the Ice Age Trail Alliance since 1989 and have been actively volunteering or working on the Ice Age Trail since 1991. I have hiked every existing segment of the Ice Age Trail in southern Wisconsin, including those in Dane County many times. I have also hiked all of the lands that are owned for the Ice Age Trail in Dane County where no trail has yet been constructed. So I know the Ice Age Trail, and the views to be enjoyed from it, very well. The Draft EIS does not adequately address impacts of the proposed powerline on the Ice Age National Scenic Trail (IAT). The impact of the powerline	Potential impacts to visual quality and aesthetics are disclosed in EIS Section 3.11. Visual simulations were developed with input from the NPS to determine sensitive locations along the trail and visual impacts from those locations. Further, it was determined that major visual impacts would occur from two KOPs, which represent important viewsheds.

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			would be worse than "moderate" because it would interfere with numerous views of perhaps the most scenic feature of the entire thousand-mile Ice Age Trail--Blue Mounds. Native Americans called them Mu-cha-wa-ku-nin or Smokey Mountains. Today we call them Blue Mounds. Wisconsin's first scientist, Increase Lapham, wrote that Blue Mounds, "were very important landmarks to guide the traveler in his course through the boundless prairies." This includes 10,000 years of pedestrian use on the Ancient Trail that existed between the mouth of the Wisconsin River and mouth of the Milwaukee River.	
	Hanson	EFF02; REC03; VIS01	Blue Mounds remain an inspirational landmark to users of the Ice Age Trail. Like a distant guidepost, Blue Mounds are visible from at least a dozen places on existing and future segments of the Ice Age Trail in Dane, Columbia and Sauk counties. Two of the viewpoints include the ridge above the Village of Cross Plains, 11 miles from Blue Mounds, and from 29 miles away on the Ice Age Trail at Sauk Point in Devils Lake State Park. Farther south, Blue Mounds are visible from part of the Montrose Segment of the Ice Age Trail as well. The map below shows the location of a few of the views of Blue Mounds from the Ice Age Trail. Most if not all of these and other views of Blue Mounds would be tarnished and degraded by the Cardinal-Hickory Creek powerline, if built. The Draft EIS fails to address impacts on most of these individual views of Blue Mounds from the IAT and fails to address the cumulative effect on the overall IAT of so many tarnished IAT views. Given this tremendous impact on the IAT and this shortcoming in the analysis, the Cardinal-Hickory Creek powerline should not be built. Let me know if additional information is needed from me.	Potential visual impacts to Blue Mound State Park as well as the Ice Age National Scenic Trail (NST) are disclosed in Section 3.11.
	Day	NEP02; SOCIO06	I am opposed to this project, either route, although the alternate (which I believe is still very much in play) would run right through my town, a block from my house, taking up farmland and disfiguring the beautiful rolling hills. Property values will tank. BUT, the bottom line is, it is NOT NEEDED.	Comment noted.
	Day	DECI13	We should have a say in this because we will be paying for it, whether it is approved or not. That alone tells a sad story of greed and corporate insensitivity. Good common sense, which is rare these days, should prevail and I trust the decision will be made in the best interest of taxpayers/residents to REJECT this proposal!	Comment noted.
	Borns	LAND01; LAND09; REC01	I write to you today to express my opposition to the proposal made by ATC/ITC/Dairyland Power Coop to locate a high voltage electric power line between Dubuque, Iowa and Middleton, Wisconsin. The southwestern region of Wisconsin is also known as the Driftless area—a fragile and important landscape. The proposed line would traverse the entire Driftless area to the eastern terminus in Middleton which is the headwater of the renowned Black Earth Creek. The Driftless area contains miles of beautiful, fragile environments including wetlands, high quality prairies and provides a home for many people and creatures. The 170' towers would be constructed along a 150' wide corridor that will be poisoned periodically to provide access for utility workers.	Comment noted. Impacts to prairies and wetlands are presented in Section 3.3, and impacts to streams are presented in Section 3.5.
	Borns	REC01; SOCIO03; VIS01	The visual as well as unseen consequences of this intrusive power line are many. Tourists come to this area —stimulating the economy because of the natural beauty which will be marred by this parade of ugly towers. Where is the cost of this social impact accounted for in the ATC proposal??	EIS Section 3.12 discloses potential impacts to tourism.
	Borns	SOCIO03; WAT01; WAT03	We live in the Town of Vermont—an area of rolling hills and wetlands. The town of Vermont is in the Black Earth Creek Watershed (BECW)—a valuable resource for the entire area, state and beyond. No matter which route the proposed power line would take, it will adversely affect the watershed. Black Earth Creek Watershed is 103 square miles named for the Class 1 trout stream so important to the vitality of the entire area and beyond. Why is this watershed important?? BEC is an important asset to the area—bringing visitors to fish, bird watch, walk, hike, bike along the creek, these visitors enhance the economic vitality of the communities, and come here to enjoy the beauty of the area BEC is already recognized as an important environmental asset: State of Wisconsin selected BEC as a "Priority Watershed" in the 1990's investing over a million dollars in stream improvements	Comment noted. Potential impacts to water resources, including watersheds, are disclosed in EIS Section 3.5.
	Borns	SOCIO05; SOCIO06; VIS01	One of the reasons visitors come here is because of the aesthetics—the beauty of the place—the connection to open spaces, clean waters and freedom from excessive noise and unwanted visual pollution Individual homeowners, including us, are concerned about effects of intrusion on our properties, loss of privacy and diminished land values. Real estate values and potential home sales have already taken a nose-dive since the path designated by the dreaded BLUE LINE has been published.	Comment noted. Potential impacts to social and economic conditions, including property values and tourism, are provided in EIS Section 3.12. Potential impacts to visual quality and aesthetics are disclosed in EIS Section 3.11.
	Borns	ALT04; NEP02	Furthermore, good arguments can be made about whether there is a necessity for this line—lower power usage, emphasis on local, small scale power production. Indeed we installed solar panels in spring of 2017 and we are not alone in this endeavor.	Comment noted.
	Borns	ALT01; LAND01	Over 400 acres of forest Land will be impacted by the Alternate route—where is cost of that degradation being accounted for?? I urge abandonment of this project	Comment noted. Potential impacts to vegetation, including forests, are disclosed in EIS Section 3.3.
	Laufenberg	WLDLF01	We will be negatively impacted by the proposed Cardinal Hickory Creek Voltage Transmission Lines as follows: We live within 100 yards of section U02 of the proposed alternative transmission line route, and we own a 35-acre parcel, which includes a future homesite, adjacent to section T05 of the proposed transmission line route. Section U02 concerns: - Effects on wildlife: The section U02 proposed alternative transmission line route runs within 100 feet of the Sugar River tributary. The Sugar River tributary holds a variety of habitat environments for many species of wildlife. The habitats that are very close to section U02 of the proposed route include wooded and wetland areas. The land holds nesting grounds for sandhill cranes, Mallard ducks, wild turkey, owls, deer, fox, and many other species of wildlife.	Comment noted. Potential impacts to wildlife are disclosed in EIS Section 3.4.
	Laufenberg	WLDLF01; WLDLF02	We also see many bald-headed eagles and vultures hunting the Sugar River tributary area along this section of the proposed route. The Sugar River tributary area is a stopover for many species of migratory birds during the spring and fall of each year. The many species of migratory birds include geese, ducks, and cranes. They land in the wetlands and fields along the tributary for water and food along their way to and from their northern summer feeding grounds. Some of them stay and nest here for the entire summer, and many stop over for a day or two on their way up north. Our biggest concern for the wildlife are for the sandhill cranes and eagles. According to the International Crane Foundation, the biggest enemy of the sandhill cranes are high power lines. Their flight takes them directly through the space the power lines occupy. We have a pair of sandhill cranes that nest each year along the Sugar River within 150 feet of the proposed route U02. The young cranes feed in the fields directly beneath where the power lines would run. After watching the bald-headed eagles hunting on our land in this section, we can verify that they use a lot of air space to hover over the land, and we often see them gliding and hovering exactly where the power lines are proposed in section U02.	Comment noted. EIS Section 3.4 discloses potential impacts to bald eagles and other migratory birds (including sandhill crane).
	Laufenberg	WAT03; WLDLF01	If herbicides are used in the ROW area, they will run off into the Sugar River tributary, since the landscape declines between the ROW area and the river in this part of proposed section U02. This will most definitely be a health concern to all wildlife living in the river and drinking from the river. * How will this concern be addressed in the final Federal EIS? -	Environmental commitments are disclosed in EIS Section 3.1. Specific to herbicide use, the Utilities will employ a Certified Pesticide Applicator for all herbicide applications within the C-HC Project. The Certified Pesticide Applicators will only use herbicides registered and labeled by the USEPA and will follow all herbicide product label requirements.

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				Herbicides approved for use in wetland and aquatic environments will be used in accordance with label requirements, as conditions warrant. During the easement negotiation, landowners can decline the use of herbicides for vegetation management activities once the line is in operation. Therefore, no herbicides would be applied within portions of the ROW on which the landowner wishes not to introduce it.
	Laufenberg	SOCIO06; VIS01	Effects on Quality of Life: As stated above, we live extremely close to the alternate proposed section U02. This route is in direct view of our home, which faces toward the proposed route. In fact, the U02 alternate proposed route has a corner at the closest point to our house, which means a tower will be placed smack dab in front of our front door, just 100 yards away, and in direct view from our main windows. We walk out our door – there it is. We look out our windows – there it is – forever! I, William, purchased this property almost 40 years ago because of the beauty of the valley, situated at the head of the Sugar River tributary, with all of its wildlife on display for us every day. Our plan was to live here, in its beauty, until retirement. We wanted to sell our homestead, on 25 acres, to help fund our retirement. No one will be interested in purchasing our farm for their residence when the power lines are running in direct view from the front door and almost right on top of it. If we are forced to retire on substantially less in asset value, we will definitely have to move out of Dane County. We will have to find an inexpensive retirement community, most likely out of state, away from our kids, grandkids and lifelong friends, and move somewhere that is much less expensive to live. Our quality of life now and for all of our retirement years will suffer greatly. The proposed route would be running directly through one of the prettiest valleys in Dane County, totally destroying its aesthetic value for us and all of the other people living nearby. The transmission lines, once installed, will be on the landscape forever. They are not expected to be removed by the transmission line companies after usage is terminated. * How will these concerns be addressed in the final Federal EIS? -	Comment noted. Potential impacts to social and economic conditions, including property values and tourism, are provided in EIS Section 3.12. Potential impacts to visual quality and aesthetics are disclosed in EIS Section 3.11. EIS Chapter 2 has been revised to include a description of decommissioning activities to remove the C-HC Project once it reaches the end of its life.
	Laufenberg	SOCIO06	Financial Impact: We wanted to sell our homestead, on 25 acres, which is within 100 yards of section U02, when reaching retirement age. This property was part of our retirement plan. This land and homestead constitute 35% of the total value of our assets. We are very dependent on the future sale price of the real estate in order to build our retirement home. It is documented that the real estate values decrease by 25-40% after 345 kV power lines are erected next to it. In fact, if a tower will be just outside our front door, I believe we will be losing at least 40% value. We stand to lose approximately \$175,000 in value if the transmission route uses the U02 section.	Comment noted. Potential impacts to social and economic conditions, including property values, are provided in EIS Section 3.12. RUS has reviewed the recommended citations of additional peer-reviewed articles presented through public comments and has incorporated this information into the EIS.
	Laufenberg	SOCIO01; SOCIO03; SOCIO06	Furthermore, since there will not be an easement needed from us, we will not be reimbursed by the transmission line owners for our loss in value. On a larger scale, the tax base of our property will decrease, along with all other properties near us, which will affect the amount of taxes collected for the Mount Horeb School District, the Mount Horeb Fire Department, Madison Tech College along with the Town of Cross Plains and Dane County. The funding for all of these public services will be adversely affected by the decrease in our property values. The transmission line companies stand to make a very large amount of money, while the people of Wisconsin pay for it and those of us who are unlucky enough to live next to it must suffer the consequences for the rest of our lives. * How will this concern be addressed in the final Federal EIS?	Comment noted. Potential impacts to social and economic conditions, including property values, are provided in EIS Section 3.12.
	Laufenberg	HAS01	- Health Concerns: Effect of Electric and magnetic fields. According to the PSC publication distributed at the impact scoping meetings, the 345 kV lines can carry large currents and produce relatively large magnetic fields. According to the table in this publication 500kV lines approx. 300 feet away can produce 1.4 – 3.0 mG, which will add to the magnetic fields already created by our home appliances. The alternate proposed route, U02, will run directly over Domini Road, therefore, we will have to drive directly under the transmission lines every time we go to and from Madison, virtually, every day. We will have to drive through maximum magnetic fields of almost 87 – 183 mG twice a day. We fear our health will suffer from the additional magnetic fields we will experience when the transmission lines are so close to us. * How will this concern be addressed in the final Federal EIS?	Section 3.13 of the EIS discloses information about electric and magnetic fields.
	Laufenberg	WLDF02	Section T05 concerns: - Effects on wildlife: The section T05 proposed alternative transmission line route runs along the northern edge of our land, which includes the Sugar River tributary. The migratory birds in the spring and fall of each year stop along the Sugar River and take a flight path to the north, exactly through the airspace where the power lines are proposed. We fear that too many of these migratory birds will be killed by the power lines. * How will this concern be addressed in the final Federal EIS? -	Comment noted. EIS Sections 3.4 and 3.14 disclose potential impacts to bald eagles and other migratory birds.
	Laufenberg	SOCIO06; VIS01	Effects on Quality of Life: As stated above, we own a 35 acre parcel which includes a future residential site, adjacent to proposed section T05. This route is on the horizon, in direct view of the future building site and in direct view of the main living areas of our current home, which faces toward the proposed route. Therefore, section T05 will adversely affect the aesthetic value of our homestead property and the future residence adjacent to proposed section T05. * How will this concern be addressed in the final Federal EIS? -	Comment noted. Potential impacts to social and economic conditions, including property values and tourism, are provided in EIS Section 3.12. Potential impacts to visual quality and aesthetics are disclosed in EIS Section 3.11.
	Laufenberg	SOCIO06	Financial Impact: We purchased the 35 acre land parcel and future building lot adjacent to section T05 in 2003, not only to enjoy its beauty while living next to it, but also, as an investment. The value of the 35 acre parcel and future building lot was included in our retirement and estate plans. Because of the extreme volatility of the stock market, we decided to put the bulk of our retirement savings into real estate. This land constitutes 28% of the total value of our assets. We are very dependent on the future sale price of the land in order to secure a viable retirement. I would estimate that the value of this real estate parcel will decrease by at least 25% after 345 kV power lines are erected next to it. Therefore, the transmission lines will decrease our land parcel value by at least \$100,000. Our cost in the property will most likely be higher than our selling price, if the transmission lines are installed adjacent to the land, therefore, experiencing a loss on the property. Rather than an investment for retirement, it will be a financial loss. Since the proposed route T05 is within direct site of our home, it will decrease the value of our home parcel by at least 10%, or \$50,000. Therefore, the transmission lines running along the proposed route T05 would decrease our total retirement asset value by \$150,000. Again, since the route runs directly across Hwy J from this parcel, an easement will not be required from us, therefore, we will not be reimbursed for any part of the decrease in our land value. We are within 3 years of retirement, therefore, are very concerned about affording retirement. We cannot afford to retire, and live in this area of Wisconsin, if we incur a decrease of \$150,000 in our total savings for retirement. * How will this concern be addressed in the final Federal EIS?	Comment noted. Potential impacts to social and economic conditions, including property values, are provided in EIS Section 3.12.
	Laufenberg	ALT04; NEP02	Proposal of alternatives: Based on our reading of the needs of the area, we believe there is not a need at all for the proposed transmission lines. More and more people in the area are incorporating solar and wind energy to supplement their energy usage. We have a neighbor that uses solar panels for most of their energy needs and another that uses wind power for their energy needs. I believe we can fill the power needs of the region with local alternative energy sources along with the existing transmission lines already in use, and that additional transmitting of power from out of state is not needed.	Comment noted.

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	Laufenberg	ALT06; ALT07	If, however, the Commission decides we have the need for additional out of state energy sources and we must have still another transmission line to bring the power to this area, I would propose that the transmission line follow a route that uses major highways and current line routes. We do not see the need to construct new lines through residential homesteads and across farmland, wetlands and wooded areas, as is proposed.	Comment noted. EIS Chapter 2 provides a description of the process that RUS and cooperators used to determine the placement of the alternatives.
	Laufenberg	ALT04; HAS01	One other alternative would be to bury the transmission lines. This would alleviate the danger to bird life, during migration and hunting for food. It would reduce the decrease of value of property. It would reduce the magnetic fields emitted.	EIS Chapter 2 discusses the alternative of burying the transmission line underground.
	Laufenberg	ALT04; DECI01; NEP02	Please consider again, the need for additional transmission lines. This is old technology that will scar the beauty of the driftless area of Wisconsin forever. There are much better, much less invasive, and much less expensive ways to upgrade our power system. The advancement of alternative power and efficiency of energy consumption will make these power lines obsolete in the not so distant future. Please at least consider postponing the transmission lines until the need can be further assessed. You should give the residents of Wisconsin a chance to implement alternative energy sources before we permanently destroy the beauty of the state, sacrifice livelihoods, and endanger the wildlife. We are asking to keep the citizens of Wisconsin in the forefront of your decision making. Please carefully consider the following: - Need for the transmission lines in light of the stabilizing of energy demands and the increase in implementation of renewable energy sources - Retaining the beauty of the driftless area - Maintaining the delicate ecosystems of this area - Cost to utility rate payers for the lines - Cost to all of the property owners affected by the lines	Comment noted. The C-HC Project has been independently modeled and verified by multiple entities, including MISO, which used a planning process approved by FERC. The Utilities have modeled and evaluated the C-HC Project, and the state regulatory agencies (PSCW and IUB) are currently evaluating the project. RUS and the other Federal agencies are considering all information, in addition to public comments, when analyzing the C-HC Project to comply with NEPA. This is explained in EIS Chapter 1. The Federal agencies must consider reasonable alternatives when considering their Federal decision. As discussed in EIS Chapter 2, Section 2.2.2, non-transmission alternatives are not responsive to the applications to which the Federal agencies are responding, nor do they meet the six-point purpose and need described in EIS Chapter 1. The Federal EIS considers alternatives that are ripe for Federal consideration. What that means is that a proposal has been made for those alternatives or that it is reasonably foreseeable that they could be implemented in a time frame that would meet the need for the Federal action.
	Randall	ALT03	We are opposed to the C-HC Project and urge that the PSC not approve it. The USDA RUS Draft EIS must research the No Action Alternative thoroughly.	Comment noted. EIS Chapter 2 describes the No Action Alternative, and EIS Chapter 3 presents the impact analysis for the No Action Alternative for each resource described in Sections 3.2 through 3.14.
	Randall	NEP02	Since the scoping sessions were held by the USDA and RUS there has been mounting opposition by citizens and impacted local governing bodies to the C-HC Project. Primarily this is because it is not needed due to flat energy demand and because the cost of the project for people and the environment is just too great to justify its construction.	Comment noted.
	Randall	SOCIO03	The economic cost of construction is enormous and will be borne by ratepayers.	Comment noted.
	Randall	LAND01; WLDLF01	The massive towers and high voltage lines will destroy habitats and the aesthetic character of the Driftless Region and the rural landscape.	Comment noted.
	Randall	ALT04; NEP02	Because of these extremely high costs compared to benefits, it is the contention of so many that non-transmission alternatives must be found instead. We are disappointed that this Draft Environmental Impact Statement does not go into depth in reviewing non-transmission alternatives to provide electricity. The Draft assumes that the high voltage Cardinal-Hickory Creek transmission line will be built. We feel that all of the non-transmission alternatives must be considered thoroughly when reviewing the environmental impact of the line. When the cost-benefit analysis of the C-HC line is assessed it is apparent to us that a new model for providing electricity for the future must be found and that the outdated one, that is the basis for the C-HC project, needs to be rejected by the PSC. There are many citizens and experts who have researched non-transmission alternatives so we will not address that in our comments. We feel that because high voltage transmission is not needed, that the use of non-transmission alternatives are the most important issue that needs to be reviewed.	Comment noted. RUS has determined that the purpose and need for the Federal action are supported (see EIS, Chapter 1). The State of Wisconsin has also analyzed the project through the PSCW and WDNR EIS process (PSCW 2019). The PSCW will make an appropriate determination as to project need with respect to their jurisdictional responsibilities under Wisconsin Statute 196.491(3) (see Section 1.2.21 of PSCW [2019]). The Federal EIS does not consider alternatives in the same manner as the PSCW or IUB. The Federal agencies are required to comply with NEPA. As stated in NEPA regulations 40 CFR 1502.23, "For purposes of complying with the Act, the weighing of the merits and drawbacks of the various alternatives need not be displayed in a monetary cost-benefit analysis and should not be when there are important qualitative considerations." As discussed in EIS Chapter 2, Section 2.2.2, non-transmission and low-voltage alternatives are not responsive to the applications to which the Federal agencies are responding, nor do they meet the six-point purpose and need described in EIS Chapter 1. The Federal EIS considers alternatives that are ripe for Federal consideration. What that means is that a proposal has been made for those alternatives or that it is reasonably foreseeable that they could be implemented in a time frame that would meet the need for the Federal action. Requirements for alternatives consideration under Wisconsin Statute 196.491(d) are very specific and separate from NEPA. Per their jurisdictional responsibilities, the PSCW is considering if and how the range of alternatives meets those requirements (see Section 1.2.2.1 of PSCW [2019]).
	Randall	SOCIO01; SOCIO03	Our comments follow concerning several impacted resources that the Draft EIS needs to address. SOCIOECONOMICS This federal Draft EIS was based largely on comments made in 2017. Since then the public at large has become very aware of the pitfalls of this project. Those who already knew a lot about the project have become more deeply informed through research and consultation with experts. Knowledge has spread throughout communities. As a result of various opportunities to learn more, the momentum has grown in opposition to this massive transmission line. Petitions, letters to the editor, attendance at meetings and resolutions by local governments opposing the transmission line show this opposition. This draft report does not reflect how the communities affected and citizenry at large feel about the C-HC project at the present time. Because the full environmental impact of a high voltage line on people was not researched in this draft report it needs to be added to the Socioeconomics and Environmental Justice sections in the draft. This fully recognizes that humans are part of our living environment and fulfills the project's stated objectives: * Describe and evaluate the C-HC Project, and other reasonable alternatives, including a No Action Alternative, to the C-HC Project that would avoid or minimize adverse effects to the natural and human environment; * Identify and assess potential impacts on the natural and human environment that would result from the C-HC Project; and * Identify specific environmental commitments and human environmental impacts. So many people across southwest Wisconsin have put their souls into opposing this line for a variety of valid reasons. Every person affected has a story to tell about the proposed transmission line. If these desires are not heeded and the line is constructed, there could be lasting long-term trauma for some and even passed on to future generations.	Comment noted. The EIS describes the C-HC Project and other alternatives in Chapter 2, potential impacts to the human and natural environment are discussed in Chapter 3, and environmental commitments are discussed in Chapter 3. EIS Section 3.10, Land Use, discloses the communities that have expressed concerns or opposition to the C-HC Project through comment letters and/or resolutions.

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	Randall	ALTO1; REC01; WLDLF01	We did not give our personal story about the impact of the C-HC line in scoping comments for the USDA RUS EIS statement. This is because the exact routing maps of the northern route were not available until after the scoping sessions. We discovered then that there was a new ROW sub-segment P07 created and that it went through some of our Randall Ridge property on Hwy ZZ on the northern route. We had assumed from previous maps that the transmission line was going along the current corridor on Hwy ZZ. This new routing was both shocking and devastating for us. The ROW sub-segment P07 is proposed to go through our only walnut tree area that is left after the 2014 tornado. It continues to Hwy ZZ through a small flyway for raptors, owls and eagles in our property going from Governor Dodge State Park down into Wyoming Valley. A massive transmission tower is sited on our neighbor Meudt's property in view of our cabin and throughout our ridge property, a 50year family nature retreat. This siting places the transmission tower above a restoration area that we are creating with LIP funding for savanna/prairie plants and encouraging at-risk birds. This is a goal that is the antithesis of a high voltage transmission line that is a risk for avian collisions and electrocutions. In a more distant area from this tower siting, we have an inner forestland with two identified threatened bird species: the Hooded Warbler and Acadian Flycatcher. We do not know if avian data was used for our property when routing was decided. It appears to us that routing was determined by a line drawn from one transmission tower siting to another on Hwy ZZ. This is not a BMP for birds. The impact of this C-HC route would have a long-term impact on our family and the ecological environment of Randall Ridge.	Comment noted. Potential impacts to vegetation communities are disclosed in EIS Section 3.3, and potential impacts to wildlife are disclosed in EIS Section 3.4.
	Randall	SOCIO01; SOCIO03	Massive towers spread across the landscape create mental disturbance to those who cherish this most important ecological region in the Midwest. A forced connection to the high voltage transmission line could have a huge impact for many. The experienced loss would be coupled with the economic impact of lower property values, higher electrical rates, loss of income for tourist industries and knowledge that the Cardinal-Hickory Creek Project was not needed at all. For some it might be a short or moderate impact, for others it would be long-term. The EIS Draft needs to address the human environmental impact of the C-HC Project if the transmission line were constructed. This means that the Socioeconomics and Environmental Justice Resource, in the Environmental Commitment section, should have a commitment for community and individual support for those who need it if the costly C-HC Project is approved by the PSC. Research of other communities affected by high voltage transmission lines needs to be included in the draft report.	Comment noted. Potential impacts to socioeconomics, including potential impacts to tourism and property values, and environment justice communities are disclosed in EIS Section 3.12.
	Randall	SOCIO06	PROPERTY VALUES The Draft EIS Chapter 3.12.2.3.5 PROPERTY VALUES concludes that because impacts would likely lessen over time, according to the studies discussed, the impacts would be short term. We believe that property values need to be thought about in the context of those properties that have unique aesthetic and ecological character in the Driftless Region. Common sense tells us that values of these properties in the Driftless Area would be less than they presently are if a massive transmission line goes through or is adjacent to them. People who purchase properties for their aesthetic character are not going to purchase the property if it is near to or has a view of high voltage transmission towers. Therefore a landowner selling a property will not be able to receive the price they hope for if their precious land no longer has a special quality. The property might still sell, but not for the anticipated value. Once a transmission line is constructed, new utility construction may follow in the ROW and that will further decrease property values. Then the decrease in value would be long-term. This should be stated in this chapter.	Comment noted. Potential impacts to social and economic conditions, including property values, are provided in EIS Section 3.12. RUS has reviewed the recommended citations of additional peer-reviewed articles presented through public comments and has incorporated this information into the EIS.
	Randall	VIS01	VISUAL QUALITY AND AESTHETICS The following statement in 4.13 Visual Quality and Aesthetics presents our greatest fear of allowing the C-HC transmission line to be built through the Driftless Region. This most valuable ecological resource in the Midwest would be changed forever. Neither one of the proposed C-HC routes are on an interstate highway. The high voltage towers and lines would change the rural character of this land that is cherished by so many. Statement in Draft EIS: "Due to the energy projects listed in the cumulative action scenario and similar energy projects also likely to be developed in the region, it is likely that additional electrical infrastructure (transmission and distribution lines and substations) would be built in the future. Standard transmission siting practices state that when siting a new transmission line, efforts should be made to parallel existing linear features. If, at some time in the future, an additional transmission line is proposed within the project areas, it is likely that the current project would be seen as an opportunity site for the construction of additional transmission features. Since characteristics of the landscape have previously changed and will continue to change over time, all action alternatives would contribute to long-term, moderate cumulative impacts to visual resources." (Bold font is ours) Because of this stated reality other non-transmission alternatives must be used instead of a high voltage transmission line to meet electricity needs in the Driftless Region.	Comment noted.
	Randall	VEG03	INVASIVE SPECIES The report acknowledges and concludes in 4.5 VEGETATION, INCLUDING, WETLANDS AND SPECIAL STATUS PLANTS, "The cumulative impacts to vegetation, creation of edges, and use of foreign vehicles or equipment transporting invasive species would contribute to a potential increase in those species." Our concern is that the C-HC Project will increase invasive species along the routes and inward to other properties no matter what route. We know that invasive species are having a staggering impact on our environment with ecological, economic, aesthetic, health and quality of life consequences. If the high voltage C-HC transmission line is constructed it would contribute to these consequences unless it is diligently timed and monitored by the utilities both in the construction and maintenance of the ROWS. The Council on Forestry's Best Management Practices is referred to in Table ES-4. Environmental Commitments Common to All Alternatives, Invasive Species. These BMPs are voluntary. A regulatory agency is necessary that will be responsible for monitoring invasive species control and compliance by utilities. It is our understanding that the WDNR is only involved where permits are required and that it is not usually the function of the PSC to regulate vegetation. Vegetation management regulation should be required by the PSC as a condition of approval of a high voltage transmission line. The commitments listed in this Draft EIS must be enforceable and state how they will be enforced. Also, the first commitment states "The Utilities would follow the Wisconsin Council on Forestry's "Invasive species Best Management Practices: Rights-of-way" guidance to mitigate the spread of invasive species (see Appendix D). This statement should say will follow as stated in other Commitments to All Alternatives. Our experience is that utility companies do not monitor invasive species control effectively. We can site wild parsnip as an example for the need of careful timing and monitoring. It is one of the most prevalent invasive species in the C-HC Project. This is noted in 3.3.1.3.3 INVASIVE SPECIES. If it is mowed when the seeds are ripe it spreads rapidly to adjacent properties. This can be seen throughout Dane and Iowa County where the timing of mowing was not based on the seed production of the wild parsnip. Actually the mowing by local governments is responsible for much of its widespread invasion. It is a health risk to people. Many citizens and tourists do not know the plant and its potential for creating a very uncomfortable rash if it is touched when they are in the sun. Some people have had disabling burns from wild parsnip. We know of two incidents where this happened in the Town of Dodgeville. The danger of invasive species spreading from the transmission line construction comes in the edges between the line and landowner's property. Although it may be controlled in the ROW, it isn't along the edge. This creates additional management efforts for the landowner if they are aware and care that it is present. Some owners aren't aware and this leaves areas for people to unwittingly walk through it and creates new ripples of areas for seed distribution. The Forestry Council's BMPs show the timing for controlling it and all invasive species. Garlic mustard is another listed invasive species and is a very aggressive spreader in the alternate route areas. It needs to be controlled with rapid response before seed production. Unfortunately Governor Dodge State Park already shows the results of its invasion. Garlic	EIS Section 3.3 includes a discussion of the impacts of invasive species. The environmental commitments listed in EIS Section 3.1 would be included in, and thereby enforced by, applicable permits, authorizations, and orders issued by Federal and state agencies. These commitments may be revised as permits, authorizations, and orders actions are reviewed and issued, if deemed appropriate by the various decision-makers.

Organization	Commenter Last Name	Comment Code(s)	Comment on DEIS	Agency Response to Comment
			mustard is taking over forestlands and is decreasing the diversity of native plants. The PSC must not leave invasive species management in the ROWs to voluntary efforts by utility companies. The lack of enforcement for vegetation management creates a severe consequence of invasive species spreading in our rural landscape if the C-HC Project would be approved by the PSC. The EIS Draft must address this in its environmental impacts and commitments regarding invasive species.	
	Randall	ALT04	REVISION RECOMMENDATIONS FOR USDA RUS DRAFT EIS C-HC The Draft EIS needs to provide more in-depth research into non-transmission alternatives.	RUS has determined that the purpose and need for the Federal action are supported (see EIS, Chapter 1). The State of Wisconsin has also analyzed the project through the PSCW and Wisconsin Department of Natural Resources (WDNR) EIS process (PSCW 2019). The PSCW will make an appropriate determination as to project need with respect to their jurisdictional responsibilities under Wisconsin Statute 196.491(3) (see Section 1.2.21 of PSCW [2019]). The Federal EIS does not consider alternatives in the same manner as the PSCW or IUB. The Federal agencies are required to comply with NEPA. As stated in NEPA regulations 40 CFR 1502.23, "For purposes of complying with the Act, the weighing of the merits and drawbacks of the various alternatives need not be displayed in a monetary cost-benefit analysis and should not be when there are important qualitative considerations." As discussed in EIS Chapter 2, Section 2.2.2, non-transmission and low-voltage alternatives are not responsive to the applications to which the Federal agencies are responding, nor do they meet the six-point purpose and need described in EIS Chapter 1. The Federal EIS considers alternatives that are ripe for Federal consideration. What that means is that a proposal has been made for those alternatives or that it is reasonably foreseeable that they could be implemented in a time frame that would meet the need for the Federal action. Requirements for alternatives consideration under Wisconsin Statute 196.491(d) are very specific and separate from NEPA. Per their jurisdictional responsibilities, the PSCW is considering if and how the range of alternatives meets those requirements (see Section 1.2.2.1 of PSCW [2019]).
	Randall	LAND01; VIS01	The Draft EIS needs to consider more thoroughly the unique aesthetic and ecological characteristics of the Driftless Area in its resource environmental impacts and commitments.	Comment noted. Potential impacts to visual quality and aesthetics are disclosed in EIS Section 3.11.
	Randall	SOCIO01	The Draft EIS needs to be updated to reflect the social and political realities, as well as other changes, that took place in 2018, relating to environmental impacts of the C-HC Project.	Comment noted.
	Randall	DECI01	Thank you for the opportunity to comment on the USDA RUS Draft EIS C-HC. We request that the USDA RUS objectively review its current commitments based on realities that are presented by the public in this draft review period.	Comment noted. EIS Chapter 1 describes the need for the C-HC Project as well as the decisions facing the three Federal agencies that have received loan or permit applications for the C-HC Project. RUS and the other Federal agencies involved in the NEPA process have reviewed, considered, and responded to all public comments received for the DEIS.
	Jordan	HAS01; WAT02	Toxic chemicals or herbicides could enter our water table and create unsafe water for the residences.	Section 3.13.2 of the EIS discusses the potential impacts to public health and safety from solid, hazardous, and toxic materials and waste. The Utilities must comply with standards and regulations addressing the use of these materials and wastes.
	Kiefer	LAND01	I am interested in productivity of the land, as well as beauty and conservation, and my read of the proposed project is that it may adversely affect those efforts on my property and those of my neighbors.	Comment noted.
	Kiefer	VIS01	I am most concerned about the effect on aesthetics	Comment noted.
	Kiefer	WAT03	water quality	Comment noted.
	Kiefer	SOIL02	hillside erosion control.	Comment noted. EIS Section 3.2 discloses potential impacts to soils, including soil erosion.
	Kiefer	EFF04; HAS01	Furthermore, I am a family physician and have done some reading on the adverse health outcomes associated with exposure to high voltage power lines. It is unclear to me that these risks have been adequately addressed by the purveyors of the planned project. How will such exposures be minimized and/or mitigated?	Section 3.13 of the EIS analyzes potential impacts to public health and safety from the C-HC Project.
	Campbell	LAND05; SOCIO06	Property Values--It is already vividly clear that values of properties near the power line have started to fall, not only on those properties on the market but those anticipated to be offered in the future. Numerous offers have been cancelled recently. This is a major factor in residential planning, particularly with retirees and the elderly.	Comment noted. Potential impacts to property values are disclosed in EIS Section 3.12.
	Campbell	LAND02	Farm/Agricultural Economy & Operation--This power line will force the farmers impacted to re-assess their options and consider the potential negative effects, especially those involving silviculture,	Comment noted.
	Olmstead	WLDF01	This pond is directly in the path of the proposed line. Any activity in this area would disturb the habitat. A 150-foot-wide clear cut along the entire length of the ATC line would destroy habitat for all species in the area.	Comment noted. Potential impacts to wildlife and wildlife habitat are disclosed in EIS Section 3.4.
	Olmstead	SOIL02; WAT02	Black Earth Creek is also within the path of the transmission line; the proposed work will result in erosion, with herbicides getting into the creek. Multiply these types of impact through the entire Driftless area.	Comment noted. EIS Section 3.2 discloses potential impacts to soils, including soil erosion. EIS Section 3.5 discloses potential impacts to water resources and quality.
	Olmstead	SOCIO03	The intrusion of this line will severely impact the enjoyment that we and visitors to our area experience every single day. The areas along the entire proposed route attract thousands of visitors/tourists from around the country and the world, whether for fishing, hunting, scenic beauty, hiking, bikingthe list could go on. These visitors support a major tourism industry. Without them, there will be a financial impact on many local small businesses.	Comment noted. Potential impacts to social and economic conditions, including property values and tourism, are provided in EIS Section 3.12.

Organization	Commenter Last Name	Comment Code(s)	Comment on DEIS	Agency Response to Comment
	Olmstead	ALT05; NEP02	Electric usage in Wisconsin is steady and predicted to continue. Many of us have made energy efficient upgrades to our homes over the years, and this trend will continue. There is no real need for this high tension power line, and it will be obsolete within a short time, and who will pay to then remove the lines and towers?	Comment noted. EIS Chapter 2 has been revised to include a description of decommissioning activities to remove the C-HC Project once it reaches the end of its life.
	Olmstead	ALT01	There are alternative localized solutions for energy generation that are cheaper, more cost effective, and with far less impact on our environment. We must explore alternatives.	Comment noted.
	Matthews	ALT02	Being located along a highway has many advantages and sometimes a few disadvantages. Why spoil open countryside? Go with the preferred route.	Comment noted.
	Addison-Jasso	DEC113	As a member of a large family owned farm located in both Grant County & Iowa County, I am vehemently opposed to the establishment of the Cardinal Hickory Creek transmission lines project throughout our beautiful Driftless area in southwest Wisconsin for multiple reasons.	Comment noted.
	Addison-Jasso	NEP02	UNNEEDED: Only 60% capacity of the current 168kV line is being used. In other words, the supply is far greater than the current demand. Even Jay Regnier, Vice President of Projects for Project Resources Commission (PRC) is quoted in the November 15, 2018, Herald Independent (Lancaster WI) stating the connecting proposed wind towers to transmission lines is not an issue: "That does not include the Cardinal Hickory Creek proposed transmission line - Regnier said that they feel there is room on the existing 168 kV line there. Regnier said that the space on the existing transmission line is why they decided to connect and transmit power".	Comment noted. EIS Chapter 1 describes the need for the C-HC Project as well as the decisions facing the three Federal agencies that have received loan or permit applications for the C-HC Project.
	Addison-Jasso	SOCIO08	ECONOMIC IMPACTS: - The cost of the CHC project construction is projected to cost \$500-\$700 million, with additional expenses to raise the cost over \$1 billion dollars. This project will drive up the cost of our already high Midwest utilities. https://driftlessdefenders.com/page/3/ -	Comment noted.
	Addison-Jasso	SOCIO06	In June I attended a meeting where Kurt Kielisch, a forensic real estate appraiser, spoke. Mr. Kielisch, has been tracking the effects of property value being reduced due to the American Transmission Company (ATC) lines for quite some time. Referencing a June 1, 2006, article titled POWER LINE WORRIES LANDOWNERS APPRAISER SAYS VALUES COULD DROP 15-20%: "Kielisch says his research indicates a power line typically slashes 15 to 20 percent off the market value of residential land it crosses". https://madison.com/business/power-line-worries-landowners-appraiser-says-values-could-drop/article_d2f1d662-9d7c-5373-a144-d111e3f4e761.html - In Seattle, it was found homes abutting High Voltage Overhead Transmission Lines (HVOTL) had a significant 11.23% negative decrease in home prices. https://www.myappraisalinstitute.org/webpac/pdf/TAJ2017/TAJ_Sum17_179-193_PR-Transmission.pdf Per a November 2018 Dodgeville Chronicle article IOWA COUNTY BOARD DEBATES INTERVENING INTO CARDINAL-HICKORY CREEK PROPOSED PROJECT, a local resident attempting to sell his home in the line of the CHC has found the value has dropped 30% and two potential buyers backed out upon learning of the CHC line.	Comment noted. Potential impacts to social and economic conditions, including property values, are provided in EIS Section 3.12. RUS has reviewed the recommended citations of additional peer-reviewed articles presented through public comments and has incorporated this information into the EIS.
	Addison-Jasso	SOCIO08	As I understand the power being transmitted through these lines will not be for the use of communities and residents of southwest Wisconsin, but for areas of greater need. This being the case, it makes no sense that southwest Wisconsin residents be burdened with increased electric bills to finance the high voltage line when we receive no benefit.	Comment noted.
	Addison-Jasso	SOCIO02	Southwest Wisconsin is home to some large companies, such as Lands End. The August 21, 2016 Wisconsin State Journal article BIG INDUSTRIES SAY HIGH ELECTRIC PRICES MAY PUSH THEM OUT OF WISCONSIN warns the PSC: "High electric rates in Wisconsin could spark some of the state's big manufacturers to move or expand elsewhere, the Wisconsin Public Service Commission is being warned". Loss of large employers would create high unemployment, and the inability to pay bills. https://madison.com/wsj/business/big-industries-say-high-electric-prices-may-push-them-out/article_c1fab70d-3bb0-5035-bb62-410289c9309e.html -	Comment noted.
	Addison-Jasso	LAND02; SOCIO01	The increase in monthly Alliant Energy bills will be a hardship to southwest Wisconsin residents. Example (redacted) Alliant Energy bill from the state of Iowa shows a significant jump in a customer's monthly utility bill of \$65.17 due to added fees: 1) Energy Cost and 2) Regional Transmission Service. (I can provide a copy if requested.) If you are unaware, we are primarily rural farming communities who have been hit with significant hardships due to imposed commodity tariffs, poor commodity prices (milk, corn, soybeans, etc.), impacts of weather causing significant crop losses and disease/death of livestock.	Comment noted.
	Addison-Jasso	SOCIO03	Small businesses will also be impacted, as tourists come to the Driftless area for its aesthetic beauty and peace. The beauty will disappear, therefore, the economy for small business owners will collapse.	Potential impacts to visual quality and aesthetics are disclosed in EIS Section 3.11, and potential impacts to social and economic conditions, including tourism, are disclosed in EIS Section 3.12.
	Addison-Jasso	SOCIO01	Will only be lining the investors pockets more than 10% annually, and draining the pockets of the common folk that are struggling economically already.	Comment noted.
	Addison-Jasso	HAS01	"Hundreds of studies worldwide have shown that living next to high voltage power lines and other parts of the power transmission network increases your risk of cancer and other health problems". The following image says it all concerning health risks: https://www.safespaceprotection.com/emf-health-risks/emf-health-effects/power-lines/ - "According to research and publications put out by the World Health Organization (WHO), EMF such as those from power lines can cause: o Headaches o Fatigue o Anxiety o Insomnia o Prickling and/or burning skin o Rashes o Muscle pain o Vegetables lacking nutrition" https://www.safespaceprotection.com/emf-health-risks/emf-health-effects/power-lines/ - The international Journal of Oncology published the following, August 2017: "Call for Protection from Non-ionizing Electromagnetic Field Exposure was made by the International Electromagnetic Field Scientist Appeal, initial release date May 11, 2015, latest version's date January 29, 2017 with 222 signatures from 41 nations: 'We are scientists engaged in the study of biological and health effects of non-ionizing electromagnetic fields (EMF)... Effects include increased cancer risk, cellular stress, increase in harmful free radicals, genetic damages, structural and functional changes of the reproductive system, learning and memory deficits, neurological disorders, and negative impacts on general well-being in humans. Damage goes well beyond the human race, as there is growing evidence of harmful effects to both plant and animal life. These findings justify our appeal to the United Nations (UN) and, all member States in the world, to encourage the World Health Organization (WHO) to exert strong leadership in fostering the development of more protective EMF guidelines, encouraging precautionary measures, and educating the public about health risks, particularly risk to children and fetal development. By not taking action, the WHO is failing to fulfil its role as the preeminent international public health agency.' (https://www.emfscientist.org/index.php/emf-scientist-appeal)". https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5504984/	Section 3.13 of the EIS discloses information about electric and magnetic fields.

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	Addison-Jasso	ALT01	I believe we should be given a choice in our energy resources for southwest Wisconsin. The ATC is not giving us a choice, it is being forced upon us. Alternatives are choices. http://www.altenergy.org/ · Solar Power - harnessing power from the sun. · Wind Power - wind pushing turbines to create energy. · Biomass Energy - combustion system for biomass can produce electricity. · Super Conducting Transmission Line - are buried, not above ground. Calculation shows that high currents of super-conducting transmission lines do not pose a threat. https://www.researchgate.net/publication/284359690_Superconducting_transmission_lines_-_Sustainable_electric_energy_transfer_with_higher_public_acceptance · "Many benefits of burying high voltage high voltage power lines. Essentially, all of the negative impacts... are either eliminated or significantly reduced when power lines are buried. And, when capital maintenance and transmission loss costs are combined over the life of a line, underground lines are less expensive than overhead lines". https://retasite.wordpress.com/2012/08/03/nobody-wants-overhead-high-voltage-power-lines/ · A few other sources concerning energy alternatives: https://www.eia.gov/energyexplained/?page=renewable_home o https://sparknorthwest.org/projects/ o https://phys.org/news/2009-05-feasible-renewable-energy-sources.html	Comment noted. EIS Chapter 1 describes the need for the C-HC Project as well as the decisions facing the three Federal agencies that have received loan or permit applications for the C-HC Project. As discussed in EIS Chapter 2, Section 2.2.2, non-transmission alternatives are not responsive to the applications to which the Federal agencies are responding, nor do they meet the six-point purpose and need described in EIS Chapter 1. The Federal EIS considers alternatives that are ripe for Federal consideration. What that means is that a proposal has been made for those alternatives or that it is reasonably foreseeable that they could be implemented in a time frame that would meet the need for the Federal action.
	Addison-Jasso	SOCIO06; VIS01	AESTHETICS: · View youtube video of Wisconsin's beautiful Driftless Area WHY I LOVE WISCONSIN'S DRIFTLESS AREA. Then, afterward picture the same and ask yourself WHY anyone would want to scar this beautiful region with hideous unneeded giant transmission towers. https://www.youtube.com/watch?v=1yg2AlepunU · Refer to Economic Impacts, bullet #4. Below is a visual to help you visualize the aesthetic impact of how the CHC lines will impact home and land sales:	Comment noted.
	Addison-Jasso	ALT02	As I understand the electricity in the CHC transmission lines are not for southwest Wisconsin residents consumption. My research shows power being transmitted long distances has significant losses. A March 25, 2013, article HOW BIG ARE POWER LINE LOSSES written by Jacques Schonek states: "Electricity has to be transmitted from large power plants to the consumers via extensive networks. The transmission over long distances creates power losses... The overall losses between the power plant and consumers is then in the range between 8 and 15%". https://blog.schneider-electric.com/energy-management-energy-efficiency/2013/03/25/how-big-are-power-line-losses	Comment noted. Transmission line losses are discussed in EIS Section 1.4.
	Addison-Jasso	DECI13	I am writing to express my opposition to the proposed construction of the ATC Cardinal-Hickory Creek high transmission line.	Comment noted.
	Addison-Jasso	SOCIO07	My family roots date back to the 1820s when they originally settled in the Montfort area. For generations our family has cherished the beauty of the land and wildlife, what the land provides for growing high quality crops, raising healthy livestock, and raising healthy and strong children. Our family has fought and overcome detrimental storms and droughts, the Great Depression when so many lost their land. We work with the DNR to preserve the Blue River for fishing, and the Grant & Iowa County farm service agencies to preserve our land. But today, we are faced with our greatest opponent: The American Transmission Company. It is difficult to believe that a Wisconsin based company could have so little consideration for the rural areas of this state and the negative impact this will have on our lives and environment.	Comment noted.
	Addison-Jasso	NEP02	I have searched for a valid reason why the Cardinal Hickory Creek Transmission Line is needed, but what I have found states the "Power being transmitted through these lines will not be used for the communities in SW Wisconsin but areas in greater need"...obviously big cities.	Comment noted.
	Addison-Jasso	SOCIO08	My search has shown there are far more detriments to the installation of high voltage transmission lines and substations than benefits.	Comment noted.
	Addison-Jasso	HAS01; LAND03	Health and Safety Issues to Humans and Livestock. Will the ATC take responsibility? · The international Journal of Oncology published the following, August 2017: "Call for Protection from Non-ionizing Electromagnetic Field Exposure was made by the International Electromagnetic Field Scientist Appeal, initial release date May 11, 2015, latest version's date January 29, 2017 with 222 signatures from 41 nations: 'We are scientists engaged in the study of biological and health effects of non-ionizing electromagnetic fields (EMF)... Effects include increased cancer risk, cellular stress, increase in harmful free radicals, genetic damages, structural and functional changes of the reproductive system, learning and memory deficits, neurological disorders, and negative impacts on general well-being in humans. Damage goes well beyond the human race, as there is growing evidence of harmful effects to both plant and animal life. These findings justify our appeal to the United Nations (UN) and, all member States in the world, to encourage the World Health Organization (WHO) to exert strong leadership in fostering the development of more protective EMF guidelines, encouraging precautionary measures, and educating the public about health risks, particularly risk to children and fetal development. By not taking action, the WHO is failing to fulfil its role as the preeminent international public health agency.' (https://www.emfscientist.org/index.php/emf-scientist-appeal)". https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5504984/ · Dr. Samuel Milham, medical epidemiologist in occupational epidemiology; one of the first scientists to report increased leukemia, and other cancers in electrical workers: "Very recently, new research is suggesting that nearly all the human plagues which emerged in the twentieth century, like common acute lymphoblastic leukemia in children, female breast cancer, malignant melanoma and asthma, can be tied to some facet of our use of electricity. There is an urgent need for governments and individuals to take steps to minimize community and personal EMF exposure." · Martin Blank, Associate Professor, Dept. of Physiology & Cellular Biophysics, Columbia University College of Physicians and Surgeons: "Cells in the body react to EMFs as potentially harmful, just like to other environmental toxins, including heavy metals and toxic chemicals. The DNA in living cells recognizes electromagnetic fields at very low levels of exposure; and produces a biochemical response. The scientific evidence tells us that our safety standards are inadequate, and that we must protect ourselves from the exposure of EMFs due to power lines, cell phones and the like, or risk the known consequences. The science is very strong and we should sit up and pay attention." · Source - https://accel.wisconsinpublicservice.com/business/pdf/farm_voltage.pdf Answers to Your Stray Voltage Questions, 2011. Southwest Wisconsin is made up of primarily rural farms, with the livestock that can potentially be by a higher possibility of stray voltage occurring.	The EIS addresses potential risks to human health from EMF in Section 3.13.2. Additional discussion of studies of the potential risk to human health from magnetic fields has been added to Section 3.13. A discussion of potential risks to livestock from EMF has been added to Section 3.13.2 of the EIS.
	Addison-Jasso	ALT02; NOISE01	Installation and Maintenance Concerns: www.hydroquebec.com source for installation stages: Transporting materials to the tower sites - access roads, bridges, culverts placed · Building the foundations and anchors - begins with clearing the area, possible pumping for wetlands. · Assembling the towers - use of heavy machinery, steel plates for wetlands · Raising the towers - use of telescopic crane · Unreeling and installing the conductors - conductors are unreel and strung section by section tower to tower · Installing the counterpoise wires - installed to ground each tower - an underground conductor · Restoring the site - removal of debris, dismantling of temporary accesses, repairs to roads, seeding of soil, etc. It is evident that this is a major construction project - questions need to be answered: · What is the length of time from start to completion? Obviously this is not a few weeks, but years. · Noise and disruption during construction for local citizens, local businesses, tourism, livestock, wildlife.	EIS Chapter 3 states that the estimated duration for construction of the C-HC Project is 3 years. EIS Section 3.7 discloses potential noise impacts from the C-HC Project.
	Addison-Jasso	SOCIO01	Who is responsible for funding this? This should not be the expense of local citizens who are not benefiting from this:	Dairyland Power Cooperative is requesting financing assistance from RUS for its participation as a partial owner of the C-HC Project. RUS's proposed Federal action is to

Organization	Commenter Last Name	Comment Code(s)	Comment on DEIS	Agency Response to Comment
				decide whether to provide financial assistance for Dairyland Power Cooperative's participation as a partial owner of the C-HC Project.
	Addison-Jasso	TRANS01	Wear and tear of local highways, roads, bridges, city streets due to project and the increased traffic and heavy equipment- will adversely affect quality and longevity of our roads & highways many of which presently need repairs and upkeep. Cost of upgrading bridges, etc. Is the ATC going to pay for our infrastructure repairs due to their traffic? o	Potential impacts to the transportation system are discussed in EIS Section 3.8. During the construction and operation phases of the project, coordination would be required with the U.S. Department of Transportation, Federal Highway Administration (FHWA), Iowa Department of Transportation, WisDOT, and local agencies to ensure the weight loads and width of the existing facilities are considered in the project planning and delivery of materials and equipment.
	Addison-Jasso	ALT02; SOCIO01	Removal of trash, materials, etc. - who is doing this, where will it be discarded? o Project materials, repairs, workers, fuel, etc. · Construction accidents - adequate compensation for citizens adversely affected during construction (bodily, property)	Comment noted. The environmental commitments listed in Section 3.1 would be followed during construction of the C-HC Project, if approved. Potential impacts to social and economic conditions, including occupational safety, are provided in EIS Section 3.12.
	Addison-Jasso	HAS01; NOISE01	Maintenance: · Low flying helicopters checking lines - noise and potential for accidents. · Unrestricted access to crews could pose disease control issues for livestock. · Equipment could set off sparks leading to fires during droughts.	Comment noted. Section 3.13 of the EIS discloses potential impacts to public health and safety that could occur from wildfire, occupational safety, hazardous materials, and electric and magnetic fields.
	Addison-Jasso	WLDF02	The US Fish and Wildlife Service estimates close to 175 million birds are killed annually in the US from crashing into overhead powerlines. A comprehensive study in 2013 estimates 228.5 million birds are killed every year in Canada by transmission lines built above ground. · Source - help.leonardo-energy.org o	Comment noted. EIS Sections 3.4 and 3.14 disclose potential impacts to wildlife, including migratory birds. The C-HC Project would follow APLIC guidelines to minimize collision impacts, and electrocutions are not a high risk for this project due to the project design and conductor spacing greater than large avian wingspans.
	Addison-Jasso	LAND02	Agricultural lands may permanently reduce the area under cultivation and cause physical damage during construction and maintenance.	Comment noted. The EIS includes discussions of impacts to agricultural lands.
	Addison-Jasso	WLDF02	Main impact is avian collisions which is particularly significant in high risk areas such as wooded regions and bird migration corridors. · Source - www.post-gazette.com Mark Kimmel, York County Conservation District manager.	Comment noted. EIS Sections 3.4 and 3.14 disclose potential impacts to wildlife, including migratory birds. The C-HC Project would follow APLIC guidelines to minimize collision impacts, and electrocutions are not a high risk for this project due to the project design and conductor spacing greater than large avian wingspans.
	Addison-Jasso	WLDF01	High voltage power lines which emit strong magnetic fields of their own disrupt the orientation of cattle and deer. · Source - Impacts to Birds and Bats due to Collisions and Electrocutions, Electronic Silent Spring, Albert M. Manville, II Bird collisions occur primarily with energized transmission wires and wires on top of transmission towers not visible to birds in flight. Electrocutions occur at distribution lines and their infrastructures. Bats have been found in bird mortality searches in both transmission and distribution powerline corridors.	.Comment noted. EIS Sections 3.4 and 3.14 disclose potential impacts to wildlife, including birds and bats. The C-HC Project would follow APLIC guidelines to minimize collision impacts, and electrocutions are not a high risk for this project due to the project design and conductor spacing greater than large avian wingspans. Potential impacts from electric and magnetic fields (EMF) are discussed in Section 3.13.2 of the EIS.
	Addison-Jasso	SOCIO01	Resilience to Storms: Repercussions to communities following a tornado is something to consider, will southwest Wisconsin residents be saddled with more rate hikes if such damages occur?: · Source - Responsible Electricity Transmission for Albertans, July 31, 2017 Overhead high voltage powerlines and towers have been destroyed during tornados and ice storms, and deteriorate from exposure to weather. On July 31, 1987, a tornado hit Edmonton, Canada. High voltage transmission towers and lengths of overhead lines were brought down and scattered between 17 street and 21 street. The storm destroyed the substation causing \$6-8 million damage to power equipment. July 31, 2017 The tornado traveled right along multiple overhead TransAlta high voltage transmission lines for many kilometers. Transmission towers and lines were ripped down by the strong winds...Some data show that tornados are attracted to above ground high voltage transmission lines. · Source - Times Free Press, May 3, 2011 The Strong Bridgeport tornado - in all more than 200 power towers were damaged in the storms. Each tower is 120 feet to 150 feet tall and weights 20,000 to 30,000 pounds. More than 90 high voltage power transmission lines bent like pipe cleaners. We saw TVA power transmission lines twisted like bow ties, said Eric Holweg, a National Weather Service meteorologist	Section 3.13 of the EIS has been revised to address public comments about risks from severe weather and security breaches.
	Addison-Jasso	ALT04	Alternative Consideration: · Burying high voltage transmission line benefits: o Essentially eliminates the negative health effects of long-term exposure to EMFs. o Flying aircraft, migratory birds, butterflies, bees o Silent except near transmission stations o Property value unaffected o Aesthetics for locals and tourism o Lines unaffected by weather In closing please consider stopping the Cardinal Hickory Creek Project in SW Wisconsin.	EIS Chapter 2 discusses the alternative of burying the transmission line underground.
	Schmidt	SOCIO03	own property adjacent to the proposed CHC transmission line corridor where my husband and I have our home and are raising two children. The line would be within 200 feet of our lot line, and within 300 feet and visual site of our house. I am against the CHC transmission line for many reasons the first is financial. Having Wisconsin citizens carry the cost of this line for 40+ years with the intent of reducing energy costs is false. It has been reported that Wisconsin has some of the highest electricity rates in the Midwest! Promising lower rates 30-40 years down the road is laughable and unrealistic - no plan has been laid out by ATC to explain how or when these lower rates will be realized.	Comment noted. Potential impacts to social and economic conditions, including property values, are provided in EIS Section 3.12.
	Schmidt	SOCIO03; SOCIO06	Another facet of the financial impact to us is the reduced property value of our home. Currently our property is surrounded by forest, pond, prairie and farmland. The proposed line will forever change the landscape of our property and we will have 3-5 towers looming near and over our property. It is very reasonable to expect this drastic change to the landscape would negatively affect the value of our home. This value decrease can be 20% at a minimum up to 40%, depending on location and visual impact. The following document reflects a study that suggests land and property devaluation: https://puc.sd.gov/commission/dockets/electric/2013/EL13-028/guidelines.pdf . This should be a major factor in deciding the appropriateness of the line - the implications are far reaching, not just my own property value, but also property assessment taxes that help out local villages and schools all along the transmission line corridor.	Comment noted. Potential impacts to social and economic conditions, including property values, are provided in EIS Section 3.12.
	Schmidt	ALT03; NEP02	When planning a project one of the alternatives is to do nothing. If this CHC project does not go through, what happens? Will Wisconsin experience brown outs? Black outs? No studies have shown that Wisconsin is nearing an energy crisis. However, studies have shown that Wisconsin is becoming more energy efficient and will demand a very small increase in electricity over the next 10 years. The existing transmission lines that ATC has already erected across our beautiful state should easily meet this small predicted increase in electricity in the future. That was a goal for those projects, and if that is true, then this additional line from Middleton to Dubuque is not needed. Layer on top of that the increased energy efficient appliances, we truly do not need all this extra bandwidth for electricity transmission.	Comment noted. EIS Chapter 1 explains the need for the C-HC Project.

Organization	Commenter Last Name	Comment Code(s)	Comment on DEIS	Agency Response to Comment
	Schmidt	VEG01	I am also concerned on an environmental level - the clearing of trees and plants changes the landscape.	Comment noted. Potential impacts to vegetation, including forests, are disclosed in EIS Section 3.3.
	Schmidt	WAT02; WLDF01	The pesticides and loss of habitat is harmful to existing wildlife. The pesticides used to control the plant growth will be applied very near our home. It is realistic to assume that the pesticides would float in the air, get into water systems, etc. and negatively impact the quality of our lives. We are fortunate to have a pond on our property and we are at the head waters of the Sugar River watershed area. We enjoy the various wildlife it supports - bullfrogs, leopard frogs, turtles, herons, ducks, geese and too many birds to list! The quality of the pond and surroundings may be compromised due to pesticides or clearing of woods for this project.	EIS Chapter 3 includes the following environmental commitments related to herbicide use: The Utilities will employ a Certified Pesticide Applicator for all herbicide applications within the C-HC Project. The Certified Pesticide Applicators will only use herbicides registered and labeled by the USEPA and will follow all herbicide product label requirements. Herbicides approved for use in wetland and aquatic environments will be used in accordance with label requirements, as conditions warrant. During the easement negotiation, landowners can decline the use of herbicides for vegetation management activities once the line is in operation. Therefore, no herbicides would be applied within portions of the ROW on which the landowner wishes not to introduce it.
	Schmidt	NEP02; WLDF01	We are fortunate to have a pond on our property and we are at the head waters of the Sugar River watershed area. We enjoy the various wildlife it supports - bullfrogs, leopard frogs, turtles, herons, ducks, geese and too many birds to list! The quality of the pond and surroundings may be compromised due to pesticides or clearing of woods for this project. We need to protect our environment and preserve the beauty that we have in the Wisconsin landscape. I've just argued that the lines are not needed due to lack of demand and not wanted due to negative impact to the environment	Comment noted.
	Schmidt	ALT04; NEP02	However, if ATC can twist the financial numbers in their favor to argue that it is indeed necessary, why aren't the lines buried? People all over the United States dislike the aesthetic impact of the lines - Citizens across many states are arguing (and winning their argument) against them. The drive along the Wisconsin interstate to LaCrosse is sadly now a power line highway. These towers detract from the natural and rural setting of Wisconsin. I know in Europe that these power lines are buried - those countries are more in tune with the beauty of their environment than we are here in our beautiful United States. ATC has also submitted a project request for transmission lines near Epic in Verona, WI. That project is proposing to bury the transmission lines. What is the reasoning behind erecting towers rather than burying the lines for the CHC project? Cost? If so, then we have an obligation to set the bar higher against businesses building environmentally unfriendly infrastructure when nobody wants or needs it.	EIS Chapter 2 discusses the alternative of burying the transmission line underground.
	Schmidt	ALT01; ALT04	Plenty of alternatives exist to building the line - local batteries to store electricity generated locally, solar driveways and rooftops (where did the Federal incentives go for people to add and use solar energy?). We need and deserve a choice in how energy we use is delivered to us.	As discussed in EIS Chapter 2, Section 2.2.2, non-transmission alternatives are not responsive to the applications to which the Federal agencies are responding, nor do they meet the six-point purpose and need described in EIS Chapter 1. The Federal EIS considers alternatives that are ripe for Federal consideration. What that means is that a proposal has been made for those alternatives or that it is reasonably foreseeable that they could be implemented in a time frame that would meet the need for the Federal action.
	Schmidt	NEP02	Please review the CHC proposal, carefully decide if it is really needed and if it is justified to have fine Wisconsin citizens pay for this project.	Comment noted.
	Schmidt	DECI13	I am saddened to see a Wisconsin that focuses on big business no matter the cost to the environment and the wishes of its population to not build the line.	Comment noted.
	Schmidt	DECI01	How will my concerns be address with the final Federal EIS?	Comments are responded to here and as appropriate changes are made to the EIS.
	Leibold	NEP02; REC01	I am writing to express my thoughts about the proposed transmission proposal. We do not need 17-story towers that will cut a wide swath through the Driftless Area's scenic landscapes, conservation lands, parklands, key waterways and other natural resource treasures. This is the wrong place for a huge transmission line that is not needed for electricity reliability. This line would be an ugly scar.	Comment noted.
	Leibold	NEP02; SOCIO01	Supply exceeds demand in the Wisconsin electrical power market. Madison Gas & Electric's electrical sales have declined over the past decade and Wisconsin Power & Light's sales have remained essentially flat over the same time period even though both utilities have each gained about 11,000 net additional customers. New wind and gas plants have already been approved that will provide energy and local jobs. ATC has not demonstrated a need for additional imported out-of-state electrical supply to be carried by this proposed line.	Comment noted.
	Leibold	ALT04; DECI10	Even if there were any need for more electricity supply, there are better, more cost-effective alternatives than building this costly new high-voltage transmission line. Wisconsin law requires that energy demands first be met with the most cost-effective options including energy efficiency and conservation. This proposed expensive line does not meet those criteria.	Comment noted. The EIS is not required to consider alternatives in the same manner as the PSCW or IUB. This comment refers to Wisconsin requirements.
	Leibold	ALT04	Additionally, peak-demand energy needs can be better met through increased energy efficiency, distributed energy demand response, and solar energy. Peak energy demands cannot be met by the mixture of coal and wind generated electricity that this line would carry.	Comment noted. The C-HC Project has been independently modeled and verified by multiple entities, including MISO, which used a planning process approved by FERC. The Utilities have modeled and evaluated the C-HC Project, and the state regulatory agencies (PSCW and IUB) are currently evaluating the project. RUS and the other Federal agencies are considering all information, in addition to public comments, when analyzing the C-HC Project to comply with NEPA. This is explained in EIS Chapter 1. The Federal agencies must consider reasonable alternatives when considering their Federal decision. As discussed in EIS Chapter 2, Section 2.2.2, non-transmission alternatives are not responsive to the applications to which the Federal agencies are responding, nor do they meet the six-point purpose and need described in EIS Chapter 1. The Federal EIS considers alternatives that are ripe for Federal consideration. What that means is that a proposal has been made for those alternatives or that it is reasonably foreseeable that they could be implemented in a time frame that would meet the need for the Federal action.

Organization	Commenter Last Name	Comment Code(s)	Comment on DEIS	Agency Response to Comment
	Leibold	SOCIO01; SOCIO06	The proposed transmission line is a "black cloud" that reduces property values, impairs conservation easements to protect lands, and stalls rural economic development. High-voltage transmission lines have a significant negative impact on property values. Additionally, ATC's decision to delay the in-service date of the CHC line until 2023 exacerbates this problem. Landowners and buyers are reluctant to make commitments to potential land sales, property improvements and conservation projects because of uncertainties about future property values. It will not serve the public's best interests nor promote the health, beauty and diversity of the Driftless Area.	Comment noted.
	Tremelling	DECI13	I am writing to express my opposition to the proposed construction of the ATC Cardinal-Hickory Creek high transmission line. My family roots date back to the 1820s when they originally settled in the Montfort area. For generations our family has cherished the beauty of the land and wildlife, what the land provides for growing high quality crops, raising healthy livestock, and raising healthy and strong children. Our family has fought and overcome detrimental storms and droughts, the Great Depression when so many lost their land. We work with the DNR to preserve the Blue River for fishing, and the Grant & Iowa County farm service agencies to preserve our land. But today, we are faced with our greatest opponent: The American Transmission Company. It is difficult to believe that a Wisconsin based company could have so little consideration for the rural areas of this state and the negative impact this will have on our lives and environment. My research has shown there are far more detriments to the installation of high voltage transmission lines and substations than benefits.	Comment noted.
	Tremelling	NEP02; SOCIO01	Need: I have searched for a valid reason why the Cardinal Hickory Creek Transmission Line is needed. What I have found states that the power will be used in the "Power being transmitted through these lines will not be used for the communities in SW Wisconsin but areas in greater need"...obviously big cities. o Source – chubbuch@madison.com <mailto:chubbuch@madison.com> : ...\$500 million transmission line between Dubuque, IA and Madison, WI. Our communities will "share" in the astronomical expense with other 15 states. If plans are canceled (FERC), Midwestern utility customers would be stuck with some of the costs, owners would be allowed to recover all "prudently incurred costs" though rates they charge utilities to move power across their lines.	Comment noted. EIS Chapter 1 describes the need for the C-HC Project as well as the decisions facing the three Federal agencies that have received loan or permit applications for the C-HC Project.
	Tremelling	HAS01	Health and Safety Issues: * Dr. Samuel Milham, medical epidemiologist in occupational epidemiology; one of the first scientists to report increased leukemia, and other cancers in electrical workers: "Very recently, new research is suggesting that nearly all the human plagues which emerged in the twentieth century, like common acute lymphoblastic leukemia in children, female breast cancer, malignant melanoma and asthma, can be tied to some facet of our use of electricity. There is an urgent need for governments and individuals to take steps to minimize community and personal EMF exposure." * Martin Blank, Associate Professor, Dept. of Physiology & Cellular Biophysics, Columbia University College of Physicians and Surgeons: "Cells in the body react to EMFs as potentially harmful, just like to other environmental toxins, including heavy metals and toxic chemicals. The DNA in living cells recognizes electromagnetic fields at very low levels of exposure; and produces a biochemical response. The scientific evidence tells us that our safety standards are inadequate, and that we must protect ourselves from the exposure of EMFs due to power lines, cell phones and the like, or risk the known consequences. The science is very strong and we should sit up and pay attention."	Section 3.13 of the EIS discloses information about electric and magnetic fields.
	Tremelling	HAS01	* Deaths due to falling ice. Source: nationalsafetyinc.org <http://nationalsafetyinc.org> Icicles may become several feet long, and if they fall from as little as one floor height, can cause property damage, injury and even death. Ice can form quickly on the cold metal of towers even with no rain, snow or much moisture. Ice forms around the cold metal and builds while temperatures remain below freezing. When ice warms and falls from the tower it becomes a hazard.	Comment noted. EIS Section 3.13 has been revised to address public comments about potential impacts from severe weather events.
	Tremelling	ALT02; VEG04	Installation and Maintenance Concerns: www.hydroquebec.com <http://www.hydroquebec.com> source for installation stages: * Transporting materials to the tower sites – access roads, bridges, culverts placed * Building the foundations and anchors – begins with clearing the area, possible pumping for wetlands. * Assembling the towers – use of heavy machinery, steel plates for wetlands * Raising the towers – use of telescopic crane * Unreeling and installing the conductors – conductors are unreeled and strung section by section tower to tower * Installing the counterpoise wires – installed to ground each tower – an underground conductor * Restoring the site – removal of debris, dismantling of temporary accesses, repairs to roads, seeding of soil, etc. It is evident that this is a major construction project	Comment noted.
	Tremelling	ALT02	– questions to be answered: * Length of time from start to completion – obviously this is not a few weeks, but years.	EIS Chapter 3 explains that construction of the C-HC Project is estimated to take up to 3 years.
	Tremelling	NOISE01; SOCIO01	* Noise and disruption during construction for local citizens, local businesses, tourism, livestock, wildlife. * Who is responsible for funding this? This should not be the local citizens not benefiting from this:	Dairyland Power Cooperative is requesting financing assistance from RUS for its participation as a partial owner of the C-HC Project. RUS's proposed Federal action is to decide whether to provide financial assistance for Dairyland Power Cooperative's participation as a partial owner of the C-HC Project.
	Tremelling	TRANS02	o Project materials, repairs, workers, fuel, etc. o Increased traffic and heavy equipment on local highways, roads, bridges, city streets due to project– will adversely affect quality and longevity of our roads & highways many of which presently need repairs and upkeep. Cost of upgrading bridges, etc.	Potential impacts to the transportation system are discussed in EIS Section 3.8. During the construction and operation phases of the project, coordination would be required with the U.S. Department of Transportation, FHWA, Iowa Department of Transportation, WisDOT, and local agencies to ensure the weight loads and width of the existing facilities are considered in the project planning and delivery of materials and equipment.
	Tremelling	HAS01	* Construction accidents – adequate compensation for citizens adversely affected during construction (bodily, property)	Comment noted. Potential impacts to public health and safety are disclosed in Section 3.13 of the EIS.
	Tremelling	HAS01; LAND03; NOISE01	Maintenance: * Low flying helicopters checking lines – noise and potential for accidents. * Unrestricted access to crews could pose disease control issues for livestock.	Comment noted. Section 3.13 of the EIS discloses potential impacts to public health and safety that could occur from wildfire, occupational safety, hazardous materials, and electric and magnetic fields.
	Tremelling	HAS01; VEG01	* Equipment could set off sparks leading to fires during droughts	Potential impacts from wildfire are disclosed in EIS Section 3.13.
	Tremelling	LAND01; WLDLF01	Ecosystem Harm: Southwestern Wisconsin is known as the "Driftless" area of Wisconsin was home for years to various wildlife that once bordered on the edge of extinction that have now returned and are commonly seen today thanks to the efforts of environmental group campaigns to ban toxic insecticides, year-round hunting, and re-establishing habitats, i.e., the Bald Eagle, Bluebirds, Monarchs, Bobcats, etc. Now they are endangered once again with the ATC high voltage transmission lines. * Source - Responsible Electricity Transmission for Albertans, August 25, 2016	Comment noted.

Organization	Commenter Last Name	Comment Code(s)	Comment on DEIS	Agency Response to Comment
	Tremelling	WLDF01	The US Fish and Wildlife Service estimates close to 175 million birds are killed annually in the US from crashing into overhead powerlines. A comprehensive study in 2013 estimates 228.5 million birds are killed every year in Canada by transmission lines built above ground. * Source – help.leonardo-energy.org <http://help.leonardo-energy.org>	Comment noted. EIS Section 3.4 discloses potential impacts to bald eagles and other migratory birds.
	Tremelling	LAND02	o Agricultural lands may permanently reduce the area under cultivation and cause physical damage during construction and maintenance.	EIS Section 3.10 discloses potential impacts to agricultural lands.
	Tremelling	WLDF01	o Main impact is avian collisions which is particularly significant in high risk areas such as wooded regions and bird migration corridors. * Source – www.post-gazette.com <http://www.post-gazette.com> Mark Kimmel, York County Conservation District manager.	Comment noted. EIS Section 3.4 discloses potential impacts to bald eagles and other migratory birds.
	Tremelling	VEG03	"Reduction to tree canopy is bad for the environment. It's something you won't recover anytime soon. Forest removal often makes way for invasive plant species." * Source – discovermagazine.com <http://discovermagazine.com>, March 16, 2009	Comment noted. EIS Section 3.3 discloses potential impacts from invasive species.
	Tremelling	HAS01	High voltage power lines which emit strong magnetic fields of their own disrupt the orientation of cattle and deer. Near these lines their neat alignment * Source – Impacts to Birds and Bats due to Collisions and Electrocutions, Electronic Silent Spring, Albert M. Manville, II	Section 3.13 of the EIS discloses information about electric and magnetic fields, and EIS Section 3.4 discloses potential impacts to wildlife.
	Tremelling	HAS01; WLDF01	Bird collisions occur primarily with energized transmission wires and wires on top of transmission towers not visible to birds in flight. Electrocutions occur at distribution lines and their infrastructures. Bats have been found in bird mortality searches in both transmission and distribution powerline corridors.	Comment noted. Potential impacts to wildlife are disclosed in EIS Section 3.4.
	Tremelling	HAS01	Resilience to Storms: Repercussions to communities following a tornado, ice storms, frigid temperatures is something to consider: * Source – WGLR Radio. January 31, 2019 – Due to an ATC transmission line going out, which affected three substations, SW Wisconsin communities suffered power outages just before 4 AM due to severe temperature drops affecting 771 customers south of Montfort, 578 customers near Rewey and 466 customers near Belmont, power was not returned to some areas until 8 AM. Another 465 customers were without electricity in the area of Elkader Iowa outage began at 6:15 AM and restored after 9 AM. A portion of Potosi was without power from around 4 AM until 11 AM. * Source – Responsible Electricity Transmission for Albertans, July 31, 2017 Overhead high voltage powerlines and towers have been destroyed during tornados and ice storms, and deteriorate from exposure to weather. On July 31, 1987, a tornado hit Edmonton, Canada. High voltage transmission towers and lengths of overhead lines were brought down and scattered between 17 street and 21 street. The storm destroyed the substation causing \$6-8 million damage to power equipment. July 31, 2017 The tornado traveled right along multiple overhead TransAlta high voltage transmission lines for many kilometers. Transmission towers and lines were ripped down by the strong winds...Some data show that tornados are attracted to above ground high voltage transmission lines. * Source – Times Free Press, May 3, 2011 The Strong Bridgeport tornado – in all more than 200 power towers were damaged in the storms. Each tower is 120 feet to 150 feet tall and weights 20,000 to 30,000 pounds. More than 90 high voltage power transmission lines bent like pipe cleaners. We saw TVA power transmission lines twisted like bow ties, said Eric Holweg, a National Weather Service meteorologist.	Comment noted. Section 3.13 of the EIS has been revised to address public comments about risks from severe weather and security breaches.
	Tremelling	ALT04	Alternative Consideration: * Burying high voltage transmission line benefits: o Essentially eliminates the negative health effects of long-term exposure to EMFs. o Flying aircraft, migratory birds, butterflies, bees o Silent except near transmission stations o Property value unaffected o Aesthetics for locals and tourism o Lines unaffected by weather In closing please consider stopping the Cardinal Hickory Creek Project in SW Wisconsin.	EIS Chapter 2 discusses the alternative of burying the transmission line underground.
	Tremelling	DECI13	As a member of a large family owned farm located in both Grant County & Iowa County, I am vehemently opposed to the establishment of the Cardinal Hickory Creek transmission lines project throughout our beautiful Driftless area in southwest Wisconsin for multiple reasons. Please consider the items and supporting documentation I am submitting:	Comment noted.
	Tremelling	NEP02	UNNEEDED: * Only 60% capacity of the current 168kV line is being used. In other words, the supply is far greater than the current demand. * Even Jay Regnier, Vice President of Projects for Project Resources Commission (PRC) is quoted in the November 15, 2018, Herald Independent (Lancaster WI) stating the connecting proposed wind towers to transmission lines is not an issue: "That does not include the Cardinal Hickory Creek proposed transmission line – Regnier said that they feel there is room on the existing 168 kV line there. Regnier said that the space on the existing transmission line is why they decided to connect and transmit power".	Comment noted. EIS Chapter 1 describes the need for the C-HC Project as well as the decisions facing the three Federal agencies that have received loan or permit applications for the C-HC Project.
	Tremelling	SOCIO01; SOCIO06	ECONOMIC IMPACTS: * The cost of the CHC project construction is projected to cost \$500-\$700 million, with additional expenses to raise the cost over \$1 billion dollars. This project will drive up the cost of our already high Midwest utilities. https://driftlessdefenders.com/page/3/ * In June I attended a meeting where Kurt Kielisch, a forensic real estate appraiser, spoke. Mr. Kielisch, has been tracking the effects of property value being reduced due to the American Transmission Company (ATC) lines for quite some time. Referencing a June 1, 2006, article titled POWER LINE WORRIES LANDOWNERS APPRAISER SAYS VALUES COULD DROP 15-20%: "Kielisch says his research indicates a power line typically slashes 15 to 20 percent off the market value of residential land it crosses". https://madison.com/business/power-line-worries-landowners-appraiser-says-values-could-drop/article_d2f1d662-9d7c-5373-a144-d111e3f4e761.html * In Seattle, it was found homes abutting High Voltage Overhead Transmission Lines (HVOTL) had a significant 11.23% negative decrease in home prices. https://www.myappraisalinsitute.org/webpac/pdf/TAJ2017/TAJ_Sum17_179-193_PR-Transmission.pdf * Per a November 2018 Dodgeville Chronicle article IOWA COUNTY BOARD DEBATES INTERVENING INTO CARDINAL-HICKORY CREEK PROPOSED PROJECT, a local resident attempting to sell his home in the line of the CHC has found the value has dropped 30% and two potential buyers backed out upon learning of the CHC line.	Comment noted. Potential impacts to social and economic conditions, including property values, are provided in EIS Section 3.12. RUS has reviewed the recommended citation of the 2017 peer-reviewed article and has incorporated this information into the EIS.
	Tremelling	NEP02; SOCIO01	* As I understand the power being transmitted through these lines will not be for the use of communities and residents of southwest Wisconsin, but for areas of greater need. This being the case, it makes no sense that southwest Wisconsin residents be burdened with increased electric bills to finance the high voltage line when we receive no benefit.	Comment noted.
	Tremelling	SOCIO01	* Southwest Wisconsin is home to some large companies, such as Lands End. The August 21, 2016 Wisconsin State Journal article BIG INDUSTRIES SAY HIGH ELECTRIC PRICES MAY PUSH THEM OUT OF WISCONSIN warns the PSC: "High electric rates in Wisconsin could spark some of the state's big manufacturers to move or expand elsewhere, the Wisconsin Public Service Commission is being warned". Loss of large employers would create high unemployment, and the inability to pay bills. https://madison.com/wsj/business/big-industries-say-high-electric-prices-may-push-them-out/article_c1fab70d-3bb0-5035-bb62-410289c9309e.html	Comment noted.

Organization	Commenter Last Name	Comment Code(s)	Comment on DEIS	Agency Response to Comment
	Tremelling	SOCIO01; SOCIO03	The increase in monthly Alliant Energy bills will be a hardship to southwest Wisconsin residents. Example (redacted) Alliant Energy bill from the state of Iowa shows a significant jump in a customer's monthly utility bill of \$65.17 due to added fees: 1) Energy Cost and 2) Regional Transmission Service. (I can provide a copy if requested.) If you are unaware, we are primarily rural farming communities who have been hit with significant hardships due to imposed commodity tariffs, poor commodity prices (milk, corn, soybeans, etc.), impacts of weather causing significant crop losses and disease/death of livestock.	Comment noted.
	Tremelling	SOCIO03	Small businesses will also be impacted, as tourists come to the Driftless area for its aesthetic beauty and peace. The beauty will disappear, therefore, the economy for small business owners will collapse.	Potential impacts to visual quality and aesthetics are disclosed in EIS Section 3.11, and potential impacts to social and economic conditions, including tourism, are disclosed in EIS Section 3.12.
	Tremelling	HAS01; SOCIO01	Expense of hiring an expert to measure your exposure of electromagnetic fields (EMF).	Potential exposure to electric and magnetic fields is disclosed in Section 3.13 of the EIS.
	Tremelling	DEC113	Will only be lining the investors pockets more than 10% annually, and draining the pockets of the common folk that are struggling economically already. SIDE QUESTION: I want to know how many of these investors live under their transmission lines?	Comment noted.
	Tremelling	HAS01	HEALTH IMPACTS/RISKS OF POWER LINES: * "Hundreds of studies worldwide have shown that living next to high voltage power lines and other parts of the power transmission network increases your risk of cancer and other health problems". The following image says it all concerning health risks: https://www.safespaceprotection.com/emf-health-risks/emf-health-effects/power-lines/ * "According to research and publications put out by the World Health Organization (WHO), EMF such as those from power lines can cause: o Headaches o Fatigue o Anxiety o Insomnia o Prickling and/or burning skin o Rashes o Muscle pain o Vegetables lacking nutrition" https://www.safespaceprotection.com/emf-health-risks/emf-health-effects/power-lines/ * The international Journal of Oncology published the following, August 2017: "Call for Protection from Non-ionizing Electromagnetic Field Exposure was made by the International Electromagnetic Field Scientist Appeal, initial release date May 11, 2015, latest version's date January 29, 2017 with 222 signatures from 41 nations: 'We are scientists engaged in the study of biological and health effects of non-ionizing electromagnetic fields (EMF)... Effects include increased cancer risk, cellular stress, increase in harmful free radicals, genetic damages, structural and functional changes of the reproductive system, learning and memory deficits, neurological disorders, and negative impacts on general well-being in humans. Damage goes well beyond the human race, as there is growing evidence of harmful effects to both plant and animal life. These findings justify our appeal to the United Nations (UN) and, all member States in the world, to encourage the World Health Organization (WHO) to exert strong leadership in fostering the development of more protective EMF guidelines, encouraging precautionary measures, and educating the public about health risks, particularly risk to children and fetal development. By not taking action, the WHO is failing to fulfil its role as the preeminent international public health agency.' (https://www.emfscientist.org/index.php/emf-scientist-appeal < https://www.emfscientist.org/index.php/emf-scientist-appeal >". https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5504984/	Section 3.13 of the EIS discloses information about electric and magnetic fields.
	Tremelling	ALT04	ALTERNATIVE ENERGY: I believe we should be given a choice in our energy resources for southwest Wisconsin. The ATC is not giving us a choice, it is being forced upon us. Alternatives are choices. http://www.altenergy.org/ * Solar Power – harnessing power from the sun. * Wind Power - wind pushing turbines to create energy. * Biomass Energy – combustion system for biomass can produce electricity. * Super Conducting Transmission Line - are buried, not above ground. Calculation shows that high currents of super-conducting transmission lines do not pose a threat. https://www.researchgate.net/publication/284359690_Superconducting_transmission_lines_-_Sustainable_electric_energy_transfer_with_higher_public_acceptance < https://www.researchgate.net/publication/284359690_Superconducting_transmission_lines_-_Sustainable_electric_energy_transfer_with_higher_public_acceptance > * "Many benefits of burying high voltage high voltage power lines. Essentially, all of the negative impacts... are either eliminated or significantly reduced when power lines are buried. And, when capital maintenance and transmission loss costs are combined over the life of a line, underground lines are less expensive than overhead lines". https://retasite.wordpress.com/2012/08/03/nobody-wants-overhead-high-voltage-power-lines/ * A few other sources concerning energy alternatives: o https://www.eia.gov/energyexplained/?page=renewable_home o https://sparknorthwest.org/projects/ o https://phys.org/news/2009-05-feasible-renewable-energy-sources.html	Comment noted. EIS Chapter 1 describes the need for the C-HC Project as well as the decisions facing the three Federal agencies that have received loan or permit applications for the C-HC Project. As discussed in EIS Chapter 2, Section 2.2.2, non-transmission alternatives are not responsive to the applications to which the Federal agencies are responding, nor do they meet the six-point purpose and need described in EIS Chapter 1. The Federal EIS considers alternatives that are ripe for Federal consideration. What that means is that a proposal has been made for those alternatives or that it is reasonably foreseeable that they could be implemented in a time frame that would meet the need for the Federal action.
	Tremelling	VIS01	AESTHETICS: * View youtube video of Wisconsin's beautiful Driftless Area WHY I LOVE WISCONSIN'S DRIFTLESS AREA. Then, afterward picture the same and ask yourself WHY anyone would want to scar this beautiful region with hideous unneeded giant transmission towers. https://www.youtube.com/watch?v=1yg2AlepunU	Comment noted.
	Tremelling	SOCIO06; VIS01	Refer to Economic Impacts, bullet #4. Below is a visual to help you visualize the aesthetic impact of how the CHC lines will impact home and land sales:	Comment noted.
	Tremelling	NEP02	INEFFICIENT: * As I understand the electricity in the CHC transmission lines are not for southwest Wisconsin residents consumption. My research shows power being transmitted long distances has significant losses. A March 25, 2013, article HOW BIG ARE POWER LINE LOSSES written by Jacques Schonek states: "Electricity has to be transmitted from large power plants to the consumers via extensive networks. The transmission over long distances creates power losses... The overall losses between the power plant and consumers is then in the range between 8 and 15%". https://blog.schneider-electric.com/energy-management-energy-efficiency/2013/03/25/how-big-are-power-line-losses/ Again, I ask you to please review all the documentation and studies I have provided to you, and to really consider all the impacts of bringing the CHC line across southwestern Wisconsin.	Comment noted. EIS Chapter 1 describes the need for the C-HC Project as well as the decisions facing the three Federal agencies that have received loan or permit applications for the C-HC Project.
Osage Nation	Schmidt	DEC112; PUB05	The Osage Nation requires all of their Section 106 reviewed to be mailed through the postal service.	Comment noted. Follow-up communication with the Osage Nation has occurred.
	Schmidt	VIS01	Hello, I grew up in Wisconsin, beautiful natural and pristine. Last summer I flew into Minneapolis from a trip to Iceland and drove on Interstate 90 back to Madison to visit family. I could not believe what I saw, the new power lines along the Interstate are absolutely horrendous and such an eye sore. I almost cried that someone allowed our beautiful state to be bastardized with those unsightly power lines. At a time when our country should be focused on clean energy, we are spending millions of dollars building these antiquated lines?	Comment noted.
	Schmidt	DEC113	At a time when our country should be focused on clean energy, we are spending millions of dollars building these antiquated lines? Totally mystified and saddened. My first thought was that some big business was lining their pockets at the expense of our environment. I have always believed that Wisconsin was ahead of our time in being a green and progressive state when it came to the environment and being good stewards of our planet. I hope you will reconsider the endeavor at Cardinal Hickory project, it is not good for anyone.	Comment noted.

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	Schwoerer	ALT01	There has to be better alternatives.	Comment noted.
	Schwoerer	DECI13	I want to express my opposition to this transmission line. People living in every proposed route for it are vehemently opposed to it and have been from the start.	Comment noted.
	Schwoerer	NEP02	There is no energy shortage and no need for it.	Comment noted.
	Schwoerer	DECI13	It is just another way for a super rich party (or parties—I do not know the extent of the wealth it intends to bring to ATC and others) to add to their current mega-wealth. The environment should be the consideration!	Comment noted.
	Schwoerer	TRANS03; VEG01; WLDLF01	People have mentioned streams, native plants and animals that need to be protected. I agree with them.	Comment noted. EIS Section 3.3 discloses potential impacts to vegetation, EIS Section 3.4 discloses potential impacts to wildlife, and EIS Section 3.5 discloses potential impacts to water resources.
	Schwoerer	DECI13	With alternative forms of generating electricity now, big, ugly power lines are not necessary. Greed is the reason for so many attacks on natural areas and resources. We can't get these back once they are destroyed. We have to think about generations to come.	Comment noted.
Western Dane Preservation Campaign	Hahn	INFO01	Hello everybody. Our next WDPC meeting will be Tuesday 19 February at 6:30 pm at the GrandStay Hotel in Mt Horeb. If you have agenda items to discuss, please let me know. We will discuss how to prepare for and submit comments on the Federal Draft Environmental Impact Statement. The deadline for written public comments is now 1 April 2019. April Fool's Day. We will not be fooled - no need for the CHC! The in-person public comment sessions have also been rescheduled. We have no dates for the in-person meetings yet. Your comments are important and will go "on the record" to influence the final federal DEIS. Please contact us if you need ideas on how/what to comment for the federal DEIS. Chapter 3 is highly relevant. Thanks everybody! Kerry Beheler Secretary WDPC website: wdpc2020 Here is a link to the federal DEIS. https://www.rd.usda.gov/files/CHC_DEIS_Vol_I_Web_508_111918.pdf This message below is from RUS. RUS contact information is below.	Comment noted.
	Brock	ALT04	Bury the lines. Put them underground if the power is a must. Deb Brock, a frequent driver through the area.	EIS Chapter 2 discusses the alternative of burying the transmission line underground.
	Hahn	DECI13	The transmission line is a BAD idea! For our community and for our environment and for our future, please do the RIGHT thing and oppose this project. Thank you.	Comment noted.
Leech Lake Band of Ojibwe	Burnette	DECI12; INFO04; PUB05	Dear Engineering and Environmental Staff, You may have sent this to my office accidentally. We are a tribal government rather than a stakeholder. A stakeholder is something different. If you have review requests for section 106 to send to our office for areas of interest for the Leech Lake Band of Ojibwe, you may send those addressed to me; Amy Burnette, Leech Lake Band of Ojibwe, Tribal Historic Preservation Officer, rather than a mass mailing. Here is a list of Leech Lake Band of Ojibwe current areas of interest: MICHIGAN, BARAGA County; MICHIGAN, DELTA County; MICHIGAN, DICKINSON County; MICHIGAN, GOGEBIC County; MICHIGAN, HOUGHTON County; MICHIGAN, IRON County; MICHIGAN, KEWEENAW County; MICHIGAN, MARQUETTE County; MICHIGAN, MENOMINEE County; MICHIGAN, ONTONAGON County; MINNESOTA, AITKIN County; MINNESOTA, ANOKA County; MINNESOTA, BECKER County; MINNESOTA, BELTRAMI County; MINNESOTA, BENTON County; MINNESOTA, CARLTON County; MINNESOTA, CASS County; MINNESOTA, CHISAGO County; MINNESOTA, CLAY County; MINNESOTA, CLEARWATER County; MINNESOTA, CROW WING County; MINNESOTA, DOUGLAS County; MINNESOTA, HUBBARD County; MINNESOTA, ISANTI County; MINNESOTA, ITASCA County; MINNESOTA, KANABEC County; MINNESOTA, MAHONOMEN County; MINNESOTA, MILLE LACS County; MINNESOTA, MORRISON County; MINNESOTA, NORMAN County; MINNESOTA, OTTER TAIL County; MINNESOTA, PINE County; MINNESOTA, POLK County; MINNESOTA, POPE County; MINNESOTA, STEARNS County; MINNESOTA, TODD County; MINNESOTA, WADENA County; MINNESOTA, WASHINGTON County; NORTH DAKOTA, BARNES County; NORTH DAKOTA, CASS County; NORTH DAKOTA, CAVALIER County; NORTH DAKOTA, GRAND FORKS County; NORTH DAKOTA, NELSON County; NORTH DAKOTA, PEMBINA County; NORTH DAKOTA, RAMSEY County; NORTH DAKOTA, RANSOM County; NORTH DAKOTA, RICHLAND County; NORTH DAKOTA, SARGENT County; NORTH DAKOTA, STEELE County; NORTH DAKOTA, TRAILL County; NORTH DAKOTA, WALSH County; WISCONSIN, ASHLAND County; WISCONSIN, BARRON County; WISCONSIN, BAYFIELD County; WISCONSIN, BURNETT County; WISCONSIN, CHIPPEWA County; WISCONSIN, CLARK County; WISCONSIN, DOUGLAS County; WISCONSIN, DUNN County; WISCONSIN, EAU CLAIRE County; WISCONSIN, FLORENCE County; WISCONSIN, FOREST County; WISCONSIN, IRON County; WISCONSIN, LANGLADE County; WISCONSIN, LINCOLN County; WISCONSIN, MARATHON County; WISCONSIN, MARINETTE County; WISCONSIN, MENOMINEE County; WISCONSIN, OCONTO County; WISCONSIN, ONEIDA County; WISCONSIN, PEPIN County; WISCONSIN, POLK County; WISCONSIN, PORTAGE County; WISCONSIN, PRICE County; WISCONSIN, RUSK County; WISCONSIN, ST. CROIX County; WISCONSIN, SAWYER County; WISCONSIN, SHAWANO County; WISCONSIN, TAYLOR County; WISCONSIN, VILAS County; WISCONSIN, WASHBURN County; WISCONSIN, WOOD County And St. Louis County and Koochiching County in Minnesota	Comment noted. Follow-up communication with the Leech Lake Band of Ojibwe has occurred.
Iowa Chapter of the Sierra Club	Mackey Taylor	ALT07	The Iowa Chapter of the Sierra Club is offering the following comments concerning the Draft Environmental Impact Statement for the Cardinal-Hickory Creek transmission line project. We are commenting only on the Iowa portion of the project. The Iowa Chapter of the Sierra Club supports using the existing transmission line easements and Mississippi River crossings near Cassville, Wisconsin, for the Cardinal-Hickory Creek project. This is preferable to acquiring and creating a new easement. Although this crosses the Upper Mississippi River National Wildlife Refuge, there are limited numbers of locations where a transmission line can cross. We do not support any options where new easements are created through the National Wildlife Refuge. Furthermore we support following the existing transmission line corridors in Iowa.	Comment noted.
Iowa Chapter of the Sierra Club	Mackey Taylor	LAND07; WLDLF02	Since the Mississippi River is a major migratory corridor, it is essential that the transmission lines be built with deflectors, as you identified on page ES-13. It is essential that diverters be installed along the route from the Turkey River Substation to the river crossing. ITC has consulted with our organization about the route in Iowa. We believe that they have done an excellent job of avoiding natural areas and significant wildlife habitat. We appreciate the planning work that ITC has done in Iowa. In Table ES-4 on pages ES-12 to ES-16, the Draft Environmental Impact Statement lays out commitments for protecting the natural areas and environment. If this project proceeds to actually building the transmission line, it will be absolutely essential that these commitments are diligently followed. Thank you for considering these comments.	Comment noted.
	Laufenberg	NEP02; SOCIO06	To whom it may concern: We are in strong opposition to the Cardinal-Hickory Creek Transmission Line. A section of our property is being considered as a part of an "other route segment" for the line. It is ethically irresponsible for a for-profit company to use and devalue our private property for their profit. We built our modest passive solar home 25 years ago. Since then we have added two active solar systems. We contribute	Comment noted.

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			to the current and sufficient electric grid. We have done our part and tried to be frugal and environmentally responsible in every aspect of our lives. This environmentally destructive, invasive and expensive line is not necessary and is already out of touch with current and future green technology.	
	Laufenberg	VEG01; WAT01	The particular "other route segment" on our property runs parallel to a headwaters of the Sugar River. We are very concerned about the detrimental impact of this power line on this environmentally significant piece of property. We plant our vegetables and restore and harvest wood to heat our home from this property. It is our life.	Comment noted. EIS Section 3.5 discloses potential impacts to water resources and quality.
	Laufenberg	DECI13	How many ways must the people of Wisconsin say that we don't want this outdated power line ruining our communities and our lives? We have attached an in depth letter regarding our concerns. Please review this letter for additional details.	Comment noted.
	Laufenberg	WLDF01	We own a 35.8 acre parcel which we secured as a future home site to finance our retirement. We have already invested in power, the road, and the land. Section TO5 is also adjacent to the future home site, and UO2 runs parallel to it. Section UO2 Concerns: Effects on the Headwaters of the Sugar River and Wildlife: Construction in the ROW area, and the presence of these power lines will potentially threaten the habitat for many species of wildlife that currently depend on our property and downstream ecosystem health. The habitats near UO2 of the proposed route include wooded, agriculture and the Sugar River tributary. It is important to maintain the health of the headwaters of the Sugar River to provide a lasting habitat for wildlife. Eagles, hawks, sand hill cranes, ducks, turkey, fox, deer, owls and many other species of wildlife are dependent on this habitat. In addition to the flora and fauna that rely on the headwaters of the Sugar River on our property, ecosystem health of river tributaries has documented cascading impacts on downstream ecosystem health.	Comment noted. Potential impacts to wildlife and wildlife habitat are disclosed in EIS Section 3.4.
	Laufenberg	WLDF01; WLDF02	The International Crane Foundation states that high power lines are the biggest threat to the sand hill cranes. The cranes flight would take them directly through the space that the power lines would occupy. The eagles are also dependent on this land and water and use a large expanse of air space. The line would diminish their prospects and habitat	Comment noted. EIS Section 3.4 discloses potential impacts to bald eagles and other migratory birds (including sandhill crane).
	Laufenberg	WAT01	We are also very concerned about the heavy rains and damaging storms that we have observed over the past several years. The river and our valley property provide an important natural flow for the storm water. We have concerns about the line bringing in such large equipment and disrupting the already compromised landscape due to the "new normal" storms. We believe that this project will significantly disturb the landscape around the Sugar River and jeopardize its resiliency in extreme weather events. We believe in appropriate land use planning to ensure a more healthy water quality of the Sugar River. Conservation Reserve Program We placed some of our at risk land in the Conservation Reserve Enhancement Program to improve ecosystem health and filter farmland runoff.	EIS Section 3.5 discloses potential impacts to water resources and quality, including potential impacts from water erosion. EIS Section 3.10 discloses potential impacts to land use, such as lands enrolled in conservation programs and easements.
	Laufenberg	LAND02; WAT01	We planted perennial prairie seeds along the Sugar River in 2016 to filter run off from farmland. This newly planted native pollinator seed is still establishing. The power line construction could potentially disrupt and impede the seed progress and benefits for the greater health of the Sugar River.	The vegetation environmental commitments listed in EIS Section 3.1 would be included in, and thereby enforced by, applicable permits, authorizations, and orders issued by Federal and state agencies.
	Laufenberg	NEP02	Production: We built our passive solar home 25 years ago with green and environmental intentions. We live conservatively and were recently able to invest in active solar photo voltaic systems. The active system powers our home, heats our water and contributes local green power to the grid. It is an expense that we were willing to afford. We strive to be a part of the environmental solution and not a part of the problem. We are trying to invest in a better and healthier environment for the present and the future. We would like to see a more substantial and progressive push in the direction of alternative and more environmentally energy efficient sources. The building of this invasive power line reduces the likelihood of future investments in better ideas, technology, and local green power.	Comment noted.
	Laufenberg	LAND02; SOCIO01; SOIL04	Impacts for Agricultural Use: During construction we would not be able to rent out the adjacent farmland and would take a financial loss in excess of \$700.00 per year. After the line has been completed there will be agriculture production impacts due to soil quality and integrity. The current top soil is a well-drained silt loam; this soil type is particularly valuable for crop production, water filtration and nutrient composition. Using stock soil to replace the land that is jeopardized during line construction will not replace the soil that is currently in place. Additionally, the use of heavy equipment has lasting impacts, including subsoil compaction. It's hard to put yield or economic values on the reduction of land and soil quality over time, however, the installment process would certainly reduce this lands potential for agriculture.	Comment noted. Impacts to soils are presented in Section 3.2 and impacts to agricultural lands is presented in Section 3.10.
	Laufenberg	HAS01	Effects on Quality of Life: We have reasonable health concerns regarding the effects of electric and magnetic fields. We would need to drive directly under these lines daily on our commute to Madison.	Section 3.13 of the EIS discloses information about electric and magnetic fields.
	Laufenberg	SOCIO01	Our landscape and lifestyle would be greatly diminished by this power line. We have strived to maintain and improve our property with additional native plantings and trees. We have watched the squirrels plant the acorns and we have nurtured the young oaks that survived. We harvest the old wood to heat our home. We have observed and fed beautiful migrating birds in the spring and fall and sent them on their way. We watch the possum out our window and hope that he is eating his share of ticks. We grow squash, potato, onions, beans and sunflowers on land adjacent to the proposed site. We eat these vegetables all winter. We have protected this land because it is how we have chosen to live. We believe that it is important to protect this special piece of land at a headwaters of the Sugar River.	Comment noted.
	Laufenberg	SOCIO06	Financial Impact: The property value of our existing home is already diminished due to the prospect of this line. We have worked hard to maintain this land. We have been frugal and intentional in our plans for our property. The line runs along our future building site that we hoped to use for our retirement funds. So, now what?	Comment noted. Potential impacts to social and economic conditions, including property values, are provided in EIS Section 3.12.
	Laufenberg	ALT04; NEP02	Proposal for Alternatives: We do not believe that there is a need for the proposed transmission lines. We have already installed solar power at our home that contributes to the grid. Another neighbor has installed wind energy to supplement usage. Improvement toward more energy efficient appliances and lighting already require less demand on our electric systems. Alternative power and efficiency could quickly make these invasive lines obsolete. We believe that local alternative energy sources and the existing power lines can fulfill the power needs of our region. We do not need additional power from out of state, if we can create our own in a more environmental and sustainable process.	Comment noted. The C-HC Project has been independently modeled and verified by multiple entities, including MISO, which used a planning process approved by FERC. The Utilities have modeled and evaluated the C-HC Project, and the state regulatory agencies (PSCW and IUB) are currently evaluating the project. RUS and the other Federal agencies are considering all information, in addition to public comments, when analyzing the C-HC Project to comply with NEPA. This is explained in EIS Chapter 1. The Federal agencies must consider reasonable alternatives when considering their Federal decision. As discussed in EIS Chapter 2, Section 2.2.2, non-transmission alternatives are not responsive to the applications to which the Federal agencies are responding, nor do they meet the six-point purpose and need described in EIS Chapter

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				1. The Federal EIS considers alternatives that are ripe for Federal consideration. What that means is that a proposal has been made for those alternatives or that it is reasonably foreseeable that they could be implemented in a time frame that would meet the need for the Federal action.
	Laufenberg	ALT07	If deemed necessary, current lines and major highways would be preferred routes, as opposed to constructing new lines through residential homesteads, farmland, The Sugar River Tributary, and wooded areas	Comment noted.
	Laufenberg	NEP02; SOCIO01	Please consider the following: -Need for transmission lines in light of the stabilizing energy demands and the increase in the implementation of more environmentally preferred energy sources and energy efficiency. -Maintaining the ecosystem and beauty of the driftless area. - Financial, environmental, and quality of life costs to communities and property owners affected by the lines. Let's move forward with healthier energy efficiency, not backward! Let us not submit to old ideas, but invest in better technology and be an inspiration to other states around our beautiful country.	Comment noted.
	Carol	SOCIO06; VIS01	My wife and I strongly oppose the CHC Transmission Line Project. Twelve years ago, we purchased 37 acres of land from my wife's father to build our dream house to eventually retire in. Following several years of planning, designing, plotting the house site, and lots of hard work, our house was built. In addition to the house, we helped design our driveway which extends one half mile into our property from the adjacent count road. We extended the driveway that distance so we could enjoy the countryside in our backyard and to be removed from the county road, associated over head power lines, and neighboring structures. We also plotted our house to have southern exposure to reap the benefits of the sun's rays in providing heat and to overlook the wonderful Sugar River. We obviously do not want to look out our windows and see massive transmission towers scarring the natural landscape. Everyone must honestly ask themselves – "Would I want these towers in my back yard"? We are deeply concerned that if this project is approved, our quality of life will be significantly impacted in a negative way. In addition, the value of our property will be reduced. "How will our concerns be addressed in the Final Federal EIS"?	Comment noted. Potential impacts to social and economic conditions, including property values and tourism, are provided in EIS Section 3.12. Potential impacts to visual quality and aesthetics are disclosed in EIS Section 3.11.
	Wheat	SOCIO06	These houses would lose property value. The third proposed route, the yellow route, would take some land away from some of these properties. This route would place the towers south of the railroad tracks. The blue proposed route would also place the towers along Hwy 14 but on the north side of the tracks.	Comment noted. Potential impacts to social and economic conditions, including property values, are provided in EIS Section 3.12.
	Wheat	SOCIO06; VIS01	spoke with Diane Holmes-Kaub who is a Realtor with ReMax. She is the realtor who assisted my husband and I in the purchase of this home in Deer Run Heights. So, she is familiar with this area in particular. She has been in selling homes in the Madison area for 32 years. She gave me permission to use her name and her words. She told me that there is no question that buyers are reluctant to purchase homes where electric towers are on the property and even just when wires are in sight of the property. Some buyers will absolutely refuse to even consider a home with such conditions. And when home buyers do purchase properties with electric towers, poles or wires, they definitely offer less money for the purchase price. They do this, because knowing their own reluctance; they know that when it is time for them to sell the home, they will run in to the same concern from other buyers. • There are two main reasons why electric towers, poles and wires affect home values. First is the esthetics. They are just plain unsightly to virtually everyone. The second is that people are concerned about potential dangers of radiation from these wires. While one can cite study after study that presumably shows that there is little to no danger from radiation from these wires, that doesn't matter if a home buyer believes the radiation to be a problem. So, it may be more a problem of perception than reality, but that doesn't matter when it comes to the purchase of a home. People will not put their children, or themselves, in a home where they feel they are at risk. And for those who do, they will require a "really good deal" on the purchase price. So again, without question, these towers, poles and wires decrease property values. • When a person places a home on the market, they are required to disclose "known defects" and anything that is planned that may impact the value of the home. These towers, poles and wires meet that definition. Perhaps even now, but definitely, if and, when a plan for this line becomes certain, I would have to disclose this information when listing my home. The fact that I would be required to list this information is how we truly know that this line would negatively affect home and property values.	Comment noted. Potential impacts to social and economic conditions, including property values and tourism, are provided in EIS Section 3.12. Potential impacts to visual quality and aesthetics are disclosed in EIS Section 3.11. Potential impacts to public health and safety are disclosed in EIS Section 3.13.
	Wheat	NEP02	I have also invested in 15 solar panels with Arcadia Power to produce clean energy and all of the electricity I use is certified to come from clean energy sources. • With the trend being using less energy, we do not see a need for this line. There is data that shows that Wisconsin is steadily decreasing its energy use.	Comment noted.
Wisconsin's Green Fire: Voices for Conservation	Beheler	NEP01	I. INTRODUCTION: Wisconsin's Green Fire: Voices for Conservation (WGF) is an independent nonpartisan organization. WGF supports the conservation legacy of Wisconsin by promoting science-based management of its natural resources. Members represent extensive experience in natural resource management, environmental law and policy, scientific research, and education. Members have backgrounds in government, non-governmental organizations, universities and colleges and the private sector. More information about WGF can be found at www.wigreenfire.org. II. ENVIRONMENTAL RULES, Federal EIS process for the proposed CHC: The American Transmission Company (ATC), International Transmission Company, ITC Holdings, and Dairyland Power Cooperative have proposed construction of the Cardinal-Hickory Creek (CHC) 345 kV hvtl from Dubuque County, Iowa to Middleton, Wisconsin. The proposed CHC project would extend over 100 miles. The proposed CHC is subject to federal Environmental Impact Statement (EIS) review through the U.S. Department of Agriculture and Wisconsin review through the Wisconsin Public Service Commission (PSC). An EIS for the project is directed by the Wisconsin Environmental Policy Act (WEPA), s. 1.11 Wis. Stats., and the National Environmental Policy Act (NEPA). NEPA. The Rural Utilities Service Commission (RUS) is serving as the lead federal agency for NEPA review of the CHC. The U.S. Fish and Wildlife Service (USFWS), U.S. Army Corps of Engineers (USACE), and U.S. Environmental Protection Agency are cooperating federal agencies for the EIS. The National Park Service is serving as a participating agency. Regardless of the potential financial assistance from RUS to fund Dairyland's ownership interest in the CHC, a NEPA environmental review is required as part of the permitting actions by USACE, USFWS, and potentially other federal agencies. RUS regulations (7 CFR 1970.5 (b)(3)(iii)) require the Utilities to "develop and document reasonable alternatives that meet their purpose and need while improving environmental outcomes." NEPA requires agencies to assess the direct, indirect, and cumulative impacts of the alternatives carried forward for detailed analysis. Potential impacts were identified and evaluated for each aspect of the natural and built environments potentially affected by the CHC, including the following resources: geology and soils; vegetation, including wetlands and special status plants; wildlife, including special status species; water resources and quality; air quality; noise; transportation; cultural and historic resources; land use, including agriculture and recreation; visual quality and aesthetics; socioeconomics and environmental justice; public health and safety; and the Upper Mississippi River National Wildlife and Fish Refuge. WGF	Potential impacts to the resources listed are disclosed in the following EIS Sections: geology and soils (3.2), vegetation, including wetlands and special status species (3.3), wildlife, including special status species (3.4), water resources and quality (3.5), air quality and climate change (3.6), noise (3.7), transportation (3.8), cultural and historic resources (3.9), land use, including agriculture and recreation (3.10), visual quality and aesthetics (3.11), socioeconomics and environmental justice (3.12), public health and safety (3.13), and Upper Mississippi River National Wildlife and Fish Refuge (3.14).

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			requests the RUS follow all portions of NEPA regarding the proposed CHC. WGF requests the RUS consider these submitted comments concerning the proposed CHC in the final federal EIS.	
Wisconsin's Green Fire: Voices for Conservation	Beheler	LAND01; WAT01	<p>III. PUBLIC TRUST LANDS AND WATERS affected by proposed CHC routes: The preferred or alternate routes would run through southwest Wisconsin's Driftless Area unique ecoregions and sensitive scenic landscapes, with the potential to affect the ecologic, recreational, cultural, agricultural, tourism, and economic resources along either proposed route. The final federal EIS should thoroughly evaluate potential effects to these resources. Refer to the CHC application for proposed route locations. https://psc.wi.gov/Pages/MajorCases/CardinalHickoryCreek.aspx</p> <p>According to the U.S. Department of Agriculture, "the Driftless Area's diversity of habitat provides critical habitat for dozens of species of concern in the Wisconsin State Wildlife Action Plans, and has been cited as one of North America's most important resources." (U.S. Department of Agriculture, Regional Conservation Partnership Program, Investing in Wisconsin-2016, "Driftless Area-Habitat for the Wild and Rare"). Critical habitats are discussed in greater detail later in these comments. Public trust lands on the proposed routes include federal and state lands. Federal management: Upper Mississippi River National Wildlife and Fish Refuge and Ice Age National Scenic Trail. State management: Belmont Mound, Blue Mound, and Governor Dodge State Parks; Trails Military Ridge and Pecatonica; Blackhawk Lake Recreation Area; Military Ridge Prairie Heritage Area; Southwest Wisconsin Grassland and Stream Conservation Area; Conservation and Natural Areas Belmont Prairie, Thompson Memorial Prairie, Erbe Grassland Preserve, Pleasant Valley Conservancy, Ridgeway Pine Relict, Wyoming Oak Woodlands/Savanna, Ihm Driftless Area, Thomas Driftless Area. Public trust waters that would be crossed on the proposed routes include: Mississippi River, Lower Wisconsin State Riverway, Grant and Platte Rivers, Jack Oak and Cassville Sloughs, headwaters of the Sugar and Pecatonica watersheds; and more than twenty Class 1 or Class 2 trout streams in Dane and Iowa Counties, including Black Earth Creek and Trout Creek Fishery and Wildlife Areas, Conley Smith Creek, Elvers Creek, and Love Creek. At the Mississippi River in Cassville, Wisconsin, a rebuild and possible relocation of the existing Mississippi River transmission line crossing to accommodate the new 345-kV transmission line and Dairyland's 161-kV transmission line, would be needed. The final federal EIS should examine both temporary construction impacts and permanent impacts to public trust waterways and wetlands.</p>	The EIS addresses potential impacts to many, if not all, of the resources and areas listed in this comment. EIS Section 3.4 discloses potential impacts to wildlife, EIS Section 3.5 discloses impacts to waterbodies recognized by law or statute in Wisconsin and Iowa, and EIS Section 3.10 discloses potential impacts to natural areas and recreation areas that could be crossed by any of the action alternatives considered for the C-HC Project.
Wisconsin's Green Fire: Voices for Conservation	Beheler	GEO01; LAND01; VEG01	<p>IV. NATURAL ECOSYSTEM COMMUNITIES affected by proposed CHC routes and Management Implications: The proposed CHC routes would fragment and impact rare ecosystem communities of the Driftless Area (Wisconsin Department of Natural Resources Natural Heritage Inventory working list. https://dnr.wi.gov/topic/nhi/wlist.html). Rare natural ecosystems include pine relicts, grasslands of dry and dry-mesic, sand, and mesic or tallgrass prairie. Dry and dry mesic prairie is found on the lower slopes of Driftless Area bluffs. Sand prairie may occur on broad sand terraces bordering the Mississippi and Wisconsin River areas in the proposed CHC routes. Mesic, or tallgrass prairie, is now extremely rare in Wisconsin, with over 99% of this ecosystem type lost from Wisconsin landscapes. Rare algific talus slopes, known only from the southwestern corner of the Driftless Area, are small, isolated, occur on steep north- or east-facing slopes with a substrate of fractured limestone (dolomite) bedrock that retains ice and emits cold air throughout the growing season. These cold microhabitats support and enable disjunct northern plant species, periglacial relicts such as northern monkshood (<i>Aconitum noveboracense</i>) and globally rare terrestrial snails (Wisconsin natural ecosystem communities. Wisconsin Department of Natural Resources https://dnr.wi.gov/topic/EndangeredResources/Communities.asp?mode=detail&Code=CTFOR016WI). Southwest Wisconsin Grassland and Stream Conservation Area (SWGSCA), one of the best grassland conservation opportunities in the upper Midwest, lies in the heart of the Driftless Area and the proposed CHC routes. SWGSCA contains exceptional populations of grassland birds, which are in serious decline across their range, scattered remnants of original prairie and savanna, concentrations of rare plants and animals, and spring-fed streams. The 473,900-acre SWGSCA is set within an expansive rural farming region of open fields, croplands, oak groves, and pastures. The overall success of SWGSCA depends on coordinated work with many partners and private landowners, many whom have been protecting and managing grasslands, farmlands, streams, and prairies in this area for years. Maintaining working farms on areas of prime agricultural land is a priority listed for the SWGSCA (South West Wisconsin Grassland and Stream Conservation Area. Wisconsin Department of Natural Resources. Webpage https://dnr.wi.gov/topic/Lands/grasslands/swgrassland.html). WGF requests the RUS address habitat fragmentation and ensuing impacts of the proposed CHC in the final federal EIS. The proposed CHC would cause land fragmentation, habitat damage and disruption from construction and maintenance of the line. The Wisconsin Department of Natural Resources (DNR) considers the Military Ridge Prairie Heritage Area of utmost priority for landscape-scale grassland protection and management. The area has been identified by the Nature Conservancy as critical for the protection of Midwest prairie remnants and area-sensitive species, including endangered and threatened grassland birds (The Nature Conservancy: The Places We Protect http://nature.org/ourinitiatives/regions/northamerica/unitedstates/wisconsin/placesweprotect/priority-area-military-ridge-prairie-heritage-area.xml). WGF requests that the final federal EIS consider possible cumulative impacts from the proposed CHC on the ecological health of the Driftless Area, including the entire SWGSCA and the Military Ridge Prairie Heritage Area. The unglaciated Driftless Area exhibits a classically branched stream pattern and steep slopes. Coldwater streams are concentrated in this area, and contain relatively few fish species dominated by trout and sculpins. Coolwater communities also occur in these areas and contain a moderately diverse fish fauna with a mix of coldwater and warmwater species. Hardwater springs are also associated with the Driftless Area. These springs are critical sources of groundwater for the cold and coolwater communities and habitat for several rare species. Wetlands are mainly associated with groundwater springs, seeps and coldwater streams, although floodplain forest and emergent marsh are major wetland types associated with larger stream systems like the Mississippi River. Southern sedge meadows are commonly associated with groundwater systems. They are considered vulnerable in Wisconsin due to a fairly restricted range, relatively few populations or occurrences, recent and widespread declines, threats, or other factors. High quality emergent marshes and floodplain forests are associated with large river systems and are increasingly rare due to the invasion and dominance of non-native species. (Wisconsin natural ecosystem communities. Wisconsin Department of Natural Resources https://dnr.wi.gov/topic/EndangeredResources/Communities.asp?mode=detail&Code=CTFOR016WI).</p>	The EIS addresses many of the resource concerns expressed in this comment. EIS Section 3.2 discloses potential impacts to geology and soils, include algific talus slopes. EIS Section 3.3 discloses potential impacts to vegetation communities, including pine relicts, grasslands, bluffs, etc. EIS Section 3.4 discloses potential impacts from habitat fragmentation. EIS Section 3.5 discloses potential impacts to water resources and quality. EIS Section 3.10 discloses potential impacts to land use, including natural areas such as the Southwest Wisconsin Grassland and Stream Conservation Area.
Wisconsin's Green Fire: Voices for Conservation	Beheler	VEG03; WAT05	<p>Construction, maintenance, and future management of utility lines, corridors and substations can result in the following activities and impacts: Construction of substations and utility lines – wetland filling and disturbance, logging, brushing, mowing, soil compaction, invasive species (IS) introduction, non-native species planting, excessive sediment inputs to streams during construction, decrease in stream stability with continuous stream crossings by heavy machinery. Maintenance – brushing, IS introduction. Management – limitation of prescribed burning, IS control and other restoration activities, and open corridors which can increase deer, predators, nest parasitism, and IS introduction. WGF requests the RUS address potential impacts to trout streams and introduction of invasive species, major concerns that should be addressed, in the final federal EIS. Sediment in trout streams is an issue when it covers invertebrate food production areas and trout spawning redds by preventing adequate oxygen exchange. Even a very fine layer of silt can prevent eggs from receiving adequate oxygen for embryo development, potentially decreasing annual recruitment. The most critical times are from early October when spawning begins until mid-April when the eggs begin to hatch. Invasive plant species cause problems by reducing stream bank plant diversity and decreasing food production of insect species, a valuable food source for fish.</p>	Potential impacts to trout streams are disclosed in EIS Section 3.5. Potential impacts to vegetative communities from invasive species are disclosed in EIS Section 3.3.

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			They also decrease small mammal, bird, reptile and amphibian species associated with cold water ecosystems. Some of these species are considered state threatened or endangered. There is also the potential to introduce aquatic invasive species by crossing heavy equipment through the many streams and rivers along the lengthy proposed corridor. Species such as the New Zealand mud snail, zebra mussels, Eurasian water milfoil and Myxobolus cerabalus (a parasite fatal to salmonids) have all been known to "hitchhike" from one water body to another by inadequate cleaning of boats, waders and other equipment.	
Wisconsin's Green Fire: Voices for Conservation	Beheler	LAND07; VEG01	A specific concern related to management is that prescribed burning and other restoration activities are likely to be restricted within the power line corridor. Land trusts, natural areas managers and others need to include regular prescribed burning regimes to support rare fire-dependent ecosystems. The US Natural Resource Conservation Service requires burning of many Conservation Reserve Program (CRP) areas. If this management action is restricted, important wetland, savanna and prairie areas will be degraded and these areas may not be eligible for CRP payments, possibly leading to increased erosion and sedimentation if they are farmed. Within the proposed CHC corridor, all areas where natural communities are managed, CRP lands are present and potential CRP sites are located, need to be evaluated for potential adverse impacts. WGF requests the RUS address these potential impacts in the final federal EIS.	EIS Section 3.10 has been revised to disclose potential impacts to lands enrolled in conservation programs such as the CRP and MFL.
Wisconsin's Green Fire: Voices for Conservation	Beheler	VEG04	Wetlands are relatively scarce in the Driftless Area. For that reason, the significance of wetland functional values is higher. All wetlands potentially impacted need to be identified, surveyed and assessed, with direct, indirect, and cumulative impacts addressed in the final federal EIS. Plant communities should be surveyed using methods such as the DNR's Timed Meander and Floristic Quality Assessment methods. Assessment should be done using DNR's Rapid Wetland Assessment Methodology, v. 2. (https://dnr.wi.gov/topic/wetlands/methods.html) Wetland functional values include floristic integrity; human use values which includes natural scenic beauty, endangered and threatened species, cultural and other uses; wildlife and aquatic life habitat; floodplain and water quality functions; shoreline anchoring; and groundwater processes. These functional values should be assessed, as well as the potential impacts to those functional values. A thorough assessment will evaluate direct, secondary and cumulative impacts. The final federal EIS should also address any possible impacts to springs and seeps, coldwater and coolwater streams and other surface waters.	The EIS discloses potential direct, indirect, and cumulative impacts to wetlands and surface waters. Furthermore, impact analyses within the EIS are based on various datasets at varying levels of detail and specificity to sufficiently disclose potential impacts of the C-HC Project and compare project alternatives. Additionally, the project-specific mitigation plan included in the EIS includes USACE, Iowa Department of Natural Resources (IDNR), and WDNR requirements for wetland surveys necessary for associated permits.
Wisconsin's Green Fire: Voices for Conservation	Beheler	LAND01; WAT02	Section 404 of the Clean Water Act established a permit program for the discharge of dredged or fill material into wetlands. This permit program is jointly administered by the USACE and the USEPA. The USACE will need to determine which method for obtaining a Section 404 permit applies to the C-HC Project: authorization under a Nationwide Permit (NWP), authorization under a regional general permit, or issuance of an individual permit. The USACE's evaluation of a Section 10 permit and Section 14 permission under the Rivers and Harbors Act and a Section 404 permit under the CWA involves multiple analyses, including: 1) evaluating the CHC impacts in accordance with NEPA, 2) determining whether the CHC Project is contrary (Section 10 and possibly Section 14) to the public interest, and 3) in the case of the Section 404 permit, determining whether the CHC complies with the requirements of the CWA. The issuance of a Right Of Way (ROW) easement would require an application to the USACE Real Estate branch that demonstrates the project has no viable alternative except to use public lands and has a demonstrated need. The CHC would be reviewed to determine if it is consistent with Mississippi River Project purposes, consistent with the Mississippi River Project Master Plan, and meets applicable laws/guidance. WGF requests the RUS address the need for granting these federal permits and easements in the final federal EIS.	EIS Chapter 1, Section 1.5, provides a discussion of the USACE's involvement in the C-HC Project, applications before the agency for review, and potential permits to be issued by the USACE Rock Island District and St. Paul District.
Wisconsin's Green Fire: Voices for Conservation	Beheler	DECI09; REC02	The USFWS would need to issue a Special Use Permit for construction on the Upper Mississippi River Wildlife and Fish Refuge. USFWS also has authority and trust responsibility under the Endangered Species Act (ESA), the Bald and Golden Eagle Protection Act, and the Migratory Bird Treaty Act. USFWS would need to grant an easement across its lands within the Refuge for the CHC. The easement application would be submitted after the Record of Decision identified the preferred route, and the required compatibility determination would proceed after the application was determined to be complete. Given this, the Refuge Manager would need to complete a written compatibility determination for the proposed CHC prior to issuance of a ROW. Compatible use is defined in 50 CFR 25.12(a) as, "a proposed or existing wildlife-dependent recreational use or any other use of national wildlife refuge that, based on sound professional judgment, will not materially interfere with or detract from the fulfillment of the National Wildlife Refuge System mission or the purpose(s) of the national wildlife refuge." A Special Use Permit would be needed from the Refuge prior to construction of the project on Refuge managed/owned lands after a ROW is issued. Under NEPA and the National Wildlife Refuge Improvement Act of 1997, major actions affecting the quality of the human environment require full consideration of potential impacts, public involvement, and an interdisciplinary approach to decision-making that considers a reasonable range of alternatives. An approved mitigation plan for statutory and non-statutory mitigation may also be required before federal permits are granted. Mitigation is only required for certain wetland areas proposed to be filled. It is not required for the majority of adverse environmental impacts expected to occur including impacts to upland habitats and wildlife, degraded but not filled wetlands, areas invaded by non-native species, irreversible losses to rare communities and loss of restoration potential. WGF requests the RUS address the significance of these permits and their impacts in the final federal EIS.	The impacts associated with the proposed C-HC Project are disclosed in EIS Chapters 3 and 4. Those impacts are associated with all Federal decisions in front of RUS, USFWS, and USACE. Therefore, the impacts of those permitting decisions are inherently addressed in the EIS. Furthermore, the USFWS's draft compatibility determination for the Utilities' preferred route for crossing the Refuge is provided in EIS Appendix J.
Wisconsin's Green Fire: Voices for Conservation	Beheler	REC02; SOCIO07	Economic Value of Conserved Lands: WGF requests that the final federal EIS economic evaluation include the value of conserved lands and the public and private investments to accomplish land and water conservation in the CHC project area. This evaluation should include present market value of the lands. Significant investments have been made in terms of funding and time by many government agencies and groups over the years for conservation of Driftless Area prairie lands and water resources. These groups include U.S. Department of Agriculture's Natural Resources Conservation Service, U.S. Fish and Wildlife Service, Farm Service Agency and Farm Bill programs, Wisconsin DNR, The Nature Conservancy, The Prairie Enthusiasts, Pheasants Forever, Driftless Area Land Conservancy, Trout Unlimited, and others. WGF requests that RUS include these economic conservation investments in the final federal EIS.	EIS Section 3.10 has been revised to disclose potential impacts to lands enrolled in conservation programs such as the CRP and MFL.
Wisconsin's Green Fire: Voices for Conservation	Beheler	WLDF04	V. PUBLIC TRUST WILDLIFE SPECIES affected by proposed CHC routes: There are numerous endangered, threatened, and special concern wildlife species who inhabit the biodiverse lands of the proposed CHC (Wisconsin Department of Natural Resources Natural Heritage Inventory working list. https://dnr.wi.gov/topic/nhi/wlist.html ; Wisconsin Wildlife Action Plan: Habitats. Wisconsin of Natural Resources. https://dnr.wi.gov/files/pdf/pubs/nh/nh0983_4_0-3.pdf). RUS, in consultation with USFWS, identified eight wildlife species that are federally listed as threatened or endangered that may occur in the CHC area: whooping crane, northern long-eared bat, rusty patched bumble bee, Hine's emerald dragonfly, Iowa Pleistocene snail, Higgin's eye pearly mussel, sheepnose mussel, and spectacle case mussel. It was determined that 117 special status species have been: 1) previously documented, 2) are likely present, or 3) are not known to occur, but for which suitable habitat is present within the CHC resource evaluation area (Table 3.4-1. Special Status Species Considered Potentially Present within C-HC Project Resource Evaluation Area as Determined through Coordination with USFWS, IDNR, and WDNR pp 214-217	Comment noted. Potential impacts to special status species are disclosed in EIS Sections 3.3 and 3.4. EIS Section 3.4 has been revised to include potential impacts to pollinator species. Furthermore, RUS consulted with USFWS regarding potential adverse effects to Federally listed species. The biological opinion for the C-HC Project is included as an appendix in the EIS. The EIS discloses the known locations of whooping crane observations, and consultation with USFWS has determined that whooping cranes using land within the analysis area or near the Refuge is uncommon and impacts to the species are not anticipated.

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		<p>https://www.rd.usda.gov/files/CHC_DEIS_Vol_I_Web_508_111918.pdf). Within the proposed CHC corridor, all potential areas where these federal and state listed species can occur need to be evaluated for potential adverse impacts. WGF requests the RUS address these potential impacts to the wildlife species in the final federal EIS. Pollinators and other insects: 11 bumblebee species including the federally Endangered rusty-patched bumble bee; State Endangered regal fritillary butterfly, Ottoo skipper, and Silphium borer moth; State Endangered Attenuipyga vanduzeei leafhopper, red-tailed prairie leafhopper; and State Threatened Issid planthopper. Fish: 4 State Endangered species including bluntnose and crystal darters, goldeye, and pallid shiner; 6 State Threatened species recorded within 2 miles of the proposed CHC including black buffalo, blue sucker, Ozark minnow, paddlefish, river herring, and shoal chub. Other aquatic species: 3 State Endangered mussel species including butterfly, Higgin's-eye, and yellow and slough sandshell; and 5 State Threatened mussel species recorded within 2 miles of the proposed CHC including ellipse, fawnsfoot, monkeyface, rock pocketbook, and wartyback. Amphibians: State Endangered Blanchard's cricket frog, and Species of Special Concern pickerel frog. Reptiles: State Endangered box turtle, Species of Special Concern with protected status Blanding's turtle, and all the following Species of Special Concern snakes: timber rattlesnake, North American blue-racer, black ratsnake, bull (gopher) snake, and plains garter snake. Mammals: State Endangered northern long-eared bat, State Threatened eastern pipistrelle, big brown and little brown bats, and Species of Special Concern Franklin's ground squirrel, prairie and woodland voles. The American badger is a Wisconsin non-game protected species and an iconic mammal of the Driftless Area, which may experience population effects due to habitat disruption and degradation. Birds depend on lands in the proposed CHC routes during winter, migration, and nesting seasons. The proposed CHC would likely affect important bird nesting habitat. Confirmed bird nesting species: State Endangered loggerhead shrike; State Threatened Henslow' sparrow, Acadian flycatcher, cerulean warbler, and hooded warbler; Species of Special Concern grasshopper, lark, and vesper sparrows, bobolink, dickcissel, eastern meadowlark, upland sandpiper, Northern bobwhite, eastern whip-poorwill, common nighthawk, Bell's vireo, red-headed woodpecker, prothonotary warbler, and American woodcock. Federally protected bald eagles had over 40 confirmed nests in 2018 along the proposed CHC routes. These confirmed nesting data are part of the long-term Wisconsin Breeding Bird Atlas Survey II (Wisconsin Breeding Bird Atlas II. Season 4 preliminary results and trends. https://ebird.org/atlaswi/news/season-4-preliminary-results-and-stats). Data are collected by trained observers and entered into a world-wide database (eBird Status and Trends. https://ebird.org/science). These data are significant, and should be considered when making decisions about important nesting habitat for vulnerable bird species in the Driftless Area. Whooping cranes in Wisconsin are part of the Nonessential Experimental Population (Whooping Crane Eastern Partnership [WCEP] 2018, Federal Register USFWS 2001). Whooping cranes have been confirmed in 2018 in northeast Iowa, western Wisconsin, and central Wisconsin using wetland stopover habitat (WCEP 2018). WGF requests that RUS incorporate the above concerns pertaining to wildlife species in the final federal EIS. WGF requests that RUS consult available pertinent research, studies, and other resources to provide an accurate assessment of whooping crane use of the Upper Mississippi River National Wildlife and Fish Refuge.</p>		
<p>Wisconsin's Green Fire: Voices for Conservation</p>	<p>Beheler</p>	<p>WLDF01</p>	<p>VI. AVIAN AND BAT impacts from the proposed CHC routes: Birds are critically important, as they provide key ecosystem services through pollination, and insect and weed-seed control for the agribusiness and forest products industries. Over the past 40 years grassland bird populations have been steadily declining in Wisconsin, resulting in many being listed as state Species of Greatest Conservation Need. Almost all are classified as such because habitat suitable for their survival has decreased, been degraded, or fragmented below their tolerance and ability to adapt and sustain viable populations (Wisconsin Breeding Bird Atlas II. https://wsobirds.org/images/atlas/SSS_Threatened_Grassland_Birds.pdf). Creating and maintaining habitat for grassland birds is imperative to their survival. The Bird Conservation Area (BCA), within the SWSGCA, was created to maintain sustainable breeding populations of grassland birds. The BCA concept is backed by research that suggests viable bird populations require conservation efforts on a large, landscape level. The present BCA encompasses a block of more than 10,000 acres of public and private lands (South West Wisconsin Grassland and Stream Conservation Area. Bird Conservation Area, description and map. Wisconsin Department of Natural Resources. https://dnr.wi.gov/topic/Lands/grasslands/swgrassland.html). The entire BCA, and the birds who depend on this habitat in the Driftless Area, would likely be affected by the proposed CHC due to habitat reduction, degradation, or fragmentation. Winter is an extreme survival period for birds. The National Audubon Society has sponsored Christmas Bird Counts (CBC) across North America for over 100 years. CBCs are the longest running citizen science survey in the world, and provide critical data on winter bird populations (Christmas Bird Count, Wisconsin Society of Ornithology. https://wsobirds.org/christmas-bird-count). The entire Mount Horeb Area CBC is within the proposed CHC routes. A data set of expert winter bird observations has an average of 56 winter bird species recorded annually since the year 2000, and reveals the crucial nature of quality winter habitat for birds in this area. Nine different raptor species, including federally protected golden and bald eagles, State Threatened red-shouldered hawks, Species of Special Concern red-headed woodpeckers and short-eared owls have been counted during winter in this area. A recent study found that southwest Wisconsin forests have warmer microclimates that help songbirds survive winter weather. Fragmented forests are less effective at dampening climate extremes, and increase bird mortality (Forest 'islands' offer refuge to wintering birds. University of Wisconsin News. February 2017. TYRRELL, K. WEBPAGE https://news.wisc.edu/forest-islands-offer-refuge-to-winteringbirds/). The proposed CHC would create forest and other habitat fragmentation, weaken existing microclimates, and threaten winter bird survival. Data, including the 28 year continuous Mount Horeb Area CBC winter bird data set, should be considered when making decisions that would impact vital winter habitat from the proposed CHC. The EIS should include a robust evaluation of habitat fragmentation and its effects.</p>	<p>Potential impacts such as habitat degradation, fragmentation, and loss are disclosed in EIS Section 3.4. Additionally, impacts to grassland birds, raptors, and eagles have been presented in EIS Section 3.4.2. Christmas Bird Count data for Cassville, Dubuque, Mt. Horeb, and Fennimore have been incorporated into the EIS.</p>
<p>Wisconsin's Green Fire: Voices for Conservation</p>	<p>Beheler</p>	<p>WLDF01</p>	<p>Mortality events would likely occur to all wildlife species along the proposed CHC routes. Low frequency electrical transmission lines at high voltage have been proven to impact flying insects (Wyszkowska, J. et al. 2018. Exposure to extremely low frequency electromagnetic fields alters the behavior, physiology and stress protein levels of desert locusts. Scientific Reports 6:36413). Impacts from high voltage transmission lines to pollinators can include interference with navigational mechanisms of monarch butterflies, especially from the influence of the magnetic fields (Reppert, S.M. et al. 2010. Navigational Mechanisms of Migrating Monarch Butterflies. Trends Neurosci. 2010 Sep; 33(9): 399–406). The CHC proposed routes are in the migratory pathway of monarch butterflies. Estimated impacts to birds from powerline collisions may number from 8 to 57 million bird deaths annually based on recent sensitivity analysis and a meta-review of studies (Loss S.R. et al. 2014. Refining estimates of bird collision and electrocution mortality at power lines in the United States. PLoS One 9(7). https://doi.org/10.1371/journal.pone.0101565). The Avian PowerLine Interaction Committee (APLIC) has developed several guidance documents that contain conservation measures for reducing impacts to bird and bat populations (Avian PowerLine Interaction Committee. Webpage https://www.aplic.org/). Bat and bird mortality from the proposed CHC routes would undoubtedly occur. The final federal EIS should address avian mortality. If the CHC were constructed, it should be required to employ robust conservation measures to reduce impacts to bird and bat populations.</p>	<p>EIS Section 3.4 has been revised to include potential impacts to pollinator species. The studies cited in the comment do not support a change in the EIS. The first study is a laboratory-based study where locusts were exposed for a 24-hour period to higher field strengths that would only be experienced between 1 centimeter and 1 meter of the line itself or the conductors. This study is not applicable to real-world events. Additionally, the second study states the following: "Indeed, monarchs become disoriented upon exposure to a strong experimentally-generated magnetic field, although strong magnetic fields can orient neotropical migratory butterflies. Yet, other studies with monarchs have found that they do not show oriented flight behavior when flown under simulated overcast skies, even in the presence of an externally applied magnetic field. However, these experiments were performed either indoors or outdoors using Plexiglas coverings to simulate overcast skies,</p>

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				potentially depriving butterflies of wavelengths of light critical for their magnetic compass to function" (Reppert, S.M. et al. 2010) ⁴ . Again, this study shows no effect in a real-world setting to monarch butterflies from exposure to EMF generated by powerlines. The EIS discloses impacts to birds from collisions and electrocution, and APLIC guidelines would be implemented for the proposed project.
Wisconsin's Green Fire: Voices for Conservation	Beheler	WLDF01	The final federal EIS needs to consider impacts to bat populations, especially in light of recent deleterious impacts to cave-dwelling bats from the fungal disease White Nose Syndrome (WNS; <i>Pseudogymnoascus destructans</i>). To date, WNS is conservatively estimated to have killed more than seven million hibernating bats in 25 U.S. states and six Canadian provinces. Bat population declines of >80 % in the northeastern U. S. have recently been reported (Reynolds, H.T. et al. 2015. Modeling the environmental growth of <i>Pseudogymnoascus destructans</i> and its impact on the white-nose syndrome epidemic. <i>J Wildl Disease</i> Vol. 51, No. 2, pp. 318-331.). WNS is present in cave dwelling bats in Wisconsin (White Nose Syndrome. Wisconsin Department of Natural Resources. https://dnr.wi.gov/news/Weekly/Article/?id=4254). A bat hibernation cave approximately 0.3 miles from the proposed CHC route is monitored by the DNR for WNS (Stanfield, J.D. personal observation 8 Dec 2018. in: To PSC of Wisconsin – Scoping Input to EIS for Docket 5-CE-146. Application for building the Cardinal-Hickory Creek (CHC) High Voltage Transmission Line (HVTL)). All efforts to protect bats and reverse population declines are critically important. Any efforts to reduce or eliminate additional compensatory and/or additive mortality should be employed. The proposed CHC routes would likely increase bat mortality.	Comment noted. Potential impacts to bats are disclosed in EIS Section 3.4. There are also several environmental commitments listed in the EIS to minimize potential impacts to bats, such as the northern long-eared bat.
Wisconsin's Green Fire: Voices for Conservation	Beheler	WLDF01	In addition to direct impacts, birds, bats, and other species are impacted by the indirect effects of transmission and distribution lines. The proposed CHC would likely increase these indirect mortality effects for all species. The final federal EIS should acknowledge and address indirect mortality. These indirect effects include the introduction of barriers to movement, habitat fragmentation, site avoidance or abandonment, disturbance, loss of population vigor, behavioral modification, creation of suboptimal or marginal habitats, loss of refugia, and intraspecific and interspecific competition for resources. Most of these indirect effects are difficult to quantify, difficult to separate from other impacts, and for the most part have not been quantitatively tested, critically reviewed, and published in refereed journals (Manville, A.M. II. 2013. Anthropogenic-related bird mortality focusing on steps to address human caused problems. Invited, peer-reviewed white paper for Anthropogenic Panel 5th International Partners in Flight Conf. August 27, Snowbird, UT.Div Mig Bird Mgt, USFWS, pp 1–16. and Manville, A.M. 2016. Chapter 20: Impacts to Birds and Bats Due to Collisions and Electrocutions from Some Tall Structures in the United States: Wires, Towers, Turbines, and Solar Arrays—State of the Art in Addressing the Problems. http://www.electronicsilentspring.com/wpcontent/uploads/2016/01/chp_10.1007_978-3-319-22246-2_20.pdf)	Comment noted. Potential direct, indirect, and cumulative impacts to wildlife are disclosed in EIS Section 3.4 and EIS Section 4.4.
Wisconsin's Green Fire: Voices for Conservation	Beheler	REC02; WLDF01	EIS INVESTIGATION REQUEST: In addition to incorporating the above concerns provided pertaining to bird, bat, and other wildlife species mortality, WGF requests that the RUS consult available pertinent research, studies, and other resources and provide an estimate of the bird and bat impacts from the addition of at least 8 high tension wires crossing the 1.6 mile span of the Upper Mississippi River National Wildlife and Fish Refuge near Cassville, Wisconsin and at other potential waterway crossings.	Potential impacts to wildlife species within the Refuge are disclosed in EIS Section 3.14.
Wisconsin's Green Fire: Voices for Conservation	Beheler	REC01; SOCIO03	VII. TOURISM and OUTDOOR RECREATIONAL OPPORTUNITIES affected by proposed CHC routes: Wisconsin's tourism industry accounted for \$20.6 billion of Wisconsin's economy and supported 195,255 jobs in 2017 (Tourism is Big Business for Wisconsin Communities. S. Klett Jul 27 2018 Superior Telegram. Webpage https://www.superiortelegam.com/opinion/columns/4478123-tourism-bigbusiness-wisconsin-communities). The Driftless Area's tourism thrives on clean air, clear water and natural ecosystems. Many people participate in extensive outdoor recreational opportunities including hiking, biking, birding, skiing, hunting, trout fishing, camping, car touring, and other pursuits (https://dnr.wi.gov/topic/Lands/Grasslands/documents/swgscatour.pdf). The Military Ridge State Trail attracts more than 3000 bike riders per year. The public trust lands and waters along the proposed CHC routes are heavily utilized by hunters and anglers. Trout fishing in the Driftless Area is now a 1.6 billion dollar industry according to an economic study conducted by Trout Unlimited in 2016. This an increase from the 1.1 billion dollars determined in an earlier 2008 study. This trend is expected to continue as land use improves groundwater infiltration, increasing base flows and decreasing water temperatures. Coupled with aggressive trout habitat restoration efforts and wild trout stocking, the area has seen a tremendous increase in self-sustaining populations of both brook and brown trout species that draw anglers from all parts of the globe. A substantial amount of stream restoration work has been completed due to the efforts and funding of many partner groups. Black Earth Creek is one of the most heavily fished trout waters in Wisconsin. Trout fishing demand far exceeds public access availability (Southwest Driftless Trout Team. Wisconsin Department of Natural Resources https://dnr.wi.gov/topic/fishing/streambank/SWDriftlessTrout.html). Feeding, photographing, and watching birds is a \$32 billion/year U.S. recreational industry (Carter, E. 2013. Birding in the United States: demographic and economic analyses. USFWS Rep 2011–1:1–16). Many people come to the Driftless Area, especially the Southwest Wisconsin Grassland and Stream Conservation Area, specifically for birding. There are several partnership organizations in Wisconsin devoted entirely to bird conservation including the Wisconsin Bird Conservation Initiative (WBCI). WBCI has a strategic plan for 2018-2022, an All Bird Plan for the southwest savanna, western coulee and ridges area, and has designated Darlington, Monroe, and Spring Green as Wisconsin Bird Cities (Wisconsin Bird Conservation Initiative. http://www.wisconsinbirds.org/wpcontent/uploads/2018/07/WBCI-Strategic-Plan-2018.pdf). The WBCI activities that occur in the Driftless Area along the proposed CHC routes designed to conserve and restore endangered, threatened, and rare bird species and their habitats, would likely be affected by the proposed CHC. The Driftless Area's tourism supports robust local economies comprised of hundreds of outdoor recreation based small businesses whose economic livelihoods would be affected along the proposed CHC routes (The Driftless Explorer, A Free Travel Guide to the Area https://issuu.com/newspublishinginc/docs/driftless_explorer_for_website_lowe).	The EIS discloses impacts to tourism in Section 3.12.
Wisconsin's Green Fire: Voices for Conservation	Beheler	ALT04; DECI10; NEP02	VIII. NEED for the proposed CHC: Wisconsin law states that a reasonable need for additional electricity must be established before a transmission project can be sited and built. If that need is established, Wisconsin law then requires that it be met with energy conservation and efficiency methods first, followed by renewable energy sources such as wind and solar (Wis. Stat. 196.491 (3)(d) and Wis. Stat. 1.12(4)). The purpose of an EIS is to identify potential environmental impacts, including cost, need, and other economic impacts. An EIS examines whether a project is in the public interest, and examines potential impacts to the land, flora, fauna, and water resources. It also evaluates if there are viable alternatives (WEPA/NEPA Code of Federal Regulations s.1506.1). WGF requests that the RUS examine the need for the CHC using relevant cost/benefit analysis and studies that clearly lay out this need rather than relying on general statements in the CHC application	RUS has determined that the purpose and need for the Federal action are supported (see EIS, Chapter 1). The State of Wisconsin has also analyzed the project through the PSCW and WDNR EIS process (PSCW 2019). The PSCW will make an appropriate determination as to project need with respect to their jurisdictional responsibilities under Wisconsin Statute 196.491(3) (see Section 1.2.21 of PSCW [2019]). The Federal EIS does not consider alternatives in the same manner as the PSCW or IUB. The Federal agencies are required to comply with NEPA. As stated in NEPA regulations 40 CFR

⁴ Reppert, S.M., R.J. Gegear, and C. Merlin. 2010. Navigational mechanisms of migrating monarch butterflies. *Trends Neurosci* 33(9) 399–406.

Organization	Commenter Last Name	Comment Code(s)	Comment on DEIS	Agency Response to Comment
			(https://psc.wi.gov/Pages/MajorCases/CardinalHickoryCreek.aspx). Ten year U.S. Energy Information Administration and Wisconsin PSC records show that Wisconsin electricity use has increased 0.1% per year while demand has dropped 0.4% per year (EIA Form 861 https://www.eia.gov/electricity/data/eia861/ Table 4. Assessment of Electric Demand and Supply Conditions, Monthly Non-Coincident Peak Demands, MW, WI PSC Strategic Energy Assessment 2024). This trend is the result of increasing use of non-transmission alternatives, which cost far less than capital utility additions, and are twice as effective at reducing CO2. The Department of Energy recently determined that 50% of electricity generation associated CO2 reduction realized since 2005 resulted from non-transmission alternatives (https://www.eia.gov/todayinenergy/detail.php?id=37392). EIS INVESTIGATION REQUEST: WGF requests that the RUS consider the need for the project and consider non-transmission alternatives. Cost and environmentally effective non-transmission alternatives include pole replacements, targeted load management, energy efficiency rebates to affected areas, and adding community solar to prolong the lifespan of transformers and conductors where possible. WGF also requests that the RUS compare CO2 emission impacts, comprehensive energy savings, comprehensive demand savings, costs from avoided or added natural gas generation and savings from avoided distribution/transmission infrastructure for the applicants' non-transmission alternative and the high voltage transmission project over 40 years. IX. Conclusion: The proposed Cardinal-Hickory Creek high voltage transmission line has many potential impacts to the lands, waters, species, and quality of life in the Driftless Area. Wisconsin's Green Fire: Voices for Conservation requests that the US fully investigate and report on all aspects of the proposed CHC, evaluate non-transmission alternatives, and recommend actions which best serve the needs of Wisconsin citizens into the future. Thank you for the opportunity to provide these scoping comments on the EIS. If you have questions about these comments, please contact Kerry Beheler at Kerry.beheler@gmail.com .	1502.23, "For purposes of complying with the Act, the weighing of the merits and drawbacks of the various alternatives need not be displayed in a monetary cost-benefit analysis and should not be when there are important qualitative considerations." As discussed in EIS Chapter 2, Section 2.2.2, non-transmission and low-voltage alternatives are not responsive to the applications to which the Federal agencies are responding, nor do they meet the six-point purpose and need described in EIS Chapter 1. The Federal EIS considers alternatives that are ripe for Federal consideration. What that means is that a proposal has been made for those alternatives or that it is reasonably foreseeable that they could be implemented in a time frame that would meet the need for the Federal action. Requirements for alternatives consideration under Wisconsin Statute 196.491(d) are very specific and separate from NEPA. Per their jurisdictional responsibilities, the PSCW is considering if and how the range of alternatives meets those requirements (see Section 1.2.2.1 of PSCW [2019]).
	Pubilee	DECI13	I cannot attend this meeting but do want to make sure you know I oppose this private profiteer getting the right to destroy our national land. let them start buying private land for their desecration.	Comment noted.
	Pubilee	VEG01; WLDLF01	we need to keep open space for animals and vegetation, not for these private profiteers to run with their toxic chemicals and their fire starting. the have shown they take zero care of being allowed to use our national lands in far too many cases, like the wildfires started out west by electric companies. they can design equipment that doesn't start wildfires, but for 100 years they have not been bothering to do anything about this issue. they just use our lands and put down crap. this comment is for the public record. we all have been used.	Comment noted. Potential impacts to public health and safety, including risk from wildfire, are disclosed in EIS Section 3.13.
	Wheat	SOCIO06	[Form These houses would lose property value.: 100.0%] The third proposed route, the yellow route, would take some land away from some of these properties. This route would place the towers south of the railroad tracks. The blue proposed route would also place the towers along Hwy 14 but on the north side of the tracks.	Comment noted. Potential impacts to social and economic conditions, including property values, are provided in EIS Section 3.12.
	Wheat	SOCIO06	I spoke with Diane Holmes-Kaub who is a Realtor with ReMax. She is the realtor who assisted my husband and I in the purchase of this home in Deer Run Heights. So, she is familiar with this area in particular. She has been in selling homes in the Madison area for 32 years. She gave me permission to use her name and her words. She told me that there is no question that buyers are reluctant to purchase homes where electric towers are on the property and even just when wires are in sight of the property. Some buyers will absolutely refuse to even consider a home with such conditions. And when home buyers do purchase properties with electric towers, poles or wires, they definitely offer less money for the purchase price. They do this, because knowing their own reluctance; they know that when it is time for them to sell the home, they will run in to the same concern from other buyers. • There are two main reasons why electric towers, poles and wires affect home values. First is the esthetics. They are just plain unsightly to virtually everyone. The second is that people are concerned about potential dangers of radiation from these wires. While one can cite study after study that presumably shows that there is little to no danger from radiation from these wires, that doesn't matter if a home buyer believes the radiation to be a problem. So, it may be more a problem of perception than reality, but that doesn't matter when it comes to the purchase of a home. People will not put their children, or themselves, in a home where they feel they are at risk. And for those who do, they will require a "really good deal" on the purchase price. So again, without question, these towers, poles and wires decrease property values. • When a person places a home on the market, they are required to disclose "known defects" and anything that is planned that may impact the value of the home. These towers, poles and wires meet that definition. Perhaps even now, but definitely, if and, when a plan for this line becomes certain, I would have to disclose this information when listing my home. The fact that I would be required to list this information is how we truly know that this line would negatively affect home and property values.	Comment noted. Potential impacts to social and economic conditions, including property values, are provided in EIS Section 3.12. RUS has reviewed the recommended citations of additional peer-reviewed articles presented through public comments and has incorporated this information into the EIS.
	Wheat	DECI13	I have also invested in 15 solar panels with Arcadia Power to produce clean energy and all of the electricity I use is certified to come from clean energy sources	Comment noted.
	Townsend	INFO04	From: Rankin, Dennis RD, Washington, DC Sent: Wednesday, February 27, 2019 8:19 PM To: 'Fred Townsend' < fredet@tds.net > Subject: RE: CHC Project Comments Forgot there will be a 30-day review period for the FEIS. Comments can be submitted up to April 1. The purpose of the scheduled public hearings is to receive both oral and written comments. Oral comments could be limited if there is a large attendance at the meetings. There will be a court reporter present. There will be two short presentations. The other thing to remember is the purpose is to receive comments and not to answer questions at this time. Original Message From: Fred Townsend < fredet@tds.net > Sent: Wednesday, February 27, 2019 7:58 PM To: Rankin, Dennis RD, Washington, DC < Dennis.Rankin@wdc.usda.gov >; Barbara Borns < blborns@wisc.edu > Subject: CHC Project Comments Dennis Rankin: Is there a closing date for public comment for the Draft EIS for the C-HC project? I have seen reference to a "public review period", but no definition of when that period ends. I presume that comments can be submitted other than at the scheduled public hearings. Is that so? Will there then be a scheduled period for commenting on the Final EIS? Estimated timeline? Fred T.	Comment noted. RUS responded to these questions about the public review period in an email on February 27, 2019.
	Pubilee	DECI13	not one cent of American tax dollars should be spent on this transmission line carrying electric power. the fact is these utility companies have been putting up faulty lines that start fires that then burn up towns. they swallow up burning towns in the most horrendous ways possible. the utility companies have not done one damn thing to make these towers safe from starting wildfire. it is time to shut down such a line. also Dairyland is a horror to think about. they treat cows horribly and inhumanely. are us taxpayer being asked to provide loans so that these kinds of dairy farms can continue to stay open. I am in favor of closing down any farm that operates like this. Undercover video shows alleged cow abuse on Wisconsin farm [video/picture attachment] it is time to think about what we allow to do with taxpayer dollars. I know I do not favor any tax dollars going to help any business that operates like this has been photographed operating in Wisconsin.	EIS Chapter 3.13 discloses the potential impacts from fire. Additionally, Dairyland is not a farm but a power cooperative that services parts of Wisconsin, Iowa, Minnesota, and Illinois.
	Kabele	REC01; VIS01	Consultants, I'm writing to express my concern of the planned Cardinal-Hickory Creek lines. - The enormous poles planned would detract and destroy part of the environment that even the glaciers bypassed in the millions of years past; seen in Waunakee area - the dangers of destroy	Comment noted. EIS Section 3.11 discloses potential impacts to visual quality and aesthetics. EIS Section 3.9 discloses potential impacts to cultural and historic resources.

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			mounds built by Native Americans thousands of years ago; many of which the general public are unaware of. - a remote possibility of a bridge between Wisconsin and Iowa at Cassville which would be in the same area as the planning crossing.	
	Kabele	ALT07	If the power grid finds it absolutely necessary why not just follow Hwy 151 which travels directly to Dubuque Iowa	EIS Chapter 2 discusses other routes considered for the C-HC Project.
	Pincus	NEP02; VIS01	The current plan for high voltage lines must have seemed logical 15 years when there were no viable alternative options. The world has moved on since then. I haven't room to describe all of the incredible research projects now in motion; the military, the universities, the Chinese all are moving forward devising whole new approaches to power distribution as well as generation. Only our Wisconsin local utilities seem to lack the imagination or perhaps the permission of their ?? and slow to perform legislature. The current plan is expensive, environmentally intrusive + destructive, not needed and an eyesore.	Comment noted.
	Pincus	LITREV01	Read Gretchen Bakke's book, the Grid for a complete list of all the research projects for power.	Comment noted.
	Anonymous	AIR04	What can be done to bring in more solar, wind, and hydro-electric power rather than implementing "dirty" energy? Eventually something will have to be done about climate change, and at that point, which is fast approaching, these lines and others like them will become obsolete. I understand that money drives everything. With that said, why not invest in renewable, clean energy?	Comment noted. EIS Chapter 1 describes the need for the C-HC Project as well as the decisions facing the three Federal agencies that have received loan or permit applications for the C-HC Project. One of the purposes of the C-HC Project is to respond to public policy objectives aimed at enhancing the nation's transmission system and to support the changing generation mix by gaining access to additional resources such as renewable energy or natural gas-fired generation facilities. EIS Chapter 4, Section 4.4 has been revised to estimate the carbon dioxide (CO ₂) emissions that could occur from generation sources that would benefit from the C-HC Project. This analysis compares two scenarios: 100% coal-generation sources benefitting from the C-HC Project and 100% wind-generation sources benefitting from the C-HC Project. This analysis provides a range of CO ₂ emissions from possible generation sources.
	Anonymous	SOCIO01	These people cannot afford to lose trees, animals, money, and n their livelihoods. Once this happens, it cannot be undone. We aren't just fighting this because of taxes, but because it would hurt them. It will scar the land and the people who live there. It will drive people away. What once made the driftless area special would be gone; it would be "famous" for something else.	EIS Section 3.11 discloses potential impacts to visual quality and aesthetics and Section 3.12 discloses potential impacts to socioeconomics.
	Sturnick	NEP02	This Project is not needed and should not be constructed. My family's electrical use in 30 years has decreased and is now less than half, sometimes one third, of what it once one was. Efficiency has improved all across the area.	Comment noted.
	Sturnick	ALT01	Antiquated laws give ATC a guaranteed return for projects such as Cardinal-Hickory Creek. New technologies, such as smart grids, alternative small-scale generation, and further efficiencies reduce the need for Industrial scale Transmission Lines. There are non-transmission options.	As discussed in EIS Chapter 2, Section 2.2.2, non-transmission alternatives are not responsive to the applications to which the Federal agencies are responding, nor do they meet the six-point purpose and need described in EIS Chapter 1. The Federal EIS considers alternatives that are ripe for Federal consideration. What that means is that a proposal has been made for those alternatives or that it is reasonably foreseeable that they could be implemented in a time frame that would meet the need for the Federal action.
	Sturnick	LAND01; SOCIO07	Wisconsin's Driftless Area should be respected and preserved and not developed and disrespected. A Draft-EIS clearly omits many small but valuable lands with rare and relic native vegetative, wildlife, and perhaps historic and prehistoric sites.	Comment noted. Vegetation present in the area is presented in Section 3.3, wildlife is presented in Section 3.4, and cultural and historic resources are presented in Section 3.9.
	Hughes	LAND05; SOCIO06	Our family farm is in the path of Cardinal Hickory Creek transmission line. The result of this line will directly affect our farm, our property value, our use of this land, and our 100-year-old oak tree savannah which is in the way of access to these power lines. We, as landowners, do not want this project.	Potential impacts to social and economic conditions, including property values, are provided in EIS Section 3.12. EIS Section 3.10 discloses potential impacts to land use and EIS Section 3.3 discloses potential impacts to vegetation including forests.
	Hughes	SOCIO08	This project will not reduce our cost of electricity nor will it improve sustainability. We would like to see Cardinal Hickory Creek Transmission Line project to review & invest in renewable energy sources.	Comment noted.
	Hughes	DECI13	We did not request this project, we do not need the electricity changes we don't want to see power lines in anyone's backyard & especially our back yard.	Comment noted.
	Hughes	ALT01; SOCIO07	We would like to see Cardinal Hickory Creek Transmission Line project to review & invest in renewable energy sources. We would like this project to provide a solution which does not go through our family land & it does not have negative environmental impact which would denigrate the look, use, value and future opportunity of this land	Comment noted.
	Wiest	DECI13	Others have very well exposed the environmental damage this unneeded high voltage line will cause.	Comment noted.
	Wiest	NEP02	I would like to point out the current power distribution system is very reliable. Like the people of Barneveld, I and my neighbors experienced the destruction a tornado causes. Even after all the damage with down trees, down power lines and blocked roadways thanks to the efforts of our great local first responders and the power company linesmen, our power was only out for two days and has been on ever since. Since then we've had ice storms and other high straight lines winds with no loss of power. Any power distribution system that can withstand all of that with minimal disruptions, can't be too bad. The tornado was a natural disaster we could recover from. This unneeded, obsolete, environmentally disastrous ugly technology is a manmade disaster from which there can be no recovery.	Comment noted.
	O'Brien	HAS01	Have you seen the maintenance crews hanging out of helicopters to work on these power lines owned by the ATC? If you are driving along and come across this frightening sight – it can cause accidents but very first thought was how dangerous it is for the crew hanging out of a helicopter! My husband researched that issue after hearing recently of such a coper crash with fatalities. It was not the first crash – best one of many along the Coney are ATC lines across our nation and some with injured crews or fatalities! You never hear of that. The news I heard on TU was quickly taken off as I \$\$ heard ## of it after that! Why I wonder?	Comment noted. Section 3.13 of the EIS discloses potential impacts to public health and safety that could occur from wildfire, occupational safety, hazardous materials, and electric and magnetic fields.

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	O'Brien	SOCIO03	The scenic beauty of our landscapes bring people from around the world to see such a unique area. They will no longer come with hideous CHC/ATC lines destroying the beauty. Tourism will drop, businesses will have to close property values will tank.	Potential impacts to visual quality and aesthetics are disclosed in EIS Section 3.11, and potential impacts to social and economic conditions, including tourism, are disclosed in EIS Section 3.12.
	O'Brien	SOCIO08	And we have to pay for this because of the greedy builders of this ATC transmission lines. They don't care as long as they make their money while destroying our beautiful Driftless Area –	Comment noted.
	Kelen	DECI13; NEP02	This project is absolutely unnecessary. It is a serious waste of money, ruiness to businesses, environmental, nature & the pocket books of all in Wisconsin. This is a project that promotes the going backwards in environmental efforts going backwards in energy –	Comment noted.
	Kelen	WAT02	This project damages land, farms & water life with its poisons freely spaced under lines. Poisons that run off eventually spilling into the Gulf of Mexico - out of the bottom of the Mississippi.	EIS Chapter 3 includes the following environmental commitments related to herbicide use: The Utilities will employ a Certified Pesticide Applicator for all herbicide applications within the C-HC Project. The Certified Pesticide Applicators will only use herbicides registered and labeled by the USEPA and will follow all herbicide product label requirements. Herbicides approved for use in wetland and aquatic environments will be used in accordance with label requirements, as conditions warrant. During the easement negotiation, landowners can decline the use of herbicides for vegetation management activities once the line is in operation. Therefore, no herbicides would be applied within portions of the ROW on which the landowner wishes not to introduce it.
	Kelen	ALT01	It could be put underground along the highway – NOT through hills, valleys, woods! Streams – no through geologically sensitive areas.	EIS Chapter 2 discusses the alternative of burying the transmission line underground.
	Kelen	SOCIO06	Part of me believes what is believed this is an effort to lessen property values, so to make our land wauter & easily purchased by corporate... as normal people would not choose to move here these towers.	Comment noted. Potential impacts to social and economic conditions, including property values, are provided in EIS Section 3.12.
	Kelen	NEP02	This project is not needed, not necessary & you know it. In a few years we will be able to generate our own power - as they do in Europe – This Plan is old – outdated – look at Europe – That's what is possible.	Comment noted.
	Connolly	SOCIO03	This is an excellent example of large companies placing their will on a local economy.	Comment noted.
	Connolly	NEP02	This line is not needed.	Comment noted.
	Connolly	VIS01	It's big. It's ugly.	Comment noted.
		ALT07	Where feasible, can lines be buried?	EIS Chapter 2 discusses the alternative of burying the transmission line underground.
		EFF04; VEG04	Who will be doing the following post construction to monitor impacts. Can some of this work be coordinating with improving conditions in flood prone areas/ Residential + farm/or turning frequently flooded farmland around the project into permanent wetland status.	The environmental commitments listed in EIS Section 3.1 would be included in, and thereby enforced by, applicable permits, authorizations, and orders issued by Federal and state agencies. These commitments may be revised as permits, authorizations, and orders actions are reviewed and issued, if deemed appropriate by the various decision-makers. Post-construction monitoring may be required by such permits, authorizations, and orders.
		NEP02	We need these green transmission line to help our economy, improve jobs market and wean the country off of gas + oil. People are obviously confused w/transmission lines with actual turbines.	Comment noted.
	Miller	WAT04	I do not like the power lines crossing the Mississippi River.	Comment noted.
	Miller	ALT06	Does the wind not blow on the East side? If it does, would it make more sense to put up windmills near Madison + Milwaukee to take care of their electrical needs. These lines go through the through the heart of Wisconsin for approx. 50 miles, they could probably put up a few windmills within 10 miles of the cities for the cost of these transmission lines.	Comment noted. EIS Chapter 1 describes the need for the C-HC Project as well as the decisions facing the three Federal agencies that have received loan or permit applications for the C-HC Project. Constructing new wind turbines is outside the scope of this EIS. The Federal EIS considers alternatives that are ripe for Federal consideration. What that means is that a proposal has been made for those alternatives or that it is reasonably foreseeable that they could be implemented in a time frame that would meet the need for the Federal action.
	Miller	SOCIO04	The Turkey River Substation is in Clayton County Iowa, not in Dubuque County as listed in the Federal register government documents. We are not inconsequential as this oversight implies. I am tired of country people being second rate citizens. It's more the principal of farmland being used to advance urban areas under eminent domain in an area I had always assumed would be immune because of the terrain and special qualities it has.	Comment noted. The EIS has been revised to reflect the correct county in which the Turkey River Substation is located.
	Miller	LAND05	This is part of the Driftless Area, most of the land is privately owned, so it is up to us landowners to at least try to protect it.	Comment noted.
	Miller	REF01	Wind energy in Iowa is new, it is one of the leading states in the wind turbines. It is like the wild west of renewable energy. There is a life span to these wind turbines and we may not be looking far enough in the future as to when the lifespan is done with the turbines, are they being replaced? Fixed? New ones put up? Who is responsible for the cleanup and removal of the turbines?? What does it mean for the transmission line that we failed to prevent?? Was it not necessary to build in the first place?? A paper published by The American Experiment by Mitchell Rolling in 2018 reads the assumed lifespan of wind turbines to be at 30 years. In Iowa, MidAmerican Energy plans to repower turbines constructed in 2004-only 14 years after they were installed. That's less than ½ the lifespan. Because reports only look at a 30 year window, they fail to account for the cost necessary to repower a wind turbine. By not factoring this additional spending, these reports underestimate the true cost of wind energy and overestimate the cost of power plants capable of generating electricity for more than 30 years. As the turbines grow older, utilization rates become worse, dropping at a rate of 1.6 % each year and that is what requires the turbine to be re powered. A paper written by Rick Kelley of the Valley Morning Star titled Retiring worn-out wind turbines could cost billions that nobody has estimates the tear down cost of a single modern turbine is at \$200,000. With more than 50,000 wind turbines in the U.S. decommissioning costs are around \$10 billion. This short lifespan is rarely discussed but yet it has massive impacts on the cost of electricity for families and businesses that don't want the transmission lines or to look at the ugly wind turbines. Also some parts like copper are recyclable but the composite made parts will end up in our landfills.	Comment noted. The lifespan of wind turbines is outside the scope of this EIS.

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	Miller	VIS01	As a taxpayer and an electricity user, I don't want to pay for it and I don't want to see Iowa turn into a mass of huge transmission lines and a wasteland of unused wind turbines.	Comment noted.
	Miller	WLDF01	There are notes in the paper prepared by Burns & McDonnell Engineering Company, INC on the analysis of alternative crossings to address some species of plants and animals. There are flying squirrels in the area where they are crossing. I don't know if they are in the endangered species list, but they are not addressed in the paper. They are nocturnal so most people don't see them and no engineer from a different state would know they are present. We've seen Bobolink nesting in our CRP Northeast Iowa where the Driftless area is located is the most beautiful untouched land in Iowa,	Comment noted. Potential impacts to wildlife are disclosed in EIS Section 3.4.
	Miller	SOCIO08	it would be a shame if it were to be spoiled for big money monopoly utility companies getting government subsidies in an area that will not benefit from the ugly towers. Do not approve or wait to approve this + more transmission lines to see what research tells us the cost/benefit ratio's are.	Comment noted.
	Zimmerman	LAND02; LAND05; SOCIO06	The approximate 153 acres Powell Family Farmland is in the City of Dodgeville, WI and in the Town of Dodgeville, WI. The Powell Family Farmland would sustain a huge Economic disadvantage and lose, if the proposed preferred route of the Cardinal-Hickory Creek transmission line project would go through our agriculture and residential zoned land. Not only would the approximate 7 acres of cropland (with possible wooded areas), that have been earmarked for the use of the Cardinal Hickory Creek transmission lines be impacted, but our entire farm would be impacted and be put at a disadvantage for future residential development and face possible devaluation. Not only would we lose our yearly rent on the farm cropland disrupting the field and possible loss of wooded areas, but our property value for future residential development would be impacted.	Comment noted. Potential impacts to land use, including agriculture, are discussed in EIS Section 3.10. Potential impacts to socioeconomic conditions, including property values, are disclosed in EIS Section 3.12.
	Zimmerman	LAND04; LAND05	the transmission lines would be near the Dodgeville Middle School, the Dodgeville Elementary School and the Dodgeville High School. These educational buildings house most of the Dodgeville School Districts children, educators and staff employees. Many children, employees and residents would be in close contact to the huge transmission towers. The transmission lines would also be near homes, already constructed near the Powell Family Farmland.	Comment noted. EIS Sections 3.7 and 3.12 disclose potential impacts to sensitive receptors, including schools and residences.
	Zimmerman	SOCIO01	The above would have social impact on City and Town of Dodgeville residents. Socially the transmission lines would have impact on family residences already in existence and future family residences in future developments.	Comment noted.
	Zimmerman	HAS01	The proposed lines could have future impact on unknown problems including health issues.	Comment noted. Section 3.13 of the EIS discloses potential impacts to public health and safety that could occur from wildfire, occupational safety, hazardous materials, and electric and magnetic fields.
	Zimmerman	NEP02	It is also felt that the Cardinal-Hickory lines are not needed to provide additional power usage and will increase the amount of money for utility users in this area.	Comment noted.
	Zimmerman	ALT02	Why isn't the Preferred Proposed Route for the transmission lines routed around the City of Dodgeville and constructed along County Road B, as the County B route is listed as one of the alternative routes? It is felt that either of the two alternate transmission power line routes would impact less people than the present preferred route, through the City of Dodgeville.	The EIS analyzes in detail six action alternatives, which are described in EIS Chapter 2. The Federal agencies did not identify a preferred alternative or route in the DEIS. This language is referencing the PSCW CPCN process. The Federal agencies will identify a preferred alternative in the EIS.
	Zimmerman	VIS01	The Aesthetics of the transmission lines would impact the open, untouched lay of the Powell Family Farmland damaging the aesthetic view, putting power lines where no power lines have ever existed.	Comment noted.
	Zimmerman	LAND02	In viewing aerial maps of the Powell Family Farmland, the proposed transmission line appears to cut into our existing crop field, instead of running along the property's north boundary fence line. The proposed transmission lines would have negative Environmental impact, resulting in taking away the rural agricultural view and lay of the land, taking cropland out of production	EIS Section 3.10 discloses potential impacts to agricultural lands and Section 3.11 discloses potential impacts to visual quality and aesthetics.
	Zimmerman	WLDF01	disturbing non-glaciated land, impacting wildlife, eliminating timber and wooded habitat, compromising the ecosystem,	Comment noted.
	Zimmerman	SOCIO01; SOCIO03	and contributing to the downturn of the rural economy, rural life as well as impacting city dwellings and inhabitants. Culturally the Powell's have been an agrarian family, immigrating and farming land in Wisconsin from approximately 1847. The Powell Family has owned and farmed the present Powell Family Farm since 1931.	Comment noted.
	Schwarzmann	NEP02	I have read on this proposed CHC power line indicates it is not needed for future power needs. Non-Transmission alternatives and Low-Voltage alternatives have been implemented in combination with each other to achieve all of the same goals cited in the Project's six-point need. The Final EIS must independently evaluate, for the Project and each Alternative, the potential benefits from fulfilling the six Project needs. The existing power line was upgraded by replacing about a third of the power poles in the last 1 to 15 years in our area.	The C-HC Project has been independently modeled and verified by multiple entities, including Midcontinent Independent System Operator, Inc. (MISO), which used a planning process approved by FERC. RUS has determined that the purpose and need for the federal action are supported (see EIS Chapter 1). The State of Wisconsin has also analyzed the project through the PSCW and WDNR EIS process (PSCW 2019). The PSCW will make an appropriate determination as to project need with respect to their jurisdictional responsibilities under Wisconsin Statute 196.491(3) (see Section 1.2.21 of PSCW [2019]). RUS and the other Federal agencies are considering all information, in addition to public comments, when analyzing the C-HC Project to comply with NEPA. This is explained in EIS Chapter 1. The impact analysis contained within the Federal EIS has been independently verified by RUS and the other Federal agencies. As stated in NEPA regulations 40 CFR 1502.23, "For purposes of complying with the Act, the weighing of the merits and drawbacks of the various alternatives need not be displayed in a monetary cost-benefit analysis and should not be when there are important qualitative considerations."
	Schwarzmann	LAND08	We own 166 acres in Liberty Township in Grant County. 64 acres of our forest is in the state of Wisconsin Managed Forest Land (MFL) program. The primary route as well as several of your alternatives would run through these lands. USDA supports the Managed Forest Land MFL and certified forest programs, providing funding for a variety of projects to improve these forests. You have not identified these lands and have not discussed the impact on them or the landowners who have managed them for decades. While the RUS Environmental Impact Statement	EIS Section 3.10 has been revised to disclose potential impacts to lands enrolled in conservation programs such as the CRP and MFL.

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			addresses conservatory acreage and other special lands, it does not specifically address MFL lands. It seems contradictory that USDA has spent money developing these forests only to provide money to wipe them out. How will this EIS address these issues?	
	Schwarzmann	DECI03; HAS01; VEG01	Since we have an existing 138K easement on our land we are particularly sensitive to the whole issue of vegetation management on easements as our land and trees on the existing ROW have been mistreated by the applicants in this case. Specifically their tree trimming, herbicide use, brush removal and mucking up our property outside of the easement. To that end, on page 11 0 of the EIS there is a statement that "hazard trees must be topped, pruned or felled so they no longer pose a hazard", and you site WAC Public Service Commission (PSC) 113.0512 as the source. That is not what that document states. It states the need "to trim or remove the tree of the potential danger". Topping is a Utility phrase and action that severely damages the trees and in fact is an action not approved in the trimming guidelines cited by the utilities. In fact, the organization that writes the rules For ANSI specifically bans this practice because it actually makes the situation worse. The Utilities use ANSI standard A300 -Part 1 Tree Maintenance Standard Practices (Pruning) and specifically sections 6 and 9 which refers to utility pruning. It makes no mention of topping, rather only proper arboreal and silvicultural pruning. In fact TCIA, the Tree Care Industry Association, that writes the standards for ANSI states that topping increases safety risks and expenses. In a May 21, 2008 release they state that topping trees leaves large exposed wounds that can become infested, ruins the tree structure, removes too much foliage, stimulates vigorous new growth which is prone to breakage, increases maintenance costs, and destroys a tree appearance's and value. Trees that survive may actually become a bigger safety hazard. Please correct this misinformation and remove the word "topped" from the EIS. 3) There is need for a Federal Vegetation Management Program, with at least a basic bill of rights for landowners, with rules for all utilities to follow.	EIS Section 2.4 describes how vegetation would be managed during construction and maintenance of the C-HC Project. Additionally, environmental commitments are listed in EIS Section 3.1 that provide more detailed information of how vegetation will be managed in specific areas. The reference to topping of trees has been removed from the EIS.
	Schwarzmann	LAND05	There is a need for a standard Federal Right of Way agreement (ROW) or Easement that protects the minimum rights of landowners	Comment noted.
	Schwarzmann	ALT01; EFF04; SOIL02	Throughout the EIS you speak of the need for restoration and revegetation. On page 136, Alternative 1, you state "the potential for severe erosion occurs along 67% of the ROW and is the largest potential impact to soils under Alternative 1. The adverse impacts to sensitive soils under Alternative 1 would be moderate and long-term if not immediately repaired". Is this the best route selection? Who will guarantee that repairs will be immediate and proper? In section 2.4.3.5 Site Restoration, who is responsible for assuring the lands are adequately restored? I would like to know what is the enforcement body? From whom does a landowner seek relief? How will this EIS address these concerns to prevent landowner/utility disputes?	The environmental commitments listed in EIS Section 3.1 would be included in, and thereby enforced by, applicable permits, authorizations, and orders issued by Federal and state agencies. These commitments may be revised as permits, authorizations, and orders actions are reviewed and issued, if deemed appropriate by the various decision-makers.
	Schwarzmann	AIR04	On page 188. Section 3.4.2.4, Alternative 1 You state that 524 acres off forest on the ROW and another 64 acres for Access roads, etc. will be lost. How many tons of CO2 arresting capability will be lost annually? How will this EIS address this climate change issue?	Potential impacts to climate change are discussed in EIS Section 3.6 and Chapter 4.
	Schwarzmann	EFF04; VEG03	The EIS discusses the cleaning of vehicles and equipment for organic farms. Why is this not required for all lands especially forests, due to the easily spread diseases, invasive species, and insects? How will this EIS address this issue?	Comment noted. The environmental commitments presented in EIS Section 3.1 have been developed with input from RUS, USFWS, USACE, state permitting agencies, and the Utilities. Equipment cleaning prior to entering upland forests was not identified as a necessary precaution by these agencies. These commitments may be revised as permits, authorizations, and orders actions are reviewed and issued, if deemed appropriate by the various decision-makers.
	Schwarzmann	EFF04; WAT02	On page 206 you discuss water quality but nothing about homeowner's wells in these rural areas. What will all the blasting and digging especially in caverns and sinkholes do to the water table and effect on wells in the rural area. You state that for the average hole" Borings for transmission line structure foundations would extend approximately 20 to 80 feet below the surface and up to 120 feet below ground surface in unique locations. Using an average depth of 60 feet and an average diameter of 8 feet, the average volume of displaced soil and rock would be approximately 3,000 cubic feet per structure location. How will this EIS address the issue of well contamination, restriction or loss?	Potential impacts to groundwater sources are discussed in EIS Section 3.5.
	Citron	HAS01; NEP02	I want to talk about reliability - one of the two main reasons ATC gives for the necessity of building Cardinal-Hickory Creek. We live in a moment of transition - of electrical use, the digital world, and climate change. All of this will affect the distribution of electricity in the near and far future. The world in 2002 when Cardinal-Hickory Creek was first proposed was a very different world then the one we now live in. A regional bulk transmission system is questionable given it's vulnerably both to the unpredictability of climate change and to the grid's already proven vulnerability to hacking. The Russian are busy hacking into our grid according to a Department of Homeland Security Red Alert last year and a remarkable piece of investigative journalism by the Wall Street Journal in January (WSJ, "America's Electric Grid Has a Vulnerable Back Door - and Russian Walked Through It," January 10, 2019). Wisconsin companies were targeted in the Russian hacking campaign. This suggests reliability would more readily be achieved, and money would be better spent, on IT personal and technologies to protect the digital systems of our utilities and their suppliers - and not by planting more steel towers in the ground. That is an outdated 20th century solution for a 21st century problem.	EIS Section 3.13 addresses potential risks from severe weather and security breaches.
	Citron	AIR04; HAS01	And then there's climate change. High voltage transmission towers are suspected of starting the deadly Camp fire in California this past summer. PG&E recently declared bankruptcy to protect itself from liability. Temperatures are rising. Southwest Wisconsin has experienced droughts. We don't know if or when the next drought will happen. Imagine Governor Dodge State Park up in flames. My property was hit by a tornado in 2014. Climate change is already causing not only droughts, but more severe flooding, and more intense storm, including tornados. These high voltage towers do not have the resiliency we need. The military is well aware of the dangers of climate change on our utilities. To protect our readiness, all military installations in the US are getting off the grid; each will be powered by their own micro-grid. As of 2017 40% of all military installations had transitioned. As will the State of NY, which decided to build micro-grids after Hurricane Sandy in order to have the reliability and resiliency needed in a world of unprecedented weather caused by climate change. When a micro grid goes down they don't crash the central grid. Bigger isn't always better.	Comment noted.
	Citron	AIR04; HAS01; NEP02	This Draft EIS is written based on what we know from the past but not for what we could, and probably will, experience in the future, important since CHC is meant to last 40 years. Because of that we need to hit pause and figure out what kind of electric utilities we need for the world we will inhabit. The Draft EIS takes at face value the assertion by ATC that Cardinal- Hickory Creek will increase reliability. But that is just an assertion with no evidence in the EIS to back it up and no discussion of the two greatest threats to reliability: hacking and climate change. I know that we can't adequately predict the impact of climate change but that is even more reason to hit pause. How will the Federal EIS address and evaluate the proposed transmission line's reliability and resiliency when confronted with environmental changes caused by climate change and the known threat of foreign hackers?	EIS Section 3.13 has been revised to address public comments about potential impacts from hacking. EIS Chapter 4, Section 4.4 has been revised to estimate the CO ₂ emissions that could occur from generation sources that would benefit from the C-HC Project. This analysis compares two scenarios: 100% coal-generation sources benefitting from the C-HC Project and 100% wind-generation sources benefitting from the C-HC Project. This analysis provides a range of CO ₂ emissions from possible generation sources.

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	Goodman	ALT04	Renewable energy microgrids in SW Wisconsin could reduce demand for electricity from the transmission grid, and add electricity at times to the grid. The potentials of renewable energy micro grids in SW Wisconsin should be evaluated before deciding to spend for new transmission.	As discussed in EIS Chapter 2, Section 2.2.2, non-transmission and low-voltage alternatives are not responsive to the applications to which the Federal agencies are responding, nor do they meet the six-point purpose and need described in EIS Chapter 1. The Federal EIS considers alternatives that are ripe for Federal consideration. What that means is that a proposal has been made for those alternatives or that it is reasonably foreseeable that they could be implemented in a time frame that would meet the need for the Federal action. Transferring to decentralized microgrids is beyond the scope of the Federal agencies' decisions and the analysis in the Federal EIS.
	Goodman	ALT06	Another way to avoid new transmission lines in SW Wisconsin is with development of offshore wind farms in Lake Michigan to more directly supply electricity to the big metro area electricity loads of Milwaukee and Madison, and this should be evaluated, before deciding to spend for new transmission lines in SW Wisconsin.	EIS Chapter 1 describes the need for the C-HC Project as well as the decisions facing the three Federal agencies that have received loan or permit applications for the C-HC Project.
	Goodman	REF01	And how does the S.O.O. green rail underground transmission project for northern Illinois influence the Wisconsin ATC 345-kV proposal?	The SOO Green Renewable Rail project is currently in the very early phases of planning; therefore, the feasibility and engineering are not available to inform alternatives for the proposed the C-HC Project. Additionally, EIS Chapter 2, Section 2.2.2 includes a discussion of underground transmission lines.
	Schwarzmann	ALT04; NEP02	The most important fact about the CHC electrical transmission line is that there is absolutely no need for it. Commercial electricity (CE) use is flat or declining in Wisconsin because of the increased NTA, mainly individual residential and farm solar installations, and increased efficiency in the use of electricity. It has been estimated that in 10 years the need for CE will decrease by 65%. An engineer at a recent meeting attended by MISO, pro CHC organizations, and the CHC applicants said that the CHC line is designed for an economic life of 75 years. With the increase in NTA, it would be defunct and not needed after 10 years. Where would the money come from to pay off the bonds and loans? I talked with an Alliant Energy consumer rep who said Alliant's transmission grid is up to date, robust, and resilient, with an excess capacity to easily handle all present and foreseeable needs. I don't see anywhere in the EIS statement the calculations and projections of the need for CHC. I don't see any discussions or projections for individual residential and farm solar NTA or economic justification for the CHC line in the EIS.	EIS Chapter 1 describes the purpose and need for the C-HC Project as well as the decisions facing the three Federal agencies that have written the EIS (RUS, USACE, and USFWS). EIS Chapter 2 describes all alternatives that were considered as part of the C-HC Project.
	Schwarzmann	ALT04	Even if there was a need for this CHC line, it could be buried underground like the line now being constructed from Iowa to Chicago along a rail corridor by a German firm, Siemens. I attended one of the first informational meetings held by ATC in Platteville, Wisconsin, about 3 years ago where I asked Jon Callaway and his engineers why CHC couldn't be buried, and they said it was too expensive. But if you added up all of our time (and your time) and expenses to drive to meetings over the years, lawyers' fees for the large number of individuals, groups, and organizations who support and oppose CHC, donations to various organizations, involvement of the PSC, hearings, state and federal government expenses, letters, and emails, this CHC line could have been buried 10 times, and most of the serious problems could have been eliminated. I don't see in the EIS where you have done a cost analysis on the underground option for CHC.	The project referred to in this comment is the SOO Green Renewable Rail project. It is currently in the very early phases of planning; therefore, the feasibility and engineering are not available to inform alternatives for the proposed the C-HC Project. Additionally, EIS Chapter 2, Section 2.2.2 includes a discussion of underground transmission lines.
	Schwarzmann	LAND08	While at this same info meeting in Platteville, I gave Mr. Callaway a map of the Belmont Township that showed that the CHC line was going right through land that is designated as a protected historic, scenic, geologic, and environmentally sensitive area. He did not know this and has not done anything to accommodate this serious problem.	Comment noted. EIS Section 3.2 discloses potential impacts to geology and soils. Potential impacts to cultural and historic resources are disclosed in EIS Section 3.9. EIS Section 3.10 discloses potential impacts to land use, including agricultural land and recreation. Potential impacts to visual quality and aesthetics are disclosed in EIS Section 3.11.
	Schwarzmann	VIS01	There are also 5 park and trail areas in Belmont Township that would be negatively affected because people would not want to see these towers or be anywhere near them. (I wouldn't even want to drive under them.)	Potential impacts to visual quality and aesthetics are disclosed in EIS Section 3.11.
	Schwarzmann	LAND08	Why is this CHC planned for one of the most scenic, pristine, and productive areas of the United States? Where does the EIS address special areas like this?	Comment noted.
	Schwarzmann	LAND02; SOCIO03	The CHC route also passes directly over 8 Amish farms and actually goes right over the top of an Amish school house. This is insane! There was a meeting last year with the Amish community and ATC/ITC representatives. The CHC applicants were told of this fact, but they have not responded with any route changes. Members of the Belmont Amish community have told me that they would have to sell their farms and businesses and leave this area if this line goes in.	Comment noted. The EIS has been revised to ensure that the potential impacts to the referenced community are included in the impacts analysis within the Socioeconomic section (EIS Section 3.12).
	Schwarzmann	SOCIO01	This tragedy has happened in other areas of the country where a line went in and the community moved out of the area because of the negative health effects on the people, animals, and crops. I would not want to walk around my farm in the damp grass with grounding sparks of electricity from a 354 kV powerline snapping out my feet and toes. don't see in your EIS that you have addressed these social, cultural, and religious issues.	Comment noted. Section 3.13 of the EIS discloses potential impacts to public health and safety that could occur from wildfire, occupational safety, hazardous materials, and electric and magnetic fields. EIS Section 3.9 discloses potential impacts to cultural resources, and EIS Section 3.12 discloses potential impacts to social and economic conditions.
	Schwarzmann	HAS01	There has been little research to document the mechanism by which cancer develops (there is no money for this), but there is statistically significant epidemiological evidence that cancer is caused by living in proximity to these lines. ATC/ITC say that research indicates no negative health effects would be caused by the CHC lines. As you know, research can be designed to arrive at the result desired by those who pay for it. With ATC/ITC/Dairyland saying no health effects are caused by their power lines, I am reminded of about 50 years ago where the tobacco companies said cigarettes had no negative effect on the health of the human body. It wasn't until about 10 years later when real research had been done on cigarettes and human health that cigarettes were scientifically proven to cause cancer. Then the lawsuits occurred. I do not see that the EIS has any consideration for human health.	Section 3.13 of the EIS discloses information about electric and magnetic fields.
	Schwarzmann	SOCIO03; SOCIO06	I also do not see in the EIS where you have considered the negative economic factors caused by CHC; the decrease of property values (when people sell out and leave) with the accompanying loss of taxes for township and state, decreased funds for schools and road maintenance, loss of tourism, and loss of new business and home building (because few will want to live and work next to or even near the CHC lines). I don't see where the EIS plans discuss a depressed economy.	Comment noted. Potential impacts to social and economic conditions, including property values and tourism, are provided in EIS Section 3.12.

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	Schwarzmann	ALT02; DECI13	Because of the evidence that I have presented here and the overwhelming evidence that has, is, and will be presented by many others against CHC, I would like to encourage RUS and USDA to refuse the loan to Dairyland Power to help build CHC. I believe you would lose your investment when ATC/ITC/Dairyland have trouble paying off their obligations.	Comment noted.
	Schwarzmann	ALT01; SOCIO03	Landowners, businesses, and farmers around the CHC line, if built, would also lose in many ways, as you have heard and will hear from others. Instead, I propose that you take the amount of money allocated for this loan and make it available to these folks in southwest Wisconsin for low-interest loans and/or subsidies for the construction of NTA individual solar residential and farm installations. This way our USDA would be not be hurting farmers and others by contributing to hardship and struggle but helping us to succeed and prosper.	Comment noted. There are other programs in RUS that provide low interest loans for renewable projects. However, these are usually done through the local distribution cooperatives.
	Schwarzmann	OOS01	For RUS The Truth about Turbines January 2019 The Platteville Journal 11-21-18 had an article about the wind and solar farm proposed by out-of-state companies for Montfort and wind turbine farms for Shullsburg and Belmont. Wind electrical energy generation is presented as a rosy solution to global warming and CO2 reduction by turbine makers, installers, and investors. Looking into the science behind and reality of wind turbines will take the gloss off the pro-turbine hype and present a scenario with the revelation that wind turbines do more damage to our planet than clean coal or gas turbines. Several factors support the demise of wind turbines. First, in the article "Revealing the Dark Side of Wind Power" by Mark Buchanan (Bloomberg), two Harvard researchers, Miller and Keith, found that wind turbine-atmospheric wind interaction can actually increase global warming, and they further mention that it would take a turbine field "more than a century or so before the reduction of global carbon dioxide emissions" (caused by fossil fuel generators) "would offset the local warming effect" (caused by the turbines). A second factor that makes wind turbines an ecological disaster is the massive amount of fossil fuels used to make and install them. Think about it. Add up all the fuel burned to mine the steel ore, make the steel, and transport it to the turbine factory; add to that the energy used to make, heat, cool and light the turbine plant as well as make the turbines and fiberglass blades. Also add the fuel used by turbine employees to travel to and from the plant, transport the turbine and tower across the country, doze the massive hole for the concrete turbine base, haul the excavated soil and situate it on a new site, mine and haul the cement used for the concrete, and finally mix, haul, and pour the pad- 6,000 or more yards of concrete hauled by 60 or more trucks for each turbine pad. The carbon footprint of a wind turbine is 250 tons of CO2 just for the concrete pad supporting the tower. Add in the trailer employee village living quarters, all the food and waste that needs to be handled for the turbine installers, as well as the wiring and cable made and installed to carry electricity. There is more, but do you get the picture here? It would probably take another century of turbine operation to overcome the fossil fuel pollution caused by making and installing the wind turbines. We're up to 200 years now. If a turbine needs to be replaced every 20 years, it is easy for anyone to see that wind turbines are actually devastating to the environment. Consider a third factor: the environmental damage during the life of a wind turbine. Turbines are serviced 3-4 times per year. Fossil fuels are used by a crew that is required to operate, monitor, and maintain the turbines. Blades and other items sometimes need to be replaced. The lifespan of a turbine is said to be about 20 years for the newer turbines. Earlier models were supposed to last for 20 years but are showing signs of wearing out after 10-12 years. When a turbine wears out, it is "decommissioned" by the turbine company and payments to townships and landowners cease immediately. The turbines need to be deconstructed. If the landowner/township does not have fees from the turbine company escrowed for deconstruction, who will pay? There are no federal regulations to mandate cleanup (like mining operations) after a wind farm is done. Is any money escrowed in Seymour Township for the Quilt Block turbines? If the landowner has to pay for deconstruction, all those turbine payments could be quickly consumed. Also, the old fiberglass turbine blades are put in landfills-a big job (ever been next to a monster-size turbine blade?), expending fossil fuels and defiling the environment. A fourth factor to consider is the negative health effects caused by wind turbines. Look at the documented pathological effects on the psychology and physiology of the human body. No room to go into this here, but I will say that when wind energy proponents and the ATC electric high transmission tower builders say there are no documented negative health effects, I am reminded of the cigarette companies 40 years ago who said cigarettes were not harmful to health. See the World Health Organization website for a panoply of health effects. In addition, turbine towers and blades desecrate the landscape and cause blade noise, shadow flicker, low frequency sound waves, flashing red lights in your bedroom at night, and your children who do not want to take over the family farm because of the behemoths in their face. The tips of the turbine blades move at over a hundred miles per hour and can throw ice over a quarter mile. Some people, especially landowners who get tower payments, think that the towers are beautiful for about a year or two, until they wish they had never gotten into it. What I cannot understand is how in America a handful of people can decide to put up turbines that ruin the lives of hundreds of people. There needs to be some accountability from wind turbine companies. Consider a situation in Fayette County Iowa where the zoning board approved permits, allowing wind companies to build wind turbines. Landowners fought the permits in court, where a judge agreed with them and declared the permits illegal and void. The turbine builders appealed the decision but put up three wind turbines. The citizens appealed this action to the Iowa Court of Appeals, where a judge ordered the turbine companies to immediately deconstruct the towers-at a cost of \$150,000 each. Normal life has returned for the residents. In "Why Wind Isn't the Answer," Robert Bruce City Journal 10-30-18 says, "Rural residents are objecting to wind projects because they want to protect their property values and viewsheds. They don't want to see the red-blinking lights atop those massive turbines, all night, every night, for the rest of their lives. Nor do they want to be subjected to the health-damaging noise-both audible and inaudible-that the turbines produce." I foresee more communities legally organizing against turbine farms to have them removed. What is the solution to energy production in our global environment? Just two words: individual solar. Individual residential home and farm installations have been working reliably for years, with increasing efficiency and decreasing cost. Even Sean Brady, a regional manager on staff at Wind on the Wires (Clean Grid Alliance), an organization that promotes wind turbine farms and high tower electrical transmission line projects, "owns, operates, and sells energy from a solar generation facility on his property." Smart man. Individual solar is rapidly expanding and will significantly further the decline in commercial electrical consumption. California has mandated solar installation on new homes built starting in 2020. Electrical consumption in Wisconsin has been flat or declining for a decade. With the sharp increase in individual solar in the next ten years, the need for commercial electricity could drop by 65%. Large commercial solar fields inactivate good farmland and are a solution for which there is no problem. In the near future, there will be no need for any of the electricity produced by large commercial solar fields like the proposed Badger Hollow project or the wind turbine complexes. I have read that about 40% of wind turbine electricity is dumped because it cannot be used. In five to ten years, Alliant and Dairyland will have a hard time selling the energy they now have. When there is no wind, gas turbines must supply the electricity and be kept running at all times. A gas turbine cannot be turned on and off at will. So the solar fields like Badger Hollow (if built) and turbine farms that out-of-state companies want to install in Wisconsin will be defunct, inactive white elephants. In the article "The Hidden Costs of Wind Electricity," Taylor and Taunton at the American Tradition Institute say that "generating electricity from wind costs triple what it does from natural gas." Wisconsin now produces about 15% more electricity than it needs without solar and wind. Where will this excess electricity be used? Who wants this extra electricity? If it is transmitted through and out of Wisconsin (also from Iowa), we citizens will pay the costs and suffer decreased property values and quality of life in order to serve the Eastern USA populations who don't give a rip about Wisconsin. Transmitting electricity is inefficient. For each 100 miles, 1% to 10% of electricity is lost (the electrons lost cause health and	Comment noted.

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			<p>environmental consequences). It is also interesting that the big wind turbine farms say they need new high tower electrical transmission lines (ATC/CHC) to transport the electricity they produce. Not true. The current electrical grid can easily handle and current and planned wind and solar. (Remember electrical consumption is flat or decreasing) They also say they need the big high transmission towers to replace an aging grid. More fake news. I see well-maintained poles and lines in southwest Wisconsin; so I called Alliant Energy and talked to a manager who said that Alliant spends a significant percentage of money to replace distribution infrastructure every year. Alliant says that our grid is "robust and resilient." Alliant prides itself in super reliable energy with a strong distribution system, so we have absolutely no need for the ATC/CHC electrical tower projects. To summarize, wind generated electricity is primitive, expensive, unreliable, and environmentally devastating when compared to individual solar systems and even gas turbines. Our US government Production Tax Credit pays for 30% of the wind turbine cost. These are your federal tax dollars literally gone with the wind (pun intended). The PTC is being phased out and the credit will drop by 60% in 2022, then to 40% by 2023, and ending in 2024. Without the subsidy, wind turbine installations will drop significantly, which could signal the end of the wind energy industry because they will no longer be economically feasible. Wind turbine companies are actually in a panic to get as many turbine fields started now before they face tough times and lose their subsidy. In the article "Why It's the End of the Line for Wind Power," this phase out period will "fleece the tax payers of an additional 50 billion" (that's us, folks-you and me). In "Revealing the Dark Side of Wind Power," Miller and Keith say that "wind energy potential is much more limited than previously thought." They say that big investors are shifting their investments into solar. Wind is a joke; it's finished. George Schwarzmans is a retired instructor of Human Anatomy and Physiology and Clinical Microbiology at Southwest Wisconsin Technical College and is currently a member of the Belmont, WI Township Planning Committee. For RUS Problems with the Badger Hollow Solar Field February 2019 The Platteville Journal, February 5, 2019, published an article on some attributes of the proposed Badger Hollow solar farm in the Montfort area. Mike Vickerman of Renew Wisconsin (who is doing just the opposite of renewing) stated that commercial solar farms are just the greatest thing for beautiful Wisconsin. He is all for inactivating and contaminating prime agricultural land for a period of 30 to 50 plus years. In addition, this beautiful land with installed solar panels would probably never be farmed again. Vickerman says that Wisconsin is way behind in solar installations compared to other states--40th in the nation. However, there is a good reason for this. If Vickerman looked on the map, he would see that Wisconsin is in a more northerly latitude. The reason most large commercial solar fields are in the southwest USA is that land there is not as valuable as and the solar radiation is twice as intense as that of Wisconsin. According to the National Renewable Energy Laboratory (NREL) of the US Department of Energy (USDE), the Wisconsin range of solar radiation is 4.5 to 4.0 kWh/m2/day, whereas many of the areas of the SW USA are up to 8.5 kWh/m2/day. Individual residential and farm solar installations do pay off in Wisconsin, but a large commercial solar field has absolutely no place in Wisconsin. What happens when solar panels are covered with snow, or how about ice or tornado damage? The plan to put solar fields in Wisconsin shows not only a lack of knowledge but also a dearth of common sense. Vickerman is also pushing wind turbine farms in Wisconsin. Please read my guest editorial in the January 16, 2019, issue of The Platteville Journal. Wind turbines create distressing health and safety issues as well as devastating ecological and environmental damage. Mike also laments that Wisconsin is also behind the nation in wind energy. Again, if he would simply look at the USDE NREL US Wind Resource Map, he would see that only 0.01% of Wisconsin is rated fair as a wind resource; 99.9% of Wisconsin would be rated as poor. Sites in western Iowa, Nebraska, Kansas, Wyoming, North Dakota, South Dakota, etc., are rated from good to superb. Evidence clearly shows that Wisconsin is NOT in the wind corridor of the United States. Even David de Leon, CEO of Alliant Energy, wants to put a wind turbine farm in Iowa "where the winds are stronger." Smart man. In fact, with commercial electrical power consumption in Wisconsin flat or dropping as individual and farm solar power is skyrocketing (as well as small neighborhood coop and corporation solar fields), there will be absolutely no need for these commercial wind and solar fields that out-of-state companies want to put in our beautiful state of Wisconsin. Unfortunately, the laws in Wisconsin make us "easy pickins" for big corporations and ignore the rights of the individual citizens/landowners in the state. Looking into the future, as individual energy production and efficiency increases, experts predict a sharp decrease in demand for commercial electricity; and any of the commercial solar and wind operations, if built, will become useless, defunct, abandoned white elephants that trash the countryside. George Schwarzmans Jr., retired Southwest Tech instructor and member of the Belmont Township Planning Committee.</p>	
	Leavenworth	DECI13	I am opposed to the proposed CHC power line proposal by American Transmission Company (ATC) between Middleton and Dubuque.	Comment noted.
	Leavenworth	NEP02	Other than to profit ATC and to draw some another line for MISO's grand diagram, the CHC line is not needed. ATC erroneously declares that the line is needed for three reasons: 1.To reduce electric costs. 2, To promote reliability. 3.To promote renewable energy. Each is a fallacious statement. In order, 1. ATC has built 6 High Voltage Power Lines (HVPL's) in Wisconsin in the past seven years. Electricity bills have stabilized because the energy portion of the bill has decreased with less expensive natural gas and renewables, not more power lines. In fact, the cost of power lines has increased the fixed cost. portion of consumer bills, and CHC would only add to that. 2. Wisconsin is well known for its electrical grid reliability. The state already has some of the highest electrical transmission reliability in the nation. We don't need more reliability for reliability's sake. 3. a. Renewable energy growth is hampered by inter-city high voltage power lines. HVPL's originate and terminate near very large fossil fuel plants. By building these lines, one is in effect "institutionalizing" the fossil fuel power plants. Once the HVLP line is built, it will be incumbent upon the utilities to continue to operate the fossil fuel plants, not to decentralize their power generation to local ("distributed") renewable sources. 3.b. The vast majority of the electricity now carried by HVLP's is derived from fossil fuels. Importantly, all of the electricity required by SW Wisconsin is now carried on smaller voltage lines. There is plenty of capacity (by ATC's own engineers' admission) in existing lines and that is projected out ten years. ATC has said that it can put up a HPVL line in three years. There is obviously no urgency for erecting this boondoggle tower project. Even the developers of the proposed 300 MW solar farm near Montfort have said that they do not need more transmission capacity than that which presently exists. The greater grid also has multiple routes for electrical transmission. To clarify this point: more or larger lines won't carry more electricity because lines only carry the electricity necessary to meet the demand. It's rather like a water line. If the demand isn't using the available water, the pipe won't carry more water if it doesn't have a place to go. Many people just don't understand this point. More HVPL capacity will not carry more electricity than is demanded in the grid. The grid has plenty of current (and projected future) capacity. A CHC HVPL will not carry more renewable energy. It just won't.	Comment noted. EIS Chapter 1 describes the need for the C-HC Project as well as the decisions facing the three Federal agencies that have received loan or permit applications for the C-HC Project.
	Leavenworth	VIS01	I do however object to the grotesque blight that the towers and lines would put on the landscape and the environmental damage that the CHC line would cause	Comment noted.
	Leavenworth	SOCIO06	as well as the economic hardship that those with property in and near the lines will suffer from a decrease in their property values.	Comment noted. Potential impacts to social and economic conditions, including property values, are provided in EIS Section 3.12.

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	Leavenworth	ALT02; SOCIO08	ATC has greatly ramped up its capital structure to build these twentieth century dinosaur towers. Now it needs to find a project, meritorious or not, to "carry" its capital investment and reward its stockholders. For no legitimate reason, Wisconsin is being solicited to pay for the ATC mistake of overcapitalizing its operations so that ATC can continue to reward stockholders and chief executives. This mistake is neither Wisconsin's doing nor its problem. I am offended by the notion that, just because ATC has over-built its capacity, the electrical consumers have to pay for it with additional unneeded HVLP's. I personally approached one of ATC's executives at one of the "listening sessions" with the above remarks, and the ATC exec could not counter my reasons nor offer any reasonable answers. Personally, I felt sorry for him because he knew that his company's proposal was shamefully flawed. ATC has flooded the airwaves for the past four years with its very costly promotional advertising. Meanwhile, when my community (Mt. Horeb) asked ATC to come for a meeting with local officials, ATC blew it off ATC can fluff the public with glamorous advertising, but it can't face a critical body - because it knows that its reasoning is flawed and wrong. I believe that the Cardinal-Hickory Creek proposal is deceptive and flawed.	Comment noted.
	Spaay	SOCIO06	My property is less than 1/2 mile from the proposed CHC line. My property value will drop significantly if that line is built, likely by 20% or more.	Comment noted. Potential impacts to social and economic conditions, including property values, are provided in EIS Section 3.12.
	Spaay	WLDF01	But more damaging by far, the driftless area will suffer if this unnecessary high voltage transmission line is allowed to pollute our land and landscape. My pond, pollinator gardens and prairie restoration projects will see fewer birds, bees, bats and butterflies with those monster poles and wires interfering with their habitat.	Comment noted. EIS Section 3.4 discloses potential impacts to wildlife.
	Spaay	WLDF02	As a citizen scientist taking part in the annual Christmas Bird Count, I predict a drop in the number of birds and the number of species in the Mt. Horeb area if that line is built here.	Comment noted. EIS Section 3.4 has been revised to include Christmas Bird Count data.
	Spaay	REC01	The beautiful Military Ridge Trail just down the hill from my home will be horribly scarred and will attract fewer hikers and bikers, creating a revenue shortfall for upkeep.	EIS Section 3.10 discloses the potential impacts to the Military Ridge Trail and recreation, and Section 3.12 discloses potential impacts to tourism.
	Spaay	VEG02	As a citizen scientist with the DNR and The Prairie Enthusiasts, I have felt the rapture of finding beautiful rare and endangered plants in our preserved prairie remnants that would be wiped out by the land clearing necessary to build the proposed line.	Comment noted. EIS Section 3.3 discloses potential impacts to vegetation, including special status species.
	Spaay	ALT01	when we are told some new huge high voltage transmission line is necessary, we say, "Look at the alternatives---rebates or incentives for energy efficiency, development of locally utilized renewable power, and load management. We must protect this beautiful driftless area of Wisconsin! I strongly oppose new spending for the high voltage transmission option and strongly support new spending towards Non-Transmission Alternatives incorporating opportunities such as enhanced incentives/rebates for energy efficiency, load management and the development of locally utilized renewable power.	As discussed in EIS Chapter 2, Section 2.2.2, non-transmission and low-voltage alternatives are not responsive to the applications to which the Federal agencies are responding, nor do they meet the six-point purpose and need described in EIS Chapter 1. The Federal EIS considers alternatives that are ripe for Federal consideration. What that means is that a proposal has been made for those alternatives or that it is reasonably foreseeable that they could be implemented in a time frame that would meet the need for the Federal action.
	Eide	GEO01; VEG01	Article 4.13, page 439 "Landscapes within the project area vary based on location but primarily comprise a mosaic of agricultural fields, rural homesteads, and developed towns." There is a complete lack of mention here of the forested areas, including virgin forests, and the incredible bluffs that were spared by glaciation, the Driftless zone, and now ATC wants to put this huge line through the area.	The Driftless Area is described in Sections 3.2, 3.3, and 3.4 of the EIS. Forested areas are described in Section 3.3 of the EIS.
	Eide	GEO01; WLDF01	This would not only destroy irreplaceable geology specific to this area but encroach on the habitats of vast numbers of plants and animals that live there.	Comment noted. EIS Section 3.2 discloses potential impacts to geology and soils. EIS Sections 3.3 and 3.4 disclose potential impacts to vegetation and wildlife.
	Eide	GEO01; VEG01	"Due to the energy projects listed in the cumulative action scenario and similar energy projects also likely to be developed in the region, it is likely that additional electrical infrastructure (transmission and distribution lines and substations) would be built in the future." And because of how the policy is constructed, this wild area would then just deteriorate from there on into forever. These comments are touched upon in article 4.17.9, page 444, but the forested areas and bluffs should be mentioned here too.	Forests and bluffs have been added to EIS Section 4.6.2, which is the newly numbered section for the discussion of the short-term uses and long-term productivity discussion for vegetation and wildlife.
	Eide	GEO01; VEG01	Article 4.18 IRREVERSIBLE AND IRRETRIEVABLE COMMITMENT OF RESOURCES, page Needs stronger reference to bluffs and forests. This document isn't referring to how unique this land is. You may want to reference my letter of Jan. 2, 2017	EIS Section 4.7 has been revised to reference irreversible and irretrievable commitment of resources associated with forested areas and bluffs.
	Krause	DECI13	I am opposed because of the damage it will do to our very special Driftless Region.	Comment noted.
	Krause	OOS02	I feel that there are much more efficient ways to move/use power.	Comment noted.
	Stanfield	DATA07	We met about the Cardinal-Hickory Creek transmission line when you were in Barneveld, Wisconsin in December. Next week I should be in DC, and would like to meet with you about the status of the preparations for the EIS for the Dairyland application. We could also discuss the attached study which we are working on about the expected influence of the CHC on property values and taxes. I check email frequently, and my cell should be working. We could meet anytime on Monday, before 4 p.m. but could get away from the conference at other times, except when I will be presenting Wednesday morning. Hope to talk with you.	Comment noted.
U.S. Senate	Baldwin	DATA01; INFO04	I am writing on behalf of my constituent Charles Tennessen and the Driftless Area Land Conservancy (DALC) regarding their request for information. DALC is seeking information from the U.S. Department of Agriculture's Rural Utilities Service (RUS) regarding the Cardinal-Hickory Creek Transmission Line Project. They request RUS release all the comments that have been submitted during the scoping phase of the Environmental Impact Statement (EIS) for the Cardinal-Hickory Creek Transmission Line Project. Thank you in advance for your full and fair consideration of DALC's case, consistent with federal laws and agency regulations. Please forward your response to my district office in Madison (30 W. Mifflin St., Suite 700, Madison, Wisconsin 53703). I have enclosed all documents I have received from Mr. Charles Tennessen for your records. Feel free to contact Mr. Jon Wachter of my staff at (608) 264-264-5653 should you have any questions regarding this request.	Thank you. Comment noted. All comments received during scoping were posted on RUS's website (https://www.rd.usda.gov/publications/environmental-studies/impact-statements/cardinal-%E2%80%93hickory-creek-transmission-line) and included in the C-HC Project scoping report.
	Hansen	SOCIO01	Raising cost of elec. Negative impact on community.	Comment noted.
	Hansen	VIS01	The horrible impact on the beautiful countryside.	Comment noted.
	Hansen	SOCIO06	Another negative impact I am concerned about is the decrease in land values near the proposed corridor for the power lines.	Comment noted. Potential impacts to social and economic conditions, including property values, are provided in EIS Section 3.12.

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	Hansen	NEP02	Another negative impact I am concerned about is: the need for more power lines since power usage is flattening and the future for increased power is questionable.	Comment noted.
	Beebe	LAND01	Another negative impact I am concerned about is: Destruction of the driftless area lands for the power lines.	Comment noted.
Town of Stark, Vernon County, WI	Danielson	SOCIO08	As part of the federal-level Environmental Impact Statement for the Cardinal Hickory Creek 345 kV transmission proposal currently being prepared by USDA/Rural Utilities Service, we ask that the documentation included in this mailing be used to establish the following records in this developing EIS: That 3,063 individual, electric customers across 62 counties in Wisconsin have asked the Public Service Commission of WI to insure that comprehensive, cost-benefit analysis of Non-Transmission Alternatives be conducted in the review of high voltage transmission line proposals as similarly requested by more than 120 municipal resolutions from 2012 through 2016. That 1,061 individual, electric customers in counties across southern and southwest Wisconsin have asked the Public Service Commission of WI to insure that comprehensive, cost-benefit analysis of Non-Transmission Alternatives be conducted in the review of high voltage transmission line proposals as similarly requested by at least 17 municipal resolutions during the public information phase of the Cardinal Hickory Creek proposal. We note that these signatures augment citizen support RUS has received for EIS inclusion from the Town of Vermont and similar, resolution-supporting signatures filed by the Town of Arena on PSC docket 05-CE-146: http://apps.psc.wi.gov/pages/viewdoc.htm?docid=297443 http://apps.psc.wi.gov/pages/viewdoc.htm?docid=297484 The below materials are contained in this mailing for your considerations: • A map of 120 municipalities in Wisconsin adopting the "Information Request" format resolution, by county. • A list of the 17 municipalities in or near the Cardinal Hickory Creek study area and the "Information Request" resolutions they have adopted with links to the resolutions on PSC dockets. • A sample resolution adopted by the Town of Brigham, January 4, 2017. • A map representing the petition signatures, by zip code, in the potential impact area of the Cardinal Hickory Creek proposal. • 2012-2016 samples of petitions individuals signed to request cost-benefit analysis of Non-Transmission Alternatives by the applicants and the PSC during the public review of high voltage transmission line proposals. • A spreadsheet printout of the 3,063 petition signees with names and contact information from 62 counties in Wisconsin and impacted midwestern states inclusive of those signed during the public information stage of the Cardinal Hickory Creek proposal. If requested, we are able to provide the spreadsheet in.xls format and have compiled four, size-able pdf scans of the actual, 2014-2016 signed petitions as well. We greatly appreciate your valuable contributions in helping Wisconsin decision makers become more informed about the environmental, economic and electric reliability impacts associated with the Cardinal Hickory Creek and alternatives. We hope that the documentation we have provided underscores the importance of the inclusion of comprehensive cost-benefit analysis of non-transmission alternatives in the Environmental Impact Statement you are developing.	Comment noted. Documentation has been added to the administrative record for the EIS.
Mount Horeb Village President	Littel	LAND01	the proposed corridors for the Cardinal-Hickory Creek transmission line and towers would cut across the Driftless Area, a unique eco-region and special scenic landscape with rolling hills and deep river valleys nestled in woodland, farmland, prairie, and riparian habitats	Comment noted. EIS Section 3.4 discloses potential impacts to wildlife. EIS Section 3.10 discloses potential impacts to land resources and land uses.
Mount Horeb Village President	Littel	REC01; REC03; REC04	he proposed corridors for the transmission line would run through or near many natural, recreational/tourism and cultural resources, including the Military Ridge State Trail, Military Ridge Prairie Heritage Area, the Ice Age National Scenic Trail and the proposed Driftless Area Trail	EIS Section 3.10 discloses the potential impacts to recreational areas.
Mount Horeb Village President	Littel	REC01; SOCIO03	many tourists to the area visit in large part due to the beautiful natural setting of the Driftless Area and extensive opportunities for outdoor recreation	EIS Section 3.10 discloses the potential impacts to recreational areas and EIS Section 3.12 discloses the potential impacts to tourism.
Mount Horeb Village President	Littel	SOCIO03; SOCIO06; VIS01	the proposed Cardinal-Hickory Creek transmission line would have significant negative aesthetic impacts on the surrounding region and would negatively impact businesses, tourism, property values, and property tax revenue	Comment noted. Potential impacts to social and economic conditions, including property values and tourism, are provided in EIS Section 3.12.
Mount Horeb Village President	Littel	ALT01; NEP02	electrical demands of central and southwest Wisconsin can be met by local resources, such as energy efficiency, wind power, solar power, demand response, battery storage, and emerging technologies; WHEREAS, there has been no demonstrated need for the proposed Cardinal Hickory Creek transmission line in order to provide electricity to meet electricity use and demand in central and southwest Wisconsin.	EIS Chapter 1 describes the need for the C-HC Project as well as the decisions facing the three Federal agencies that have received loan or permit applications for the C-HC Project.
Mount Horeb Village President	Littel	DECI13	the Mount Horeb Village Board hereby resolves that the Village Board is OPPOSED to the construction and operation of the proposed Cardinal Hickory Creek transmission line. BE IT FURTHER RESOLVED, that the Mount Horeb Village Board calls upon the Wisconsin Public Service Commission, Governor Walker, and the Wisconsin Legislature to oppose the construction and operation of the proposed Cardinal-Hickory Creek transmission line and not grant any permits, certificates or other approvals needed for the proposed transmission line.	Comment noted.
City of Dubuque	Van Milligan	ALT01	The purpose of this meeting was to discuss the prior comments the City of Dubuque had provided ITC Midwest of Cedar Rapids, IA and the USDA Rural Utilities Service about the proposed project (Attachment #1). The City of Dubuque is re-affirming our support for the Cardinal-Hickory Creek 345KV Project - provided the proposed overhead electric transmission line does not go through Dubuque. The City supports the alternative to use the existing Mississippi River crossing at the Turkey River substation as shown on Attachment #2.	Comment noted.
	Ladd	NEP02	Unneeded Boondoggle. Electricity demand is flat and declining. Wisconsin and the Midwest have excess power supply. Ellen Nowak, Chair of Wisconsin's Public Service Commission explained: "Right now, there's not a need for a lot [of] new generation of any source in Wisconsin". (Wisconsin Public Radio, January 19, 2017, www.wpr.org) - Environmentally Destructive. ATC's proposed huge high-voltage transmission line and 17- story towers would run 125 miles through the unique and scenic Driftless Area, the Upper Mississippi River Fish and Wildlife Refuge, Military Ridge Prairie Heritage Area and several state parklands and recreation areas. -	EIS Chapter 1 describes the need for the C-HC Project as well as the decisions facing the three Federal agencies that have received loan or permit applications for the C-HC Project.
	Ladd	SOCIO08	Much Too Expensive. The proposed line will cost consumers more than \$1 billion for construction costs, debt service and maintenance costs. Probably much more!	Comment noted.
	Ladd	SOIL06	Since you are an Environmental Protection Specialist I feel it is critically important for you to know that the GOLD COLORED Proposed Other Route of County Road B in Iowa County Wisconsin under your jurisdiction that runs from Dodgeville WI to Monfort WI spans some of Wisconsin's most prime farming soils.	Comment noted. EIS Section 3.10 discloses potential impacts to prime farmland and farmland of statewide importance.
	Ladd	SOCIO06	Damages Property Values and Economy. This giant transmission line will lower property values, lower revenues for counties and townships, and make homes, businesses and properties harder to sell.	Comment noted. Potential impacts to social and economic conditions, including property values, are provided in EIS Section 3.12.
	Ladd	CUL02; SOIL06	In addition, there are 2 Historic cemeteries (Bloomfield Cemetery and LAXEY Church and cemetery) and our Ladd Family Environmentally Sensitive Property located directly within this Proposed Other Route. See attached map that shows the location of our unique Ladd Family environmental properties, the Bloomfield Cemetery and the LAXEY Church and cemetery and a span of Wisconsin's most prime farming soils. •	Potential impacts to historic properties and cultural resources, including cemeteries, are disclosed in EIS Section 3.9. The EIS uses the best available records and data provided by the Iowa and Wisconsin SHPO databases and site-specific surveys to identify

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				potential historic properties within the alternatives. The EIS recognizes that additional historic properties may be present along one or more project alternatives, and the Iowa and Wisconsin SHPOs, RUS, the Utilities, and other consulting Federal agencies have drafted a PA under Section 106 of the NHPA. This PA details a phased identification and treatment plan for cultural resources identified within the chosen alternative. This PA is included as an appendix of the EIS.
	Ladd	LAND08; WLDLF01	Our family 4.66- and 287.91-acre properties are located directly within the Other Corridor and we have invested heavily through Governmental CRP and CREP programs into making our property a rare natural prairie and wildlife oasis working in conjunction with the nearby Public Iowa County Farm to the North. •	EIS Section 3.10 has been revised to disclose potential impacts to lands enrolled in conservation programs such as the CRP and MFL.
	Ladd	VEG04; WLDLF02	Our family 4.66- and 287.91-acre properties with Pond, the LAXEY Creek Watershed, and the Iowa County Farm Public Pond is a migration flyway for Ducks, Geese and other migratory birds. We have had Trumpeter Swans come through and use our pond. Our property is established with prairie habitat, trees/shrubs (we planted approximately 20,000), freshwater springs and marshlands that are VERY unique to the area. Our area also hosts protected Bald Eagles including a nest just South of our Property line and we have seen Osprey at our pond.	Comment noted. Potential impacts to wildlife are disclosed in EIS Section 3.4.
	Ladd	WLDLF01	Whitetail Deer, Pheasants, Wild Turkey and other species of wildlife call our property home because there is hardly any other notable habitat for miles. • We allow various organizations including the Wisconsin Department of Natural Resources to come on our properties to perform studies on Songbirds, plants, Bats etc. SEE ATTACHMENTS. See also handwritten note on the attachment where Jennifer references that our property was 1 of only 2 out of 41 properties on which she encountered Upland Sandpipers.	Comment noted.
	Ladd	ALT01	I am asking that you please work toward removing the GOLD COLORED Proposed Other Route of County Road B in Iowa County Wisconsin that runs from Dodgeville WI to Monfort WI from the scope of the project for all the reasons and concerns mentioned within this email and its attachments.	Comment noted.
	Ladd	SOCIO01	The Cardinal - Hickory Creek Transmission Line Project goes directly against the core values of the USDA's Rural Utilities Service (RUS) in that it does not provide a needed improvement to our rural community.	Comment noted.
	Ladd	SOCIO08	Furthermore, ATC should not be introducing a project the scope and magnitude of the Cardinal Hickory Creek Project without the proper due diligence of conducting a comprehensive cost-benefit analysis. ATC should be required to show the affected consumers that this line is highly necessary and that the benefits far outweigh the additional costs (both tangible and intangible) we will all face in Southwest Wisconsin if this line is built.	Comment noted. The Federal agencies are required to comply with NEPA. As stated in NEPA regulations 40 CFR 1502.23, "For purposes of complying with the Act, the weighing of the merits and drawbacks of the various alternatives need not be displayed in a monetary cost-benefit analysis and should not be when there are important qualitative considerations." Requirements for alternatives consideration under Wisconsin Statute 196.491(d) are very specific and separate from NEPA. Per their jurisdictional responsibilities, the PSCW is considering if and how the range of alternatives meets those requirements (see Section 1.2.2.1 of PSCW [2019]).
City of Dubuque	Van Milligan	ALT01; DECI11	ITC has proposed three (3) route alternatives for a 345 kilovolt (KV) overhead electric transmission line through the City of Dubuque. The City Code for licensing electric transmission line companies requires that a company file a petition with the City Council, and that the City Council hold a public hearing when considering a petition. The City Code requires a transmission line to be at least two hundred fifty feet (250') from any dwelling or other building, except by agreement or when the line crosses or passes along a public highway or is located along a railroad right-of-way. City staff has identified potential impacts for each route alternative proposed by ITC. Areas of the community affected by each route alternative include residential and commercial properties, parks, attractions, open space, other utilities, wetlands and waterways. Based on the minimum 250-foot distance between transmission lines and buildings and on the identified impacts, Planning Services Manager Laura Carstens and City Engineer Gus Psihoyos recommend that the City Council adopt the enclosed resolution which states that the filing of a petition by ITC and a formal public hearing process would not be in the public interest. I concur with the recommendation. I further recommend that the minimum 250-foot distance from transmission lines not be waived if a petition is considered. I respectfully request Mayor and City Council approval.	Thank you for your review. None of the alternatives analyzed in detail in the EIS would pass through the City of Dubuque, Iowa.
	Brimeyer	PUB05	I was given your name as a direct contact person to communicate our concerns regarding the Cardinal – Hickory Creek project in Clayton County. Leila Hefel is my mother and the owner of the property located within the Wildlife Refuge. It is our understanding that a meeting will be held with the ITC company and the Fish and Wildlife Department regarding the planned structures and easement's within the area. We would like to be involved with the meetings and all communication that will occur regarding this section of land. My mother is a stock holder and should have an active voice during these meetings. Could you please communicate with one of us regarding the future meetings that will occur? My personal number is 319-430-1121 My mother is Leila Hefel at 563-542-4603 or home number 563-252-1408	Comment noted. Follow-up telephone calls have been made.
	Alexander	NEP02	The ATC Transmission Line from Dubuque County to Dane County is not needed.	Comment noted.
	Alexander	SOCIO08	It is a burden on the taxpayers of Southwestern Wisconsin and shows no benefit to the residents.	Comment noted.
	Alexander	SOCIO06; WLDLF01	I have property in the alternate route. If it is decided to build on the alternate route it would be catastrophic to my property value not to mention wildlife habitat. My property has rock bluffs that house various animals including bobcats.	Comment noted. Potential impacts to social and economic conditions, including property values, are provided in EIS Section 3.12. Potential impacts to wildlife are disclosed in EIS Section 3.4.
	Alexander	LAND03	Dynamite would be used to erect the towers. We also have cattle and horses. Construction will affect these animals as well. Noise from the construction could scare the animals and possibly cause injury not mention stray voltage.	Comment noted. EIS Section 3.13 has been revised to include a discussion about stray voltage. EIS Section 3.7 has been revised to disclose potential noise impacts to livestock.
Town of Stark, Vernon County, WI	Danielson	NEP02; SOCIO08	Our delegation looks forward to scoping updates and especially questions about inclusion of cost benefit analysis of Non-Transmission Alternatives under NEPA-guided development of lowest impact alternatives in order to provide decision makers meaningful, contemporary recommendations. The Energy Planning Committee I serve on been utilizing FERC Order 890 for the last five years and participating in American Transmission Company's (ATC) annual, 10 Year Transmission Planning Assessment process. http://bit.ly/ATC_Link_01 Every year, over the course of four meetings, a range of stakeholders including Wisconsin utilities, state PSC staffs, MISO staff, industrial, commercial, residential, environmental and government user groups review the company's planning assumptions, drivers and proposed capital transmission projects culminating in a list of	RUS has determined that the purpose and need for the Federal action are supported (see EIS, Chapter 1). The State of Wisconsin has also analyzed the project through the PSCW and WDNR EIS process (PSCW 2019). The PSCW will make an appropriate determination as to project need with respect to their jurisdictional responsibilities under Wisconsin Statute 196.491(3) (see Section 1.2.21 of PSCW [2019]). The Federal EIS does not consider alternatives in the same manner as the PSCW or IUB. The Federal

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			<p>upgrades and new projects within a 10 year planning horizon. The economic, reliability and environmental “drivers” for the Cardinal Hickory Creek proposal, thus far, are grounded largely in 2008-2010 assumptions. The most recent data in the AES, the truncated, “Triennial” MTEP14, is three years old. The MVP-generalized planning assumes a “Business as Usual” energy growth rate 5 times larger than MISO now assumes. It is crucial to understand and to document in the EIS that a future 1.06% growth rate is absolutely required for ATC/ITC/DPC to produce razor thin potential economic benefits from CHC. There is no evidence of reliability need as demonstrated in the lack of a Low Voltage Transmission option as required by Wisconsin law. This letter provides very recent, contrasting forecasts that American Transmission Company ATC made publicly available on February 21, 2107 in the company’s “10 Year Planning Assessment” materials. The data in these materials reflect declining energy and peak growth rates in Wisconsin, problematic uncertainties with capital expansion based planning, and sharp cuts in the amount of power Wisconsin utilities expect to import using interstate transmission in coming years.. (1) See Page 5 of the “Preliminary Need Assessment” at: http://bit.ly/ATC_Need_Pg5 Due to a “high bias” condition when the uncertainty of modeling fails to capture crucial regularities, the company indicates that no, new construction transmission projects will be proposed in 2017. The uncertainty planners face can be seen when numerical rates are added to this chart on page 7: http://bit.ly/ATC_Need_Pg7 as below. Utilities and ATC are struggling to accept the historical changes in use that are taking place. Note that ATC predicts no change in load forecasts from 2015 to 2016 and in the following assessment assumes a very significant 1-year decline in peak load of 3%. An annual change of this scale has not occurred in more than 15 years, but ATC is forced to make this single year adjustment using utility-biased, planning methodology not designed to control costs but to justify capital utility investment in transmission. (2) See page 6 of the “Preliminary Need Assessment” at: http://bit.ly/ATC_Need_pg6 This is not new. The company’s demand forecasts over the last 10 years have been considerably higher than materialized. The sequence of 2014 (purple), 2015 (pink) and 2016 (green) forecasts in the chart portray the company’s delayed accommodation to the historical change in electricity use attributed in large part to increasing energy efficiency and the decoupling of economic growth and energy use. Past and current exaggerated load forecasts become apparent when compared to conventional, statistical trend analysis. Using the industry standard of looking back ten years, actual plots from 2005-2015 predict a decline of -.3%/per year in coming years. Below is an annotated forecast chart showing two conventionally computed statistical trend lines from data ATC forecasts published in spring 2016. (3) See page 10 of the “Preliminary Need Assessment” at: http://bit.ly/ATC_Need_Pg10 ATC collects and incorporates use projections from the Wisconsin utilities it serves in its 10-year assessment process. February 21, 2017 planning documentation shows that WI utilities predict a very sharp decline in anticipated use of interstate transmission in coming years. Data from page 10 materials has been placed into chart that is provided on the following page. In 2016 utilities reported an approximate 28% “Reduction in west to east flows through the entire ATC system” compared to estimates made only one year earlier. Excluding the 5-year window which is mostly out of the time frame for Cardinal Hickory Creek, WI utilities projected need to import power west of Wisconsin during higher volume summer months dropped a whopping 55% in a single year. There was considerable discussion about this development at the meeting with some of the utilities noting they had recently decided to not renew “certain contracts” and observations about more renewable energy development occurring within state. The decline in interstate transmission use dates at least to 2007 as shown on page 9 of the 2014 assessment: http://bit.ly/ATC_2007-2013_9_percent Note that company reports that imported power in 2013 made up less than 10% of the power sold by Wisconsin utilities. Import hours for the Western Interface rose a striking 12% from 2013 to 2014 but ATC’s contribution to WI electric sales rose only a few percent points. See: http://bit.ly/ATC_Need_2014_pg9 ATC has not provided percentages for 2015 and 2016 but we note that low and decreasing use of the electricity market is consistent with national trends as shown in sales records at the MISO Hub in Indiana provided by EIA: https://www.eia.gov/electricity/wholesale/ (4) See page 11 description of the protocol ATC follows when determining capital replacement of an existing transmission asset. http://bit.ly/ATC_Econ_Pg11 Although requested by stakeholders, ATC has yet to update this protocol consistent with FERC Order 1000 including examination of Non-Transmission Alternatives to prolong the lifespan of aging transmission facilities. These alternatives are highly cost effective under flat and declining energy use. As noted in prior EIS comments, the practice of using joint utility/community-supported solar facilities next to substations to remove demand on aging, costly transformers are already being developed by Dairyland Power Cooperative. (5) On page 21, note that declining use has led to the cancellation of three transmission upgrades that were justified as necessary in an earlier planning exercise: http://bit.ly/ATC_Econ_Pg21 (6) See Page 9 of the Economic Planning materials: http://bit.ly/ATC_Econ_Pg9 ATC presents selected drivers from MISO’s most recent planning (MTEP17) for partial adoption. Of special interest is the footnote linking to energy use refinement for WI: http://bit.ly/MISO_MTEP17_Zone2_Detail Like ATC, MISO collects and assesses future projections made by “LBA’s” including Wisconsin utilities. In contrast, MISO’s resulting forecast for Wisconsin energy use and peak demand predict a growth of .2% per year through 2026 for the Business as Usual or “Existing Fleet” future. Note that MISO’s rate is less than half of ATC’s current projection of .48% per year. This is not insignificant. MISO is predicting WI utilities will sell 3,000,000 MWh less power over the next 10 years. (7) Assumed energy growth is a key factor in enabling potential benefits from transmission expansion. Over 30 years, the difference in the “Business as Usual” energy growth rate CHC applicants cite in the AES (1.06% per year) and what MISO is currently predicting (.2% per year) amounts to an additional 5 years of 2016 Wisconsin electricity consumed over the next 30 years. See applicants’ citation in AES: http://bit.ly/MISO_MTEP14_EnergyPredict The associated data is compiled into the following chart showing 30-year growth rates plotted to scale. We thank for your time in reading and including mention of this more current information in the DEIS. Please feel free to contact us with questions about all of the information we have provided to date.</p>	<p>agencies are required to comply with NEPA. As stated in NEPA regulations 40 CFR 1502.23, “For purposes of complying with the Act, the weighing of the merits and drawbacks of the various alternatives need not be displayed in a monetary cost-benefit analysis and should not be when there are important qualitative considerations.” As discussed in EIS Chapter 2, Section 2.2.2, non-transmission and low-voltage alternatives are not responsive to the applications to which the Federal agencies are responding, nor do they meet the six-point purpose and need described in EIS Chapter 1. The Federal EIS considers alternatives that are ripe for Federal consideration. What that means is that a proposal has been made for those alternatives or that it is reasonably foreseeable that they could be implemented in a time frame that would meet the need for the Federal action. Requirements for alternatives consideration under Wisconsin Statute 196.491(d) are very specific and separate from NEPA. Per their jurisdictional responsibilities, the PSCW is considering if and how the range of alternatives meets those requirements (see Section 1.2.2.1 of PSCW [2019]).</p>
Town of Stark, Vernon County, WI	Danielson	ALT04	We thank you for your ongoing work evaluating non-transmission alternatives in development of the DEIS for the Cardinal Hickory Creek 345 kV transmission expansion proposal.	Comment noted. As discussed in EIS Chapter 2, Section 2.2.2, non-transmission alternatives are not responsive to the applications to which the Federal agencies are responding, nor do they meet the six-point purpose and need described in EIS Chapter 1.

Organization	Commenter Last Name	Comment Code(s)	Comment on DEIS	Agency Response to Comment
Town of Stark, Vernon County, WI	Danielson	SOCIO08	As you know, more than 90 municipal governments encourage the DEIS to include cost-benefit analysis of comparable investment in targeted energy efficiency, load management and solar facility support to prolong the usefulness of the same low voltage transmission facilities that the applicants suggest would be avoided by construction of the high voltage transmission option.	Comment noted. The Federal agencies are required to comply with NEPA. As stated in NEPA regulations 40 CFR 1502.23, "For purposes of complying with the Act, the weighing of the merits and drawbacks of the various alternatives need not be displayed in a monetary cost-benefit analysis and should not be when there are important qualitative considerations." As discussed in EIS Chapter 2, Section 2.2.2, non-transmission and low-voltage alternatives are not responsive to the applications to which the Federal agencies are responding, nor do they meet the six-point purpose and need described in EIS Chapter 1. The Federal EIS considers alternatives that are ripe for Federal consideration. What that means is that a proposal has been made for those alternatives or that it is reasonably foreseeable that they could be implemented in a time frame that would meet the need for the Federal action.
Town of Stark, Vernon County, WI	Danielson	ALT01; ALT02	There are many advancements in non-transmission solutions taking place across the nation including the May 2017 Bonneville Power Administration decision: https://www.bpa.gov/Projects/Projects/I-5/Documents/letter_I-5_decision_final_web.pdf Four questions have come up in our joint town committee communications. Should you have a chance to answer them before our next meeting on September 12, 2017, it would be greatly appreciated. (1) Is RUS's Draft Environmental Impact Statement for the proposed Cardinal Hickory Creek 345 kV High Capacity Transmission Line Proposal (CHC) still on schedule? We recall it being slated for Fall 2017. (2) You may recall at our December 7, 2016 meeting in Barneveld that Chuck Thompson of Dairyland Power Cooperative said he would provide a complete list of the low voltage transmission facility upgrades/rebuilds that the applicants suggest would be avoided by the high voltage transmission option. Have you received this information yet? As we discussed, such a list is crucial in determining applicable non-transmission alternatives to also avoid upgrades and rebuilds to these facilities. (3) Also in Barneveld, we discussed the importance of RUS obtaining comprehensive total cost for the high voltage transmission option inclusive of: construction period costs, financing costs, operation costs, maintenance costs, securitization costs and other costs over a 40-year operation period. Have you received this information yet? This information crucial in setting a budget for a head to head comparison of benefits between combinations of non-transmission alternatives and the high voltage transmission option. (4) Lastly, do you have any questions concerning the updated information we sent you March 22nd? The updated information is attached again for your convenience. We greatly appreciate the work you are doing on the draft EIS to help us, elected officials and other decision makers in Wisconsin understand the energy investment options before us. Please let us know if we can be of assistance.	Comment noted. RUS continues to collect information from the C-HC Project utilities to inform the analysis in the EIS, as needed. EIS Section 1.4 describes avoided infrastructure costs and other grid improvements associated with the C-HC Project. EIS Section 2.3 provides a cost estimate range for all action alternatives. A more detailed cost estimate will be provided if one of the action alternatives is selected by the Federal agencies.
Environmental Law & Policy Center	Learner	NEP02	At this point, the Public Service Commission of Wisconsin (PSCW) has not determined that there is a need for the proposed transmission line. DALC and ELPC request that the RUS defer its environmental review process unless and until there is a final determination by the PSCW—and, potentially, by a reviewing court—that the proposed new Cardinal-Hickory Creek transmission line is needed and would serve a public purpose. As explained in DALC's and ELPC's January 6, 2017 comments about scoping, there has been no determination or demonstration of need for this proposed high-voltage transmission line. DALC and ELPC Scoping Comments at 9-15 (Jan. 6, 2017).	Comment noted. EIS Chapter 1 describes the need for the C-HC Project as well as the decisions facing the three Federal agencies that have received loan or permit applications for the C-HC Project. RUS will continue to coordinate with the PSCW as the state regulatory process unfolds.
Environmental Law & Policy Center	Learner	DECI10; NEP02	Under Wisconsin law, a developer may not build a high-voltage transmission line unless and until it obtains a Certificate of Public Convenience and Necessity (CPCN) from the PSCW. Wis. Stat. § 196.491(3)(a). In order to grant a CPCN, among other requirements, the PSCW must determine that the proposed high-voltage transmission line "satisfies the reasonable needs of the public for an adequate supply of electric energy." Wis. Stat. § 196.491(3)(d). The Commission must also find that the transmission line "is in the public interest considering alternative sources of supply, alternative locations or routes, individual hardships, engineering, economic, safety, reliability and environmental factors." Id. The PSCW has made no such finding for the proposed new Cardinal-Hickory Creek transmission line. No CPCN proceedings have been commenced. Indeed, ATC, Dairyland and ITC announced that they have pushed back their planned filing of the CPCN request to the PSCW.	Comment noted. The EIS is not required to consider alternatives in the same manner as the PSCW or IUB. This comment refers to Wisconsin requirements. The Utilities have submitted the CPCN application to the PSCW and a decision by the PSCW is expected in the fall of 2019.
Environmental Law & Policy Center	Learner	NEP02	Although the Cardinal-Hickory Creek transmission line was included in the Midcontinent Independent System Operator's (MISO) Multi-Value Project (MVP) Portfolio, this has no bearing on the need for the project today. See DALC and ELPC Scoping Comments at 9-12 (Jan. 6, 2017). The MISO MVP data is outdated and MISO only analyzed the MVP portfolio as a whole. MISO never analyzed whether individual transmission lines were needed and therefore also never determined that there was a need for the Cardinal-Hickory Creek transmission line. As explained in the earlier comments to RUS, the demand for electricity in central and southwest Wisconsin is flat or declining. DALC and ELPC Scoping Comments at 10-12 (Jan. 6, 2017). If there is no need for the electricity that the high-voltage line would carry, the transmission line would fail both on the need factor and on the public interest factor.	Comment noted. EIS Chapter 1 describes the need for the C-HC Project as well as the decisions facing the three Federal agencies that have received loan or permit applications for the C-HC Project.
Environmental Law & Policy Center	Learner	SOCIO03; SOCIO08	There is no public interest in Wisconsin customers paying for a huge and costly transmission line that would negatively impact the environment, businesses, and tourism when there is no need for the power.	Comment noted.
Environmental Law & Policy Center	Learner	ALT01; NEP02; SOCIO01	The public interest factor would be especially difficult for the high-voltage transmission line to meet because the Commission must consider alternative sources of electric supply. Even if there was some need for more power in central and southwest Wisconsin, need could be better met through local renewable and distributed energy resources that would create local jobs and economic development. See DALC and ELPC Scoping Comments at 17-20 (Jan. 6, 2017). The use of these non-transmission alternatives to meet any purported need must be considered by the PSCW before it could determine that there is a need for the Cardinal-Hickory Creek transmission line.	Comment noted. The EIS is not required to consider alternatives in the same manner as the PSCW or IUB. This comment refers to Wisconsin requirements. Non-transmission alternatives are dismissed from detailed analysis in the EIS, with rationale provided in EIS Section 2.2.
Environmental Law & Policy Center	Learner	DECI07; SOCIO01	Further, RUS is required under 7 C.F.R. § 1710.151 to make specific findings for all electric loans and guarantees. One of the required findings is feasibility—that "[t]he loan is feasible and it will be repaid on time." 7 C.F.R. § 1710.151(b). Of course, RUS cannot make this feasibility finding at this time. Unless and until a CPCN is granted, the transmission line developers have no ability to recover the costs of building the transmission line through customer electric rates, and financial feasibility cannot be established. In other words, it is possible that the proposed Cardinal-Hickory Creek transmission line will not meet the requirements to obtain a CPCN from the PSCW.	Comment noted. Decisions about issuing CPCNs in Iowa and Wisconsin are expected to be made prior to the Federal NEPA decisions.
Environmental Law & Policy Center	Learner	DECI10	In other words, it is possible that the proposed Cardinal-Hickory Creek transmission line will not meet the requirements to obtain a CPCN from the PSCW. DALC and ELPC request that the RUS suspend its environmental review process for the Cardinal-Hickory Creek transmission line unless and until it has received the necessary state-level approvals, including a CPCN from the PSCW.	Comment noted. Decisions about issuing CPCNs in Iowa and Wisconsin are expected to be made prior to the Federal NEPA decisions.

Organization	Commenter Last Name	Comment Code(s)	Comment on DEIS	Agency Response to Comment
Environmental Law & Policy Center	Learner	ALT05; PUB01	DALC and ELPC were disappointed to find that the Scoping Report did not define what the scope of the Environmental Impact Statement will be. All it does is summarize the comments RUS received and the meetings it held.	Comment noted.
Environmental Law & Policy Center	Learner	ALT01; ALT04	We are particularly concerned that the Scoping Report did not commit RUS to evaluating non-transmission alternatives to the proposed transmission line, as many commenters requested. As explained in the comment letter submitted by DALC and ELPC on January 6, 2017, under the National Environmental Policy Act, RUS must "rigorously explore and objectively evaluate all reasonable alternatives," including the "[n]o action alternative" and "[o]ther reasonable courses of action." 40 C.F.R. §§ 1502.14(a), 1508.25(b). January 6, 2017 Comment Letter at 4, 15-16. In addition, RUS must "[d]evote substantial treatment to each alternative considered in detail including the proposed action so that reviewers may evaluate their comparative merits" and "[i]nclude reasonable alternatives not within the jurisdiction of the lead agency." Id. at 16. Accordingly, RUS must consider a range of non-transmission alternatives to a new high-voltage transmission line. These alternatives should include combinations of distributed generation, energy efficiency, demand response, energy storage, and upgrades to the existing distribution system. Id. at 17-20. DALC and ELPC strongly encourage RUS to publicly commit to fully and fairly analyzing non-transmission alternatives in its Draft and Final EISs for the proposed Cardinal-Hickory Creek transmission line.	EIS Chapter 2 describes the potential non-transmission alternative and concludes that the alternative does not meet the six-point purpose and need established in Chapter 1. Furthermore, the request posed to RUS, USFWS, and USACE is to review the applications associated with the 345-kV transmission line. It is outside the scope of this EIS to analyze other alternatives that are not pertinent to the applications to which the Federal agency must respond.
Environmental Law & Policy Center	Learner	REC03; WLDF04	As the Rural Utilities Service (RUS) considers the scope of the environmental review process for the Cardinal-Hickory Creek transmission line, the Driftless Area Land Conservancy (DALC) urges you to include evaluation of the impact of the potential proposed transmission line and any of its reasonable alternatives on (1) the Ice Age National Scenic Trail and (2) the rusty patched bumble bee.	Comment noted. EIS Section 3.4 discloses potential impacts to wildlife. EIS Section 3.10 discloses potential impacts to recreation areas.
Environmental Law & Policy Center	Learner	REC03; SOCIO03; VIS01	The Ice Age National Scenic Trail is 1,200 miles in total running through 31 counties in Wisconsin, with more than half the length established as official trail, and the remaining length comprised of unofficial connecting trail. It is used by more than 1 million people every year for hiking, backpacking, trail running, birding, snowshoeing, and cross-country skiing. The Ice Age National Scenic Trail connects people and communities and offers a prime opportunity to experience the scenic Wisconsin landscape. The proposed Cardinal-Hickory Creek transmission line could negatively impact the public's use and enjoyment of the Ice Age National Scenic Trail. The transmission line would seriously impair the scenic value of not just the portion of the trail that it directly crosses, but all parts of the trail from which the transmission line and towers would be visible. This could lead to fewer people using the trail, and possibly even decreased tourism. DALC's original comment letter on scoping, submitted January 6, 2017, inadvertently omitted mention of the Ice Age Trail, but it is an important resource that should be considered.	EIS Section 3.10 discloses potential impacts to the Ice Age Trail, EIS Section 3.11 discloses potential impacts to visual quality, and EIS Section 3.12 discloses potential impacts to tourism.
Environmental Law & Policy Center	Learner	WLDF04	The listing of the rusty patched bumble bee as a federally endangered species became effective on March 21, 2017, and compliance with the Endangered Species Act is required. According to the map on the U.S. Fish and Wildlife website, the proposed transmission line corridors cut through and near extensive areas where the rusty patched bumble bee may be found, including zones of "high potential." Construction and maintenance of a high-voltage transmission line and large towers could have significant impacts on the rusty patched bumble bee's habitat, including destruction of underground nests and floral resources that the bumble bee relies upon for food.	Comment noted. Potential impacts to federally listed species are disclosed in EIS Sections 3.3 and 3.4. Furthermore, RUS consulted with USFWS regarding potential adverse effects to Federally listed species. The biological opinion for the C-HC Project is included as an appendix in the EIS.
Whitetails Unlimited, Inc.	Spors	ALT01; LAND05	It has come to my attention that lands consisting of 287 acres belonging to Chris and Kathy Ladd and Ladd Family Lands, LLC falls within the boundaries of the "Proposed Other Route" corridor of the Cardinal-Hickory Creek Transmission Line Project.	Comment noted.
Whitetails Unlimited, Inc.	Spors	LAND08; WLDF01	This property has been managed for the benefit of wildlife and natural resources for several years. The owners have invested much time and expense to improve natural habitats through prairie restoration, tree and shrub planting, and protection and enhancement of ponds, streams, freshwater springs and vital wetlands. The area is both permanent and temporary home to a variety of wildlife species; including migratory birds and waterfowl, whitetail deer, furbearers, songbirds, ground-nesting birds, bald eagles and other raptors; and countless others. The family has worked in cooperation with the Wisconsin Department of Natural Resources (WDNR) by enrolling in the Conservation Reserve Program (CRP) and participating in the pilot years of the State Acres for Wildlife Enhancement (SAFE) initiative. WDNR personnel have conducted survey work on the property with positive results. Vegetation sampling identified at least 21 species of prairie plants in ten vegetation plots. Avian point counts on the property to evaluate bird diversity identified many different avian species, including such species of greatest conservation need as willow flycatcher, bobolink, eastern meadowlark, upland sandpiper, black-billed cuckoo, brown thrasher and field sparrow. Given the uniqueness of this property in the area and the quality of the varied wildlife habitats therein, it is my personal opinion that the property should be deemed as "Environmentally Sensitive Lands."	EIS Section 3.10 has been revised to disclose potential impacts to lands enrolled in conservation programs such as the Conservation Reserve Program (CRP) and Managed Forestry Land (MFL) program.
Iowa County Pheasants Forever	Grady	ALT01; LAND05	Our local Pheasants Forever Chapter #0538 has learned that the 287 acre property owned by Chris and Kathy Ladd and Ladd Family Lands, LLC is located directly within the "Other Corridor" of the proposed Cardinal-Hickory Creek Transmission Line Project.	Comment noted.
Iowa County Pheasants Forever	Grady	LAND08; WLDF01	The Ladd family has invested a lot of time and money into their property to make it into a natural prairie. The work they have done through the CRP and CREP programs have made their property, along with the Iowa County Farm north of their property, into a natural wildlife refuge. In addition, the pond on the property in conjunction with the Laxey Creek Watershed and Iowa County Public Pond have made the area a flyway for several different migratory birds. Our organization has worked with the Ladd family and the Iowa County Farm for several years to establish habitat in order to support several different species of wildlife. This property provides the necessary cover and habitat for these species to thrive in our area. There are very few properties like this in the area that can provide what the Ladd property does. Pheasants Forever is a habitat organization, not a hunting club. The money we earn goes back into habitat for wildlife and the Ladd property is a prime example of what can be done to provide food and shelter for several different wildlife species. Without properties like this the wildlife in our area would suffer greatly. Since the Ladd property provides essential habitat for wildlife in this area our organization feels that this property should be established as "Environmentally Sensitive Lands" and should not be encroached by the proposed Cardinal-Hickory Creek Transmission Project.	EIS Section 3.10 has been revised to disclose potential impacts to lands enrolled in conservation programs such as the CRP and MFL.
	Meuer	DECI13	Considering all the information I have heard and read, I do not feel the new line is necessary.	Comment noted.
	Meuer	VIS01	I really do not want to spend the rest of my life looking at those ugly towers.	Comment noted.
	Heftman	OOS02	My husband and I have a home in Dodgeville Township, in the vicinity of one of the proposed routes for the ATC line. We attended the March 13th meeting in Dodgeville. The speakers raised compelling arguments against the proposed Transmission Line Project with which we are in agreement. However, we would like to add our own perspective, as we believe we are representative of a growing number of people who have been drawn to the Driftless Area in recent years, and have contributed to the economic vitality of the area. We first visited the Driftless Area when our children	Comment noted.

Organization	Commenter Last Name	Comment Code(s)	Comment on DEIS	Agency Response to Comment
			were young, to camp and canoe on the Wisconsin River. When time came to retire we considered several areas in Wisconsin for a second home, and finally settled on this beautiful rustic countryside.	
	Heftman	SOCIO06	We would not have considered such an investment in the presence of the proposed towers. If built, the ATC line will greatly diminish property values and certainly retard future investment in the Driftless Area.	Comment noted. Potential impacts to social and economic conditions, including property values, are provided in EIS Section 3.12.
Driftless Defenders	D'Angelo	DECI13	My name is Betsy D'Angelo. I am speaking on behalf of Driftless Defenders, a grass roots organization formed in May 2016 to prevent the construction of the proposed Cardinal-Hickory Creek transmission line. As our way of proving the widespread opposition that exists toward CHG, we are submitting two booklets: 1. Copies of our opposition petition, containing 1,961 hard-copy and online signatures. The signees extend well beyond Iowa, Grant, and Dane Counties to include countless out-of-state people who come here to enjoy nature and our tourism opportunities. 2. Our partial collection of Letters to the Editor which contains 100 letters submitted to newspapers in several counties. When you write the final EIS we implore you to listen to the collective voices of the people who do not believe that ATC has proven there is a need or that any greater public good will come from Cardinal-Hickory Creek.	Comment noted and the booklets were received and reviewed.
Driftless Defenders	D'Angelo	PUB01	My name is Betsy D'Angelo. I am speaking on behalf of Driftless Defenders, a grass roots organization formed in May 2016 to prevent the construction of the proposed Cardinal-Hickory Creek transmission line. As our way of proving the widespread opposition that exists toward CHG, we are submitting two booklets: 1. Copies of our opposition petition, containing 1,961 hard-copy and online signatures. The signees extend well beyond Iowa, Grant, and Dane Counties to include countless out-of-state people who come here to enjoy nature and our tourism opportunities. 2. Our partial collection of Letters to the Editor which contains 100 letters submitted to newspapers in several counties. When you write the final EIS we implore you to listen to the collective voices of the people who do not believe that ATC has proven there is a need or that any greater public good will come from Cardinal-Hickory Creek.	Comment noted and the booklets were received and reviewed.
	Grice	DECI13	I am opposing the construction of the CHC Line because it is unneeded and having a negative impact on our area's future.	Comment noted.
	Grice	NEP02	It is not necessary... local and state electric needs are being met currently according to local utility officials.	Comment noted.
	Grice	SOCIO08	The lines benefit states to the east of us but we pay for it as taxpayers and ratepayers.	Comment noted.
	Grice	NEP02	New Technology is making transmission of electricity obsolete/ therefore increased capacity will not be needed.	Comment noted.
	Grice	OOS02	Non-transmission alternatives are the future. Having millions of people dependent on one energy and transmission company is not good planning for our future. The current draft of the Environmental Impact Statement does not address reality. It contains nearly 500 pages of mostly boiler plate information copied and pasted into the report in an effort to pull the wool over our eyes and to keep us from reading the whole thing.	Comment noted.
	Grice	ALT04; ALT06	The Non-Transmission Alternative is not fully addressed. It does not contain an economic report based on probable future NTA alternatives including price declines for NTA in the future. It does not address the increased reliability of NTA in case of large regional outages. A new Environmental Impact Statement is needed. It needs to address NTA alternatives including realistic price declines for the new technology in the future.	As discussed in EIS Chapter 2, Section 2.2.2, non-transmission and low-voltage alternatives are not responsive to the applications to which the Federal agencies are responding, nor do they meet the six-point purpose and need described in EIS Chapter 1. The Federal EIS considers alternatives that are ripe for Federal consideration. What that means is that a proposal has been made for those alternatives or that it is reasonably foreseeable that they could be implemented in a time frame that would meet the need for the Federal action.
	Grice	SOCIO03	It needs to address CHC project's effect on Tourism and landscape in depth. It needs to have a vision for what our futures would be like with the line VS with NTAs. In doing the evaluation the authors need to take a look at the transmission lines ITC has been building in Iowa at the same time destroying tourism capacity along with the landscape. They need to take a look at how the beautiful, quaint, historic town and Amish countryside around Kalona, Iowa was destroyed by an ITC line erected in 2018. Tourists don't visit an area because of its magnificent transmission line! Businesses will suffer if a line is built in SW Wisconsin.	Comment noted. Potential impacts to social and economic conditions, including property values and tourism, are provided in EIS Section 3.12. Potential impacts to visual quality and aesthetics are disclosed in EIS Section 3.11.
	Grice	ALT04	Our future legacy for our children and grandchildren is at stake. Will we assert our independence by using technology to develop on-site sources of energy (such as solar) or will we be dependent on the government and large companies to determine our future? Are we better protected from large regional outages by erecting our own energy sources or by hooking onto the CHC line? Are our tax dollars better spent giving them to a mega company so they can provide energy to us or giving them to individuals within our community to help us all become less dependent on government and big companies?	Comment noted.
	Grice	SOCIO08	Will we be at the mercy of large electric and transmission companies or will be independent of them in 20 years? Most of these "small" companies and cooperatives we are used to dealing with are really parts of much larger companies. They are building these lines and expanding all over the Midwest and probably over the whole country. Alliant is already increasing rates because of this project and is proposing a surcharge for people on their line who generate part of their own electricity. The coops are charging 4 times as much as they pay for customer generated energy.	Comment noted.
	Voytovich	INFO04; SOCIO08	Since any estimations of quantifiable benefits rely on the strength of models and mathematical methods, it is vital to validate them when actual data is available. To assist Commissioners and ratepayers in evaluating the strength of ATC estimates for the CHC proposal, please provide actual load growth rate and actual changes in ratepayer charges seen for ATC lines already in use. Comparison to estimated load growth rate and ratepayer charges would serve to evaluate/validate methods used by ATC to estimate quantifiable benefits of the current proposal for the CHC line. Errors in estimation would be passed onto Wisconsin ratepayers for at least 40 years of likely operation.	Load growth rates and Wisconsin ratepayer chargers are not pertinent to the environmental review required by the Federal NEPA process.
	Lueck	DECI13	At the Dodger Bowl meeting, your map showing alternate routes is unacceptable. It is not about alternative routes. No ATC lines should invade the driftless area of Wisconsin. Animal life, agriculture, human residents, and tourism all will suffer from these invasive high wires.	Comment noted.
	Lueck	REF01	I was shocked to see the towering lines on Hwy M already erected in Madison, totally destroying the beauty of that residential area and the University golf course.	Comment noted.
	Lueck	NEP02	How can you justify distributing the environment? How can you justify the need for these lines?	Comment noted.

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	Lueck	ALT04	If you can justify the need – then with all the modern engineering abilities, the wires would need to be underground, whatever the financial cost. The financial cost cannot compare to the environmental cost, forget the alternate routes tricks. Stop this project. Justify the need or go underground! That is the only alternative.	EIS Chapter 2 discusses the alternative of burying the transmission line underground.
	Swanson	NEP02	The Cardinal-Hickory Creek Transmission Line is not needed. Electrical use is flat, even with an expanding economy. Energy conservation, micro-grids, local solar and wind projects can provide needed electricity without the huge expense and massive disruption that the transmission line would cause.	EIS Chapter 1 describes the need for the C-HC Project as well as the decisions facing the three Federal agencies that have received loan or permit applications for the C-HC Project.
	Swanson	SOCIO03; WLDF04	The Driftless region of southwest Wisconsin is geographically unique. It contains rare and endangered plants and animals and supports tourism, including agri-tourism, and thriving small businesses that depend on a beautiful landscape.	Potential impacts to visual quality and aesthetics are disclosed in EIS Section 3.11, and potential impacts to social and economic conditions, including tourism, are disclosed in EIS Section 3.12.
	Swanson	VIS01	Marring the scenery with huge ugly towers would be environmentally, economically and emotionally devastating for our communities.	Comment noted.
	Baker	NEP02	Today, the demand for electricity in Wisconsin and most of the Midwest is flat or declining. RUS should use current demand data and look at new electricity generation sources that are being built and planned.	Comment noted.
	Baker	ALT01; SOCIO08	It's extremely important that the USDA/RUSS include a comprehensive, cost-benefit analysis of non-transmission alternatives, including more spending in energy efficiency, load management, and development of local renewable energy.	Comment noted. As stated in NEPA regulations 40 CFR 1502.23, "For purposes of complying with the Act, the weighing of the merits and drawbacks of the various alternatives need not be displayed in a monetary cost-benefit analysis and should not be when there are important qualitative considerations." As discussed in EIS Chapter 2, Section 2.2.2, non-transmission and low-voltage alternatives are not responsive to the applications to which the Federal agencies are responding, nor do they meet the six-point purpose and need described in EIS Chapter 1. The Federal EIS considers alternatives that are ripe for Federal consideration. What that means is that a proposal has been made for those alternatives or that it is reasonably foreseeable that they could be implemented in a time frame that would meet the need for the Federal action. Requirements for alternatives consideration under Wisconsin Statute 196.491(d) are very specific and separate from NEPA. Per their jurisdictional responsibilities, the PSCW is considering if and how the range of alternatives meets those requirements (see Section 1.2.2.1 of PSCW [2019]).
	Baker	REC04; VEG02; WLDF01	My husband and I live one mile from a proposed transmission route, Highway ZZ along the north edge of Governor Dodge State Park, which is a sanctuary for wildlife and threatened plant species.	Comment noted. EIS Sections 3.3 and 3.4 discloses potential impacts to vegetation and wildlife.
	Baker	REC01	Weaver Road where we live, is regularly enjoyed by bicyclists, motorcyclists, and antique car groups.	Comment noted. EIS Section 3.10 discloses potential impacts to recreation areas.
	Baker	SOCIO07	We and the majority of our neighbors moved here because of the natural beauty, peace, and quiet of the area.	Comment noted.
	Baker	ALT01	We believe that a more efficient and lower cost distributed energy system is the best solution moving forward. Here is a link to a study giving examples of how and where this is already happening: https://www.peakload.org/nwresearchfrome4thefutureplmasepa	As discussed in EIS Chapter 2, Section 2.2.2, non-transmission and low-voltage alternatives are not responsive to the applications to which the Federal agencies are responding, nor do they meet the six-point purpose and need described in EIS Chapter 1. The Federal EIS considers alternatives that are ripe for Federal consideration. What that means is that a proposal has been made for those alternatives or that it is reasonably foreseeable that they could be implemented in a time frame that would meet the need for the Federal action.
	Powell	DECI13	I am adamantly opposed to this project moving forward using our land or any other land in or around Dodgeville.	Comment noted.
	Powell	SOCIO06	Not only will this directly impact the value of our property and the development potential of our property, it is an unwise decision for the entire village and township of Dodgeville.	Potential impacts to social and economic conditions, including property values, are provided in EIS Section 3.12.
	Powell	NEP02	I do not believe the high voltage lines are necessary in the first place, and the negative impact to the residents, owners, and environment far outweighs the necessity of these lines.	Comment noted.
	Powell	HAS01	The proposed plan brings high voltage lines in close proximity to already existing homes and the schools in Dodgeville. Our family has been in the business of agriculture for many years, and we also have a long history as educators of future generations. It is of great concern to us that high voltage lines would even be considered in such close proximity to where children and community members regularly gather. We have read research on the proclamations that there is no danger to a person's health when regularly exposed to high power lines. However, there is equal research saying those claims are not conclusive, and putting children regularly at risk, of even the potential of harm, is unnecessary and irresponsible.	Section 3.13 of the EIS discloses information about electric and magnetic fields.
	Powell	SOCIO06	the likely loss of value of our property, the sure loss of income generated from our property, and the negative impact on the future development potential of our property	Comment noted. Potential impacts to social and economic conditions, including property values, are provided in EIS Section 3.12.
	Powell	WLDF01	we are equally concerned about the destruction and harm to the environment and the species that inhabit these natural environments. The environmental impact to current ecosystems is again irresponsible and unnecessary.	Comment noted.
	Powell	ALT01	We urge you to redesign a better, more responsible, plan where high voltage lines are either never constructed or at the very least constructed in an alternative location off of the Powell property and far away from the schools in Dodgeville.	Comment noted.
	Addison-Jasso	NEP02	UNNEEDED: • Only 60% capacity of the current 168kV line is being used. In other words, the supply is far greater than the current demand. • Even Jay Regnier, Vice President of Projects for Project Resources Commission (PRC) is quoted in the November 15, 2018, Herald Independent (Lancaster WI) stating the connecting proposed wind towers to transmission lines is not an issue: "That does not include the Cardinal Hickory Creek proposed transmission line -Regnier said that they feel there is room on the existing 168 kV line there. Regnier said that the space on the existing transmission line is why they decided to connect and transmit power".	Comment noted.

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	Graney, Graney	GEO01	We are of the opinion that the uniqueness and vulnerability of the driftless area of the Midwest has not been fully addressed. Our interest in the rural heritage of Southwest Wisconsin stems from our ownership of our family farm, part of which dates back to 1839 when Dick's great-great grandfather, a War of 1812 veteran, moved to Wisconsin, just to the north of Platteville. We are not archeological scientists, so we would like to cite George Fiedler's remarks in the introduction to his book, Mineral Point A History, published by the Wisconsin State Historical Society. This writing puts the driftless area into layman's terms. "The formation in the rocks of lead and zinc deposits extends back immense periods and eras in time. The Ordovician period of the Paleozoic era began approximately 480,000,000 years ago, and during that period the deposits of lead and zinc, and some copper, were formed in the area which is the subject of this book. The geological evolution continued with one great period of time followed by another until enormous ice sheets crept from the polar regions southward and vast regions were covered by glaciers, about a mile thick. The great weight of the glaciers pushed rocks and boulders and gravel ahead. There was, however, one unique area of about 15,000 square miles that probably escaped the earlier glaciers, certainly the last glacier. It is sometimes called the driftless area, because the last glacier never drifted over it. This pocket or enclave of land is one of the most puzzling prehistoric facts. The theory has been advanced that in prehistoric times both Lake Superior and Lake Michigan covered much larger areas than today; that as the glaciers moved south they followed the beds of the lakes and went around the region that is now Southwestern Wisconsin; that the last glacier missed and thus left, a small area in its ancient condition, rich in lead and zinc ores. Thus Southwestern Wisconsin remained a small island of land in an immense sea of ice. The difference between the glaciated and unglaciated areas can be seen sharply if one travels from the east to the west on present Highway 11. The Sugar River forms the dividing line. East of the Sugar River the terrain was flattened by the last glacier, as it melted, deposited rounded granite boulders and rounded gravel on top of the leveled earth. The debris had been picked up hundreds of miles to the north and had been carried and ground in the glacier as it flowed and drifted south. The granite boulders and gravel dropped on the surface are from an entirely different rock formation than the sedimentary formations deep below. So it is that east of the Sugar River one sees today the foundations for houses and barns built of red, grey and black granite boulders, rounded and weathered. West of the Sugar River there are no such boulders. Not one. The terrain is not level but hilly. The rock formations are sedimentary, deposited ages ago, long before the glaciers, and these fixed formations are of various kinds of limestone and sandstone. West of the Sugar River foundations for houses and barns were built of quarried limestone or quarried sandstone. It is certain that the small driftless area is very old, certainly the oldest thing on the face of the earth in the Middlewestern United States." As we understand it, this phenomenon is also the reason, we have no natural lakes in Southwest Wisconsin. In conclusion, the driftless area should not be disturbed, unless very, very compelling reasons to the contrary can be demonstrated. We feel that the Cardinal Hickory Creek project falls far short of this threshold.	Comment noted. The EIS discloses potential impacts to many of the resources listed in this comment. EIS Section 3.2 discloses potential impacts to geology and soils, Section 3.3 discloses potential impacts to vegetation, and Section 3.5 discloses potential impacts to water resources and quality.
	Addison-Jasso	SOCIO08	ECONOMIC IMPACTS: • The cost of the CHC project construction is projected to cost \$500-\$700 million, with additional expenses to raise the cost over \$1 billion dollars. This project will drive up the cost of our already high Midwest utilities. https://driftlessdefenders.com/page/3	Comment noted.
	Addison-Jasso	SOCIO06	In June I attended a meeting where Kurt Kielisch, a forensic real estate appraiser, spoke. Mr. Kielisch, has been tracking the effects of property value being reduced due to the American Transmission Company (ATC) lines for quite some time. Referencing a June 1, 2006, article titled POWER LINE WORRIES LANDOWNERS APPRAISER SAYS VALUES COULD DROP 15-20%: "Kielisch says his research indicates a power line typically slashes 15 to 20 percent off the market value of residential land it crosses" https://madison.com/business/power-line-worries-landowners-appraiser-says-values-could-drop/article_d2f1d662-9d7c-5373-a144-d111e3f4761.html • In Seattle, it was found homes abutting High Voltage Overhead Transmission Lines (HVOTL) had a significant 11.23% negative decrease in home prices. https://www.myappraisalinstitute.org/webpac/pdf/TAJ2017/TAJ_Sum17_179193_PR-Transmission.pdf • Per a November 2018 Dodgeville Chronicle article IOWA COUNTY BOARD DEBATES INTERVENING INTO CARDINAL-HICKORY CREEK PROPOSED PROJECT, a local resident attempting to sell his home in the line of the CHC has found the value has dropped 30% and two potential buyers backed out upon learning of the CHC line.	Comment noted. Potential impacts to social and economic conditions, including property values, are provided in EIS Section 3.12. RUS has reviewed the recommended citations of additional peer-reviewed articles presented through public comments and has incorporated this information into the EIS.
	Addison-Jasso	NEP02; SOCIO08	As I understand the power being transmitted through these lines will not be for the use of communities and residents of southwest Wisconsin, but for areas of greater need. This being the case, it makes no sense that southwest Wisconsin residents be burdened with increased electric bills to finance the high voltage line when we receive no benefit.	Comment noted.
	Addison-Jasso	HAS01	HEALTH IMPACTS/RISKS OF POWER LINES: • "Hundreds of studies worldwide have shown that living next to high voltage power lines and other parts of the power transmission network increases your risk of cancer and other health problems ". The following image says it all concerning health risks: [figure] https://www.safespaceprotection.com/emf-health-risks/emf-health-effects/power-lines/ • "According to research and publications put out by the World Health Organization (WHO), EMF such as those from power lines can cause: o Headaches o Fatigue o Anxiety o Insomnia o Prickling and/or burning skin o Rashes o Muscle pain o Vegetables lacking nutrition" https://www.safespaceprotection.com/emf-health-risks/emf-health-effects/power-lines/ • The international Journal of Oncology published the following, August 2017: "Call for Protection from Non-ionizing Electromagnetic Field Exposure was made by the International Electromagnetic Field Scientist Appeal, initial release date May 11, 2015, latest version's date January 29, 2017 with 222 signatures from 41 nations: "We are scientists engaged in the study of biological and health effects of non-ionizing electromagnetic fields (EMF)... Effects include increased cancer risk, cellular stress, increase in harmful free radicals, genetic damages, structural and functional changes of the reproductive system, learning and memory deficits, neurological disorders, and negative impacts on general well-being in humans. Damage goes well beyond the human race, as there is growing evidence of harmful effects to both plant and animal life. These findings justify our appeal to the United Nations (UN) and, all member States in the world, to encourage the World Health Organization (WHO) to exert strong leadership in fostering the development of more protective EMF guidelines, encouraging precautionary measures, and educating the public about health risks, particularly risk to children and fetal development.	Section 3.13 of the EIS discloses information about electric and magnetic fields.
	Addison-Jasso	ALT01; ALT04	ALTERNATIVE ENERGY: I believe we should be given a choice in our energy resources for southwest Wisconsin. The ATC is not giving us a choice, it is being forced upon us. Alternatives are choices. http://www.altenergy.org/ • Solar Power -harnessing power from the sun. • Wind Power -wind pushing turbines to create energy. • Biomass Energy-combustion system for biomass can produce electricity. • Super Conducting Transmission Line -are buried, not above ground. Calculation shows that high currents of super-conducting transmission lines do not pose a threat. https://www.researchgate.net/publication/284359690_Superconducting_transmission_lines_-_Sustainable_electric_energy_transfer_with_higher_public_acceptance "Many benefits of burying high voltage high voltage power lines. Essentially, all of the negative impacts... are either eliminated or significantly reduced when power lines are buried. And, when capital maintenance and transmission loss costs are combined over the life of a line, underground lines are less expensive than overhead lines". https://retasite.wordpress.com/2012/08/03/nobody-wants-overhead-high-voltage-power-lines/ A few other sources concerning energy alternatives:	Comment noted. EIS Chapter 1 describes the need for the C-HC Project as well as the decisions facing the three Federal agencies that have received loan or permit applications for the C-HC Project. As discussed in EIS Chapter 2, Section 2.2.2, non-transmission alternatives are not responsive to the applications to which the Federal agencies are responding, nor do they meet the six-point purpose and need described in EIS Chapter 1. The Federal EIS considers alternatives that are ripe for Federal consideration. What that means is that a proposal has been made for those alternatives or that it is reasonably foreseeable that they could be implemented in a time frame that would meet the need for the Federal action.

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			o https://www.eia.gov/energyexplained/?page=renewable_home o https://sparknorthwest.org/projects/ o https://phys.org/news/2009-05-feasible-renewable-energy-sources.html	
	Addison-Jasso	SOCIO03; VIS01	AESTHETICS: • View youtube video of Wisconsin's beautiful Driftless Area WHY I LOVE WISCONSIN'S DRIFTLESS AREA. Then, afterward picture the same and ask yourself WHY anyone would want to scar this beautiful region with hideous unneeded giant transmission towers. https://www.youtube.com/watch?v=1yg2AlepunU • Refer to Economic Impacts, bullet #4. Below is a visual to help you visualize the aesthetic impact of how the CHC lines will impact home and land sales: Exhibit 1 Electric Power Transmission Line Types [figure]	Comment noted. Potential impacts to social and economic conditions, including property values and tourism, are provided in EIS Section 3.12. Potential impacts to visual quality and aesthetics are disclosed in EIS Section 3.11.
	Addison-Jasso	ALT02	INEFFICIENT: As I understand the electricity in the CHC transmission lines are not for southwest Wisconsin residents consumption. My research shows power being transmitted long distances has significant losses. A March 25, 2013, article HOW BIG ARE POWER LINE LOSSES written by Jacques Schonek states: "Electricity has to be transmitted from large power plants to the consumers via extensive networks. The transmission over long distances creates power losses... The overall losses between the power plant and consumers is then in the range between 8 and 15%". https://blog.schneider-electric.com/energy-management-energy-efficiency/2013/03/25/how-big-are-power-lines-losses	Comment noted. Transmission line losses are discussed in EIS Section 1.4.
	Addison-Jasso	NEP02	I have searched for a valid reason why the Cardinal Hickory Creek Transmission Line is needed, but what I have found states the "Power being transmitted through these lines will not be used for the communities in SW Wisconsin but areas in greater need"... obviously big cities. My search has shown there are far more detriments to the installation of high voltage transmission lines and substations than benefits.	Comment noted.
	Addison-Jasso	HAS01	Health and Safety Issues to Humans and livestock. Will the ATC take responsibility? • The international Journal of Oncology published the following, August 2017: "Call for Protection from Nonionizing Electromagnetic Field Exposure was made by the International Electromagnetic Field Scientist Appeal, initial release date May 11, 2015, latest version's date January 29, 2017 with 222 signatures from 41 nations: 'We are scientists engaged in the study of biological and health effects of non-ionizing electromagnetic fields (EMF)... Effects include increased cancer risk, cellular stress, increase in harmful free radicals, genetic damages, structural and functional changes of the reproductive system, learning and memory deficits, neurological disorders, and negative impacts on general well-being in humans. Damage goes well beyond the human race, as there is growing evidence of harmful effects to both plant and animal life. These findings justify our appeal to the United Nations (UN) and, all member States in the world, to encourage the World Health Organization (WHO) to exert strong leadership in fostering the development of more protective EMF guidelines, encouraging precautionary measures, and educating the public about health risks, particularly risk to children and fetal development. By not taking action, the WHO is failing to fulfil its role as the preeminent international public health agency.' (https://www.emfscientist.org/index.php/emf-scientist-appeal)". https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5504984/ • Dr. Samuel Milham, medical epidemiologist in occupational epidemiology; one of the first scientists to report increased leukemia, and other cancers in electrical workers: "Very recently, new research is suggesting that nearly all the human plagues which emerged in the twentieth century, like common acute lymphoblastic leukemia in children female breast cancer, malignant melanoma and asthma, can be tied to some facet of our use of electricity. There is an urgent need for governments and individuals to take steps to minimize community and personal EMF exposure." • Martin Blank, Associate Professor, Dept. of Physiology & Cellular Biophysics, Columbia University College of Physicians and Surgeons: "Cells in the body react to EMFs as potentially harmful, just like to other environmental toxins, including heavy metals and toxic chemicals. The DNA in living cells recognizes electromagnetic fields at very low levels of exposure; and produces a biochemical response. The scientific evidence tells us that our safety standards are inadequate, and that we must protect ourselves from the exposure of EMFs due to power lines, cell phones and the like, or risk the known consequences. The science is very strong and we should sit up and pay attention." • Source- https://accel.wisconsinpublicservice.com/business/pdf/farm_voltage.pdf Answers to Your Stray Voltage Questions, 2011. Southwest Wisconsin is made up of primarily rural farms, with the livestock that can potentially be by a higher possibility of stray voltage occurring.	Section 3.13 of the EIS discloses information about electric and magnetic fields.
	Addison-Jasso	ALT02	Installation and Maintenance Concerns: www.hydroquebec.com source for installation stages: • Transporting materials to the tower sites - access roads, bridges, culverts placed • Building the foundations and anchors - begins with clearing the area, possible pumping for wetlands. • Assembling the towers - use of heavy machinery, steel plates for wetlands • Raising the towers - use of telescopic crane • Unreeling and installing the conductors - conductors are unreel and strung section by section tower to tower • Installing the counterpoise wires - installed to ground each tower - an underground conductor • Restoring the site - removal of debris, dismantling of temporary accesses, repairs to roads, seeding of soil, etc. It is evident that this is a major construction project - questions need to be answered: • What is the length of time from start to completion? Obviously this is not a few weeks, but years. •	EIS Chapter 3 explains that construction of the C-HC Project is estimated to take up to 3 years.
	Addison-Jasso	NOISE01	Noise and disruption during construction for local citizens, local businesses, tourism, livestock, wildlife.	Section 3.7 of the EIS discusses potential noise impacts during construction.
	Addison-Jasso	SOCIO01; TRANS02	Who is responsible for funding this? This should not be the expense of local citizens who are not benefiting from this: o Wear and tear of local highways, roads, bridges, city streets due to project and the increased traffic and heavy equipment- will adversely affect quality and longevity of our roads & highways many of which presently need repairs and upkeep. Cost of upgrading bridges, etc. Is the ATC going to pay for our infrastructure repairs due to their traffic?	Potential impacts to the transportation system are discussed in EIS Section 3.8. During the construction and operation phases of the project, coordination would be required with the U.S. Department of Transportation, FHWA, Iowa Department of Transportation, WisDOT, and local agencies to ensure the weight loads and width of the existing facilities are considered in the project planning and delivery of materials and equipment.
	Addison-Jasso	ALT02; HAS01	Removal of trash, materials, etc. - who is doing this, where will it be discarded? o Project materials, repairs, workers, fuel, etc. • Construction accidents - adequate compensation for citizens adversely affected during construction (bodily, property) Maintenance: • Low flying helicopters checking lines - noise and potential for accidents. • Unrestricted access to crews could pose disease control issues for livestock. • Equipment could set off sparks leading to fires during droughts.	Comment noted. Potential impacts to social and economic conditions, including occupational safety and wildfire, are provided in EIS Section 3.12. Potential impacts from noise are disclosed in EIS Section 3.7.
	Addison-Jasso	WLDF02	Ecosystem Harm: • Source - Responsible Electricity Transmission for Albertans, August 25, 2016. The US Fish and Wildlife Service estimates close to 175 million birds are killed annually in the US from crashing into overhead powerlines. A comprehensive study in 2013 estimates 228.5 million birds are killed every year in Canada by transmission lines built above ground. • Source - help.leonardo-energy.org o	Comment noted. EIS Sections 3.4 and 3.14 disclose potential impact to wildlife, including migratory birds. The C-HC Project would follow APLIC guidelines to minimize collision impacts, and electrocutions are not a high risk for this project due to the project design and conductor spacing greater than large avian wingspans.
	Addison-Jasso	LAND02	Agricultural lands may permanently reduce the area under cultivation and cause physical damage during construction and maintenance.	Comment noted. The EIS includes discussions of impacts to agricultural lands.
	Addison-Jasso	WLDF02	Main impact is avian collisions which is particularly significant in high risk areas such as wooded regions and bird migration corridors. • Source – www.post-gazette.com Mark Kimmel, York County Conservation District manager. "Reduction to tree canopy is bad for the environment. It's something you won't recover anytime soon	Comment noted. EIS Sections 3.4 and 3.14 disclose potential impact to wildlife, including migratory birds. The C-HC Project would follow APLIC guidelines to minimize collision

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				impacts, and electrocutions are not a high risk for this project due to the project design and conductor spacing greater than large avian wingspans.
	Addison-Jasso	VEG03	Forest removal often makes way for invasive plant species." • Source -discovermagazine.com	Comment noted. The EIS Section 3.3 discloses potential impacts from invasive species.
	Addison-Jasso	WLDF01	High voltage power lines which emit strong magnetic fields of their own disrupt the orientation of cattle and deer.	Comment noted. EIS Section 3.13 has been revised to include a discussion about stray voltage.
	Addison-Jasso	WLDF01; WLDF02	Source -Impacts to Birds and Bats due to Collisions and Electrocutions, Electronic Silent Spring, Albert M. Manville, II Bird collisions occur primarily with energized transmission wires and wires on top of transmission towers not visible to birds in flight. Electrocutions occur at distribution lines and their infrastructures. Bats have been found in bird mortality searches in both transmission and distribution powerline corridors.	Comment noted. EIS Sections 3.4 and 3.14 disclose potential impacts to wildlife, including birds and bats. The C-HC Project would follow APLIC guidelines to minimize collision impacts, and electrocutions are not a high risk for this project due to the project design and conductor spacing greater than large avian wingspans. Potential impacts from electric and magnetic fields (EMF) are discussed in Section 3.13.2 of the EIS.
	Addison-Jasso	HAS01; SOCIO01	Resilience to Storms: Repercussions to communities following a tornado is something to consider, will southwest Wisconsin residents be saddled with more rate hikes if such damages occur?: • Source -Responsible Electricity Transmission for Albertans, July 31, 2017 Overhead high voltage powerlines and towers have been destroyed during tornados and ice storms, and deteriorate from exposure to weather. On July 31, 1987, a tornado hit Edmonton, Canada. High voltage transmission towers and lengths of overhead lines were brought down and scattered between 17 street and 21 street. The storm destroyed the substation causing \$6-8 million damage to power equipment. July 31, 2017 The tornado traveled right along multiple overhead TransAlta high voltage transmission lines for many kilometers. Transmission towers and lines were ripped down by the strong winds... Some data show that tornados are attracted to above ground high voltage transmission lines. • Source -Times Free Press, May 3, 2011 The Strong Bridgeport tornado -in all more than 200 power towers were damaged in the storms. Each tower is 120 feet to 150 feet tall and weighs 20,000 to 30,000 pounds. More than 90 high voltage power transmission lines bent like pipe cleaners. We saw TVA power transmission lines twisted like bow ties, said Eric Holweg, a National Weather Service meteorologist.	Section 3.13 of the EIS has been revised to address public comments about risks from severe weather and security breaches.
	Addison-Jasso	ALT01; HAS01	Alternative Consideration: • Burying high voltage transmission line benefits: o Essentially eliminates the negative health effects of long-term exposure to EMFs. o Flying aircraft, migratory birds, butterflies, bees o Silent except near transmission stations o Property value unaffected o Aesthetics for locals and tourism o Lines unaffected by weather	EIS Chapter 2 discusses the alternative of burying the transmission line underground.
C-HC Utilities	Azar	ALT01; ALT02	The Existing 69- and 116-kV lines over Mississippi River and through the Refuge: The text throughout does not accurately portray the existing lines over the Mississippi River and through the Refuge as well as what would happen to those lines and attendant ROWs under all of the Action Alternatives. The following addresses those inaccuracies: (1) Ownership: the 69-kV line is owned by DPC, while ITC and DPC jointly own the 161-kV line; (2) These lines are not only located in Iowa but also in Wisconsin; (3) These lines are separated as they enter the Refuge on the Iowa side, but then converge midway through the Refuge and are co-located on double-circuit structures on the same ROW as they enter Wisconsin; (4) Under Action Alternatives 1, 5, and 6: (a) DPC will remove and decommission the 69-kV line from the new "tap" located north of the Turkey River Substation (SS) to the Stoneman SS. Where the line is removed, DPC will abandon and restore the ROW; (b) ITC will relocate the 161-kV line to the new location where it will be double-circuited with the new 345-kV line on 345 kV/345-kV capable structures through the Refuge. Where the line is removed within the Refuge, ITC will abandon and restore the 161-kV ROW; (5) Under Action Alternatives 2, 3, and 4: (a) DPC will remove that existing 69-kV line and ITC will remove the existing 161-kV line; (b) The Project will use some ROW that is currently used by the 69- and 161-kV lines and some new ROW; (c) Where the existing lines are currently co-located, the ROW will be expanded to accommodate the lower-profile structures; (d) Where the Project will not use ROW currently used by the existing 69- or 161-kV lines in the Refuge, that existing ROW will be abandoned and restored; (6) While DPC's removal and restoration activities are described in detail in Appendix F (see page F-4), ITC's removal and restoration of the 161-kV line in the Refuge are not. Please let us know if you need additional information.	Comment noted. EIS Chapter 2 has been revised, where appropriate, to clarify this information.
C-HC Utilities	Azar	ALT02	DPC's new 69-kV line from Turkey River SS to the new "N-9 tap": (1) The main text of the DEIS does not mention DPC's new ROW and new 69-kV line from the Turkey River SS heading north until it intersects with the existing N-9 Line. (2) In Appendix F, the new ROW and new 69-kV line is considered part of the DPC decommissioning of the N-9 line. For clarity, please consider explicitly recognizing the new 69-kV line and new ROW separately from the decommissioning and restoration activities of the N-9 line.	The new ROW for the 0.2-mile tap line would not be needed if not for the retirement of the N-9 transmission line in the Refuge. Therefore, RUS has opted to keep these two actions referenced together in EIS Chapter 2.
C-HC Utilities	Azar	ALT01; ALT02	ITC just recently completed its design of changes to the Turkey River SS. Therefore, neither the description of the Project nor the alternatives reference the changes to the Turkey River SS. The proposed scope of work at the Turkey River SS includes the following, which should be incorporated into the DEIS: • Create a 4 terminal, 4-breaker 161-kV ring bus by adding three additional 161-kV breakers. • Create a 69-kV split bus with a bus-tie dividing the 69-kV bus into two segments. Each 69-kV bus segment will connect to a breakered, 161/69-kV transformer terminal and a breakered 69-kV line terminal. This portion of the project will require four new 69-kV breakers. • Add a second 75MVA, 161/69-kV transformer. Representative Examples of Text The proposed scope of work at the Turkey River Substation would include: • Create of a 4 terminal, 4-breaker 161-kV ring bus by adding three additional 161-kV breakers. • Create of a 69-kV split bus with a bus-tie dividing the 69-kV bus into two segments. Each 69-kV bus segment will connect to a breakered, 161/69-kV transformer terminal and a breakered 69-kV line terminal. This portion of the project will require four new 69-kV breakers. • Add a second 75MVA, 161/69-kV transformer. Page #s ES-1, 4, 63 Current Text • At the proposed Hill Valley Substation near the village of Montfort, Wisconsin: an approximately 22-acre facility with four 345-kV circuit breakers, one 345-kV shunt reactor, one 345/138-kV autotransformer, and three 138-kV circuit breakers; Comment There are five 345-kV circuit breakers. ATC provided the wrong information in their 8/31/18 memo. Proposed Text • At the proposed Hill Valley Substation near the village of Montfort, Wisconsin: an approximately 22-acre facility with four five 345-kV circuit breakers, ... Page #s ES-1, 4, 64 Current Text • At the Mississippi River in Cassville, Wisconsin: ... • multiple, partial, or complete rebuilds of existing 69-kV and 138-kV transmission lines in Wisconsin that would be collocated with the new 345-kV line Comment (1) The actions in the third bullet are occurring both at the Mississippi River and elsewhere. Therefore, the third bullet should be standalone and not a subset of the "At the Mississippi River". (2) In the third bullet, add "161-kV" after "138-kV" Proposed Text • At the Mississippi River in Cassville, Wisconsin: ... • multiple, partial, or complete rebuilds of existing 69-kV, 161-kV, and 138-kV transmission lines in Wisconsin that would be collocated with the new 345-kV line Page #s 17 Table 1.4-3 Current Text Turkey River – Stoneman 161-kV.....2.71.....ITC Midwest Comment With ITC, DPC co-owns the existing 161-kV line across the Refuge and Mississippi River. Proposed Text Turkey River – Stoneman 161-kV.....2.71.....ITC Midwest/DPC Page #s 78, 81 Current Text p. 78...then would turn south to the Nelson Dewey Substation. After leaving the Nelson Dewey Substation, the alternative... p. 81...to the Nelson Dewey Substation, just northwest of Cassville, Wisconsin. Once the transmission line exits southward from the Nelson Dewey Substation, it would cross... Comments The Project does not enter or connect with the	Comment noted. The EIS has been revised, where appropriate, to clarify this information.

Organization	Commenter Last Name	Comment Code(s)	Comment on DEIS	Agency Response to Comment
			Nelson Dewey SS. Proposed Text p. 78...then would turn south to the Nelson Dewey Substation. The line would not connect into, but would bypass, the Nelson Dewey Substation. After leaving the Nelson Dewey Substation property, the alternative..." p. 81 "...to the Nelson Dewey Substation, just northwest of Cassville, Wisconsin. The line would not connect into, but would bypass, the Nelson Dewey Substation. Once the transmission line exits southward from the Nelson Dewey Substation property, it would cross..." Page #s 87 Current Text The proposed substation would be sited on approximately 80 acres with approximately 10 acres of fenced area surrounding the equipment. Comments For security reasons this fence must be a 25-30 foot high wall. Proposed Text The proposed substation would be sited on approximately 80 acres with approximately 10 acres of it having a 25-30 foot high wall that fenced area surrounding the equipment. Page #s 88 Current Text As part of Action Alternatives 1, 5, or 6, the following changes at the Nelson Dewey Substation would occur: • Reconfigure the substation with two 161-/69-kV transformers, four 161-kV circuit breakers, and five 69-kV circuit breakers; • Install one 161-kV steel dead-end structure with foundations to terminate the transmission lines; • Install protection and control panel for the Turkey River Substation configuration; Comments First and third bullets are wrong. Proposed Text...changes at the Nelson Dewey Substation would occur: • Reconfigure the substation with two 161-/69-kV transformers, four 161-kV circuit breakers, and five 69-kV circuit breakers Install a new circuit breaker; • Install one 161-kV steel dead-end structure with foundations to terminate the transmission lines; • Install protection and control panel for the Turkey River Substation configuration Expand to a four position ring bus and ancillary equipment; Page #s 96 Current Text The Utilities propose to use a bundled pair of TP-477 kilo circular mils ACSR (Hawk) conductors for each phase of the 345-kV circuit. The aboveground midspan conductor height would be highly variable because of the topography along the routes but would be a minimum of 27 feet above the ground surface..... In the case of the Mississippi River crossing, there would be two OPGWs, one with a 48-fiber-optic bundle and another with a 144-fiber-optic bundle core. Comments The information about OPGWs is incorrect and the conductors for the Mississippi River crossing will differ from the standard conductor. Proposed Text The Utilities propose to use a bundled pair of TP-477 kilo circular mils ACSR (Hawk) conductors for each phase of the 345-kV circuit. The aboveground midspan conductor height would be highly variable because of the topography along the routes but would be a minimum of 27 feet above the ground surface. The conductors for the Mississippi River crossing will be a bundled pair of TP-795 kilo circular mill ACSR (Drake) for each phase of the two crossing circuits, designed capable to accommodate a 345/345-kV line but will be operated at 345/161-kV.... In the case of the Mississippi River crossing, there would be two OPGWs, one with a 48-fiber-optic bundle and another with a both with a 144-fiber-optic bundle core. ITC will install two OPGWs, each with a 48-fiber-optic bundle core, between Hickory Creek and Turkey River, and between Nelson Dewey and Hill Valley.	
C-HC Utilities	Azar	EFF01	COMMENTS APPLICABLE TO NUMEROUS LOCATIONS IN THE DEIS Page #s throughout Comment "Potential effects" or "potential impacts" vs. simply "effects" or "impacts" What will ultimately be the actual effects/impacts of C-HC are currently unknown. Therefore, the DEIS and FEIS are evaluating the "potential" effects/impacts of this Project. Some text definitively concludes that such effects and impacts will be made. Other chapters clearly identify that the document is discussing potentialities. Examples of sections that used "potential" appropriately include: Transportation, Health and Safety. Examples that rarely mention the word "potential" include: Soils, Vegetation, Cultural and Historic Resources, Land Use, Refuge, and Cumulative Effects.	RUS has opted not to preface the word "impact" with "potential impact" throughout the EIS. This comment has been addressed in the introduction of Chapter 3 to explain the potential impacts identified for the proposed C-HC Project are referred to as "impacts" or "effects" interchangeably throughout this EIS.
C-HC Utilities	Azar	ALT01; NEP01	Action Alternatives: The Public Service Commission of Wisconsin (PSCW) and the federal government share jurisdiction over the route that will be approved for this Project. Under the current schedule, the FEIS will be released before the PSCW selects a route and the PSCW's route may not comport exactly with one of the RUS's Action Alternatives. It may be beneficial to have the FEIS organized differently than the DEIS in recognition that the PSCW may select a route that differs from one of the DEIS's Action Alternatives. The following are two suggestions intended to achieve that goal: (1) The Utilities have submitted two proposed routes to the PSCW. The RUS's DEIS only contains one of those two alternatives (viz. Action Alternative 6 is the same as the "Preferred Route.") Since the PSCW may select the Utilities' Alternate Route (or a combination of the Utilities' Preferred and Alternate Routes), we recommend that RUS create a new Action Alternative that equates with the Utilities' "Alternate Route" as specified in their CPCN application. (2) Rather than select either the Preferred or Alternate Routes as presented in the Utilities' CPCN Application, the PSCW may substitute one or more segments into those alternatives. Indeed, the RUS asked that the Utilities add some segments that are identified as "other segments" in the CPCN application, which the PSCW could select. Rather than analyzing end-to-end alternatives in the FEIS, we recommend the RUS consider conducting the environmental impact analysis in blocks that could be easily combined together to create whatever end-to-end alternative the PSCW selects.	Comment noted. RUS has opted not to reorganize the EIS.
C-HC Utilities	Azar	NEP03	Decommissioning of the 69-kV line as a Connected Action: To properly compare the environmental impacts of C-HC to the No Action Alternative (NAA), DPC's removal of the 69-kV line and possible restoration of that ROW must be considered as part of C-HC, and not as a connected action. (Similarly, the potential removal and relocation of ITC's/DPC's 161 kV line should also be considered part of C-HC.) Therefore, the contents of Appendix F should be incorporated into the main text.	The content presented in DEIS Appendix F has been incorporated into the body of the EIS. The retirement of the N-9 transmission line as well as two potential substation improvements at Lancaster and Hillman substations have been incorporated in the C-HC Project.
C-HC Utilities	Azar	AIR03	"Potential impacts to Air Emissions from C-HC: (1) The DEIS recognizes that C-HC and the MVPs will convey electricity from renewables, which is a long-term beneficial impact to air emissions. However, this benefit is only sometimes recognized in the DEIS. (2) Why do the MVPs have short- and long-term adverse impacts while the ""Other transmission projects"" only short-term adverse impacts? (3) Page 437 states ""Operational emissions of criteria pollutants by the C-HC Project are expected to be negligible, as they are restricted to vehicular emissions from periodic maintenance."" So it is unclear why C-HC would have long-term adverse air effects. (4) The operation of this line will decrease GHGs due to the influx of carbon-free wind electricity. " GHG emissions from the construction, operation, and maintenance of the project (including potential SF6 leaks from circuit breakers) would result in a minor (relative to local, national, and/or global GHG emissions) long-term increase in GHGs. p. 222	Comment noted. EIS Chapter 4 has been revised to address public comments and to provide context regarding potential contributions to climate change. Given that it is not possible to know what types of generation would be served by the C-HC Project, we cannot absolutely conclude that the operation of the line would result in decreased greenhouse gas emissions. The air quality analysis in EIS Chapter 3 has not been revised because the conclusions are appropriate for the C-HC Project.
C-HC Utilities	Azar	WLDF02	Potential Avian Impacts in the Refuge from C-HC vs. the NAA: C-HC will diminish potential avian impacts when compared to the NAA. Both alternative crossings will use lower structures, horizontally aligned conductors and avian diverters that are absent in the existing 69- and 161-kV lines in the NAA. However, the DEIS concludes that all six alternatives will have potential moderate impact on birds. At least, the text should recognize the beneficial components of C-HC to birds. ""Collocating with existing transmission line creates only an incremental elevation in existing collision risk, whereas construction of a new and separate ROW creates a new collision risk on the landscape."" p. 185. ""This results in 37 miles of new collision risk to raptors and other large birds through construction of Alternative 1, which would be a moderate impact to birds."" p. 189 "	Comment noted. The potential impacts to birds where low-profile structures would be built are disclosed in EIS Section 3.14.
C-HC Utilities	Azar	HAS01	"Health and Safety and EMF: (1) For the reasons explained below, it may be easier to have a section dedicated on EMF in Chapter 3 rather than include it within the Health and Safety section. (2) Pages 387-388 clearly specify that EMF does not cause any adverse public health effects for long-term, low exposure EMF levels, including those that would be produced by this Project. Accordingly, it is misleading to imply there is a relationship between EMF and health effects as a result of this Project. Nevertheless, in numerous locations, the DEIS construes C-HC as having a negative impact on public health and safety because of EMF. (3) The definitions for potential impacts on page 392 are misleading. They are as	Comment noted. RUS has opted to keep the EMF discussion within the EIS Public Health and Safety section, Section 3.13. RUS has evaluated this comment and the EMF discussion in the EIS and has determined the analysis is appropriate.

Organization	Commenter Last Name	Comment Code(s)	Comment on DEIS	Agency Response to Comment
			follows: (a) "Minor impact: Operation of the C-HC Project would not result in increased exposure to EMF levels, which would rise to a level of concern with regard to public health and safety." (b) "Moderate Impact: Operation of the C-HC Project would increase exposure to EMF levels, but not to a level that would adversely affect public health and safety." (c) "Major Impact: Operation of the C-HC Project would increase exposure to EMF levels to a level high enough to adversely affect public health and safety." All of these definitions assume a causal connection between exposure to EMF and public health and safety that does not exist. Where there is not a potential public health and safety impact, there would be "no potential impact." (5) Page 388 states "short-term exposure to higher intensities of EMF (above exposure levels of electrical and industrial workers) could produce adverse stimulation of nerves and muscles." There is no evidence presented that transmission line workers would be exposed to such levels. So, there is also no occupational EMF health risk for this Project. (6) Page 441 states "Because the levels of EMF created by the proposed project would be relatively low when compared to the recommended public and occupational exposure guidelines, the cumulative impact from EMF under all alternatives would be minor and long term." There are no "public and occupational exposure guidelines." " Potential exposure to EMF that could affect public health and safety would be minor and long term for occupied buildings within the ROW and negligible for occupied buildings at the ROW's edge and beyond. p. 401	
C-HC Utilities	Azar	ALT03	No Action Alternative - throughout the document, when comparing the NAA against the C-HC, we recommend noting that the benefits of C-HC will not be realized if the NAA is selected.	Comment noted. Under the No Action Alternative, the C-HC Project would not be built; therefore, ground-disturbing and other resource impacts would not occur. The transmission reliability, access, transfer capability, and benefits of the C-HC Project described in EIS Chapter 1 are not germane to the resource impacts disclosed in Chapter 3.
C-HC Utilities	Azar	WLDF03	"Fragmentation of Forest Habitat: During discussions of habitat fragmentation in the DEIS (both in sections discussing the Refuge and among the resource sections in Chapter 3), we would recommend including additional text on the relationship between specific existing conditions and the fragmentation of contiguous habitats that may occur as the result of the Project. Most notably, where the proposed route segments are being located within or along existing linear ROWs, such as transmission lines and roadways. 530 acres of forested habitat would be converted to maintained ROW, which is 51% of the forested habitat within the analysis area (Table 3.4-4). An additional 11 acres of forest would be temporarily cleared for construction of access roads. For forest-dwelling wildlife species sensitive to fragmentation this is anticipated to be a moderate and long-term impact p. 190	EIS Section 3.4 discloses potential impacts from habitat fragmentation.
C-HC Utilities	Azar	DECI01	RUS has not made a determination "to potentially finance." The Preamble to the RUS NEPA rules explains, RUS "has defined the Federal action and major decision point at which NEPA must be complete as the approval of financial assistance...." RUS's determination evaluation of whether to potentially finance the Dairyland portion.....	RUS has revised this description of their action under NEPA, where appropriate, in the EIS Executive Summary and Chapter 1.
C-HC Utilities	Azar	DECI12	Consultation between the Iowa and/or Wisconsin State Historic Preservation Offices (SHPOs), RUS, the Utilities, and affected Tribal groups, among others would be required under Section 106 of the NHPA. This consultation must be completed prior to the start of construction activities. This misstates the law. 36 CFR 800.1(c) says the agency official must complete the section 106 process "prior to the approval of the expenditure of any Federal funds on the undertaking or prior to the issuance of any license." Recommend the following language: This consultation must be completed prior to financing or license issuance the start of construction activities.	Comment noted. The EIS has been revised to reflect the current status of the NHPA Section 106 process and the timing of this process.
C-HC Utilities	Azar	NEP02	Dairyland owns and its member cooperative system have ownership in and receive power from or has under contract four conventional fossil-fueled and 23 renewable electric generation facilities, currently operating or soon to be operating. These facilities provide Dairyland with DairyLand's total rated generating capacity of is over 1,280 megawatts (MW). Of that total, 1,007 MW are generated by conventional fossil-fueled facilities and about 275 MW are generated by renewable facilities. Dairyland's owns renewable energy resources capacity including includes four wind energy generation facilities with a capacity of 216 MW. To meet all of its load needs, Dairyland also purchases wholesale electricity from other power suppliers, including major solar installations located in Westby, Wisconsin; Oronoco, Minnesota; and Galena, Illinois (Dairyland 2016a).	Suggested revisions have been incorporated into EIS Chapter 1.
C-HC Utilities	Azar	DATA01	The information on Table 1.4-1 is outdated. Given the data's fluidity, we recommend updating the table right before publication of the FEIS.	Table 1.4-1 has been updated in the EIS.
C-HC Utilities	Azar	DATA01	Table 1.4-2 The information on this table is outdated. (For example, on January 8, 2019 J798 withdrew from the process.) Given the data's fluidity, we recommend updating the table right before publication of the FEIS.	Table 1.4-2 has been updated in the EIS.
C-HC Utilities	Azar	DECI07; PUB03; REC02	USFWS would need to grant an easement across its lands within the Refuge for the C-HC Project. The easement application would be submitted after the Record of Decision identified the preferred route, and the required compatibility determination would proceed after the application was determined to be complete....A Special Use Permit would be needed from the Refuge prior to construction of the project on Refuge-managed/owned lands after a ROW is issued. The Utilities have been in discussions with USFWS about the timing of these applications and federal decisions and this text does not reflect the Utilities' current understanding of the sequence and timing. The Utilities would like to continue discussions to assist USFWS in complying with Executive Order 13807, the April 9, 2018 Interagency Memorandum of Understanding, and the FAST-41 statute. To be determined through ongoing negotiations.	Comment noted. EIS Section 1.5.2 has been revised to clarify the timing of the USFWS decisions associated with the proposed Refuge crossing.
C-HC Utilities	Azar	ALT02	In addition to the resolution, other factors also led the Utilities to conclude that the Dubuque options were not feasible. We recommend including those additional reasons. Due to the technical feasibility issues, potential impacts, and this resolution, the Utilities determined that routing the C-HC Project through the city of Dubuque was not feasible	EIS Chapter 2 has been revised to reflect this information.
C-HC Utilities	Azar	ALT01; REC02	Two of these segments have been dismissed from further consideration (see Figure 2.2-14). The first segment crossed a private inholding within the Refuge. This segment would minimize impacts to federally managed lands within the Refuge. However, after discussions with the private inholding landowner in 2018, it was determined the landowner would not agree to an easement crossing the landowner's land, and the Iowa Utilities Board process defers to private landowners' preferences. The Utilities proposed alternatives that avoided and minimized impacts to federal lands that should be reflected in this text. Two of these segments have been dismissed from further consideration (see Figure 2.2-14). The first segment crossed a private inholding within the Refuge. This segment would have minimized the acres of impacts to federally managed lands within the Refuge. However, after discussions with the private inholding landowner in 2018, it was determined the landowner would not agree to grant a voluntary easement crossing the landowner's land and the Iowa Utilities Board process defers to private landowners' preferences. The Utilities then had additional discussions with the USFWS and developed two new alignments through the Refuge at the Nelson Dewey crossing. These alignments, Segment B-IA1 and B-IA 2, reduce potential fragmentation by the Project because they are located adjacent to the existing Oak Road that crosses the Refuge.	Comment noted. The EIS has been revised, where appropriate, to clarify this information.

Organization	Commenter Last Name	Comment Code(s)	Comment on DEIS	Agency Response to Comment
C-HC Utilities	Azar	ALT01	"Table 2.3-1 Summary of C-HC Project Options for Crossing the Refuge - [Under Co-location with Other ROWs (acres) B-IA1 - 2 B-IA2 - 4 C-IA - 23" "The text discusses Oak Road being co-located with segments B-IA1 and 2, but not in Table 2.3-1. Recommend double checking that the Oak Road ROW (at 100' total ROW) was included in the "Other ROW" category; the Utilities ran the output internally within the Refuge as part of another exercise and got 6.2 acres of collocation with B-IA2, for example. Would suggest re-running with RUS's internal data as the Utilities' calculation was for a slightly different exercise."	USFWS has reviewed these numbers and concurs with their accuracy. The width of the Oak Road ROW is accounted for in EIS Table 2.3-1.
C-HC Utilities	Azar	ALT02	Spoil disposal could include transferring the material to an adjacent landowner or other user who needs fill material. The Utilities' standard practice is to avoid disposing of clean soil in a landfill, if possible. This statement is appropriate where used elsewhere in the document, but not at Nelson Dewey SS. Based on known historic uses and soil contamination, the Utilities would coordinate disposal at an appropriate facility. Spoils disposal from the Nelson Dewey Substation site will be disposed at an appropriate facility. could include transferring the material to an adjacent landowner or other user who needs fill material. The Utilities' standard practice is to avoid disposing of clean soil in a landfill, if possible.	EIS Chapter 2 has been revised to reflect this information.
C-HC Utilities	Azar	ALT02	The Utilities estimate that an average area of 100 x 100 feet would be temporarily disturbed to install each foundation, with approximately 1,850 cubic yards of native cut-and-fill material per structure The disturbance of 100 x 100 feet is not for all structures, only for structures located on steep slopes where a work pad needs to be graded in. The Utilities "Revised Response to SWCA's 8-31-17 Questions" provides an estimated number of structure locations that are anticipated to need such grading. In areas with steep slopes where grading is required, the Utilities estimate that an average area of 100 x 100 feet would be temporarily disturbed to install each foundation, with approximately 1,850 cubic yards of native cut-and-fill material per structure	RUS has opted to use the 100 x 100-foot estimate for all foundation sites for a conservative estimate of impacts from foundations.
C-HC Utilities	Azar	ALT02	Easements outside of the ROW may also be needed for Hazard Trees. Outside of the C-HC Project transmission line ROW, easements also might be needed for construction, or operation and maintenance access roads, and for hazard trees.	EIS Chapter 2 has been revised to reflect this information.
C-HC Utilities	Azar	ALT02; EFF04	areas where crops are not present, such as roadsides, pastures, old fields, upland woods, and wetlands, would be seeded with native seed mixes or other appropriate, non-invasive or non-nuisance seed mixes approved by the landowner... It is not the Utilities' practice to seek approval of specific seed mixes from the landowner, rather to use something that is similar to the existing conditions and surrounding area.	The EIS Chapter 2 has been revised to remove reference the Utilities needing to obtain landowner approval for replanted seed mixes.
C-HC Utilities	Azar	EFF01; VEG04	"Table 2.6-1 Table 3.3-6 Table 3.3-8 Table 3.3-10 Table 3.3-12 Table 3.3-14 Table 3.3-16" "Wetland Impacts to Alt. 1: "MoP impacts to 38 acres" Wetland Impacts to Alt. 2: "MoP impacts to 52 acres" Wetland Impacts to Alt. 3: "MoP impacts to 49 acres" Wetland Impacts to Alt. 4: "MoP impacts to 16 acres Wetland Impacts to Alt. 5: "MoP impacts to 5 acres" Wetland Impacts to Alt. 6: "MoP impacts to 7 acres" p. 158 "Alternative 1 would permanently impact approximately 38 total acres of wetland due to tree clearing of forested wetland habitats," Same text for Alternatives 2-6. " Although the EIS uses the Utility data to account for total wetland impacts, it characterizes any wetland community that contains a forested wetland component as conversion. So, if you have a large wetland community that contains a small amount of forested wetland, the entire wetland acreage is used to represent the potential forested-wetland conversion impact. The wetland mapping associated with the Utilities' land cover data should more accurately represent the potential forested wetland conversion impacts. The Utilities submitted the accurate data on 3/30/18.	RUS has characterized the wetland impacts presented in the EIS in coordination with USACE. The Utilities will have an opportunity to refine the presentation of wetland impacts as the Clean Water Act applications are submitted to USACE.
C-HC Utilities	Azar	DECI10; WAT06	"(1) A permit from the local floodplain management agency (county, city, town, etc.) would generally be required for any construction in the floodplain. Pgs. 205 and 212 (2) All applicable zoning and land use approvals would need to be obtained prior to construction. p. 294" The Wisconsin CPCN law (Wis. Stat. § 196.491(3)(i) and § 196.491(4)(c)3) exempts compliance with local ordinances that are not public safety related. "(1) In Iowa, a permit from the local floodplain management agency (county, city, town, etc.) would generally be required for any construction in the floodplain. Pgs. 205 and 212 (2) In Iowa, all applicable zoning and land use approvals would need to be obtained prior to construction. p. 294"	This clarifying text has been added to EIS Section 3.4.
C-HC Utilities	Azar	ALT02; SOCIO02	It is estimated the daily project workforce would consist of 50 to 120 workers of the project construction time frame. These numbers only reflects ATC's workforce It is estimated the daily project workforce would consist of 50 100 to 120 240 workers of the project construction time frame.	The EIS has been revised, where appropriate, to reflect the workforce numbers.
C-HC Utilities	Azar	ALT02; LAND05	The C-HC Project would require ROW easements from private property owners, which could encumber the ROW area with land use restrictions. One residential house, which is located on segment Z02 in Action Alternative 6, may be removed. The land use section may be a good location to recognize this fact. The C-HC Project would require ROW easements from private property owners, which could encumber the ROW area with land use restrictions. (One property along segment Z02, which is in Action Alternative 6, will be purchased and the house removed.)	The EIS includes the language regarding the ROW easements and possible restrictions to land use in Section 3.10. The EIS has been revised to include the removal of one house along Segment Z02 in Section 3.12.2.
C-HC Utilities	Azar	ALT01; REC02	Expanded ROW will be required in the Refuge to accommodate the low-profile structures. Therefore, Alternatives 2, 3 and 4 will not be entirely within the existing ROW through the Refuge and may have potential permanent impacts. RUS will need to determine the level of potential impact. "p. 299 Recreation Areas - Outside of the Refuge, no potential permanent impacts would occur as the new power line would occur in an existing power line ROW. Because of the low-profile structures in the Refuge, additional ROW would be required. [RUS to insert analysis of the potential impacts from the expanded ROW in the Refuge, if any.] p. 300 - Potential Impacts to the Refuge would be the same as presented under Alternative 2. p. 303 - Potential Impacts to the Refuge would be the same as presented under Alternative 2. Pgs. 309 and 310 - [RUS will need to determine the level of potential permanent impact in the Refuge due to the expanded ROW and make the necessary changes.] "	Comment noted. Impacts to recreation within the Refuge would occur under either Mississippi River crossing alternative. This information is disclosed in EIS Section 3.14. It is important to note that expansion of the existing ROW along C-IA or the new ROW within segment B-IA does not necessarily preclude recreation activities. The analysis reflects this concept.
C-HC Utilities	Azar	REC04; VIS01	Alternatives 1, 2, and 3 would cause minor temporary and minor permanent impacts to the Governor Dodge State Park (see Table 3.10-31 and Table 3.10-32). These alternatives would create a new transmission line ROW through small wooded tracts just north of the park. This would change the character of the park in this area which would impact recreational users' experiences in these areas. The Visual Impacts section (bottom of page 317) states "Photographs taken from multiple KOPs within Governor Dodge State Park revealed that the proposed transmission line would not be visible due to tall and dense vegetation and lack of a vantage point from within the park." It is unclear how there could be minor impacts if the Project cannot be seen.	EIS Section 3.10, Land Use, has been revised to clarify that the transmission line would impact the vicinity of the Governor Dodge State Park. The C-HC Project would change the character of the local vicinity of the park in this area, which would impact recreational users' experiences in travelling through these areas. The transmission line would not be visible from KOPs within the park.
C-HC Utilities	Azar	EFF01; REC02	Table 3.10-32 "Recreation Area Permanent Impact Summary: The Refuge Alt 1 Moderate Alt 2 None Alt 3 None Alt 4 None Alt 5 Moderate Alt 6 Moderate" "Two problems (1) For alternatives 2, 3 and 4 there will be an expanded ROW and may have a potential impact; (2) For Alternatives 1, 5 and 6, when compared with the NAA, it is unclear how the Project could have potential moderate impacts given the removal of the existing two lines in the Refuge. "	Comment noted. Impacts to recreation within the Refuge would occur under either Mississippi River crossing alternative. This information is disclosed in EIS Section 3.14. It is important to note that expansion of the existing ROW along C-IA or the new ROW within segment B-IA does not necessarily preclude recreation activities. The analysis reflects this concept.
C-HC Utilities	Azar	VIS01	"Moderate adverse visual impacts would occur from either transmission line segment (Y or Z) at the location represented in the simulation from viewpoint 5 (Figure 3.11-8 and Figure 3.11-9). The C-HC Project would be visible in the middle-ground along Highway 14. In the visual simulation	Text in EIS Section 3.11 has been revised as suggested.

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			from viewpoint 6 (Figure 3.11-10 and Figure 3.11-11), the proposed C-HC Project would be partially obscured by topography and vegetation, but it would be visible towards the left of the viewshed. At this location, a view of a future segment Ice Age NST is in the foreground; therefore, the C-HC Project would result in minor adverse impacts to viewers from the future segments of the NST at this location." It should be disclosed that KOP 5 and KOP 6 are aerial photographs from an sUAS (drone), not ground view photos representative of a person standing on the ground. Aerial photography was utilized due to access and vegetation. The photography representing viewpoints 5 and 6 was collected utilizing a sUAS (drone) due to existing vegetation, which obscured ground level visibility. The photography was taken from a viewpoint higher than would be seen from a person standing on the ground. Moderate adverse visual impacts would occur from either transmission....	
C-HC Utilities	Azar	HAS01	If constant work were being performed near existing facilities that posed any kind of safety threat, the existing transmission facilities would be turned off, eliminating exposure to EMF for construction crews. There is a potential safety risk for workers from induced voltage through electric fields (not magnetic fields), which could occur when building new line near an energized line. Using "EMF" as a catchall phrase is not accurate. If constant work were being performed near existing transmission-line facilities that posed any kind of a safety threat, the existing transmission facilities would be turned off, eliminating exposure to EMF for construction crews. due to a potential for induced voltage, then either work being performed would modified to reduce impacts from induced voltages or an outage on the existing transmission facilities would be requested, which would reduce or eliminate the potential for induced voltages at the location where the work is being performed.	EIS Section 3.13 has been revised to clarify this point about induced voltages.
C-HC Utilities	Azar	ALT02; VEG03	"• Herbicides (hazardous substance): where landowner consent is provided, herbicides would be used as follows, and the person applying herbicides would have USEPA certification. • During construction, for the initial vegetation clearing all vegetation would be mechanically cleared for the full width of the ROW to facilitate construction equipment access and ensure safe clearances between vegetation and the transmission line. Stumps of tall-growing species would be treated with an herbicide pre-mix solution to discourage regrowth. • During construction, the Utilities expect the following herbicide mix will be used to control the regrowth of incompatible vegetation: Garlon (110 gallons), Milestone (2.5 ounces), Escort (15 ounces), and Rifle (25 gallons). o During operation of the line, the Utilities estimate that the quantity of herbicide solution mix applied in a 50-mile span of 150-foot-wide ROW would be approximately 20% less than the initial application and may be reduced even further after each succession cycle. o All herbicide applications would be conducted in accordance with Federal, state and local laws, regulations and labels. Herbicide application methods utilized would include high volume foliar, cut stubble, low volume foliar, cut stump and basal applications. The vegetation density, size and location, time of year, control method implemented, environmental conditions and property owner or easement restrictions, would determine the herbicide application treatment method used within the ROW. • After construction, the Utilities expect to use a similar herbicide pre-mix solution for vegetation maintenance. There would be a mid-year cycle application in 2 to 3 years, and after that the vegetation management cycle would be every 5 years. • After construction, the Utilities expect to use a similar herbicide pre-mix solution for vegetation maintenance. There would be a mid-year cycle application in 2 to 3 years, and after that the vegetation management cycle would be every 5 years." Mixtures for herbicides change overtime. Moreover, the information presented only pertained to half of the Project. We recommend that specific details on herbicide formulas be eliminated. "[Delete existing text and replace with the following] • Herbicides are one of the effective tools the Utilities use to manage vegetation within the ROW. Landowners are informed about the use of herbicides on specific parcels through the easement acquisition process. • During construction all herbicide applications would be conducted in accordance with Federal, state and local laws, regulations and labels. Herbicide application methods can include high volume foliar, cut stubble, low volume foliar, cut stump and basal applications. The herbicide type or mix as well as the application treatment method used within the ROW would depend upon the following: the vegetation density, size and location, time of year, control method implemented, environmental conditions and property owner or easement restrictions. • After construction, the Utilities continue to monitor the ROW for vegetation growth and determine which vegetation management methods are to be used at each location or area along the ROW. The Utilities may determine the need for herbicide application as an effective method for vegetation maintenance. If used, follow-up herbicide applications will be based on vegetation growth conditions and application method and herbicides would be determine prior to its use. "	The EIS has been revised in Chapters 2 and 3 to revise the herbicide application methods used by the Utilities.
C-HC Utilities	Azar	ALT02; EFF01	The temporal boundary for all the resources analyzed in the EIS is the estimated life of the C-HC Project, which is 40 years. While the depreciation life is 40 years, the operational life for C-HC is expected to be approximately 60 years.	The life of the C-HC Project has been revised to 60 years throughout the EIS.
C-HC Utilities	Azar	HAS01	The Public Health And Safety section does not specify a spatial boundary around the substations.	EIS Chapter 4 has been revised to include a spatial boundary for public health and safety.
C-HC Utilities	Azar	EFF03	ATC is currently working on three major transmission projects in Wisconsin. The first is a reinforcement project to address reliability concerns associated with the high-voltage transmission system in southeastern Wisconsin. ATC will be rebuilding a number of lines in the future with this reinforcement in southeastern Wisconsin being only one of them. Would RUS like the full list? For example, consider adding ATC's upgrade of the Stagecoach-Timberland Tap-West Middleton 69-kV line.	EIS Chapter 4 has been revised to reflect the latest list of reasonably foreseeable projects from the Utilities.
C-HC Utilities	Azar	ALT02; EDIT	Double-circuit transmission line—A transmission line composed of six electrical phases (two independent circuits of three phases each) and two lightning protection shield wires. One of the lightning protection shield wires is a steel overhead ground wire (OHGW), and the other is an optical ground wire (OPGW). Double Circuit transmission line A double circuit is not required to have OHGW and OPGW. Double-circuit transmission line—A transmission line composed of six electrical phases (two independent circuits of three phases each) and two lightning protection shield wires. One of the lightning protection shield wires is a steel overhead ground wire (OHGW), and the other is an optical ground wire (OPGW). Double Circuit transmission line	The EIS glossary has been revised.
C-HC Utilities	Azar	ALT02; EDIT	"Rebuild—Removing an existing line and replacing it with a new, higher-capacity line. " The utilities may rebuild to the same capacity. "Rebuild— Removing an existing line and replacing it with a new, higher-capacity line with either the same or a higher capacity. "	The EIS glossary has been revised.
C-HC Utilities	Azar	ALT07	" As noted in the footnote on page C-9, the tables in Appendix C were developed using version 5 of the Utilities' routing data, which the Utilities provided to SWCA on March 10, 2018. However, the Utilities provided updated data to SWCA on April 2, 2018 that is consistent with the Utilities' application to the PSCW. This data contains changed, renamed (because the segments have been split into two), and additional sub-segment identifiers that are not reflected in the DEIS. As a consequence, all of the tables in Appendix C are outdated. While RUS is aware of these changes, we wanted to highlight the difficulties posed by using version 5 of the routing data: p. C-30: In addition to the five unused segments identified in Table C-10, R10 is also unused. In the DEIS, R10 is ascribed to Alternative 5, but one of its ends would not connect to anything if used in Alternative 5. The following are additional segment identifiers introduced in the updated dataset that are currently not included in Appendix C and, apparently, are not used in any of the Action Alternatives: B-IA2, D10A, D10B, D10C, M03, M04, M05, G06A, G06B, and Y01C. Many of these	Comment noted. The purpose of Appendix C is to explain how the six action alternatives were developed by the Federal agencies. This appendix is not intended to be updated/revised as routes are revised after March 2018. No substantive changes to Appendix C have been made. EIS Chapter 3 provides a comparison of potential direct/indirect impacts from the C-HC Project.

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			segments were used as part of either the Utilities' Preferred or Alternate Routes that were submitted in their CPCN application in Wisconsin. The following specifies the importance of those segments and we urge RUS to analyze them in detail in the DEIS, if not as part of one of the Action Alternatives, then as standalone subsegments because they may be selected by the PSCW: (1) Segments D10A and D10B are common segments to both the Utilities' Preferred and Alternate Routes used for routing the 138-kV X-16 line into the Hill Valley Substation. (2) Segment D10C is used in the Alternate Route to get the X-16 line to the Hill Valley Substation. (3) Segments G06A and G06B are critical to the Utilities' Alternate Route as they are the sole connection between Segments F03 and G08 south of Platteville. (Segment G06 presented in Appendix C consists of current segments G06A and G06B.) (4) Segments M03, M04 and M05 were added to provide options for the alternate substation site. If these are eliminated, routes to the alternate substation cannot be evaluated and the alternate substation site becomes obsolete."	
C-HC Utilities	Azar	ALT01; EDIT	Table C-5 The table for Alternative 2 lists Subsegment D09B, but it should be D09A.	Comment noted. As mentioned in other responses about EIS Appendix C, this information is intended to be a snapshot of the alternative development process used by the Federal agencies. Appendix C has not been updated since spring 2018 when alternatives were developed. EIS Chapters 2 and 3 present and analyze the impacts from the latest action alternatives considered by the Federal agencies.
C-HC Utilities	Azar	ALT01; EDIT	Table C-8 Subsegment R10 should be removed because it is not part of Alternative 5. The Iowa segment is identified as A-IA. However, the correct segment for Alternative 5 is D-IA. Table C-9 The Iowa segment is identified as D-IA but that segment is not part of Alternative 6. The segment should be A-AI.	Comment noted. As mentioned in other responses about EIS Appendix C, this information is intended to be a snapshot of the alternative development process used by the Federal agencies. Appendix C has not been updated since spring 2018 when alternatives were developed. EIS Chapters 2 and 3 present and analyze the impacts from the latest action alternatives considered by the Federal agencies.
C-HC Utilities	Azar	ALT02	For construction projects that include the replacement of existing transmission structures in wetlands, structure types, construction timing, construction methods, and the wetland types are reviewed to determine the least impact to the resource. Typical construction methods include cutting the pole off at or just below the ground surface. The Utilities would need permission from the landowner before leaving a pole stub in the ground. The Utilities do not need landowner permission to leave stubs in the ground and it is not feasible.	EIS Appendix D has been revised to remove reference to landowner permission to leave stubs in the ground.
C-HC Utilities	Azar	ALT01; NEP03	"Under Action Alternatives 2, 3 and 4, the tap line from the Turkey River SS must be installed before the N-9 line could be retired. The Utilities are recommending that the decommissioning, restoration and new tap line be considered part of the C-HC Project and, therefore, the substance of Appendix F, would be rolled into the main text of the DEIS. Accordingly, we would request that the comments pertaining to Appendix F -- this row and the next three rows -- be rolled into the main text of the DEIS. " Under all Action Alternatives, upon completion the C-HC Project construction and energization at the Turkey River Substation, Dairyland would retire and decommission approximately 2.8 miles of the existing N-9 transmission line (69-kV) starting in Cassville, Wisconsin, at the Stoneman Substation,...This new transmission line segment, also referred to as a "tap line," would be approximately 0.2 mile long and would cross private lands and portions of the public right-of-way (ROW) for 360th Street and Great River Road (CY9). Under Action Alternatives 2, 3 and 4, the tap line must be installed before the N-9 line could be retired.	As mentioned in other comment responses, the DEIS Appendix F has been incorporated into the body of the EIS, in Chapters 2 and 3. The retirement of the N-9 transmission line is no longer identified as a connected action and is part of the C-HC Project description.
C-HC Utilities	Azar	EDIT	"The title ""Retirement of Dairyland's N-9 Transmission Line in Iowa"", which is used throughout Appendix F, has two problems: (1) N-9 is also in Wisconsin; (2) The title should include the addition of the N-9 tap. " Dairyland's Retirement of Dairyland's its N-9 Transmission Line in Iowa and Construction of a New 69-kV Tap.	DEIS Appendix F has been incorporated into the body of EIS Chapters 2 and 3. Revisions have been made.
C-HC Utilities	Azar	EDIT	The maps are entitled "N-9 Decommissioning Overview Map" and "N-9 Decommissioning Detail Map", respectively. They both need to recognize the addition of the new N-9 tap. "N-9 Decommissioning and N-9 Tap Overview Map N-9 Decommissioning and N-9 Tap Detail Map"	Map titles have been revised.
C-HC Utilities	Azar	NOISE01	The Noise section does not address the new N-9 tap	EIS Section 3.7 has been revised to address this comment.
Town of Stark, Vernon County, WI	Danielson	ALT04; SOCIO01	By page count, about 90% of the AES describes the high voltage transmission Project rather than evaluate Alternatives, which is the primary goal of an AES. The AES only provided RUS narrative introduction to NTA's. It made no effort to describe available resources and programs that could be engaged or to estimate the economic and environmental benefits if the many millions required of electric customers for Cardinal Hickory Creek over 40 years were alternatively spent towards NTA's.	RUS has determined that the purpose and need for the Federal action are supported (see EIS, Chapter 1). The State of Wisconsin has also analyzed the project through the PSCW and WDNR EIS process (PSCW 2019). The PSCW will make an appropriate determination as to project need with respect to their jurisdictional responsibilities under Wisconsin Statute 196.491(3) (see Section 1.2.21 of PSCW [2019]). The Federal EIS does not consider alternatives in the same manner as the PSCW or IUB. The Federal agencies are required to comply with NEPA. As stated in NEPA regulations 40 CFR 1502.23, "For purposes of complying with the Act, the weighing of the merits and drawbacks of the various alternatives need not be displayed in a monetary cost-benefit analysis and should not be when there are important qualitative considerations." As discussed in EIS Chapter 2, Section 2.2.2, non-transmission and low-voltage alternatives are not responsive to the applications to which the Federal agencies are responding, nor do they meet the six-point purpose and need described in EIS Chapter 1. The Federal EIS considers alternatives that are ripe for Federal consideration. What that means is that a proposal has been made for those alternatives or that it is reasonably foreseeable that they could be implemented in a time frame that would meet the need for the Federal action. Requirements for alternatives consideration under Wisconsin Statute 196.491(d) are very specific and separate from NEPA. Per their jurisdictional responsibilities, the PSCW is considering if and how the range of alternatives meets those requirements (see Section 1.2.2.1 of PSCW [2019]).
Town of Stark, Vernon County, WI	Danielson	NEP02	The DEIS is unable to observe that the conclusions are based on presented evidence. RUS was handed generalizations stemming from MISO exercises conducted before 2010. The 2014 Triennial MVP "update," makes no significant adjustments other than natural gas prices and continues to ignore flattening and declining electricity use. More than half of the 17 MVP expansion lines are now in service enabling far more accuracy in estimating economic benefits. III. As noted by experts in the Badger-Coulee review, MISO's estimated potential net benefits are dependent on energy use steadily increasing, which have not materialized. For Badger-Coulee, experts estimated the net benefits at around 6-9 cents per month	The C-HC Project has been independently modeled and verified by multiple entities, including MISO, which used a planning process approved by FERC. The Utilities have modeled and evaluated the C-HC Project, and the state regulatory agencies (PSCW and IUB) are currently evaluating the project. RUS and the other Federal agencies are considering all information, in addition to public comments, when analyzing the C-HC Project to comply with NEPA. This is explained in EIS Chapter 1.

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			for residential customers. Decision-makers and electric customers deserve to see net benefits in familiar terms like these for Cardinal Hickory Creek.	
Town of Stark, Vernon County, WI	Danielson	NEP02	By no measure did the applicants' AES discuss NTA's with the goals defined by NEPA to determine if any potential need for the Project could be replaced with alternative investments such as NTA's. Unfortunately, the burden to conduct the quantitative analysis shifted to RUS. We can see no scientific or statutory grounds for measuring need the way RUS's six devised test points attempt.	The C-HC Project has been independently modeled and verified by multiple entities, including MISO, which used a planning process approved by FERC. The Utilities have modeled and evaluated the C-HC Project, and the state regulatory agencies (PSCW and IUB) are currently evaluating the project. RUS and the other Federal agencies are considering all information, in addition to public comments, when analyzing the C-HC Project to comply with NEPA. This is explained in EIS Chapter 1. As discussed in EIS Chapter 2, Section 2.2.2, non-transmission and low-voltage alternatives are not responsive to the applications to which the Federal agencies are responding, nor do they meet the six-point purpose and need described in EIS Chapter 1. The Federal EIS considers alternatives that are ripe for Federal consideration. What that means is that a proposal has been made for those alternatives or that it is reasonably foreseeable that they could be implemented in a time frame that would meet the need for the Federal action. Requirements for alternatives consideration under Wisconsin Statute 196.491(d) are very specific and separate from NEPA. Per their jurisdictional responsibilities, the PSCW is considering if and how the range of alternatives meets those requirements (see Section 1.2.2.1 of PSCW [2019]).
Town of Stark, Vernon County, WI	Danielson	ALT01; DECI10	The creation of a Low Voltage Transmission Alternative is required by PSCW guidelines to establish a referential reliability baseline. Wisconsin state law requires that the conservation, energy efficiency, and distributed renewable components making up Non-Transmission Alternatives be evaluated first.	Comment noted. The EIS is not required to consider alternatives in the same manner as the PSCW or IUB. This comment refers to Wisconsin requirements.
Town of Stark, Vernon County, WI	Danielson	DECI09; NEP02	The AES cites no FERC reliability violations that would be eliminated by the Project or a Low Voltage Alternative. WI's 10% RPS or renewable energy requirements have been met. Applicants do not provide specific citations when they imply in the AES that governmental policies will increase demand for importation of out of state renewables.	Detailed information about potential overloads and North American Electric Reliability Corporation (NERC) violations is confidential.
Town of Stark, Vernon County, WI	Danielson	SOCIO08	Despite frequent reference, the Applicants provided RUS no substantiated evidence of the energy cost savings.	Comment noted. The C-HC Project would result in energy cost savings due to the alleviation of grid congestion and the reduction in the overall cost of delivered electricity as discussed in EIS Section 1.4.2. Note the C-HC Project would have other benefits such as increasing the reliability of the grid.
Town of Stark, Vernon County, WI	Danielson	ALT01	Despite face to face discussion and encouragement by IMEPC at a special meeting between RUS and Applicants, RUS was not provided a Low Voltage Alternative, which is required for the Wisconsin reliability baseline and which is used as the foundation for NTA development.	Comment noted. As discussed in EIS Chapter 2, Section 2.2.2, non-transmission and low-voltage alternatives are not responsive to the applications to which the Federal agencies are responding, nor do they meet the six-point purpose and need described in EIS Chapter 1. The Federal EIS considers alternatives that are ripe for Federal consideration. What that means is that a proposal has been made for those alternatives or that it is reasonably foreseeable that they could be implemented in a time frame that would meet the need for the Federal action. Requirements for alternatives consideration under Wisconsin Statute 196.491(d) are very specific and separate from NEPA. Per their jurisdictional responsibilities, the PSCW is considering if and how the range of alternatives meets those requirements (see Section 1.2.2.1 of PSCW [2019]).
Town of Stark, Vernon County, WI	Danielson	NEP02; SOCIO08	In lieu of providing RUS quantitative data or economic analysis, Applicants somehow conveyed that a need for 1300 MW of transfer capability has been established. This is incorrect information. The false conclusion ignores methodology Applicants must use for determining need based on economic analysis. Under this methodology, the Applicants conclude that if a 1300 MW transmission line was built, it would deliver from \$23.5 to \$350.1 million in net benefits to Wisconsin customers over 40 years. This a very small return on investment even with WI customers picking up a small 15% fraction of the Project's large cost. It is very misleading to decision makers and electric customers for RUS to reversely infer that the need for 1300 MW of transfer capacity exists. Applicants have not adequately established any electrical need to supply an adequate amount of power to any location or to correct reliability infractions. All benefits are secondary and analyzed monetarily. There are many energy investment choices before electric customer dollars, such as Wisconsin's Focus on Energy program, that deliver greater savings per dollar invested. Making such cost and impacts comparisons for electric customers is core to EIS development of Alternatives.	The C-HC Project has been independently modeled and verified by multiple entities, including MISO, which used a planning process approved by FERC. The Utilities have modeled and evaluated the C-HC Project, and the state regulatory agencies (PSCW and IUB) are currently evaluating the project. RUS and the other Federal agencies are considering all information, in addition to public comments, when analyzing the C-HC Project to comply with NEPA. The Federal agencies must consider reasonable alternatives when considering their Federal decision. The impact analysis contained within the EIS has been independently verified by RUS and the other Federal agencies. The Federal EIS considers alternatives that are ripe for Federal consideration. What that means is that a proposal has been made for those alternatives or that it is reasonably foreseeable that they could be implemented in a time frame that would meet the need for the Federal action. Requirements for alternatives consideration under Wisconsin Statute 196.491(d) are very specific and separate from NEPA. Per their jurisdictional responsibilities, the PSCW is considering if and how the range of alternatives meets those requirements (see Section 1.2.2.1 of PSCW [2019]).
Town of Stark, Vernon County, WI	Danielson	INFO04; PUB01	From April, 2018 when Project Applicants began filing their application materials through November, 2018 before RUS's DEIS was released, the prospective transmission builders and co-investor Dairyland Power Cooperative made approximately 439 technical documents publicly accessible on the PSCW docket. As best as we can determine, it appears that RUS elected to not account for the existence of the more refined information in authoring its DEIS. We have three requests based on this circumstance. In addition to explaining in the Final EIS why the mis-synchronization of information occurred, please explain how the disparity in available information affects the ability of the public to provide effective RUS DEIS and FEIS input, and, finally, please offer suggestions to the public about how these limitations can be corrected in this current proceeding. As the availability of more detailed and contemporary information was known to RUS before the DEIS publication, IMEPC observes that should RUS decide to incorporate any information from the PSCW docket in RUS's final EIS, it is crucial that every occurrence include a disclaimer stating the information was withheld from the DEIS and was not subjected to public or expert comment prior to publishing of the Final EIS.	The Federal NEPA process is separate and different from the state regulatory processes in Wisconsin and Iowa. Therefore, different information may be required by different reviewers and decision-makers. RUS has not withheld any information from the Federal NEPA process and EIS. However, information presented to the state regulatory agencies (PSCW and IUB) for the state review processes may not be pertinent or necessary for Federal NEPA compliance. RUS has determined that the purpose and need for the Federal action are supported (see EIS, Chapter 1). The State of Wisconsin has also analyzed the project through the PSCW and WDNR EIS process (PSCW 2019). The PSCW will make an appropriate determination as to project need with respect to their jurisdictional responsibilities under

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				Wisconsin Statute 196.491(3) (see Section 1.2.21 of PSCW [2019]). The Federal EIS does not consider alternatives in the same manner as the PSCW or IUB. The Federal agencies are required to comply with NEPA. As stated in NEPA regulations 40 CFR 1502.23, "For purposes of complying with the Act, the weighing of the merits and drawbacks of the various alternatives need not be displayed in a monetary cost-benefit analysis and should not be when there are important qualitative considerations." As discussed in EIS Chapter 2, Section 2.2.2, non-transmission and low-voltage alternatives are not responsive to the applications to which the Federal agencies are responding, nor do they meet the six-point purpose and need described in EIS Chapter 1. The Federal EIS considers alternatives that are ripe for Federal consideration. What that means is that a proposal has been made for those alternatives or that it is reasonably foreseeable that they could be implemented in a time frame that would meet the need for the Federal action. Requirements for alternatives consideration under Wisconsin Statute 196.491(d) are very specific and separate from NEPA. Per their jurisdictional responsibilities, the PSCW is considering if and how the range of alternatives meets those requirements (see Section 1.2.2.1 of PSCW [2019]).
Town of Stark, Vernon County, WI	Danielson	NEP01; PUB01	The central role of an EIS is to present decision-makers and electric customers a third party, comprehensive assessment of the energy planning proposal before them. Given the wide range of alternatives in contemporary proposals, outcomes are certain to affect electric bills, local economies, land use, natural habitats and residential/business energy spending options and the environmental effectiveness of that spending for several decades. As a result, decision-makers and electric customers expect a federal assessment to contain the most relevant and contemporary information and to explore all state of the art options before them. From April 2018 through November, 2018, transmission builders made approximately 439 documents pertaining to this proposal publicly accessible on the PSCW docket. To the best of our ability, it appears this information with greater detail and accountability is not accounted for or analyzed in RUS's DEIS. Request: In a new Preface or another early section of the Final EIS, please explain how the CHC proposal information Applicants provided on the PSCW and IUB dockets was regarded and the degree of incorporation into the DEIS and FEIS. Request: In the Final EIS, please describe how the disparity in information affected the ability of the public to provide effective comments, suggest corrections, and place new requests concerning the RUS DEIS. Request: In the Final EIS, please offer suggestions to the public about how these limitations can be mitigated in this current proceeding and in the development of future EIS's. Request: Should RUS decide to incorporate updated information from the state dockets or new information other-wise supplied by the Applicants, it is crucial that every insertion of this information into the Final EIS include a statement informing readers that the cited information was withheld from the DEIS stage and has not been subjected to public or expert comment prior to publishing of the Final EIS.	RUS and the other federal agencies have independently evaluated the impacts to the human and natural environment of the six action alternatives and No Action Alternative analyzed in the Federal EIS, as required by NEPA. RUS continues to coordinate with the PSCW; however, information was not incorporated into the Federal EIS wholesale from the PSCW or IUB dockets. Instead, information requests were submitted to the Utilities by RUS, as information was needed to help inform analysis in the Federal EIS and respond to public comments received during the NEPA process. The Dear Reader letter attached to the EIS identifies the major revisions made between the DEIS and EIS. The analysis included in the EIS meets the NEPA "hard-look" doctrine requirement of quantification and/or detailed qualitative disclosure of impacts that allow a comparison between the range of alternatives considered for the Federal decision. Please note that the PSCW also analyzed the proposed project to provide adequate information to inform their jurisdictional requirements under Wisconsin Statute 196.491(3) (PSCW 2019).
Town of Stark, Vernon County, WI	Danielson	ALT01; NEP01	IMEPC is appreciative of the unanticipated participatory options utilities can exercise, making the tasks of producing an EIS of great usefulness much more challenging. We also understand that it will be difficult for RUS to supply some of the quantitative analysis we have requested. When time is an insurmountable constraint, we encourage RUS to, instead, explain to readers that applicants' claims cannot be independently confirmed or that key information needed to examine an Alternative was requested, but not supplied. Our hope is that RUS will use these options to create a factually qualified and honest portrayal of all potential impacts for all alternatives including cases when available information was insufficient. We look forward to follow-up questions RUS has and helping all parties access the best information available	Comment noted.
Town of Stark, Vernon County, WI	Danielson	NEP01	The central role of an EIS is to present decision-makers and electric customers a third party, comprehensive assessment of the energy planning proposal before them. Given the wide range of alternatives in contemporary proposals, outcomes are certain to affect electric bills, local economies, land use, natural habitats and residential/business energy spending options and the environmental effectiveness of that spending for several decades. As a result, decision-makers and electric customers expect a federal assessment to contain the most relevant and contemporary information and to explore all state of the art options before them. From April 2018 through November, 2018, transmission builders made approximately 439 documents pertaining to this proposal publicly accessible on the PSCW docket. To the best of our ability, it appears this information with greater detail and accountability is not accounted for or analyzed in RUS's DEIS. Request: In a new Preface or another early section of the Final EIS, please explain how the CHC proposal information Applicants provided on the PSCW and IUB dockets was regarded and the degree of incorporation into the DEIS and FEIS.	RUS and the other federal agencies have independently evaluated the impacts to the human and natural environment of the six action alternatives and No Action Alternative analyzed in the Federal EIS, as required by NEPA. RUS continues to coordinate with the PSCW; however, information was not incorporated into the Federal EIS wholesale from the PSCW or IUB dockets. Instead, information requests were submitted to the Utilities by RUS, as information was needed to help inform analysis in the Federal EIS and respond to public comments received during the NEPA process. The Dear Reader letter attached to the EIS identifies the major revisions made between the DEIS and EIS. The analysis included in the EIS meets the NEPA "hard-look" doctrine requirement of quantification and/or detailed qualitative disclosure of impacts that allow a comparison between the range of alternatives considered for the Federal decision. Please note that the PSCW also analyzed the proposed project to provide adequate information to inform their jurisdictional requirements under Wisconsin Statute 196.491(3) (PSCW 2019).
Town of Stark, Vernon County, WI	Danielson	NEP01; PUB01	Request: In the Final EIS, please describe how the disparity in information affected the ability of the public to provide effective comments, suggest corrections, and place new requests concerning the RUS DEIS. Request: In the Final EIS, please offer suggestions to the public about how these limitations can be mitigated in this current proceeding and in the development of future EIS's. Request: Should RUS decide to incorporate updated information from the state dockets or new information other-wise supplied by the Applicants, it is crucial that every insertion of this information into the Final EIS include a statement informing readers that the cited information was withheld from the DEIS stage and has not been subjected to public or expert comment prior to publishing of the Final EIS.	RUS and the other federal agencies have independently evaluated the impacts to the human and natural environment of the six action alternatives and No Action Alternative analyzed in the Federal EIS, as required by NEPA. RUS continues to coordinate with the PSCW; however, information was not incorporated into the Federal EIS wholesale from the PSCW or IUB dockets. Instead, information requests were submitted to the Utilities by RUS, as information was needed to help inform analysis in the Federal EIS and respond to public comments received during the NEPA process. The Dear Reader letter attached to the EIS identifies the major revisions made between the DEIS and EIS. The analysis included in the EIS meets the NEPA "hard-look" doctrine requirement of quantification and/or detailed qualitative disclosure of impacts that allow a comparison between the range of alternatives considered for the Federal decision. Please note that the PSCW also analyzed the proposed project to provide adequate information to inform their jurisdictional requirements under Wisconsin Statute 196.491(3) (PSCW 2019).

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Town of Stark, Vernon County, WI	Danielson	NEP02	Project Purpose and Need p.ES-2 and p.11 Section 1.4, DEISv1, The explanation of 'Six-Point Need Test' reads, "...the need for the Proposed Action considered in this DEIS is to increase the capacity of the regional transmission system to: ! [Need Test Point #1] address reliability issues on the regional bulk transmission system and ensure a stable and continuous supply of electricity is available to be delivered where it is needed even when facilities (e.g., transmission lines or generation resources) are out of service;" Need Test Point #1 Comment: The Applicants' AES and the RUS DEIS do not cite a current compromise or NERC violation in the regional bulk transmission system that the Project or any Alternative would resolve. Applicants do not cite that the Operation Guides address a NERC violation. Need for the Project or any Alternative is not tested by the ability to unilaterally perform reliability upgrades but by estimating the economic value of the reliability projects that each of the Alternatives would eliminate. Until this independent analysis is complete, it is unknown whether reliability issues found any need for the Project or Alternatives.	The C-HC Project has been independently modeled and verified by multiple entities, including MISO, which used a planning process approved by FERC. The Utilities have modeled and evaluated the C-HC Project, and the state regulatory agencies (PSCW and IUB) are currently evaluating the project. RUS and the other Federal agencies are considering all information, in addition to public comments, when analyzing the C-HC Project to comply with NEPA. This is explained in EIS Chapter 1. As discussed in EIS Chapter 2, Section 2.2.2, non-transmission and low-voltage alternatives are not responsive to the applications to which the Federal agencies are responding, nor do they meet the six-point purpose and need described in EIS Chapter 1. The Federal EIS considers alternatives that are ripe for Federal consideration. What that means is that a proposal has been made for those alternatives or that it is reasonably foreseeable that they could be implemented in a time frame that would meet the need for the Federal action. Requirements for alternatives consideration under Wisconsin Statute 196.491(d) are very specific and separate from NEPA. Per their jurisdictional responsibilities, the PSCW is considering if and how the range of alternatives meets those requirements (see Section 1.2.2.1 of PSCW [2019]).
Town of Stark, Vernon County, WI	Danielson	ALT01; NEP02	Need Test Point #1 Request: For the Final EIS, perform the above described quantitative analysis including evaluation under modest, zero, and negative load growth to reach a dollar estimate of the reliability projects that each Alternative would avoid for Wisconsin ratepayers. In lieu of conducting this analysis, alternatively explain in the FEIS Executive Summary whether these avoided costs have been estimated for the Project by the Applicants as part of their calculations of 40 year, net benefits ranging from \$23.5 - \$350.1 million for Wisconsin electric customers. (See data currently cited in Section 1.4.2.1 ENERGY COST SAVINGS). If no estimates of this type are available for Iowa customers, please state this exclusion in the FEIS Executive Summary. If applicable, please state in the same narrative for ratepayers and decision makers whether the Final EIS contains comparable estimates for benefits stemming from Non Transmission and Low Voltage Transmission Alternatives.	RUS has determined that the purpose and need for the Federal action are supported (see EIS, Chapter 1). The State of Wisconsin has also analyzed the project through the PSCW and WDNR EIS process (PSCW 2019). The PSCW will make an appropriate determination as to project need with respect to their jurisdictional responsibilities under Wisconsin Statute 196.491(3) (see Section 1.2.21 of PSCW [2019]). The Federal EIS does not consider alternatives in the same manner as the PSCW or IUB. The Federal agencies are required to comply with NEPA. As stated in NEPA regulations 40 CFR 1502.23, "For purposes of complying with the Act, the weighing of the merits and drawbacks of the various alternatives need not be displayed in a monetary cost-benefit analysis and should not be when there are important qualitative considerations." As discussed in EIS Chapter 2, Section 2.2.2, non-transmission and low-voltage alternatives are not responsive to the applications to which the Federal agencies are responding, nor do they meet the six-point purpose and need described in EIS Chapter 1. The Federal EIS considers alternatives that are ripe for Federal consideration. What that means is that a proposal has been made for those alternatives or that it is reasonably foreseeable that they could be implemented in a time frame that would meet the need for the Federal action. Requirements for alternatives consideration under Wisconsin Statute 196.491(d) are very specific and separate from NEPA. Per their jurisdictional responsibilities, the PSCW is considering if and how the range of alternatives meets those requirements (see Section 1.2.2.1 of PSCW [2019]).
Town of Stark, Vernon County, WI	Danielson	NEP02	[Need Test Point #2] alleviate congestion that occurs in certain parts of the transmission system and thereby remove constraints that limit the delivery of power from where it is generated to where it is needed to satisfy end-user demand;" Need Test Point #2 Comment: Various degrees of congestion occur in every sector of all transmission systems. The Applicants do not establish in the AES that the proposed Project is needed to supply an adequate amount of electricity or that congestion is a limiting factor in supplying an adequate amount of electricity. Need for the Project or Alternatives is not tested by unilateral ability to lower congestion. Need can be estimated through calculation of the economic impacts of lowered congestion under a range of demand and other future sensitivities. Until such independent analysis is complete, it is unknown whether transmission congestion found any need for the Project or Alternatives.	The C-HC Project has been independently modeled and verified by multiple entities, including MISO, which used a planning process approved by FERC. The Utilities have modeled and evaluated the C-HC Project, and the state regulatory agencies (PSCW and IUB) are currently evaluating the project. RUS and the other Federal agencies are considering all information, in addition to public comments, when analyzing the C-HC Project to comply with NEPA. This is explained in EIS Chapter 1. The Federal agencies must consider reasonable alternatives when considering their Federal decision. The Federal EIS considers alternatives that are ripe for Federal consideration. What that means is that a proposal has been made for those alternatives or that it is reasonably foreseeable that they could be implemented in a time frame that would meet the need for the Federal action. Requirements for alternatives consideration under Wisconsin Statute 196.491(d) are very specific and separate from NEPA. Per their jurisdictional responsibilities, the PSCW is considering if and how the range of alternatives meets those requirements (see Section 1.2.2.1 of PSCW [2019]).
Town of Stark, Vernon County, WI	Danielson	NEP02; SOCIO08	Need Test Point #2 Request: For the Final EIS, perform independent quantitative analysis under modest, zero, and negative load growth and estimate the economic benefits for Wisconsin electric customers for the Project and all alternatives on the basis of their ability to relieve transmission congestion. In lieu of conducting this analysis, alternatively explain in the FEIS Executive Summary whether these congestion related savings have been estimated for the Project by the Applicants as part of their calculations of 40 year, net benefits ranging from \$23.5- \$350.1 million for Wisconsin electric customers. (See data currently cited in Section 1.4.2.1 ENERGY COST SAVINGS). If no estimates of this type are available for Iowa customers, please state this exclusion in the FEIS Executive Summary. If applicable, please state in the same narrative for ratepayers and decision makers whether the Final EIS contains comparable estimates for benefits stemming from Non Transmission and Low Voltage Transmission Alternatives. Also on the topic of congestion, we ask that the EIS independently evaluate the Applicants' "Eden Outlet" congestion issue on p. 42, Appendix D Exhibit 1 Cardinal Hickory Creek Planning Analysis.	The C-HC Project has been independently modeled and verified by multiple entities, including MISO, which used a planning process approved by FERC. The Utilities have modeled and evaluated the C-HC Project, and the state regulatory agencies (PSCW and IUB) are currently evaluating the project. RUS and the other Federal agencies are considering all information, in addition to public comments, when analyzing the C-HC Project to comply with NEPA. This is explained in EIS Chapter 1. The Federal agencies must consider reasonable alternatives when considering their Federal decision. As discussed in EIS Chapter 2, Section 2.2.2, non-transmission and low-voltage alternatives are not responsive to the applications to which the Federal agencies are responding, nor do they meet the six-point purpose and need described in EIS Chapter 1. The Federal EIS considers alternatives that are ripe for Federal consideration. What that means is that a proposal has been made for those alternatives or that it is reasonably foreseeable that they could be implemented in a time frame that would meet the need for the Federal action. Requirements for alternatives consideration under Wisconsin Statute 196.491(d) are very specific and separate from NEPA. Per

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Town of Stark, Vernon County, WI	Danielson	NEP02	[Need Test Point #3] expand the access of the transmission system to additional resources including: 1) lower-cost generation from a larger and more competitive market that would reduce the overall cost of delivering electricity and 2) renewable energy generation needed to meet state renewable portfolio standards and goals and support the nation's changing electricity mix;" Need Test Point #3 Comment: The Applicants' AES and the DEIS do not provide evidence that the states of Wisconsin and Iowa have not met their Renewable Portfolio Standards (RPS), nor do they supply documentation suggesting those states' standards will increase in the future. The Applicants' AES and the DEIS do not present quantitative evidence of lower prices. Until this independent analysis is complete, it is unknown whether increasing access to other generation found any need for the Project or Alternatives	their jurisdictional responsibilities, the PSCW is considering if and how the range of alternatives meets those requirements (see Section 1.2.2.1 of PSCW [2019]). The Multi-Value Project (MVP) portfolio was designed to allow all MISO states to meet their renewable portfolio standards or goals (together Renewable Portfolio Standards [RPS]) set prior to 2008. While Wisconsin Utilities are currently in compliance with the Wisconsin RPS for 2015, it is unclear whether the other states that are dependent on the MVP portfolio have also met their requirements. The nation's generation portfolio is changing dramatically and rapidly both because of market forces and anticipated policy changes. For example, within the last year, investor-owned utilities in Wisconsin have announced significant changes in their generation portfolios by establishing targets to reduce carbon emissions (Kremer 2018) ⁵ . Transmission planning that starts now may select interstate lines that could become operational in 2035 or later. Given the rapid changes underway and the time to plan, permit, and construct transmission, the Utilities cannot plan transmission based on what is needed now. They must predict and design solutions for what would likely be needed in 10, 15, or 20 years.
Town of Stark, Vernon County, WI	Danielson	ALT01; NEP02	Need Test Point #3 Request: To explore need for the Project and Alternatives on the basis of potential access to lower cost generation, we request that the Final EIS independently assess the energy savings calculations under modest, zero, and negative load growth. In lieu of conducting such analysis, alternatively explain in the FEIS Executive Summary whether the "overall reduction in the cost of delivering electricity" ascribed to the Project has been estimated by the Applicants as part of their calculations of 40-year, net benefits ranging from \$23.5- \$350.1 million for Wisconsin electric customers. (See data currently cited in Section 1.4.2.1 ENERGY COST SAVINGS). If no estimates of this type are available for Iowa customers, please state this exclusion in the FEIS Executive Summary. If applicable, please state in the same narrative for ratepayers and decision makers whether the Final EIS contains comparable estimates for benefits stemming from Non Transmission and Low Voltage Transmission Alternatives.	The net benefits for Wisconsin electric customers have been revised in EIS Chapter 1 based on updated information provided to RUS by the C-HC Project Utilities. This information is not available for Iowa customers.
Town of Stark, Vernon County, WI	Danielson	ALT02; SOCIO08	[Need Test Point #5] reduce the losses in transferring power and increase the efficiency of the transmission system and thereby allow electricity to be moved across the grid and delivered to end-users more cost-effectively; and" Need Test Point #5 Comment: The Applicants' AES and the DEIS do not provide quantitative evidence or analysis of potential line loss reductions with the Project or Alternatives. Until this independent analysis is complete, it is unknown whether reduced line losses found any need for the Project or Alternatives. Need Test Point #5 Request: To explore need on the basis of reduced line losses, include in the Final EIS an independent assessment of the economic benefits that would arise from these reduced line losses for the Project and Alternatives under modest, zero, and negative load growth. In lieu of conducting such analysis, alternatively explain in the FEIS Executive Summary whether the economic benefits of the reduced line losses attributed to the Project have been estimated by the Applicants as part of their calculations of 40 year, net benefits ranging from \$23.5 - \$350.1 million for Wisconsin electric customers. (See data currently cited in Section 1.4.2.1 ENERGY COST SAVINGS). If no estimates of this type are available for Iowa customers, please state this exclusion in the FEIS Executive Summary. If applicable, please state in the same narrative for ratepayers and decision makers whether the Final EIS contains comparable estimates for benefits stemming from Non Transmission and Low Voltage Transmission Alternatives.	The net benefits for Wisconsin electric customers have been revised in EIS Chapter 1 based on updated information provided to RUS by the C-HC Project Utilities. This information is not available for Iowa customers. RUS has determined that the purpose and need for the Federal action are supported (see EIS, Chapter 1). The State of Wisconsin has also analyzed the project through the PSCW and WDNR EIS process (PSCW 2019). The PSCW will make an appropriate determination as to project need with respect to their jurisdictional responsibilities under Wisconsin Statute 196.491(3) (see Section 1.2.21 of PSCW [2019]). The Federal EIS does not consider alternatives in the same manner as the PSCW or IUB. The Federal agencies are required to comply with NEPA. As stated in NEPA regulations 40 CFR 1502.23, "For purposes of complying with the Act, the weighing of the merits and drawbacks of the various alternatives need not be displayed in a monetary cost-benefit analysis and should not be when there are important qualitative considerations." As discussed in EIS Chapter 2, Section 2.2.2, non-transmission and low-voltage alternatives are not responsive to the applications to which the Federal agencies are responding, nor do they meet the six-point purpose and need described in EIS Chapter 1. The Federal EIS considers alternatives that are ripe for Federal consideration. What that means is that a proposal has been made for those alternatives or that it is reasonably foreseeable that they could be implemented in a time frame that would meet the need for the Federal action. Requirements for alternatives consideration under Wisconsin Statute 196.491(d) are very specific and separate from NEPA. Per their jurisdictional responsibilities, the PSCW is considering if and how the range of alternatives meets those requirements (see Section 1.2.2.1 of PSCW [2019]).
Town of Stark, Vernon County, WI	Danielson	NEP02	[Need Test Point #6] respond to public policy objectives aimed at enhancing the nation's transmission system and to support the changing generation mix by gaining access to additional resources such as renewable energy or natural gas fired generation facilities." 10 Need Test Point #6 Comment (a): The Applicants' AES and the DEIS do not provide evidence of existing or imminent policies requiring a "changing generation mix by gaining access to additional resources such as renewable energy or natural gas-fired generation facilities." Until this list is provided, it is unknown whether public policy requirements found any need for the Project or Alternatives. Need Test Point #6 Request (a): To explore need for the Project and Alternatives on this basis, in the Final EIS please provide a comprehensive list, with statutory citations, of unmet Wisconsin or Federal public policy requirements.	The MVP portfolio was designed to allow all MISO states to meet their renewable portfolio standards or goals (together RPS) set prior to 2008. While Wisconsin Utilities are currently in compliance with the Wisconsin RPS for 2015, it is unclear whether the other states that are dependent on the MVP portfolio have also met their requirements. The nation's generation portfolio is changing dramatically and rapidly both because of market forces and anticipated policy changes. For example, within the last year, investor-owned utilities in Wisconsin have announced significant changes in their generation portfolios by establishing targets to reduce carbon emissions (Wisconsin Public Radio 2018). Transmission planning that starts now may select interstate lines that could become operational in 2035 or later. Given the rapid changes underway and the time to plan, permit, and construct transmission, the Utilities cannot plan transmission based on what is needed now. They must predict and design solutions for what would likely be needed in 10, 15, or 20 years.

⁵ Kremer, R. 2018. Renewable energy efforts made big gains in Wisconsin in 2018, advocate says. Available at: <https://www.wpr.org/renewable-energy-efforts-made-big-gains-wisconsin-2018-advocate-says>. Accessed June 6, 2019.

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Town of Stark, Vernon County, WI	Danielson	ALT02; DECI10	Need Test Point #6 Comment (b): The prioritization created under Need Test Point #6, "...to support the changing generation mix by gaining access to additional resources such as renewable energy or natural gas-fired generation facilities." is in conflict with decision making practices defined by Wisconsin energy law. Priorities in Wis. Stat. §§ 196.025 rank the use of energy efficiency and conservation above that of the use of renewable energy and natural gas. A PSCW reference to the applicability of §§196.025 reads: The Wisconsin Public Service Commission must address the priorities in Wis. Stat. §§ 196.025 requiring the Commission to give priority to specific methods of meeting energy demands to the extent these methods are "cost-effective and technically feasible." The Commission must consider options based on the following priorities, in the order listed, for all energy-related decisions: • Energy conservation and efficiency • Noncombustible renewable energy resources • Combustible renewable energy resources • Nonrenewable combustible energy resources, again in the order listed: ~ Natural gas ~ Oil or coal with a sulfur content of less than one percent of All other carbon-based fuels If the Commission finds that any of these statutorily preferred options, or a combination of these options, constitutes a cost-effective and technically feasible alternative to the project, the Commission must reject all or a portion of the project as proposed." [Source: p. 6, WPSC, Docket 05-CE-136. Project Overview and Regulatory Responsibility REF#:155555 http://apps.psc.wi.gov/pages/viewdoc.htm?docid=155555] Need Test Point #6 Request (b): In the section in the Executive Summary on p. 6-ES, of the Final EIS, either include full discussion of Wis. Stat. §§ 196.025 and/or remove all statements asserting that only the Project meets the Six Need Test Points the RUS has drafted.	Comment noted. RUS has determined that the purpose and need for the Federal action are supported (see EIS, Chapter 1). The State of Wisconsin has also analyzed the project through the PSCW and WDNR EIS process (PSCW 2019). The PSCW will make an appropriate determination as to project need with respect to their jurisdictional responsibilities under Wisconsin Statute 196.491(3) (see Section 1.2.21 of PSCW [2019]). The Federal EIS does not consider alternatives in the same manner as the PSCW or IUB. The Federal agencies are required to comply with the National Environmental Policy Act (NEPA). Non-transmission alternatives are dismissed from detailed analysis in the EIS, with rationale provided in EIS Section 2.2. As discussed in EIS Chapter 2, Section 2.2.2, non-transmission and low-voltage alternatives are not responsive to the applications to which the Federal agencies are responding, nor do they meet the six-point purpose and need described in EIS Chapter 1. The Federal EIS considers alternatives that are ripe for Federal consideration. What that means is that a proposal has been made for those alternatives or that it is reasonably foreseeable that they could be implemented in a time frame that would meet the need for the Federal action. Requirements for alternatives consideration under Wisconsin Statute 196.491(d) are very specific and separate from NEPA. Per their jurisdictional responsibilities, the PSCW is considering if and how the range of alternatives meets those requirements (see Section 1.2.2.1 of PSCW [2019]).
Town of Stark, Vernon County, WI	Danielson	AIR04	Need Test Point #6 Comment (c): See additional requests pertaining to discussion of Need Test Point #6 in SECTION 3.6.1.4 GREENHOUSE GASES/CLIMATE CHANGE.	EIS Section 3.6 discloses potential impacts to air quality and climate change.
Town of Stark, Vernon County, WI	Danielson	ALT04	p. ES-5, DEISv1, "... develop and document reasonable alternatives that meet their purpose and need while improving environmental outcomes." Comment: The only Alternatives considered in the "Proposed Project and Alternatives" section are route alternatives and the no-action alternative. By addressing potential reliability needs defined by Low Voltage Transmission Alternatives, Non-Transmission Alternatives blending load management, energy efficiency and distributed solar resources meet all the goals cited in RUS's six-point need for the Proposed Action. With energy use flat and declining, regulators are increasingly choosing Non-Transmission Alternatives to provide the same or improved reliability and economic benefits as new transmission projects. In January 2016, the Town Delegation sent RUS case coordinators the names of several nationally known experts in Non-Transmission Alternatives with whom to consult. Request: Please conduct the necessary detailed analysis of distributed solar, energy efficiency, storage, and demand response and update your findings in the Final EIS. Following this analysis, please revise all references to the six-point need test and clarify whether the DEIS has determined and provided for each of the six points: Point #1: A list of existing NERC reliability violations the Project and the Alternatives would resolve. Point #2: Quantitative evidence of existing transmission congestion with an explanation of whether the congestion is preventing an adequate supply of electricity in Wisconsin. If no quantitative evidence of benefits is available explain whether the benefits from reduced congestion for the Project are included in the Applicants' estimated net benefit figures ranging from \$23.5 million to \$350.1 million. Point #3: Quantitative evidence demonstrating that Wisconsin utilities would access "lower cost energy" such as power purchase contracts pending on approval of the Project. Point #4: Quantitative evidence of benefits from avoided line losses for the Project that are not included in the Applicants' estimated net benefit figures ranging from \$23.5 million to \$350.1 million. Point #5: Quantitative evidence of benefits from increased transfer capacity from the Project that are not included in the Applicants' estimated net benefit figures ranging from \$23.5 million to \$350.1 million. Point #6: A list of all unmet Wisconsin or Federal public policy requirements pertaining to the development of renewable energy resources. p.ES-6, DEISv1, "The non-transmission, lower-voltage and underground alternatives were evaluated on the [above] six-point need for the Proposed Action, but were not carried forward for detailed analysis." Comment: As noted above, the DEIS contains no quantitative data to meet RUS's six-point need test. Furthermore, it should be pointed out that Wisconsin is among the top 10 states for reliable electricity and that a 2009 study, Renewable Resource Potential in Wisconsin by the Energy Center of Wisconsin, concludes there is high potential for NTA's in the state. Comment: Failure to evaluate Non Transmission Alternatives ignores the fact that NTAs are being adopted across the country, because by reducing electricity use, they more cost effectively support grid operation and lower CO2 emissions. Indeed, multiple states have cancelled high-voltage transmission lines in favor of such measures including: ! The Bonneville Power Administration I-5 Corridor Project; ! The Duke Energy Western Carolinas Modernization line; and, ! The Mid-Atlantic Power Pathway.	Comment noted. This comment summarizes the points addressed elsewhere in this comment letter. RUS has developed responses to each part of this comment previously.
Town of Stark, Vernon County, WI	Danielson	SOCIO08	p. ES-8, DEISv1 "The estimated total cost for the proposed C-HC Project is \$500 million (in 2023 dollars)." Comment: The Applicants' AES does not describe, and the DEIS does not independently examine, the expenses covered by this amount including 40-year operation and maintenance costs, required revenue recovery costs, and improvements due to cyber and other security needs. Request: In the Final EIS, either independently confirm that the complete cost is \$500 million or qualify that the RUS has not determined that this figure is comprehensive of all costs.	RUS has revised the total estimated cost for the C-HC Project in EIS Chapters 1 and 2.
Town of Stark, Vernon County, WI	Danielson	ALT01; EFF04	p. ES-12, DEISv1 – Table ES-4. Environmental Commitments Common to All Action Alternatives Comment: This list of potential environmental consequences applies to the transmission alternatives but not to the Non-Transmission Alternatives, which are not likely to present most of the listed concerns. Request: For consistency in the Final EIS, please provide a separate list of Environmental Commitments associated with Non-Transmission Alternatives. In accordance with above PSC interpretations of Wis. §§ 196.025, assume the evaluated NTA emphasizes and combines the least cost resources of energy efficiency, load management (conservation), and low-impact, distributed renewables.	Environmental commitments for non-transmission alternatives are not included in the EIS because they are not evaluated in detail. As discussed in EIS Chapter 2, Section 2.2.2, non-transmission alternatives are not responsive to the applications to which the Federal agencies are responding, nor do they meet the six-point purpose and need described in EIS Chapter 1.
Town of Stark, Vernon County, WI	Danielson	HAS01	p. ES-16, DEISv1, "If the proposed transmission lines parallel or cross distribution lines, appropriate measures can be taken to address any induced voltages." Request: In the Final EIS, include mention of actual and perceived negative health impacts that some studies believe to exist.	The concepts of stray voltage and induced voltage have been added to EIS Section 3.13 and the glossary.
Town of Stark, Vernon County, WI	Danielson	ALT01; HAS01; SOCIO08	p.ES-16, DEISv1, Table – "Impact Summary from the Cumulative Action Scenario" Comment: As noted in the table, the long-term public health and safety impacts of MVP projects are considered to be negative. Again, these impacts would be largely non-existent with NTAs. Therefore, these harmful impacts should be factored into any cost-benefit analysis of all the alternatives.	Comment noted. As stated in NEPA regulations 40 CFR 1502.23, "For purposes of complying with the Act, the weighing of the merits and drawbacks of the various alternatives need not be displayed in a monetary cost-benefit analysis and should not be when there are important qualitative considerations." As discussed in EIS Chapter 2, Section 2.2.2, non-transmission alternatives are not responsive to the applications to

Organization	Commenter Last Name	Comment Code(s)	Comment on DEIS	Agency Response to Comment
				which the Federal agencies are responding, nor do they meet the six-point purpose and need described in EIS Chapter 1. Non-transmission and low-voltage alternatives are not analyzed for cumulative impacts because these alternatives are not carried forward for detailed analysis in the EIS.
Town of Stark, Vernon County, WI	Danielson	DECI09	SECTION 1.3.2.1 MIDCONTINENT INDEPENDENT SYSTEM OPERATOR p. 8, DEISv1, "Each year, MISO develops its annual MISO Transmission Expansion Planning (MTEP). For its planning process, MISO uses a "bottom-up, top-down approach," which means MISO obtains data and plans from all of its transmission owners (bottom-up) and conducts its own transmission planning (top-down)." Request: In the Final EIS, please provide links to appropriate section(s) in FERC policy or governmental policy where MISO is obligated to perform transmission expansion planning. Request: If required of MISO by FERC or governmental policy, expand this section in the RUS Final EIS to establish the necessity of using the term "expansion" in regard to MISO's MTEP process. Indicate if FERC or governmental policy does not require MISO to engage "expansion" based assumptions in annual or other exercises. Further clarify whether FERC or governmental policy pertaining to MISO obligations describes transmission-related planning that does require expansion assumptions. In the Appendices of the Final EIS, include links to all relevant documents and excerpts from pertinent sections of documents.	EIS Section 1.3 has been revised to address this comment.
Town of Stark, Vernon County, WI	Danielson	ALT02; NEP02	Section 1.4.1 Increase Transfer Capability Enabling Additional Generation p. 13, DEISv1, – "The C-HC Project would create an outlet for additional wind power that would bring electricity from the wind-rich areas of the upper Great Plains to load centers like Madison and Milwaukee, and to the remainder of the MISO footprint. The Utilities estimate that the incremental increase in transfer capability created by the C-HC Project would be approximately 1,300 MW throughout much of the year." p. 27, AES, Table 2-2. Generation Interconnection Requests in MISO Conditional on the Cardinal-Hickory Creek Project being In-Service Comment: This sentence is very misleading in that it implies that there would be 1300 MW more of wind energy transported by CHC. Interstate lines are open access lines with no guarantee as to what will actually be transported. Comment: Applicants provide no evidence suggesting that Wisconsin utilities will increasingly rely on remote sources of renewable energy to meet RPS requirements. In absence of this driver, Applicants infer that cost differentials will be large enough to propel increased Wisconsin utility reliance on remote sources of renewable energy. However, the potential cost difference in the Applicants' economic analysis seems to be on the order of pennies per month per residential customer based on the Applicants estimate of \$23.5 - \$350.1 million in net savings over 40 years. The DEIS does not examine how comprehensive, net savings from investing an equal amount into Non-Transmission Alternatives that blend energy efficiency, load management, and distributed solar compares with the Project. Request: To substantiate the above statement on p. 13 of DEISv1, in the Final EIS, please provide: a) Independent description (in language that electric customers can understand) of how each wind farm project in Table 2-2. is contractually contingent upon the Project; b) An estimate of the total MWH's per year that would be delivered from the contractually affected facilities to the regional grid as a result of these generators' capacities under certain conditions no longer being constrained. c) Please provide an estimate of the annual MWH generation from the generators in Table 2-2 that would be transported to "load centers like Madison and Milwaukee" by the Project from 2027-2032 (the applicants' economic study window). Exclude from this annual total, all amounts that would be transported on existing Iowa Wisconsin/ Minnesota/Wisconsin transmission facilities were the Project not built.	EIS Section 1.4 provides a list of interconnection agreements that are conditional on the C-HC Project being in service. A description of the term "conditional" is provided to explain how existing wind farms may be currently limited with how much power can be delivered to the regional grid. EIS Chapter 4 contains an analysis of the range of megawatt-hours and CO ₂ emissions from generators that would benefit from the C-HC Project. In the Eastern Interconnection (all states and Canadian provinces east of the Rocky Mountains, excluding most of Texas), all generators serve all load centers. In alternating current lines, electricity flows via the path of least resistance. Consequently, electricity from a specific generator seeks out the transmission lines with the least resistance and moves through the regional grid. This flow pattern can change second by second. New transmission lines help to bolster the entire regional grid by providing more paths for the electricity to flow, thereby reducing resistance on other lines. Currently, under regular conditions, the electricity in the Midwest region flows west to east. Therefore, the C-HC Project would provide an extra path for west–east flows between Iowa and Wisconsin.
Town of Stark, Vernon County, WI	Danielson	SOCIO01	p.14, DEISv1, "Renewable generators are requesting to interconnect with or near the CHC Project in Wisconsin. A 200- MW windfarm (J712) is presently under study at MISO for a potential connection to the new Hill Valley Substation that is part of the C-HC Project. Additionally, three other renewable projects (J855, J870, and J871) have requested interconnection to ATC's existing Eden Substation near the new Hill Valley Substation. If these projects become operational, it is highly likely that they would be connected at Hill Valley. Because developers sometimes withdraw their requests for interconnection, it is unknown whether any of these renewable generators would interconnect with the new Hill Valley Substation Table 1.4-2 shows that there are almost 1,800 MW of generation interconnection requests in southwestern and south-central Wisconsin. Many of these requests, though not directly connecting to the C-HC Project, would likely benefit from C-HC in the form of lower costs to interconnect." Comment: To date, neither the Applicants nor RUS have discussed the potential economic impacts on the Project or Alternatives of the significant interest in development of new power plants in Southwestern and South-Central Wisconsin. While it is unknown how many of the 15 power plants in Table 1.4-2 would be built (in part due to the Project), it is possible to estimate whether the new, in-state generation would cause a gain or loss in the Applicants' net benefit calculations. In considering the impact, it is important to keep in mind that portions of the significant costs of the added power plants would be passed onto ratepayers. Request: In this section of the Final EIS, discuss the potential economic impacts on Project interstate transmission capacity and market competition if a conservative 20% of the Wisconsin-based generation listed in DEISv1 Table 1.4-2, stimulated by the Project with power absorbed at the Hill Valley 138/35kV substation, were built. Assume a cost of \$620 million for 146 MW of natural gas generation, 98 MW of wind generation and 189 MW of solar generation. Assess whether the additions would detract from MISO's desired goal for MVP projects to increase competition between interstate markets in order to lower prices. In particular, inform Wisconsin decision-makers and electric customers if the costly in-state power plant additions would likely increase or decrease the net benefits estimates the Applicants have provided. Comment: While the \$620 million in added utility-scale generation costs would eventually be assumed by Wisconsin ratepayers, the same amount alternatively applied to double rebates for distributed solar in Wisconsin's Focus on Energy Rebate program (\$500 / kW) would stimulate more than 1200 MW in solar installations on Wisconsin homes, farms, and businesses with net savings, not net costs, to ratepayers collectively.	EIS Section 1.4 has been revised to update the list of renewable generation sources in Iowa, Wisconsin, and other states that would benefit from the C-HC Project. Assessing different scenarios for Wisconsin ratepayers is outside the scope of the EIS. The Federal EIS considers alternatives that are ripe for Federal consideration. What that means is that a proposal has been made for those alternatives or that it is reasonably foreseeable that they could be implemented in a time frame that would meet the need for the Federal action. Requirements for alternatives consideration under Wisconsin Statute 196.491(d) are very specific and separate from NEPA. Per their jurisdictional responsibilities, the PSCW is considering if and how the range of alternatives meets those requirements (see Section 1.2.2.1 of PSCW [2019]).
Town of Stark, Vernon County, WI	Danielson	SOCIO08	p.15, DEISv1, "When a new transmission line or non-transmission alternative is added to the electric system, prices in certain locations of the energy market can be lowered. For example, when a 345-kV alternative like the C-HC Project is added to the transmission system, the energy market becomes more robust as energy from different generators can now be transmitted to different load points more efficiently and without constraint, thereby increasing competition and driving down market prices. Dairyland and ATC's customers benefit economically in the MISO energy markets in part due to reduced constraints on transmission lines. According to the Utilities' planning analysis submitted as part of the application to the Wisconsin Public Service Commission, the C-HC Project would provide net benefits to Wisconsin customers of between \$23.5 million and \$350.1 million (American Transmission Company et al. 2018)." Request (a): In the Final EIS, please make editorial changes to make it clear to decisionmakers and electric customers whether or not all of the estimated economic impacts of the improved access to "lower-cost energy in Iowa" and "energy from different generators" are reflected, in entirety, in the Applicants' 40 year estimates described in SECTION 1.4.2.1 as net benefits to Wisconsin customers of between \$23.5 - \$350.1 million. If not, please describe and quantify any net, estimated energy savings that Wisconsin electric customers could expect that are not incorporated into the range of \$22.7 to \$360 million. Request (b): To assist Wisconsin electric customers and decision-makers better understand the potential monetary significance of the Project, please include in the Final EIS an independent translation of the Applicants' estimated range of 40 year net benefits of \$23.5 to \$350.1 million into impacts on the average Wisconsin	The C-HC Project has been independently modeled and verified by multiple entities, including MISO, which used a planning process approved by FERC. The Utilities have modeled and evaluated the C-HC Project, and the state regulatory agencies (PSCW and IUB) are currently evaluating the project. RUS and the other Federal agencies are considering all information, in addition to public comments, when analyzing the C-HC Project to comply with NEPA. This is explained in EIS Chapter 1. The Federal agencies must consider reasonable alternatives when considering their Federal decision. The impact analysis contained within the EIS has been independently verified by RUS and the other Federal agencies. The request for estimated energy savings to Wisconsin electric customers is outside the scope of the Federal EIS. Requirements for alternatives consideration under Wisconsin Statute 196.491(d) are very specific and separate from NEPA. Per their jurisdictional

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			residential monthly electric bill over the assumed 40 year period calculated in 2018 or 2023 dollars. Our very approximate calculations show monthly energy savings of between half a cent and 6 cents per electric customer over the 40 year period.	responsibilities, the PSCW is considering if and how the range of alternatives meets those requirements (see Section 1.2.2.1 of PSCW [2019]).
Town of Stark, Vernon County, WI	Danielson	SOCIO01	p.15, DEISv1, "Dairyland would directly benefit because the C-HC Project would eliminate the Stoneman-Turkey River 161-kV transmission line as a potential market constraint and capacity import limit, thereby increasing the competitiveness of an area that FERC has deemed a, "Narrow Constrained Area" in the Wisconsin Upper Michigan System... In combination with other MVPs, the C-HC Project would enable additional transfer capability while offloading heavily congested paths near the Quad Cities on the Iowa-Illinois border (see Figure 1.3-2). Request: In the Final EIS, please provide a link to the cited FERC document and include relevant parts of it in the Final EIS appendix. Please help electric customers and decision makers understand the monetary significance of, "increasing the competitiveness of [the] area" either by estimating the 40-year economic impacts or by stating whether the amount would be included in the applicants estimated \$23.5-\$350.1 million of net benefits from the Project.	EIS Section 1.4 has been revised to address part of this comment. RUS is not estimating the 40-year economic impact of the C-HC Project. As stated in NEPA regulations 40 CFR 1502.23, "For purposes of complying with the Act, the weighing of the merits and drawbacks of the various alternatives need not be displayed in a monetary cost-benefit analysis and should not be when there are important qualitative considerations."
Town of Stark, Vernon County, WI	Danielson	NEP02	Request: In the Final EIS, please independently confirm and document the Applicants' unsubstantiated statement that there are, presently, congested paths near the Quad Cities on the Iowa-Illinois border. Include the new documentation in the FEIS Appendix or provide a footnote indicating this statement by Applicants is unconfirmed by RUS.	The Utilities reviewed the congestion around the Quad-Cities and on the Iowa-Illinois border in 2019 in MISO's Day Ahead and Real Time markets and found eight constraints in the Day Ahead Market and six constraints in the Real Time Market. Underlying data can be retrieved from https://docs.misoenergy.org/marketreports/2019_da_bc_HIST.csv and https://docs.misoenergy.org/marketreports/2019_rt_bc_HIST.csv .
Town of Stark, Vernon County, WI	Danielson	NEP02; SOCIO08	p. 16, DEISv1 "A new transmission facility can improve the market structure and competitiveness if the facility enables external suppliers to offer additional generation into a specifically defined market. The increased generation alternatives would increase competition, causing a reduction in market prices. To the extent that suppliers who participate in the market are exposed to such market prices through short-term purchases and the turnover of longer-term contracts, these reductions in market prices would also reduce end-user costs." Comment: Since 2005, seven 345 kV expansion transmission lines have been added in Wisconsin under similar market pretenses but despite this, end user costs (defined as both rates and fees) for Wisconsin electric customers seem to have steadily increased, perhaps, at a faster rate than in years before 2005. We note that the addition of these seven lines also coincides with Wisconsin joining the MISO electric market, which provides an excellent opportunity to test the electric market assumptions RUS has stated in Section 1.4.2.3. Request: Include in the Final EIS under Section 1.4.2.3 independent, quantitative analysis of Wisconsin average annual rates and facility fees for Dairyland Power Cooperative, WE Energies, Madison Gas and Electric, Wisconsin Public Service and Wisconsin Power and Light from 1990-2017. For relevance to market competitiveness, please assess the rates of change in end user costs for each utility over two periods, from 1990 to 2005, before Wisconsin joined the MISO market, and from 2006-2017, after Wisconsin joined the market. Include narrative explaining the findings or, if not possible, indicate to interested ratepayers and decision makers reading the FEIS that market impacts on end user costs have not been confirmed.	The C-HC Project has been independently modeled and verified by multiple entities, including MISO, which used a planning process approved by FERC. The Utilities have modeled and evaluated the C-HC Project, and the state regulatory agencies (PSCW and IUB) are currently evaluating the project. RUS and the other Federal agencies are considering all information, in addition to public comments, when analyzing the C-HC Project to comply with NEPA. This is explained in EIS Chapter 1. The Federal EIS considers alternatives that are ripe for Federal consideration. What that means is that a proposal has been made for those alternatives or that it is reasonably foreseeable that they could be implemented in a time frame that would meet the need for the Federal action. Requirements for alternatives consideration under Wisconsin Statute 196.491(d) are very specific and separate from NEPA. Per their jurisdictional responsibilities, the PSCW is considering if and how the range of alternatives meets those requirements (see Section 1.2.2.1 of PSCW [2019]).
Town of Stark, Vernon County, WI	Danielson	ALT01	p16, DEISv1, " The C-HC Project would reduce or completely eliminate multiple operating guides, some of which exist due to the risk of cascading outages in southwestern and south-central Wisconsin for some contingencies. While operating guides may be an acceptable way to maintain a reliable transmission system, they do add complexity to real-time operations and, in some instances, require reliability to be maintained by interrupting service to load or generation." Comment: Though requested in a special meeting involving Dairyland Power and RUS staff at the RUS Scoping Meeting in Barnveld, WI on December 7, 2016, the DEIS does not yet contain a Low Voltage Transmission Alternative as required under Wisconsin Public Service Commission EHV Application Guidelines. Low voltage Alternatives are required to address all reliability concerns with equal effectiveness. Request: In the Final EIS, list all of the transmission facilities that are impacted by the described Operating Guides and discuss whether these facilities are possible candidates to be included in a Low Voltage Alternative. 18	There are three operating guides active in southwestern Wisconsin: 1. SW Wisconsin Operating Guide; 2. Turkey River-Stoneman-Nelson Dewey 161 kV Standing Guide; and 3. Genoa-Seneca-Gran Grae 161 kV Operating Guide. The substance of the guides is confidential.
Town of Stark, Vernon County, WI	Danielson	ALT01; NEP02	p.17, DEISv1, "There are several transmission line overloads in southwestern and southcentral Wisconsin. The three most serious overloads that must be eliminated under NERC requirements occur on the: • Turkey River–Stoneman 161-kV transmission line, connecting ITC Midwest to Dairyland; • Turkey River–Stoneman 161-kV transmission line; and • Townline Road-Bass Creek 138-kV transmission line." Request: Please include in the Final EIS Appendices with footnoted reference in Section 1.4.3, NERC authored documentation pertaining to cited violations or other NERC recorded concerns involving the three above listed facilities and all other transmission facilities in South-Western Wisconsin, South-Central Wisconsin, and North Eastern Iowa dating back ten years. Comment: p.22, Table 2-1, AES, "Transmission Projects Eliminated through the Cardinal Hickory Creek Project," lists the Townline Road-Bass Creek 138-kV transmission line as a Reliability project that would be eliminated by the Project, but does not list the Turkey River– Stoneman line connecting ITC Midwest to Dairyland or the Turkey River–Stoneman line. Request: In the Final EIS, please clarify how the three transmission facilities listed above would be affected if the Project were built as specified by the Applicants. Also clarify how the same transmission facilities would be affected if the Project was not built. For the latter, provide the assumed conditional demand growth rates necessitating improvements to the facilities, the years the improvements are expected to become necessary, the rebuild costs associated with each, and the names of the utilities and transmission operators that would be passing improvement costs to their customers. Please also explain whether each of the three transmission facilities would be likely candidates as improvements in a Low Voltage Transmission Alternative.	The C-HC Project would eliminate the NERC violations on these three lines as well as 46 other overloads. Under the No Action Alternative, these NERC violations would remain. The Utilities retain records of the potential future NERC violations found during their modeling, the results of which are confidential. As for the information requested about the three existing transmission lines, the details are not pertinent to the NEPA process because the low-voltage alternative was dismissed from detailed analysis in the EIS.
Town of Stark, Vernon County, WI	Danielson	NEP02	p. 17, DEISv1, "The Utilities have also identified 46 existing overloads that would be eliminated by the C-HC Project." Comment: The AES does not seem to contain this information. Request: In the FEIS, please clarify if the word "utilities" refers to the Applicants and precisely what is meant by "overload." Request: Please provide the source citation for the above quoted statement. To help decision makers locate pertinent factors, please include excerpt(s) from the cited document in the FEIS Appendix listing the potentially affected 46 transmission facilities by name and issue. Please make sure the excerpt(s) includes the assumed demand growth rate(s), explain whether the issues are contingent upon other outages, and the years that the facilities would be impacted if the Project was not built. Should this statement refer to facilities potentially affected by the MVP projects as a whole, please remove this statement from the Final EIS.	The term <i>overload</i> is defined in the EIS glossary as follows: "Occurs when power flowing through wires or equipment is more than they can carry without incurring damage." The term <i>Utilities</i> is defined in the EIS as Dairyland Power Cooperative, American Transmission Company LLC, and ITC Midwest LLC. Detailed information about potential overloads and NERC violations is confidential.
Town of Stark, Vernon County, WI	Danielson	ALT02; NEP02	p.16, DEISv1, "Analysis completed as part of MISO's MVP Portfolio review indicates that the Turkey River-Stoneman 161-kV line may need to be rebuilt as a 345-kV line, which is currently considered part of the C-HC Project. This improvement may be needed in the future if the C-HC Project is not built." Request: In the Final EIS, please address the confusion created by this statement. It seems to suggest that a 345 kV transmission facility would be added between two substations containing 161 kV and lower voltage components. Please explain how the existing Turkey RiverStoneman 161-kV line is considered part of the project. Request: Please specify in the Final EIS, with detail, the improvements to the Turkey RiverStoneman 161-kV line that would be needed if the CH-C Project is not built and the conditions under which the improvements would be needed and the expected year. Please provide estimated rebuild costs for the Turkey Creek-Stoneman 161 kV segment and name the utility and/or	As described in EIS Chapters 1 and 2, as part of the C-HC Project, the existing 161-kV transmission line that crosses the Mississippi River (the Turkey Creek-Stoneman line) would be collocated on the same transmission line structures of the 345-kV C-HC Project. The existing 69-kV transmission line, referred to as the N-9 line in EIS Chapter 2, would be removed. If the Turkey Creek-Stoneman line was rebuilt outside of the C-HC Project, this would be done by ITC and Dairyland Power Cooperative. The MISO MVP reports can be found here: https://www.misoenergy.org/planning/planning-test/multi-

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			transmission operator that would pass this cost onto their customers. Request: Please provide an active link to the referenced MISO analysis with page number in the Final EIS. Request: In regard to the observation by RUS that this segment of the Lore-Turkey Creek Stoneman 161 kV has an established record of "serious overloads," please explain in the Final EIS why this segment was not rebuilt along with Lore-Turkey Creek in 2015.	value-projects-mvps/#t=10&p=0&s=&sd= . RUS is not clear about the portion of the comment referring to the Lore-Turkey Creek line as that line is not referenced in the EIS.
Town of Stark, Vernon County, WI	Danielson	ALT02	Request: In the Final EIS, please explain the selection of the Turkey River – Stoneman 161kV, North Monroe – Albany 138-kV, and Albany – Bass Creek 138-kV lines as avoided projects in relation to 13 transmission projects listed in Table 2-1, p. 22 AES. In this explanation, please account for the dynamic nature of the transmission planning involved resulting in RUS selecting three projects that are not in the Applicants' Table 2-1. Request: In the Final EIS in regard to the improvements that might become necessary to Turkey River – Stoneman 161-kV, North Monroe – Albany 138-kV, and Albany – Bass Creek 138-kV lines, please add the following information to Table 1.4-3: a) The scope of each improvement in terms of impacts on poles, conductors, conductor size, and number of circuits b) Existing and upgraded summer capacities c) Associated substation upgrades d) Estimated cost for each project including substation improvements.	The three referenced transmission lines were not identified for upgrades as part of the Proposed Action considered in the EIS; therefore, the information requested in this comment is not available.
Town of Stark, Vernon County, WI	Danielson	NEP01	p.18, DEISv1, "Ensure that NEPA and other environmental laws and requirements and RUS environmental policies and procedures are satisfied prior to taking a Federal action." Request: To help ratepayers, citizens and decision-makers better understand how and why their tax dollars are being used to satisfy the requirements of NEPA policies and procedures, please include under Section 1.5.1 or 2.1 of the Final EIS the text of NEPA Sec.102 [42 USC § 4332] and (7 CFR 1970.5 (b)(3)(iii)). Please also include links to the complete laws.	Comment noted. Citations for applicable laws and regulations are provided in the EIS, where appropriate. NEPA compliance is typically required when a Federal agency is deciding whether to undertake a major Federal action.
Town of Stark, Vernon County, WI	Danielson	DECI11	Table 1.7-3. State and Local Entities that Submitted Comments Request: In the Final EIS, please include the Town of Wyoming (Iowa County) in the table listing municipalities submitting comments on p. 26. This municipality participated in formulating town delegation comments as noted on January 6, 2017 memo: See https://www.rd.usda.gov/files/uwp-lgc.pdf	EIS Section 1.7 has been updated as requested.
Town of Stark, Vernon County, WI	Danielson	ALT01	p. 31, DEISv1 – " Under NEPA regulations established by the Council on Environmental Quality (CEQ), this DEIS identifies and evaluates reasonable alternatives to the proposed project, as well as the No Action Alternative. Reasonable alternatives are those that are "practical or feasible from the technical and economic standpoint and using common sense, rather than simply desirable from the standpoint of the applicant" (CEQ 1981: Question 1) (40 CFR 1502.14). In determining reasonable alternatives, RUS considered a number of factors such as the Proposed Action's purpose and need (described in Chapter 1), state of the art technology, economic considerations, legal considerations, comments received during the scoping period, availability of resources, and the time frame in which the identified need must be fulfilled." Comment: It is not clear in the present DEIS that RUS sought reasonable alternatives that are "practical or feasible from the technical and economic standpoint and using common sense, rather than simply desirable from the standpoint of the applicant... consider[ing] a number of factors such as...state of the art technology, economic considerations, legal considerations [and] comments received during the scoping period."	As discussed in EIS Chapter 2, Section 2.2.2, non-transmission and low-voltage alternatives are not responsive to the applications to which the Federal agencies are responding, nor do they meet the six-point purpose and need described in EIS Chapter 1. Therefore, these alternatives were dismissed from detailed analysis in the EIS.
Town of Stark, Vernon County, WI	Danielson	ALT04; PUB01	Request: In the Final EIS, in Tables 1.7-4 and 1.7-3 listing Municipal and NGO parties, please provide descriptions of the Non-Transmission Alternatives each party submitted during the scoping phase. Please include active links to the pertinent comment documents on record.	Copies of the letters received by RUS during the public scoping period are available on RUS's website: https://www.rd.usda.gov/publications/environmental-studies/impact-statements/cardinal-%E2%80%93-hickory-creek-transmission-line .
Town of Stark, Vernon County, WI	Danielson	ALT04	Request: In the Final EIS, in Tables 1.7-4 and 1.7-3 under the descriptions of the NonTransmission Alternatives submitted, itemize the components suggested, (e.g. Town Delegation concerning load management, Town Delegation concerning energy efficiency, Town Delegation concerning substation supporting utility/community solar) and state whether each suggested NTA component took into consideration each of these criteria: ! State of the art technology ! Availability/Study Area Applicability ! Economic considerations ! Time Frame considerations	Non-transmission alternatives are dismissed from detailed analysis in the EIS, with rationale provided in EIS Section 2.2.
Town of Stark, Vernon County, WI	Danielson	ALT01; NEP02	p.31, DEISv1, "RUS regulations (7 CFR 1970.5 (b)(3)(iii)) require the Utilities to 'develop and document reasonable alternatives that meet their purpose and need while improving environmental outcomes.'" Comment: If the proposed need for CHC includes items that in fact are NOT needed, it does not make sense to evaluate the alternatives according to whether or not they can meet the unneeded proposed needs. It's questionable whether Wisconsin, in fact, needs increased transfer capability. Therefore, it does not make sense to evaluate NTAs based on their ability to provide increased transfer capability	EIS Chapter 2 has been revised to explain that the non-transmission and low-voltage alternatives are not responsive to the applications to which the Federal agencies are responding, nor do they meet the six-point purpose and need described in EIS Chapter 1.
Town of Stark, Vernon County, WI	Danielson	ALT04; NEP02	p. 56, DEISv1, "As discussed in Chapter 1, the need for the Proposed Action considered in this DEIS is to increase the capacity of the regional transmission system to: [followed by Six-Point 'Need Test']" Request: Unless the quantitative analysis requested above under the Six-Point 'Need Tests #1-#5' p. ES-5, DEISv1 is presented elsewhere in the Final EIS, explain whether the benefits attributed to Points #1-#5 for the Project have been estimated by the Applicants as part of their calculations of 40 year, net benefits ranging from \$23.5 million and \$350.1 million for Wisconsin electric customers. If no estimates of this type are available for Iowa customers, please state this exclusion. Request: Unless the list of required or expected policies as requested under Six-Point 'Need Test #6, p. ES-5, DEISv1 is presented elsewhere in the Final EIS, explain in this section for electric customers and decision-makers that no policy requirements have been independently confirmed.	The C-HC Project has been independently modeled and verified by multiple entities, including MISO, which used a planning process approved by FERC. The Utilities have modeled and evaluated the C-HC Project, and the state regulatory agencies (PSCW and IUB) are currently evaluating the project. RUS and the other Federal agencies are considering all information, in addition to public comments, when analyzing the C-HC Project to comply with NEPA. This is explained in EIS Chapter 1. The Federal agencies must consider reasonable alternatives when considering their Federal decision. The Federal EIS considers alternatives that are ripe for Federal consideration. What that means is that a proposal has been made for those alternatives or that it is reasonably foreseeable that they could be implemented in a time frame that would meet the need for the Federal action. Requirements for alternatives consideration under Wisconsin Statute 196.491(d) are very specific and separate from NEPA. Per their jurisdictional responsibilities, the PSCW is considering if and how the range of alternatives meets those requirements (see Section 1.2.2.1 of PSCW [2019]). The impact analysis contained within the EIS has been independently verified by RUS and the other Federal agencies.
Town of Stark, Vernon County, WI	Danielson	ALT04	lp. 56, DEISv1, "In addition, RUS also considered two transmission line alternatives, a lower- voltage alternative and underground burial of the transmission line. These alternatives were not carried forward for detailed analysis." Request: Unless quantitative analysis is provided in the Final EIS, please clarify for ratepayers and decision makers that the lack of "detailed analysis" means that potential benefits stemming from Non-Transmission and Low Voltage Transmission Alternatives were not assessed by the RUS EIS process.	Because the non-transmission and low-voltage alternatives are not carried forward for detailed analysis in the Federal EIS, the beneficial and adverse impacts associated with these alternatives were not evaluated in the EIS.
Town of Stark, Vernon County, WI	Danielson	NEP02	p. 56, DEISv1, "Many comments received during public scoping suggested that RUS consider community-scale and residential photovoltaic solar projects as an alternative to constructing a 345-kV transmission line..... Thus, without sufficient power storage capacity residential photovoltaic solar systems have limited usefulness in resolving the identified grid reliability deficiencies in the region." p.57, DEISv1, "... transfer capability in the region is approximately 1,200 MW, depending on the time of year, which would enable a number of new generators to interconnect as well." p.57,	Comment noted. EIS Chapter 1 describes the need for the C-HC Project as well as the decisions facing the three Federal agencies that have received loan or permit applications for the C-HC Project.

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Town of Stark, Vernon County, WI	Danielson	ALT04	<p>DEISv1, "... reduce transmission losses,... Therefore, the local and regional renewable energy generation alternative was dismissed from detailed analysis in this DEIS." Comment: The current DEIS contains no evidence of need for 1200 MW of transfer capacity. The current DEIS cites but does not confirm the Applicants' contention that if a 1300 MW transmission line was built it could potentially provide from \$23.5 to \$350.1 million in potential net savings to Wisconsin electric customers over 40 years. No need that is not summed up in these potential net savings has been demonstrated.</p> <p>Comment: As originally discussed at a sit down meeting between RUS staff and Dairyland Power Cooperative administrator Chuck Thompson on December 7, 2016 at the Barneveld Scoping Meeting. [https://www.rd.usda.gov/files/uwp-lgc.pdf#page=17], the free floating factors RUS has described in Section 2.2.2.1 are not sufficient to evaluate the amounts of residential solar or substation-supporting solar facilities (and other NTA components) that would be required to provide benefits comparable to those of the Project and the Low Voltage Alternative. Specifically, the Town Delegation noted at this meeting that the AES did not contain a Low Voltage Transmission Alternative required by Wisconsin, which is essential to gauge both cost and capacity requirements for NTA's. By addressing the same, potential reliability concerns as the Project, the Low Voltage Transmission Alternative is designed to satisfy all transmission-related need except for congestion which is an economic, not a reliability factor. By removing demand, NTA's provide direct economic benefits measurable as increased transmission capacity and significant end user savings. Due to the fossil fuel content of wholesale-traded power, NTA's also reduce CO2 emissions. This benefit can also be assigned a monetary value.</p> <p>Comment: As described on p.6 and p.19 of Town Delegation suggestions about NTA design, [https://www.rd.usda.gov/files/uwp-lgc.pdf#page=6 https://www.rd.usda.gov/files/uwplgc.pdf#page=19], one of the components of state of the art NTA planning involves solar facilities positioned adjacent to substations of identified transmission facilities, thus reducing local load, increasing pass-through transmission capacity, and prolonging the lifespan of expensive components such as transformers. Sized and located properly, these solutions directly avoid reliability costs and have additional economic benefits by allowing customers to buy or lease solar panels and realize significant net savings over time. Request: In the Final EIS, please indicate, per each item, whether RUS independently evaluated the following factors required to estimate benefits from residential solar and substation supporting solar facilities: a) For the NTA budget, did RUS access and independently confirm the costs of the Project and at least one Low Voltage Transmission Alternative for Wisconsin, Iowa and regional electric customers? b) To help estimate the NTA budget, did RUS study the Low Voltage Transmission Alternative or "identified grid reliability deficiencies," and name, locate and determine component level costs of the low voltage transmission reliability improvements that applicants suggest will be needed over the next 40 years under modest, zero, and negative load growth for Wisconsin and Iowa electric customers? c) Did RUS estimate the additional kW summer peak capacities at each facility defined by the Low Voltage Transmission Alternative or "identified grid reliability deficiencies," in Wisconsin and Iowa over the next 40 years under modest, zero, and negative load growth? d) Did RUS estimate cost per kW of residential and business solar installation rebates under the Wisconsin, Iowa and regional programs? e) Did RUS estimate 40 year estimated energy savings per kW for installed residential and business solar installations under the Wisconsin, Iowa and regional programs? f) Did RUS estimate cost per kW for community and aggregate, 30-40 year for solar panel leases/purchases at substation-supporting solar facilities in Wisconsin and Iowa? g) Did RUS estimate 40 year customer and utility energy savings per kW at substation supporting solar facilities in Wisconsin and Iowa? h) Did RUS estimate 40 year transmission capacity savings per kW at substation supporting solar facilities in Wisconsin and Iowa? p.56, DEISv1, "The average residential solar project, also known as rooftop solar, is 5 kilowatt (kW) (U.S. Energy Information Administration 2015).... For context, as of December 2017, approximately 85 MW of solar generating capacity has been installed in Wisconsin (RENEW Wisconsin 2017)." Request: In the Final EIS, please detail for Wisconsin ratepayers and decision makers the amounts of distributed generation realized to date, by type, with information taken from recent, state-required Focus on Energy Evaluation document(s). Include the full sections from the state required document(s) in the Final EIS Appendices. Use direct citation from this assembled information to replace the current citation in the DEIS received from Renew Wisconsin, a party in the contested case before the Wisconsin PSC.</p>	<p>The C-HC Project has been independently modeled and verified by multiple entities, including MISO, which used a planning process approved by FERC. The Utilities have modeled and evaluated the C-HC Project, and the state regulatory agencies (PSCW and IUB) are currently evaluating the project. RUS and the other Federal agencies are considering all information, in addition to public comments, when analyzing the C-HC Project to comply with NEPA. This is explained in EIS Chapter 1. The Federal agencies must consider reasonable alternatives when considering their Federal decision. The Federal EIS considers alternatives that are ripe for Federal consideration. What that means is that a proposal has been made for those alternatives or that it is reasonably foreseeable that they could be implemented in a time frame that would meet the need for the Federal action. Requirements for alternatives consideration under Wisconsin Statute 196.491(d) are very specific and separate from NEPA. Per their jurisdictional responsibilities, the PSCW is considering if and how the range of alternatives meets those requirements (see Section 1.2.2.1 of PSCW [2019]). The impact analysis contained within the EIS has been independently verified by RUS and the other Federal agencies.</p>
Town of Stark, Vernon County, WI	Danielson	ALT04; NEP02; SOCIO01	<p>p. 56, DEISv1, – "...storage would be required to replace the increased transfer capability that would be provided the C-HC Project." P. 57, DEISv1, "However, a tremendous amount of storage would be required to replace the increased transfer capability that would be provided the C-HC Project." Comment: The current DEIS contains no evidence of need for 1200 MW of transfer capacity. The current DEIS cites but does not confirm the Applicants' contention that if a 1300 MW transmission line was built it could potentially provide from \$23.5 to \$350.1 million in potential net savings to Wisconsin electric customers over 40 years. Comment: At this time, load management is a more affordable NTA component than battery storage. Battery storage could be evaluated to supplement load management, solar, and energy efficiency resources during late afternoon and evening hours of summer peak demand. An economically beneficial amount is best explored by studying the load requirements of projected growth of targeted reliability projects over 40 years under modest, zero, and negative load growth and comparing this information to local solar production curves. Request: In the Final EIS, please indicate, per item, whether RUS independently evaluated the following factors to estimate potential benefits from battery storage: Note: Factors (a-c) below are global requirements for assessment of all NTA components to help determine budget and capacity requirements. a) For the NTA budget, did RUS access and independently confirm the costs of the Project and at least one Low Voltage Transmission Alternative for Wisconsin, Iowa and regional electric customers? b) To help estimate the NTA budget and to determine capacity requirements, did RUS study the "identified grid reliability deficiencies," and name, locate and determine component level costs of the low voltage transmission reliability improvements that applicants suggest will be needed over the next 40 years under modest, zero, and negative load growth for Wisconsin, Iowa and regional electric customers? c) Regarding "transfer capability," did RUS estimate summer peak capacity requirements for the above Wisconsin, Iowa and regional low voltage transmission facilities over the next 40 years under modest, zero, and negative load growth? d) Did RUS estimate summer peak demand load curves for low voltage transmission facilities with "identified grid reliability deficiencies," in Wisconsin and Iowa over the next 40 years under modest, zero, and negative load growth? e) Did RUS find and utilize summer peak demand solar production profiles near these targeted transmission determined locations in Wisconsin and Iowa low voltage transmission facilities over the next 40 years under modest, zero, and negative load growth? f) Did RUS estimate cost per kW for battery storage and estimate prudent, economic applications to off-set grid use in peak summer late afternoons and evenings when local solar resources are less effective at removing load? g) Did RUS explore whether there are local businesses in the targeted areas that have tax credit appetites or other characteristics that better suit them for investment in costly battery storage? h) Did RUS estimate the 40 year energy savings per kW from these economically prudent, targeted installations of battery storage? i) Did RUS estimate the 40 year transmission capacity savings per kW from these economically prudent, targeted installations of battery storage?</p>	<p>RUS has determined that the purpose and need for the Federal action are supported (see EIS, Chapter 1). The State of Wisconsin has also analyzed the project through the PSCW and WDNR EIS process (PSCW 2019). The PSCW will make an appropriate determination as to project need with respect to their jurisdictional responsibilities under Wisconsin Statute 196.491(3) (see Section 1.2.2.1 of PSCW [2019]). The Federal EIS does not consider alternatives in the same manner as the PSCW or IUB. The Federal agencies are required to comply with NEPA. As stated in NEPA regulations 40 CFR 1502.23, "For purposes of complying with the Act, the weighing of the merits and drawbacks of the various alternatives need not be displayed in a monetary cost-benefit analysis and should not be when there are important qualitative considerations." As discussed in EIS Chapter 2, Section 2.2.2, non-transmission and low-voltage alternatives are not responsive to the applications to which the Federal agencies are responding, nor do they meet the six-point purpose and need described in EIS Chapter 1. The Federal EIS considers alternatives that are ripe for Federal consideration. What that means is that a proposal has been made for those alternatives or that it is reasonably foreseeable that they could be implemented in a time frame that would meet the need for the Federal action. Requirements for alternatives consideration under Wisconsin Statute 196.491(d) are very specific and separate from NEPA. Per their jurisdictional responsibilities, the PSCW is considering if and how the range of alternatives meets those requirements (see Section 1.2.2.1 of PSCW [2019]).</p>

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Town of Stark, Vernon County, WI	Danielson	DECI10	p. 58, DEISv1, "Participation in energy efficiency programs is voluntary in Wisconsin (PSCW 2011)." Request: In the Final EIS, please clarify for Wisconsin ratepayers and decision makers which Wisconsin utilities are required by state statute to participate in the Focus on Energy Program and which Wisconsin utilities volunteer to either participate in the Focus on Energy Program or offer a similar program of their own design. Request: In the Final EIS, please clarify for Wisconsin ratepayers and decision makers that nearly all customers in Wisconsin are eligible to take advantage of benefits such as rebates from these programs and that state law specifically requires the performance of the Focus on Energy program to be evaluated every four years. Request: In the Final EIS, please provide for Wisconsin ratepayers and decision makers a list of all benefit types currently provided by the Focus on Energy program. Include excerpts from recent, state required, document(s) used to assemble this list in the Final EIS Appendices. Request: In the Final EIS, please detail for Wisconsin ratepayers and decision makers the Focus on Energy incentives for all types of distributed generation including those for home and business solar development. Request: In the Final EIS, please provide for Wisconsin ratepayers and decision makers citations from the executive summary of a recent, state required Focus on Energy evaluation describing the monetary and environmental achievements of the entire program. Include the summary in the Final EIS Appendices. Request: In the Final EIS, please include the same information for Iowa utilities. Request: In this section of the Final EIS, please include Wisconsin statutory requirements pertaining to Energy Efficiency. A sample from one PSCW document reads: The Wisconsin Public Service Commission must address the priorities in Wis. Stat. §§ 196.025 requiring the Commission to give priority to specific methods of meeting energy demands to the extent these methods are "cost-effective and technically feasible." The Commission must consider options based on the following priorities, in the order listed, for all energy-related decisions: • Energy conservation and efficiency • Noncombustible renewable energy resources • Combustible renewable energy resources • Nonrenewable combustible energy resources, again in the order listed: ~ Natural gas ~ Oil or coal with a sulfur content of less than one percent o All other carbon-based fuels Note that if the Commission finds that any of these statutorily preferred options, or a combination of these options, constitutes a cost-effective and technically feasible alternative to the project, the Commission must reject all or a portion of the project as proposed. [Source: p. 6, WPSC, Docket 05-CE-136. Project Overview and Regulatory Responsibility REF#:155555]	Comment noted. The EIS is not required to consider alternatives in the same manner as the PSCW or IUB. This comment refers to Wisconsin requirements.
Town of Stark, Vernon County, WI	Danielson	ALT02	p. 58, DEISv1, "To replace th[e] [P]roject with energy efficiency, energy-efficiency efforts would have to eliminate demand to a level that all the Renewable Portfolio Standards and Goals would be met with existing renewable resources and that the reliability and congestion benefits would be achieved through a dramatic reduction in flows on the regional grid." Comment: The 2018 report by the ACEEE (American Council for an Energy Efficient Economy), Keeping the Lights On: Energy Efficiency and Electric System Reliability, outlines the important role Energy Efficiency plays in enhancing grid reliability and relieving congestion. It also makes recommendations on how best to fully capture energy efficiency's reliability benefits: "Energy efficiency's reliability benefits include transmission cost savings, distribution cost savings, minimizing reserve requirements, decreased risk, increased energy security, avoided outages, and avoided restoration costs (Lazar and Colburn 2013)." P. 20 https://www.raonline.org/wp-content/uploads/2016/05/rap-lazarcolburnlayercakepaper-2013-sept-09.pdf To capture the full reliability benefits of energy efficiency, we make the following recommendations: Integrated resource planning should fully value the reliability benefits of energy! efficiency in the analysis and selection of resources. Evaluating non-wires (including targeted energy efficiency) alternatives to T&D! investments should become standard practice. Capacity auctions and wholesale power markets should include efficiency as a! resource. Those already doing so should expand efficiency resource additions as markets grow and efficiency provides a least-cost, reliable solution. Those currently not doing so should make efficiency eligible to participate in their markets. Energy efficiency and related customer program administrators should explore! integrated efficiency/demand response programs. In doing so, they should also ensure that the rapid rise of smart technologies can deliver both efficiency and demand response benefits along with corresponding grid reliability benefits. Programs should target critical loads to make them energy efficient and thereby! improve resilience. " p. 38 Request: In the Final EIS, please provide the independent, quantitative analysis substantiating the above DEIS statement or remove/modify the statement reflecting expectations for Energy Efficiency not to exceed the estimated economic benefits for the Project and the Low Voltage Transmission Alternative. Specifically: a) Produce verified, notices of intent from Wisconsin utilities demonstrating plans to contract renewable energy from wind facilities RUS has determined are contingent upon approval of the Project. Exclude from this list any potential new contracts that would be negotiable with the low-voltage transmission alternative or other resources in place other than the Project.	EIS Section 2.2 provides independently developed rationale for why the Federal agencies eliminated demand response and energy efficiency alternatives from detailed analysis. EIS Section 1.4 provides a list of renewable generation projects in southwest Wisconsin that would benefit from the C-HC Project.
Town of Stark, Vernon County, WI	Danielson	DECI09; DECI10	b) As requested under Test Point #6 in the Executive Summary, in the Final EIS please provide a comprehensive list of unmet Wisconsin or Federal public policy requirements pertaining to renewable energy with statutory citations. If available, please include the listed documents in the Final EIS Appendices	Comment noted. The C-HC Project would provide flexibility in responding to the changing generation mix in the United States that is driven by both market conditions and public policy. Electricity flows on the regional grid are changing constantly, and the stronger the overall system, the greater the grid's ability to accommodate generation retirements and additions. The MVP portfolio was designed to allow all MISO states to meet their renewable portfolio standards or goals (together RPS) set prior to 2008. While Wisconsin Utilities are currently in compliance with the Wisconsin RPS for 2015, it is unclear whether the other states that are dependent on the MVP Portfolio have also met their requirements. The nation's generation portfolio is changing dramatically and rapidly both because of market forces and anticipated policy changes. Transmission planning that starts now may select interstate lines that could become operational in 2035 or later. Given the rapid changes underway and the time to plan, permit, and construct transmission, the Utilities cannot plan transmission based on what is needed now. They must predict and design solutions for what would likely be needed in 10, 15, or 20 years.
Town of Stark, Vernon County, WI	Danielson	SOCIO08	c) As requested under Test Point #2 in the Executive Summary and pertaining to "congestion benefits would be achieved," for the Final EIS, perform independent quantitative analysis under modest, zero, and negative load growth to estimate the economic benefits for Wisconsin electric customers for the Project and all alternatives on the basis of their ability to relieve transmission congestion. In lieu of conducting this analysis, alternatively explain in the FEIS Executive Summary whether these congestion-related savings have been estimated for the Project by the Applicants as part of their calculations of 40-year, net benefits ranging from \$23.5 to \$350.1 million for Wisconsin electric customers.	The C-HC Project has been independently modeled and verified by multiple entities, including MISO, which used a planning process approved by FERC. The Utilities have modeled and evaluated the C-HC Project, and the state regulatory agencies (PSCW and IUB) are currently evaluating the project. RUS and the other Federal agencies are considering all information, in addition to public comments, when analyzing the C-HC Project to comply with NEPA. This is explained in EIS Chapter 1. The Federal agencies must consider reasonable alternatives when considering their Federal decision. The Federal EIS considers alternatives that are ripe for Federal consideration. What that means is that a proposal has been made for those alternatives or that it is reasonably foreseeable that they could be implemented in a time frame that would meet the need for

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				the Federal action. Requirements for alternatives consideration under Wisconsin Statute 196.491(d) are very specific and separate from NEPA. Per their jurisdictional responsibilities, the PSCW is considering if and how the range of alternatives meets those requirements (see Section 1.2.2.1 of PSCW [2019]). The impact analysis contained within the EIS has been independently verified by RUS and the other Federal agencies.
Town of Stark, Vernon County, WI	Danielson	ALT01; SOCIO08	d) As requested under Test Point #1 in the Executive Summary and pertaining to “reliability...benefits that would be achieved,” for the Final EIS, perform the above described quantitative analysis including evaluation under modest, zero, and negative load growth to reach a dollar estimate of the reliability projects that each Alternative would avoid for Wisconsin ratepayers. In lieu of conducting this analysis, alternatively explain in the FEIS Executive Summary whether these avoided costs have been estimated for the Project by the Applicants as part of their calculations of 40-year, net benefits ranging from \$23.5 to \$350.1 million for Wisconsin electric customers. (See data currently cited in Section 1.4.2.1 ENERGY COST SAVINGS).	The net benefits for Wisconsin electric customers have been revised in EIS Chapter 1 based on updated information provided to RUS by the C-HC Project Utilities. This information is not available for Iowa customers.
Town of Stark, Vernon County, WI	Danielson	LITFIND01	p. 58, DEISv1, “MISO considered energy efficiency in all four of its futures modeling efforts and found that energy efficiency could not eliminate the need for the C-HC Project (Dairyland et al. 2016a).” Request: In Section 2.2.2.3 in the Final EIS, please cite the date of this early MISO publication and name the involved futures referenced by Dairyland so that decision makers and electric customers are less likely to confuse this publication with more recent information.	The MISO modeling of the MVP portfolio is described and cited in EIS Section 1.3.
Town of Stark, Vernon County, WI	Danielson	DECI10; NEP02	Request: In Section 2.2.2.3 for the Final EIS, please explain and resolve the apparent contradiction of RUS citing MISO use of energy efficiency resources in futures assembling many energy spending resources and then proceeding to engage discussion of energy efficiency exclusively as a standalone resource. In accounting for this potential contradiction, please also incorporate the need to follow Wisconsin statutory requirements in meeting energy demands by exploring combinations of the higher priorities that include energy efficiency, conservation, and non-combustible renewable energy resources (Wis. §§ 196.025).	Comment noted. The EIS is not required to consider alternatives in the same manner as the PSCW or IUB. This comment refers to Wisconsin requirements.
Town of Stark, Vernon County, WI	Danielson	ALT04; SOCIO08	Request: In the Final EIS, please indicate, per item, whether RUS independently evaluated the following factors to estimate potential benefits from energy efficiency: Note: Factors (a-c) below are global requirements for assessment of all NTA components to help determine budget and capacity requirements. a) For the NTA budget, did RUS access and independently confirm the costs of the Project and at least one Low Voltage Transmission Alternative for Wisconsin, Iowa and regional electric customers? b) To help estimate the NTA budget, did RUS study the Low Voltage Transmission Alternative or “identified grid reliability deficiencies,” and name, locate and determine component level costs of the low voltage transmission reliability improvements that Applicants suggest will be needed over the next 40 years under modest, zero, and negative load growth for Wisconsin and Iowa electric customers? c) Did RUS estimate the additional kW summer peak capacities at each facility defined by the Low Voltage Transmission Alternative or “identified grid reliability deficiencies,” in Wisconsin and Iowa over the next 40 years under modest, zero, and negative load growth? d) Did RUS attempt to find estimates of the cost per kW for energy efficiency in Wisconsin and Iowa? e) Did RUS attempt to find estimates of the cost per kWh for energy efficiency spending in Wisconsin and Iowa? f) Did RUS attempt to find estimates of transmission capacity savings per kW for energy efficiency spending in Wisconsin and Iowa? g) Did RUS attempt to find estimates of the cost of avoiding CO2 per metric ton for energy efficiency spending in Wisconsin and Iowa?	The C-HC Project has been independently modeled and verified by multiple entities, including MISO, which used a planning process approved by FERC. The Utilities have modeled and evaluated the C-HC Project, and the state regulatory agencies (PSCW and IUB) are currently evaluating the project. RUS and the other Federal agencies are considering all information, in addition to public comments, when analyzing the C-HC Project to comply with NEPA. This is explained in EIS Chapter 1. The Federal agencies must consider reasonable alternatives when considering their Federal decision. The Federal EIS considers alternatives that are ripe for Federal consideration. What that means is that a proposal has been made for those alternatives or that it is reasonably foreseeable that they could be implemented in a time frame that would meet the need for the Federal action. Requirements for alternatives consideration under Wisconsin Statute 196.491(d) are very specific and separate from NEPA. Per their jurisdictional responsibilities, the PSCW is considering if and how the range of alternatives meets those requirements (see Section 1.2.2.1 of PSCW [2019]). The impact analysis contained within the EIS has been independently verified by RUS and the other Federal agencies.
Town of Stark, Vernon County, WI	Danielson	ALT04; NEP02	p. 58, DEISv1, “Implementing energy efficiency programs also would have to be monitored continuously to make sure that load levels do not increase to the point where they cause problems for the transmission system (PSCW 2011).” Comment: Below are the two sentences (p.XVIII) that can be found pertaining to energy efficiency from the above cited, PSCW 2011. Alma-La Crosse 345 kV Transmission Project Volume 1 Draft Environmental Impact Statement. Docket 5-CE-136. PSCW Department of Natural Resources, November. Both statements are attributed to analysis of system alternatives by applicants for the CapX2020 expansion transmission line proposal. Neither appear to support the above RUS statement on p.58. “Energy efficiency has been considered but, at this time, there is no regulatory authority to ensure energy user compliance with load reduction and energy efficiency goals.” “Energy efficiency and load management do not provide region-wide benefits, and additional local generation would not provide region-wide benefit without the addition of transmission.” Comment: Because of the diversity of energy efficient appliances and their uses, the impacts of appliances are spread around the clock. See EIA: What's New in How We Use Energy at Home, https://www.eia.gov/consumption/residential/reports/2015/overview/index.php No evidence that RUS has presented suggests that any deviation from these patterns would fall outside of normal load patterns and increase the possibility of unexpected demand on the transmission system. Further, the smoothing effect of energy efficiency is expected to increase in coming years. [See EIA: Electricity intensity of U.S. homes and commercial buildings decreases in coming decades, https://www.eia.gov/todayinenergy/detail.php?id=38332] Request: Please substantiate this above cited statement on p.58 with independent or third party evidence or remove it entirely from the Final EIS.	Comment noted. As discussed in EIS Chapter 2, Section 2.2.2, non-transmission alternatives, such as energy efficiency programs, are not responsive to the applications to which the Federal agencies are responding, nor do they meet the six-point purpose and need described in EIS Chapter 1. The Federal EIS considers alternatives that are ripe for Federal consideration. What that means is that a proposal has been made for those alternatives or that it is reasonably foreseeable that they could be implemented in a time frame that would meet the need for the Federal action. The rationale provided in the referenced section of EIS Chapter 2 has not changed.
Town of Stark, Vernon County, WI	Danielson	ALT04; NEP02	p.58, DEISv1, “In addition, energy efficiency does not meet the primary six-point need for the Proposed Action. Specifically, this alternative does not address reliability issues on the regional bulk transmission system at a scale commensurate with transmission, expand the access of the transmission system to additional resources, reduce the losses in transferring power, or respond to public policy objectives aimed at enhancing the nation's transmission system and supporting the changing generation mix. Therefore, the energy efficiency alternative was dismissed from detailed analysis in this DEIS.” Comment: By virtue of its ability to provide economic benefits under points #1-#5 of the “Six Point Need Test,” energy efficiency matches any qualification of need ascribed to the Project or other Alternatives under the test the RUS has drafted. For point #6 of the test, cost effective uses of energy efficiency rank this resource as preferred in addressing need by virtue of Wis. §§ 196.025. Request: In order to provide Wisconsin electric customers and decision makers findings that are consistent with the Applicants’ (PSCW-required) use of estimated economic benefits, and to evaluate need and law-founded energy decision making priorities, provide a detailed analysis of energy efficiency as a Non-Transmission component including quantitative analysis based on factors (a-h) listed above. In lieu of providing this detailed analysis, significantly amend or omit the “Six Point Need Test from the RUS’s DEIS including all mention of it in section 2.2.2. 30 Comment: We congratulate RUS consulting third party studies examining the potential of energy efficiency in Wisconsin. It might interest decision-makers and electric customers that the newly elected Governor of Wisconsin recently included suggested boosts in Energy Efficiency and Conservation in his state	Comment noted. RUS has cited this report in the “Energy Efficiency” section of EIS Section 2.2.

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			budget. http://bit.ly/Evers_MoreEEConservation The Wisconsin Legislature approved very substantial increases in the Focus on Energy program in 2009. The PSC's glowing comments about the study RUS cites would be of great interest to customers as a means of offsetting increasing cost of power in Wisconsin. Request: In this section in the Final EIS, consider including quotations from the WI Governor's recent budget announcement and/or the PSC's press release that accompanied the "Energy Efficiency and Customer-Sited Renewable Resource Potential in Wisconsin study," in 2009. See https://www.seventhwave.org/sites/default/files/PS2009release.pdf	
Town of Stark, Vernon County, WI	Danielson	ALT04; NEP02	p. 58 DEISv1, "FERC defines demand response as "changes in electric use by demand-side resources [consumers] from their normal consumption patterns in response to changes in the price of electricity, or to incentive payments designed to induce lower electricity use at times of high wholesale market process or when system reliability is jeopardized." p. 58 DEISv1, "The level of demand response needed to provide sufficient congestion relief to match the scope of the C-HC Project, is not known to currently exist." Comment/Explanation: As the FERC definition lays out, Demand Response can control peak demand and produce reliability benefits as well as economic benefits through reduced transmission congestion. The Applicants provide no evidence, make no claims that the Project is required to provide an adequate amount of electricity to Wisconsin or Iowa or that there are (NERC) reliability violations that must be met. Thus, the system associated benefits from the Project and all alternatives are either: a) Economic, or lower market prices from lowering transmission congestion or, b) Cost-effective reliability improvements resulting in lower expense over time to maintain a reliable transmission system. PSCW Guidelines for high-voltage transmission projects require that both of these benefits be given monetary values. The Low Voltage Transmission Alternative is designed to anticipate all possible transmission reliability issues. https://psc.wi.gov/SiteAssets/2017TransmissionLineAFR.pdf The amount of Demand Response, or "Load Management," required to retain reliability standards is a function of the kW capacity reduction required for each reliability project to meet potential increases in demand as determined under a range of growth scenarios. The result is a series of "reliability projects" or, collectively, the Low Voltage Transmission Alternative. The required amount of Load Management or Demand Response is targeted to specific end-users, adding load to specific substations. Once load management is in use, it eliminates need for some of the transmission improvements. The congestion-related economic savings created from Demand Response are a (Pro Mod) calculation of projected congestion conditions under a range of growth scenarios for the Project and all Alternatives. Both determinations are over 40 years. Here are some other resources on Demand Response: "Demand Flexibility: the key to enabling a low-cost, low-carbon grid" https://www.rmi.org/wpcontent/uploads/2018/02/Insight_Brief_Demand_Flexibility_2018.pdf List of Demand Response Research http://www.cpuc.ca.gov/General.aspx?id=10622	RUS has determined that the purpose and need for the Federal action are supported (see EIS, Chapter 1). The State of Wisconsin has also analyzed the project through the PSCW and WDNR EIS process (PSCW 2019). The PSCW will make an appropriate determination as to project need with respect to their jurisdictional responsibilities under Wisconsin Statute 196.491(3) (see Section 1.2.21 of PSCW [2019]). The Federal EIS does not consider alternatives in the same manner as the PSCW or IUB. The Federal agencies are required to comply with NEPA. As stated in NEPA regulations 40 CFR 1502.23, "For purposes of complying with the Act, the weighing of the merits and drawbacks of the various alternatives need not be displayed in a monetary cost-benefit analysis and should not be when there are important qualitative considerations." As discussed in EIS Chapter 2, Section 2.2.2, non-transmission and low-voltage alternatives are not responsive to the applications to which the Federal agencies are responding, nor do they meet the six-point purpose and need described in EIS Chapter 1. The Federal EIS considers alternatives that are ripe for Federal consideration. What that means is that a proposal has been made for those alternatives or that it is reasonably foreseeable that they could be implemented in a time frame that would meet the need for the Federal action. Requirements for alternatives consideration under Wisconsin Statute 196.491(d) are very specific and separate from NEPA. Per their jurisdictional responsibilities, the PSCW is considering if and how the range of alternatives meets those requirements (see Section 1.2.2.1 of PSCW [2019]).
Town of Stark, Vernon County, WI	Danielson	ALT04; NEP02	p.58, DEISv1, "For other transmission line projects that implement load reduction programs as an alternative to transmission lines, load management programs are monitored continuously to make sure that load levels do not increase to the point where they cause problems for the transmission system (PSCW 2011)." Continuing Explanation: Load management is continuous monitoring; it is timed and targeted for specific transmission assets that Applicants have projected to potentially experience overload issues under certain conditions. Under current flat use, growth is, at best, very low. Load management can be very cost effective because it can be required only for a few hours on a few days of a year. Because the Low Voltage Transmission Alternative is designed to provide the same future reliability goals as the project, the only difference between the Low Voltage Transmission Alternative and the Project is economic— that is— the amount of congestion in the resulting transmission system. These economic differences, or energy cost savings, are incorporated into the applicants' net benefits for all Alternatives and apply to NTA's as well. For example, the potential net benefits for the Project range from \$23.5- \$350.1 million over 40 years. Request: In the Final EIS, please indicate, per item, whether RUS independently evaluated the following factors to estimate potential benefits from Demand Response: Note: Factors (a-c) below are global requirements for assessment of all NTA components to help determine budget and capacity requirements. a) For the NTA budget, did RUS access and independently confirm the costs of the Project and at least one Low Voltage Transmission Alternative for Wisconsin, Iowa and regional electric customers? b) To help estimate the NTA budget, did RUS study the Low Voltage Transmission Alternative or "identified grid reliability deficiencies," and name, locate and determine component level costs of the low voltage transmission reliability improvements that applicants suggest will be needed over the next 40 years under modest, zero, and negative load growth for Wisconsin and Iowa electric customers? c) Did RUS estimate the additional kW summer peak capacities at each facility defined by the Low Voltage Transmission Alternative or "identified grid reliability deficiencies," in Wisconsin and Iowa over the next 40 years under modest, zero, and negative load growth? d) Did RUS locate and apply estimates of the cost per kW for Demand Response in Wisconsin and Iowa? (Load management to "target" each transmission asset that has been projected to potentially "overload" under certain conditions thus delaying the need for the improvements) e) Did RUS locate and apply estimates of transmission capacity savings per kW for Wisconsin and Iowa?	The C-HC Project has been independently modeled and verified by multiple entities, including MISO, which used a planning process approved by FERC. The Utilities have modeled and evaluated the C-HC Project, and the state regulatory agencies (PSCW and IUB) are currently evaluating the project. RUS and the other Federal agencies are considering all information, in addition to public comments, when analyzing the C-HC Project to comply with NEPA. This is explained in EIS Chapter 1. The Federal agencies must consider reasonable alternatives when considering their Federal decision. The Federal EIS considers alternatives that are ripe for Federal consideration. What that means is that a proposal has been made for those alternatives or that it is reasonably foreseeable that they could be implemented in a time frame that would meet the need for the Federal action. Requirements for alternatives consideration under Wisconsin Statute 196.491(d) are very specific and separate from NEPA. Per their jurisdictional responsibilities, the PSCW is considering if and how the range of alternatives meets those requirements (see Section 1.2.2.1 of PSCW [2019]). The impact analysis contained within the EIS has been independently verified by RUS and the other Federal agencies.
Town of Stark, Vernon County, WI	Danielson	ALT04	p.58-59, DEISv1, "The PSCW has noted that the Energy Efficiency and Customer-Sited Renewable Resource Potential in Wisconsin study completed by the Energy Center of Wisconsin (2009) suggests that peak demand could cost-effectively be reduced by 1.6% annually on a statewide basis, after a ramp-up period. If this level of reduction could be achieved in the C-HC Project area, peak demand growth could be negative. However, as indicated above, there is no regulatory authority to ensure energy user compliance with load reduction and energy efficiency goals and, thus, no mechanism has been identified that would ensure adequate participation over time (PSCW 2011)." Request: In the Final EIS, please include the above paragraph in both the energy efficiency and the distributed renewable energy sections where decision-makers and electric customers will be able to better understand the profound significance of the very high potential of NTA's based on the Energy Center of Wisconsin's 2009 study.	Comment noted. RUS reviewed this citation and determined it is not appropriate to add to the discussion of distributed renewable energy in EIS Section 2.2. However, the citation is included elsewhere in EIS Section 2.2, as noted by the commenter.
Town of Stark, Vernon County, WI	Danielson	ALT04	P. 58, DEISv1, "The PSCW has previously noted that demand response programs rely on voluntary compliance by electricity users." Comment: In the bi-annual Strategic Energy Assessment 2022, PSCW tracks the availability of load management resources in Wisconsin. On p. 20, Table 5, Available Amounts of Programs and Tariff to Control Peak Load, MW, shows a significant amount that is projected to increase. See: https://psc.wi.gov/Documents/Reports/SEA2022.pdf#page=20 As RUS, indicates, the program is driven by economic demand in Wisconsin. The amount would not be projected to increase unless the state deemed its economic value as growing. As the evaluations of the Focus on Energy Program have highlighted for several years, the utilization of end user resources like load management depends, in large part, on public awareness. If rebates for incentives are increased for NTAs, public awareness will naturally follow. Request: In the Final EIS, include Table 5 data and an explanation that the PSC of Wisconsin projects Demand Response programs to grow in coming years.	Comment noted. Two citations for the PSCW Strategic Energy Assessment have been added to EIS Section 2.2.
Town of Stark, Vernon County, WI	Danielson	ALT04; NEP02	p. 59, DEISv1, "Demand response does not meet the primary six-point need for the Proposed Action." Comment: We hope that the explanation we have provided in this section on Demand response shows how all components of non-transmission alternatives satisfy all six points that RUS has devised to test need for the project and all alternatives. Request: We encourage you to revise all references to the six-point need test. We also	RUS has revised EIS Chapter 2, Section 2.2.2 to include additional rationale for not carrying forward alternatives for detailed analysis in the EIS. Non-transmission and low-voltage alternatives are not responsive to the applications to which the Federal agencies

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			encourage you to conduct the necessary detailed analysis of distributed solar, energy efficiency, storage, and load management and update your findings in the Final EIS.	are responding, nor do they meet the six-point purpose and need described in EIS Chapter 1. The Federal EIS considers alternatives that are ripe for Federal consideration. What that means is that a proposal has been made for those alternatives or that it is reasonably foreseeable that they could be implemented in a time frame that would meet the need for the Federal action.
Town of Stark, Vernon County, WI	Danielson	AIR04	p.218, DEISv1, "Climate change is a global issue that results from several factors, including, but not limited to, the release of GHGs, land use management practices, and the albedo effect, or reflectivity of various surfaces (including reflectivity of clouds). Specific to the proposed project, GHGs are produced and emitted by various sources during the development and operational phases of transmission lines. The primary sources of GHGs associated with transmission lines and substations are carbon dioxide (CO ₂), methane (CH ₄), and nitrous oxide (N ₂ O) from fuel combustion in construction and maintenance vehicles and equipment, as well as operational emissions of sulfur hexafluoride (SF ₆) associated with potential leakage from gas-insulated circuit breakers at the substation. An analysis of regional climate impacts prepared by the Third National Climate Assessment (Garfin et al. 2014) concludes that the rate of warming in the Midwest has markedly accelerated over the past few decades. The higher temperatures and continued human pollution increase the number of heat events and extreme rain events that cause flooding." Comment: The climate affecting impacts of the post construction, ~40-year operation phase of the Project and all Alternatives, are not evaluated or discussed in the DEIS. Comment: There are many avenues available to electric customers towards realizing significant CO ₂ and harmful emission reductions. The DEIS contains numerous references to the action of accessing remote renewable energy which readers, without quantitative evidence, may construe as automatically and significantly reducing CO ₂ emissions associated with the generation and distribution of centrally supplied electricity. Comment: In October, 2018, EIA released national figures showing that from 2005 to 2017, about 50% of the CO ₂ emission reductions associated with electricity generation came from energy efficiency, conservation, load management, distribute generation and other practices directly lowering use of grid supplied power. In contrast, about 24% was attributed to renewable energy expansions with the other 26% coming from natural gas generation displacements. [See, https://www.eia.gov/todayinenergy/detail.php?id=37816] Request: In the Final EIS, include quantitative comparisons of estimated CO ₂ emission impacts from the 40 year operation phase of the Project and all Alternatives. Enter these comparisons in Section 3.6.1.4 or another relevant section., If there is insufficient, accountable CO ₂ reduction data to create quantitative comparisons with, please qualify in the Final EIS that RUS is unable to confirm the extent or significance of CO ₂ reductions that might occur in relation to the generation of grid supplied electricity. Please include these clarifications for readers in key places in the Final EIS where benefits of renewable energy are discussed including Test Point #6 in the Executive Summary, p.ES-1 and in Section 1.4, p. 11.	EIS Chapter 4, Section 4.4 has been revised to estimate the CO ₂ emissions that could occur from generation sources that would benefit from the C-HC Project. This analysis compares two scenarios: 100% coal-generation sources benefitting from the C-HC Project and 100% wind-generation sources benefitting from the C-HC Project. This analysis provides a range of CO ₂ emissions from possible generation sources.
Town of Stark, Vernon County, WI	Danielson	NEP02	Mid-continent Independent System Operator, Electric Generation, and Transmission Load Forecasts (for Wisconsin & Iowa) p.A-1, Appendix A, DEISv2,"An important factor in system reliability planning is the projection of future load forecasts, both regional and local...electricity use has generally increased in Wisconsin and Iowa since 1990....Historical electricity usage in Wisconsin was 49,198 gigawatt hours (GWh) in 1990, 65,146 GWh in 2000, and 69,495 GWh in 2014. In Iowa, it was 29,437, 39,088, and 47,202 GWh in those same years, respectively. Compound annual average growth rates were 1.45% and 1.99%, respectively, over that period (Gotham et al. 2016)" Comment: This assessment ignores the three most recent years of data and calculates change in electricity use over 24 years conflicting with well-established trends and appreciations. Comment: Why is RUS, a federal government agency, asking MISO, a non-government entity, to provide information about state energy use rather than accessing data that all utilities are required to submit to the federal government through EIA ? A study conducted by the Rocky Mountain Institute showed a pattern of exaggerated growth in utility based projections: "Rocky Mountain Institute's analysis shows that for at least the last decade, planners have, on average, over-forecast electricity demand by one percentage point for each year of their forecast. That might seem trivial, but a one percentage point over-forecast every year means that forecasts more than 10 percent too high 10 years out. That 10 percent over-forecast translates to spending billions of dollars on power plants that no one needs, but that need to be paid for." https://rmi.org/billion-dollar-costsforecasting-electricity-demand/ Comment: What advantage to electric customers and decision makers does RUS see in ignoring the industry standard of 10 year timeframes? What is the purpose of using a 24-year time frame when it averages-out the relevance of the historical transformation in electricity use starting in 2007 when US energy use started flattening or declining? Request: In the Final EIS, use more contemporary EIA data such as Retail Sales of Electricity by State by Sector by Provider (EIA-861) and statistical trend lines to provide electric customers in Wisconsin and Iowa a much more useful portrayal of the current trends in electricity use in their states. https://www.eia.gov/electricity/data/state/sales_annual.xlsx Adding EIA data from the last three years, Wisconsin total electricity use dropped an average of 323% per year from 2007 to 2017. Iowa's use increased a modest.89% per year over the same period. See table of EIA data below.	The C-HC Project has been independently modeled and verified by multiple entities, including MISO, which used a planning process approved by FERC. The Utilities have modeled and evaluated the C-HC Project, and the state regulatory agencies (PSCW and IUB) are currently evaluating the project. RUS and the other Federal agencies are considering all information, in addition to public comments, when analyzing the C-HC Project to comply with NEPA. This is explained in EIS Chapter 1. The Federal agencies must consider reasonable alternatives when considering their Federal decision. The Federal EIS considers alternatives that are ripe for Federal consideration. What that means is that a proposal has been made for those alternatives or that it is reasonably foreseeable that they could be implemented in a time frame that would meet the need for the Federal action. Requirements for alternatives consideration under Wisconsin Statute 196.491(d) are very specific and separate from NEPA. Per their jurisdictional responsibilities, the PSCW is considering if and how the range of alternatives meets those requirements (see Section 1.2.2.1 of PSCW [2019]). The impact analysis contained within the EIS has been independently verified by RUS and the other Federal agencies. Future load forecasts for the MISO footprint is included within MISO's modeling effort used to develop the MVP Portfolio (MISO 2011) ⁶ .
Town of Stark, Vernon County, WI	Danielson	NEP02	10-Year Load Forecasts [MISO Area] p.A-3, Appendix A, DEISv2, "As shown in Table A-2, in the MISO region electricity load is forecasted to increase from 667,822 GWh in 2015 to 783,121 GWh in 2026, without adjusting for EE/DR/DG, an increase of 115,299 GWh or a 1.46% compound annual average growth rate. When adjusting for EE/DR/DG, it is forecasted to increase to 774,270 GWh, an increase of 106,448 GWh and a 1.35% compound annual average growth rate. Thus, implementing EE/DR/DG measures in the MISO area is projected to result in an annual average 0.11% reduction in electricity use from 2015 through 2026 (Gotham et al. 2016)." Comment: The Applicants have consistently taken their load and energy projections analysis from approved MTEP planning, not from the cited Gotham analysis. Request: In the Final EIS, for MISO energy and demand projections, use MISO's recent MTEP19 percentages. They can be found on page 2 of this recently published economic planning document on ATC's website: https://cdn.misoenergy.org/MTEP19%20Futures%20Summary291183.pdf#page=2 The average (base) Demand rate that MISO projects is.3% growth per year with Energy at.4% per year. Note that one of MISO's futures assumes flat Energy Demand or no growth. Adhering to RMI's observation that projections by utility interests have averaged about 1% per year above actual usage, MISO's usage and peak are more likely to drop than to increase.p.A-6, Appendix A, DEISv2, "A significant factor in forecasting changes in future electricity usage in an area is the projected changes in population levels, and the associated changes in economic activity that are generated by that increase in population." Comment: The figures in Table A-5. Wisconsin Population Levels (1980–2010) and Projections (2010–2040) indicate there was a 1.4% per year growth in Wisconsin's population from 2005 to 2010. The premise that electricity usage and economic activity are directly related as RUS suggests in this section is demonstratively false. Note that EIA Form 861 data show that electricity use in Wisconsin over the period of 2005 to 2010 dropped 2.25%. Comment: Methodology is especially important when contesting trends recognized by most governmental parties. For example, Madison is regarded as a rapidly growing area. Considering its proximity to the Project's Cardinal substation, analyzing Madison Gas and Electric usage from	Comment noted. RUS continues to evaluate Dairyland's load forecasts.

⁶ MISO. 2011. Multi Value Project Portfolio Detailed Business Case. Available at: <https://cdn.misoenergy.org/2011%20MVP%20Portfolio%20Detailed%20Business%20Case117056.pdf>. Accessed on June 6, 2019.

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			2007-2017 would be highly appropriate. (See table, below.) Note that 2007-2017 revenue increased 23% while electricity usage dropped 3%. Discussion in the PSC's most recent Strategic Energy Assessment on Revenue Recovery for Wisconsin Utility Capital Spending helps explain this discrepancy. Comment: These findings are consistent with US Department of Energy analysis showing there is no longer a direct relationship between economic activity and electricity use as measured in GDP: Request: In the Final EIS, either remove this section pertaining to population influence entirely, or use more recent population projection data removing all inference that population growth and economic GDP are directly responsible for increases in energy use. Base any argument to the contrary around Madison using EIA data. If not, explain why power sinks other than Madison are more important to consider.	
Town of Stark, Vernon County, WI	Danielson	NEP02	Load Forecast and Population Changes Summary p. A-10, SEISv2, Tables A-9 and A-10 Summary of Forecasted Electrical Use and Population Growth Rates... Dairyland Power Cooperative Load(?) Forecast 2016-2035? Total Change from 2016 to 2035: 1,800,515 MWh or annual average increase of 90,026 MWh. Comment: This is not load information or a load forecast. It is confusingly presented as energy usage information. Request: To assist decision-makers and electric customers in understanding Dairyland's past trends in relation to their future projections, please ask Dairyland Power Cooperative to provide the following, more contemporary, traditional information and include it in the Final EIS: (a) 10-year historical energy use and peak demand totals for each year from 2008-2018. (b) 10-year energy and demand projections for 2018 to 2028 with values provided for each year.	Comment noted. RUS continues to evaluate Dairyland's load forecasts.
U.S. Congress - Congressman Mark Pocan (WI-02)	Boldebuck	REC01; WAT02	Iowa and Dane County Classified Streams Crossed by the Proposed Cardinal-Hickory Creek Transmission Line Baker Creek Class II Black Earth Creek Class I, ORW Blue River Class II, ERW Conley-Lewis Creek Class II Deer Creek ERW East Branch Blue Mounds Creek Class III Elvers Creek Class II, ERW Flint Creek Class II Fryes Feeder ERW Garfoot Creek Class II, ERW German Valley Branch Class II Gordon Creek Class II, ERW Lowery Creek Class II Narveson Creek Class II Norwegian Hollow Creek Class II Otter Creek Class II Otter Creek Class II Schlapbach Creek ERW Smith-Conley Creek Class II Sudan Branch Class II Sugar River ERW Tributary to Williams-Barneveld Creek Class II Vermont Creek Class II West Br Blue Mounds Creek Class II West Branch Sugar River Class II Class I Trout Stream: High quality trout waters that have sufficient natural reproduction to sustain populations of wild trout, at or near carry capacity. Consequently, streams in this category require no stocking of hatchery trout. These streams or stream sections are often small and may contain small or slow-growing trout, especially in the headwaters. Class II Trout Stream: Streams in this classification may have some natural reproduction, but not enough to utilize available food and space. Therefore, stocking is required to maintain a desirable sport fishery. These streams have good survival and carryover of adult trout, often producing some fish larger than average size. Class III Trout Stream: These waters are marginal trout habitat with no natural reproduction occurring. They require annual stocking of trout to provide trout fishing. Generally, there is no carryover of trout from one year to the next. ORW: An Outstanding Resource Water is a lake, stream or flowage having excellent water quality, high recreational and aesthetic value and high quality fishing. ORW waters are free from point source or nonpoint source pollution. ERW: An Exceptional Resource Water is a lake, stream, or flowage exhibiting the same high quality resource values as outstanding waters, but may be affected by point source pollution or have the potential for future discharge from a small sewer community. ORWs receive the state's highest protection standards, with ERWs a close second. ORWs and ERWs share many of the same environmental and ecological characteristics. They differ in the types of discharges each receives, and the level of protection established for the waterway after it is designated.	Comment noted. Potential impacts to outstanding and exceptional resources, i.e., waters and trout streams (Class I, II), are disclosed in the EIS Section 3.5.
U.S. Congress - Congressman Mark Pocan (WI-02)	Boldebuck	WLDF02	Municipalities under the proposed CHC transmission towers & lines as of 9/22/2016 County Township Village/City Eagle Nests Present Dane Blue Mounds 0 Cross Plains 0 Middleton (terminus at substation) 0 Springdale 0 Vermont 1 Blue Mounds V. 0 Cross Plains V. 0 Mount Horeb V. 0 Grant Beetown 0 Cassville 4 Cassville V. 0 Clifton 1 Ellenboro 0 Harrison 0 Liberty 0 Lima (has only inactive corridors) 0 Platteville 0 Platteville C. 0 Potosi 2 South Lancaster 0 Waterloo 7 Wingville (proposed substation area) 0 Montfort V. 0 Iowa Arena 2 Brigham 1 Dodgeville 1 Eden 0 Highland 3 Linden 1 Mifflin 1 Ridgeway 0 Wyoming 2 Barneveld V. 0 Cobb V. 0 Rewey V. 0 Ridgeway V. 0 Dodgeville C. 0 Page 1 Sheet1 Lafayette Belmont 0 Elm Grove 0 Page 2 Bald Eagle Nests and Habitat Because Bald Eagle are a "Species of Special Concern" in Wisconsin and Federally protected by the Bald & Golden Eagle Protection Act, special attention should be given to the potential harm posed by the CHC proposal to individual birds, breeding pairs and their habitat. Wisconsin has 1,465 eagle nests (2015 data), of which 51 are located in the 4 counties that would be traversed by the CHC corridor. The CHC transmission towers and lines would occur in townships where 26 of the 51 active nests have been documented. Construction and operation of the CHC towers and lines would threaten the safety and wellbeing of the Bald Eagle population, their nest sites and habitat in these townships. Dane County has 1 active eagle nest (out of a total 9 nests in the county) in a township (Town of Vermont) that would be crossed by the CHC corridor. Grant County has 14 active eagle nests (out of 38 total nests in the county) in 4 townships that would be crossed by the CHC corridor. The Town of Cassville has 4 nests, Town of Clifton has 1, Town of Potosi has 2, and Town of Waterloo has 7. Iowa County has 11 active eagle nests (out of 13 in the county) in 7 townships that would be crossed by the CHC corridor. The Town of Arena has 2 nests, Town of Brigham has 1, Town of Dodgeville has 1, Town of Highland has 3, Town of Linden has 1, Town of Mifflin has 1 and Town of Wyoming has 2. Lafayette County has one active eagle nest, but it does not occur in any of the townships that would be crossed by the CHC corridor in this county. Although transmission companies often deny there is danger to eagles, construction can alter nesting activities and there are well documented reports of reduction of critical populations; here is one: https://sora.unm.edu/sites/default/files/journals/jrr/v035n03/p00247-p00252.pdf . A review will be needed to determine 1) the immediate loss of individual birds and/or nests likely to occur due to placement and use of construction equipment, making roadways and clearing the right of ways, and building the towers and lines themselves and 2) ongoing annual losses of birds and nests due to collisions, electrocutions, herbicide applications and loss of habitat if ATC were to construct the CHC line. [map]	Bald eagle nesting information has been added to the EIS, Section 3.4. Collision impacts are discussed in the EIS, and environmental commitment measures that would minimize impacts to nesting eagles are outlined in Section 3.1.
U.S. Congress - Congressman Mark Pocan (WI-02)	Boldebuck	VEG02; WLDF04	Threatened and Endangered Species and Species of Concern The ATC/CHC proposed corridors through Iowa and Dane counties traverse many high-quality habitats for threatened, endangered and Federal Species of Concern (SOC). The area's characteristic Southern Sedge Meadows, Oak Openings and Barrens, Pine Relicts, Dry Prairies, Mesic and Dry-mesic Forests, fast, cold Streams, Dry and Moist Cliffs and Forested Seeps shelter and nurture diverse populations of birds, insects, amphibians, reptiles and plants. A quick review of Wisconsin's Natural Heritage Inventory for the township/ranges under active CHC corridors reveals the following species would be at risk from the project: Birds Henslow Sparrow (found in 12 of the 16 township/ranges under CHC corridors in Iowa and Dane Counties) Loggerhead Shrike (found in 2 of the 16 township/ranges in both counties) Threatened species found here are: Acadian Flycatcher, Bell's Vireo, Cerulean Warbler, Hooded Warbler and upland Sandpiper. A Western Meadowlark population has been identified only in Bringham Township, Dane County. Bees The rare Rusty-Patched Bumble Bee has been identified in 8 of the 11 township/ranges (all in Iowa County) traversed by the CHC line. Butterflies Regal Fritillary populations are located in 2 township/ranges in Iowa County and 2 in Dane County. Frogs and Turtles Blanchard's Cricket Frog populations have been identified in 8 of the 11 Iowa County township/ranges traversed by CHC corridors. Pickerel Frog populations have been recorded in 8 of the 16 township/ranges (in both counties). Blanding's Turtle populations have been found in 6 of the 16 township/ranges (in both counties). Ornate Box Turtle populations have	Comment noted. EIS Sections 3.3 and 3.4 disclose potential impacts to threatened and endangered species. Furthermore, RUS consulted with USFWS regarding potential adverse effects to Federally listed species. The biological opinion for the C-HC Project is included as an appendix in the EIS.

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			<p>been recorded in 6 of the 16 township/ranges (in both counties). Fish and Snakes The Lake Sturgeon has been identified in one township/range under the CHC line in Iowa County. Lake Chubsucker and the threatened Pugnosed Shiner have both been identified in one township/range located in Middleton township, Dane. County. More detail from Wisconsin's Natural Heritage Inventory (NHI) is available in the following pages. Endangered, Threatened, and Special Concern Species Documented in the Iowa and Dane County Townships Crossed by the Proposed Cardinal-Hickory Creek Transmission Line The following is a list of species and natural features on the Wisconsin Department of Natural Resource's Natural Heritage Working List that have been documented for each Public Land Survey System (PLSS) township in Iowa and Dane Counties that is crossed by the proposed Cardinal-Hickory Creek Transmission Line. Bald eagles and sensitive species (such as rattlesnakes and bats) are not included in this data, where applicable. Each species or community on the list has been documented in at least one location (but possibly many locations) within the township. These data were last updated on May 13, 2016, so there may be more recent county records not reflected here. Status definitions are located at the end of this document. Please note that absence of data does NOT necessarily indicate absence of a species. Basically, we find species where we look for them, and many of these areas have not been thoroughly inventoried. This data was copied from http://dnr.wi.gov/topic/NHI/data.asp?tool=township on September 29, 2016. T7N R2E (includes parts of Clyde, Highland, and Dodgeville Townships) Scientific Name Common Name WI Status Federal Status Group Acris blanchardi Blanchard's Cricket Frog END Frog~ Ammodramus henslowii Henslow's Sparrow THR SOC Bird Asclepias purpurascens Purple Milkweed END Plant Cirsium hillii Hill's Thistle THR SOC Plant Dry prairie Dry Prairie NA Community Emydoidea blandingii Blanding's Turtle SC/P Turtle~ Erimyzon sucetta Lake Chubsucker SC/N Fish~ Pine relict Pine Relict NA Community T7N R3E (includes parts of Clyde, Wyoming, and Dodgeville Townships) Scientific Name Common Name WI Status Federal Status Group Acris blanchardi Blanchard's Cricket Frog END Frog~ Ammodramus henslowii Henslow's Sparrow THR SOC Bird Asclepias purpurascens Purple Milkweed END Plant Dry-mesic prairie Dry-mesic prairie NA Community Scientific Name Common Name WI Status Federal Status Group Empidonax virescens Acadian Flycatcher THR Bird Guppya sterkii Brilliant Granule SC/N Snail Hendersonia occulta Cherrystone Drop THR Snail Lithobates palustris Pickerel Frog SC/H Frog~ Pine relict Pine Relict NA Community Pituophis catenifer Gophersnake SC/P Snake Setophaga cerulea Cerulean Warbler THR Bird Speyeria idalia Regal Fritillary END Butterfly Terrapene ornata Ornate Box Turtle END Turtle Vireo bellii Bell's Vireo THR Bird T7N R4E (includes parts of Wyoming, Arena, Dodgeville, and Ridgeway Townships) Scientific Name Common Name WI Status Federal Status Group Acris blanchardi Blanchard's Cricket Frog END Frog~ Ammodramus henslowii Henslow's Sparrow THR SOC Bird Asclepias purpurascens Purple Milkweed END Plant Camassia scilloides Wild Hyacinth END Plant Echinacea pallida Pale Purple Coneflower THR Plant Emergent marsh Emergent Marsh NA Community~ Emydoidea blandingii Blanding's Turtle SC/P Turtle~ Lithobates palustris Pickerel Frog SC/H Frog~ Pediomelum esculentum Prairie Turnip SC Plant Setophaga cerulea Cerulean Warbler THR Bird Shrub-carr Shrub-carr NA Community~ Southern sedge meadow Southern Sedge Meadow NA Community~ Spiranthes ovalis var. erostellata October Lady's-tresses SC Plant Thamnophis radix Plains Gartersnake SC/H Snake~ T7N R5E (includes parts of Arena and Brigham Townships) Scientific Name Common Name WI Status Federal Status Group Acris blanchardi Blanchard's Cricket Frog END Frog~ Allogona profunda Broad-banded Forestsnail SC/N Snail Asclepias purpurascens Purple Milkweed END Plant Asplenium pinnatifidum Pinnatifid Spleenwort THR Plant Dry cliff Dry Cliff NA Community Dry prairie Dry Prairie NA Community Empidonax virescens Acadian Flycatcher THR Bird Lithobates palustris Pickerel Frog SC/H Frog~ Oak barrens Oak Barrens NA Community Pine relict Pine Relict NA Community Setophaga citrina Hooded Warbler THR Bird Southern dry-mesic forest Southern Dry-mesic Forest NA Community Southern mesic forest Southern Mesic Forest NA Community Southern sedge meadow Southern Sedge Meadow NA Community~ Stream--fast, hard, cold Stream--Fast, Hard, Cold NA Community~ Terrapene ornata Ornate Box Turtle END Turtle T7N R6E (Vermont Township) Scientific Name Common Name WI Status Federal Status Group Asclepias purpurascens Purple Milkweed END Plant Bombus affinis Rusty-patched Bumble Bee SC/N Bee Carex laevivaginata Smooth-sheathed Sedge END Plant~ Carex prasina Drooping Sedge SC Plant~ Dry prairie Dry Prairie NA Community Forested seep Forested Seep NA Community~ Microtus ochrogaster Prairie Vole SC/N Mammal Scientific Name Common Name WI Status Federal Status Group Microtus pinetorum Woodland Vole SC/N Mammal Nothocalais cuspidata Prairie False-dandelion SC Plant Oak opening Oak Opening NA Community Phegopteris hexagonoptera Broad Beech Fern SC Plant Phemeranthus rugospermus Prairie Fame-flower SC Plant Pituophis catenifer Gophersnake SC/P Snake Prenanthes crepidinea Nodding Rattlesnake-root END Plant~ Scutellaria ovata ssp. ovata Heart-leaved Skullcap SC Plant Spiranthes ovalis var. erostellata October Lady's-tresses SC Plant T7N R7E (Cross Plains Township) Scientific Name Common Name WI Status Federal Status Group Ammodramus henslowii Henslow's Sparrow THR SOC Bird Argia plana Springwater Dancer SC/N Dragonfly~ Asclepias lanuginosa Woolly Milkweed THR Plant Bombus affinis Rusty-patched Bumble Bee SC/N Bee Catocala abbreviatella Abbreviated Underwing Moth SC/N Moth Coluber constrictor North American Racer SC/P Snake Dry prairie Dry Prairie NA Community Erynnis lucilius Columbine Dusky Wing SC/N Butterfly Hesperia ottoe Ottoe Skipper END Butterfly Lithobates palustris Pickerel Frog SC/H Frog~ Microtus ochrogaster Prairie Vole SC/N Mammal Microtus pinetorum Woodland Vole SC/N Mammal Nothocalais cuspidata Prairie False-dandelion SC Plant Polytaenia nuttallii Prairie Parsley THR Plant Schinia lucens Leadplant Flower Moth SC/N Moth Scutellaria ovata ssp. ovata Heart-leaved Skullcap SC Plant Scientific Name Common Name WI Status Federal Status Group Setophaga cerulea Cerulean Warbler THR Bird Setophaga citrina Hooded Warbler THR Bird Southern dry forest Southern Dry Forest NA Community Southern dry-mesic forest Southern Dry-mesic Forest NA Community Thamnophis radix Plains Gartersnake SC/H Snake~ T7N R8E (Middleton Township) Scientific Name Common Name WI Status Federal Status Group Acipenser fulvescens Lake Sturgeon SC/H Fish~ Agalinis gattingeri Roundstem Foxglove THR Plant Asclepias purpurascens Purple Milkweed END Plant Bombus affinis Rusty-patched Bumble Bee SC/N Bee Cuscuta glomerata Rope Dodder SC Plant~ Cuscuta polygonorum Knotweed Dodder SC Plant~ Emergent marsh Emergent Marsh NA Community~ Emydoidea blandingii Blanding's Turtle SC/P Turtle~ Epiaeschna heros Swamp Darter SC/N Dragonfly~ Houstonia caerulea Azure Bluets SC Plant Microtus ochrogaster Prairie Vole SC/N Mammal Notropis anogenus Pugnose Shiner THR Fish~ Papaipema silphii Silphium Borer Moth END Moth~ Ruellia humilis Hairy Wild Petunia END Plant Shrub-carr NA Community~ Southern dry-mesic forest Southern Dry-mesic Forest NA Community Southern sedge meadow Southern Sedge Meadow NA Community~ Springs and spring runs, hard Springs and Spring Runs, Hard NA Community~ Stream--fast, hard, warm Stream--Fast, Hard, Warm NA Community~ Terrapene ornata Ornate Box Turtle END Turtle Scientific Name Common Name WI Status Federal Status Group Thamnophis radix Plains Gartersnake SC/H Snake~ T6N R1E (includes parts of Highland and Eden Townships) Scientific Name Common Name WI Status Federal Status Group Dry prairie Dry Prairie NA Community Triphora trianthophora Nodding Pogonia SC Plant T6N R2E (includes parts of Highland, Eden, Linden and Dodgeville Townships) Scientific Name Common Name WI Status Federal Status Group Acris blanchardi Blanchard's Cricket Frog END Frog~ Argia plana Springwater Dancer SC/N Dragonfly~ Arnoglossum plantagineum Prairie Indian-plantain SC Plant Empidonax virescens Acadian Flycatcher THR Bird Emydoidea blandingii Blanding's Turtle SC/P Turtle~ Lithobates palustris Pickerel Frog SC/H Frog~ Moist cliff Moist Cliff NA Community Phemeranthus rugospermus Prairie Fame-flower SC Plant Southern dry-mesic forest Southern Dry-mesic Forest NA Community Southern mesic forest Southern Mesic Forest NA Community Terrapene ornata Ornate Box Turtle END Turtle T6N R3E (includes part of Dodgeville Township) Scientific Name Common Name WI Status Federal Status Group Acris blanchardi Blanchard's Cricket Frog END Frog~ Agalinis gattingeri Roundstem Foxglove THR Plant Scientific Name Common Name WI Status</p>	

Organization	Commenter Last Name	Comment Code(s)	Comment on DEIS	Agency Response to Comment
			<p>Federal Status Group Ammodramus henslowii Henslow's Sparrow THR SOC Bird Argia plana Springwater Dancer SC/N Dragonfly~ Arnoglossum plantagineum Prairie Indian-plantain SC Plant Dry prairie Dry Prairie NA Community Empidonax virescens Acadian Flycatcher THR Bird Lespedeza violacea Violet Bush-clover SC Plant Lithobates palustris Pickerel Frog SC/H Frog~ Moist cliff Moist Cliff NA Community Noturus exilis Slender Madtom END Fish~ Pediomelum esculentum Prairie Turnip SC Plant Pine relict Pine Relict NA Community Setophaga cerulea Cerulean Warbler THR Bird Southern mesic forest Southern Mesic Forest NA Community Speyeria idalia Regal Fritillary END Butterfly Terrapene ornata Ornate Box Turtle END Turtle Vireo bellii Bell's Vireo THR Bird T6N R4E (includes parts of Dodgeville and Ridgeway Townships) Scientific Name Common Name WI Status Federal Status Group Acris blanchardi Blanchard's Cricket Frog END Frog~ Ammodramus henslowii Henslow's Sparrow THR SOC Bird Carex schweinitzii Schweinitz's Sedge END Plant~ Cirsium hillii Hill's Thistle THR SOC Plant Dry cliff Dry Cliff NA Community Empidonax virescens Acadian Flycatcher THR Bird Lithobates palustris Pickerel Frog SC/H Frog~ Pine relict Pine Relict NA Community Setophaga cerulea Cerulean Warbler THR Bird Scientific Name Common Name WI Status Federal Status Group Setophaga citrina Hooded Warbler THR Bird Southern dry-mesic forest Southern Dry-mesic Forest NA Community Spermophilus franklinii Franklin's Ground Squirrel SC/N Mammal Terrapene ornata Ornate Box Turtle END Turtle T6N R5E (includes part of Brigham Township) Scientific Name Common Name WI Status Federal Status Group Aflexia rubranura Red-tailed Prairie Leafhopper END Leafhopper Ammodramus henslowii Henslow's Sparrow THR SOC Bird Arnoglossum plantagineum Prairie Indian-plantain SC Plant Asclepias lanuginosa Woolly Milkweed THR Plant Asclepias purpurascens Purple Milkweed END Plant Bartramia longicauda Upland Sandpiper THR Bird Bombus affinis Rusty-patched Bumble Bee SC/N Bee Botrychium campestre Prairie Dunewort END Plant Carex laevivaginata Smooth-sheathed Sedge END Plant~ Cirsium hillii Hill's Thistle THR SOC Plant Cypripedium candidum White Lady's-slipper THR Plant~ Dry prairie Dry Prairie NA Community Dry-mesic prairie Dry-mesic Prairie NA Community Echinacea pallida Pale Purple Coneflower THR Plant Empidonax virescens Acadian Flycatcher THR Bird Gastrocopta procera Wing Snaggletooth THR Snail Hendersonia occulta Cherrystone Drop THR Snail Kansendria kansiensis A Leafhopper SC/N Leafhopper Lanius ludovicianus Loggerhead Shrike END SOC Bird Lespedeza leptostachya Prairie Bush Clover END LT Plant Lithobates palustris Pickerel Frog SC/H Frog~ Scientific Name Common Name WI Status Federal Status Group Mesic prairie Mesic Prairie NA Community Pediomelum esculentum Prairie Turnip SC Plant Phemeranthus rugospermus Prairie Fame-flower SC Plant Prenanthes aspera Rough Rattlesnake-root END Plant Prenanthes crepidinea Nodding Rattlesnake-root END Plant~ Schinia lucens Leadplant Flower Moth SC/N Moth Setophaga cerulea Cerulean Warbler THR Bird Setophaga citrina Hooded Warbler THR Bird Southern dry-mesic forest Southern Dry-mesic Forest NA Community Speyeria idalia Regal Fritillary END Butterfly Sturnella neglecta Western Meadowlark SC/M Bird Vireo bellii Bell's Vireo THR Bird T6N R6E (Blue Mounds Township) Scientific Name Common Name WI Status Federal Status Group Aflexia rubranura Red-tailed Prairie Leafhopper END Leafhopper Ammodramus henslowii Henslow's Sparrow THR SOC Bird Arnoglossum plantagineum Prairie Indian-plantain SC Plant Asclepias lanuginosa Woolly Milkweed THR Plant Asclepias purpurascens Purple Milkweed END Plant Asio otus Long-eared Owl SC/M Bird Bartramia longicauda Upland Sandpiper THR Bird Botrychium campestre Prairie Dunewort END Plant Carex prasina Drooping Sedge SC Plant~ Cirsium hillii Hill's Thistle THR SOC Plant Dry prairie Dry Prairie NA Community Empidonax virescens Acadian Flycatcher THR Bird Emydoidea blandingii Blanding's Turtle SC/P Turtle~ Scientific Name Common Name WI Status Federal Status Group Jeffersonia diphylla Twinleaf SC Plant Kansendria kansiensis A Leafhopper SC/N Leafhopper Laevicephalus vannus A Leafhopper SC/N Leafhopper Lanius ludovicianus Loggerhead Shrike END SOC Bird Lespedeza leptostachya Prairie Bush Clover END LT Plant Myndus ovatus A Planthopper SC/N True Bug Pediomelum esculentum Prairie Turnip SC Plant Phegopteris hexagonoptera Broad Beech Fern SC Plant Pituophis catenifer Gophersnake SC/P Snake Prairiana cinerea A Leafhopper SC/N Leafhopper Scutellaria ovata ssp. ovata Heart-leaved Skullcap SC Plant Setophaga cerulea Cerulean Warbler THR Bird Southern dry-mesic forest Southern Dry-mesic Forest NA Community Southern mesic forest Southern Mesic Forest NA Community Speyeria idalia Regal Fritillary END Butterfly Thamnophis radix Plains Gartersnake SC/H Snake~ Vireo bellii Bell's Vireo THR Bird T6N R7E (Springdale Township) Scientific Name Common Name WI Status Federal Status Group Ammodramus henslowii Henslow's Sparrow THR SOC Bird Dichanthelium wilcoxianum Wilcox's Panic Grass SC Plant Emydoidea blandingii Blanding's Turtle SC/P Turtle~ Pediomelum esculentum Prairie Turnip SC Plant T5N R2E (includes parts of Linden and Mineral Point Townships) Scientific Name Common Name WI Status Federal Status Group Acris blanchardi Blanchard's Cricket Frog END Frog~ Ammodramus henslowii Henslow's Sparrow THR SOC Bird Notropis nubilus Ozark Minnow THR Fish~ Noturus exilis Slender Madtom END Fish~ T5N R3E (includes parts of Dodgeville and Mineral Point Townships) Scientific Name Common Name WI Status Federal Status Group Ammodramus henslowii Henslow's Sparrow THR SOC Bird Bartramia longicauda Upland Sandpiper THR Bird Echinacea pallida Pale Purple Coneflower THR Plant Noturus exilis Slender Madtom END Fish~ Penstemon pallidus Pale Beardtongue SC Plant WI Status: Protection category designated by the DNR. END = endangered; THR = threatened; *SC = special concern. SC/P = fully protected; SC/N = no laws regulating use, possession, or harvesting; SC/H = take regulated by establishment of open closed seasons; SC/M = fully protected by federal and state laws under the Migratory Bird Act. *Wisconsin Department of Natural Resources and federal regulations regarding special concern species range from full protection to no protection. Special concern species are those species about which some problem of abundance or distribution is suspected but not yet proved. The main purpose of this category is to focus attention on certain species before they become threatened or endangered. Federal Status: Federal protection status designated by the U.S. Fish and Wildlife Service's Endangered Species Program indicating the biological status of a species in Wisconsin. LT = listed threatened; *SOC = species of concern *Federal species of concern are those species that may be in need of concentrated conservation actions, which vary depending on the health of the populations and degree and types of threats. They receive no legal protection and are not necessarily species that will eventually be proposed for listing as threatened or endangered.</p>	
	Koerner	NEP01; PUB01	<p>First, I find the 466 page report nearly impossible for the average person to review and comment. It is laced with acronyms, abbreviations, names of government agencies and companies that are difficult to comprehend.</p>	<p>Comment noted. The EIS defines complex terminology in the EIS glossary as well as defines the abbreviation list at the beginning of the EIS. We also attempted to write the EIS in plain English for all readers.</p>
	Koerner	ALT04	<p>Second, I am disappointed that a clear alternative to the entire project is not presented. An example alternative would be to not construct this high voltage line and to replace it with lower voltage locally produced electricity. The alternatives discussed in the report are simply segments of the overall project.</p>	<p>EIS Chapter 2, Section 2.2.2, explains why a low-voltage alternative was dismissed from detailed analysis in the Federal EIS.</p>
	Koerner	ALT01	<p>Third, it appears that the "alternatives" considered were just different routes between the 2 endpoints. Apparently little or no work was done to develop non-transmission alternatives.</p>	<p>As discussed in EIS Chapter 2, Section 2.2.2, non-transmission alternatives are not responsive to the applications to which the Federal agencies are responding, nor do they meet the six-point purpose and need described in EIS Chapter 1.</p>
	Koerner	ALT01; SOCIO08	<p>Much more work needs to be done to develop cost benefit studies involving wind, solar, energy storage and efficiency gains. The alternatives presented appear to simply pit one neighborhood against another.</p>	<p>Comment noted. As stated in NEPA regulations 40 CFR 1502.23, "For purposes of complying with the Act, the weighing of the merits and drawbacks of the various</p>

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				alternatives need not be displayed in a monetary cost-benefit analysis and should not be when there are important qualitative considerations." As discussed in EIS Chapter 2, Section 2.2.2, non-transmission and low-voltage alternatives are not responsive to the applications to which the Federal agencies are responding, nor do they meet the six-point purpose and need described in EIS Chapter 1.
	Koerner	SOCIO03; SOCIO06	Fifth, considerable more work needs to be done to evaluate the decline in property values and tourism revenues near the high voltage line. Many land owners and tourism businesses would experience permanent losses. RUS should attempt to quantify the losses.	Comment noted. Potential impacts to social and economic conditions, including property values and tourism, are provided in EIS Section 3.12.
	Koerner	ALT02; INFO04	Sixth, the report identifies the major owners of the GHC power line as ATC (45.5%), ITC(45.5 %) and Dairyland Power Cooperative (9%). However no mention is made of the owners of the 3 entities, which are all local utility companies. These local utility companies benefit from the guaranteed 10.3 % rate of return on their half billion dollar investment. They also control the rates that individual users pay and the policies that ATC & MISO implement. This ownership structure must be explained fully in the FEIS report. The names of the utility companies and their % ownership should be disclosed. .	The three applicant utilities for the C-HC Project are listed and described in EIS Chapter 1.
	Koerner	SOCIO03; SOCIO06	Seventh, the sections of the report on tourism and property values provides some data and some vague percentages but does not attempt to estimate losses in terms of real dollars. It kind of leaves everyone guessing as to how bad it will be. The report should show \$ estimates of potential losses to property and businesses over the 40 year life of the line.	Comment noted. Potential impacts to social and economic conditions, including property values, are provided in EIS Section 3.12. RUS has reviewed the recommended citations of additional peer-reviewed articles presented through public comments and has incorporated this information into the EIS.
	Koerner	NEP02	Fourth, when the report speaks to the "need" it does not define where or who needs the electricity. Are the utility customers in Chicago? Or Michigan? Or New York? Apparently not in Wisconsin. Why not encourage people to generate electricity closer to their homes and businesses. Apparently landowners along the high voltage line would not benefit. However the wind farms in Iowa may benefit by having a path for their energy, but they do not experience any of the costs or damages to the driftless region in Wisconsin. .	EIS Section 1.4 explains that the C-HC Project would create an outlet for additional wind power that would bring electricity from the wind-rich areas of the upper Great Plains to load centers like Madison and Milwaukee, and to the remainder of the MISO footprint.
	Koerner	EFF04	Eighth, the report sections involving geology, vegetation, soils, water and air quality, noise, right of way maintenance and others show many procedures to mitigate damage to the environment. I believe the best method to evaluate these areas is to examine several of the high voltage lines that have been installed and maintained within the last 10 years. The final report should include observations from property owners and tourists near the lines that show the impact of the construction and operation of similar high voltage lines.	Comment noted. Impacts to all resources were based on professional review of scientific literature and reports that are informed by past transmission line projects as well as current data for the proposed project area.
	Koerner	NEP02	As a farm property owner located within sight of the proposed towers, the following are some of the reasons that I oppose the Cardinal Hickory Creek High Voltage Transmission Line: 1. The electricity is simply not needed for Wisconsin or for the driftless area.	Comment noted. EIS Chapter 1 describes the need for the C-HC Project as well as the decisions facing the three Federal agencies that have received loan or permit applications for the C-HC Project.
	Koerner	ALT01	2. I favor local production of electricity instead of bringing it in from out-of-state or out-of-country. Much power is lost when transmitting electricity long distances. Local production may be more reliable and generates income for farmers. 3. Farmers could be paid a premium for producing renewable power instead of paying more for their electric bill to cover the long term debt to finance the high voltage line. 4. Instead of paying for the transmission line over 40 years, more money could be available for Focus on Energy programs to help fund the cost of renewable energy systems installed on our farms.	Comment noted.
	Koerner	LAND02	5. Our farm and our neighbors' farms are certified organic. Spraying herbicides on the transmission line easement area would damage organic crops nearby and risk the loss of certification.	EIS Chapter 3 includes the following environmental commitments related to herbicide use: The Utilities will employ a Certified Pesticide Applicator for all herbicide applications within the C-HC Project. The Certified Pesticide Applicators will only use herbicides registered and labeled by USEPA and will follow all herbicide product label requirements. Herbicides approved for use in wetland and aquatic environments will be used in accordance with label requirements, as conditions warrant. During the easement negotiation, landowners can decline the use of herbicides for vegetation management activities once the line is in operation. Therefore, no herbicides would be applied within portions of the ROW on which the landowner wishes not to introduce it.
	Koerner	HAS01; SOCIO06; VIS01	6. Our property values would be reduced because of the unsightly huge towers and the concerns that people have about health issues related to stray voltage and magnetic fields near the wires.	Comment noted. Potential impacts to socioeconomics are disclosed in Section 3.12, and potential impacts to public health and safety are disclosed in Section 3.13.
	Koerner	NEP02	7. While ATC would like us to believe that the CHC line is needed in order to use more renewable energy. It appears that more energy produced from fossil fuel (e.g. dirty coal) will be transmitted over the "open" line.	Comment noted. EIS Chapter 1 describes the need for the C-HC Project as well as the decisions facing the three Federal agencies that have received loan or permit applications for the C-HC Project.
	Koerner	DECI13; LAND02	8. I am concerned about a private company (ATC) using eminent domain to take valuable farm property. It is simply morally and ethically wrong!	Comment noted.
	Koerner	ALT01	Summary Recommendation: · Adopt the "No Action" alternative which does not build the project or fund any of the Dairyland portion, OR · Put the entire project on the shelf for 3 to 5 years. Much needs to be done to evaluate the non-transmission alternatives and the rapidly changing electricity storage and usage issues.	Comment noted.
	Giffey, Giffey	OOS01	We built our home in the Town of Arena, Iowa County, Wisconsin, in 1983, and have lived and worked here as artists, teacher in local schools, local newspaper editor, and active community members for 35 years. We are owners of 8.7 acres of wooded hillside, which we strive to preserve naturally and without chemical pesticides and herbicides. When we built our house we included active and passive solar energy. We installed an active solar hot water heating system with collecting panels on the roof. We "super-insulated" our house to R44 by building 12-inch-thick exterior walls filled with insulation. We heated with wood convection heat and passive solar for more than 30 years. We then installed a geothermal heating and cooling system. We worked consistently to reduce our electricity use and plan to do so in the future. We hope to install new solar panels and to make use of photovoltaic electricity storage, to become more self-sufficient.	Comment noted.
	Giffey, Giffey	ALT04	We see a need for NonTransmission Alternatives and would support the development of neighborhood solar panels producing energy to be shared locally.	Comment noted. As discussed in EIS Chapter 2, Section 2.2.2, non-transmission alternatives are not responsive to the applications to which the Federal agencies are

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				responding, nor do they meet the six-point purpose and need described in EIS Chapter 1.
	Giffey, Giffey	SOCIO06	We have specific information about property values, which would impact us if CHC crosses our property as was proposed. Four years ago, a land-use issue required us to employ a respected appraiser, James D. Rawson of Rawson Realty, to inspect our property and to provide information regarding fencing and gating, which was built along about 100 yards of our rural residential property between a shared driveway and our property. Rawson Realty's findings regarding the fence and gates stated in part: "In conclusion, it is my opinion that the damages would be at least 60% to the land...damages are estimated at \$68,000." This was a 60 percent reduction in our land's market value due to a barbed wire fence, which was later removed. We are convinced that property values along the proposed CHC corridor would likewise be reduced.	Comment noted. Potential impacts to social and economic conditions, including property values, are provided in EIS Section 3.12. RUS has reviewed the recommended citations of additional peer-reviewed articles presented through public comments and has incorporated this information into the EIS.
	Giffey, Giffey	OOS02	Refer to detailed requests presented here: http://bit.ly/SellaDan_RUS_DEIS 1# Comment: Please add our names to the numerous list of citizens concerned, as stated in the DEIS, about the "...potential, adverse economic impacts resulting from loss of tourism, retirement housing, and business revenue in the area" from the high voltage option of the Cardinal-Hickory Creek (CHC) proposal.	Comment noted.
	Giffey, Giffey	AIR04; ALT04	The current DEIS does not quantify CO2 emission impacts associated with using the transmission line options or substantiate transmission builders' claims of "only potential environmental benefits." In contrast a Non-Transmission Alternative investment in energy efficiency, load management and distributed solar guarantees CO2 reductions and significant energy savings with minimal, negative environmental impacts.	EIS Chapter 4, Section 4.4 has been revised to estimate the CO2 emissions that could occur from generation sources that would benefit from the C-HC Project. This analysis compares two scenarios: 100% coal-generation sources benefitting from the C-HC Project and 100% wind-generation sources benefitting from the C-HC Project. This analysis provides a range of CO2 emissions from possible generation sources. Non-transmission and low-voltage alternatives are not analyzed for cumulative impacts because these alternatives are not carried forward for detailed analysis in the EIS.
Mount Horeb Area School District	Sailor	SOCIO04; SOCIO06	As you continue gathering data and recording public comments during your Environmental Impact Study phase of ATC's Cardinal-Hickory Creek application, I wish to submit a different perspective on "environmental impact". My friends and colleagues from the Driftless region will, no doubt, convince you of the irrefutable harms our land will face when a transmission line is erected through such a fragile ecosystem. As an elected official representing the welfare of children, I am writing to underscore the negative impact the CHC line will cause on our students' learning environment. One of my main concerns with this project hasn't been openly discussed, because it's an uncomfortable reality: ATC is creating perfect conditions for residential poverty clusters with each new transmission line erected. There are many neighborhoods with school-aged children along the path of the proposed CHC transmission line. Due to the instant and permanent property devaluation, plus disheartening aesthetics of living in the shadow of transmission towers, many of the families currently living around the proposed route will cut their losses and move. Many businesses, grocery stores, hotels, and childcare centers may also move, creating "resource deserts"; terrible news for the new residents moving into these discounted houses. To understand resource deserts, one merely needs to look at the Allied Drive1 neighborhood in Madison, devoid of grocery store options, healthy restaurants, schools, libraries, and all-ages indoor community spaces. To understand the neighborhoods typically found around large power line projects, drive south on I-39S/90E from Madison to Chicago, where identical tract houses absent of yards, and low-income regulated apartments, circle close to transmission towers.	Comment noted. Potential impacts to social and economic conditions, including property values, are provided in EIS Section 3.12.
Mount Horeb Area School District	Sailor	SOCIO03; SOCIO06	Since transmission lines usually follow highways, developers and real estate agents can simply market these neighborhoods as "commuter homes". The physical and social-emotional factors of living in poverty have a detrimental effect on students' cognitive performance. This topic remains one of the best-studied areas of educational research, with many landmark studies still used in decision-making today. Surely, we can learn much from the conclusions of those studying residential poverty clusters across the decades: children hailing from low-income neighborhoods are faring much worse in schools, while those coming from the resources and stability of much more have dramatically higher rates of success. Sadly, even before children enter our classrooms, we know who will likely need extra supports based on their socioeconomic demographics. It stands to reason that children along the CHC line may need more help, too.	Comment noted.
Mount Horeb Area School District	Sailor	SOCIO04; SOCIO06	Eroding property values have an enormous impact in communities. Public school districts rely on stable property taxes to fund our schools; in fact, this is the primary method through which we fund our schools. Instant devaluation in the 10, 20, or even 30% range of properties along the CHC line will weaken our fiscal outlook to levels too difficult to fathom in our already tight budgets. Some of the communities affected by the CHC line are still zoning for new homes. In August of 2018, The Wall Street Journal highlighted research that demonstrates vacant lots abutting high voltage transmission lines have a price tag up to 45% less than equivalent lots further away. In the '50s and '60s, we saw socioeconomic disparities with 3 kids living on the "wrong side" of industrial railroad tracks that physically divided towns. Starkly put, massive transmission lines such as the CHC project create further environmental injustice—"Power Line Kids"—but we won't have the adequate finances from low property assessments to provide the equitable support these children so deserve. Given our continual decrease of electricity usage, we can do better. Our school district remains so concerned about the array of consequences of having the CHC line come through our town, that the Board of Education made the unprecedented step of writing a formal opposition resolution to try to protect our community's most valuable resource—our children. Here's the good news: the negative impacts the CHC line will bring are entirely preventable. I urge you to deny this unneeded, unwanted project. Our youth are facing enough burdens in their learning environments: let's not give them one more. Thank you for your consideration. Respectfully, Kimberly Sailor Treasurer, Board of Education Mount Horeb Area School District 1 Bauer, L. (2016, August). Making a Food Desert Bloom. BRAVA Magazine. 2 Battistich, V., Solomon, D., Dong-il, K., Watson, M., Schaps, E. (1995). Schools as Communities, Poverty Levels of Student Populations, and Students' Attitudes, Motives, and Performance: A Multilevel Analysis. September 1, 1995. American Education Research Journal, 32(3), 627-658. 3 Bonislowski, A. (2018, August 15). The Electrifying Factor Affecting Your Property's Value. The Wall Street Journal, Retrieved from: https://www.wsj.com/articles/the-electrifying-factor-affecting-your-property-value-1534343506	Comment noted. Potential impacts to social and economic conditions, including property values, are provided in EIS Section 3.12. RUS has reviewed the recommended citations of additional peer-reviewed articles presented through public comments and has incorporated this information into the EIS.
	Grice	DECI13	We moved to Grant County WI in 1983. We researched and chose Grant County for a lot of reasons amongst which were the conservation ethic here, the beauty, and the quality of life. Citizens of Grant County are good stewards of the land and have taken responsibility for conservation practices which preserve and enhance the land. It was here that I got a master's degree in the sciences with an emphasis in environmental toxicology. The information I acquired through that was of tremendous benefit to me from then on. Throughout my life I have worked to the best of my ability to conserve the resources I had and to leave them in better shape than when I got here. I oppose this transmission line for a lot of reasons because of its impact on our local environment and the environment across the whole of the midwest.	Comment noted.
	Grice	SOCIO01	It pollutes our beautiful, unspoiled views of nature and thus reduces our quality of life. It will also impact my studio income as an artist because people do not travel long distances to look at a transmission line while painting.	Comment noted. Potential impacts to social and economic conditions are provided in EIS Section 3.12.

Organization	Commenter Last Name	Comment Code(s)	Comment on DEIS	Agency Response to Comment
	Grice	WAT02	I am concerned that the company uses many toxic chemicals on the easement they acquire and around the poles to keep them from rotting. The chemicals will eventually seep into our groundwater and cause health concerns. Some of these chemicals are related to the chemical agent orange that was so detrimental to many of our Vietnam veterans and our farmers. These companies claim their new chemicals are safe but there has not been enough years of research on them before they are released to know what their bad effects may be. I don't want to be a "human guinea pig" only to find out years later (as we always do) that the chemical actually caused health problems. I am concerned for the groundwater because of the company's lavish use of chemicals sprayed on the easement and over the branch of the Platte River it crosses near my home.	Comment noted. EIS Chapter 3 includes the following environmental commitments related to herbicide use: The Utilities will employ a Certified Pesticide Applicator for all herbicide applications within the C-HC Project. The Certified Pesticide Applicators will only use herbicides registered and labeled by the USEPA and will follow all herbicide product label requirements. Herbicides approved for use in wetland and aquatic environments will be used in accordance with label requirements, as conditions warrant. During the easement negotiation, landowners can decline the use of herbicides for vegetation management activities once the line is in operation. Therefore, no herbicides would be applied within portions of the ROW on which the landowner wishes not to introduce it.
	Grice	SOIL02; WAT02	Many may not know this but we are still fortunate here to have great ground water where it has deteriorated in many areas of the country. The holes they dig for the poles are deep and may allow these very toxic chemicals to seep into the groundwater when they are sprayed on the poles. I am concerned the line will cause erosion because of all the construction in the area and the removal of trees and sod.	Potential impacts to groundwater are disclosed in Section 3.5 of the EIS. Potential impacts to soils, including erosion, are disclosed in Section 3.2 of the EIS.
	Grice	WLDF01	The line will interfere with the habitat of many of the wild animals I watch from my windows including the bald eagles.	Comment noted. EIS Section 3.4 discloses potential impacts to wildlife.
	Grice	ALT02	A major concern is that this line will be a white elephant on the landscape in the near future. How will this monstrosity be dismantled when it is no longer useful?	EIS Chapter 2 has been revised to include a description of decommissioning activities to remove the C-HC Project once it reaches the end of its life.
	Grice	SOIL01; WAT02	How will we decontaminate the land?	Comment noted.
	Grice	HAS01; SOCIO03	How much will this cost our community in the near future? In health, in decontamination, in restoration of the landscape, in tourism?	Comment noted. Potential impacts to socioeconomics are disclosed in Section 3.12, and potential impacts to public health and safety are disclosed in Section 3.13.
	Grice	ALT04	The future is in non-transmitted power. In Iowa many farmers now have solar right on their own farmstead so they are no longer dependent on large power companies. I, myself, have had each of my farmsteads evaluated for solar power and have only put that transition off because the technology for the new batteries will not be available for 2-3 years. I plan to have all my places off the grid as soon as those batteries become available and I know lots of other people in the same situation. Electrical engineers in Seattle and Silicon Valley are rapidly developing methods to store electrical power so we won't need power lines. My son, an electrical engineer in Seattle already has a prototype of this on his home where he is selling energy back to the local utility and getting a nice fat check at the end of the year.	Comment noted.
	Grice	EFF01	I read the preliminary Environmental Impact Statements prepared for this project and feel they are invalid. An alarming thing that immediately stares out at me and makes these statements invalid is the fact many of the studies cited are historic studies when the current technology was not available. In any research these days it is well-documented that studies over a year or two old are very likely outdated because of rapid advances in technology.	Comment noted. RUS has looked and continues to look at all new studies and incorporates any new findings that are identified or brought to their attention into the EIS.
	Grice	DECI13; SOCIO01	Finally, Do we really want to build this white elephant in our backyards, destroy our environment doing so, and then have to look at it for the next 50 years when it is no longer useful and deteriorating in our environment? How will I ever be compensated for my losses because of this line? Why do we allow a huge company come to our beautiful area and destroy it all the while using our tax dollars to do so? What if we used those same tax dollars to improve our own environment by increasing the credits for solar generation?	Comment noted.
	Grice	REC04	[attachments] Ridgeway Pine Relict State Natural Area Volunteer Additions Does not include Garlic mustard Jan 1, 2018 thru April 2018 excluding 2nd Friday work parties of 1-12; 2-9; 3-9; 4-13 SouthCentral Region Indicated if not at South field off CTR H [tables] As the chair and volunteer coordinator of the Friends of Ridgeway Pine Relict SNA, Inc. I wrote a resolution we adopted on the 31st day of July, 2017 and entered it into your record when you were considering two alternative routes. The current route is actually the most offending to the Ridgeway Pine Relict State Natural Area, although either would be bad. We preserve, protect, study and promote the unique ecosystem and rare biodiversity of the 551 acre Ridgeway Pine Relict State Natural Area. Here ridges of tall pine relict are set in sandstone cliffs and rock walls that soar over wetlands, oak savannas, a major wetland and restored/restoring prairies. Our main priority is preserving our unique combination of Northern alpine flora and Southern native species. We sacrifice our time and energy to collect and sow seed, burn brush piles, pull Garlic mustard, and remove woody invasives. For three years in a row we have put in more combined volunteer hours on this State Natural Area than any volunteer group has done for any other State Natural Area... many hundreds of hours each year by young and old, local farmers and by city folk who recognize its unusual status. That would be put to waste by the current plan, or any plan in the greater area.	Comment noted. EIS Section 3.3 discloses potential impacts to vegetative communities, including pine relicts.
	Grice	REC04; WLDF01; WLDF04	Many people do not know what a relict is. These pine relicts are direct descendants of ancient pine forests that had covered all of WI after the Ice Age. Protected from prairie fires by unglaciated rocky terrain, these alpine communities survived prairie fires and nearby development with both Northern and Southern plant species. It is unique in the world to have this quantity and quality of combined Northern alpine species along side Southern WI species. They are becoming even more important in this age of climate change because they have the resilience of shade and of deep cold water in rock formations to cool the flora and fauna. We have a Great Blue Heron rookery, coyotes, bobcats, Whipperwills, Walking Fern, etc. See http://www.friendsofridgewaypinerelict.org/ to see a visual tour. For more technical information about species being studied see the state's website at http://www.friendsofridgewaypinerelict.org/about.html . Wisconsin's endangered Ornate Box Turtle is also found close by. Also see the collection of plant specimens from here at the Wisconsin State Herbarium at the Department of Botany, University of Wisconsin. We have great fear about the negative environmental impacts of such a major intrusion as the proposed Cardinal-HickoryCreekTransmission Line. The current route proposal comes within a mile or two of the edges of the protected pine relicts. Besides it touches many lands that have recognized pine relict remnants that are not yet protected. Such a huge intrusion will likely negatively effect the longevity of the existing pine relicts. Unnecessary fragmentation jeopardizes threatened species. Additional separation and chemical spraying along such lines divides delicate species by a dead zone.	Comment noted. EIS Section 3.3 discloses potential impacts to vegetative communities, including pine relicts.
	Grice	ALT04	Even if more power were ever needed, upgrading existing lines, local renewable energy projects already being built, accelerating energy efficiencies, and practical load management techniques would insure reliable, steady flows of electrical energy at a much lower cost, economically and environmentally. Because of these many factors, the Friends of the Ridgeway Pine Relict supports using local energy generation and	Comment noted.

Organization	Commenter Last Name	Comment Code(s)	Comment on DEIS	Agency Response to Comment
			transmission options that minimize the negative environmental impact on the pine relicts and the community instead of the wasteful and out-moded Cardinal-Hickory Creek Transmission Line.	
	Grice	REC04; VEG01; WLDF01	The Ridgeway Pine Relict SNA was established by the Natural Resources Board in 1997, with an approved acquisition goal of 1,510 acres. Ridgeway Pine Relict and create a 550-acre block of much improved publicly accessible land near Madison. The properties provide excellent deer, turkey, squirrel and other hunting and trapping opportunities as well as bird watching, hiking, nature study and opportunities for scientific research on the unique pine relict species community. The Ridgeway Pine Relict SNA was created with the goal of protecting the pine relicts that feature soaring sandstone cliffs, numerous rock outcrops, shallow caves and rock shelters. Pine relicts are southern Wisconsin pine forests that have persisted since the last glacier receded some 12,000 years ago when a cooler climate was favorable for the growth of pine forests. As the climate warmed, prairie and oak woodlands replaced the pine and today remnant pine forests remain only on steep slopes and rocky cliffs in the Driftless Area. These rocky outcrops protected the pine remnants from fire and allowed the pines to reach old-growth status. The pine relicts at Ridgeway are the best remaining in Wisconsin. The relict communities are unlike the northern pine forests in that they contain both northern and southern understory plant species. White pine and red pine dominate the tree canopy, while sugar maple, mountain maple, yellow birch, and hemlock constitute a smaller component. The ground flora includes pipsissewa, shin leaf, wintergreen huckleberry, and Canada mayflower. There is also a high diversity of ferns present. Other significant features of the property include sandstone cliffs with shaded and open plant communities, diverse spring runs, sedge meadows, and dry-mesic prairie. Several species of greatest conservation need are found on or near the Day property at Ridgeway Pine Relict. They include three forest interior bird species listed as State-Threatened: Acadian flycatcher, cerulean warbler, and hooded warbler. Black-billed cuckoo, brown thrasher, red-headed woodpecker, whip-poor-will, wild turkey and eastern meadowlark are also documented as breeding on the site.	Comment noted. Impacts to pine relict stands are disclosed in Section 3.3, and visual impacts to public areas are disclosed in Section 3.11.
	Winterwood	LAND02	This big money company is raping our wildlife areas timber and farm field. Giving farmers and landowners petulant money for what they are taking and then after taking the land nothing grows in the timber, wildlife areas and farm land as they pray everything. The farmers that have signed have not seened a profit on the farm for 4 years and are desperate.	Comment noted.
	Winterwood	WLDF01	The wildlife areas are forever damaged by the poles	Comment noted.
	Winterwood	DECI13	The project is such big money they do not even have to follow Iowa Code I have called the utilities board and have not even received a call back.	In addition to complying with all applicable Federal regulations, the C-HC Project must have an electric transmission franchise granted by the State of Iowa. EIS Section 1.6 explains the process the Iowa Utilities Board will follow to consider the authorization of electric transmission line franchise for the C-HC Project.
	Winterwood	SOCIO02	Lastly jobs – there will be no area jobs from this – they bring all their own crew.	Comment noted.
	Winterwood	SOCIO06	These poles will make our property worth less. It is just pity pay for dumb farmers that they are offering for properties. After asking the company repo if they would live by these poles they told us NO!	Comment noted.
	Conlon	NEP02	I am opposed to the building of the CHC line because 1) it's not needed. We have enough energy in Wisconsin	Comment noted. EIS Chapter 1 describes the need for the C-HC Project as well as the decisions facing the three Federal agencies that have received loan or permit applications for the C-HC Project.
	Conlon	WAT01; WLDF01	2) it will have serious environmental effects. It will degrade the environment, destroy habitat and cause pollution of our water	Comment noted. EIS Section 3.4 disclosures potential impacts to wildlife. EIS Section 3.5 discloses potential impacts to water resources.
	Conlon	WLDF01	3) It has potential to negatively effect the health of wildlife, animal livestock and wildlife	Comment noted. EIS Section 3.4 discloses potential impacts to wildlife. EIS Section 3.13 discloses potential impacts to livestock from EMF exposure.
	Conlon	SOCIO03; SOCIO06	4) It will have a detrimental effect on our local economy. Tourism will suffer, property values will decline, our local municipalities will have reduced funds to support our institutions and infrastructure.	Comment noted. Potential impacts to social and economic conditions, including property values and tourism, are provided in EIS Section 3.12.
	Conlon	DECI13	5) Finally, it is simply wrong to desecrate our beautiful, pristine driftless area for the sake of a greedy few.	Comment noted.
	Winterwood	VEG01	If the existing transmission line across the Mississippi is abandoned how long would it take for the trees where the line is abandoned to reach maturity	EIS Section 3.14 discloses potential impacts within the Refuge. It is estimated that reforestation efforts working in concert with natural forest regeneration and succession would take approximately 100 years for the forested area to reach maturity.
	Winterwood	WLDF01	Are there are red-shouldered Hawk nests that would be affected by either alternative transmission line across the Mississippi.	Potential impacts to resources within the Refuge are disclosed in EIS Section 3.14. The reader is referred to Section 3.14.1 for a summary list of wildlife that could occur in the Refuge near the C-HC Project. USFWS is not aware of any red-shouldered hawks using the analysis area due to unsuitable habitat conditions.
	Conlon	NEP02	1) Is this project intended in whole or in part intended to compensate for the de-commissioned coal or natural gas generating plants in Wisconsin?	EIS Section 1.4 explains that the Nelson Dewey (nameplate 220 megawatt [MW]) and Stoneman (nameplate 40 MW) power plants in Cassville, Wisconsin, both ceased operations in 2015. These plant closures have changed the electricity flows on the regional grid in southwestern Wisconsin and have increased the reliance on the local transmission system due to the need to bring electricity from more remote generation sources to maintain local electric service. Because of these plant closings, Dairyland Power Cooperative, American Transmission Company LLC, and MISO have had to establish operating guides to control how much power flows through the transmission lines in southwestern Wisconsin under certain operating conditions.
	Conlon	SOCIO01	2) What is the Real cost/benefit ratio / for what length of time will that hold?	The Federal agencies are required to comply with NEPA. As stated in NEPA regulations 40 CFR 1502.23, "For purposes of complying with the Act, the weighing of the merits and drawbacks of the various alternatives need not be displayed in a monetary cost-benefit analysis and should not be when there are important qualitative considerations."

Organization	Commenter Last Name	Comment Code(s)	Comment on DEIS	Agency Response to Comment
	Conlon	ALT02	3) Is there a diminishing benefit ?? be time changes as a result of maintenance and replacement of equipment? ... both in wind generating equipment and substations?	Comment noted. All projects have a useful life that depreciate and require maintenance over time. Some equipment experience output losses during their useful life. All these factors are taken into account when a project is selected for implementation.
	Conlon	ALT02	4) Is money set aside for de-commissioning of equipment and removal of wind towers & wind farmers?	Thank you for your comment. The decommissioning of wind towers and associated equipment is outside the scope of this EIS.
	Conlon	NEP02	5) Show why this line is requirement – is the data provided?	Comment noted. EIS Chapter 1 describes the need for the C-HC Project as well as the decisions facing the three Federal agencies that have received loan or permit applications for the C-HC Project.
		HAS01	*concerned about stray EMF voltage affecting the current use of a commercial property at 4319 Twin Valley Road, Middleton - we use propane + are worried about stray voltage EMF sparking gas + explosions - we fuel equipment + vehicles with portable gasoline outdoors + are worried about stray voltage EMF sparking while refueling + safety of employees	Section 3.13 of the EIS discloses information about electric and magnetic fields as well as stray voltage.
		ALT01; SOCIO06	If this route is taken (Route 6) it devalues property because of use limitation	Comment noted. Potential impacts to social and economic conditions, including property values, are provided in EIS Section 3.12.
		ALT01; VEG01; VIS01	• Recommend using route North of Hwy 14 near Twin Valley Road: - Existing ROW easements already in place for other power now - Land is wet/marshy and cannot be built on, so no hwy adverse effect on bldgs. - The route on North 14 would be straight + less costly - Trees would need to be cut down near property that act as a visual buffer + cut down traffic noise + no new trees would be planted	Comment noted. RUS and the Cooperating Agencies will take into account all public comments as well as analysis contained in the EIS when identifying a preferred alternative in the EIS.
	Schmidt	NEP02; VEG01	ATC has installed many transmission lines across Wisconsin already. I would like to know if these existing lines are meeting their each, individual project 'promises'? Are the existing lines negatively impacting the environment? I would say, as I drive across the state and see these transmission lines it has severely damaged the foliage – trees, brush, crops – changed forever. Clear cutting forests to make way for these lines is detrimental to the environment. The existing lines: 1. Are they at capacity? If not, why is C-HC needed? 2. Is ATC held accountable for solving problems they've created for existing homeowners along the line corridor?	Comment noted. EIS Chapter 1 describes the need for the C-HC Project as well as the decisions facing the three Federal agencies that have received loan or permit applications for the C-HC Project.
	Schmidt	ALT04; VEG01	3. Has it been considered to bury the line? Would trees/brush/weed need to be removed if lines are buried?	EIS Chapter 2 discusses the alternative of burying the transmission line underground. Vegetation would need to be removed within the transmission line ROW to accommodate the buried infrastructure.
	Schmidt	NOISE01; VEG01; WLDLF01	4. I have a pond on my property & I am concerned about wildlife & plant life. I live ~300 feet from the proposed corridor. What recourse will I ever have if I see negative impacts after the line is erected? I have heard many stories of ATC not following up on complaints after lines are installed – revolving around noise & foliage	Comment noted. EIS Section 3.3 discloses potential impacts to vegetation. Potential noise impacts are disclosed in Section 3.7 of the EIS. The Utilities will enter into right-of-way agreements with landowners once a route is selected. The right-of-way agreement will outline the terms and conditions for communication between the Utilities and landowners.
	Schmidt	DECI13; NEP02	Bottom line – fiscally not responsible to put up these lines & have us & our child pay for this for 40 years! We do not have any worries of electricity blackouts or even brownouts. Ger real, this is not needed. Very concerned about the Mississippi River area & negative impacts to the river, forests ... not to mention the beautiful views that will be ruined.	Comment noted. EIS Chapter 1 describes the need for the C-HC Project as well as the decisions facing the three Federal agencies that have received loan or permit applications for the C-HC Project. EIS Section 3.5 discloses potential impacts to water resources. EIS Sections 3.11 discloses potential impacts to visual resources and aesthetics.
	Nobel	DECI13	As an owner of property directly in the path of one part of this project I am opposed. AS a life long resident and visitor of Southwestern Wisconsin I am also opposed to this project.	Comment noted.
	Nobel	LAND01; SOCIO06	My reasons to oppose this project include: 1. Direct personal loss of property, property value and use.	Comment noted. Potential impacts to social and economic conditions, including property values and tourism, are provided in EIS Section 3.12.
	Nobel	NEP02	2. Lack of demonstrated need for this project	Comment noted. EIS Chapter 1 describes the need for the C-HC Project as well as the decisions facing the three Federal agencies that have received loan or permit applications for the C-HC Project.
	Nobel	SOCIO01	3. Loss of money taken from taxpayers to build an unnecessary line when those same funds could be used for many other local energy projects.	Comment noted. Alternatives to the C-HC Project, such as non-transmission and low-voltage alternatives, are described in Chapter 2.
	Nobel	CUL01; VEG04	4. Loss of wetlands, potential loss of currently undiscovered cultural and historic resources	Section 3.9 of EIS discusses the potential impacts to cultural and historic resources. Potential impacts to wetlands are disclosed in EIS Section 3.3.
	Nobel	VIS01	5. "unavoidable adverse impact" of destroyed visual and aesthetic resources	Comment noted.
	Nobel	LAND01; WAT01; WLDLF01	6. Irreversible and irretrievable impacts and loss of water, biological resources land use and ownership.	Comment noted. EIS Chapter 4 includes the disclosure of irreversible and irretrievable impacts to resources.
		REC03; VIS01	The Ice Age trail has been a big part of my life for 30 years. I know every segment and every property that is owned for the Ice Age Trail in southern Wisconsin. I have hiked on the properties in Dane County that are owned for the public but where no Ice Age Trail has as yet been built due to lack of a road-to-road connecting. From this experience I can say that the views from these places of Blue Mounds are many of the most scenic places in southern Wisconsin. The draft EIS for the CHC transmission does not adequately address the impacts of this proposed line on the places I mentioned above. The CHC transmission line would have very serious negative impacts on places I know very well and love.	EIS Section 3.10 discloses potential impacts to the Ice Age National Scenic Trail.
		NEP02	Additionally, the public need for the proposed CHC powerline has not been proved by the draft EIS. The proposed CHC transmission would unnecessarily raise rates of rate-payers. It is not needed.	Comment noted. EIS Chapter 1 describes the need for the C-HC Project as well as the decisions facing the three Federal agencies that have received loan or permit applications for the C-HC Project.

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	Clutter	ALT01	The DEIS fails to analyze how a range of alternatives can address grid reliability as required by the WI PSC.	Comment noted. The Federal EIS does not consider alternatives in the same manner as the PSCW. The Federal agencies are required to comply with NEPA. The Federal EIS considers alternatives that are ripe for Federal consideration. What that means is that a proposal has been made for those alternatives or that it is reasonably foreseeable that they could be implemented in a time frame that would meet the need for the Federal action. The State of Wisconsin has also analyzed the project through the PSCW and WDNR EIS process (PSCW 2019). The PSCW will make an appropriate determination as to project need with respect to their jurisdictional responsibilities under Wisconsin Statute 196.491(3) (see Section 1.2.21 of PSCW [2019]). Requirements for alternatives consideration under Wisconsin Statute 196.491(d) are very specific and separate from NEPA. Per their jurisdictional responsibilities, the PSCW is considering if and how the range of alternatives meets those requirements (see Section 1.2.2.1 of PSCW [2019]).
	Clutter	ALT01; ALT04	The DEIS compares early non transmission alternative in isolation of each other, as opposed to an analysis of an integrated approach among multiple non-transmission alternatives.	The Federal EIS considers alternatives that are ripe for Federal consideration. What that means is that a proposal has been made for those alternatives or that it is reasonably foreseeable that they could be implemented in a time frame that would meet the need for the Federal action. A combination of reasonably foreseeable multiple non-transmission alternatives has not been proposed to the Federal agencies for consideration.
	Clutter	ALT01; EFF01	Furthermore, the DEIS does not compare the benefits of the project with a coordination of likely alternatives under low, zero or negative growth scenarios.	Comment noted.
	Clutter	NEP02	How will they final Fed EIS address these need and reliability issues? ATC has not established a clear need for electricity from west of the Mississippi to Wisconsin. Energy demand has been flat or declining for nearly 10-years, with projections suggesting more of the same. How will the Fed EIS address this lack of demonstrated need?	Comment noted. EIS Chapter 1 describes the need for the C-HC Project as well as the decisions facing the three Federal agencies that have received loan or permit applications for the C-HC Project.
	Clutter	ALT01; ALT04	Finally, the Fed EIS does not address or analysis of best low-carbon alternatives. How will the final EIS address the lack of analysis between high voltage transmission vs. alternative transmission alternatives?	As discussed in EIS Chapter 2, Section 2.2.2, non-transmission and low-voltage alternatives are not responsive to the applications to which the Federal agencies are responding, nor do they meet the six-point purpose and need described in EIS Chapter 1.
		HAS01	I am concerned about the impact of the C-HC Project on the health of those living in proximity to the transmission lines. The short coming of DEIS is that it provides little evidence to assure people of the Project's safety.	Comment noted. Section 3.13 of the EIS discloses potential impacts to public health and safety that could occur from wildfire, occupational safety, hazardous materials, and electric and magnetic fields.
	Sonzogni	NEP02	My family and I are opposed to the transmission line project. First of all, we have seen no evidence that the power is needed for the immediate future.	EIS Chapter 1 describes the need for the C-HC Project as well as the decisions facing the three Federal agencies that have received loan or permit applications for the C-HC Project.
	Sonzogni	SOCIO03	Next, the line would pass through the Driftless Area, one of the most beautiful regions in the Midwest. This region is rapidly developing as an important tourist and recreation area – a unique region with important economic implications for the people who live there.	Potential impacts to visual quality and aesthetics are disclosed in EIS Section 3.11, and potential impacts to social and economic conditions, including tourism, are disclosed in EIS Section 3.12.
	Sonzogni	NEP02	Why scar this area with large power lines, especially given the need for the power is not established.	Comment noted.
	Cox	DEC113	#1 Comment: Please add my name to the 252 citizens initially concerned about the DEIS address "potential adverse economic impact resulting from loss of tourism, retirement housing + business revenue in the area" from the high voltage option of the CHC proposal.	Comment noted.
	Cox	SOCIO03	Study + estimate the 40-year losses in property value, tourism revenue, potential housing + business development + decline in population for each compared to the total losses for each municipality to the Environmental Impact fees amounts they would receive based on WI law.	Comment noted. Section 3.12 of the EIS analyzes the potential socioeconomic impacts from the six action alternatives and the No Action Alternative to tourism, property value, housing, and other demographic topics. Quantifying the monetary impacts in the manner suggested is not required by NEPA regulations. As stated in NEPA regulations 40 CFR 1502.23, "For purposes of complying with the Act, the weighing of the merits and drawbacks of the various alternatives need not be displayed in a monetary cost-benefit analysis and should not be when there are important qualitative considerations."
	Myers	HAS01; SOCIO01	I am opposed to the Cardinal Hickory Creek (C-HC) Transmission Line Project for a number of reasons, including health issues, destruction of our environment, and serious economic impacts.	EIS Section 3.12 discloses potential impacts to socioeconomics and EIS Section 3.13 discloses potential impacts to public health and safety.
	Myers	HAS01	If passed and implemented as proposed, the Project will have harmful and irreversible impacts on communities in its path. High-voltage power lines may have negative health effects, such as causing an increased risk of cancer and leukemia. Many people are concerned about other problems as well, due to stray voltage, and strong electromagnetic fields. These lines should never be placed near our schools, towns or any populated areas. Unfortunately, the Mt Horeb Area School District owns land, purchased for future use, that is on the currently preferred route for these high-voltage (345 kilovolt) power lines. Would you want your children to go to school near massive transmission lines that could adversely affect their health? Would you want to live near them?	Comment noted. Section 3.13 of the EIS discloses potential impacts to public health and safety that could occur from wildfire, occupational safety, hazardous materials, and electric and magnetic fields.
	Myers	DEC113	In 2016, I received a postcard from ATC and ITC informing me that my home would be impacted by these lines. I was very upset until I found out otherwise. It turned out that I would not be directly impacted, but I have a great deal of empathy for those who will be. However, the preferred route will be a mile from my house, too close for comfort and it will surround Mt Horeb on 2 sides.	Comment noted.
	Myers	SOCIO03; SOCIO06	The C-HC Transmission Lines are very obtrusive to the landscape and will decrease property values, making homes and land difficult to sell, if they can be sold at all. Real estate values could drop by as much as 40%, and tourism will suffer due to the loss of scenic appeal. How will the Federal EIS evaluate the impact of these lines on property values of homes, land, and business? DEIS section #3.12.2.3.5	Comment noted. Potential impacts to social and economic conditions, including property values and tourism, are provided in EIS Section 3.12. Potential impacts to visual quality and aesthetics are disclosed in EIS Section 3.11.

Organization	Commenter Last Name	Comment Code(s)	Comment on DEIS	Agency Response to Comment
	Myers	VEG01; WLDLF01	The beauty and quiet of the driftless landscape will be destroyed by the presence of massive towers and buzzing lines, impacting plants and animals. The proposed routes cross sensitive lands and waterways, including State and Federal wildlife areas. How will the Federal EIS address the loss of habitat and its impact on plants and animals? DEIS section #3.3. + 3.4	Comment noted. EIS Section 3.4 discloses potential impacts to wildlife. EIS Section 3.10 discloses potential impacts to land resources and land uses.
	Myers	NEP02	Studies indict that these lines are NOT NEEDED. Demand for electricity has been flat or declining in Wisconsin, and we are one of the top ten states for grid reliability. Supply exceeds demand. How will the Federal EIS address the lack of demonstrated need for these transmission lines? DEIS Section #1.4.1	Comment noted. EIS Chapter 1 describes the need for the C-HC Project as well as the decisions facing the three Federal agencies that have received loan or permit applications for the C-HC Project.
	Myers	ALT04	We should focus on LOCAL renewable energy and energy efficiency, instead of transporting electricity from Iowa on massive transmission lines. This would be better for our health and the health of our environment.	Comment noted.
	Myers	DECI13	To conclude, there are SEVEN municipalities, TWO counties (Dane and Iowa), the Mount Horeb Area School Board, and environmental organizations intervening in order to stop this project. Hundreds of other individuals have expressed their opposition, and numerous groups, such as The Driftless Defenders, S.O.U.L. of Wisconsin, and Western Dane Preservation Campaign have formed to prevent the construction of the C-HC Transmission Line. This project must be stopped IMMEDIATELY, before it damages the land and the people in the driftless area of Southwestern Wisconsin.	Comment noted.
	Faull	DECI13	1 I'm a landowner along Ct Rd B in Iowa County. If the line goes along Cty Rd B I want the Poles or Tower in the fence Row. I will fight back or stop the line if not in fence Row.	Comment noted.
	Faull	PUB01	2. Meeting in Dodgeville WI 3-1319 wasn't conducted right 5-7 PM. At 6:45 PM they shutdown taking comment. Any question please call	Comment noted. The public comment portion of the meeting in Dodgeville concluded at 6:17 p.m. because all commenters who signed up to speak had spoken and no additional members of the public wished to speak. RUS stayed at the meeting and were available to the public until 7:00 p.m.
	Koehler	SOCIO01; VIS01	I am writing this letter- to express my concerns about the proposed American Transmission Company Cardinal/Hickory Creek Transmission line. I oppose this line being built as proposed. There are better economic, environmental and aesthetic options to insure an adequate energy supply. Constructing a 125 mile, 345KV transmission line supported by 17-story tall towers through the heart of the Driftless Area, the Midwest's most unique eco-region, is not sound public policy. How will the Fed EIS reevaluate and analyze homes and community property to address whether these areas will experience a "moderate visual impact" or a "major visual impact"?	Comment noted. Potential impacts to social and economic conditions, including property values, are provided in EIS Section 3.12. Potential impacts to visual quality and aesthetics are disclosed in EIS Section 3.11.
	Koehler	NEP02	Economically, there are serious questions if this line is even needed in the future. Supply currently exceeds demand in Wisconsin's electrical power market and demand looks to be flat or slightly declining recently. New wind and gas plants have already been approved locally that question the need to import out-of-state electrical supplies. Wisconsin's electricity rates are the highest in the Midwest and will only get higher if this line is constructed as proposed. How will the final Federal EIS address this lack of demonstrated need?	Comment noted. EIS Chapter 1 describes the need for the C-HC Project as well as the decisions facing the three Federal agencies that have received loan or permit applications for the C-HC Project. EIS Section 1.4 provides a list of both in-state and out-of-state generation sources that would benefit from the C-HC Project.
	Koehler	SOCIO03; VIS01	In addition economically, tourism and recreation (fishing, hunting, biking, hiking, etc.) are a large part of the Driftless economic base. Constructing this line will create an aesthetic eyesore that would be devastating to these vital sectors of the economy. How will the FED EIS create more virtual representations that accurately represent the visual impact and scale of the towers and lines?	Comment noted. Potential impacts to social and economic conditions, including property values and tourism, are provided in EIS Section 3.12. Potential impacts to visual quality and aesthetics are disclosed in EIS Section 3.11.
	Koehler	WLDLF01; WLDLF04	Environmentally, proposed corridors running through Iowa and Dane counties' many high-quality habitats for threatened, endangered and Federal species of concern. This area provides shelter and nurtures diverse populations of birds, insects, amphibians, reptiles and plants. The line also runs through the Upper Mississippi River National Wildlife and Fish Refuge, part of the central United States waterfowl migration flyway that's recognized as a "Ramsar Convention Globally Important Bird Area". This proposed CHC transmission line will damage vital conservation areas and natural resources - an unacceptable price when better alternatives are available. How will the FED EIS address habitat degradation and fragmentation for many special status species and also mitigation and accountability for any disturbances of habitat?	Comment noted. EIS Section 3.4 discloses potential impacts to wildlife and their habitats. EIS Section 3.14 discloses potential impacts to the Refuge.
	Koehler	NEP02	This project does not serve the best interests of our communities, state and nation. I seriously question the need for this line at all, and believe if it is determined that it is needed, that a thorough analysis be completed to determine whether a combination of non-transmission alternatives - new local wind and solar generation, energy efficiency, storage, demand response - would meet actual electrical demand at a lower cost both economically and environmentally.	Non-transmission and low-voltage alternatives are not responsive to the applications to which the Federal agencies are responding, nor do they meet the six-point purpose and need described in EIS Chapter 1. Additional details and rationale for dismissing alternatives from detailed analysis in the EIS are provided in EIS Chapter 2, Section 2.2.
	Koehler	ALT01; ALT04	If this analysis proves to require an additional line, which I think highly unlikely, I suggest that less damaging alternatives be seriously considered such as upgrading existing low-voltage transmission lines along existing corridors. How will the final Federal EIS evaluate a combinations of non-transmission alternatives as compared to the Project?	As discussed in EIS Chapter 2, Section 2.2.2, non-transmission and low-voltage alternatives are not responsive to the applications to which the Federal agencies are responding, nor do they meet the six-point purpose and need described in EIS Chapter 1.
	Powell Curry	SOCIO06	Recently becoming a partial owner of the 153 acre Dodgeville, Wis. "Powell Family" Farm, due to my recent death of my mother June D. Powell (Mrs. Ross Powell) married to Mervel Ross Powell also deceased. My two brothers, James Ross Powell + Steven W. Powell + myself are strongly against this project that will take about 7 acres of our farmland in Dodgeville This will directly affect the value of our land and its use, for rental or development in the future, and future rental value. Please consider all aspects of this.	Comment noted. Potential impacts to social and economic conditions, including property values, are provided in EIS Section 3.12.
	Sukowaty	DECI13	The ATC power line is unnecessary and harmful to anything or anyone in its path. Once it is constructed the adverse impact will be permanent and irreversible. It is large and ugly and a degradation to the land of southwestern Wisconsin. It is only for ATC's profit and greed. I do not want to have to pay for it. I have worked all my life to buy my 140 acre farm at 4620 and 4516 Highway J in the town of Cross Plains in Dane County, Wisconsin. I paid 1.8 million just for the real estate years ago. I have a very valuable view on my farm hills. It is worth much more than that now. I plan to build a custom-made house on the hill near my large barn at 4516 Highway J. Now those plans are on hold until I see what happens with this terrible ATC power line, that is unnecessary in the first place.	Comment noted.
	Sukowaty	HAS01	The ATC power lines might have stray voltage or noise from the power lines and magnetic fields that would be harmful to people, livestock and my farm tractor computers and equipment computers. The unsafe conditions from these power lines is not being discussed enough. I do not want to have to work under or near these power lines.	Comment noted. Section 3.13 of the EIS discloses potential impacts to public health and safety that could occur from wildfire, occupational safety, hazardous materials, and electric and magnetic fields.
	Sukowaty	LAND01	They are a degradation to the beautiful land of southwestern Wisconsin.	Comment noted.

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	Bradshaw	SOIL03	Soil compaction to shallow soils and too many rocks and subsurface soil would be removed.	Comment noted. Section 3.2 of the EIS has been revised to include potential adverse impacts to soils from compaction.
	Bradshaw	LAND03	Cattle on pasture would be stressed.	EIS Sections 3.7, 3.10, and 3.13 disclose the potential impacts to livestock.
	Bradshaw	SOIL02; VEG01	Grassland would be destroyed and soil erosion would be too great with water quality being very poor.	Comment noted. EIS Section 3.2 discloses potential impacts to soils. EIS Section 3.3 discloses potential impacts to vegetation, including grassland vegetation communities.
	Bradshaw	WLDF01	Deer and pheasants would have to relocate.	Comment noted. EIS Section 3.4 discloses potential impacts to wildlife.
	Bradshaw	VEG01	Both planted and volunteer trees would be destroyed.	Potential impacts to vegetation, including forests, are disclosed in EIS Section 3.3.
	Bradshaw	WAT02	North Fork Maquoketa river drains 10.3 miles of stream and is very erodible.	Comment noted.
	Bradshaw	VEG01	Future aerial spraying would be restricted.	EIS Section 3.10 discloses potential impacts to aerial spraying and seeding for agricultural uses.
	Bradshaw	LAND02; SOIL01	Some of this land rich soil with High SCR value and future soil and crop damage would be apparent.	Comment noted. EIS Section 3.2 discloses potential impacts to soils from erosion.
	Bradshaw	VEG01	Sumac and other vegetation would be destroyed	Comment noted.
	Bradshaw	SOCIO06	Land value or farm value would be greatly decreased.	Comment noted. Potential impacts to social and economic conditions, including property values, are provided in EIS Section 3.12.
	Bradshaw	ALT01	Also alternative 5 corridor is too expensive. Use alternative 2 corridor.	Comment noted.
	Luecke	NEP02	Why should a company of 10% guaranteed return for 10 years on a project that is not needed.	Comment noted.
	Luecke	DEC113	Renewable energy is the way to go for sustainable growth and environmentally safe – not environmentally damaging like the Cardinal Hickory high wires.	Comment noted.
	Luecke	REF01	Similar projects in other states have failed and are no longer viable.	Comment noted.
	Luecke	AIR04	All that the Cardinal Hickory project will do is make shareholders wealthy and prolong coal fired pollution, which is the leading cause of global warming.	Comment noted.
	Brookins	DEC113	I'm writing to express my deeply-held conviction that the proposed Cardinal-Hickory Creek Transmission Line should not be built. There are many reasons for this but primarily allowing this line to disrupt the ecologically unique and precious Driftless region would be to fail our obligations as stewards of this land. To build this line – which studies by energy experts has shown to be unnecessary – would be to shamelessly exploit a national, natural treasure, for only short-term, short-sighted reasons. We have the opportunity to be on the right side of history by rejecting this selfish, unnecessary + harmful project. We need to invest in clean, sustainable, renewable and non-harmful energy. I am adamantly opposed to this high-voltage power line and the irreversible damage it would cause to our landscape and communities. NO LINE. Thank you.	Comment noted.
	Bindl	VEG02	Hello, I have many concerns regarding the proposed Cardinal - Hickory Creek Transmission Line Project. I will be brief and just name a few. - Our driftless area is unique as the glaciers passed us by, leaving many rare native wildflowers. Some of those – thought to be extinct. I believe more study and information (count of those) is needed before beginning this project.	Comment noted.
	Bindl	CUL01	- This area is also known as burial grounds – mounds of the Native Americans. Will the powerline disrupt these? Where are they marked?	These areas are not marked due to the sensitive nature of cultural and historic resources. EIS Section 3.9 discusses potential impacts to burial mounds and cultural resources from the C-HC Project.
	Bindl	LAND02	- Driftless area has many certified organic farms. What could this do to their certification?	EIS Section 3.10 discloses the potential impacts to organic farms.
	Bindl	NEP02	- Will this be necessary in the future? I would ask to put this “on hold” to answer many unknown questions and to explore alternatives.	Comment noted.
	Janczak	PUB02	I attended the Middleton meeting for this project. I was disappointed the presenters did not give any summary of the EIS. But then they would have to defend it to an anti project audience. To have a large ring binder available for people to look at is a poor way to provide information, but I appreciated the chance to hear feedback.	Comment noted. The public meeting did include a short overview of the proposed project. The public meeting was intended to receive public input and comments on the DEIS and not to inform the public about the project. Information about the project and the DEIS was made available to the public since the release of the DEIS on December 7, 2018.
	Janczak	SOCIO03	Until recent retirement, I managed the Post Offices in southwest + south central Wisconsin for the last 25 years. I am very familiar with the people, their land + their economy. They have poor broadband _ cell phone service none of which improve with this project. This project will devastate their economy _ the beauty of the area.	Potential impacts to visual quality and aesthetics are disclosed in EIS Section 3.11, and potential impacts to social and economic conditions, including tourism, are disclosed in EIS Section 3.12.
	Janczak	REC04	The proposed lines all go near the beautiful state parks of Blue Mound and Governor Dodge plus the Military Ridge Trail, Yellowstone State Park + the beautiful river bluffs.	Comment noted. EIS Section 3.10 discloses potential impacts to recreation areas.
	Janczak	SOCIO06	Property values of homes near the line will go down drastically.	Comment noted. Potential impacts to social and economic conditions, including property values, are provided in EIS Section 3.12.
	Janczak	NEP02	I am no expert on impacts of electromagnetics or health or the big business of supplying electricity. But demand is down and there is an urgent need to focus on renewable energy. There has been an abundance of feedback from feedback at meetings, signage all over the area, statements from congressional representatives of both parties, School Boards, local governments that this project is not wanted or need.	Comment noted.
	Janczak	LAND01; SOCIO06	During the meeting, I had to wonder how many of the proponents of this project would be willing to have this line run next to their property, next to their children's schools, or through their favorite leisure and recreation areas. Are they ready to pay any of the property owners full current value for their property?	Comment noted.

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	Janczak	SOCIO05	nd there is no value or the loss of habitat and scenic beauty.	Comment noted.
	Citron	SOCIO06	Please find attached: My comments on the Draft Federal EIS Article supporting my assertion of the effects of the towers on property value	Comment noted. Potential impacts to social and economic conditions, including property values, are provided in EIS Section 3.12.
	Citron	VIS01	Photograph of how an ATC high-voltage tower actually looks, and is experienced, in the landscape.	Comment noted.
	Citron	SOCIO06; SOCIO07	My name is Michelle Citron. I live on County Road ZZ in Dodgeville; the alternative proposed Cardinal-Hickory Creek transmission line route would pass in front of my home and property. The draft report is very long so I will address only two issues here: how the line will effect property values and the photo simulations included in the Draft EIS, showing what the line will look like once built. These comments are in addition to oral comments about how the report addresses reliability and resilience that I submitted during the open meeting in Dodgeville. LAND VALUES: In section 3.12.2.3.5 PROPERTY VALUES (page 372) the summation of studies cited in the draft EIS lead the writers to conclude that negative impacts to property values would be short term and not very bad. One study even concluded: "... that homes abutting 345-kV corridors often experience an increase in property values because of the benefit of having an open space, compared to similar unavailable space to other homes (Tatos et al. 2016)." It is not clear in what part of the United States this particular study was conducted, and what kind of landscape is was. In urban or suburban landscapes the open space provided by the ROW might potentially be a relief from surrounding congested areas; this will not be true of Southwest Wisconsin, an open rural landscape. In fact, none of the studies cited indicate what kinds of housing stock or landscapes were evaluated – urban, suburban, or rural. In rural Iowa County, that much of the towers will traverse, we have one house per 30 acres by design. A study more relevant to Southwest Wisconsin's rural landscape is one that looks at lots without houses. This study directly conflicts with those cited in the EIS; it clearly shows devaluation of property values adjacent to high-voltage transmission lines selling for 45% less than equivalent lots not near the lines – even lots within 1000 feet of transmission lines sell for 18% less. (Journal of Real Estate Research cited in the Wall Street Journal, 8/17/18. Article is attached to this email). Generic studies don't speak to our unique landscape of small towns, open fields, prairies, conservancy land, trout streams, and federal, state and county parks. The Driftless Area is a biodiversity, natural landscape; the presence of industrial looking towers can only be a negative presence on the land and in the viewscape.	Comment noted. Potential impacts to social and economic conditions, including property values, are provided in EIS Section 3.12. RUS has reviewed the recommended citations of additional peer-reviewed articles presented through public comments and has incorporated this information into the EIS. Potential impacts to visual resources are disclosed in EIS Section 3.11.
	Citron	LAND02; SOCIO03	Plus the land valuations cited ignore other issues such as the herbicides that will be spread on the ROWs, negatively affecting the organic farms and artisanal cheese makers, with their dedicated dairies, that lay along the proposed routes. In addition, the financial impact of devalued land near the towers is even more pernicious along C-HC's proposed routes since land is the "401K" for many people in our rural area - farmers, artisanal food makers, and low waged workers. Family land is often the only asset they own to provide a "pension" in old age.	Comment noted. Potential impacts to land use, including agriculture, are discussed in EIS Section 3.10. Potential impacts to socioeconomic conditions, including property values, are disclosed in EIS Section 3.12.
	Citron	SOCIO06	Just the threat of C-HC being approved has devalued property in the area. At the open meeting of the Iowa County Board of Commissioners on November 13, 2018, the proposed resolution against C-HC was discussed. One resident from Ridgeway, Wisconsin told of trying to sell his property over the previous year. He had an offer to buy but when the buyer discovered the transmission proposal, they withdrew their offer even though the owner dropped the price. The real estate agent then told the seller that he had to drop the price an additional 15%; his property has yet to sell. And	Comment noted. Potential impacts to social and economic conditions, including property values, are provided in EIS Section 3.12.
	Citron	SOCIO03	And missing from this discussion is the impact of devalued property on the tax base of the county. Lower property values mean fewer taxes collected forcing the county to either curtail services or increase everyone's taxes. This is not a "short term" impact as characterized in the report. I can only conclude that the studies cited in this draft EIS were either cherry picked to support a specific point of view or were not carefully vetted as supportive evidence for the impact of the line on the unique Driftless Area landscape. The studies chosen seem to be from areas very different from the landscape, population, and culture of Southwest Wisconsin.	Comment noted. Potential impacts to social and economic conditions, including property values, are provided in EIS Section 3.12. RUS has reviewed the recommended citations of additional peer-reviewed articles presented through public comments and has incorporated this information into the EIS.
	Citron	VIS01	PHOTO SIMULATION OF THE PROPOSED TOWERS: I want to address the Photo Simulation Viewpoint images, pages 322-332. I was a university professor for forty years teaching visual literacy, photography, and filmmaking. For twenty-eight of those years I was a Professor in the Department of Radio/Television/Film at Northwestern University, where I also served as Department Chair. I have deep expertise in the area of photographic representation. It is not clear who took the Photo Simulation Viewpoint images on pages 322-332 but the draft EIS takes them at face value without questioning their obvious bias. The photo simulations are misleading; they use well-known techniques to minimize the visual impact of the towers on the landscape. - Ice Age National Scenic Trail (Figures 3.11-4 to 3.11-13): o The photos in these figures are taken from very high up, from a hill or bluff, which makes the towers look small in the landscape. This is a trick that all photographers know – the higher up you stand shooting looking down, the more you "flatten" the perceived height of objects in the landscape; this distortion is greater with a wide angle lens, which was used for these photos. I know what lens was used because there is a large depth of field in the images possible only with wide-angle lenses. Furthermore, these images are shot during the warm months with trees fully leafed out. The lush vegetation visually distracts from the towers. Many people use these trails all year long, cross-country skiing and snowshoeing in the winter months. Thus the actual scale of these towers, as people in the landscape traversing the trails would experience them, is hidden by the techniques used to shoot these photos.	EIS Section 3.11.2 describes the methodology used to select KOPs and create visual simulations. The methodology included a conservative assessment of potential visibility and was also run using "bare earth." Locations were selected based on potentially sensitive viewsheds and were agreed upon by RUS and cooperating agencies.
	Citron	VIS01	Upper Mississippi River National Wildlife and Fish Refuge: o Figures 3.11-16 to 3.11-19 use distance and wide-angle lenses to diminish the visual impact of the towers. Figure 3.11-17 is shot at ground level; this is the way people will experience the towers. However, this photo is taken with the base of a tower in the foreground, which means the tower's height is cut off by the top of the frame, thus we have no sense of how tall these towers are or experienced in the landscape. Placing a person within the frame, standing next to the tower, would have provided scale and a more accurate sense of its massive width and height. o Figures 3.11-19 to 3.11-21 are inaccurate representations of the towers in ways similar to the previous photos discussed.	Visual simulations are representative and are only intended to show how the C-HC Project might look from sensitive locations. Additional photographs of an existing transmission line (the Badger-Coulee Transmission Line Project near Madison, Wisconsin) have been added to EIS Section 3.11 to provide a "real-world" view of a similar project from various distances. The visual simulations do provide the distance from the photograph location to the structure for scale.
	Citron	VIS01	Great River Road in Wisconsin: o Figures 3.11-22 and 3.11 -23 have no simulations because the text states it is unnecessary given that the towers will be hidden by vegetation. However, the vegetation shown is a mixture of evergreen and deciduous trees. Once the leaves drop in the fall, how do we know the towers will not be visible?	Text has been revised in EIS Section 3.11 to include potential for lines to be visible in leaf-off conditions. Further, because there is an existing transmission line at this location, the character of the view would not be drastically changed by the C-HC Project.
	Citron	VIS01	Town of Cassville: o Figure 3.11-26: In this photo the second, third, and forth towers are partially hidden behind the buildings on the left, which diminishes their impact in the simulation. People walking through this town will not have that luxury. The only tower fully shown (the older steel one at the top of the hill) is far in the background of the frame and because of the distortion of perspective that occurs with the wide-angle lens used, the tower in the distance looks small and not dominating. This distortion is also true for the newer towers behind the buildings. The photographer chose	Visual simulations are representative and are only intended to show how the C-HC Project might look from sensitive locations. Additional photographs of an existing transmission line (the Badger-Coulee Transmission Line project near Madison, Wisconsin) have been added to EIS Section 3.11 to provide a "real-world" view of a

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			a street that has a lot of distribution wires both parallel to the street and crossing the street. This means that when you see the additional wires added by the proposed transmission line they blend in with the distribution wires and don't look so bad. But most of the time, since the proposed routes traverse rural areas, the transmission line won't have distribution lines to visually "hide" among. The height of the tower in the foreground is hidden because the top of the frame cuts it off and there is no person standing next to it for scale.	similar project from various distances. The visual simulations do provide the distance from the photograph location to the structure for scale.
Citron		VIS01	Blue Mounds State Park: o Figures 3.11-27 and 3.11-28 are shot with a wide-angle lens from a hill or bluff. The wide-angle lens distorts the perspective, making objects in the distance (the towers) look smaller than they will be perceived in real life by the eye. Certainly, there will be places along the proposed routes where the towers will be hidden from where we stand in the landscape and by the characteristics of the land itself, but that is only a small percentage of the towers. Yet this particular landscape, not representative of the whole route, was chosen for the simulation. Attached to this email is a photo taken of an ATC tower that is part of the Arrowhead Weston 345kV line in Douglas County, Wisconsin. The woman standing with her arms spread at the base of this tower is 5'2" tall. This photograph gives a much clearer representation of how the similar C-HC towers will be experienced in the landscape, compensating for the distortion of using a wide-angle lens by placing a person in the frame. The woman's position against the tower is critical because the image was shot with the wide-angle lens of a smart phone, distorting the size of the towers as they move away into the distance – making them look smaller than they actually are. Only the woman standing against the first tower accurately shows the scale of them.	Visual simulations are representative and are only intended to show how the C-HC Project might look from sensitive locations. Additional photographs of an existing transmission line (the Badger-Coulee Transmission Line project near Madison, Wisconsin) have been added to EIS Section 3.11 to provide a "real-world" view of a similar project from various distances. The visual simulations do provide the distance from the photograph location to the structure for scale. At this distance, a person standing in the photograph would not be visible for scale.
Citron		SOCIO03; VIS01	How will the Federal EIS address and evaluate the two issues raised in my comments: the transmission line's impact on land valuations and tax bases that are similar to the rural and natural landscape of the Driftless Area; and the simulations of the towers in the landscape that misrepresent how the towers will actually look to the human eye and will be experienced in the landscape itself? Thank you,	Comment noted. Potential impacts to social and economic conditions, including property values and tourism, are provided in EIS Section 3.12. Potential impacts to visual quality and aesthetics are disclosed in EIS Section 3.11.
Stanfield		AIR04; NEP02	This note is to supplement my comments presented verbally at the Deer Valley Lodge In Barneveld, Wisconsin on March 14, 2019 which suggested some improvements to the RUS draft Environmental Impact Statement. 1. How to define "need" in Section 1.4 "Project Purpose and Need", and as cited in Section 2.2.2 "Non-Transmission, Lower- Voltage, and Underground Alternatives". In this Environmental Impact Statement, I suggest that RUS add a seventh "need" for a project of the size and disruptiveness of the CHC, namely, "reduction of carbon emissions". Certainly this CO2 issue is a priority environmental concern. Our planet's climate patterns are being seriously disrupted, due in large part to the increasing levels of CO2 in the atmosphere. All public and private investments must be assessed to see how they will help reduce CO2 emissions. Without contributing to this resolving this "need" the CHC's contribution to meeting the other six needs defined in these sections pale into insignificance. So, please add "reduction of CO2 emissions" to the list of needs for the CHC which RUS considers.	EIS Chapter 4, Section 4.4 has been revised to estimate the carbon dioxide (CO ₂) emissions that could occur from generation sources that would benefit from the C-HC Project. This analysis compares two scenarios: 100% coal-generation sources benefitting from the C-HC Project and 100% wind-generation sources benefitting from the C-HC Project. This analysis provides a range of CO ₂ emissions from possible generation sources. Non-transmission and low-voltage alternatives are not analyzed for cumulative impacts because these alternatives are not carried forward for detailed analysis in the EIS.
Stanfield		ALT04	2. Nontransmission alternatives in Section 2.2.2 DERS Decreasing grid transmission load the past decade and projected continuing decreases in transmission load should be addressed particularly in this section of the EIS. The changes in electricity generation, distribution and transmission which are presently occurring feature the 1) distributed and 2) renewable features of generation and distribution which reduce the loads being transmitted and which reduce CO2 emissions and which reduce the load of transmitted electricity. The utility scale renewable energy projects, such as the Badger Hollow solar garden, may require a HVTL to connect to the grid, but the application does not show that the entire CHC HVTL is required to meet the reliability and reduced congestion requirements of the grid. At least the ES should address this issue directly.	As discussed in EIS Chapter 2, Section 2.2.2, non-transmission alternatives are not responsive to the applications to which the Federal agencies are responding, nor do they meet the six-point purpose and need described in EIS Chapter 1.
Stanfield		ALT04; NEP02	Second, the EIS should take the Distributed Energy Resources Systems (renewable generation and storage, microgrids) seriously, and not set up a straw man like "rooftop solar". The EIS should assess whether the trends toward accelerating investments in DERS are more cost effective than investments in utility scale solar and wind projects. Given past utility capital investments and the resulting heavy debt loads which such investments have generated (including projects like CHC) it seems unlikely that utility scale renewable energy generation and transmission using the old centralized model of generation and network of HTVLS can compete with DERS on a level playing field. Efficiency of electricity use Technological changes in the past decade have accentuated the effectiveness of investments in improving the efficiency of energy use (including load management), in terms of reducing the demand for transmitted electrical energy which is still high on the proportion of CO2 produced through fossil fuel generation plants. The EIS should assess whether taking the projected investment of a half billion dollars in CHC and putting that half billion dollars into improved efficiency of electricity use and rapid extension of DERS would better meet the needs of our electrical system, including the reduction of CO2 emissions in the list of "needs".	As discussed in EIS Chapter 2, Section 2.2.2, non-transmission and low-voltage alternatives are not responsive to the applications to which the Federal agencies are responding, nor do they meet the six-point purpose and need described in EIS Chapter 1.
Stanfield		EFF01	3. Assessment of environment impacts of past investments in HVTLs A recent letter from a bipartisan group of Wisconsin legislators to the Wisconsin Public Service Commission (attached) calls for an independent assessment of the impacts of past investments in HTVLS like the CHC. RUS should join this group and urge the PSC to do an environmental impact study of already completed and functioning HTVLS called for by MISO 10 years ago. RUS should insist that the WPSC put the CHC project on hold at least until that study of past investments in HTVLS is completed.	Comment noted.
Stanfield		SOCIO08	4. Pay back period Given the speed of technological change in electricity generation, distribution and efficiency of use, the 40-year payback period which the applicants for CHC have used, and the actual schedule which ATC used for replacement of poles and wires—75 years—both seem excessively long. The CHC is likely to be obsolete technologically in a much shorter period of time. This means that the environmental damages of the have to be valued against the promised economic benefits which have to be produced in a much shorter time. So, RUS should insist that the applicants use a 10-year payback period to evaluate the cost/effectiveness of the proposed CHC.	Comment noted.
Stanfield		EFF01	I am impressed by the amount of work which has gone into the DEIS. In addition to the above requests for additions to the EIS, however, the draft would benefit from a careful edit. It seems that some sections, like those on property value impact in sections 3.12.2 talking about alternatives 2 through 6 contain paragraphs copied from "alternative 1" for example. Thanks very much for your efforts.	Comment noted. These technical edits are reflected in the EIS.
Nickels		NEP02	The Draft Environmental Impact Statement (EIS) has not demonstrated a need for the proposed transmission lines. The applications assumes that Wisconsin will purchase renewable power generated from Iowa, but does not indicate there have been any agreements or discussion to do so. WI now and in the past decade has had a flat demand for electric power, why would WI purchase additional renewable power when they meet and exceeded their goal for renewable generation? The final EIS should make clear that the Midcontinent Independent System Operator (MISO) agreement will force WI to purchase renewable generation from IA whether needed or not. Since renewable energy will at best provide 8 to 15 percent of our electrical power consumption, MISO and the power utilities associated with this proposed transmission line expansion will engage in energy arbitration similar to what now occurs between the States of California and Arizona. How will the final EIS address the misleading indication that Wisconsin needs or wants to purchase renewable energy from an opportunistic State (Iowa) which makes a show of their virtue in wind generation at an additional cost burden to Wisconsin?	Comment noted. EIS Chapter 1 describes the need for the C-HC Project as well as the decisions facing the three Federal agencies that have received loan or permit applications for the C-HC Project. EIS Section 1.4 provides a list of both in-state and out-of-state generation sources that would benefit from the C-HC Project.

Organization	Commenter Last Name	Comment Code(s)	Comment on DEIS	Agency Response to Comment
	Nickels	SOCIO06	Chapter 4, page 141; Several of the statements made regards property values are totally false and misleading, studies cited and their conclusions have been proven to be incorrect with respect to the proposed CHC transmission line. Several noted experts in the field of property values associated with transmission lines have publicly stated that property values adjacent to transmission lines have experienced a losses in market value of between 20 and 40 percent. In addition, sale of property adjacent to transmission lines has been difficult, which we have firsthand experience. How will the final EIS correct this misinformation and describe a more accurate discussion of loss in property value, in residual, commercial and community facilities?	Comment noted. Potential impacts to social and economic conditions, including property values, are provided in EIS Section 3.12. RUS has reviewed the recommended citations of additional peer-reviewed articles presented through public comments and has incorporated this information into the EIS.
	Nickels	WAT02	Potential ground water pollution due to construction of the transmission line pole construction. Groundwater pollution, in varying degrees, exists today over much of the proposed transmission line route. Most of this is due to agricultural use of the land. Proposed construction of three to five foot diameter circular foundations, to depths of forty feet, will provide seepage paths directly into the groundwater table. Herbicide runoff from maintenance of the right-of-way potentially will pollute groundwater. How will the final EIS address groundwater pollution, who will mitigate pollution of the groundwater and who will be responsible to investigate polluted groundwater wells near the proposed transmission line route?	Comment noted. Potential impacts to water resources and quality, including groundwater, are disclosed in EIS Section 3.5. The Utilities will employ a Certified Pesticide Applicator for all herbicide applications within the C-HC Project. The Certified Pesticide Applicators will only use herbicides registered and labeled by the USEPA and will follow all herbicide product label requirements. Herbicides approved for use in wetland and aquatic environments will be used in accordance with label requirements, as conditions warrant. During the easement negotiation, landowners can decline the use of herbicides for vegetation management activities once the line is in operation. Therefore, no herbicides would be applied within portions of the ROW on which the landowner wishes not to introduce it.
	Nickels	ALT01; NEP02	Reliability issues; the draft EIS makes a weak argument that the proposed transmission line will be more reliable than what? Supporting transmission cables 100 feet above the ground surface for over one hundred miles does not sound reliable to me, this is out dated technology. In reality the high cost of this project and its poor reliability makes no sense for the small amount of renewable energy obtained. How will the final EIS justify this when several alternative technologies exist and are being adopted now?	Comment noted. EIS Chapter 1 describes the need for the C-HC Project as well as the decisions facing the three Federal agencies that have received loan or permit applications for the C-HC Project. EIS Chapter 2 describes the alternatives considered by the Federal agencies.
	Nickels	ALT01	The Draft EIS does not address recent development of renewable solar energy installations that have been constructed or proposed in southwest Wisconsin. These developments do not rely on the CHC transmission line project and make it obsolete before construction would be completed. How will the final EIS address the issue of recent renewable generation facilities located in southwest Wisconsin?	The recent renewable energy projects developed in southwest Wisconsin are analyzed in EIS Chapter 4 under the cumulative impacts analysis.
	Gilmartin	DECI13	NO ATC TRANSMISSION LINES HERE, PLEASE! For several years we have been exposed to the possibility of having huge transmission towers 'walk' across the Driftless Area of Southwest Wisconsin. Many reasons, facts and ideas have crossed your desk concerning this project. I will let more experienced people deal with the technicalities. I and many people are so opposed to these towers BECAUSE these structures would destroy the very reason people choose to live here. The Driftless Area is a beautiful and unique slice of America; people live here by choice because they enjoy beauty and nature, not concrete. We hold down two jobs so we can keep a way of life, farming, family homesteads and sanity. "Keeping it local" is of paramount importance for Wisconsin. We have an excellent work ethic here; growing our own dairy products; cheese, milk etc. as well as CSA's, manufacturing, and business startups. We have authentic Wisconsin Pride here! As I drive across this area for daily activities, I see the work of so many local people who have banded together: displaying banners, bumper stickers and sporting yard signs against these monstrosities, some of which will not even be viewable from their location. I have yet to see one sign FOR them! Out of curiosity I wonder how many letters were received from private citizens who support this project?	Comment noted. All public comments received by RUS for the DEIS will be released as part of the EIS.
	Gilmartin	VIS01	40 transmission line projects are currently listed on the ATC website in Wisconsin alone!!! We are expected to pay over a lengthy period of time at great expense monetarily and aesthetically. "They" are run these lines through our spaces with no real benefit to those of us who actually live here. Towers and their pathways prices out to be more expensive than any solar commitments. Look at how much actual space is involved. So, why should we do that, exactly? Why would we want to be a flyover state?	Comment noted.
	Gilmartin	DECI13	And why would we want to line the pockets of companies and their shareholders that don't give a hoot whose land they are despoiling? What's in it for our state? Why make a commitment to pay for these things long after their expiration date? This project seems to me to be a shortsighted and outdated approach to handling our electricity needs.	Comment noted.
	Gilmartin	NEP02	Grow Solar came through Iowa County 2 years ago and many solar panels were put up here; 240 kW of solar were added to 32 properties in Iowa County. More solar arrays are privately being built. Solar electricity flows back to the electric companies, so why do we need more methods? Iowa County electrical needs are more than met already and it is projected that the population here will not likely increase. I also understand that Middleton has refused to sell its power to ATC and that a huge solar array is planned for Highland, as are many others in the southern Wisconsin area electric company facilities. Keeping electric usage close to the solar panel source is the most efficient: power loses strength over distance for both solar and wind. Both Madison Gas & Electric and Alliant Energy are asking state regulators to approve new community solar programs, while Xcel Energy has completed its second solar garden in Wisconsin. Madison is highly progressive in this field. These programs allow customers to buy into solar projects without having to put panels on their roofs.	Comment noted.
	Gilmartin	WAT04	Has the repeated Mississippi River flooding in the Cassville area been addressed? People there have had homes flooded twice in the last 3 years. With global climate change flooding effects will assuredly continue, every year. So, really, aren't there much better uses for the money in this state instead?	Comment noted. Measures to prevent flooding of the Mississippi River in Cassville is out of scope of this EIS.
	Gilmartin	DECI13	I recently read ATC was saying that it would cost us taxpayers a lot of money if we don't go through with the project... is this, perhaps, a threat? Do we really want to encourage these tactics? The barrage of ads has been quite enough, thank you! In 40 years, the projected lifespan of these towers, where will Southwest Wisconsin be? Severely outdated, derelict structures will be hazardous and falling apart. Our children and grandkids will be subject to this blight on our land and will again have to suffer the cost of taking them down. We could stop this from happening! I really hope you are listening to the people who live, love and cherish this area. There is nothing about the ATC Cardinal Hickory Creek line that speaks Wisconsin Forward. Let's do what is right for the people of Wisconsin. Let us continue to love Wisconsin! A most concerned citizen of Wisconsin,	Comment noted.
U.S. Department of Interior	Darby	DECI02	The NPS and Ice Age NST appreciate the opportunity to provide feedback to address potential pitfalls and find solutions that work for all parties, and would be happy to discuss comments further in order to facilitate understanding and potential resolution of our concerns.	Comment noted.
U.S. Department of Interior	Darby	REC03	Background: Ice Age National Scenic Trail (Ice Age NST) Overview Authorized in 1980, Ice Age NST encompasses 1,200 miles of lakes, river valleys, prairies, forests, gently rolling hills, and ridges formed by glacial activity thousands of years ago across 1 Cardinal-Hickory Creek	Information provided in this comment was added to the description of the Ice Age Trail in EIS Section 3.11.

Organization	Commenter Last Name	Comment Code(s)	Comment on DEIS	Agency Response to Comment
			<p>Transmission Line Project [https://www.cardinal-hickorycreek.com/] 2 USDA RUS Cardinal-Hickory Creek 345-kV Transmission Line Project DEIS – Chapter 1. Project Purpose and Need [December 2018] [https://www.rd.usda.gov/files/CHC_DEIS_Vol_I_Web_508_111918.pdf] the state of Wisconsin. Approximately 700 miles of trail has been built and is open for public use. The trail is managed through strong partnerships between the NPS, the Wisconsin Department of Natural Resources, and the Ice Age Trail Alliance (IATA), and is used by over 1 million people each year for hiking, backpacking, camping, skiing, snowshoeing, and other outdoor recreational activities.^{3, 4} Ice Age NST is part of a park system that contributed over \$64 million to Wisconsin's economy in 2017 and an average of over \$61 million a year over the last five years.⁵ The glacial remnants included within Ice Age NST are considered among the world's finest examples of how continental glaciation sculpted our planet. The trail provides opportunities for people to immerse themselves in a large natural landscape, enjoy outdoor education and recreation, and experience expansive views that provide a visual display between unglaciated driftless areas and lands shaped by continental glaciation.⁶ The Ice Age Complex and Cross Plains and the Ice Age National Scientific Reserve The Ice Age Complex at Cross Plains (Complex) is a 1,700 acre site located in Cross Plains, WI, that is the national interpretive site for the Ice Age NST and a component of the Ice Age National Scientific Reserve. Its project boundaries are located just south of Mineral Point Road (County Trunk S) to State Highway 14 (see attached map). The Complex will be the highly visible headquarters for the Ice Age National Scenic Trail staff and located near the Ice Age Trail Alliance's office in the Village of Cross Plains, Wisconsin. The site will be a major visitor attraction, similar to Harpers Ferry, West Virginia, where the NPS and Appalachian Trail Conservancy offices are located for the Appalachian National Scenic Trail. The site is within 10 miles of 30 schools and located near the city limits of Madison, Wisconsin, which has a metropolitan area population of approximately 600,000. Visitors are also expected from other major metropolitan areas including Milwaukee and Chicago, which have a combined population of over 11 million. The Complex's General Management Plan estimates it will receive 200,000 visitors a year once fully developed.⁷ The intent of the Complex is to provide visitors with interpretation of its evolution from the last glacial retreat, with opportunities to enjoy low-impact outdoor recreation. Expansive views from the site of the terminal moraine, the driftless area including Blue Mounds, and the glacial drainage way known as Black Earth Trench are vital for showcasing the unique story of the relationship between the glaciated and unglaciated areas of Wisconsin. The Complex will also provide nature immersion for nearby urban dwellers, preservation of geologic features, and a continuous route for the Ice Age NST. Current development plans include the installation of a new sustainable visitor center, new protected Ice Age NST segments, additional interpretive and recreational sites, administrative and maintenance facilities, and expansion to complete the park out to State Highway 14. In 2013, the National Park Service approved a General Management Plan for the Complex. Currently, there are approximately 750 acres within the park that are publicly owned. The 3 NPS Ice Age National Scenic Trail – Outdoor Activities [https://www.nps.gov/iatr/planyourvisit/outdooractivities.htm] 4 Ice Age Trail Alliance About the Ice Age Trail [https://www.iceagetrail.org/ice-age-trail/] 5 NPS Visitor Spending Effects – Economic Contributions of National Park Visitor Spending – Total Economic Output Contributed to the Wisconsin Economy [https://www.nps.gov/subjects/socialscience/vse.htm] 6 Ice Age Trail Alliance About the Ice Age Trail [https://www.iceagetrail.org/ice-age-trail/] 7 NPS Cross Plains General Management Plan – Chapter 4: Environmental Consequences – Visitor Use and Experience [https://www.nps.gov/iatr/learn/management/crossplainsgmp.htm] Complex partners — National Park Service, Wisconsin Department of Natural Resources, U.S Fish and Wildlife Service, Dane County Parks, and Ice Age Trail Alliance — continue to actively negotiate with private landowners within the Complex's project boundaries to acquire lands to complete the Park, which are purchased with federal, state, county, and private funds on a willing seller basis. Once completed, the Park will extend to State Highway 14, the site of the proposed C-HC 175-foot 345-kV transmission towers.</p>	
U.S. Department of Interior	Darby	ALT01; REC03	<p>The proposed transmission line corridors cross the route of the Ice Age NST and lands to be purchased for addition to the trail, and one route alternative also runs directly adjacent to the northern boundary (State Highway 14) of the Ice Age Complex at Cross Plains, Wisconsin, the national interpretive site for the Ice Age NST. The proposed C-HC eastern terminus would be located at the Cardinal Substation in the Town of Middleton, Wisconsin. Here, there is only one proposed alternative for the line route (Segments Y and Z), which would travel west toward the Village of Cross Plains paralleling State Highway 14 until it reaches Stagecoach Road and continues to the substation on County Trunk P. At the substation it splits into two alternatives: a southern alternative to Mount Horeb, Wisconsin, that parallels County Trunk Road P (Segments W or X, and V), and a northern alternative that continues west through the countryside to just south of State Highway 14 and IATA's Swamplovers property (Segments W or X, and P).⁸ The NPS notes the RUS's acknowledgement in the DEIS that all action alternatives under consideration for the proposed C-HC project would have adverse impacts to Ice Age NST.^{9, 10, 11} Comments on the DEIS (Dec 2018) for the C-HC Project Overview The NPS previously outlined many of its concerns with the C-HC project in comments submitted in July 2018 on Chapters 1 and 2 of the Preliminary DEIS and in comments submitted in September 2018 on the full Preliminary DEIS. The DEIS has been updated with more robust information on the Ice Age NST, the Ice Age Complex at Cross Plains, and its associated resources, along with more detailed information on the cost and feasibility of the underground transmission alternative and potential adverse impacts of the C-HC project. The NPS appreciates the inclusion of this additional information. The Complex and Reserve described above are critical to achieving the Ice Age NST's purpose and maintaining its significance. Several alternatives have been identified for various components of the C-HC project, including multiple potential transmission line corridors and routes that would affect the length, cost, and geography of the line. Our comments are specific to the eastern portion of the proposal (i.e., the segments encompassing the line's eastern terminus at the Cardinal Substation in the Town of Middleton, Wisconsin; the northern alternative in western Dane County, Wisconsin, that continues west through the countryside south of State Highway 8 USDA RUS Cardinal-Hickory Creek 345-kV Transmission Line Project DEIS – Table C-1. Details of Proposed Transmission Line Segments [Dec 2018] [https://www.rd.usda.gov/files/CHC_DEIS_Vol_II_Web_508_111918.pdf] 9 USDA RUS Cardinal-Hickory Creek 345-kV Transmission Line Project Draft Environmental Impact Statement – 3.10.2.3.3 Recreation Areas 10 USDA RUS Cardinal-Hickory Creek 345-kV Transmission Line Project Draft Environmental Impact Statement – 3.10.3.3 Recreation Areas 11 USDA RUS Cardinal-Hickory Creek 345-kV Transmission Line Project Draft Environmental Impact Statement – 3.11.3.1 Ice Age National Scenic Trail 14; and the southern alternative in western Dane County, WI, that parallels County Trunk P and continues to Mount Horeb, Wisconsin). This includes all or part of Segments P, T, U, V, W, X, Y, and Z as specified in Appendix C: Alternatives Development Process and illustrated in Figure C-1 of the C-HC DEIS published December 2018. As currently proposed, these project components would negatively impact the Ice Age NST, the Ice Age Complex at Cross Plains, and its resources, particularly visual, auditory, and scenic resources that are fundamental to the trail.¹² DEIS Acknowledgement of Adverse Impacts to Ice Age NST under All Action Alternatives The NPS notes that the RUS acknowledges in the DEIS that C-HC would cause adverse impacts to Ice Age NST under all action alternatives, including impacts to recreation and visual and aesthetic qualities. For instance, the DEIS states that “[a]dverse impacts would occur from the all [sic] action alternatives to the Ice Age National Scenic Trail and recreational users on this trail system,” and that “the presence of the transmission line would adversely impact the character of the Ice Age National Scenic Trail where there is overlap with the analysis area creating visual impacts to trail users.”¹³ The DEIS further states that “[a]ll alternatives would cause minor temporary and moderate permanent impacts to</p>	Thank you for your comment.

Organization	Commenter Last Name	Comment Code(s)	Comment on DEIS	Agency Response to Comment
			the Ice Age National Scenic Trail and Cross Plains Complex...The close proximity of a new high-voltage transmission line in these areas would alter the character of the trail system and impact recreational users' experiences in these areas."14 The DEIS also states that "[u]nder all alternatives, visual impacts to users of the Ice Age NST would occur", and that "[a]t two [Key Observation Points], which represent important viewsheds for the Ice Age NST, major visual impacts would occur."15 Single Action Alternative (Segments Y and Z) in Western Dane County, WI for the Route Area Impacting Ice Age NST A review of the Macro-Corridor Study undertaken by the Utilities in Sep 2016 shows that only a single corridor was evaluated as part of the action alternatives for the C-HC Project to be carried forward for further analysis.16 This single action alternative forms part or all of the transmission line alternative corridor segments V, W, X, Y, and Z examined for detailed analysis in the C-HC DEIS.17 The NPS is concerned that the configuration of the single corridor option in Dane County, Wisconsin results in adverse impacts to Ice Age NST regardless of the action alternative selected. 12 NPS Ice Age National Scenic Trail – General Management Plan – Fundamental Resource and Values 13 USDA RUS Cardinal-Hickory Creek 345-kV Transmission Line Project Draft Environmental Impact Statement – 3.10.2.3.3 Recreation Areas 14 USDA RUS Cardinal-Hickory Creek 345-kV Transmission Line Project Draft Environmental Impact Statement – 3.10.3.3 Recreation Areas 15 USDA RUS Cardinal-Hickory Creek 345-kV Transmission Line Project Draft Environmental Impact Statement – 3.11.3.1 Ice Age National Scenic Trail 16 Utilities Cardinal-Hickory Creek 345 kV Transmission Line Project – Macro-Corridor Study – Figure 7.2 Alternative Corridors, Cardinal to Montfort Substation Siting Area [Sep 2016] [https://www.rd.usda.gov/files/UWP-MCSMainReport.pdf] 17 USDA RUS Cardinal-Hickory Creek 345-kV Transmission Line Project DEIS – Figure 2.3-1. Transmission line alternative corridor segments map. [Dec 2018] [https://www.rd.usda.gov/files/CHC_DEIS_Vol_I_Web_508_111918.pdf]	
U.S. Department of Interior	Darby	ALT01; REC03	More Detailed Information on the Methodology for the Cost and Feasibility Analysis of Underground Transmission The NPS appreciates the more detailed cost and feasibility analysis for underground transmission included in the December 2018 DEIS. It is not clear, however, as to how the RUS concluded that 11.4 miles of underground transmission are necessary to avoid visual impacts to Ice Age NST. For example, the line mileage from the Cardinal Substation at C-HC's eastern terminus to the existing substation at the intersection of County Trunk Road P and Stagecoach Road, west of State Highway 14, is approximately 5 miles; undergrounding this segment could potentially mitigate the worst of C-HC's visual impacts to Ice Age NST, but it is not possible to make this determination without more specific information on the underground transmission scenarios evaluated by RUS. The NPS therefore respectfully requests more detailed information regarding the methodology behind the cost and feasibility analysis for underground transmission, as well as more detailed information on the methodology behind its visual impacts analysis. The NPS also notes that long-distance high-voltage underground transmission is potentially technically feasible and not necessarily cost-prohibitive within the region; for example, the recently proposed SOO Green Renewable Rail project intends to construct a 349-mile 525-kV direct current underground transmission line within existing railroad corridors in Iowa, Illinois, Minnesota, and Wisconsin, at an estimated cost of \$2.5 billion.18, 19, 20 Viewshed Analysis and Impacts to Ice Age NST The NPS generally agrees with the approach taken for conducting the viewshed analysis, which evaluated worst-case conditions (i.e., bare earth analysis) and accounted for a level of vegetation screening.21	EIS Section 2.2.2 has been revised to explain that that the mileage estimate for undergrounding the C-HC Project to avoid all visual impacts to the Ice Age NST is informed by viewshed analysis conducted specifically for the KOPs associated with the NST and Ice Age Complex, and also includes reasonable engineering considerations that would avoid alternating segments of aboveground and underground transmission line construction within the 11.4-mile segment. In other words, the 11.4-mile segment is not entirely visible from all NST KOPs; however, this length does encompass all NST KOPs
U.S. Department of Interior	Darby	REC03; VIS01	The NPS appreciates the additional information provided by the RUS with regard to the DEIS visual simulation methodology. The NPS notes that the photographs used in developing the visual simulations were done under poor lighting and weather conditions; simulation photographs showing clear skies and sunny conditions would likely result in a higher level of visibility of the project from some Key Observation Points (KOPs). The simulation photographs are also small and lack proper viewing instructions to accurately assess potential impacts; larger and higher-resolution versions provided in an appendix, with instructions of how large to print or view onscreen and from what distance, could provide a more accurate assessment. The NPS notes that the DEIS visual simulations appear to include mitigation measures to reduce visibility, such as dark brown color on the poles instead of gray galvanized finish and non-specular conductors and insulators. The NPS requests that these mitigation measures be clearly stated in subsequent EIS documentation and included as part of the selected alternative in the Final EIS and Record of Decision. 3.11 Visual Quality and Aesthetics [Dec 2018] The NPS generally agrees with the RUS's conclusions in the DEIS regarding visual impacts, which include visual impacts to users of the Ice Age NST under all alternatives and major visual impacts at two KOPs (Viewpoint 3 and Viewpoint 4).	The visual simulations in the EIS include the mitigation measures of, "Steel monopoles with a weathered finish will be used at visually sensitive locations to minimize the visual impacts to the landscape." Non-specular conductors and insulators are not proposed as part of the C-HC Project and are not incorporated in the visual simulations.
U.S. Department of Interior	Darby	EFF01; REC03	As noted above, all action alternatives for the C-HC project would create adverse effects on the current and future Ice Age NST. The Complex and Reserve are critical to achieving the Ice Age NST's purpose and maintaining its significance, as this site will become the statewide headquarters for the Ice Age Trail. The Ice Age Complex at Cross Plains partners—National Park Service, Wisconsin Department of Natural Resources, Dane County Parks, U.S Fish and Wildlife Service, and Ice Age Trail Alliance—have collectively made a substantial investment in regards to land acquisition, planning and development to expand this area into a destination for local, state, and national visitors who will be able to learn about continental glaciation, driftless area topography, and directly experience the significant geological features found here. Therefore, the protection and enhancement of the natural resources and view-sheds related to the Complex and Ice Age NST is imperative and at the heart of this effort. Currently, our partnership is busy creating a visitor contact station, parking, and trails at the Complex. In 2018, the Ice Age Trail Alliance expanded its office in the Village of Cross Plains to accommodate additional staff to help complete the Ice Age NST and increase opportunities for the public. Establishing the regional Ice Age NST headquarters and expanding the Trail would increase visitors to the area and bolster spending in the local and regional economies.	Comment noted. Coordination with the NPS is ongoing.
U.S. Department of Interior	Darby	ALT01; REC03	Ideally, the NPS prefers that the project proponents select alternate routes that would avoid the Ice Age NST entirely. If this is not feasible, the NPS respectfully requests that the project proponents use underground transmission for the relatively small segments of C-HC that would impact Ice Age NST, as described in previous comments.	Thank you for your comment. EIS Chapter 2 provides an explanation for why constructing all or portions of the C-HC Project underground has been dismissed from detailed analysis.
U.S. Department of Interior	Darby	DECI02; REC03	The NPS has an ongoing interest in working with all project proponents to ensure that potential impacts of the proposed project on the Ice Age NST are adequately addressed and minimized. Please continue to work with Pam Schuler, Ice Age NST Manager, and Adam Yarina, the NPS Regional Energy Specialist for the Midwest Regional Office. Pam may be reached at 608-441-5610 and pam_schuler@nps.gov, and Adam may be reached at 402-661-1528 and adam_yarina@nps.gov.	Comment noted.
Iowa Environmental Council	Johannsen	NEP02	Clearly recognize that the C-HC Project is part of a portfolio of transmission lines that were intended to significantly expand renewable energy in the Midwest and have a track record of doing so where lines have been approved and built; • Include the benefits of the full portfolio of Multi-Value Project transmission lines in its evaluation of the C-HC Project, since the portfolio is intended to work together to deliver renewable energy and economic benefits and each line is an essential part of that portfolio; • Increase the megawatts of renewable energy that will benefit from the C-HC Project to reflect wind and solar projects in Iowa, Minnesota, and South Dakota (in addition to Wisconsin). We understand that at least 4,000 megawatts (MW) of wind and solar in these three states will benefit from the line, in addition to additional wind and solar projects in Wisconsin;	Comment noted.

Organization	Commenter Last Name	Comment Code(s)	Comment on DEIS	Agency Response to Comment
Iowa Environmental Council	Johannsen	AIR04; EFF01	Identify and include all air and greenhouse gas pollution reductions from the renewable energy projects that benefit from the C-HC Project. These are important benefits from the C-HC Project. Recognize a climate mitigation benefit of the C-HC Project throughout the Final EIS – e.g., in sections or subsections regarding vegetation, wildlife, water resources, air quality, land use, public health, the Refuge, and more;	EIS Chapter 4, Section 4.4 has been revised to estimate the CO ₂ emissions that could occur from generation sources that would benefit from the C-HC Project. This analysis compares two scenarios: 100% coal-generation sources benefitting from the C-HC Project and 100% wind-generation sources benefitting from the C-HC Project. This analysis provides a range of CO ₂ emissions from possible generation sources.
Iowa Environmental Council	Johannsen	ALT04	Maintain the approach of not evaluating non-transmission alternatives in detail	Comment noted.
Iowa Environmental Council	Johannsen	AIR04; ALT03; EFF01	Recognize that the No Action Alternative, where the C-HC Project is not built, would result in higher emissions of greenhouse gases and air pollutants because fewer renewable energy projects will be built or will operate at full capacity. Accordingly, the RUS should recognize that the No Action Alternative has a greater adverse air quality and climate impact across a range of sectors (wildlife, water resources, human health, etc.); •	Comment noted. EIS Chapter 4, Section 4.4 has been revised to estimate the CO ₂ emissions that could occur from generation sources that would benefit from the C-HC Project. This analysis compares two scenarios: 100% coal-generation sources benefitting from the C-HC Project and 100% wind-generation sources benefitting from the C-HC Project. This analysis provides a range of CO ₂ emissions from possible generation sources.
Iowa Environmental Council	Johannsen	ALT01; REC02	Maintain the approach regarding the Mississippi River crossings where RUS focuses on the two crossing locations near Cassville, Wisconsin, and does not analyze in detail other crossing locations;	Comment noted.
Iowa Environmental Council	Johannsen	ALT01; EFF01	Provide greater preferential weight to Alternative 6 given that this route maximizes the use of existing right of way	Comment noted.
Iowa Environmental Council	Johannsen	NEP02	Background and Overall C-HC Project Need A. C-HC Purpose and Need Iowa has an abundant wind energy resource and accessing this resource is among the most significant options to improve the economy and environment in Iowa, including much of rural Iowa. Given Iowa utilities' participating in the regional transmission operator, the Midcontinent Independent System Operator (MISO), Iowa's wind resource can also offer benefits to the region, including lower electricity costs, reduced fossil fuel use, and reduced air emissions. We recognize that utilizing Iowa's wind resource will require the development of high voltage transmission lines. We appreciate the substantial economic and environmental benefits that wind energy offers and recognize that additional transmission lines will enable more wind and more of these benefits. We believe there must be a balance between the environmental benefits of wind generation and the environmental impacts of needed transmission lines. With a proactive and inclusive transmission planning, siting, routing, and mitigation process, we can achieve this balance. We believe this balance has been achieved with the C-HC Project. The C-HC Project is one of a number of Multi-Value Project (MVP) transmission lines that were identified by MISO to meet reliability, economic, and renewable energy needs. According to MISO, the full portfolio of MVP lines would enable significant wind generation. MISO's initial estimate of 41 million megawatt-hours ¹ of wind generation enabled by the MVP portfolio has grown to 52.8 million megawatt-hours in its latest analysis. ² The C-HC Project, also known as MVP 5, would improve the flow and increase the quantity of renewable energy in the region. The C-HC project, similar to the whole portfolio of MVP lines, is a critical step in the process of increasing use of renewable energy in the region. The status quo for electricity generation in the MISO region as a whole and particularly in Iowa and Wisconsin, the two states where the C-HC Project is proposed, is unacceptable given the current dominant role of fossil fuels for electricity generation and the associated adverse economic and environmental impacts. In Wisconsin, coal accounted for 55% of electricity generation in 2017. ³ Coal has ranged from 51% to 66% over the past decade. ⁴ Natural gas accounted for 21% of electricity generation in 2017 and has ranged from 8% to 24% in the past decade. ⁵ Meanwhile wind energy has only grown to 3% of Wisconsin's total generation in the past decade and solar energy is still below 1% of all generation sources. ⁶ As a result, fossil fuels account for 70% to 80% of Wisconsin's generation mix and were a significant source of air pollutants in 2017, as in other years, including sulfur dioxide, nitrogen oxide and carbon dioxide. ⁷ Wind energy has grown significantly in Iowa in the past decade and is nearing 40% of total generation. However, coal is still the largest source of electricity. Coal accounted for 44% of generation in 2017 and has ranged as high as 76% in the past decade. ⁸ Natural gas accounted for 8% of generation in 2017, up from 2% in 2008. ⁹ Like Wisconsin, fossil fuels in electricity generation continue to be a significant source for sulfur dioxide, nitrogen oxide, and carbon dioxide. ¹⁰ The expansion of transmission in Iowa has been an essential part of wind's growth and ability to offset fossil fuel use in recent years. For this trend to continue, however, the C-HC Project must be constructed. B. Council Involvement in C-HC Project Planning We have worked closely with utilities and transmission developers on the siting and routing of major high voltage transmission lines in Iowa. This includes each of the four MISO MVP transmission lines proposed in Iowa, of which the C-HC Project is one.	Comment noted.
Iowa Environmental Council	Johannsen	ALT01; ALT02	We appreciate ITC Midwest's willingness to engage with our organization, as well as our partner organizations and other stakeholders, on siting, routing, and potential mitigation needed for the Iowa portion of the C-HC Project over the past several years. We believe that this ongoing stakeholder engagement has improved the siting and routing of each transmission line and has also improved mitigation projects to address issues that siting and routing could not avoid. This is true for the C-HC Project (MVP 5) as well as MVP 3, 4 and 7. During this process for the C-HC Project, ITC Midwest provided a number of Iowa environmental and conservation organizations, including the Council, with study area maps highlighting identified potential crossing options for the Mississippi River as well as the relevant substations in Iowa and Wisconsin that must be connected by the C-HC Project. In addition to reviewing maps, our organizations had the opportunity to visit potential Mississippi River crossing locations in-person, to submit written comments on siting and routing options to ITC Midwest, and to meet with ITC Midwest staff on multiple occasions to discuss the C-HC Project. The Alternatives Crossing Analysis (ACA) prepared in April 2016 and the Macro-Corridor Study (MCS) prepared in September 2016 notes or documents some of this involvement. Based on our extensive review, on-site visits to River crossing locations, and the final route selections for the C-HC Project, we support construction of the C-HC Project using the utilities' preferred route, which we believe is consistent with "Alternative 6" as described the Draft EIS.	Comment noted.
Iowa Environmental Council	Johannsen	NEP02	The RUS Should Improve Its Evaluation of the Project Purpose and Needs to Fully Account for Renewable Energy Benefiting from the C-HC Project A. Transmission Expansion Is Essential for Renewable Energy Development and MISO MVP Lines Were Planned for and Are Being Implemented for Renewable Energy The RUS should more clearly recognize the strong connection between the portfolio of MVP transmission lines and renewable energy development in the region. In Iowa, MVP 3, 4, and 7 have moved through the regulatory process and are either under	Comment noted. EIS Chapter 1 describes the need for the C-HC Project as well as the decisions facing the three Federal agencies that have received loan or permit applications for the C-HC Project. EIS Section 1.4 provides a list of both in-state and out-of-state generation sources that would benefit from the C-HC Project.

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			<p>construction or have been placed into service. As these lines have been planned and built, wind development has followed in the transmission corridors as intended. MISO's analysis of the MVP lines and renewable energy development also show this strong connection between the development of transmission lines and the development of renewable energy throughout the entire North Central region. The below map shows the renewable energy zones in blue that were identified as areas where additional renewable energy development would be needed and would be facilitated by the MVP transmission lines (illustrated at a high level with dotted red lines).¹¹ This map was published in early 2012 when MISO finalized the basic locations of the suite of MVP lines. The below map, published in 2017, shows where actual renewable energy development has occurred in relationship to the zones and after most MVP lines either have been placed in service or are under construction.¹² As the map illustrates, renewable energy development is clustered around the identified renewable energy zones and the MVP transmission lines. As MISO states, "A geospatial overlay of new wind projects in the North/Central region observes a correlation to actual wind siting and the original identified RGOS zones."¹³ The map also indicates that very substantial wind development has occurred in Iowa and southern Minnesota, wind resources that either require or will benefit from development of the C-HC Project, as discussed above. Recommendation: The RUS should maintain and enhance the clear connection between MVP transmission lines, including the C-HC Project, and renewable energy development in the region.</p>	
Iowa Environmental Council	Johannsen	NEP02	<p>The RUS Should Recognize that the C-HC Project Is an Essential Part of a Portfolio of MVP Transmission Lines Intended to Expand Renewable Energy MISO evaluated and approved the MVP transmission lines as an integrated portfolio that is intended to work together to enable significant renewable energy development. The portfolio includes 17 transmission lines throughout the North Central region. The lines allow for the access and the transfer of renewable energy located in renewable energy zones (as identified in the above maps) to regional markets. The full portfolio is intended to be placed into service in order to ensure the all of the intended renewable energy benefits are realized, as well as additional benefits such as reduced congestion. If even one of the 17 transmission lines is not built, the goals and outcomes of the full portfolio will be compromised. These goals and outcomes include renewable energy development as well as economic benefits (including consumer savings) and reliability benefits. The RUS should recognize that the C-HC project is like every other individual line in the MVP portfolio – the C-HC Project is an essential part of the overall portfolio that is necessary for the full portfolio to accomplish the expected benefits, including renewable energy growth, reduced energy costs, and reduced air and GHG emissions. This analysis fits within the "Indirect effects and their significance" as required by the federal regulations regarding environmental impact statements. See 40 CFR § 1502.16 stating that the EIS "shall include discussions of ... indirect effects and their significance; see also 40 CFR § 1502.8(b), which expands on indirect effects. This analysis also fits within the "Energy requirements and their conservation potential of various alternatives" under 40 CFR § 1502.16(e) and the "Natural or depletable resource requirements ... of various alternatives" under 40 CFR §1502.16(f). MISO highlighted the nature of the portfolio and each line's essential role within the portfolio in recent testimony filed in Iowa regarding the MVP 7 line, which cross from southern Iowa into Missouri. MISO witness Ghodsian stated that the "inability to construct a key element of the regional expansion plan, especially a 'backbone' element ... could result in the loss of the economic benefits ... The revised plan would likely have a negative economic impact to portions of ratepayers in the MISO footprint."¹⁴ Witness Ghodsian further stated that the "result of not constructing the MVP 7 project would be the inability of the existing transmission system to reliably deliver power in support of existing renewable energy mandates and the failure to realize other MVP benefits ... without the MVP 7 project, Iowa and other states in the MISO footprint would not receive the full set of economic benefits that is provided by the MVP portfolio."¹⁵ Recommendation: The RUS should include the benefits, goals and outcomes of the full MVP portfolio – including substantial renewable energy development, reduced air emissions, and lower energy costs – in its evaluation of the C-HC Project need and purpose.</p>	<p>Comment noted. EIS Chapter 1 describes the need for the C-HC Project as well as the decisions facing the three Federal agencies that have received loan or permit applications for the C-HC Project. As described in EIS Section 1.3, MISO adopted a portfolio of 17 MVPs to provide economic, reliability, and public policy benefits across what was then the entire MISO footprint: all or portions of 13 states and one Canadian province. MISO ultimately designated the C-HC Project as part of the MVP portfolio to be developed, identified as MVP #5. Analyzing the benefits of the entire MVP portfolio is outside the scope of the EIS.</p>
Iowa Environmental Council	Johannsen	NEP02; NEP03	<p>The RUS Should Increase the Projected Renewable Energy Capacity that Will Be Enabled by the C-HC Project The RUS includes an estimate of renewable energy capacity that relies on the C-HC Project. This includes 1,544 MW of wind projects (nameplate capacity) that are in-service, but face transmission constraints and have interconnection agreements conditioned on completion of the C-HC Project.¹⁶ The RUS identifies an additional 299 MW of wind that is under construction and is also conditional on CHC. ¹⁷ Finally, the RUS identifies approximately 700 MW of wind, 924 MW of solar, and 732 MW of natural gas facilities that are likely to benefit from construction of the C-HC Project.¹⁸ We note that of these amounts, the 702 MW natural gas combined cycle facility is already constructed and the separately listed 30 MW of natural gas appears to be a capacity uprate or increase at this same 702 MW facility.¹⁹ In addition, 158 MW of wind are already constructed. We appreciate that the RUS identified these renewable energy projects and recognized that enabling renewable energy generation is a major purpose of the C-HC Project. However, we understand that many more renewable energy projects are associated with the C-HC Project and believe that the RUS has substantially underestimated the renewable energy capacity in the Draft EIS. For example, Table 1.4-2 only lists generator interconnection requests in Wisconsin, even though the RUS has observed that the CHC Project is intended to allow better flow of energy from the "wind-rich areas of the upper Great Plains to load centers like Madison and Milwaukee."²⁰ The RUS must evaluate generator interconnection request in this area (e.g., Iowa, Minnesota) to get a better estimate of the scope of renewable energy projects that would benefit. Below is the current active generator interconnection queue for Iowa in MISO (as of Feb. 1, 2019).²¹ Of the 8,375 MW in the queue, 6,782 MW are wind, 1,551 MW are solar, 30 MW are gas and 12 MW are diesel. In other words, the 8,333 MW of renewable energy projects in the queue from Iowa represent 99.5% of the entire Iowa queue. The 8,333 MW are also a substantially larger amount of capacity than the Wisconsin queue identified in the Draft EIS. Minnesota, and South Dakota that want to connect to the C-HC Project and would benefit from its construction.²² We encourage the RUS to use this analysis as well as the generator interconnection queues in Iowa (and Minnesota and South Dakota) to develop a more appropriate scope of renewable energy projects that require the C-HC Project for full operation. This analysis fits within the "Indirect effects and their significance" as required by 40 CFR § 1502.16(b) and described further in 40 CFR § 1508.8(b). Increasing renewable energy is a major purpose of the C-HC Project, which the RUS recognizes, and this generation will provide further greenhouse gas and air pollutant reduction benefits, as discussed above.</p>	<p>The EIS has been revised to update the renewable energy projects that would benefit from the C-HC Project, both within Wisconsin and Iowa and outside of these states. See EIS Section 1.4.</p>
Iowa Environmental Council	Johannsen	AIR01	<p>The RUS should use the appropriate estimates of renewable energy associated with the C-HC Project in an analysis to identify reductions in GHG and air emissions. We discuss this issue further below. Recommendation: In the Final EIS, the RUS should fully review renewable energy projects associated with the C-HC Project in a larger geographic footprint that includes, in the RUS's own words, "wind-rich areas of the upper Great Plains" and increase its renewable energy capacity estimates accordingly. In addition, the RUS should use the higher renewable capacity amount to analyze GHG and air emissions reductions, as we recommend below.</p>	<p>EIS Chapter 4, Section 4.4 has been revised to estimate the CO2 emissions that could occur from generation sources that would benefit from the C-HC Project. This analysis compares two scenarios: 100% coal-generation sources benefitting from the C-HC Project and 100% wind-generation sources benefitting from the C-HC Project. This analysis provides a range of CO2 emissions from possible generation sources.</p>
Iowa Environmental Council	Johannsen	ALT04	<p>The RUS Decision to Not Evaluate Non-Transmission Alternatives in Detail Is Appropriate The Upper Midwest has some of the nation's best wind resources. The windiest areas of Iowa, Minnesota, South Dakota (similar areas in the region) are also generally rural and at a geographic distance from the areas that use the most power. Accessing these wind resources requires transmission development. Without transmission development, wind energy within these windy areas cannot be moved to places where the power is needed. Given this dynamic, there are no alternatives to transmission that would support and facilitate development of these wind resources. The 'non-transmission alternatives' that the RUS identified are</p>	<p>Comment noted.</p>

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			more appropriately evaluated as alternatives to distribution system infrastructure, including distribution system wires and substations, than as transmission alternatives. As such, the RUS's decision to not evaluate these resources in detail is appropriate. We support robust deployment of the technologies identified by the RUS, such as distributed solar, energy efficiency, and energy storage – but not as a substitute for accessing large amounts of wind energy from some of the best wind resources in the U.S. Recommendation: The RUS should maintain in the Final EIS its approach to non-transmission alternatives in the Draft EIS and not evaluate these alternatives in further detail.	
Iowa Environmental Council	Johannsen	AIR01; EFF01	<p>The RUS Should Fully Evaluate Greenhouse Gas and Air Emissions Reductions from the C-HC Project and the Emissions Increases from the No Action Alternative A. The RUS's GHG Impact and Air Quality Impact Analysis for Alternatives 1-6 Should Reflect GHG and Air Pollution Reductions from Renewable Energy In the Draft EIS, the RUS appropriately recognizes that a major purpose of the Cardinal Hickory Creek transmission line is to enable additions of renewable energy generation to the MISO grid.²³ The RUS identifies approximately 1,300 MW of increased transfer capability from the C-HC Project, which would allow wind power to transfer from "wind-rich areas of the upper Great Plains to load centers like Madison and Milwaukee."²⁴ The RUS identifies a set of existing wind projects that are in operation but not able to operate at full output because of transmission constraints, which the C-HC Project would relieve.²⁵ The RUS also identifies an additional set of pending wind and solar projects that would benefit from the C-HC Project if constructed.²⁶ As discussed above, there are more wind and solar projects that would benefit from the C-HC Project. Wind and solar energy are zero carbon resources that reduce greenhouse gas emissions and a variety of additional air pollutants by offsetting or reducing generation from fossil fuel resources like coal and natural gas. These pollutants include nitrogen oxides, sulphur dioxide, carbon monoxide, air toxics like mercury, and fine particulates. Both climate change and these air pollutants directly threaten human health and the natural environment. The renewable energy projects that will benefit from the C-HC Project will reduce greenhouse gas emissions and additional air pollutants in the region. However, the RUS does not include these greenhouse gas reductions in its analysis of the GHG impact of the CHC project. The RUS only identifies limited greenhouse gas increases from construction activities related to the C-HC Project²⁷ and from the operation of the project.²⁸ We appreciate that the RUS views these emissions as "minor"²⁹, but any longterm increase associated with the C-HC Project is the result of an incomplete analysis that does not fully account for GHG reductions from increased renewable energy. The RUS also does not include air pollution reductions from renewable energy in its analysis of the air pollution impact of the CHC Project. The RUS identifies emissions of CO, NOx, SOx, particulate matter, VOCs, and HAPs from either construction or operation of the line.³⁰ Again, we appreciate that the RUS views these emissions increases as "small" "short-term" and "minor"³¹ but, like GHGs, we are very concerned that the Draft EIS ignores the substantial air pollutant reductions from increased renewable energy associated with the C-HC Project. Without the GHG and air pollution reduction analyses, the Draft EIS shows an incomplete and inaccurate picture of the C-HC Project. The RUS has unreasonably neglected some of the major expected environmental benefits from the C-HC Project. A more complete analysis of the GHG and air emissions reductions from the renewable energy projects that benefit from the C-HC Project fits within the analysis required for "Indirect effects and their significance" under 40 CFR §1502.16 and described further under 40 CFR § 1508.8(b). Specifically, climate impacts are "Indirect effects, which are caused by the action and are later in time."³² GHG and air emissions reductions are similarly "Indirect effects, which are caused by the action and are ... farther removed in distance."³³ Effects and impacts are "synonymous" and can be both "beneficial and detrimental."³⁴ Given this framework, the RUS should account for long-term GHG and air pollution emissions reductions from the renewable energy projects associated with the C-HC Project as well as the reduced impacts from climate change. MISO's initial and ongoing analysis regarding the MVP portfolio accounts for carbon emissions reductions from renewable energy associated with the portfolio. MISO's initial projections in 2012 for carbon dioxide reductions from the MVP portfolio ranged from 8.3 to 17.8 million tons annually.³⁵ MISO's latest analysis, from 2017, shows even greater annual reductions of 13 to 21 million tons.³⁶ MISO is clear that this is because the "MVP Portfolio enables the delivery of significant amounts of wind energy across the MISO and neighboring regions, which reduces carbon emissions."³⁷ MISO's carbon reduction analysis is for the entire MVP portfolio and shows the scope of reductions from the full portfolio. The RUS should use this scope as a starting point to estimate a range of reductions from the renewable energy associated with the C-HC Project. As other commenters noted during the scoping process, EPA's AVERT tool³⁸ can assist with estimating GHG as well as other air pollutant reductions from renewable energy. The RUS can use its estimates for wind and solar capacity (existing and new) that will benefit from the C-HC Project in the Draft EIS as a low-end renewable capacity estimate.³⁹ We suggest above that there are greater amounts of renewables that will benefit from the C-HC Project and expect other commenters to do this same, which can form the basis for a middle or higher range estimate. The RUS should use AVERT or similar tools to identify GHG and other air pollutant emissions reductions from this range of renewable energy projects that will benefit from C-HC Project and include these emission reductions as part of the overall GHG and air quality impact analysis. We and other stakeholders raised these issues in our scoping comments, submitted to the RUS in January 2017. We specifically requested that the RUS evaluate the environmental benefits from renewable energy associated with the C-HC Project, including greenhouse gases and air quality.⁴⁰ The RUS neglected to include these issues in the list of scoping comments received.⁴¹ We also request that the RUS correct this oversight and omission when preparing the Final EIS. Recommendation: In the Final EIS, the RUS should include the air pollutant and GHG reductions from wind and solar projects associated with the C-HC Project in its air quality and GHG impact analysis. By doing this, we would expect a long-term net reduction in air pollutants and GHG emissions from the C-HC Project.</p>	EIS Chapter 4, Section 4.4 has been revised to estimate the CO ₂ emissions that could occur from generation sources that would benefit from the C-HC Project. This analysis compares two scenarios: 100% coal-generation sources benefitting from the C-HC Project and 100% wind-generation sources benefitting from the C-HC Project. This analysis provides a range of CO ₂ emissions from possible generation sources.
Iowa Environmental Council	Johannsen	AIR04; EFF01	<p>The RUS Should Recognize that Renewable Energy Associated with the C-HC Project and Alternatives 1-6 Provides an Incremental Benefit to Mitigate Climate Change Because the C-HC Project will benefit pending and existing renewable energy projects in the region, it will help reduce greenhouse gas emission in addition to other air emissions. This reduction in emissions is an incremental step in mitigating impacts from climate change. The scope and scale of those impacts in the region is increasingly clear and concerning. The U.S. Global Change Research Program released the Fourth National Climate Assessment (Fourth Assessment) in November 2018. This is a recent and comprehensive assessment of current and projected climate impacts on a range of sectors and areas related to the C-HC Project, including the Midwest region, ecosystems, air quality, and public health. The Fourth Assessment helps identify current and projected climate impacts in the C-HC Project corridor, including the Refuge. The Fourth Assessment also discusses the opportunities for mitigation using renewable energy technologies as well as the risks of inaction if we fail to mitigate. The Fourth Assessment provides a range of climate impacts for the Midwest region in particular as well as sectors relevant to the Midwest, including ecosystems, water resources, agriculture, forests, air quality, public health and other sectors. For example, regarding forests in the Midwest, the Fourth Assessment states that as temperatures increase, "reduced tree growth or widespread tree mortality is expected."⁴² Regarding Midwestern ecosystems, the Fourth Assessment states that "High rates of change in climate factors like air and water temperature and increasing drought risk likely will accelerate the rate of species decline and extinction."⁴³ The Fourth Assessment also recognizes significant human health impacts. In fact, as the Assessment states, "Midwestern populations are already experiencing adverse health impacts from climate change, and these impacts are expected to worsen in the future."⁴⁴ (emphasis added). Air quality is a major part of the human health impacts, with increases in ground-level ozone and particulate matter causing or exacerbating lung and cardiovascular diseases.⁴⁵ Increased daytime and</p>	EIS Chapter 4, Section 4.4 has been revised to estimate the CO ₂ emissions that could occur from generation sources that would benefit from the C-HC Project. This analysis compares two scenarios: 100% coal-generation sources benefitting from the C-HC Project and 100% wind-generation sources benefitting from the C-HC Project. This analysis provides a range of CO ₂ emissions from possible generation sources. The generation sources that would benefit from the C-HC Project are considered cumulative impacts because they are not directly associated with the proposed C-HC Project; therefore, associating potential climate change and resource impacts (adverse or beneficial) from different generation sources accessing the C-HC Project is outside the scope of this EIS.

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			<p>nighttime temperatures and increased flooding – including Mississippi River flooding – are both associated with a range of worsening human health impacts. Finally, regarding the agriculture economy that is critical to both Iowa and Wisconsin, the Fourth Assessment finds that “Projected changes in precipitation, coupled with rising extreme temperatures before mid-century, will reduce Midwest agricultural productivity to levels of the 1980s without major technological advances.”⁴⁶ The Fourth Assessment details many additional impacts to the region and sectors highlighted above and to other sectors important to the Midwest region. As stark as the current and projected climate impacts are, however, the Fourth Assessment does provide guidance on avoiding impacts. The Assessment states that, “Future impacts and risks from climate change are directly tied to decisions made in the present, both in terms of mitigation to reduce emissions of greenhouse gases ... and adaptation.”⁴⁷ (emphasis added). The Assessment helps to put a focus on such mitigation efforts as “Fossil fuel combustion accounts for 77% of total U.S. GHG emissions”⁴⁸ The Assessment repeats the importance of decisions made now on both near-term and long-term climate impacts. The Assessment states that, “decisions that decrease or increase emissions over the next few decades will set into motion the degree of impacts that will likely last throughout the rest of this century, with some impacts ... lasting for thousands of years or even longer.”⁴⁹ In addition, “Early and substantial mitigation offers a greater chance for achieving a long-term goal ... Early efforts also enable an iterative approach to risk management ... Evidence exists that early mitigation can reduce climate impacts in the nearer term.”⁵⁰ Renewable energy has helped reduce emissions by 25% from 2005 levels in the power sector, which is “the largest sectoral reduction over this time.”⁵¹ There remains great potential for renewable energy to contribute to much deeper reductions in emissions. As discussed above, fossil fuels still dominate the electrical generation mix in Iowa and Wisconsin. Pending renewable energy projects alone could change that, while substantial potential exists to go beyond pending projects. The risks and adverse impacts are too great for the RUS to ignore climate change in the Final EIS. The RUS should recognize that the C-HC Project and associated renewable energy development will provide real, incremental mitigation benefits across a range of sectors. This analysis fits within the indirect effects, required by 40 CFR § 1502.16 and described in 40 CFR § 1508.8, including long-term effects of an action and benefits from an action. Recommendation: The RUS should recognize an incremental climate benefit in many subsections of Chapters 3 and 4 – e.g., subsections covering vegetation, wildlife, water resources, air quality, land use, public health, the Refuge, and more. The RUS should state that Alternatives 1-6 offer this incremental benefit and that if the Alternative is built, the sector will see reduced risk of adverse climate impacts.</p>	
Iowa Environmental Council	Johannsen	AIR01; ALT03; EFF01	<p>The RUS Must Account for Increased GHG and Air Pollutant Emissions in the No Action Alternative Compared to Alternatives 1-6 Because of Cancelled and Constrained Renewable Energy Projects If the C-HC Project is not built – the No Action Alternative – then significant amounts of renewable energy projects that depend on the C-HC project to reach full output or to be constructed will face curtailments or cancellation. In the Draft EIS, the RUS recognizes this fact by stating, for example, “wind generation currently developed, under construction, or proposed for Iowa would not be adequately served ... under the No Action Alternative. There are a number of wind generation projects in MISO that are dependent upon completion of the C-HC Project.”⁵² The result of this will be an increase in GHG and air pollutant emissions, since fewer renewables will lead to greater use of coal and natural gas. The RUS analysis must account for this, but fails to in the Draft EIS. The RUS’s GHG impact and air quality analysis of the No Action Alternative states that “air resources would not be affected. Climate change would continue as defined by current trends.”⁵³ This treatment of the No Action Alternatives unreasonably fails to recognize and account for the GHG and air quality impact from less renewable energy – which the RUS does at least recognize as an outcome of the No Action Alternative. If the No Action Alternative is a form of ‘baseline’, as the RUS suggests, then the RUS must be clear that this baseline includes higher GHG and air pollutant emissions than any of the Alternatives (1-6) that include construction of the C-HC Project. This analysis fits within the indirect effects required by 40 CFR § 1502.16(b) and described in 40 CFR § 1508.8(b). The RUS should recognize that under the No Action Alternative, greenhouse gas emissions and other air pollutants will increase over time because renewable energy projects will be constrained or will not be built. The RUS should clearly state that the No Action Alternative carries substantial adverse environmental impacts and risks across a range of sectors given that climate change will be incrementally worse and a range of air emissions will be higher. For example, in the Draft EIS, the RUS states that, “Under the No Action Alternative, the proposed project would not be built, and there would be no impacts to wildlife, including special status species.”⁵⁴ To account for greater climate impacts, the RUS should state, “Under the No Action Alternative, the proposed project would not be built, and there would be greater risk of adverse climate impacts to wildlife, particularly special status species.”</p>	EIS Chapter 4, Section 4.4 has been revised to estimate the CO ₂ emissions that could occur from generation sources that would benefit from the C-HC Project. As for comparing the action alternatives to the No Action Alternative, this is not required for the cumulative impacts analysis because the direct/indirect air quality and climate change effects from the No Action Alternative is null. Cumulative impacts are those impacts resulting from the proposed project (C-HC Project direct and indirect impacts) plus incremental impacts from the cumulative action scenario.
Iowa Environmental Council	Johannsen	ALT01; REC02	<p>The RUS Appropriately Dismissed Five Mississippi River Crossing Alternatives and Appropriately Included the Two Alternatives Near Cassville Wisconsin During the Council’s review process, we have maintained support for the two identified Mississippi River crossing options near Cassville, Wisconsin. In the Draft EIS, these are referred to as the Stoneman crossing and the Nelson-Dewey crossing.⁵⁵ Our support for these crossing options recognized several benefits. These benefits include the use of existing transmission right-of-way and infrastructure for the Mississippi River crossing itself as well as the use of existing transmission right-of-way and infrastructure for significant stretches of the transmission line outside of the River crossing, but not available if other crossing locations were used. We agree with the major conclusion of the ACA and MCS that the preferred crossing locations are the Nelson-Dewey and Stoneman options. We appreciate the thorough and detailed review that was involved in producing both the ACA and MCS. We recognize that an expanded infrastructure project, such as this transmission line, in the Mississippi River National Wildlife Refuge (Refuge) is a serious undertaking. Given the thorough siting and routing analysis, the limited options for crossing outside of the Refuge, and the broader economic and environmental benefits from expanded access to wind generation, we are supportive of the use of the Refuge for the Nelson-Dewey and Stoneman crossing options. In the Draft EIS, the RUS rejected other crossing options for further analysis, including Lock and Dams in Guttenberg and Dubuque, two highway crossings in Dubuque, and a transmission line crossing in Dubuque. We support this decision, which allows focus on the possible routes in Iowa and Wisconsin using the same crossing location. Recommendation: The RUS should maintain the approach in the Draft EIS that dismisses the five Mississippi River crossings outside of Cassville and focuses on the two crossing locations identified as Nelson-Dewey and Stoneman.</p>	Comment noted.
Iowa Environmental Council	Johannsen	ALT02; EFF01	<p>The RUS Should Give Greater Weight to the Use of Existing Right of Way for Alternative 6 The CHC project preferred route, which crosses the Mississippi River at Cassville, Wisconsin, was planned with a focus on utilizing existing transmission line corridors, existing right of way (ROW), and other existing infrastructure. We encouraged and supported this approach throughout the planning process, as did other stakeholders. This included multiple comments to ITC Midwest as well as our comments to the RUS on the scoping for the EIS, as we discussed above. Use of existing transmission corridors reduces the environmental impact and visual impact of the CHC project, as the RUS recognizes. The use of existing right of way for the Mississippi River at the Cassville location, for example, is a very important step to reduce impacts on the River and the Refuge. The Cassville crossing also enables significant use of existing corridors and right of way for much of the route in Wisconsin, including the 138 kV transmission line from Cassville to Montfort and the use of roads and state highway from Montfort to Mount Horeb. This quantity of existing transmission line, right of way, and road infrastructure is not easily or at all available from other River crossing locations (e.g., Dubuque or</p>	Comment noted.

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			Guttenberg). Our understanding is that Alternative 6 is consistent with the overall preferred route of ITC, ATC, and Dairyland for Iowa and Wisconsin as well as the Mississippi River crossing. We have summarized the RUS's analysis of each alternative in the table below. We believe this summary clearly demonstrates the benefits of the route for Alternative 6. Alternative 6 has the second-shortest total miles and the highest percentage of existing ROW at 96%. The shortest route, Alternative 1 and only 2 miles shorter than Alternative 6, has among the lowest uses of existing ROW at 66%. The other two options with high ROW, Alternative 4 and 5, would include longer overall routes – 18 and 27 miles longer respectively. Recommendation: The RUS should more clearly identify Alternative 6 as the preferred route, in part because it minimizes environmental impacts and consequences given its optimal combination of short total miles and highest percentage of existing ROW.	
Iowa Environmental Council	Johannsen	AIR01; EFF01	We appreciate the opportunity to comment on the Draft EIS. As reflected in our comments above, we encourage the RUS to fully identify and account for the renewable energy benefits associated with the CHC Project as well as the associated environmental benefits of that renewable energy. This includes reductions in greenhouse gases and other air emissions in the electricity generation sector, which will provide incremental mitigation of climate change and thus benefit a range of sectors identified in the Draft EIS. The federal regulations that guide the development of environmental impact statements require this type of analysis for indirect effects, including indirect benefits. We further recommend that the RUS recognize that if the C-HC Project is not built under the No Action Alternative, there will be less renewable energy and fewer environmental benefits from renewable energy. The No Action Alternative will result in higher greenhouse gas and other air emissions, which will result in greater adverse impacts across a wide range of sectors identified in the Draft EIS. By fully accounting for the renewable energy projects and environmental benefits associated with the C-HC Project, we expect the Final EIS to identify more net, long-term benefits that will support construction of the project and related approvals by federal agencies.	EIS Chapter 4, Section 4.4 has been revised to estimate the CO ₂ emissions that could occur from generation sources that would benefit from the C-HC Project. This analysis compares two scenarios: 100% coal-generation sources benefitting from the C-HC Project and 100% wind-generation sources benefitting from the C-HC Project. This analysis provides a range of CO ₂ emissions from possible generation sources.
U.S. Environmental Protection Agency	Westlake	DECI02	In accordance with our responsibilities under Section 309 of the Clean Air Act and the National Environmental Policy Act, the U.S. Environmental Protection Agency (EPA) has reviewed the U.S. Department of Agriculture, Rural Utilities Services (RUS) Draft Environmental Impact Statement (Draft EIS) for the Cardinal-Hickory Creek 345-kV Transmission Line Project dated December 2018. As a cooperating agency, EPA has long been involved in this project, including reviewing and commenting on preliminary versions of the Draft EIS in 2018. Dairyland Power Cooperative, American Transmission Company LLC, and ITC Midwest LLC, together referred to as "the Utilities," propose to construct and own a new 345-kilovolt transmission line between Dane County, Wisconsin, and Dubuque County, Iowa. The purpose of the proposed project is to improve reliability and congestion issues on the regional bulk transmission system as well as expand access of the transmission system to additional resources, including lower-cost generation and renewable energy generation. RUS has identified six alternatives for the C-HC Project. These alternatives consist of individual route segments that, when combined, form complete route alternatives connecting the Cardinal Substation in Wisconsin with the Hickory Creek Substation in Iowa. A preferred alternative has not yet been selected. EPA has reviewed and provided comments for previous versions of the Draft EIS. Most of our earlier comments have been addressed. For example, the Draft EIS resolved comments pertaining to differing corridor widths along different sections of the alignment and commitments to minimize and/or mitigate for potentially-affected environmental resources during construction and operation of the transmission system. Because this version of the Draft EIS provides clarification to previous EPA comments, EPA has relatively minor comments at this stage. Our comments on the Draft EIS pertain to construction-related air impacts and impacts to terrestrial natural resources. Effective October 22, 2018, EPA no longer includes ratings in our Draft EIS comment letters. Information about this change and EPA's continued roles and responsibilities in the review of federal actions can be found on our website at https://www.epa.gov/nepa/environmental-impact-statement-rating-system-criteria . We appreciate the opportunity to comment on this Draft EIS and to have participated in early stages of project development as a cooperating agency. If you have any questions regarding our comments, the lead NEPA reviewers for the project are Kathy Kowal (Region 5, Chicago) and Amber Tilley (Region 7, Kansas City). Ms. Kowal can be reached at (312) 353-5206 or via email at kowal.kathleen@epa.gov . Ms. Tilley can be reached at (913) 551-7565 or via email at amber.tilley@epa.gov . Sincerely, Kenneth A. Westlake Chief, NEPA Implementation Section Office of Enforcement and Compliance Assurance Enclosures: EPA Comments on the Cardinal-Hickory Creek 345-kV Transmission Line Project Draft EIS EPA Construction Emission Control Checklist cc: Tim Yager, USFWS Joseph, Lundh, USACE Coleman Burnett, SWCA Environmental Consultants EPA Comments on the Cardinal-Hickory Creek 345-kV Transmission Line Project Draft EIS March 29, 2019	Thank you. Comment noted.
U.S. Environmental Protection Agency	Westlake	AIR03	Construction Emission Control Checklist cc: Tim Yager, USFWS Joseph, Lundh, USACE Coleman Burnett, SWCA Environmental Consultants EPA Comments on the Cardinal-Hickory Creek 345-kV Transmission Line Project Draft EIS March 29, 2019 Construction-related Air Impacts EPA had supplied a copy of our Construction Emission Control Checklist in previous comment packages. We strongly recommend incorporating applicable techniques to reduce air impacts within the project area to the greatest extent practicable. Please include in the Final EIS and Record of Decision all commitments to reduce air emissions from construction activities.	The Utility's construction contractors follow many of controls stated in the USEPA construction emission-control checklist as a best practice. Because the Utilities have not selected contractors to perform the work, the Utilities can only state that any of the C-HC Project contractors will be required to follow applicable laws and regulations, rather than adopting the emissions-control checklist as provided. Additionally, the Utilities will review the checklist with our contractors and encourage them to incorporate as many items as practicable. Some safety requirements can, at times, require the contractors to idle or run specific equipment to keep crews and the public safe.
U.S. Environmental Protection Agency	Westlake	VEG01; VEG04	Mitigation of Impacts to Terrestrial Resources EPA acknowledges the Draft EIS contains tables that delineate impacts to acreages of vegetation for each alternative. However, EPA reiterates its recommendation to include tables that delineate, not only acres, but percentages. Specifying impacts to wetland, prairie, forested upland, forested wetland, etc. communities as a percentage of total resource type within county, state, watershed, etc. for each alternative would easily inform reviewers of extent/severity of impact.	Comment noted. EIS Sections 3.3 and 3.4 have been revised to disclose impacts as percentages of land cover classes to provide additional context for the impacts.
U.S. Environmental Protection Agency	Westlake	VEG03; VEG04	Acknowledging that aquatic resources will require a Clean Water Action Section 404 permit and those permits will contain specifics regarding mitigation, EPA reiterates its recommendation for mitigation/restoration for plant communities (e.g., prairies, forested areas, etc.) that do not require a permit to impact and, therefore, will not have specific mitigation requirements per a permit. For example, what does success look like for control of non-native, invasive species?	A mitigation plan has been included as an appendix to the EIS to provide additional details about the mitigation measures to be implemented by the Utilities as part of the C-HC Project.
U.S. Environmental Protection Agency	Westlake	EFF04; VEG01; VEG04	Restoration goals should indicate percentage of natives, and non-natives (e.g., 15% maximum areal coverage), monitoring schedule, and a typical adaptive management plan. Having restoration goals for impacted terrestrial resources not covered by permits, as well as permitted resources per applicable permits, would ensure that resources sustain a minimal amount of impact when compared to pre-construction conditions. Please include in the Final EIS and Record of Decision an appendix that describes mitigation plans and commitments for impacts both to habitats covered by permits (e.g., wetlands) and habitats not covered by permits (e.g., upland forests and prairies)	A mitigation plan has been included as an appendix to the EIS to provide additional details about the mitigation measures to be implemented by the Utilities as part of the C-HC Project.

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U.S. Environmental Protection Agency	Westlake	VEG03	Similarly, the Draft EIS indicates "Uninfested natural areas, such as high-quality wetlands, forests, and prairies, will be surveyed for invasive species following construction and site revegetation. If new infestations of invasive species due to construction of the C-HC Project are discovered, measures should be taken to control the infestation. The Wisconsin and Iowa Departments of Natural Resources, as applicable, would be consulted to determine the best methods for control of encountered invasive species." EPA reiterates its request that all natural areas (e.g., forests, prairies, wetlands) are surveyed and control measures are applied. Committing to this activity will help to ensure that the proposed project does not lead to new or larger outbreaks of non-native, invasive or noxious plants in the project area. Please include in the Final EIS and Record of Decision all commitments pertaining to terrestrial natural resources.	The environmental commitments in EIS Section 3.1 have been revised to include that all natural areas are surveyed and control measures are applied for invasive species.
U.S. Environmental Protection Agency	Westlake	AIR03; HAS01	U.S. Environmental Protection Agency Construction Emission Control Checklist Diesel emissions and fugitive dust from project construction may pose environmental and human health risks and should be minimized. In 2002, EPA classified diesel emissions as a likely human carcinogen, and in 2012 the International Agency for Research on Cancer concluded that diesel exhaust is carcinogenic to humans. Acute exposures can lead to other health problems, such as eye and nose irritation, headaches, nausea, asthma, and other respiratory system issues. Longer term exposure may worsen heart and lung disease. ¹ We recommend the U.S. Department of Agriculture, Rural Utilities Services consider the following protective measures and commit to applicable measures in the Draft EIS for the Cardinal-Hickory Creek 345-kV Transmission Line Project. Mobile and Stationary Source Diesel Controls Purchase or solicit bids that require the use of vehicles that are equipped with zero-emission technologies or the most advanced emission control systems available. Commit to the best available emissions control technologies for project equipment in order to meet the following standards. <ul style="list-style-type: none"> • On-Highway Vehicles: On-highway vehicles should meet, or exceed, the EPA exhaust emissions standards for model year 2010 and newer heavy-duty, on-highway compression-ignition engines (e.g., Jong-haul trucks, refuse haulers, shuttle buses, etc.).² • Non-road Vehicles and Equipment: Non-road vehicles and equipment should meet, or exceed, the EPA Tier 4 exhaust emissions standards for heavy-duty, non-road compression-ignition engines (e.g., construction equipment, non-road trucks, etc.).³ • Marine Vessels: Marine vessels hauling materials for infrastructure projects should meet, or exceed, the latest U.S. EPA exhaust emissions standards for marine compression-ignition engines (e.g., Tier 4 for Category 1 & 2 vessels, and Tier 3 for Category 3 vessels).⁴ • Low Emission Equipment Exemptions: The equipment specifications outlined above should be met unless: 1) a piece of specialized equipment is not available for purchase or lease within the United States; or 2) the relevant project contractor has been awarded funds to retrofit existing equipment, or purchase/lease new equipment, but the funds are not yet available. Consider requiring the following best practices through the construction contracting or oversight process: <ul style="list-style-type: none"> • Establish and enforce a clear anti-idling policy for the construction site. • Use onsite renewable electricity generation and/or grid-based electricity rather than diesel powered generators or other equipment. • Use electric starting aids such as block heaters with older vehicles to warm the engine. • Regularly maintain diesel engines to keep exhaust emissions low. Follow the manufacturer's recommended maintenance schedule and procedures. Smoke color can signal the need for maintenance (e.g., blue/black smoke indicates that an engine requires servicing or tuning). • Retrofit engines with an exhaust filtration device to capture diesel particulate matter before it enters the construction site. • Repower older vehicles and/or equipment with diesel- or alternatively-fueled engines certified to meet newer, more stringent emissions standards (e.g., plug-in hybrid-electric vehicles, battery-electric vehicles, fuel cell electric vehicles, advanced technology locomotives, etc.). ¹ https://www3.epa.gov/region1/eco/diesel/health_effects.html ² http://www.epa.gov/otaq/standards/heavy-duty/hdci-exhaust.htm ³ http://www.epa.gov/otaq/standards/nonroad/nonroadci.htm ⁴ http://www.epa.gov/otaq/standards/nonroad/marineci.htm Retire older vehicles, given the significant contribution of vehicle emissions to the poor air quality conditions. Implement programs to encourage the voluntary removal from use and the marketplace of pre-2010 model year on-highway vehicles (e.g., scrappage rebates) and replace them with newer vehicles that meet or exceed the latest EPA exhaust emissions standards. Fugitive Dust Source Controls <ul style="list-style-type: none"> • Stabilize open storage piles and disturbed areas by covering and/or applying water or chemical/organic dust palliative, where appropriate. This applies to both inactive and active sites, during workdays, weekends, holidays, and windy conditions. • Install wind fencing and phase grading operations where appropriate, and operate water trucks for stabilization of surfaces under windy conditions. • When hauling material and operating non-earthmoving equipment, prevent spillage and limit speeds to 15 miles per hour (mph). Limit speed of earth-moving equipment to 10 mph. • Occupational Health <ul style="list-style-type: none"> • Reduce exposure through work practices and training, such as maintaining filtration devices and training diesel-equipment operators to perform routine inspections. • Position the exhaust pipe so that diesel fumes are directed away from the operator and nearby workers, reducing the fume concentration to which personnel are exposed. • Use enclosed, climate-controlled cabs pressurized and equipped with high-efficiency particulate air (HEPA) filters to reduce the operators' exposure to diesel fumes. Pressurization ensures that air moves from inside to outside. HEPA filters ensure that any incoming air is filtered first. • Use respirators, which are only an interim measure to control exposure to diesel emissions. In most cases, an N95 respirator is adequate. Workers must be trained and fit-tested before they wear respirators. Depending on the type of work being conducted, and if oil is present, concentrations of particulates present will determine the efficiency and type of mask and respirator. Personnel familiar with the selection, care, and use of respirators must perform the fit testing. Respirators must bear a NIOSH approval number. 	The Utility's construction contractors follow many of controls stated in the USEPA construction emission-control checklist as a best practice. Because the Utilities have not selected contractors to perform the work, the Utilities can only state that any of the C-HC Project contractors will be required to follow applicable laws and regulations, rather than adopting the emissions-control checklist as provided. Additionally, the Utilities will review the checklist with our contractors and encourage them to incorporate as many items as practicable. Some safety requirements can, at times, require the contractors to idle or run specific equipment to keep crews and the public safe.
	Goodman	ALT04	Hello. My name is Joel Goodman. I live in Dodgeville. Renewable energy microgrids in southwest Wisconsin could reduce demand for electricity from the transmission grid and add electricity times to the grid. The potential of renewable energy microgrids in southwest Wisconsin should be evaluated before deciding to spend on the new transmission.	Comment noted. EIS Chapter 2 discusses non-transmission alternatives.
	Goodman	ALT04	Another way to avoid new transmission lines in southwest Wisconsin is with development of offshore wind farms in Lake Michigan to more directly supply electricity to the big metro area electricity lines of Milwaukee and Madison. And this should be evaluated before deciding to spend for new transmission lines in southwest Wisconsin.	Comment noted.
	Goodman	EFF03	And how does the SOO, the SOO Green rail underground transmission project for northern Illinois influence the Wisconsin ATC proposal? This is a transmission project from Iowa to Chicago. The SOO project, which is underground high voltage DC running along a railroad track. And the question here is, if this technology is more advanced than the proposed ATC line then that should be compared before making a decision. Thank you.	The SOO Green Renewable Rail project is currently in the very early phases of planning; therefore, the feasibility and engineering are not available to inform alternatives for the proposed the C-HC Project. Additionally, EIS Chapter 2, Section 2.2.2 includes a discussion of underground transmission lines.
	Citron	NEP02	I want to talk about reliability; one of the two main reasons ATC gives to the necessity of building Cardinal-Hickory Creek. We live in a moment of transition of electrical use, the digital world, and climate change. All of this will affect the distribution of electricity in the near and far future. The world in 2002, when Cardinal-Hickory Creek was first proposed, was a very different world than it is one we live in now. Our regional bulk transmission system is questionable given its vulnerability both to the unpredictability of climate change and to the grid's already proven vulnerability to hacking. The Russians are busy hacking into our grid, according to a Department of Homeland Security red alert last year and a remarkable piece of investigative journalism by the Wall Street Journal this past January. Wisconsin companies even were targeted in the Russian	EIS Section 3.13 has been revised to include a discussion about security breaches.

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			hacking campaign. This suggests reliability would more readily be achieved and money would be better spent on IT personnel and technologies to protect the digital systems of our utilities and their suppliers and not by planting more steel in the ground. That is an outdated 20th Century solution for a 21st Century problem.	
	Citron	AIR04	And then there is climate change. High voltage transmission towers are suspected in starting the deadly campfire in California this past summer. PG&E recently declared bankruptcy to protect itself from liability. Temperatures are rising. Southwest Wisconsin has experienced droughts. We don't know if or when the next drought will happen. Imagine Governor Dodge State Park up in flames. My property in Dodgeville Township was hit by a tornado in 2014. Climate change is already causing not only droughts but more severe flooding and more intense storms, including tornadoes. These high voltage towers do not have the resiliency we need.	Potential impacts from severe weather are disclosed in EIS Section 3.13.
	Citron	AIR04; NEP02	To protect our readiness, all military installations in the United States are getting off the grid. Each will be powered by their own microgrid. As of 2017, 40% of all military installations have been transitioned, as will the State of New York, which decided to build microgrids after Hurricane Sandy in order to have the reliability and the resiliency needed in a world of unprecedented weather caused by climate change. When a microgrid goes down they don't crash the central grid. Bigger isn't always better. This Draft EIS is written based on what we know from the past but not what we could, and probably will, experience in the future. Important since Cardinal-Hickory Creek is meant to last 40 years. Because of that, we need to hit pause and figure out what kind of electric utilities we need for the world we will inhabit. The Draft EIS takes at face value the assertion by ATC that Cardinal-Hickory Creek will increase reliability, but that's just an assertion with no evidence in the EIS to back up and no discussion of the two greatest threats to reliability: hacking and climate change. I know we can't adequately predict the impact of climate change but that's even more reason to hit pause. How will the federal EIS address and evaluate the proposed transmission lines for reliability and resiliency when confronted with environmental changes caused by climate change and the known threat of foreign hackers? I've written a more specific critique of other parts of the EIS that I will submit in written form. And I thank you for listening.	Section 3.13 of the EIS has been revised to address public comments about risks from severe weather and security breaches.
	Schwarzmann	ALT04; NEP02	My name is Joe Schwarzmann. I live in Liberty Township, and everything I've read on this proposed C-HC power line indicates it really isn't needed for our future power needs. Non-transmission alternatives and low voltage alternatives have been implemented in combination and they can achieve and have achieved a lot of the goals already cited in the project's six point need. The Final EIS must independently evaluate from the project and each alternative the potential benefits from fulfilling the six project needs. The existing power line in our area here, the 138, has been in existence since the '50s. It's still working just fine. And within the last 10 to 15 years in our area they replaced about a third of the poles, so it's good to go.	Comment noted.
	Schwarzmann	LAND08	We own 166 acres. 64 acres of our forest is in the State of Wisconsin Managed Forestland program, the MFL. The primary route, as well as your several alternatives, would run through these lands. USDA supports our forest programs through a lot of grants and programs through funding to improve the forest. You have not identified these lands or discussed the impact on them or the landowners who have managed them for decades. While the EIS statement addresses conservatory acreage and other special lands, it does not specifically address the MFL lands. It seems contradictory that USDA has spent money to developing these forests only to then provide money to wipe them out. How EIS addressed the MFL issue.	EIS Section 3.10 has been revised to disclose potential impacts to lands enrolled in conservation programs such as the CRP and MFL.
	Schwarzmann	ALT02; VEG01	Since we have an existing 138 easement on our land, we are particularly sensitive to the whole issue of vegetation management. We've been mistreated by the applicants in this case, specifically their tree trimming herbicide use, brush removal, and mucking up our property outside of the easement. To that end, on page 110 of the EIS, there is a statement that, quote, "Hazard trees must be topped, pruned, or felled so they no longer pose a hazard." And you cite WAC Public Service Commission, PSC, 113.0512 as the source of this statement. That is not what that document states. It states the need to, quote, "Trim or remove the tree of potential danger." Topping is a utility phrase, an action that severely damages the trees, and in fact is an action not approved in the trimming guidelines cited by the utilities. In fact, the organization that write the rules for ANSI specifically bans this practice because it actually makes the situation worse. Utilities use ANSI Standard A300, Part 1, pre-maintenance standard practices, pruning. And specifically sections 6 and 9, which refer to utility pruning. It makes no mention of topping; rather only proper arboreal and silvicultural pruning. In fact, TCIA, the Tree Care Industry Association that writes the standards for ANSI, states that topping increases safety risk and expenses. In a May 21, 2008 release, they state that topping trees leaves large exposed wounds that can become infested, ruins the tree structure, removes too much foliage, stimulates vigorous new growth which is prone to breakage, increases maintenance costs and destroys a tree's appearance in value. Trees that actually survive become a bigger safety hazard. Please correct this misinformation and remove the word "topped" from the EIS. There is also a need for a federal vegetation management program, at least guidelines, that the states can follow that protect the interest of landowners.	EIS Section 2.4 describes how vegetation would be managed during construction and maintenance of the C-HC Project. Additionally, environmental commitments are listed in EIS Section 3.1 that provide more detailed information of how vegetation will be managed in specific areas. The reference to topping of trees has been removed from the EIS.
	Schwarzmann	DECI09	There is a need for a standard federal right-of-way agreement that also protect the minimum rights of landowners.	Comment noted.
	Schwarzmann	EFF04; SOIL02	Throughout the EIS you speak of the need for restoration and revegetation. On page 136, Alternative 1, you state, "The potential for severe erosion occurs along 67% of a right-of-way and it's the largest potential impact of soils under Alternative 1. The adverse impacts of sensitive soils under Alternative 1 would be moderate and long term if not immediately repaired. Is this the best route selection? Who will guarantee that repairs will be immediate and proper?"	Comment noted. The environmental commitments listed in Section 3.1 would be followed during construction of the C-HC Project, if approved.
	Schwarzmann	EFF04	Throughout the document there is a lot of things about this will be fixed, that will be fixed, but there is no one who is identified as the responsible agent and there is no recourse for the landowner to have things corrected.	Comment noted. The environmental commitments listed in EIS Section 3.1 would be included in, and thereby enforced by, applicable permits, authorizations, and orders issued by Federal and state agencies. These commitments may be revised as permits, authorizations, and orders actions are reviewed and issued, if deemed appropriate by the various decision-makers.
	Schwarzmann	AIR04; VEG01	On page 188, Section 3.4.2.4, Alternative 1, you state that 524 acres of forest on the right-of-way and another 64 acres for access roads will be lost. How many tons of carbon dioxide arresting capability will be lost annually? How will this EIS address this climate change issue?	Comment noted. Potential impacts for forested areas are disclosed in Sections 3.3 of the EIS. A discussion of potential changes in carbon sequestration due to the C-HC Project has been added to EIS Section 3.6.
	Schwarzmann	VEG03	The EIS discusses the cleaner vehicles and equipment for organic farms. Why is this not required for all lands, especially forests, due to easily spread diseases, invasive species and insects? How will the EIS address this issue?	Comment noted. The environmental commitments presented in EIS Section 3.1 have been developed with input from RUS, USFWS, USACE, state permitting agencies, and the Utilities. Equipment cleaning prior to entering upland forests was not identified as a necessary precaution by these agencies. These commitments may be revised as

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				permits, authorizations, and orders actions are reviewed and issued, if deemed appropriate by the various decision-makers.
	Schwarzmann	WAT02	There is also the issue of wells because you're putting in all these holes. They are going to dig some 120 feet deep with explosions and stuff like that. Who is going to take care of people's wells when they are cut off, contaminated, or gone?	Comment noted. Potential impacts to water resources and quality, including groundwater, are disclosed in EIS Section 3.5.
	Sella	NEP02	As landowners and electric ratepayers watching these rapidly emerging technologies take hold we are disheartened and frustrated at the thought that here in Wisconsin we are being asked to sacrifice our land, our wallets, our environment, and our local businesses to commit to a project and a set of needs that have not been quantifiably determined.	Comment noted. EIS Chapter 1 describes the need for the C-HC Project as well as the decisions facing the three Federal agencies that have received loan or permit applications for the C-HC Project.
	Sella	ALT04	Instead, we could be investing in non-transmission alternatives to achieve what truly matters: lowering carbon emissions, improving grid reliability, and lowering ratepayer costs.	Comment noted.
	Sella	NEP02	First, the Final EIS should ask for real quantitative data that would allow us to see whether, in fact, the six stated needs of the proposed project exist and how big they actually are	Comment noted. EIS Chapter 1 describes the need for the C-HC Project as well as the decisions facing the three Federal agencies that have received loan or permit applications for the C-HC Project.
	Sella	SOCIO08	The projected net benefits of meeting these needs according to the applicants range somewhere between \$24- and \$350 million. That sounds like a lot. But for all of us ratepayers paying for the project over its 40 year life these savings equate to just pennies per month per electric ratepayer.	Comment noted.
	Sella	ALT04	And second, the Final EIS should conduct a fair analysis comparing non-transmission alternatives and the proposed Cardinal-Hickory Creek project for their ability to cost-effectively reduce carbon emissions, improve grid reliability, and lower costs for ratepayers. This analysis should consider NTAs in combination with each other, not in isolation.	Comment noted. EIS Chapter 2 discusses non-transmission alternatives. As discussed in EIS Chapter 2, Section 2.2.2, non-transmission alternatives are not responsive to the applications to which the Federal agencies are responding, nor do they meet the six-point purpose and need described in EIS Chapter 1.
Driftless Defenders	D'Angelo	DECI13; PUB01	My name is Betsy D'Angelo. I live in Dodgeville Township. I'm actually speaking on behalf of Driftless Defenders. We are a grassroots organization that was formed in May of 2016 specifically to prevent the construction of the proposed Cardinal-Hickory Creek Transmission Line. As our way of proving the widespread opposition that exists toward Cardinal-Hickory Creek, we are submitting two booklets. Number one is copies of our petition opposing the line. Dozens and dozens of people have given of their time staffing information tables in Iowa, Grant, and Dane counties informing people about the project, circulating this petition in the workplace and their neighborhoods, et cetera, and we have collected 1,961 signatures. The signees actually extend beyond Iowa, Grant and Dane counties. They include countless out-of-state people who come here to enjoy nature, to appreciate being in our scenic vistas and enjoy our tourism opportunities. They are not coming for some industrial steel towers. Our second booklet is a collection of letters to the editor. This is a partial collection. I wasn't able to keep up with all of them. But, nonetheless, it contains 100 letters that people have submitted to newspapers in Iowa, Grant, and Dane counties. For people to take the time to write a letter to the editor and submit it demonstrates that there is a passionate commitment on their part. So, in summary, when you write the Final EIS, we implore you to listen to the collective voices of the people who do not believe that ATC has proved any need or that any greater public good will come from Cardinal-Hickory Creek.	Comment noted.
	Dolan-Stroncek	LAND02	My name is Lea Dolan-Stroncek. We have a 500-acre organic farm.	Comment noted.
	Dolan-Stroncek	LAND03	We run about 150 head of cattle. We have pigs. We have chickens.	Comment noted.
	Dolan-Stroncek	SOCIO03	We depend heavily on agritourism. We draw in school groups, unique grocery stores, Willy Street Co-op, all types of groups that want to come out and see animals in an environment that is healthy and are raised on healthy pastures.	Comment noted. Potential impacts to social and economic conditions, including property values and tourism, are provided in EIS Section 3.12. Potential impacts to land use, including agricultural lands, are disclosed in EIS Section 3.10.
	Dolan-Stroncek	LAND02; LAND03	We planted about 10,000 trees. We rely on our certifications as transparency for our product. One of our certifications is organic, so I'm really concerned about the toxin sprays, how they maintain the lines, the potential of them coming onto the property, leaving gates open, perhaps letting our animals out on the road which makes us liable for car accidents.	Comment noted. See EIS Section 3.1.2.2
	Dolan-Stroncek	DECI13	So I'm definitely opposing this project.	Comment noted.
	Dolan-Stroncek	OOS02	In speaking on behalf of my neighbors who are farmers, we're all part of an initiative for a watershed group, so we're trying to help out the farmers down in the Gulf of Mexico by putting cover crops on our bare ground in the winter so when you spring melt comes, as you see it is outside, we can have crops coming up, protecting the soil from going into the rivers and the estuaries, and eventually our soil ends up in the Gulf of Mexico. So we have done a great preparation on our farm. We've implemented key limes, we planted these trees, we keep our crops covered, our soil covered. And our neighbors who are farming different styles, they are implementing some of these same measures to help this initiative. So I'm hoping that we can continue on with this type of project and keep the agritourism in this area clean, pristine, and keep the healthy food growing.	Comment noted.
	Schwarzmann	SOCIO01	I just got this thing written today and just got it printed about an hour ago, so I haven't even had time to read it yet. So I'm afraid that normally I talk with memorizing but I haven't had time to do that. My name is George Schwarzmann. I'm in Belmont Township. And I'd like to call your attention to our Amish community we have in the back there. We brought them over. The power line is going to be going right through their property. And we will talk about that in a minute.	Comment noted.
	Schwarzmann	NEP02	The most important fact, you've heard this before folks about the C-HC electrical transmission line, is that there is absolutely no need for it; okay? Commercial electricity use is flat or declining in Wisconsin because of the increased NTAs, mainly individual residential and farms' solar installations, also increased efficiency in use of electricity. The last nine transmission projects like this in the United States have been shut down; okay? So we're going to shut this one down, too. All right. It has been estimated that in 10 years the need for commercial electricity will decrease by 65 percent. An engineer at a recent meeting attended by MISO, pro C-HC organizations and C-HC applicants, said that the C-HC line is designed for an economic life of 75 years. However, he also said that we won't need that line in 10 years. So my question is, who is going to pay -- where is the money going to come from to pay for the bonds and the loans? Now, they mentioned the reliability here of the transmission grid and I did talk to a member of the Alliant -- I'm shaking here. AUDIENCE MEMBER 1: You're doing well. Just continue. AUDIENCE MEMBER 2: Alliant Energy. GEORGE SCHWARZMANN: Yes. I talked with an Alliant Energy consumer rep who said that Alliant's transmission grid is up to date, robust, and resilient, with an excess capacity to handle all present and foreseeable needs. There is no need for C-HC. And I don't see anywhere in the EIS	Comment noted. EIS Chapter 1 describes the need for the C-HC Project as well as the decisions facing the three Federal agencies that have received loan or permit applications for the C-HC Project. Non-transmission and low-voltage alternatives are not responsive to the applications to which the Federal agencies are responding, nor do they meet the six-point purpose and need described in EIS Chapter 1. Additional details and rationale for dismissing alternatives from detailed analysis in the EIS are provided in EIS Chapter 2, Section 2.2.

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			statement the calculations and projections for the need for C-HC. Where is the need? I don't see any discussions or projections for individual residential, farm, solar, NTA's economic justification for the C-HC line in the EIS.	
	Schwarzmann	ALT04; SOCIO08	Even if there was a need for the C-HC line, it could be buried underground like a line now being constructed from Iowa to Chicago that's mentioned before. It's done along the rail corridor. It's done by Siemens, a German corporation. I attended one of the first informational meetings held by ATC in Platteville, Wisconsin about three years ago, and John Calloway was there and I asked his engineers why couldn't be bury this. He said, well, it's going to be too expensive. All right. So here's what I'm going to ask you. If you added up all of the time that we spent, your time, my time, expenses to drive to meetings, arranging meetings, donations, lawyer fees, things like that, PSC hearings, state expenses, federal expenses, we could have buried that line 10 times, and buried with it those serious problems that you have, too. I don't see within the EIS where you have done a cost analysis on an underground option for C-HC.	The project referred to in this comment is the SOO Green Renewable Rail project. It is currently in the very early phases of planning; therefore, the feasibility and engineering are not available to inform alternatives for the proposed the C-HC Project.
	Schwarzmann	CUL01; REC03	While at the same information meeting in Platteville, I gave Mr. Calloway a map of Belmont Township that showed that the C-HC line was lying right through land that we designated as a protected historic, scenic, geologic, and environmentally sensitive area. He did not know this but nothing has been done about it. We also have five park and trail areas in Belmont Township that would be negatively affected because people aren't going to come out there to see the towers or be anywhere near them. And to tell you the truth, I don't even want to drive under the things. All right? Why is C-HC planned for one of the most scenic, pristine, and productive areas in the United States? I don't understand it. Where does the EIS address issues like this?	Section 3.9 of the EIS discusses potential impacts to cultural and historic resources, and Section 3.10 of the EIS discusses potential impacts to recreational resources.
	Schwarzmann	HAS01	The C-HC route also passes directly over eight Amish farms and actually goes right over the top of an Amish schoolhouse. This is insane. We had a meeting 20 last year in the Amish community and the ATC and ITC reps. The C-HC applicants were told about this fact and they have not responded with any route changes. Members of the Belmont Amish community told me that they would have to sell their farms and businesses and leave this area if the line goes in.	Comment noted. The EIS has been revised to ensure that the potential impacts to the referenced community is included in the impacts analysis within the Socioeconomic section (EIS Section 3.12). Additionally, the number of schools within 300 feet of the proposed transmission line has been updated in Section 3.13.2 of the EIS.
	Schwarzmann	HAS01	This tragedy has already happened in other parts of the country where a line went in and the community moved out simply because of the negative health effects on the people, the animals, and the crops. And I'll tell you truth, I am not going to walk around my farm in the grass grounding -- with grounding sparks of electricity from a 354kV snapping out of my feet and toes;	Comment noted. Section 3.13 of the EIS discloses potential impacts to public health and safety that could occur from wildfire, occupational safety, hazardous materials, and electric and magnetic fields.
	Schwarzmann	SOCIO01	Okay? I don't see in your EIS that you developed and addressed the social and cultural and religious issues.	Potential impacts to cultural resources are disclosed in EIS Section 3.9. Potential impacts to socioeconomics are disclosed in Section 3.12.
	Schwarzmann	DECI13	Let me skip to my last paragraph. Because of the evidence that I have presented here and the overwhelming evidence that has been presented, is being presented and will be presented by many others against C-HC, I would like to encourage RUS and USDA to refuse the loan to Dairyland Power to help build the C-HC. I believe you would lose your investment when ATC, ITC, Dairyland will have trouble paying off their obligations. Landowners, businesses, and farmers around the C-HC line, if built, will also lose in many ways as you have heard and will hear from others. Instead, I propose that you take the amount of money allocated for this loan and make it available to those folks in southwest Wisconsin for low interest loans and/or subsidies for the construction of NTA, individual solar residential and farm solar installation solutions. This way -- my last statement. This way, RUSDA would not be hurting farmers and others by contributing to hardship and struggle, but rather they would help us to succeed and prosper. Thank you for your time.	Comment noted. The RUS Electric Program is required to perform its due diligence and address both loan feasibility and loan security to determine the eligibility of a project before obligating any RUS loan funds. Loan feasibility ensures a loan will be repaid in full as scheduled. RUS must be provided with loan security that is deemed reasonably adequate for the project.
	Grice	DECI13	Hi, my name is Linda Grice. I have a little different perspective. My official residence is Iowa. I have a farm in Wisconsin. I just built a new home on it in the last two years. I also have an art business where I have a school where people come to my home and study, and we like to go out and paint the landscape. No one is going to want to come there and paint this transmission line. So all of these people are also very concerned about the environment, as am I. I grew up on a farm. My parents were -- survived the Great Depression. My dad survived the Second World War. We were dirt poor when I was a kid. I was barefooted most of the time, and my friends know I'm still barefooted a lot of the times. I'm just used to it. But I guess my belief for conservation and for the environment was instilled in me at a very young age because I was outside working. My father was really into conservation, had waterways, we had strip, hill, contour farming. This was in southeast Iowa. And I have continued to be concerned about it because I was out working in these fields for all my younger years. So when I see something that is being done that doesn't seem to be reasonable, I speak out. I have this house here. I built the house here because I love this area, and probably the reason I love it is because of the pristine wilderness almost. It's beautiful here. When we originally moved here in '83, we chose this area because of its beauty and because of the ethics of the people here; the honest, hardworking farmers that were trying to care for their farms. And I hate to see all of that work go to ruin because of something like this.	Comment noted.
	Grice	NEP02	I agree with the former speakers that talked about individual -- I don't know what the name is -- but where a farm would have individual solar on its farm. I don't think we're going to have a need for these big transmission lines. My son is an electrical engineer in Seattle and he's already -- he's got a prototype on his house right now. He says that the batteries are coming within a few years that are going to be really good for this and we won't be transmitting electricity over lines, we will be able to generate it at our own farmsteads, and that will make it a lot less dependent on these big companies that don't care for us at all. I mean, this line is going to go here. It's also going through Iowa. I have farms in Iowa, too. Every one of those farms, and the farm here, I have had a solar company come evaluate what my needs would be. And the plans are all there. As soon as the batteries are developed I'll be off the grid. DIENCE MEMBER: They're all over Europe. They are developed. LINDA GRICE: So I don't see -- there is lots of farmers in Iowa that have solar arrays that are -- they are using for their whole farmsteads, so I don't see any reason to build a big line to transport energy across the country. This line -- identical lines are going through Iowa, too. They are affecting me there, also. They are affecting a lot of my friends. And even here the co-op says, and down there the co-op says that they never even asked for this line. They don't need it. They have plenty of power. We don't have outages, so why are we putting up these lines? It's lot more environmentally friendly to have our individual power and would be a lot more resilient in case of a national emergency. Some of my friends are having -- because of this line they are having windmills put up where they are going to be in the flicker shadow of it. This is just nonsense. These people have worked so hard all their lives, and I've worked hard all my life, and I would like to be able to enjoy the outdoors and enjoy being able to have my friends come over and paint with me. And this is partly my income, too, and this is going to destroy it. I would like to know how this monstrosity is going to be dismantled in 10 years when we don't need it anymore.	EIS Chapter 1 describes the need for the C-HC Project as well as the decisions facing the three Federal agencies that have received loan or permit applications for the C-HC Project.
	Beckett	NEP02	Hi, I'm Caroline Beckett, and I hate standing with my back to some of you no matter which way I go. As many of you know, I'm opposed to the American Transmission Company's Hickory Creek power line. There is no reason to approve this unneeded, outmoded, and extremely expensive	Comment noted.

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			project paid for by ratepayers for the benefit of American Transmission Company's shareholders. As many people have already talked about, there is no need for this extra power.	
	Beckett	DECI13	Since 1992, I have lived on 67 acres of woodland and prairie grassland in southwest Wisconsin north of Highway 18 near Barneveld. My partner and I built an energy-efficient house, installed efficient appliances and lights, conserve energy, and turn the lights out when we are not using them. We are customers of Alliant Energy and we live between the proposed power lines.	Comment noted.
	Beckett	WLDF01; WLDF04	Rare, and state-threatened, bird species live and nest on our land, including Henslows, savanna and grasshopper sparrows, bobolinks, dickcissels, snipe, woodcock, warblers, flycatchers, owls and red-headed woodpeckers. These birds eat pests that affect crops or that spread diseases that affect other species. Across the road from us is a wetland habitat supported by U.S. Fish & Wildlife funds and include Blue Mounds Creek, a nursery for threatened native fish. Neighbors have trail camera images of fishers, mink, bobcats and black bear, weasels, and other species that find refuge here. How will the federal EIS address protecting habitats that are maintained by private property owners for the good of these creatures? Like us, many of our neighbors have managed their land for plant and animal species and the disappearing habitats they depend on. State and federal grants helped us protect plant species for pollinators that are so important for farmers, improve wetlands for waterfowl, other animals and native fish; manage woodlands for open oak savannas, and harvestable trees for timber, and maintain their lands in CRP programs for agricultural land preservation. How will the federal EIS address the detrimental effects of towers and land maintenance on trout streams, farm land, woodlands and grasslands for hunting and fishing? For decades, my partner and I work as designers for various groups, including the Wisconsin Department of Natural Resources, the Nature Conservancy, Madison Audubon, Trout Unlimited, Blue Mounds Area Project, Citizens Utility Board, 1000 Friends of Wisconsin, and others. Several of our clients have world-class and nationally important nature preserves and conservancies in the Driftless Area. Environmental education was our main focus. Native species and habitats were models for educational displays and publications we produced for clients. We worked with local experts -- fisheries biologists, ecologists, scientists, naturalists, artists, photographers -- familiar with this unique Driftless landscape.	Section 3.3 of the EIS discloses potential impacts to vegetative communities, and Section 3.4 of the EIS discloses potential impacts to wildlife.
	Beckett	SOCIO03	How will the federal EIS address the impact these transmission lines will have on all these peoples' livelihoods? What about the negative effects on tourism? Sorry about the shaky voice. I'm not used to doing this.	Potential impacts to visual quality and aesthetics are disclosed in EIS Section 3.11, and potential impacts to social and economic conditions, including tourism, are disclosed in EIS Section 3.12.
	Beckett	ALT04	Too many things that I'm not sure people have addressed. In October 2018, the IPCC, the Intergovernmental Panel on Climate Change, which includes 190 nation members, unfortunately not the U.S., and the U.S. Government's own 2018 report on climate change, produced by U.S. governmental agencies, declared our planet is in dire trouble with average worldwide temperatures climbing at unprecedented rates and carbon emissions at highest levels in recorded history. The U.S. Department of Energy, November 2018, provided the following data: Non-transmission alternatives can reduce CO2 production by 50% through conservation, local power, and efficiency load management. Utility expansion with remote renewables, which lose power en route, and conversion of coal to natural gas will help lower CO2 output by 24% to 26%. So that's a big difference. Utility expansion in this case will cost customers nearly \$1 billion dollars, disrupt lives and the environment, and continue to use an outmoded and inefficient transmission model. How will these very real concerns be addressed in the final federal EIS? Okay. Thank you.	EIS Chapter 4, Section 4.4 has been revised to estimate the CO ₂ emissions that could occur from generation sources that would benefit from the C-HC Project. This analysis compares two scenarios: 100% coal-generation sources benefitting from the C-HC Project and 100% wind-generation sources benefitting from the C-HC Project. This analysis provides a range of CO ₂ emissions from possible generation sources. Non-transmission and low-voltage alternatives are not analyzed for cumulative impacts because these alternatives are not carried forward for detailed analysis in the EIS.
	Enloe	VIS01	ROBERT ENLOE: Robert Enloe here in the Dodgeville area. I congratulate the speakers on their eloquence. I will simply mention the fact that 125 miles of distance, let's say, a half mile wide. That's 16,000 acres under the line. That's significant. And let's think about -- AUDIENCE MEMBER: Sir, can you talk louder? ROBERT ENLOE: Let's think about taking that line and sticking it vertically, a football field sitting vertically, because that's where that tower is going to be. Then let's say that's every inch all the way for a 125 miles. That's significant. That's ugly and it's not needed. Thank you.	Comment noted.
	Baum	REC04	I'm Mary Kay Baum. I live at 201 Dougherty Court, Ridgeway. I'm the steward -- the volunteer steward for the Ridgeway Pine Relict State Natural Area. It is one-fourth mile from where these towers would go, this line would go. I'm very concerned about the break in the environment of all kinds of creatures by the power lines.	Potential impacts to wildlife species, including habitat fragmentation, are disclosed in EIS Section 3.4.
	Baum	DECI13	I have two things to say that might be unique from what you have heard today. One is my health. In the year 2000, I was diagnosed with mild cognitive impairment likely of the Alzheimer's type. Luckily, because it was found that my mother who -- and my relatives who had Alzheimer's probably were more of this because of epileptic seizures, and I was fortunate enough to have the right neurologist to find that in me and treat it before I ever had a seizure. But part of that is reducing stress. And like most human beings time in the woods, in nature, is healing and reduces stress and puts me in the moment like meditation.	Comment noted.
	Baum	SOCIO01	I cannot relax under the plight of power lines that are not just affecting the environment there, but also affecting the livelihoods of people around there. I mean, we are paying huge amounts of money for the construction of this and none of it benefits us, and farmers lose their land and natural areas lose their stability, their resistance, their ability to respond. So there has been a ton of studies about people who can spend time in nature especially as children are happier and emotionally healthier the rest of their lives.	Comment noted.
	Baum	REC04	And one of the things that the Ridgeway Pine Relict State Natural Area does is gives a place for youth to help preserve the land, pulling garlic mustard and overseeing and spending time and admiring those ancient trees. The name "Pine Relict," a lot of naturalists don't even know what that means, but it means that the first trees after the ice age in Wisconsin and northern Illinois were pines and they filled the whole area. And then as it got warmer, the heat from the plains came over and the only parts of Wisconsin -- of southern Wisconsin and of Illinois that were able to maintain their pines, because fires from the -- from the warmer weather coming across, those fires do destroy pine trees. They don't, oak so much. And, of course, prairies need those fires. And what do we have here. We have some of the best examples of rocky unglaciated areas that protect the pines. So especially on the north side of these gorgeous gulches, is what it's called -- gulch is what it's called in the Ridgeway Pine Relict, the 550 acres that have been preserved by our taxpayer money. This one is the best -- the largest and best quality pine relict in the world. It's one-fourth of a mile from where this transmission line would be coming in. And I brought pictures because most people, even those living in Ridgeway, have never -- unless they did as a child -- been inside and seen. We have a great blue heron rookery. We have bobcat. We have amazing things. Which I will leave you with just that thought. It's not just for the health of the environment; it's also for the wellness and wholeness of the people who live around and actually help work in the Pine Relict. Thank you.	Comment noted. EIS Section 3.3 discloses potential impacts to vegetative communities, including pine relicts.

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	Keep	PUB01	I'm coming into this meeting an hour late, because this meeting was set aside between 5:00 and 7:00 when many people are at work. I was unable to leave. I'm a pharmacist, and I have only one thing. I will send a written statement because I was unaware of what has already been talked about and commented on.	Comment noted.
	Keep	REC01	Have you seen this movie "Decoding the Driftless"? Is anyone aware of this? AUDIENCE MEMBERS: Yes. LISA KEEP: I highly suggest this is reviewed, and I strongly recommend that all of us promote this movie because it really shows what a treasure this area is. That's it.	Yes, RUS has viewed the film.
	Gauger	DECI13	Good evening, everybody. My name is Steven Gauger. I think I'm on the board there. I'm accompanied by my wife and a number of other local people from Springdale and Mt. Horeb and I'm assuming a lot of other communities. I live on Town Hall Road in the Town of Springdale, and I have been there for, I think, 30-40 years now, since 1974. My property would be near the proposed location of the line which would be between Town Hall Road and Mt. Horeb. I've grown up with many of these small distribution systems, but I never imagined anything of this magnitude would come by or through our area. And I have been unfortunate to witness some of these heading up towards Minneapolis and seeing what some of those impacts are, and that's along the interstate and not through farms and fields and forests like many of you will be living on, and myself.	Comment noted.
	Gauger	EDIT	The maps in the back I looked at show alternatives but it's hard sometimes to pick out the details, not showing organized areas or certain other facets, names of roads, so you can properly identify which you are on.	Comment noted.
	Gauger	LAND02	The main concerns I think that a lot of us have, and I have looked at the statement online and it's hundreds of pages. I haven't read through that many of them, but I tried to pick certain topics that look interesting. The thousands of acres of land that these lines would consume is just mind boggling, going through productive farms. We have some of the best farms in the United States in this area. You can't hardly match them. Organic farms and others.	EIS Section 3.10 discloses potential impacts to agricultural lands.
	Gauger	VEG01	One of the things I noticed when they build the lines, and I'm sure a lot of you have seen this, some of these contract companies come through and, let's say, cut trees down along the corridor. They don't cut them; they bash them. They have these aerial cutters. I'm sure you have seen that. They just destroy and they leave that refuse there. The impacts on wildlife in those corridors are unimaginable. From what I understand they treat the corridors with -- I don't have all the facts in this, perhaps, but I believe they do use herbicides and other chemical techniques to control what happens in these quite wide corridors. So the impacts on vegetation, wildlife, farm disruption, visual impacts are unbelievable.	Comment noted. Potential impacts to vegetation, including forests, are disclosed in EIS Section 3.3.
	Gauger	NEP02	And I noticed in the last few years that this has been talked about that we are seeing other forms of energy production being talked about, other types of competitors coming in. Will these lines actually be effective if they are already operating in areas where power demand is declining? Who will address these needs as we shift to alternatives? And I think we're all reading about that in the press; how the country is looking at other ways of producing power and using power in a wide variety of things. So I almost see this as being an old school technology that existed a hundred years ago and is still being expanded. And I think the main reason, in my view, is that because if you can build something and get a guaranteed rate of return and you don't have to really use it that much, you would do it. And our country is filled with examples of industries that have become obsolete over time and been replaced by new technologies. And I think that's what will happen in this case, too. One final example I would like to say is that we can localize production, and we already are. I'd served in the Army for many years and I think you probably know that the military does not rely on broad scale transmission systems. They want to control that power and localize it because they can't take the risk of having one line knocked down and having the whole air base to save it. So I think that's a good example to use. Where is the need? I guess I would like to conclude with that. You have to show the need and I don't think it's been shown. Thank you.	Comment noted. EIS Chapter 1 describes the need for the C-HC Project as well as the decisions facing the three Federal agencies that have received loan or permit applications for the C-HC Project. As discussed in EIS Chapter 2, Section 2.2.2, non-transmission alternatives are not responsive to the applications to which the Federal agencies are responding, nor do they meet the six-point purpose and need described in EIS Chapter 1.
	Rosenbaum	NEP02	My name is John Rosenbaum and I live in the Town of Springdale. The first thing I want to say is I don't live anywhere near any of the routes of the power line. We wouldn't be able to see them and I think they would be miles away, but I am definitely, definitely opposed to this technology and this power line. And the reason is, as Steve kind of hinted, this technology of transmitting power long, long distances is really a backward-looking technology. It's not forward looking at all. The lines developers and investors, you know, try to convince us that we need to transmit power from long, long distances for reliability, you know, I guess I would -- as a piece of evidence, I would like to refer you to the Wisconsin State Journal of just two days ago on the front page. A front page article, "Kenosha County Solar Farm Proposed," and the sub headline is that the project could feature the state's first utility scale battery. And, you know, I think we've always heard that wind and solar are not going to be reliable because how do you produce power all the time with wind and solar? But battery technology is coming. It's coming fast. There is a company out of Chicago that's already got some battery installations in other states. They are proposing one for the Kenosha area. This technology for electrical storage is coming fast. And, again, they have a proposal right here in the state. So the trend is definitely toward localized energy production, renewables, wind and solar, and this power line is, as I'm reading it, a look to the -- you know, to history. My proposal to the PSC would be to put this whole project on hold. There has been a lot of engineering invested in it. Just put it on the shelf. Put it on the shelf for five or 10 years. Pull it out in five or 10 areas, see if it's needed. My guess would be it's not going to be needed in five or 10 years, or ever. But they can keep all the work they have done, just put it on the shelf for now and let's not put the scars on the land that this project would lead to. Thanks.	Comment noted. The Federal agencies must consider reasonable alternatives when considering their Federal decision. The Federal EIS considers alternatives that are ripe for Federal consideration. What that means is that a proposal has been made for those alternatives or that it is reasonably foreseeable that they could be implemented in a time frame that would meet the need for the Federal action.
	Stanfield	EFF04	My name is David Stanfield. I live in Vermont Township, western Dane County, on a 267-acre farm through which would pass one of the alternative routes of Cardinal-Hickory Creek. I have never paid any attention to all these discussions about transmission lines that has been going on in the state for a number of years until I imagined the towers going across our farm and it really woke me up to the importance of these discussions. And I must admit, I have been very impressed by the degree to which the agencies have attempted to inform people like me about what's going on and what is the processes and technologies and options. It's been a very thorough and informative exercise. So I have been paying attention. Now, I've also become critical of the proposal, and I'll limit my comments to the Environmental Impact Statement to some of the areas I think need improvement. First of all, the list of steps that are proposed to mitigate environmental damages that are listed in the Environmental Impact Statement, it says this is what the companies will do to mitigate or to reduce the environmental impact's negative impacts of this construction. And I would like to see in the Environmental Impact Statement some evidence of past compliance of the companies in actually doing these mitigating promises. I mean, they look good and it's very helpful to see them, but I really would like to see some evidence, a lot of evidence, that these companies that are installing and building the line do have a good track record. So I think it would be helpful to believe what's there on the page to have some more evidence of the reliability of the companies.	Comment noted. The environmental commitments listed in EIS Section 3.1 would be included in, and thereby enforced by, applicable permits, authorizations, and orders issued by Federal and state agencies. These commitments may be revised as permits, authorizations, and orders actions are reviewed and issued, if deemed appropriate by the various decision-makers. These environmental commitments are based on industry best practices and are part of the Utilities standard operating procedures.
	Stanfield	ALT04	Secondly, I was very pleased to see in the assessment the section on non-transmission alternatives; that is, comparing the building of this line, which is a transmission line, to non-transmission alternatives for meeting the same goals of reliability of congestion and provision of electricity in a cost-effective manner. That was not in the original proposals for the Environmental Impact Statement. And RUS came through our community and	Comment noted. As discussed in EIS Chapter 2, Section 2.2.2, a low-voltage alternative is not responsive to the applications to which the Federal agencies are responding, nor do they meet the six-point purpose and need described in EIS Chapter 1.

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			listened to several townships and individuals who said they would like you to include into your assessment a consideration of non-transmission alternatives for reaching the same goals as the transmission line option. And I'm very pleased to see in this impact statement a consideration of those alternatives, non-transmission alternatives. However, I think the treatment is very weak. They sort of set up alternatives that are -- well, they say that they can't reach the objectives -- the same objectives of the transmission line. And by describing them as a weak alternative is sort of like setting up a straw man. And I think they could do a much better job of talking about the distributive energy resource revolution that's going on that John Rosenbaum mentioned with these building of solar and natural gas and generation facilities that are sweeping the country. Not so much in Wisconsin yet, although certainly there are examples. But I think there ought to be a better description other than saying how many thousands of solar panels on roofs would be needed to meet the same energy requirements as transmission lines. You can do a better of job of describing the non-transmission alternatives. And particularly weak is the description of efforts to reduce the consumption and use of electricity through greater efficiencies. There is a revolution in efficiency technologies that reduce the amount of transmittable energy that's needed. And so I think the Environmental Impact Statement could do a much better job. I have reached the end of my time. I want to thank you very much.	
	McKernan	CUL03	I live in Mineral Point, and I live in the city of Mineral Point so the visual impact of these towers, which is going to be great in my opinion, is not really going to affect us locally. But my concern is more with what has been left out in this Environmental Impact Statement, and I haven't seen one thing yet that talks about the natural history and how it's going to be affecting the natural history of the area. And we have, specifically in the southwestern corner of the state, a large number of Indian sites, burial sites, and some of the caves and stuff that have been found with Native American petroglyphs, et cetera. And I would like to see something included in this statement that covers any pattern that this transmission line is supposed to follow. I would like to see some surveys done ahead of the process to determine where these sites are and how they will be affected by this. With our highway -- when we do highway work, this is done anyway, it's automatic, but I haven't seen one thing in this statement yet that would cover that, so I want to see that covered.	The EIS uses the best available records and data provided by the Iowa and Wisconsin SHPO databases and site-specific surveys to identify potential historic properties within the alternatives. The EIS recognizes that additional historic properties may be present along one or more project alternatives, and the Iowa and Wisconsin SHPOs, RUS, the Utilities, and other consulting Federal agencies have drafted a PA under Section 106 of the NHPA. This PA details a phased identification and treatment plan for cultural resources identified within the chosen alternative. This PA is included as an appendix of the EIS.
	Pincus	AIR04	I live just north of Barneveld. And one of the earliest speakers said that he was concerned about this even though the line doesn't pass near his property. Well, the line doesn't pass near my property either and maybe not near yours but it does affect you, not just because you're going to be paying for it but because of climate change. Everybody is affected by climate change. And climate change is fueled by global warming and global warming is fueled by CO2 emissions. And one thing I find lacking in the EIS is a real analysis of what kinds of CO2 -- increasing CO2 will be produced by all the fossil fuel energy coming into Wisconsin compared to the amount of fossil fuel energy -- compared to how much CO2 would come from the non-wire alternatives. We know that right now if you take a good look at the track record of the other lines, seven lines that have been built, they are open lines and supposed to be able to carry any kind of energy. But the track record is that they carry a minimal amount of alternative energy. So the argument that this is going to bring alternative energy into Wisconsin and that will reduce the impact on the environment is completely false. And the EIS statement has to take that into account. So we need to really look at these CO2 emissions. Once the line is built, every scientific report coming out in the last 10 years by anyone with any iota of intelligence knows that the continued use of fossil fuel will continue to fuel environmental change. And once the line is built, the pressures to keep digging up that fossil fuel and sending it here is going to be tremendous. There are tremendous lobbies operating to keep coal and gas going. So we have to take that into consideration.	EIS Chapter 4, Section 4.4 has been revised to estimate the carbon dioxide (CO ₂) emissions that could occur from generation sources that would benefit from the C-HC Project. This analysis compares two scenarios: 100% coal-generation sources benefitting from the C-HC Project and 100% wind-generation sources benefitting from the C-HC Project. This analysis provides a range of CO ₂ emissions from possible generation sources. Non-transmission and low-voltage alternatives are not analyzed for cumulative impacts because these alternatives are not carried forward for detailed analysis in the EIS.
	Pincus	NEP02	Another thing which actually is my first point is that the DIS report falsely assumes that the applicant's assumption that we need the power here hasn't really been questioned. And I think the DIS report needs to really look into do we really need this electricity. If we don't need this electricity then if you cut down one tree that's too much environmental impact as far as I'm concerned.	Comment noted. EIS Chapter 1 describes the need for the C-HC Project as well as the decisions facing the three Federal agencies that have received loan or permit applications for the C-HC Project.
	Pincus	ALT04	The other thing I want to mention is that to comment about the weak position in the DIS on alternatives. They need to not take a look at what's here right now but also what's going to be here in the near future. We have a huge solar farm going up in Cobb right near the transmission station in Montfort. We have another one that's being planned for up north. That's in the same article in the State Journal. That's going to be some of the biggest ones in the country. There is going to be more solar energy. Rooftop has increased tremendously. So even right now if it's a weak alternative it may be a very strong alternative in three or four years or five years.	Comment noted. EIS Chapter 1 describes the need for the C-HC Project as well as the decisions facing the three Federal agencies that have received loan or permit applications for the C-HC Project. EIS Chapter 1 also explains the renewable energy projects that would benefit from the C-HC Project. Non-transmission and low-voltage alternatives are not responsive to the applications to which the Federal agencies are responding, nor do they meet the six-point purpose and need described in EIS Chapter 1. Additional details and rationale for dismissing alternatives from detailed analysis in the EIS are provided in EIS Chapter 2, Section 2.2.
	Pincus	VIS01	Then what are we going to do with these monstrous towers that have destroyed our landscape?	Comment noted.
	Pincus	ALT01	So I think the EIS report has to take not only the environmental destruction right now and what the alternatives -- in looking at alternatives, they need to look five years into the future and say are these monstrosities going to be needed? Because we are going to be paying for them whether they are needed or not.	Comment noted.
	Pincus	NEP02	he other thing is, one claim made in the proposal by American Transmission Company is that it's needed to bring in -- there is a big wind farm in Iowa that they say we need to have these lines to bring this in. For the life of me I can't understand. If I was living in Iowa I would want to keep that cheap electricity there so why would they want to bring it here anyway? But, also, all these new wind farms and solar farms that are coming up, we don't need this line in order to spread it around Wisconsin.	Comment noted. EIS Chapter 1 describes the need for the C-HC Project as well as the decisions facing the three Federal agencies that have received loan or permit applications for the C-HC Project.
	Spaay	SOCIO06	I'm not much of a public speaker. Please forgive me. My name is Mary Spaay, and I've owned and lived in my home on County Road S, Mt. Horeb, for about 45 years. I've raised my family there and have been part of the Mt. Horeb community as an educator, a naturalist, and a volunteer with several parks and restoration projects. My property is less than a half mile from the proposed C-HC line. My property value will drop significantly, if that line is built, likely by 20 percent or more.	Comment noted. Potential impacts to social and economic conditions, including property values, are provided in EIS Section 3.12.
	Spaay	SOCIO01	But that's not what I'm concerned about. I'm even more concerned about what's left out of the statement. There is no mention of all the efforts that the people -- the thousands of people in the Driftless Area have already put in to finding alternative uses to diminish our use of electricity and to use our resources wisely.	Comment noted.
	Spaay	WLDLF01	And so I would like to present this. I think the Driftless Area will suffer significantly if this unnecessary high voltage transmission line is allowed to pollute our land and our landscape. My pond, pollinator gardens, and prairie restoration projects will see fewer birds, bees, bats and butterflies with	Comment noted. EIS Section 3.4 discloses potential impacts to wildlife.

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			those monster poles and wires interfering with their habitat. As a citizen scientist taking part in the annual Christmas bird count, I predict a drop in the number of birds and a number of species in the Mt. Horeb area if that line is allowed to be built.	
	Spaay	REC03	The beautiful Military Ridge Trail just down the hill from my home will be horribly scarred and will attract fewer hikers and bikers creating a revenue shortfall for upkeep.	EIS Section 3.10 discloses the potential impacts to the Military Ridge Trail and EIS Section 3.12 discloses the potential impacts to tourism.
	Spaay	VEG02	As a citizen scientist with the DNR and a prairie enthusiast I have felt the rapture of finding beautiful rare and endangered plants in our preserve prairies, prairie remnants that would be wiped out by the land clearing necessary to build this proposed line.	Comment noted.
	Spaay	DEC113	I, and a lot of other people in our area, have always made an effort to use our resources wisely limiting the amount of watering we do. Never on the lawn. I have use a sud saver on my washing machine for over 50 years. We grow our own vegetables, composting, reusing and recycling everything, driving a hybrid Prius for 11 years, turning off our lights, to name just a few of the ways so that so we could increase our environmental benefits. Protecting our natural resources has been a way of life for many folks in the Mt. Horeb area and it is an important part of the curriculum in our schools. We added solar panels to the south side of our house in 1976 and that system has been providing 1/3 to 1/2 of my heat ever since.	Comment noted.
	Spaay	ALT04	No pollution and no ugly poles. Many other residents in this area have lived here using less energy and preserving our resources. Many of them made changes to their homes to lessen the carbon footprint on the land we love. So when we're told that some new huge high voltage transmission line is necessary, we say look at the alternatives; rebates or incentives. I strongly oppose new spending for high voltage transmission option and I strongly support new spending towards non-transmission alternatives, incorporating opportunities such as enhanced incentives, rebates for energy efficiency, load management, and the development of locally utilized renewable power. Thank you.	Comment noted.
	Crossfield	VEG02	I want to speak specifically about two things right away in the Town of Arena in Iowa County. The first thing is the Draft Environmental Statement alludes to the possibility of an endangered species. I'm here to confirm the existence of the species. Its only known location has ever been found north or west of West Virginia is on what you would call a "dam cliff" in the Town of Arena. Now, because of problems on that discovery by a deceased biological professor at UW Madison, a veterinary science professor, is that because of topography and access no survey for this fern has ever been made, and I think this need to be done when you have the only location for a species within the states. Now, this specific fern is at the top of E3, and its scientific name -- it's easy enough for you to figure it out and I hope the court reporter doesn't aspirate taking this down. Aspergillum pinnat pictum (phonetic) is an endangered fern in the state of Wisconsin. Another specific issue to the state of Wisconsin is a study on hiatus that involves a triple departmental study at UW Madison including entomology, animal science, and I believe some agency of the medical school, about the transmission of diseases to both animals and man from a mosquito that's a very specific mosquito that needs forest locations to propagate. Every year there has been a few cases of this disease around the La Crosse area. It's an encephalitic brain virus. But, again, this study is now on hiatus, but I have been in contact -- been contacted by one of the retired deans, and there may be some consideration of reinstating this study and that requires an absolutely undisturbed forest in the Town of Arena for this study to be recommenced.	Comment noted. RUS and SWCA contacted Dr. Easterday about this comment. He informed us that he has no active research activities. Although there may be other research plots and activities near the proposed C-HC Project, these activities do not necessarily preclude the establishment of a utility ROW. Additionally, EIS Section 3.4 discloses potential impacts to special status species including those protected under the Endangered Species Act.
	Crossfield	CUL03	Now, I have other things from the Town of Arena that maybe you know about and maybe you don't, but I can't be specific. I do not have the landowner's consent of known and possibly unknown and possibly forgotten Indian sites under Indian marker trees, field oaks with burn scars, Indian scars, Indian burns that last occurred in the 1830s. And there is some other plants out there that I'm not going to discuss today. At the same time -- we covered that pretty well.	Comment noted.
	Crossfield	LAND02; SOCIO05	I'm going to get to general components of the Draft Environmental Statement which seems to discount forests. Now, I haven't read it word for word, but it seems that agricultural land is listed separately or differently than forestland, and I assure you that agricultural products do include forestry issues. I can conceive of a five-acre tract of forest selling to foreign companies for up to \$20,000, but I'm not going to quote this now. But, again, if this land is taken out of forest production you will have the continued loss of regrowth for the next 50 years, according to the lifecycle of the power line. And is the power company, through us and our rates, willing to pay that loss of production? A lot of this type of lumber at this value ends up in China, Korea, Taiwan, Germany, England or France, but again we don't always hear about that here. I tried to find some lumber a few years ago, had to find it in one place, and everything they sawed went to Churchill, Manitoba and to England and we never got to see or hear about it.	EIS Section 3.10 has been revised to disclose potential impacts to woodlands managed for timber production.
	Crossfield	VEG01; VEG03	So the other thing is that you count -- the draft statement seems to have a 150-foot easement, and through a cropland that may be adequate but in a forest a 150-foot easement is clearcut. It doesn't provide for the degradation for the next 150 feet in because there is no reason for that tree to go clear, straight and tall. Weed species are encouraged even outside of the 150-foot easement.	Comment noted. Potential impacts to forested areas are disclosed in Sections 3.3 and 3.4 of the EIS.
	Crossfield	SOCIO05; VEG01	And I have issues with forest degradation beyond the easement, and I do think the forest could have more value than some of you may think, and I want it fully considered.	Potential impacts to forests are disclosed in EIS Sections 3.3 and 3.4.
	Kurt	WLDF02	That animal was underneath a high tower line across the river in Illinois. I spent a lot of time on the river paddling 20 to 30 hours a week during the summers. We had to get a special license to retrieve that bird. We were given a license to retrieve dead eagles. Most of the eagles we found were by high tower lines.	Comment noted. EIS Sections 3.4 and 3.14 disclose potential impact to wildlife, including migratory birds. The C-HC Project would follow APLIC guidelines to minimize collision impacts, and electrocutions are not a high risk for this project due to the project design and conductor spacing greater than large avian wingspans.
	Kurt	LAND05; VIS01	I'm working with a couple other folks and driven this entire line all the way down to where it ends in Dubuque County and that little pink line on the report doesn't do it justice. It does not give you the feeling for what the impacts will be to your properties. And it becomes very difficult to actually determine the route of that line, the physical route. So I would like to suggest that the EIS statement include actual visual representations of how that line will impact a person's physical property so that each individual can actually see what's going to happen to them.	Comment noted. Potential impacts to visual resources are disclosed in EIS Section 3.11. Photographs from the existing Badger-Coulee Transmission Line project from various distances have also been included in EIS Section 3.11 to illustrate this type of impact.
	Kurt	LAND01	I talked to a gentleman in Clayton County who has already signed an easement over there, because Iowa is different than Wisconsin, and he said "I'm not worried about it because the line will go over my house. Neither tower will be on my property." Guess what? He lives on 20 forested acres. This house sits in the woods. Nobody explained the clearcut concept to him which in Iowa is 250 feet. 250 feet. I talked to Mike Deutmeyer. He's a farmer, dairy farmer. 100 year farm in Dubuque County. He has been trying to install solar on his farm and can't afford it. He will have high tower lines right behind his dairy barn. He's got young children on that farm. He can't afford that line.	Comment noted.
	Kurt	LAND08	There is a farmer right next door, Roger Bradshaw, who worked with the Iowa DNR and the Army Corps of Engineers to come up with a plan to salvage the Maquoketa River on his land from erosion and runoff. Also a farmer. Splitting the cost he invested in 400 trees at a cost of \$5,000 a	EIS Section 3.10 has been revised to disclose potential impacts to lands enrolled in conservation programs such as the CRP and MFL.

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			tree, he will lose every one of those trees if this line goes through. He's been told that by the representatives from ITC. I don't think this study goes far enough to take a real look at the impact on these kinds of programs. I don't see that in the report.	
	Kurt	EFF01; GEO01	I don't see that in the report. I also don't see in the report the Karst topography impacts in Dubuque and Clayton County. If you look at a DNR map, the sinkholes in Dubuque and Clayton counties are astronomical. We don't even begin to understand the impacts of those sinkholes. Some people in Calamine are starting to understand that. Grant County might be starting to understand that. Dubuque County has said, gee, it's a good thing we've got so many sinkholes. We don't have CAFOs here. Yeah, but you also don't have 70-foot high towers with 500-foot bore holes and 500 tons of concrete, or whatever goes into that. We don't know the impacts of those. And I think that needs to be studied to a much greater extent than reported in the EIS.	Potential impacts to karst features are disclosed in Section 3.2 as follows, "Regarding the impacts to karst, the karst features would not be expected to be directly impacted with any of the proposed alternatives. Karst features such as sinkholes and caverns would be identified and stationing between structures can be adjusted to position the structures a sufficient distance away from any karst features. This will ensure that drainage patterns and unstable soil and rock conditions that are associated with karst conditions would be avoided."
	Kurt	SOCIO08	Also, take the Dairyland money, the 9% they are asking for, and set it aside so that a farmer like the Deutmeyers can get a solar system on their farm and not have a line. Don't build a line. Take that money and use it for something that's useful. Dairyland is supposed to be nonprofit.	Comment noted.
	Steffen	HAS01; SOCIO06	Thanks. I, too, want to say thank you for this chance to speak because, otherwise, you know, these things just happen. Can you hear me now? AUDIENCE MEMBERS: Yes. GLEN STEFFEN: My wife and I, Karen, and our family have lived at our address for over 32 years, and you know, as a customer at WPL and Alliant all that time. We have a beautiful home on six acres and we've spent a lot of time and money and everything fixing it up. But now the proposed project -- and this is a picture of it so you can get a clear idea -- this would put a set of 345 kilowatt electric lines to and from 170-foot high rusty metal towers from east to west across the entire length of our property. With the proposed right-of-way directly over our garage taking out all our trees, Farmer [unintelligible] used our maple trees for one of their commercials a few years ago. It was beautiful. And now all of those are going to be ripped out and coming within 30 feet of our house. That's how close 30 feet of our house is, destroying our property value and exposing our family -- three of them children, 4, 3 and 1 -- to close proximity to a high level electromagnetic field. I'm enclosing a photo here. But families have had difficulties selling their homes along the proposed route. But this goes far beyond any ruining of any particular financial health or land scarring effects of any particular homeowner and their family.	Potential impacts on human health are discussed in EIS Sections 3.13.
	Steffen	SOCIO03; VIS01	The proposed project puts a ring of 170-foot high rusty metal towers coming down east of the Village of Mt. Horeb to its southern border then turning west to go along its southern border, continues past Blue Mounds State Park, Brigham state park, and a national landmark, Cave of the Mounds. It's not only the huge, unsightly towers, but ATC's policy of strip clearing a 150-foot wide swath, the entire length of its path through the Driftless Area, destroying the natural beauty of this internationally unique region. The whole area depends heavily on tourism associated with the scenic Blue Mounds landscape. And no matter where one is standing, whether it was downtown Mt. Horeb or anywhere in the entire Blue Mounds parks areas, these unsightly 170-foot high rusty metal towers and lines will be visible, forever ruining the natural beauty that had previously attracted admiring tourists from many different areas both within and outside our state. What a horrible legacy to ruin this whole area. One only needs to drive along I-94 from Middleton to our western border and through Wisconsin Dells to see how these unsightly rusty towers, lines and strip clear right-of-way looks to be what used to be beautiful Wisconsin natural wooded scenery.	Comment noted. Potential impacts to social and economic conditions, including property values and tourism, are provided in EIS Section 3.12. Potential impacts to visual quality and aesthetics are disclosed in EIS Section 3.11.
	Steffen	SOCIO03	Beyond the ruining of our area, the environmental and economic impact of property owners and businesses in the entire region will be devastating, and losses of economic activity, property value, tax base and loss of revenue. On November 29th, after this last year, the Dane County Board unanimously voted to act as an intervenor to oppose the building of this line. According to the Board, the county's objection states unneeded line, include the negative impacts it would have on all of Dane County's residents and economic development as well as to its farms, parks, businesses, visual appearance, and environmentally sensitive wetlands, woodlands, and other natural areas.	Potential impacts to visual quality and aesthetics are disclosed in EIS Section 3.11. Potential impacts to social and economic conditions, including tourism, are disclosed in EIS Section 3.12. Potential impacts to land use, including agriculture, are provided in EIS Section 3.10.
	Steffen	SOCIO03	The county also objects to the fact that the line will place a far greater financial burden on the county's resident ratepayers. Up to \$72 million will fall on us Wisconsin ratepayers that we have to pay back. Mt. Horeb and the Mt. Horeb School District have also gone on record opposing the destructive transmission towers and lines, particularly the destructive effect on all these local communities, farms, and environments.	Comment noted.
	Steffen	NEP02	As the Dane County Board unanimously noted, this type of transmission line is not needed here. The U.S.'s electricity rates last year were 1% lower than eight year ago in 2010. Wisconsin electricity sales have been virtually flat for this whole decade. The U.S. Energy and Information Administration projects that electricity sales will drop into the 2030s due primarily to energy efficiency if they are allowed to happen.	Comment noted.
	Steffen	ALT04	The federal Draft Environment Impact Statement for this project admits that non-transmission alternatives along with lower voltage and underground alternatives were not carried forward with detailed analysis and submitted.	Comment noted.
	Steffen	NEP02	This is the first transmission project that the Chicago-based Environmental Law and Policy Center has opposed. This is a line that is not justified on its merits. It was thought up, I think, eight to 11 years ago and they are carrying through.	Comment noted.
	Steffen	SOCIO06	Okay. This is -- there is a lot more responsible things, but this is today's Mt. Horeb Mail newspaper's front page: "Recipe for Disaster." The Mt. Horeb Village Board on Friday issued a joint statement denouncing a proposed power line that would diminish property values and prevent future land developments. 175-foot towers of the proposed line -- transmission line would surround Mt. Horeb on two sides and come directly through the Town of Springdale. We all feel very strong about this. I will leave this picture up so people can see this. It's within 30 feet of our home, going right over it. We will be ruined. And the thing of it is that this is so archaic. In 10 years we are going to be wondering why do we still have to pay for those old lines.	Comment noted. Potential impacts to social and economic conditions, including property values, are provided in EIS Section 3.12.
	Leavenworth	DEC113	I'm opposed to the proposed C-HC power line by American Transmission Company between Middleton and Dubuque.	Comment noted.
	Leavenworth	NEP02	Other than to profit ATC and to draw another line for MISO's grand diagram, the C-HC line is not needed. ATC erroneously declares that the line is needed for three reasons: To reduce electric costs, to promote reliability, and to promote renewable energy. Each is an fallacious and, in fact, specious statement. ATC has built six high voltage power lines in Wisconsin in recent memory in the last seven or eight years. Electricity bills have stabilized because the energy portion of the bill has decreased with less expensive natural gas and renewables, not more power lines. In fact, the cost of power lines have increased the fixed cost portion of consumer bills and C-HC would only add to that. Regarding reliability, Wisconsin is well known for its national electrical grid reliability. The state already has some of the highest electrical reliability in the nation. We don't need more reliability for reliability's sake. Third, regarding promoting renewable energy, this is where it really goes wrong. Renewable energy growth is hampered by inner city high voltage power lines because those HVPLs originate and terminate near very large fossil fuel plants.	Comment noted.

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			By building these lines, one is, in effect, institutionalizing these fossil fuel plants. Once the HVPL line is built it will be incumbent upon the utilities to continue to operate the fossil fuel plants, not to decentralized their power generation to local distributed renewable sources. More to that point, the vast majority of electricity now carried by these power lines is derived from fossil fuels. Importantly, all of the electricity required by southwest Wisconsin is now carried on smaller voltage lines. There is plenty of capacity by ATC's engineers' own admission for existing lines, and that is projected out 10 years. ATC has said that they can build one of these HVPLs in three years. If they can do that, there is obviously no urgency for erecting this boondoggle project. Even the developers of the proposed 300 megawatt solar farm near Montfort have stated that they do not need more transmission capacity. The greater grid also has multiple routes for electrical transmission. So if you're going to say that, oh, it's not just the Driftless Area, we have other routes throughout the state that are involved here. To clarify this point, more and larger lines won't carry more electricity because the lines only carry the electricity that is used, that is needed. It's rather like a waterline. If the demand isn't using the available water the pipe won't carry more water if it doesn't have a place to go. Many people just don't understand this point. More high voltage power line capacity will not carry more electricity than it's demanded in the grid. The grid has plenty of current and projected future capacity. This line will not carry more renewable energy. It just won't. And I wonder why people don't seem to understand that. ATC as greatly ramped up its capital structure to build these 20th century dinosaur towers. Now it needs to find a project, meritorious or not, to carry its capital investment and reward its stockholders. That's the need here. So, for no legitimate reason, Wisconsin is being solicited to pay for the ATC mistake of overcapitalizing its operations so that ATC can continue to reward stockholders and chief executives. This mistake is neither Wisconsin's doing nor its problem. I'm offended by the notion that because ATC has overbuilt its capacity the electrical consumers have to pay for it with additional unneeded power lines. I personally approached one of ATC's executives on this point in one of the listening sessions and he could not counter my statements. Personally, I felt sorry for him because he knew that his company proposal was shamefully flawed. ATC has flooded the airways for the past four years that I know of and probably more with very costly promotional advertising. When asked to come to Mt. Horeb where I've met for a meeting, ATC blew off our community. If they can do that, they certainly don't deserve to be here. I believe the proposal is flawed.	
	Leavenworth	VEG01; VEG03	Nothing in the EIS statement addresses oak rot where they are going to shave these trees straight up, the bugs are going to go in and transmit, and every forest between Middleton and Dubuque is going to become contaminated with oak rot.	The EIS identifies two environmental commitments to minimize the spread of oak wilt: To minimize the spread of oak wilt, the cutting or pruning of oak trees between April 15 and July 1 for maintenance would be conducted in accordance with WAC PSC 113.051. In Iowa, oak trees may be removed during maintenance activities, but pruning oak trees would only occur during dormant periods.
	Leavenworth	SOCIO03	We've spent millions of dollars on tourism, as Glen just said, and we are going to wipe out this farm just to our right, you know with the stone barn? It's now going to have that ugly landscape behind it.	Potential impacts to visual quality and aesthetics are disclosed in EIS Section 3.11, and potential impacts to social and economic conditions, including tourism, are disclosed in EIS Section 3.12.
	Winch	DECI13	A very short comment. I'm Marvin Winch from Dodgeville Township, and I received this letter from the Public Service Commission of Wisconsin a few days ago. And I would like to relate to this because I'm in the area very closely affected by this proposed site, which I'm opposed to. As a nation, if the Public Service Commission does not rule in the favor of the public all this that we do is waste of time. The Public Service have got to rule in the public's favor. Otherwise, we, as a nation, we might as well revert to communism or socialism because we have no rights. So that's basically -- you know, I really enjoyed the comments of the people before me. It's real good, the Driftless Area and all the things that they said, but it's all a waste of time unless they rule in our favor. And it should be. The majority of Wisconsin is against this proposal. So that's all I have.	Comment noted. The Federal EIS does not consider alternatives in the same manner as the PSCW. The Federal agencies are required to comply with NEPA. The Federal EIS considers alternatives that are ripe for Federal consideration. What that means is that a proposal has been made for those alternatives or that it is reasonably foreseeable that they could be implemented in a time frame that would meet the need for the Federal action. The State of Wisconsin has also analyzed the project through the PSCW and WDNR EIS process (PSCW 2019). The PSCW will make an appropriate determination as to project need with respect to their jurisdictional responsibilities under Wisconsin Statute 196.491(3) (see Section 1.2.21 of PSCW [2019]).
	Miller	ALT02	My name is JoAnn Miller. I am here in regards to the Cardinal Hickory Creek transmission line. It is crossing from Cassville, Wisconsin to Millville, Iowa north of Guttenberg, Turkey River substation, Clayton County, Iowa where I heard somebody else say it was written as Dubuque County, so it is not even right. SPEAKER: Needs to be corrected. MS. MILLER: Yeah, not even right on here. So I feel like we are not inconsequential as this oversight implies.	Comment noted. The EIS has been revised to reflect the Turkey River Substation in Clayton County, Iowa.
	Miller	LAND01	I am tired of country people being second rate citizens. It is more the principal of farmland being used to advance urban areas under eminent domain and the area always presumed to be immune because of the terrain and special qualities it has. It is part of the driftless area. Most of the land is privately owned, so it is up to us landowners to at least try to protect it. Dubuque County is at the southern end of the driftless. Dubuque is the largest city on the Iowa side that is in the driftless. Dubuque has had its vote for the transmission line, there were alternate crossings and most of them are in Dubuque and they all they voted no in Dubuque. So again that is urban areas versus rural areas where it is going to be crossing in Millville. Just feel like we have less voices in the country.	Comment noted. The use of eminent domain is a decision for the Public Service Commission of Wisconsin (PSCW) and Iowa Utilities Board (IUB) as they consider whether or not to grant Certificates of Public Convenience and Necessity (CPCNs). The potential use of eminent domain disclosed in EIS Chapter 1, Section 1.6.
	Miller	ALT02	Wind energy in Iowa is new. It is one of the leading states in wind turbines. It is like the wild west of renewable energy. There is a lifespan to these wind turbines, and it may not be looking forward enough in the future as to when the lifespan is done with the turbines, are they going to be replaced, fixed, new ones put up? Who is responsible for the cleanup and removal of the turbines?	Comment noted. The discussion of wind turbine technology is outside the scope of this EIS.
	Miller	NEP02	What does it means for the transmission line that we fail to prevent going through? And was it not necessary to build in the first place?	Comment noted.
	Miller	SOCIO08	That was the whole point, pump wind energy into an urban area in Wisconsin. I am I have a job so it takes me a long time to have to research everything, so it is a lot easier to hire lobbyists in Washington to help. So I think you will find two articles that talked about the lifespan of wind turbines. So a paper published by The American Experience by Mitchell Roling in 2018 reads that the assumed lifespan of wind turbines to be at least thirty years. In Iowa MidAmerican Energy plans to repower turbines constructed in 2004. So it is only fourteen years after they were installed. That is less than half the life span. The report only looked at a thirty year window. They failed to account for the cost necessary to repower the wind turbines. By not factoring the initial spending, the reports underestimates the true cost of wind energy and overestimates the cost of the power plant capable of generating energy for more than thirty years. As the turbines grow older the utilization rate decreases at a rate of 1.6 percent each year, and that is and that is what requires a turbine to be repowered, just every year it produces less and less. And I also brought a paper by Rick Kelly. I think he writes for a newspaper Valley Morning Star, titled retiring worn out wind turbines could cost billions that nobody has estimates. Oh, retiring worn out wind turbines could cost billions that nobody has, and estimates tear down costs of a single turbine is at about \$200,000. So an old turbine that we see, to tear that down would cost about \$200,000. With more than 50,000 wind turbines in the US,	Comment noted. The lifespan of wind turbines is outside the scope of this EIS.

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			decommissioning costs are going to be around ten billion. This short lifespan is rarely discussed, but yet it has massive impact on the cost of electricity for families and businesses that don't want the transmission lines or look at the ugly wind turbines.	
	Miller	SOCIO01	Some parts of these turbines are recyclable, but they are also made up of composite that you can't recycle and made up of parts that will end up in our landfills. As a taxpayer and electricity user I don't want to pay for it. I don't want to see Iowa turn into a huge mass of transmission lines and a wasteland of unused wind turbines. It would be really interesting if some county ordinances start passing stuff that requires the landowners, because they are getting like \$8,000 a year for the wind turbines on their land, when they are done who is going to remove them? Who is responsible for that cost? Are they going to be at the farmer's cost? Going to be at the taxpayers of Iowa costs? The county's cost? There are notes in the paper. This goes on to one of the engineers that did the test research on where the crossings are going to be. There are notes in the paper.	Comment noted. The components of wind turbines and costs associated with new wind energy projects are outside the scope of this EIS.
	Miller	WLDF01	This goes on to one of the engineers that did the test research on where the crossings are going to be. There are notes in the paper prepared by Burns & McDonald Engineering Company, Inc. on the analysis of alternative crossings on plant species and animals. There are flying squirrels in this area where we are crossing. I don't know if they are on the endangered species list, but they are here. They are not addressed in the paper, so the transmission lines won't have those protected. They have stuff about the birds. MR. LEE: Do you just have the rest of that page there to finish? MS. MILLER: Yeah. They are nocturnal so most people don't see them and no idea they are present. We have also seen bald eagles nesting out here in our area. Northeast Iowa, the driftless area is the most beautiful untouched land in Iowa.	Comment noted. EIS Section 3.4 discloses potential impacts to wildlife.
	Miller	SOCIO08	It would be a shame if it were spoiled with big money monopoly utility companies getting government subsidies in an area that would not benefit from ugly towers. I called the ACT company, ATC company in Cedar Rapids to see if we are going to get discounted rates at all, and we couldn't said yes he didn't say yes or no. Couldn't guarantee that we would have lower utilities. I do not want this line approved. I think that we should wait to approve this transmission line or future ones to see what research tells us for the cost benefit ratios, what they really are at fourteen years instead of thirty years. And I don't want to leave Iowa as a government subsidized energy wasteland.	Comment noted.
	Dunston Osborne	NEP02	First of all, if you glance through the report that is right there, you will see that a lot of those issues that the previous speaker talked about have already been discussed. Most of these transmission areas are already in place. They are just going to be additions, adding to it. It is going to be rebuilt, but they are already there. So if we haven't got an impact on the transmission lines affecting us and our property right now then I want to make sure that this isn't going to happen. There is only one new plan right there. So and that is from Wisconsin.	Comment noted.
	Dunston Osborne	PUB01	I was very impressed that they have done so much work as opposed to when IUD pushed through the pipeline with hardly any comment or discussion and allowed eminent domain to be used for an out of state company or a group of them.	Comment noted.
	Dunston Osborne	NEP02	This is actually going to benefit us. There are over ten groups, utilities that are involved in this together, so it isn't just one utility trying to rake us over the coals. There are projects in the works that will not go through if this does not give them a way to sell their product. We have an opportunity in Iowa to shift from what is become kind of a failing economy to being the forefront of renewable energy economy, which we have been doing very, very well. We were only third or so in the country not that long ago, and then the solar tariffs hit us and a few other things hit us, economy issues within the last three years of policy changes.	Comment noted.
	Dunston Osborne	EFF04; PUB01	So there are possibly some eminent domain issues, but frankly the areas that they are talking about right now, if they have already done their homework and said they will protect the wildlife, they will protect and rebuild areas where the transmission lines are going, there are mentions made of protecting all of the areas that are sensitive, so I think they have done their homework and at least they have kind of had these comment periods and let us put some effort into commenting on it and reading ahead of time. That doesn't always happen.	Comment noted.
	Dunston Osborne	SOCIO02	So anyway, I do think that we really need for our state to be able to move forward and have some decent paying jobs. We can't rely on the oil and gas industry. I mean, some areas in this state are doing very well with that, with fracking sand drilling and mining, but that is a very, very small portion. And that is way more destructive than what we are talking about here as far as I have seen, so that is all I have to say.	Comment noted.
	Riser	ALT02	When I look on this map and I see these purple lines, all the various possibilities of where these towers are and lines are going to go, the whole idea of my understanding is to move wind power from Iowa over to Wisconsin, to Madison probably, Milwaukee areas more specifically. I am looking at this. It ends at the Hickory substation. Now, I grant you I haven't been to every area in this section, but I don't ever see any wind turbines down there. So somehow where is all this wind power going to go and how is it going to connect would be one question I would have at some point to this substation? There is no wind turbines down there to really feed into this.	Comment noted. The C-HC Project would connect to several substations (Cardinal Substation, Hickory-Creek Substation, Hill Valley Substation, and Turkey River Substation), all of which are connected to the regional grid. EIS Chapter 1 explains the renewable energy projects that would benefit from the C-HC Project.
	Riser	VIS01	Secondly, I am not interested in providing Wisconsin their power. Why don't they setup their own wind turbines and feed into their own people. I love Iowa. And unlike people who say Iowa is so flat I love driving across Interstate 80. I used to love it a lot, but when I get past Des Moines to the western section of Iowa quite frankly I am appalled at all the wind turbines. I know it is the future supposedly. But it is not very pretty. And Iowa is a beautiful state so I would object just to having to look at more and more turbines in the State of Iowa.	Comment noted.
	Riser	SOCIO01	I also object to the 7 percent they want from what I understood I think you said, that the power companies, the ones that you are feeding into this, are asking for I assume the taxpayer, the state, which is the taxpayers, to also subsidize. I don't think there should be any subsidizing if it does go through. No taxpayer should be paying for this at all, period. They are going to make money from it, let them make money. You know, don't charge me for my taxes to go towards building something like that.	Comment noted.
	Riser	VIS01	And Gina also said go about the existing ones, if they are already there or just replacing them. I need to remind her though that they are going to be over 100 feet tall. If you have ever been down to Peosta area over by the Monastery Road and seen some of the ones that they have put there, they are huge. They are not little single. Yeah, they might be single, but they are huge single ones. They are not these little tiny posts, poles that we see now on the highway. They are huge. And I will speak personally, my view is from Turkey Ridge over the Turkey Valley straight out to I go past Balltown. I don't want to look at one of them. I appreciate the pristineness of that whole area. And I enjoy driving down towards Cassville on that road and seeing the wildlife and not having to look at these huge monstrosities of electricity.	Comment noted.
	Riser	DECI13	I am really not for this project. I really think if Wisconsin needs that power they ought to do it themselves.	Comment noted.

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	Kurt	SOCIO06	A little over a year ago I tended a meeting in Dodgeville, Wisconsin where a group of people were talking about impact of high power lines on their communities. The town of Holland, Wisconsin has been faced, one high power line came through on one side of the road, another has come through on the other side of the road. Over the last six years they have lost, it has been documented, \$14,000 a year in tax revenue from real estate property tax evaluations, and they have got two subdivisions that have gone bankrupt, they can't sell the lots.	Comment noted. Potential impacts to social and economic conditions, including property values, are provided in EIS Section 3.12.
	Kurt	NEP02	Wisconsin's energy use has been flat since 2005. Wisconsinites see no need for this line except to make money. They look at it as a soda straw going from Wisconsin from Iowa to Wisconsin. We don't need the power. They look at it as a way to make money. Dairyland Cooperative has asked for a 9 percent low interest loan to fund their part of this line, about 48 million dollars or so, I am not sure. They have not proven in my mind a need for this line for the rural people of Iowa or any of the communities in Wisconsin.	Comment noted. EIS Chapter 1 describes the need for the C-HC Project as well as the decisions facing the three Federal agencies that have received loan or permit applications for the C-HC Project.
	Kurt	SOCIO08	In addition to that, all of the entities involved in this line construction will receive 10.2 percent interest from Wisconsin up to 12 1/2 percent interest guaranteed return on their investment for the next forty years. So this total \$50 million project will end up costing us about, I don't know, somewhere between 1.2 and 2.1 billion dollars by the time all is said and done.	Comment noted.
	Kurt	ALT04	We look at it as needing to look at distributive energy resources. Why can't we have solar on our houses and sell it back to the energy companies? They could make a profit and we could make a savings.	Comment noted.
	Kurt	SOCIO03	We don't even begin to understand the impacts, pesticides tourism is a huge loss anyplace somebody can see a line.	Comment noted. Potential impacts to social and economic conditions, including property values and tourism, are provided in EIS Section 3.12. Environmental commitments regarding the use of herbicides are presented in EIS Section 3.1.
	Kurt	NEP02	I am asking the EIS to really take a look as to whether or not these guys have proven a need.	Comment noted. EIS Chapter 1 describes the need for the C-HC Project as well as the decisions facing the three Federal agencies that have received loan or permit applications for the C-HC Project.
	Kurt	VEG01	There were species of plants that haven't even been reported or investigated for this draft report yet.	EIS Section 3.3 discloses potential impacts to vegetation including special status species.
	Kurt	GEO01	If you have something factual that you can show loss of value in dollars and cents or have questions about special interest areas that haven't been explored, karst is a big one for me. An impact of 500 tons of concrete in karst and sinkholes.	Comment noted. EIS Sections 3.2 and 3.5 disclose potential impacts to karst landscapes.
	Dolan	NEP02	I do have a problem, as she mentioned, with all the wind power. I think the one, the field she is talking to, nobody here could really address that, but that is the Edgewood wind farm that they are tapping, and it is being moved all over to Wisconsin. So while, if it gets to be February and minus 30 degrees and middle of the night they may have to move some power back, but in general this whole line is to provide power to Wisconsin, not us. My thinking on it is the wind farms are too distributed. Their energy density is very low, and it would be cheaper for the companies to build a gas plant over by Madison. We don't have the need for all that power so but that is that is my opinion on the whole project. And as far as the environmental impact, yeah, you are going to have it for whatever you are going to have, you are going to have some environmental impact. But the issue really comes down to do you want to try to capture the dispersed energy of the wind and solar and have a reliable system? You can't do it without building the gas plants anyway, so which in other words you have got to double the cost to make these things reliable.	Comment noted.
	Dolan	NEP02; SOCIO01	I think part of the economics might be something called the production tax credit, which is another one of those government numbers that if I am not wrong it is \$24 a megawatt hour right now and the wind company gets \$24 if he produces the power. He doesn't have to sell it to anybody. Doesn't have to be needed, just he has got to produce it. That is up to be renewed this year.	Comment noted.
	Gobel	ALT02	The line coming across from Wisconsin is stated that it is Dairyland's line, and now they go ahead and say it is ITC's line. Which line is it really supposed to be? The line that comes through on the south side to come on across from 161,000 kilowatt line they have got the option to go ahead and put another 161,000 on it. So we are going to have just close to 700,000 kilowatts running on this line now. It is not going to be 345 like they stated it was supposed to be. And they was supposed to go ahead and run on existing right of ways the way it looks.	Comment noted. The three applicant utilities that would own and construct the C-HC Project are listed in EIS Chapter 1. The C-HC Project includes a 345-kV transmission line.
	Gobel	DECI10	According to Iowa Code that is the way it is supposed to be run, but according to this here maps and the way things run they are not following Iowa Code.	Comment noted. In addition to complying with all applicable Federal regulations, the C-HC Project must have an electric transmission franchise granted by the State of Iowa. EIS Section 1.6 explains the process the Iowa Utilities Board will follow to consider the authorization of electric transmission line franchise for the C-HC Project.
	Gobel	SOCIO01	And as far as the government sticking into it, like them getting a tax rebate like she was stating before at 10 percent return on their investment, that is not just. Anybody that can go ahead and see that is not right at all. You shouldn't be able to go ahead and subsidize them investors that are up in Michigan pushing this through.	Comment noted.
	Gobel	NEP02	Because the power already for all the farmers in all this area is here. We don't need the extra power.	Comment noted.
	Gobel	OOS01	And as far as I am concerned, a line coming from Wisconsin down to here and get the other line coming in through New Vienna on the other side, he was talking about the line going over towards Greeley picking up the wind powers. There is 13 towers there. The son of a bucking towers, they can't run under 10 miles an hour, so you just can't function. If the wind is high they have got to shut them down because you burn bearings out on them. Life expectancy, like she said, is fifteen years. After that what? Who is going to tear them down or who is going to replace them? And they turnaround natural gas, they put six of them down by Marshalltown. They had two there. Instant right now you got your energy right now with a gas turbine. You don't have to wait for the wind, you don't have wait for the sun. It is right there, and we have got plenty of natural gas. Why not go natural gas? It is a lot more efficient and more reliability.	Comment noted. This comment speaks to electricity generation, not transmission. The generation of electricity is outside the scope of this EIS.
	Schwarzmann	NEP02	I have found that it is deficient and/or insufficient on many important items, and I am going to pop those off here. ATC and ITC say that we need C HC to bring in power from Iowa. Wrongo. Wisconsin doesn't need any more power. We produce our own power. We actually produce 15 percent more power than you need, and that as you know is due to flagged or declining rates, decreased efficiency and also increased individual solar residential and farm installations. We do not need a C HC to bring power to Wisconsin. We don't need it. Now, some of our folks were up in the Guttenberg meeting last Friday, and those folks up there in Clayton County and Dubuque County are mad as hell at Wisconsin because ITC told	Comment noted. EIS Chapter 1 describes the need for the C-HC Project as well as the decisions facing the three Federal agencies that have received loan or permit applications for the C-HC Project.

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			them that the C HC was needed there. They don't want the C HC line was needed there to bring power into Wisconsin. Is that right? Well, we don't want any Iowa power, we don't want your power, cotton picking Iowa power. We don't need it. Okay. Keep it.	
	Schwarzmann	NEP02	Point No. 2, electric companies say that we need C HC to replace old, outdated electrical grid. This is more fake news. I called up Alliant Energy to ask them about this because I saw great equipment where we are. Our grid, they said that our grid is in excellent shape, it is robust and resilient, we have excess capacity for present and future. There is no C HC needed here. Alliant did a great job when we had that polar vortex 35 below. Thank you Alliant. Power companies also say that oh, your power rates are going to go down. Wrong. They are going to go up, at least 10 percent, maybe 25 percent I have heard. That is documented, that is out there. Property values are going to go down though, I can tell you that. So the DEIS we were talking about here does not talk about any NTA alternatives such as solar, individual solar for homes and farms. Solar that is produced and consumed and stored locally is increasing rapidly in Wisconsin. I have heard a number, ten years our solar or in ten years the individual solar will decrease commercially by about 65 percent. So we do not need this extra energy from wind turbine farms. Wind turbine farms are inefficient, they are outdated, they are obnoxious. And we don't need commercial solar fields like the one in Badger Hollow where you are taking up thousands of acres of prime farmland in this country. Ridiculous.	Comment noted. EIS Chapter 1 describes the need for the C-HC Project as well as the decisions facing the three Federal agencies that have received loan or permit applications for the C-HC Project. Non-transmission alternatives are not responsive to the applications to which the Federal agencies are responding, nor do they meet the six-point purpose and need described in EIS Chapter 1. Additional details and rationale for dismissing alternatives from detailed analysis in the EIS are provided in EIS Chapter 2, Section 2.2.
	Schwarzmann	HAS01	No health concerns are discussed in this D DEIS. The ATC and ITC met with them with a group of Amish people in Belmont, and they say no health effects. Okay. Well, that is wrong. There definitely statistically significant evidence that these people living in proximity to these lines get cancer. We are in a period right now very similar to where the cigarette companies were when the cigarette companies forty or fifty years ago, what did they say? Cigarettes are fine for you. No problem. Guess what, ten years later they did or after ten years of research, good research I know what they found. Cigarettes cause cancer. And you know what happened then, lawsuits. And I can see that happening now.	Potential impacts to human health are disclosed in EIS Section 3.13.
	Schwarzmann	ALT04	I was going to talk about underground installation. There is a big Sioux line, what is it, Sioux green energy line going from Iowa to Chicago, it can be done underground. When I talked to John Calloway he said oh, NIC has engineers. Why can't you bury it underground. Too expensive. Guess what. If you add up all the gasoline and expense and lawyer's fees and taxes and organization that we have spent on this we could have buried that Line 10 times. Right?	The project referred to in this comment is the SOO Green Renewable Rail project. It is currently in the very early phases of planning; therefore, the feasibility and engineering are not available to inform alternatives for the proposed the C-HC Project.
	Anderson	LAND02	I began this journey in the fall of 2016 at the RUS meeting here in Cassville to file an environmental impact statement with my father who was the owner of our family farm in Beetown Township in Grant County. The proposed route cuts through the heart of our farm. My father passed away quite unexpectedly in August. My sisters and I are now the property owners, and our hope is to keep the farm in the family. Our farm, like many in this area, is largely untillable. We have an 80 acre cornfield that has been rented to the same family for crop production for the past fifty years. The Grant River runs through the middle of the farm, and the remainder of the acreage is wooded bluffs along the river. We also have a tributary that feeds into the Grant. The farm is enrolled in the Wisconsin Forest Management Program, and we will be having our first sustainable timber harvest within the next two years. We filed our first RUS environmental impact statement as NIMBY's, not in my back yard. I speak to you today as someone who has worked through this process for nearly three years and I am no longer a NIMBY.	Thank you for your comment.
	Anderson	LAND02; SOCIO01	I am concerned about the potential effects this line will have on the economic and job development, farm preservation, property values and the environmental and cultural treasures of the entire region and families other than my own. Profit profitability margins for farmers in this region are razor thin.	Comment noted. EIS Section 3.10 discloses potential impacts to prime farmland and farmland of statewide importance. Potential impacts to social and economic conditions, including property values and jobs, are provided in EIS Section 3.12.
	Anderson	SOCIO08	I understand that the proposal for the line states that they will be able to bring in lower cost electricity. That should be a help to farm profits. However, never once have our electricity rates gone down or stayed the same after one of these lines has been built in the State of Wisconsin. They have only gone up. I ask two things in this regard. What assurance does the RUS have that this line is needed by a cost benefit analysis that takes into consideration the price people in this area will pay for the construction of this line through the electricity rates and additionally by the loss of property values and farmland, environmental and cultural degradation. Have potentially lower cost, more environmentally friendly alternatives been explored?	EIS Chapter 1 provides an explanation of the purpose and need for the proposed C-HC Project. EIS Chapter 2 discusses the alternatives considered for analysis in the EIS.
	Anderson	CUL01; VEG02	I am also concerned about the very superficial environmental and cultural surveys that were done for the EIS. Throughout the environmental and cultural assessment reports in Chapter 3 of the EIS are statements such as quote needs further assessment, was not assessed in the field, information gained through online assessment, species specific surveys were not conducted, precise locations of special status plants within the right of ways was not researched and is not known.	Comment Noted. The EIS uses the best available records and data provided by the Iowa and Wisconsin SHPO databases and site-specific surveys to identify potential historic properties within the alternatives. The EIS recognizes that additional historic properties may be present along one or more project alternatives, and the Iowa and Wisconsin SHPOs, RUS, the Utilities, and other consulting Federal agencies have drafted a PA under Section 106 of the NHPA. This PA details a phased identification and treatment plan for cultural resources identified within the chosen alternative. This PA is included as an appendix of the EIS.
	Anderson	CUL03; WLDLF02	We were one of a very few landowners who asked to be present during the July 2017 EIS biologic and cultural survey according to the biologist who came to assess our property. We were told that their primary objective was to document known wetlands. They were unaware of the sensitive bird species and archaeological features of our property that we had reported in our impact statement filed here in Cassville in the fall of 2016. When we advised and showed them these items, they said that these features needed to be assessed by other experts and that a cultural assessment team and the endangered species biologists would need to assess our property. To the best of our knowledge that did not happen. My question about the EIS in regard to this concern is what assurance does the RUS have that endangered species and Native American archaeological features in this area have been adequately assessed? Those of us who have grown up in this area know that many of the archaeological features are undocumented or minimally documented. What is the reasoning behind waiting until they are partially destroyed by construction because they were not identified and protected beforehand?	The EIS uses the best available records and data provided by the Iowa and Wisconsin SHPO databases and site-specific surveys to identify potential historic properties within the alternatives. The EIS recognizes that additional historic properties may be present along one or more project alternatives, and the Iowa and Wisconsin SHPOs, RUS, the Utilities, and other consulting Federal agencies have drafted a PA under Section 106 of the NHPA. This PA details a phased identification and treatment plan for cultural resources identified within the chosen alternative. This PA is included as an appendix of the EIS. Additionally, data for special status species were obtained from USFWS, WDNR, and IDNR. The environmental commitments listed in EIS Section 3.1 would be included in, and thereby enforced by, applicable permits, authorizations, and orders issued by Federal and state agencies. These commitments may be revised as permits, authorizations, and orders actions are reviewed and issued, if deemed appropriate by the various decision-makers. A mitigation plan has also been included as an appendix to the EIS to provide additional details about the mitigation measures to be implemented by the Utilities as part of the C-HC Project.

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	Anderson	SOCIO07	I invite you to get out onto our farms, see the places where this line is proposed to be built and what could be lost economically, environmentally and culturally for those of us who live and work in this area	Comment noted.
	Patterson	ALT04	And I believe that the USDA has not done a study yet on development of transmission alternatives on the final report. I hope that they do that. I think that the law requires it. We as taxpayers have the right for that information.	Comment noted. EIS Chapter 2 discusses non-transmission alternatives.
	Patterson	NEP02	Applicants for Cardinal Hickory Creek have never said there was a need for a 1,300 megawatt of power. I am not aware of any. We as customers will save pennies per month on our monthly bills over the next forty years if this goes through. An eminent domain should only be used on any project if it is absolutely needed, and it has got to be in the best interest of the public, the State of Wisconsin.	Comment noted. EIS Chapter 1 describes the need for the C-HC Project as well as the decisions facing the three Federal agencies that have received loan or permit applications for the C-HC Project. The use of eminent domain is a decision for the Public Service Commission of Wisconsin (PSCW) and Iowa Utilities Board (IUB) as they consider whether or not to grant Certificates of Public Convenience and Necessity (CPCNs). The potential use of eminent domain disclosed in EIS Chapter 1, Section 1.6.
	Patterson	SOCIO08	Cardinal Hickory Creek should be very cost effective, which it is not. It is wasteful, unnecessary and it is being over built because it is not the only thing going in.	Comment noted.
	Patterson	ALT04	Non transmission alternatives should be studied and looked at, not just talked about.	Comment noted. EIS Chapter 2 discusses non-transmission alternatives.
	Patterson	NEP02	And if it is not needed, they have never proved that there was a shortage of electricity. I have never seen any politician stand up that we are going to be threatened with blackouts if this line doesn't go through.	Comment noted. EIS Chapter 1 describes the need for the C-HC Project as well as the decisions facing the three Federal agencies that have received loan or permit applications for the C-HC Project.
	Patterson	SOCIO01	We will not gain anything with Cardinal Hickory Creek coming through southwest Wisconsin. If we will I would like to hear it. What are we going to gain? Somebody tell me. What are we going to gain in Grant County? I hope our tax dollars get spent wisely with the studies of the USDA that state and federal laws require you to do. Follow the laws when you turn in your final report. Debt, the land via the environment and most importantly the people's destiny are at stake here.	Comment noted.
	Kurt	EFF02	My name is Dena Kurt, and these folks are all a hard act to follow so I will try. I live near Dubuque, Iowa in Wisconsin, but I was living in Dubuque, Iowa when Cardinal Hickory Creek was proposed to go through Dubuque, Iowa and Dubuque said no. No, we don't want it. I was shocked a year ago to find out that this line was still alive and that it was going through the heart of the driftless area and the national wildlife refuge, and I wanted to know why it was so important to do so. So I went to several meetings and I started to read everything I can get my hands on, and I have now gone through about four boxes reams of paper and so many confusing facts and figures, I don't even know where to stop or start. I have also with Gloria Belkin and another woman, Chris, we have driven most of the line. We have talked to all kinds of people at the Grant County Fair. I have talked to landowners in Clayton County, Dubuque County. I have walked those farms. I have looked at water sheds. I have talked to those people. And like was said earlier, the folks in Guttenberg think it is Wisconsin who is pushing for the line. What I have also talked to are people who have property in Wisconsin that have a line going through their views, an artist who needs that scenery for her business. She also has a home south of Iowa City where one of these lines went through that area, and now there is 171 kV line proposed that will go through her yard basically right by her house there. 365 kV lines support additional transmission growth. I don't see that addressed in this report, and I would like to see that addressed. What other growth will come with these lines?	Chapter 4 of the EIS analyzes reasonably foreseeable future projects as part of the cumulative impacts analysis. Other transmission line projects that are known to be proposed for the area are disclosed in that section.
	Kurt	GEO01	I don't see addressed the impact on the karst topography of Grant, Clayton and Dubuque County.	Comment noted. EIS Sections 3.2 and 3.5 disclose potential impacts to karst landscapes.
	Kurt	SOIL02; WAT02	Those of you who live in Grant County know what water quality issues you are facing or you should. What, the well test was 42 percent are contaminated with coliform bacteria. What about all the chemicals and the wide open spaces and the veg. rows and the erosion that these lines will cause? I want to see that addressed in this draft statement. I want to know what pesticides are going to be put on this land.	Comment noted. EIS Chapter 3 includes the following environmental commitments related to herbicide use: The Utilities will employ a Certified Pesticide Applicator for all herbicide applications within the C-HC Project. The Certified Pesticide Applicators will only use herbicides registered and labeled by the USEPA and will follow all herbicide product label requirements. Herbicides approved for use in wetland and aquatic environments will be used in accordance with label requirements, as conditions warrant. During the easement negotiation, landowners can decline the use of herbicides for vegetation management activities once the line is in operation. Therefore, no herbicides would be applied within portions of the ROW on which the landowner wishes not to introduce it.
	Kurt	SOCIO02; SOCIO03	I want to know a lot of details that aren't in here. There are three things in Iowa that I have read in MidAmerican Energy statements and in the Iowa Utility Board's statements that say lines have an immediate environment economic impact on communities because they bring temporary jobs. That is stated. The second part says lines will have economic value at some point. And the third statement says the lines have economic value for the state or counties through taxation. The middle statement is totally vague. And we all know that if you live in a scenic community like Cassville where you are trying to build a bridge to get all your tourists up here, the last thing your tourists want to see is a 17 story tower stripped through your scenic forests. How does that benefit your communities?	Comment noted. Potential impacts to visual quality and aesthetics are disclosed in EIS Section 3.11. Potential impacts to social and economic conditions, including property values and tourism, are provided in EIS Section 3.12.
	Kurt	ALT04	What are the non transmission alternatives? Right now the Iowa utilities trying to kill solar for residents. They are trying to tax it to death. They are trying to make it something that is not viability. Why would they do that? Why would they do that? I ask you all to think about that. They are trying to there is a rate increase being proposed by Alliant Energy because they need 80 some million dollars worth of renewables, 11.9 percent overall, 26.5 percent residential rate hike being proposed. Why do we need it? Why do we need it? We have got what we need and we can use what we have got. That is all I have to say. Thank you.	Comment noted.
	Grice	NEP02	Hi. My name is Linda Grice, and I lived in this area for a while back from '82 to '93. And I love this area and I have come back last year, built a house here, and low and behold this power line is coming through almost in my backyard and I didn't realize about that. It is over in Liberty Township. And I operate an art business that requires that I have good views. People come from actually all over the world, all over the United States for sure to paint at my place, and they are not going to come to look at a power line. I am opposing the construction of this line because I don't feel it is necessary. Local and state electric needs are being met currently. I have talked to people around that have talked to their utilities and	Comment noted.

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			I have talked to my utilities, and we were all told that it is not necessary. They have plenty of power. And they say that ITC came to them and wanted to put the line in. It wasn't the other way around. And they are just as happy without it. So I think we can go without it. This benefits the states to the east of us, yet we pay for it. We are paying as taxpayers and we are paying as rate payers. We are also going to be paying an increase in electric bills, the 26 percent the last speaker was talking about. Plus I am on a co op, and I also open property in Iowa and both places these co ops are the same where they discourage you putting in solar because if you if you produce so much solar and put it back on the line you get 25 percent of what they are going to charge you five minutes later when you need it back, so if you need it back in the middle of the night and you gave it to them five minutes before that it is you just pay extra for it. And the main thing is the new technology that is being developed makes this completely unnecessary. My son is an electrical engineer. He lives in Seattle. He has got a prototype of a solar system on his house where he is making \$3,000 back at the end of the year. If the government is going to pay these companies 65 percent or whatever it is that they are paying for to subsidize them, why don't they pay that to us taxpayers and us rate payers?	
	Grice	ALT04; DECI13	Non transmission alternatives are the future. Having millions of people dependent on one energy company and one transmission company is not good for any of us. I looked at that current draft of the environmental impact statement, close to 500 pages in there. I read through the whole thing. It is mostly 500 pages of bullshit. It is copied and pasted, things are copied and pasted in that report. It is not specific to our area and to our specific landscape. It is just meant to pull the wool over our eyes because how many people are going to read that thing? They just want you to look and say oh, we did this thing so of course this is right. Tell you what, we are smarter than that. It does not contain it doesn't address the non transmission alternative fully. It only basically puts it aside after it mentions it a couple of times. It doesn't consider how much money or how much electricity we could save by doing this and how we could save money if this tax money was given to us taxpayers to put improvements on our own properties instead of giving it to these huge companies.	Comment noted.
	Grice	NEP02	By the way, this is the same company that is in Iowa, ITC. They are going through Iowa. People over there are madder than hell about this thing. And it is the same way there as here. In fact, they did it they are sneakier in Iowa. People have had windmills being put up in their backyards. They are mad, and there was nothing they it happened before there was anything they could do about it. And the companies there are saying then don't need this transmission either. This also this environmental impact statement doesn't address the increasing reliability or the area resilience after a major downtime. If we had some big event cause our utilities to go down, this doesn't address that at all. And we would be a lot better off having our own power supplies than this line.	Comment noted.
	Grice	ALT04	I think a new environmental impact statement is needed. We need to address the NTA completely using realistic price declines for the new technology in the future. I myself am planning to install solar in all of my places and a lot of my friends are too, so we don't need this thing. And we need accurate statistics on reliability and resilience. And we just need to assert our independence. We need to stand up to these big companies. We don't need one big company telling us what to do and where we are going to get our utilities. We can we can think for ourselves. And this environmental impact statement is just a lot it made me so mad when I read that thing because obviously they are just trying to have us think that they have done something when they haven't.	Comment noted.
	Kalnius	NEP02	No. 1, we don't need anymore electricity than we have already, so we are this is just a waste of time. And I have asked this question several times and no one is able to answer it for me, and the answers were a little bit I thought silly. Now in about five to ten years we are all supposed to be driving electric vehicles. Where is that electricity going to come from? SPEAKER: The sun.	Comment noted.
	Kalnius	VIS01	MR. KALNIUS: Yeah, it is going to come I thought it was going to be I thought it was going to be some great new deal like well, like these propellers all around. Of course, the problem with propellers is that goes against the ruining of the scenery. Okay. I mean, we are looking at the driftless area, all this good stuff here is beautiful, people come here. So we have got these Darlington just put up, what, 49? Fennimore is going to put up from what I understand 17 acres of solar panels. Wow, that is going to attract a lot of people. It is going right outside of Fennimore.	Comment noted.
	Kalnius	LAND03; WAT02	Okay. And then the other thing is we are going to ruin this area. Man, I look around what we are getting here is hog operations with thousands of hogs. I mean, that is not attracting, it is driving people off. It stinks when you go down here. They are ruining ground water. The groundwater is going to be completely destroyed here. Then we got 2,000 head dairy farms. Okay. 2,000, maybe more. Talk about ruining this pristine environment. I would like to see people arguing about that, shutting those suckers down. They are destroying us here. I can take another a little bigger transmission line, but that is not going to kill us. Those hog operations and those cattle operations will.	Comment noted.
	Kalnius	DECI13	So again, I have heard all of it. But where are you going to get that electricity when you have to in an hour fill up your car? Okay. You are going to have electric stations all over the place, already some in Chicago I have stopped at. They take a lot of juice. And the only answer I have heard from talking to some of these folks was well, we are going to have generators. I said huh. Yeah, we will each have generators. I mean, what are we going to do? Run them with run them with wood? I mean, otherwise it takes oil, it takes gas, it takes everything else. What are we talking about here? Where is it going to come from? I know people don't like it. I personally don't like it. I am here because my kids got some land and they are going to be going across it. We were not pleased with it. He likes everything pristine. But the consequences of saying okay, you guys, oh, yeah, you are in there for money. I have no hey, I have no illusions. They are doing this for money. On the other hand, I tend to look a little ahead of time, maybe ten, ten years. And I am wondering what happens then when we don't have it. So anyway, thank you.	Comment noted.
	Belkin	VIS01	Okay. You know, we have a 181-acre farm in Grant County. And when they put these transmission lines that are 17 stories high, we are going to be able to see them from, what, a couple miles away. And it is going to be very, very distracting. There is so many reasons why not to have these transmission lines	Comment noted. Potential impacts to visual quality and aesthetics are disclosed in EIS Section 3.11.
	Belkin	DECI13	Just recently many people were talking about solar panels. Well, we have 24 solar panels, and altogether we have 44 solar panels. You guys are do not know what you are missing when you own your own solar panels. You do not know what you are missing. No electricity as far as use, we send lots of electricity back to the power company. And we do nothing. We go to Florida for four months. We are not doing anything. My husband said this is the first time we have made money on the farm. This is it the first time we made money on the farm. We had we had solar. Now, why do we need all these transmission lines? And why do we need to have them going from place to place when you go from place to place with the electricity you lose electricity? I mean, there is so many reasons why. Somebody is going to be making a lot of money off of our the rate payers, our taxpayers, it is not right. I don't think it is democracy either. Not at all, it is not democracy. And to have one big company kind of tell us what to do, that is that is pretty darn sad.	Comment noted.

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	Belkin	HAS01	Now, a couple of years back, there was a one person, farm, that took to court, he had a dairy, dairy herd, and he had what they called at that time stray voltage. Now they call it probably EMS, electromagnetic field. And he had his herd was hurting big time. He had a somatic cell, which is a white blood cell count, which was really high. He had bacteria all over, and it was caused by the transmission lines. He won a million dollars. He won a million dollars against them. So you can see what it is going to do to cattle. You can see what it can do to the cows, the milk cows. That is sad. MS. GRICE: And the kids. MS. BELKIN: Right. Leukemia in children, and that has been proven by the World Health Organization I believe. If you drive towards Chicago and you take a look at the great big transmission lines there, and you have a semi truck, my understanding, and if it is at night because you know you got lots of power going through. Everybody uses power during the daytime but there is no power that is running at night other than I mean, there is lots of power running at night because this particular truck driver, his computer was fried once. Took it took his truck in again and dog gone it when he went underneath those wires his computer was done up the second time, was fried. So not only once was it fried due to those high liners, it was fried the second time. And people kind of don't know, you know. Oh, well, what is happening?	Potential impacts to livestock from electric and magnetic fields (EMF) have been added to Section 3.13.2 of the EIS. A discussion of studies of potential impacts on rates of childhood leukemia has been added to Section 3.13.1 of the EIS.
	Belkin	HAS01; VIS01	So there is so many reasons why these transmission lines, I mean, scenic reasons, the health reasons, animal health reasons, people's health reasons, scenic reasons.	Comment noted.
	Belkin	DECI13	There is just lots and lots of reasons why. And plus money is I guess money is the root of all evil, and I guess that is one of the reason that these big, big companies are going after this 10.2 percent interest, 10.2 percent interest that they are going to make on their money for having this. But I want to thank everyone for listening to me, and I wasn't planning on speaking but and I thank everyone here coming and I am hoping that you will continue a big, big fight. Thank you.	Comment noted.
	Smith	LAND03; WLDLF01	Environmental, the strain, No. 1, the strain which would be placed on our local habitat as we know it due to the destruction and the deviation to the landscape during the construction process. The affect of the local on the local habitat with the energy emitted from the high voltage line, song birds, nesting birds, bald eagles, deer and my own livestock which are seasonally placed in the path of the proposed line.	Comment noted. The EIS Section 3.4 includes discussions of impacts to wildlife and their habitats.
	Smith	SOCIO03	For economic reasons is our local community on the cusp of becoming an industrialized energy distribution center? Will families want to continue to live in or relocate to this area?	Comment noted.
	Smith	SOCIO06	It concerns me about the potential drop in property values which will generate less revenue to support our local school district and other municipalities. We are being we as local citizens are being asked to sacrifice our lands and our lifestyles to accommodate this project, which are we are willing to do if there is a benefit that we can see.	Comment noted. Potential impacts to social and economic conditions, including property values, are provided in EIS Section 3.12.
	Smith	SOCIO07; SOCIO08	We will receive no benefit from this project, and are being asked also being asked to pay for it. As a present owner of a century farm, which three generations of my family have sacrificed, dedicated and committed their prime years of their working lives to maintaining and improving this property, I find it frustrating that one of the developers of this proposed line has made an application for a low interest government loan and then has the right to secure permanent rights to my family's property through eminent domain.	EIS Chapter 1 describes the need for the C-HC Project as well as the decisions facing the three Federal agencies that have received loan or permit applications for the C-HC Project. The use of eminent domain is a decision for the PSCW and IUB as they consider whether or not to grant Certificates of Public Convenience and Necessity (CPCNs). The potential use of eminent domain disclosed in EIS Chapter 1, Section 1.6.
	Smith	ALT04	I would favor the state greatly increasing the funding of such programs as Focus on Energy, which would enable individual homeowners such as myself to invest in local solar with tax incentives and subsidies to help reduce the load on the present grid.	Comment noted.
	Bradshaw	SOIL02	My problem is this transmission line, I have got a tree plantation, 11 acres, in fact. And they tell me they will destroy all the a lot of these trees, over an acre. And those trees were planted for stream base stabilization. As soon as they rip them out, soil erosion goes out the door.	Comment noted. EIS Section 3.2 discloses potential impacts to soils, including soil erosion. EIS Section 3.3 discloses potential impacts to vegetation, including forested areas.
	Bradshaw	HAS01; LAND03; NOISE01	Another problem I have is we have got cattle on pasture, and all this noise and activity, some of these cattle more than likely would stampede or runaway. As soon as a cow gets in corn, everybody got hell to pay. And the last summer we even had a guy went into the cornfield to chase out one cow and a calf, and the cow charged him. Now, if they are making all this noise and all this truck activity, who is going to chase the cow?	EIS Section 3.7 has been revised to disclose potential impacts from noise on livestock.
	Bradshaw	ALT02	And another thing is they are going to drill a hole for a base for these pedestals. Where are they going to go with all that excess material? Nobody ever says	EIS Chapter 2 explains how excess spoils would be disposed.
	Winterwood	ALT01; REC02	my concern is with the alternative crossing of the transmission line by the Mississippi River. If you abandon the existing transmission line crossing over the Mississippi River, how long will it take for trees to grow back up to what they are along the Cassville ferry road right now?	Comment noted. Potential impacts to resources with the Refuge are disclosed in EIS Section 3.14.
	Winterwood	WLDLF02	And the other concern I have is whether there are any red shouldered hawk nests in the area that are going to be affected by either alternative to the transmission line.	Potential impacts to resources within the Refuge are disclosed in EIS Section 3.14. The reader is referred to Section 3.14.1 for a summary list of wildlife that could occur in the Refuge near the C-HC Project.
	Ward	NEP02	nd I several years ago in a totally unrelated setting I was with a group of people, and one of the guys was an engineer with the power company. And he just had, it was a conference, and we just had a side conversation during this conference and he was talking about the grid and the age of the grid, and this was already like ten years ago. And he just mentioned that, you know, the grid in the United States is aging quickly. He said it was already getting to the point where we needed some major revamps, major investments, and we haven't done a whole lot of that. And I believe that we definitely need projects like this. This is going to not only help with transmission but it is also, you know, if you look at the EIS it does talk about how it helps with the different forms of electricity that can be generated. So this gives us flexibility with solar, with wind. I don't know if you ever travel out to South Dakota or North Dakota, but you will notice up there that there is not very many wind generators. Whether you are for that or not, the reason they don't have those is because they don't have a very good grid up that way. We have got a lot of wind generation in Iowa, and the reason we are able to have that is because we have got a pretty decent grid here in this area. So I think having an environmentally friendly system like wind generation and solar generation and having something to hook that hook into those types of clean energy is great, and this is going to give us some flexibility to make that happen. So definitely for it, and hopefully we can work through some of the issues that I understand that people have. But I think those could probably be worked through and we can end up having a good thing here.	Comment noted.
	McClellan	ALT01; LAND05	I represent some people on some of the proposed routes. We would urge tonight that the commission choose alternative No. 2 or No. 5.	Comment noted.
	McClellan	SOCIO08	Having been through this before on a previous line I would ask that the report also indicate the benefit that Iowa consumers will get for this project and the cost that Iowa consumers will have to pay for the completed project.	As stated in NEPA regulations 40 CFR 1502.23, "For purposes of complying with the Act, the weighing of the merits and drawbacks of the various alternatives need not be

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				displayed in a monetary cost-benefit analysis and should not be when there are important qualitative considerations.”
	McClellan	LAND02; VEG04	Also I note the resources analyzed for potential environmental concerns, I would ask that whoever does the report use a reasonable evaluation of things like wetlands compared to agricultural property	Comment noted.
	McClellan	WLDF01	and consider the effects that line and line construction will have on critters in the area which was not considered during the last evaluation of the last line that was put in	Comment noted. EIS Section 3.4 discloses potential impacts to wildlife.
	Deutmeyer	SOCIO06	I am a landowner along one of the proposed power line routes. My concerns include a decrease in property values. There is no way to keep my dairy farm's value from decreasing with a power line nearby.	Comment noted. Potential impacts to social and economic conditions, including property values, are provided in EIS Section 3.12.
	Deutmeyer	SOIL02	I see nothing in the statement about how they plan on controlling erosion and topsoil loss in an environmentally sensitive area that is on my property.	Comment noted. Section 3.1 of the EIS identifies the environmental commitments that the Utilities would follow during construction and operation of the C-HC Project to avoid, minimize, or mitigate impacts to resources, including measures to reduce soil erosion.
	Deutmeyer	LAND03	I have seen no study on how dairy cattle are affected by EMF's. And they have not stated what will happen or if I will be reimbursed if my cattle are compromised.	Comment noted. EIS Section 3.13 has been revised to disclose potential EMF exposure to livestock.
	Deutmeyer	HAS01	I did see that there are homes that will be affected by EMF's but no solutions to these problems as if these people are just a casualty of national progress.	Comment noted. Potential impacts to human health from electric and magnetic fields (EMF) are disclosed in Section 3.13.2 of the EIS.
	Deutmeyer	NEP02	I find it ridiculous that a not for profit group like MISO can claim that they are transmission line planners for the Midwest and not release the plan for the future of a very large substation on Kluesner Road. And if the grid is bad it is understandable, but they could at least release long term information on it, which they have not done, and will not do.	Comment noted.
	Deutmeyer	NEP01	I also find it ridiculous that they can hire an independent contractor like SWCA and people like the USDA, Army Corps of Engineers and the Rural Utility Service can trust their study, especially when professionals with groups like the Fish & Wildlife Refuge can give suggestions just to have it denied by ITC, who then tells the Fish & Wildlife Refuge where the line will go. I believe MISO and SWCA are pointless in the planning when ITC is the company controlling them, and can sway their decisions anyway they see or choose.	Comment noted. SWCA is serving as an independent third-party NEPA consultant to support RUS and the other Federal agencies with developing the EIS and complying with NEPA. SWCA takes direction from the Federal agencies.
	McDonough	PUB01	There are concerns of from citizens about the tremendous amount of electricity that is going to be run over their homes and over their land. That is a significant concern they have. Dan, that may be something that you are working on with the folks that you have identified, but I think we need to know that the supervisors, at least myself still have unresolved issues about that. And I recognize that there is a comment made this evening that there may be another work session with the Board of Supervisors to talk about those issues further, and the folks that I know here I am happy to reach out to you and let you know that that is happening.	Comment noted.
	McDonough	OOS01	But something that I don't know that all the citizens know in Dubuque County, we are having modeling done by Houston Engineering from the Minneapolis area. They are going to be coming this summer to look at all of Dubuque County, how does water run? So the watershed is a fragile item, a fragile thing, and we are just beginning our work to really look intensively at the water sheds that impact Dubuque County, and to understand with modeling how does the water run? How does erosion work? Dubuque County is doing that. It was lead by the City of Dubuque, so can't take credit, but the funding that has come is big enough to do the whole county, to see like my father in law's farm, how does that water run? What is the impact? What is the testing? The county is hiring contractors to do spot testing, 40 spots to see what do we get with runoff? What are we looking for in water contamination? What do we see? Then it will be to the citizens to see what is next.	Comment noted.
	McDonough	WAT01	My concern is that the creation of this project, the heft of it takes so long that by the time they get to this point, you know, things change so fast today and as we become aware of the impact that seemingly innocent things have, Tim, on our water sheds, we have to collect information, and Des Moines is not doing that. It is us. We are finding out what do we need to do to try to be sure about our own water quality, our own runoff, our own erosion. You know, the aquifers that run under our land are what we are going to give to our kids and our grandchildren, and those don't bounce back. They are forever when they are damaged. And what they are putting up here, the size of these lines are unprecedented. We don't have these in other places. It is not the typical, Frank, it is not the typical stuff. It is mega bigger to nothing.	Comment noted.
	McDonough	LAND05; WAT05	The contract language is pretty crazy. You know, you sign here and they get like 180 days to change some stuff. These are not contracts that an attorney would tell you to sign. So, you know, I will be looking in greater detail. I don't have I haven't read this, probably not a surprise to anybody, but I intend to go through it and to with a work session to look on the those issues to see better how we are connecting, what we are trying to accomplish in Dubuque County, specifically with water sheds that I know that has tremendous environmental impact.	EIS Section 3.5 discloses the potential impacts to water resources and quality.
	Goebel	VEG01	This is a big money company that is raping our countryside. They are going through timbers that are never, ever going to recover.	Comment noted.
	Goebel	LAND02	Going through cropland that is virtually never going to be farmable again.	EIS Section 3.10 discloses the potential impacts to agricultural lands.
	Goebel	WLDF01	Going through wildlife areas that probably will not see wildlife underneath these lines because they spray absolutely everything flat, all the time, every year.	Comment noted. EIS Chapter 3 includes the following environmental commitments related to herbicide use: The Utilities will employ a Certified Pesticide Applicator for all herbicide applications within the C-HC Project. The Certified Pesticide Applicators will only use herbicides registered and labeled by the USEPA and will follow all herbicide product label requirements. Herbicides approved for use in wetland and aquatic environments will be used in accordance with label requirements, as conditions warrant. During the easement negotiation, landowners can decline the use of herbicides for vegetation management activities once the line is in operation. Therefore, no herbicides would be applied within portions of the ROW on which the landowner wishes not to introduce it.

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	Goebel	LAND05; SOCIO08	And we are just, and the amount that they are offer offering is petulant compared to the money they are going to run through these wires that every year. And we get this little amount here for fifty year lease that is nothing basically. And if you try to, you know, talk to these reps, which are very friendly at my house. They broke my front window door and run. They didn't even bother using the doorbell. They just pounded on my window, yeah. Which they come and they say okay, you know, but we are not buying your property, we are leasing it. Well, if you are leasing it what is a lease? You pay your lease every year, not just once. The single payment crap is baloney for fifty years. It is nuts. We are never going to get nothing out of these lines going through.	Comment noted.
	Goebel	HAS01	Not to mention all the literature from other countries that have had these lines go through for years and years and years, and the cancer within ten years everybody has got cancer. If you don't have it you are going to have it sooner or later.	Comment noted.
	Goebel	LAND02; SOCIO01	So anyway, and, yeah, and we I have talked to one farmer that got this little petulant pay, and we have not seen a profit in farming for years, so people are falling for this. That it is just man, it feeds my cows for another month. You know, holy cow, this is this is great stuff. But have no idea what is coming with these poles on their property, none. None. What kind of, you know, things that they are going to have show up in their cattle, in their we milk cows. I am just a dumb farmer here talking, which is you can all laugh at me. I am sure they laugh at us every week. I am sure this company sits around the table and laughs at our these dumb farmers that they are dealing with. They come to your house and they treat you like, okay, yep, uh huh, they threaten you, then stand there and they say okay, yep, you know, this is the way it is. You don't do it we will take you to court. This is it. You know, we have no we are we are the depuration of the few for big money is what this is amounting to for us.	Comment noted.
	Goebel	SOCIO02	And jobs. That was one thing that was mentioned down at the Guttenberg meeting, which I went to. Oh, the jobs that this is going to create. People in our area that need jobs are not going to get to work for this utility, this line. They are they bring in their own crews. They do their own thing. They don't pay people from our area for nothing. A little cement they might use from our community. Everything else is going to be brought in. You ain't going to see nobody there that you know.	Comment noted. Potential impacts to social and economic conditions, including jobs, are provided in EIS Section 3.12.
	Kurt	VEG01	First of all trees. A North Carolina State studies says healthy trees can increase your property value by as much as 27 percent. A tree can absorb as much as 48 pounds of carbon dioxide a year and sequester one ton of carbon dioxide by the time it reaches forty years old. One large tree can lift up to 100 gallons of water out of the ground and discharge it into the air a day. One large tree can supply a day's supply of oxygen for four people. Trees can help our soil remain healthy by reducing soil erosion and by creating a soil climate suitable for microorganisms to grow. At one point the impact statement talks about destroying a bunch of trees in a protected area and then putting together a plan to have those trees rebuilt within a hundred years. Roger is going to lose all his trees along with countless other people. I want to see the study. Look at the impact of that tree loss throughout the entire proposed corridor. That is not there.	Comment noted. Potential impacts for forested areas are disclosed in Sections 3.3 and 3.4 of the EIS. A discussion of potential changes in carbon sequestration due to the C-HC Project has been added to EIS Section 3.6.
	Kurt	NEP02	There is talk in the plan about the C HC project would create an outlet for additional wind power that would bring wind rich areas to load centers like Madison and Milwaukee and the reminder of the MISO footprint, which is a 15 state region approximately, the MISO footprint. That this is needed. Well, demand for electricity in the US has been nearly flat over the past decade due to slow growth and gains in energy efficiency, but wind farms are popping up all over.	Comment noted.
	Kurt	OOS01	In 2014 Warren Buffett made the comment I will do anything that is basically covered by the law to reduce Berkshire Hathaway's tax rate. We get a tax credit if we build a lot of wind farms. That is the only reason to build them. They don't make sense without a tax credit. Wind Warren Buffett owns the utility company MidAmerica Energy. Their Wind X farm wind XI farm factory could generate up to 1.1 billion in tax credits for decades. It is anticipated that with the tax credits and the guaranteed tax equity, meaning each of us have to pay a guaranteed amount, in this case of 11 percent for the next thirty years, their net return on equity with that equity and the credits will be \$395 million over the thirty year lifespan of that project. What energy company wouldn't want to build a wind farm for that? Community energy is the way of the future. Energy is changing so quickly that we need to be nimble. This plan started ten years ago. Alliant Energy spokesman on a river to river talk last summer stated that wind turbines installed ten years ago are obsolete today.	Comment noted.
	Kurt	ALT01	This plan started ten years ago. Alliant Energy spokesman on a river to river talk last summer stated that wind turbines installed ten years ago are obsolete today. Why are we building a line like this when we need to be flexible in our energy options? There is so many innovation going on out there. The town of Stark, Wisconsin as a community, they raised their own money. They got one third of the funding from the town, the rest citizens of Stark kicked in and they solarized their community center this last summer, got together on a Saturday and did that project. That is a community project.	Comment noted.
	Kurt	NEP02; SOCIO08	The need is not there. There has been this is the fifth value added project in Iowa. I think somebody ought to take a look at how much savings those projects have actually generated. That needs to be done. I ask two things in this regard. What assurance does the RUS have that this line is needed by a cost benefit analysis that takes into consideration the price people in this area will pay for the construction of this line through the electricity rates and additionally by the loss of property values and farmland, environmental and cultural degradation. Have potentially lower cost, more environmentally friendly alternatives been explored?	Comment noted. As stated in NEPA regulations 40 CFR 1502.23, "For purposes of complying with the Act, the weighing of the merits and drawbacks of the various alternatives need not be displayed in a monetary cost-benefit analysis and should not be when there are important qualitative considerations." As discussed in EIS Chapter 2, Section 2.2.2, non-transmission and low-voltage alternatives are not responsive to the applications to which the Federal agencies are responding, nor do they meet the six-point purpose and need described in EIS Chapter 1.
	Braig	SOCIO01	The environment is one reason we should stop it, but if we look at the money, if we crunch those numbers, I learned being on the city council that business is what drives, it is the engine. We can never turn our backs on business or how it is going to affect businesses. And I don't know much but I do know that the only way that big energy company is going to be making any money at all, because they are not doing this out of the goodness of their heart or to let us have more power for less money, they are doing it because they are going to make money. And they are going to make money because every single person that is hooked up to one of those lines is going to be paying a nickel or a tax for having these big towers, not even on their land. They are going to make money whether those things are ever used or not.	Comment noted.
	Braig	NEP02	Now, that is another thing you might want to consider. Do we need them? Whoever asked that question? Do we even need them in the first place or is it just a big money grab by the big company?	Comment noted.
	Braig	SOCIO08	Well, I ask you to consider this. If I were living in Lancaster or someplace that it is going through and I had to pay a nickel more for my electric bill just to have that thing sitting there that isn't even used but the company has got to be making money, oh, just what who cares? If I were a dairy farmer and I used lots of electricity to run my milking parlors, that could be your profit margin. I mean, the electric bill could actually put people out	Comment noted.

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			of business. So that is not fair. And it is not fair to manufacturers. How many manufacturers do we have in Peosta? What do you think that is going to do? Everybody is affected by this. Everybody is affected by this.	
	Braig	WAT01	The other thing what Ann talked about, our precious, precious water source. So I just wanted to say something about the environmental impact. You have to have find a caster hydrologist somewhere that isn't working for either guy, either place.	Comment noted.
	Schmitz	VIS01	And I was driving down the road 75 miles an hour when I took this picture, and I caught a glimpse of there is a lot more to see out there. If you want to see it, it is worthwhile driving out there just to see what a what a conglomerated mess it is, that it has done. And we are looking at that at Montfort. That substation they are proposing is about a half a mile south of my house, and I am going to be able to see it everyday.	Comment noted.
	Schmitz	NEP02	And as Dena said, we don't need that energy. It is not going to do us any good.	Comment noted.
	Schmitz	DECI13	Them lines are going to go someplace else and carry the energy. So I am definitely opposed to that, and I hope we never see them.	Comment noted.
	Cox	SOCIO03	Please add my name to the 252 citizens initially concerned about the DEIS address of, "...potential, adverse economic impacts resulting from loss of tourism, retirement housing, and business revenue in the area" from the high voltage option of the Cardinal-Hickory Creek (CHC) proposal.	Potential impacts to visual quality and aesthetics are disclosed in EIS Section 3.11 and potential impacts to social and economic conditions, including tourism, are disclosed in EIS Section 3.12.
	Cox	SOCIO03; SOCIO06	The DEIS does not provide an estimate of monetary impacts as requested. Request: For the Final EIS, please select three municipalities expected to experience significant impacts from the High Voltage Transmission option. Study and estimate the 40-year losses in property value, tourism revenue, potential housing and business development and decline in population for each. Compared the total losses for each municipality to the Environmental Impact Fees amounts they would receive based on WI law.	Comment noted. Section 3.12 of the EIS analyzes the potential socioeconomic impacts from the six action alternatives and the No Action Alternative to tourism, property value, housing, and other demographic topics. Quantifying the monetary impacts in the manner suggested is not required by NEPA regulations. As stated in NEPA regulations 40 CFR 1502.23, "For purposes of complying with the Act, the weighing of the merits and drawbacks of the various alternatives need not be displayed in a monetary cost-benefit analysis and should not be when there are important qualitative considerations."
	Cox	NEP02	Comment: Please add my name to the 481 persons asking the DEIS/FEIS to independently, and quantitatively analyze whether, in fact, there is a need for the project take into account the "decline in electricity demand in the Madison area." Request: Conduct quantitative analysis about CHC need and include in the Final EIS	The C-HC Project has been independently modeled and verified by multiple entities, including MISO, which used a planning process approved by FERC. The Utilities have modeled and evaluated the C-HC Project, and the state regulatory agencies (PSCW and IUB) are currently evaluating the project. RUS and the other Federal agencies are considering all information, in addition to public comments, when analyzing the C-HC Project to comply with NEPA. This is explained in EIS Chapter 1. The Federal agencies must consider reasonable alternatives when considering their Federal decision. The Federal EIS considers alternatives that are ripe for Federal consideration. What that means is that a proposal has been made for those alternatives or that it is reasonably foreseeable that they could be implemented in a time frame that would meet the need for the Federal action. Requirements for alternatives consideration under Wisconsin Statute 196.491(d) are very specific and separate from NEPA. Per their jurisdictional responsibilities, the PSCW is considering if and how the range of alternatives meets those requirements (see Section 1.2.2.1 of PSCW [2019]). The impact analysis contained within the EIS has been independently verified by RUS and the other Federal agencies.
	Cox	ALT04	Comment: In the draft EIS, RUS elected to not study and develop a Non-Transmission Alternative (NTA) under NEPA obligation to give decision makers, residents and electric customers the opportunity to consider all alternatives presenting lesser environmental impact. RUS also elected to not acquire the necessary, factual reliability information from transmission builders, the Low Voltage Transmission Alternative (LVA). Request: In the Final EIS, provide a detailed, quantitative description of at least one, fully developed NTA blending necessary amounts of targeted energy efficiency, load management and distributed solar resources at specified location to match the reliability performance of the LVA. Provide the total budget for the NTA with estimated costs for each NTA component at each location. Refer to detailed requests presented here: #4 . Comment: I join in concern that adding a high capacity, open access transmission line encourages nuclear, coal, and natural gas generation. The current DEIS does not quantify CO2 emission impacts associated with using the transmission line options or substantiate transmission builders' claims of only potential environmental benefits. In contrast a Non-Transmission Alternative investment in energy efficiency, load management and distributed solar guarantees CO2 reductions and significant energy savings with minimal, negative environmental impacts. Request: In the Final Environmental Impact Statement, compare the 40-year, CO2 impacts from the three alternatives: CHC, the Low-Voltage Alternative, and the Non-Transmission Alternative under modest, zero and negative growth in energy use. In estimating CO2 performance for the Non-Transmission Alternative, use a combination of targeted energy efficiency, load management, and distributed solar resources.	As discussed in EIS Chapter 2, Section 2.2.2, non-transmission and low-voltage alternatives are not responsive to the applications to which the Federal agencies are responding, nor do they meet the six-point purpose and need described in EIS Chapter 1. EIS Chapter 4 has been revised to include an estimate of CO ₂ emissions from potential generation sources that would benefit from the C-HC Project.
	Kritz, Gurak	SOCIO01	Hello, Attached are our comments on the draft DEIS report. Thank you for allowing us to review and comment on the draft report. We also plan to send a hard copy by postal mail. Mary M Kritz 5550 Far Look Road Spring Green, WI 53588 6089353331 March 28, 2019 SWCA Environmental Consultants Attn: Cardinal-Hickory Creek EIS 80 Emerson Lane Suite 1306 Bridgeville, PA 15017 Sent via email and my postal mail: comments@CardinalHickoryCreekEIS.us To Whom It May Concern: As landowners of a 217-acre farm in Wyoming Township, Iowa County, WI, whose land will be directly impacted by the proposed Cardinal Hickory Creek Transmission line (CHC), we are writing to point out our concerns that the draft report minimizes the socioeconomic impacts that the line would have on our property, other agricultural land along the route, and the economy of the Driftless region.	Comment noted. Potential impacts to social and economic are provided in EIS Section 3.12. Potential impacts to land use, including agricultural lands, are disclosed in EIS Section 3.10.
	Kritz, Gurak	VIS01	Our farm is located at segment P in your report. Alts 1-3 make an elbow turn on our property and run for about 1.2 miles along the entire north and west sides of our farm. The tall towers (150-170 feet) would be highly visible from our farmhouse and buildings. Our farm is located in the Pleasant Ridge area, which has some of the highest hills in Southwest WI. The altitudes of the hilltops on our farm are 1,000-1,100 feet and the CHC line would run across those hilltops and be highly visible not only from our buildings but for miles beyond our farm. Blue Mounds, the Plain Hills, Baraboo Bluffs, and Dodgeville and Ridgeway villages can all be seen from our hilltops. Our land has the high hills, sharp rocky cliffs, and deep valleys that are characteristic of the Driftless Region.	Comment noted.

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	Kritz, Gurak	SOCIO01; SOCIO06	On p. ES-4, Section 1.7.3.1, the report states that socioeconomic was a key issue identified during the RUS public scoping process. Table ES-1 shows that the RUS received more comments about socioeconomic concerns than any other issue. When discussing the CHC socioeconomic impacts in the lengthy report, the RUS repeatedly states that socioeconomic impacts would be minor or short-term and mitigated by compensation provided to land owners (p. ES-16). The table on p. ES-19 compares the socioeconomic impacts for the 6 alternative routes and states that there would be positive impacts to employment and income that would range from temporary spending of \$480,937,254 (alt 1) to \$568,612,262 (alt 4). That table also indicates that the number of residences whose property values would be directly impacted ranged from (2 in alt 1, 2 & 3 to 9 in alt 4). Given these statistics for income (very high) and number of residences affected (very small), we read the rest of the report carefully, searching for the definitions and data that would substantiate those RUS estimates. Our initial reaction upon seeing these statistics was that the RUS was overstating its case because it believes that the CHC line is needed and should be approved. Section 3.12 states that the "socioeconomic characteristics used to describe the affected environment include population and demographics, housing, employment sectors, tourism and property values." Subsequent sections describe the indicators for each of these characteristics. Section 3.12.1 (p. 366) has a paragraph stating that "property owners near the proposed project may have the perception that their homes will diminish in value because of project implementation, the actual loss of property value and potential impact can only be tested through data from home sales."	Comment noted.
	Kritz, Gurak	SOCIO06	The report then cites two studies - (Kennard and Dickey 1995) and (Wolverton and Bottemiller 2003) to support that statement. It states that conclusions should only be drawn from studies that use reliable data (ideally before/after pertinent events) and methodologies as the RUS paragraph states. That is certainly true but the report does not provide the citation for those two studies. Therefore, we could not assess the methodologies used in those studies. However, we did find a couple of later studies by Bottemiller and Wolverton ("The Price Effects of HVTLs on Abutting Homes," The Appraisal Journal 81, no. 1 (Winter 2013): 45-62 which concluded that high voltage transmission lines (HVTLs) did have negative impacts on suburban home prices in Portland (538 homes) and Seattle (568 homes). The greatest effect was on high-end homes (estimated negative effect of 11.23% versus 2.4% overall). A study by Sims and Dent concluded that proximity to towers and visibility of them had negative effects on property values in Scotland. That study looked at effects on 620 properties ("HVTLs in the UK," in Towers, Turbines and Transmission Lines: Impacts on Property Value, ed. Sandy Bond, Sally Sims, and Peter Dent (West Sussex, UK: Wiley-Blackwell, 2013), 55-79). A study of how property values changed in Wellington, New Zealand, from 1989 to 1995 found that property values were deflated by HVTLs but increased in areas where towers were removed. A 2017 article in The Appraisal Journal by Anderson, Williamson, and Wohl (The effect of high voltage overhead transmission lines on property values) reviewed literature on HVTL impacts since 2010, and concluded that further studies are needed before definitive conclusions could be drawn re. impacts of HVTLs on property values. We are also skeptical about the definitions and measures used by the RUS to assess the impacts of other socioeconomic indicators before it concluded that the CHC would only have minor and short-term socioeconomic effects on the Driftless region.	Comment noted. RUS has revised EIS Section 3.12 to include additional analyses and citations related to potential impacts to rural property values as report by peer-reviewed articles provided through DEIS public comments.
	Kritz, Gurak	SOCIO02	Because the population throughout most of the Driftless region is relatively sparse, the RUS sees little future impact on population growth and settlement. It also sees little impact on housing because its indicator, the number of workers who will be hired during the construction period (170 workers) will move temporarily to the region or commute from neighboring areas. The RUS argues that those workers will have a short-term positive impact because they will be union workers that receive relatively high salaries (\$70,000-\$150,000) and some of that money will be spent locally. The RUS points out that there will be positive income impacts for each city, village, town, and county because they will receive an upfront impact fee and annual payments thereafter (p. 369).	Comment noted.
	Kritz, Gurak	LAND02; SOCIO03	The one area where the RUS acknowledges that there may be harmful socioeconomic effects is on agriculture. On p. 370 the report states: there are "potential negative economic impacts to farming operations..., including organic farming operations, (that) would generally result from lost acreages of agricultural lands caused by placement of transmission line structures, associated facilities, and access roads, as well as an increase in the costs associated with working around transmission line structures." But then the next sentence concludes that the agriculture impacts would be minor overall because only a small share of total agricultural land in the Driftless region and in the states of WI and Iowa are affected.	Comment noted.
	Kritz, Gurak	SOCIO01; SOCIO06	Given the definitions and measures used, we think it is incorrect for the RUS to claim, as it does throughout its report, that the CHC HVTL will have minimal or only short-term negative impacts on all of the socioeconomic measures (population, employment, tourism, environment, and property values). The definitions used to draw these claims are very narrow, which makes it easy for the RUS to draw those conclusions. For instance, the RUS report concludes that the number of residences likely to be impacted by the CHC are small in all six areas. But the definition is very narrow, namely it only counts as impacted the # of residences located within 75 feet of the center of the CHC line and the number located within 150 feet of that line. Using that narrow definition, according to the RUS there would be no negative property impacts on our farm even though the CHC line makes an elbow turn on our land and runs across our land for an estimated 1.2 miles.	Additional studies related to potential transmission line impacts on property values have been reviewed and cited in EIS Section 3.12. The EIS has been revised to clarify that although most studies suggest that properties abutting the transmission line would be the most likely to experience potential property value impacts, there is potential for properties outside 150 feet of the ROW centerline to experience property value impacts as well.
	Kritz, Gurak	SOCIO06	Given that our land is in the Driftless region and has some of the highest hills in SW WI, the line would mainly be running across our hilltops and be highly visible not only to us but to neighbors for miles around. It is impossible to believe that potential buyers will be willing to offer us the same price for our land as they would now or in the future if the Northern route is selected. It is also hard to believe that we would be adequately compensated for the estimated agricultural loss that our farm would incur given the fact that the CHC line would cross most of our hilltop fields. If we and other landowners do not want to sell our land but keep it in for future generations to enjoy, a government agency cannot fully compensate us and our family for that loss. My wife's paternal great grandparents purchased farmland in Wyoming Township in 1864 and her paternal grandfather purchased our current farm in 1911. Her father was born and raised on our farm, as was my wife. Given these deep family roots in this part of SW WI, we do not want to sell our farm and we do not want to see this pristine farmland despoiled by unsightly HVTL towers. We want future generations to enjoy this landscape as Mary's family has done for over a hundred years. Money can never compensate us for the economic, social and psychological loss that would occur if the CHC line is situated on our land. Nor do we believe that it would be in the public interest to construct a HVTL that cuts across miles of the Driftless region's hills and valleys	Comment noted.
	Kritz, Gurak	ALT04	Some companies are exploring alternatives to unsightly HVTLs and we believe that the RUS and other government agencies should look at the feasibility of those alternatives (see Russell Gold, Wall Street Journal, "Extension Cord to Carry Green Power from Midwest to East," March, 2019).	The project referred to in this comment is the SOO Green Renewable Rail project. It is currently in the very early phases of planning; therefore, the feasibility and engineering are not available to inform alternatives for the proposed the C-HC Project.
	Kritz, Gurak	SOCIO03	We believe that the RUS minimizes the economic impacts of the CHC line and does not recognize how economic activity is changing in the Driftless region.	Potential impacts to visual quality and aesthetics are disclosed in EIS Section 3.11, and potential impacts to social and economic conditions, including tourism, are disclosed in EIS Section 3.12.

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	Kritz, Gurak	LAND02; SOCIO03	Because the Driftless hills and valleys are not ideal for today's agricultural technologies, which favor the flatter terrain that characterizes agriculture production in other parts of the rest of the Midwest (e.g. Iowa), farming in this region has shifted toward organic farming which requires labor-intensive inputs and, therefore, can be done on smaller landholdings. Organic farmers, in particular, will be negatively impacted by the proposed CHC line because voluminous amounts of herbicide will be required to keep the 150-foot corridors free of trees, brush, and noxious weeds. Although we were told at one of the RUS Scoping Sessions that landowners can request that herbicides not be used on their properties, if they are used on neighboring properties, land can still be impacted by herbicides because of the spread of pollen and groundwater seepage into underground reservoirs and springs.	EIS Section 3.10 has been revised to disclose potential impacts from herbicide drift to organic farms.
	Kritz, Gurak	DECI13	To sum up, we are disappointed that our tax dollars have helped support preparation of the RUS report, which shows a deep bias in support of the CHC line. As the RUS revises this report, we hope you will take our concerns into consideration. We would be happy to discuss our concerns with RUS staff.	Comment noted.
	Kritz, Gurak	LAND02; VEG04	1 In the hilly areas of the Driftless, most of the cropland is located at the tops of the hills because the slopes are too steep for farm equipment and the valleys too narrow and/or too prone to be wetlands for much of the year. Wetlands are expanding in the valleys because of increased rainfall in SW WI in recent years	Comment noted.
	Powell	SOCIO06	As partial owner of the 153-acre Powell Family Farmland, I'm contacting you with a continual concern about the Cardinal-Hickory Creek transmission project. This project is set to impact approximately seven acres of our land. We are concerned about the likely loss of value of our property and the sure loss of income generated from our property.	Comment noted. Potential impacts to social and economic conditions, including property values, are provided in EIS Section 3.12.
	Powell	HAS01	Not only will this project directly impact the value and potential development of our property, but it also seems unwise for the entire village and township of Dodgeville. The proposed plan brings high voltage lines in close proximity of already existing homes and schools endangering the community. Our family has been in the business of agriculture for many years, and we also have a long history of educators of future generations. The thought of high voltage lines even being considered in such close proximity to where children and community members regularly gather seems ignorant. We have researched proclamations that state there is no danger to a person's health when regularly exposed to high voltage power lines; however, there is equal research saying those claims are not conclusive. Putting children regularly at risk of potential harm seems irresponsible.	Comment noted. Potential impacts to socioeconomics are disclosed in EIS Section 3.12, and potential impacts to public health and safety are disclosed in EIS Section 3.13.
	Powell	ALT01	Apart from all of the concerns, my family does not understand why the proposed route for the transmission lines can't be routed around the city of Dodgeville and constructed along the County Road B (one of the alternative routes)? This road appears to be more feasible. My family and I urge you to consider an alternative route away from the Powell property, and far away from the schools in the Dodgeville community.	Comment noted.
	Powell	NEP01	Some of the above concerns may or may not have been addressed in prior comments, but I do not understand how/if the prior comments were addressed in the Draft EIS. How will my concerns be addressed in the Final Federal EIS?	All comments received during the DEIS public review period are individually addressed in this comment/response table. The responses note where revisions were made to the EIS to address the comments.
	Moffett	SOCIO06	Direct economic damage: As home/property owners within close proximity to the line (approximately 300 feet) and the massive structures required to accommodate the line, have been advised that our total property value could decrease 40 - 45% due to the presence of the pending 345Kv line. Source: Mr. Kurt C. Kielisch, President - Appraisal Group One, Ltd., May 1, 2018, Land Value Meeting, Western Dane Protection Committee, Mount Horeb WI. Our property is a major part of our financial planning for the future.	Comment noted. Potential impacts to social and economic conditions, including property values, are provided in EIS Section 3.12. RUS has reviewed the recommended citations of additional peer-reviewed articles presented through public comments and has incorporated this information into the EIS.
	Moffett	SOCIO06; VIS01	DEIS Section 3.11 defines a major visual impact as one where changes to the characteristic landscape would be considered significant when those changes dominate the landscape and detract from current user activity. Our home is within this distance of 300 feet from the ROW and will have a devastating major visual impact on the value of our property. This is unacceptable. How will this be addressed in the Final RUS DEIS?	Potential impacts to visual quality and aesthetics are disclosed in EIS Section 3.11. For residences within the 300-foot analysis area, the impact determination has been changed to "major" in the EIS. Photographs from the existing Badger-Coulee Transmission Line project from various distances have also been included in EIS Section 3.11 to illustrate this type of impact.
	Moffett	SOCIO06	We will be unable to secure a total property valuation that would reflect the economic value before this project was started. We have been told by ATC personnel that the payment for an easement on our property will compensate us for any loss in value of our property (We will only get compensation for the width and length of the easement, not the entire property). At this time, we will be unable to get an accurate property valuation of our total 20 acres that reflects the value in a normal market. We believe ATC will make easement offers to us based only on the decreased property value of the easement taken. Our entire property will suffer a decrease in value. This taking of our land for this 345 Kv power line will be a huge loss of our financial stability for the future. This property is our legacy. How will this direct economic damage concern be addressed in this Federal Final Environmental Impact Statement and how will we be compensated fairly for this unnecessary project?	Comment noted. Potential impacts to social and economic conditions, including property values, are provided in EIS Section 3.12.
	Moffett	SOCIO03	From DEIS Section 3.12.2.3.5, Property Values: Studies cited seem to have been conducted in urban and suburban landscapes, very different from the rural landscape of Southwest Wisconsin. The studies cited contradict a study cited in a Wall Street Journal article as well as the presentation given by Kurt Kielisch and the testimony of a landowner in Ridgeway (at the Iowa County Board Meeting) who has been trying to sell his property for over a year There are gaps here including: what the impact of the lines would be on rural property land values, the impact on organic farm values and artisan cheesemakers' businesses, and on landowners for whom their properties are their retirement fund.	Comment noted. Potential impacts to social and economic conditions, including property values, are provided in EIS Section 3.12. RUS has reviewed the recommended citations of additional peer-reviewed articles presented through public comments and has incorporated this information into the EIS.
	Moffett	LAND01	Destructive to local environment: The proposed line would irreparably harm our protected lands and scenic landscapes.	Comment noted. EIS Section 3.10 discloses potential impacts to recreation areas. Potential impacts to visual quality and aesthetics are disclosed in EIS Section 3.11.
	Moffett	LAND08	The proposed routes cross sensitive lands and waterways, including state and federal wildlife area.	EIS Section 3.10 and 3.14 discloses potential impacts to state and federal wildlife areas.
	Moffett	VIS01	The Driftless Area in the path of this project is acres of land that was not changed when the glaciers pushed down through Wisconsin. It is an example today, of what our great state looked like before that event took place. The presence of the extremely tall towers that hold the conductors and the fact that a 150 foot wide swath of trees will be clear-cut to accommodate this 345 Kv line will be irreversible. ·	Comment noted. Potential impacts to visual quality and aesthetics are disclosed in Section 3.11 of the EIS.
	Moffett	REC01; SOCIO03	The Driftless Area is visited by many interested families and tourists who visit just to see an unchanged scenic wonder. We oppose the proposed 345 Kv line as it will definitely destroy a national treasure. Local tourist businesses will also be damaged because the landscape will have changed and tourists no longer wish to visit. · Tourism accounts for \$20.6 billion of WI economy annually and supported almost 200,000 jobs in 2017. The Driftless area's tourism supports robust economy and must be considered in the EIS -- the towers would have a deleterious effect on the natural	The EIS discloses impacts to tourism in Section 3.12.

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			beauty of the area thus reducing the draw for recreation and tourism. How will this degradation of the natural beauty of the Driftless Area be addressed in this Federal Draft Environmental Impact Statement?	
	Moffett	VEG01; WLDF02	We are also impacted personally by this mandate to clear-cut trees that are within the scope of the project. Our property has numerous full grown trees that are within the proposed right-of-way. - Our old-growth pines that are healthy & beautiful along with catalpa, maple and mulberry trees will be removed. Many have been planted and nurtured by us. Plus, three spruces are memorial trees given by the family of a deceased friend. Each year we have a flock/murder of crows who use our tall pine trees as a nursery to raise their fledglings. These trees also are where we have developed the previously mentioned groomed walking trail that we use for exercise/therapy for Nancy's multiple sclerosis. -	Comment noted. Potential impacts to forested areas are disclosed in Sections 3.3 and 3.4 of the EIS.
	Moffett	VIS01	Section 3.11 defines a major visual impact as one where changes to the characteristic landscape would be considered significant when those changes dominate the landscape and detract from current user activity. A home located within 300 feet of the project will have a view that is dominated by it and the line will detract from the use of the home. How will this local environment damage concern be addressed in this Federal Draft Environmental Impact Statement and for the irresponsible taking of a natural part of our Wisconsin heritage? These areas must be surveyed by highly qualified field experts to make an unbiased appraisal.	Potential impacts to visual quality and aesthetics are disclosed in EIS Section 3.11. For residences within the 300-foot analysis area, the impact determination has been changed to "major" in the EIS. Photographs from the existing Badger-Coulee Transmission Line project from various distances have also been included in EIS Section 3.11 to illustrate this type of impact.
	Moffett	DECI13	I urge each decision maker to deny the application for the construction of the Cardinal- Hickory Creek Transmission Line Project at this time or any time in the future. This project is not in the best interest of the residents of the State of Wisconsin.	Comment noted.
	Moffett	HAS01	I am vehemently opposed to this line being built now or at any future time due to the following personal and environmental reasons: Personal harm to health: This line will be located approximately 300 feet from our home. We are concerned about higher levels of Electro Magnetic Field (EMF) that will be present if this proposed line is constructed. My wife Nancy has multiple sclerosis (MS) and the presence of EMF from the line will be very close to where we spend the most time outdoors: a 20-year-old vegetable garden area and groomed walking paths as part of Nancy's MS therapy that now fall well within this proposed R/W. These paths are in very close proximity of the center line of the proposed power line. The unknown or questionable effect of the EMF from the 345kv line is a major source of growing anxiety for both of us. We are very concerned about the potential elevated levels of EMF exacerbating her MS. Her neurologist stated EMF information is in its infancy with little studies or examples available but that it's probably not the healthiest of environments. When we discussed our concerns regarding EMF to an ATC Local Relations Consultant, we were told that "maybe the EMF will make her MS better." This is unbelievable that we were told this as if there were some basis that would support this statement. This project is forcing us to leave our home of 40 years as we prefer not to live within such conditions. How will this personal health concern be addressed in this Federal Final Environmental Impact Statement and the fact that we received no empathy whatever from ATC when we brought the topic up?	Comment noted. Section 3.13 of the EIS discloses potential impacts to public health and safety that could occur from wildfire, occupational safety, hazardous materials, and electric and magnetic fields.
	Moffett	NEP02	No Need for the additional transmission line power in Wisconsin: Local electric supply now exceeds demand. The driving force for this project is from MISO (Midcontinent Independent System Operator) and their investors who are promised 10.34% guaranteed profit for a period of 10 years for their investment in the project. We as Wisconsin rate payers will also be paying for this investment by billing through all of our electric utilities over a long period of time even though we will not receive any direct benefit from this particular project. There is no documented current need for this project at this time or in the future. With the recent advances in alternative sources of electric power, it will be a very short time before this unwanted & unneeded power line will be sitting idle. How will this concern of technology and the advance of alternative sources of power be addressed in this Federal Draft Environmental Impact Statement?	Comment noted. EIS Chapter 1 describes the need for the C-HC Project as well as the decisions facing the three Federal agencies that have received loan or permit applications for the C-HC Project.
	Moffett	ALT04	Conclusion: How will these concerns be addressed in the Federal Final EIS? Have there been any studies into future methods to provide the power needs such as local Fusion Unit technology? In just a few years, this proposed line may be rendered obsolete. We, the public will be stuck with an unused ugly power line. I urge the denial of the application for the construction of the Cardinal-Hickory Creek Transmission Line Project at this time or any time in the future	Comment noted. Non-transmission alternatives are not responsive to the applications to which the Federal agencies are responding, nor do they meet the six-point purpose and need described in EIS Chapter 1. Additional details and rationale for dismissing alternatives from detailed analysis in the EIS are provided in EIS Chapter 2, Section 2.2.
	Moffett	HAS01; NEP02	This project is not in the best interest of the residents of the State of Wisconsin. Thank you very much for the opportunity to provide comments on the scope of the federal environmental impact statement. We ask you to consider the issues of personal harm to health and the lack of need for this project. When you do, the environmental impact statement will more fully recognize the negative impact of the Cardinal-Hickory Creek project and its effect on local public concerns.	Comment noted.
	Moffett	REC01	As a concerned citizen, nature lover and rural property owner on the preferred route for the Cardinal Hickory Creek transmission lines, I strongly oppose the construction of this project. My two main concerns are: 1. Deeply carved river valleys, after having escaped glaciation, the Driftless Area is our state's most gorgeous area and among the wonders of the USA. The bluffs are topped with an abundance of old growth trees with a great variety of wildlife, native plants and natural beauty. This entire area beckons many, many tourists not only for its outstanding beauty but its businesses such as specialty farmers and the enjoyment of the American Players Theatre and Taliesin.	EIS Section 3.3 discloses potential impacts to vegetation and EIS Section 3.4 discloses potential impacts to wildlife. Potential impacts to social and economic conditions, including tourism, are provided in EIS Section 3.12.
	Moffett	REC01; SOCIO03; WAT01	Also, the Mississippi, Kickapoo and Wisconsin Rivers are vitally important to fishermen, canoeists and hikers. This whole area is a money-maker for the state of Wisconsin.	EIS Section 3.10 discloses the potential impacts to recreation and EIS Section 3.12 discloses the potential impacts to tourism.
	Moffett	SOCIO03	This whole area is a money-maker for the state of Wisconsin. Visible disruption and destruction of the pristine Driftless Area would certainly destroy its beauty and would most definitely keep tourists away. The Driftless Area is a gem. SW Wisconsin would never be the same if these power lines (160' tall at least) were erected as they will be in place for decades and decades and decades. We, all of us, must be caring guardians of our state's assets.	Potential impacts to visual quality and aesthetics are disclosed in EIS Section 3.11, and potential impacts to social and economic conditions, including tourism, are disclosed in EIS Section 3.12.
	Moffett	WLDF01	I am also concerned for the safety of many large migrating birds and the presence of this transmission line. Southwest Wisconsin is one of the natural flyways of Canadian Geese, Sandhill Cranes, wild ducks and other species. These birds follow the Mississippi River as landmarks to arrive into northern Wisconsin and Canada. These large migrating birds that have been following the same landmarks for their trip north and back south for centuries. They also fly at night and have no way to detect the power transmission wires. They have a large wingspan and cannot change direction quickly when encountering new obstacles in their path that are about 160 feet over the land. They will collide with the transmission wire, and will not survive the encounter. There will be thousands of these migrating birds flying through this area that will not survive. This unacceptable! 1. The US Fish and Wildlife Service (FWS) and the Avian Power Line Interaction Committee (APLIC) state from an academic paper that collisions with power lines and transmission towers kill hundreds of thousands to 175 million birds annually. Article: Utilities seek to save birds from power	Comment noted. EIS Sections 3.4 and 3.14 disclose potential impact to wildlife, including migratory birds. The C-HC Project would follow APLIC guidelines to minimize collision impacts, and electrocutions are not a high risk for this project due to the project design and conductor spacing greater than large avian wingspans.

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			lines (and vice versa), Kari Lyndersen, March 11, 2014, Midwest Energy News. Source; energynews.us · How will these two concerns regarding our Driftless Area and migrating birds be addressed in the final Federal EIS?	
	Moffett	HAS01	I fear the levels of the Electro Magnetic Field (EMF) because the "preferred route" of the transmission lines skirting Mount Horeb would be approximately 300 feet from our home with towers and wires located over our decades-old vegetable garden area and my walking path which has been very beneficial for therapy/exercise for my MS (multiple sclerosis) for nearly 20 years. Although my neurologist has stated EMF data is not readily available because it has not been studied or documented well enough yet, she said living near its power lines would not be the healthiest of environments. I cannot not live along side this intrusion.	Comment noted. Section 3.13 of the EIS discloses potential impacts to public health and safety that could occur from wildfire, occupational safety, hazardous materials, and electric and magnetic fields.
	Moffett	VIS01	Federal DEIS, Section 3.11 defines a major visual impact as one where changes to the characteristic landscape would be considered significant when those changes dominate the landscape and detract from current user activity. A home located within 300 feet of the project will have a view that is dominated by it and the line will detract from the use of the home.	Potential impacts to visual quality and aesthetics are disclosed in EIS Section 3.11. For residences within the 300-foot analysis area, the impact determination has been changed to "major" in the EIS. Photographs from the existing Badger-Coulee Transmission Line project from various distances have also been included in EIS Section 3.11 to illustrate this type of impact.
	Moffett	HAS01	Public Health and Safety: Major Impact Public Health and Safety: Construction of the C-HC Project would result in exposure to contaminated media by construction workers either through the disturbance of hazardous materials and/or chemical spills. Incidents associated with the installation of the transmission line and supporting infrastructure would likely result. Operation of the C-HC Project would increase exposure to EMF levels to a level high enough to adversely affect public health and safety. · How will this concern above regarding EMF be addressed in the final Federal EIS as our home is within 300 feet of the proposed transmission line ROW?	Comment noted. Section 3.13 of the EIS discloses potential impacts to public health and safety that could occur from wildfire, occupational safety, hazardous materials, and electric and magnetic fields.
	Moffett	DECI13	Conclusion: I urge each decision maker to deny the application for the construction of the Cardinal-Hickory Creek Transmission Line Project at this time or any time in the future. This project is not in the best interest of the residents of the state of Wisconsin... too costly, too destructive, too invasive, too harmful to the environment and its living creatures. Thank you for the opportunity to provide comments on the scope of the state's environmental impact statement. I ask you to please consider the issues of need and cost of this project.	Comment noted.
	Kettler	CUL01; REC03	I am opposed to this line for many reasons, but especially since it appears that the EIS has adequately considered the impacts of: 1) Our history, Military Ridge, The Military Ridge Trail users, or the cultural and religious significance of the Driftless Area to both its residents, of which I am one, as well to visitors who use the Driftless Area for vacation, recreation, and emotional refuge.	Comment noted.
	Kettler	WLDF01	2) The natural environment. -Bird and insect migration might be affected.	Comment noted. EIS Section 3.4 discloses potential impacts to wildlife.
	Kettler	VEG03	-Invasive species prevention and management has not been adequately considered. Invasive species will spread along line routes if construction and maintenance equipment are not sterilized daily.	Comment noted. EIS Section 3.3 discloses potential impacts from invasive species.
	Kettler	VEG01	-Herbicide usage and impacts on local ecology, organic farms, citizen health, and creation of "superweeds" that tolerate long-term repeated herbicide applications	Comment noted. There EIS includes the following environmental commitment in EIS Section 3.1 regarding herbicide applications: The Utilities will employ a Certified Pesticide Applicator for all herbicide applications within the C-HC Project. The Certified Pesticide Applicators will only use herbicides registered and labeled by the USEPA and will follow all herbicide product label requirements. Herbicides approved for use in wetland and aquatic environments will be used in accordance with label requirements, as conditions warrant.
	Kettler	HAS01; VEG01	-Pollinator impacts with regards to both herbicides and EMFs.	Comment noted. Potential impacts to wildlife are disclosed in EIS Section 3.4, and potential impacts to public health and safety are disclosed in EIS Section 3.13.
	Kettler	VIS01	3) The aesthetics and it's impact on our quality of life. These pylons are not just an eyesore, they would forever alter the landscape, the very reason that people choose to live, work and recreate here. The Driftless Area has long been valued for its topography and mixed use of recreational, agricultural and residential land use a delicate balance that must be preserved for future generations.	Comment noted. Potential impacts to visual quality and aesthetics are disclosed in EIS Section 3.11. EIS Section 3.10 discloses potential impacts to land uses, including agricultural and recreational uses. Potential impacts to social and economic conditions, including property values and tourism, are provided in EIS Section 3.12.
	Kettler	VIS01	4) Light pollution. Light pollution is already a problem with overly bright LEDs taking over the market. The light pollution from litup powerline pylons will only add to this problem, and is significant in affecting our lifestyles. They will ruin the night skyline for many miles in the distance, and distract from views of the stars. Many people live in the country to avoid such light pollution that's more typical of cities. These pylon lights will destroy our emotional connection to the area and our darksky views.	The transmission line structures would not have lighting unless required by Federal Aviation Administration (FAA) permit. At this time, the only location where lighting may be required would be in the Cassville, Wisconsin area, if the Mississippi River is crossed by the C-HC Project at the Stoneman Substation.
	Kettler	HAS01	5) EMFs. Electromagnetic fields have not been adequately studied or considered in this EIS. People get increased rates of cancer and leukemia near such powerlines. Insect larvae might develop improperly on nearby prairies and forests due to electromagnetic fields. Amphibian eggs could be negatively affected as is seen with allelopathy in Rhamnus and other external variables. Bird and butterfly migration could be affected. Monarchs could die from EMFs and stray radiation associated with such lines. Livestock, local residents, and commuters might be subjected to unsafe levels of radiation along the transmission lines.	Section 3.13 of the EIS discloses information about the impacts of electric and magnetic fields to humans and livestock and EIS Section 3.4 discloses information about the impacts of electric magnetic fields to honey bees.
	Kettler	SOCIO01	6) The Amish and other cultures and subcultures who don't believe in such projects have not been adequately considered. Many don't even know about the proposal yet or its impacts. Yet, one route runs directly through their communities.	Comment noted. The EIS has been revised to ensure that the potential impacts to the referenced community are included in the impacts analysis within the Socioeconomic section (EIS Section 3.12).
	Kettler	SOCIO03	7) Tourism would be negatively impacted, as would the local economy. Parks, recreation, prairie lovers, agrotourism, historical tourism (Pendarvis, etc), small-town economies, all would be negatively affected by such transmission lines. The EIS has not adequately considered this impact.	Potential impacts to visual quality and aesthetics are disclosed in EIS Section 3.11 and potential impacts to social and economic conditions, including tourism, are disclosed in EIS Section 3.12.
	Kettler	SOCIO06	8) Property values will plummet along proposed route, and decrease anywhere within a short distance of the lines.	Comment noted. Potential impacts to social and economic conditions, including property values, are provided in EIS Section 3.12.

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	Kettler	AIR03; ALT02	9) The impact on the environment of the sheer quantity of materials used to build the pylons, their cement footings, and the hundreds of miles of wire have not been considered in the USDA-EIS. Additionally, the energy consumption to get construction crews out to the sites every day for years of building and maintenance have not been factored into the net environmental impact of the proposal.	Section 3.6 of the EIS discusses air emissions associated with construction and operation of the C-HC Project.
	Kettler	NEP02	Not related to the EIS, but of equal importance, this project has been proven not to be necessary for power reliability. Energy consumption is decreasing, and the existing infrastructure has been shown to be both adequate for current usage, and capable of handling any future increased capacity with basic transmission-line upgrades. The burden of costs will be put on ratepayers. We should not have to pay for unnecessary transmission lines. For these reasons, I ask that you deny the loan to Dairyland Power Cooperative. If it is decided that the loan must be approved against all of our wills and against better scientific judgement, please only approve it if the entire line is buried from Middleton to Iowa.	Comment noted.
	Bradshaw	ALT02; LAND04	Upon receiving a more detailed map of the laydown yard today, I am very concerned about this laydown yard located on what is already a rented out quarry. I, Roger Bradshaw own the entrance to this quarry and I do not want heavy equipment using this quarry. In fact, I have considered not renting our this entrance beginning this year. This quarry is co-owned ground and seems to be convenient nuisance and free-for-all for anyone and everyone. I object to the use of this quarry for the use of the laydown yard. I use this quarry to be able to access pasture ground on the other side of the creek. There is no additional compensation for this use of the quarry entrance and my property. There also seems to be no alternative to this laydown yard even if alternative route 2 or 5 are approved and used. I do not approve at all for the use of my property to be used as a laydown yard.	ITC Midwest has been in contact with the landowner who owns the entrance of the quarry. To the extent the landowner is unwilling to grant voluntary access to the quarry, ITC will either seek to find alternate means of entering the quarry that will not impact the landowner, or ITC Midwest may use a different property already owned by the company to serve as the needed laydown yard.
	Bradshaw	NEP02	ITC wants to build a transmission line on our farm and it's not needed.	Comment noted.
	Bradshaw	LAND03; NOISE01	We have stock cattle and calves on pasture that will stampede from construction noise. >	Comment noted. EIS Section 3.7 has been revised to disclose potential noise impacts to livestock.
	Bradshaw	SOIL02; VEG01	We have a 20-year-old tree plantation for stream bank stabilization and filtering purposes as well as many older oak trees.	Comment noted.
	Bradshaw	SOIL02; WAT03	This bottom land is highly erodible and has a high CSR (Crop Suitability Rating). > Tree removal will cause poor water quality and excess flooding downstream. >	Comment noted. EIS Section 3.2 discloses potential impacts to soils, including soil erosion.
	Bradshaw	LAND02	This farm is a mile long and ITC intends to destroy everything in their path. > Future aerial and ag spraying would be restricted. >	Comment noted. EIS Chapter 3 includes the following environmental commitments related to herbicide use: The Utilities will employ a Certified Pesticide Applicator for all herbicide applications within the C-HC Project. The Certified Pesticide Applicators will only use herbicides registered and labeled by the USEPA and will follow all herbicide product label requirements. Herbicides approved for use in wetland and aquatic environments will be used in accordance with label requirements, as conditions warrant. During the easement negotiation, landowners can decline the use of herbicides for vegetation management activities once the line is in operation. Therefore, no herbicides would be applied within portions of the ROW on which the landowner wishes not to introduce it.
	Bradshaw	SOCIO06	The resale value of this farm and land would be greatly reduced. >	Comment noted. Potential impacts to social and economic conditions, including property values, are provided in EIS Section 3.12.
	Bradshaw	SOCIO08	This transmission line corridor is too expensive and the consumer will have to pay for i	Comment noted.
	Berg	ALT02; LAND04	My dad received a more detailed map of the laydown yard today, I am very concerned about this laydown yard located on what is already a rented out quarry. Myself, and my husband use some of this area for recreation. We do not want any want heavy equipment using this quarry. My father has also considered not renting out this entrance starting this year. This quarry has been a bone of contention for many years. It seems to be convenient nuisance for anyone and everyone. And I would fear that my dad would be liable if any accidents happen on his land. I object to the use of this quarry for the use of the laydown yard. There is no additional compensation for this use of the quarry entrance and my property. I also fear that some of the hickory trees that have taken years to grow will die off due to the heavy equipment usage. There also seems to be no alternative to this laydown yard even if alternative route 2 or 5 are approved and used. I do not approve at all for the use of this quarry property to be used as a laydown yard. I see this as only being another battle for many more years to come.	ITC Midwest has been in contact with the landowner who owns the entrance of the quarry. To the extent the landowner is unwilling to grant voluntary access to the quarry, ITC will either seek to find alternate means of entering the quarry that will not impact the landowner, or ITC Midwest may use a different property already owned by the company to serve as the needed laydown yard.
	Klopp	VEG01	Dear Rural Utility Service (RUS):, Please accept these comments and requests concerning the Draft Environmental Impact Statement (DEIS) for the Cardinal Hickory Creek transmission line proposal found here: http://bit.ly/CHCRUSDEISVol1 Sincerely, Chris Klopp 4283 County Road P Cross Plains, WI 53528 The following sections of the DEIS reference vegetation management practices and affects thereof, and/or ROW maintenance: 2.2.2.6, 2.4.3.5, 2.4.4, Table 3.14, 3.3.2.3.1, 3.3.2.3.2, 3.3.2.3.3, 3.3.2.3.4, 3.4.2.3, 3.5.3, 3.10.2.3.1, 3.10.2.3.5, 3.10.2.4.1, 3.13.2.3.4, 3.14.1.1.1, 3.14.2.3.2, 3.14.2.3.3 and 3.14.2.4.2. I request that the RUS add that the following industry standards be used for ROW vegetation management: a. American National Standards Institute (ANSI); ANSI A300 (Part 1) – 2008. American National Standard for Tree Care Operations – Tree, Shrub, and Other Woody Plant Management – Standard Practices (Pruning) b. American National Standards Institute (ANSI); ANSI A300 (Part 7) – 2012. American National Standard for Tree Care Operations Tree, Shrub and Other Woody Plant Management – Standard Practices (Integrated Vegetation Management a. Utility Rights of Way) c. American National Standards Institute (ANSI); ANSI Z133.1 – 2012. Arboricultural Operations Pruning, Repairing, Maintaining, And Removing Trees, And Cutting Brush Safety Requirements d. Institute of Electrical and Electronics Engineers (IEEE) Standard 5162003. Guide for Maintenance Methods on Energized Power Lines e. International Society of Arboriculture Best Management Practices: Utility Pruning of Trees (2004) f. International Society of Arboriculture Best Management Practices: Integrated Vegetation Management (2014) g. Midcontinent Independent System Operator (MISO); Conservative System Operations Procedure, RTOOP018r11 (2013) https://www.misoenergy.org/legal/businesspracticemanuals/ h. United States Department of Agriculture (USDA), Forest Service. Selected Laws Affecting Forest Service Activities. i. United States Department of Transportation, Federal Highway Administration Policy and Guidance Center j. Wisconsin Administrative Code, PSC 113.0510. Service Rules for Electrical Utilities, Tree trimming contacts http://docs.legis.wisconsin.gov/code/admin_code/psc/113/V/0510 k. Wisconsin Administrative Code, PSC 113.0511. Service Rules for Electrical Utilities, Oak tree cutting and pruning http://docs.legis.wisconsin.gov/code/admin_code/psc/113/V/0511 l. Wisconsin Council on Forestry (WCOF). Invasive Species Best Management Practices for Transportation and Utility RightsofWay	Comment noted. The Utilities follow appropriate state, federal, and industry standards for ROW vegetation management.

Organization	Commenter Last Name	Comment Code(s)	Comment on DEIS	Agency Response to Comment
			<p>https://councilonforestry.wi.gov/Pages/InvasiveSpecies/RightsOfWay.aspx m. Wisconsin Department of Natural Resources NR 40. Invasive Species Identification, Classification and Control https://dnr.wi.gov/topic/Invasives/classification.html n. Wisconsin Department of Natural Resources Oak Wilt: Guidelines for Reducing the Risk of Introduction and Spread. https://dnr.wi.gov/topic/ForestHealth/documents/OakWiltGuidelines.pdf o. Wisconsin Department of Transportation (DOT). Application/Permit to Construct, Operate and Maintain Utility Facilities on Highway RightofWay (DT1553) https://wisconsindot.gov/Pages/doingbus/ realestate/ permits/utilityhighway. aspx p. Wisconsin Department of Transportation (DOT). Application/Permit to Work on Highway RightofWay (DT1812) https://wisconsindot.gov/Pages/doingbus/ realestate/ permits/workonhwy. aspx q. Wisconsin Department of Transportation (DOT). Highway Maintenance Manual, Utility Accommodation Policy (HMM 091500) https://wisconsindot.gov/Pages/doingbus/ realestate/ permits/utilityuap. aspx AND I request that RUS provide information regarding who will perform the ROW vegetation management, specifically companies and personnel, ie "process participants" who: a) have been assigned to the Project, b) are currently assigned to the Project, or c) are likely to be assigned to the Project. Identify by name, and the contractors by firm all of the following: a. Vegetation ManagementATC Employees 1. Team Lead Vegetation Management (TVMSTL) 2. Transmission Vegetation Management Specialist (TVMS) 3. Transmission Line Maintenance Specialist (TLMS) b. Vegetation ManagementATC Contractors 1. Contract Utility Foresters 2. Vegetation Management Contractors c. ATC Real Estate Department d. ATC Legal Department e. ATC Local Relations Department f. ATC Environmental Department g. ATC Security Department</p>	
	Muller	DECI13; NEP02	The negative impact of the CHCreek transmission line project to the driftless area in Wisconsin is unfathomable. One hundred twentyfive miles of monstrous power lines through this uniquely unglaciated area are simply unnecessary. Throughout the history of this project and its many public meetings, I have yet to see or hear proof of its need. Citizens are being asked to pay millions of dollars and in return, lose the very environment they chose for their home. I live near Governor Dodge State Park, Wyoming Valley, and award winning organic farms. Federal Government grants and subsidies have supported the environmental sustainability of this area with projects to maintain natural habitat of our woods and streams. I do not understand why CHC would choose to ignore what has taken not only tax dollars but local pride and sweat equity to accomplish. The CHC project simply steals critical farm land, animal and plant habitat, air quality, aesthetic beauty, water quality, forestry, and wildlife thus negatively affecting tourism, businesses, citizens looking to relocate, and quality of life for locals. If these power lines are built, who is responsible for removing them as this form of energy is already becoming outdated?	EIS Chapter 1 describes the need for the C-HC Project as well as the decisions facing the three Federal agencies that have received loan or permit applications for the C-HC Project. EIS Section 3.3 discloses potential impacts to vegetation, Section 3.4 discloses potential impacts to wildlife, Section 3.10 discloses potential impacts to agricultural and recreation areas, and Section 3.12 discloses potential impacts to social and economic conditions, including tourism.
	Muller	ALT04	Avoid this double whammy by reducing carbon emissions with solar and/or wind energy and buried power lines. Lastly, the security advantages of smaller power grids makes perfect sense. The emotional toll of this project on driftless area citizens is evidenced at public meetings, letters to the editor, coffeehouses, and dinner conversations. The only citizens convinced of the need for CHC are those receiving financial benefit. Preserve the driftless area. Don't take it for granted.	Comment noted.
	Sailor	SOCIO03	To the USDA RUS: As you continue gathering data and recording public comments during your environmental impact statement phase of ATC's Cardinal Hickory Creek application, the elected officials representing constituents in the Driftless area of southwest Wisconsin are working continuously to block this unneeded and unwanted project. Though we have many urgent issues before us, none are as paramount as a transmission line that will forever compromise our strong communities by eroding our property tax base, deterring tourism, forcing businesses and farms to leave, raising local utility rates, and forcing unlucky residents to live in the shadows of towers that will stand long past their own time in our towns. My colleague and elected official Ryan Czyzewski (Trustee, Mount Horeb) has already written to you about tourism impacts. Another colleague, Rod Hise (Chamber of Commerce, Mount Horeb; Mount Horeb Area School District Board of Education) is submitting comments on behalf of the Town of Springdale based on its land use plan. I am the Mount Horeb Area School District Board of Education's treasurer, and have written to both the USDA and the PSC about the detrimental effects a high-voltage transmission line would have on student learning, as the CHC line would go through our school district property.	Comment noted. Potential impacts to social and economic conditions, including property values, are provided in EIS Section 3.12.
	Sailor	WAT02; WLDF01	Now, I'm writing to highlight the unique environmental properties of our Driftless region that may be unrecoverable if a high-voltage transmission line cuts through our area. First, consider what's underneath the areas you wish to drill into, including both known and unknown cave systems, and clean water reservoirs that we or future residents may need to tap as local wells are studied for safety. As these large towers age, we certainly don't want metal contaminants seeping underground. The ground-level impact would be the most severe, clear-cutting across valuable farm land, native plants, fresh streams, and animal habitats, including natural sinkholes that provide shelter, as well as ground nests and burrows. Losing these environmental assets would be harmful to the greater regional ecosystem.	EIS Section 3.2 discloses potential impacts to geology, Section 3.4 discloses potential impacts to wildlife, Section 3.5 discloses potential impacts to water resources, and Section 3.10 discloses potential impacts to farmlands.
	Sailor	VIS01; WLDF04	Visitors and residents in the Driftless region have long admired the views in our skies, too, for we have a healthy and growing population of bald eagles and cranes that both live here and migrate through our area. In addition to the towers deterring nesting, the methods in which the land around the transmission towers are maintained (often through the use of herbicides) can be fatal to these birds.	Comment noted.
	Sailor	DECI13	Thank you for working with us during this important time. We trust you'll make the right decision for current and future residents of southwest Wisconsin by weighing in on the side of the communities along the project's route that will suffer irreparable damage, and not the utilities that seek to profit from it.	Comment noted.
	Yaktus	DECI13	I very much respect your what you have done in the past and will do in the future, but at times, it must be acknowledged that a decision previously made was not correct and needs to be revised. I can think of many issues of NIMBY or even the smoking ban in Madison where we all thought the sky was falling and things would never be as good as they were. And in many cases, we were so wrong and can look back on it and shrug it off. I do not believe the CHC project is one of those. I do not need to rehash all of the reasons for not moving forward with the project.	Comment noted.
	Gauger	WLDF01; WLDF04	I am concerned about the wildlife that migrates and lives in the path of the proposed Cardinal Hickory Creek 365kV. Specifically I fear the Sandhill Cranes and Bald Eagle population might be disturbed by the transmission lines and the altered/chemically treated land beneath. I am concerned about the impact of the proposed transmission line on the Southwest Wisconsin Grassland and Stream Conservation Area, which is located immediately to the south of the proposed transmission line that runs through the town of Springdale. Our region has been recognized for many years as one of the best grassland conservation opportunities in the Upper Midwest. The area stands out for its distinctive combination of resources: exceptional populations of grassland birds, which are in serious decline across their range; many scattered remnants of original prairie and savanna that once covered the region; concentrations of rare plants and animals, and springfed streams, all set within this expansive rural farming region of open fields, croplands, oak groves, and pastures. These disappearing habitats, bird populations, and varied natural assets deserve protection and would be threatened by the proposed transmission line. What is the plan to protect the wildlife population, which is an important part of ecosystem? What is the plan to protect diverse species of native plants that form habitat for our wildlife?	Comment noted. EIS Section 3.4 discloses potential impacts to bald eagles and other migratory birds (including sandhill crane).

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	Alexander	LAND02	After reviewing EIS documents and attending public hearings in Wisconsin, I have a few concerns that need clarification or resolution. 3.10 In regards to Organic tillable lands being disturbed, it is listed as minimal acreage effected, yet the damage is listed as permanent. As a landowner, farmer and certified Organic, Cardinal Hickory Creek Project will cross certified organic tillable acres. What will be the reimbursement to landowners losing organic status? How will Federal EIS final statements justify poisoning organic land with pollutants?	EIS Section 3.10 discloses the potential impacts to organic farms.
	Alexander	WAT02	3.1 In regards to ground water disturbances and contamination. There is nothing listed. Please place more significance of drilling, blasting and cementing transmission posts into "non-glaciated" soils, containing limestone bedrock, riddled with caves, sinkholes and springs. What impact will this disturbance have on groundwater, contamination and disturbing springs? Drinking water in Southwestern Wisconsin is already a priority within Public Health Departments, State Senate and Representatives. It has been stated Southwestern Wisconsin has a "fragile aquifer" that cannot withstand more stress or human disturbances. Governor Evers addressed this in his state budget, to improve and regulate environmental impacts on drinking water. Does "Flint, Michigan" strike a message to anyone disturbing groundwater? Have project engineers considered "non-glaciated" soils as a foundation for poles of this height and depth? How will Final Federal EIS address impact to groundwater, springs and drinking water due to drilling, blasting and placing transmission poles in the Driftless Area?	Comment noted. Potential impacts to geology are disclosed in EIS Section 3.2, and potential impacts to water resources and quality, including groundwater, are disclosed in EIS Section 3.5. Revisions were made to EIS Sections 3.2 and 3.5 to address concerns about potential impacts to groundwater. It should be noted that based on preliminary geotechnical information, at this time, the Utilities do not anticipate the need to blast. However, if unanticipated geotechnical conditions are discovered, blasting may be the best method for excavation.
	Alexander	HAS01	3.4 Within the Federal EIS report, page 389, there is a statement by the World Health Organization stating there is no harm to natural species when electricity is transmitted. Interestingly, research by National Center for Biotechnology shows honey bees abscond from their hives when exposed to electrical transmission lines. Shepherd et al (2018) state exposure to electrical transmission lines impacts honey bees' ability to communicate with each other, disturb cognitive abilities to the point honey bees are unable to find their hives. This research shows electrical transmission lines impact one natural species of the Driftless Area. As a landowner hosting honey bees for pollination and production of honey, Cardinal Hickory Project will harm pollinators, thus production of any crop grown in the vicinity of our hives. If a landowner can produce research showing "harm" to one natural species in the Driftless Area, will that prove WHO statement is misleading and possibly false? How will Federal EIS final report clarify "no harm" to species when alternative research proves otherwise? How will Final Federal EIS statement adequately address the "harm" brought to natural Driftless Area ecosystems?	EIS Section 3.4 has been revised to include potential impacts to pollinator species.
	Alexander	NEP02	2.2.2.3 Dairyland Power is a partner in the Cardinal Hickory Project. Dairyland Power is asking for a Federal Loan of 9% to assist with financially supporting this project. As a landowner and ratepayer to the Southwestern Wisconsin Electrical Utilities, best known as Dairyland Power, Southwestern Wisconsin usage rates have remained steady or declining. It is apparent this project will not be providing an increase supply of electricity to ratepayers. It is a project that does not serve local residents or ratepayers. Please do not agree to finance Dairyland Power for this project. How will Federal EIS justify the benefit of CHP to ratepayers? How will the final Federal EIS address this lack of demonstrated need?	Comment noted. The EIS is not required to consider alternatives in the same manner as the PSCW or IUB. This comment about demonstrating the benefit to ratepayers refers to Wisconsin requirements. EIS Chapter 1 describes the need for the C-HC Project as well as the decisions facing the three Federal agencies that have received loan or permit applications for the C-HC Project.
	Alexander	VIS01	3.12 Federal EIS page 393, Figure 3.11-18 depicts comparison of transmission lines before and after. This is a marketing stunt. The second picture, "after" placement of transmission lines shows an established tall grass prairie. The timeframe of establishing tall grass prairie in that area is approximately 20 to 50 years. Fire would be necessary to establish this prairie. After the California Fires of 2018 and 2019, will fire be used as a management tool for the final product of established tall grass prairie? How will Federal EIS establish protocol for the use of fire in or around Cardinal Hickory Project transmission lines?	Potential impacts from wildfire are disclosed in EIS Section 3.13. Fire would not be a management tool used to manage vegetation with the transmission line ROW.
	Kellesvig	NEP02	The mission of the USDA ensures the health of the land through sustainable management. It's agency works to prevent damage to natural resources and the environment, restore the resource base and promote good land management. I was born over 74 years ago and I was raised on the farm. This farm has been in my family for 100 years in 2020. T Woof our sons also live on this farm. The ATC want to come down along the farm driveway and cut diagonally across the field. With all of this being on the crop land. We very much need all of our land for raising crops. This is our fam income for the year which we need for paying our bills. I object to this line coming through here, as it is not needed in our area. I understand we are just a go through so another state or states will get the benefit. They should build this line where it is needed! We live in the most beautiful state and we don't need these ugly lines destroying our Driftless Area.	Comment noted.
	Kellesvig	SOCIO06	Before I retired I worked for Lands Ends and talked to many people, who told me this was a beautiful state. We even had people come down our driveway to tell us we had a beautiful farm. If these lines are permitted to come through, without our permission we have been told our property value would go down at least 50%! Nobody should be expected to take such a drastic loss!	Comment noted. Potential impacts to social and economic conditions, including property values, are provided in EIS Section 3.12.
	Kellesvig	HAS01	There are also cattle on this farm. We know of many farmers who lost their cattle with stray voltage. The ATC lines would be a lot more powerful than what was around these farmers.	EIS Section 3.13 has been revised to include a discussion about stray voltage.
	Kellesvig	REC01	The Military Ridge Bike Trail also passes through our farm, but that isn't a huge eyesore. The ATC lines would have to go over a rugged terrain. There is a quarry, bike trail, creek and a steep hill. If there were power lines there would not be any access to them	EIS Section 3.10 discloses potential impacts to recreation areas.
	Kellesvig	NEP02	This ATC line will be a huge problem. It is not acceptable for us to endure all this hardship! The mission of the USDA ensures the health of the heath through sustainable management. It's agency works to prevent damage to natural resources and the environment, restore the resource base and promote good land management. This is not rural electrical for Southwest Wisconsin. This is public money loaned to send power from Middleton Wisconsin to Dubuque, Iowa. Deny this loan! This line is not needed!	EIS Chapter 1 describes the need for the C-HC Project as well as the decisions facing the three Federal agencies that have received loan or permit applications for the C-HC Project.
	Weiskircher	NEP02	1. There is NO NEED for this transmission line!	Comment noted.
	Mittelstadt	VEG01	Hi folks. I'm Mark Mittelstadt. I've been a forester in this southwest part of Wisconsin. I've been here for about 40 years. I've been up and down the hills a few times and seen a few things. I lean on the side of forestry which is more ecologic, the wildlife, the critters and plants, not just trees, and I've found quite a few locations of rare plants, rare animals, and rare habitats like savannas, pine relicts, which are not in the records. Some of these have not been discovered before, some have been discovered by somebody that doesn't want their land noted in the record because they are afraid somebody might come on the land and take things and trespass. My concern about the Draft EIS is that it doesn't seem to have included any kind of inspection of the land, the rocks, proposed to find out what's actually out there. It seems to just take that which is in the records already and say, okay, well, we will pick that spot and that spot and that spot, but nobody to my knowledge has been out there to see what's there during the right time of the year so we can find out what's really out there, what their line is really going to run over and destroy, and with the spraying that you will be maintaining it, it is going to keep it destroyed.	EIS Sections 3.3 and 3.4 address impacts to special habitats (e.g., pine relicts) and rare plant and animal species. Additionally, analyses were based on various datasets and at varying levels of resolution and detail that are sufficient to disclose the potential impacts of the C-HC Project to these resources.

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	Mittelstadt	EFF01; WLDLF01	About two years ago in this very building I sat down with a few other people and a couple RUS people, including Dennis, and we talked about this concern. He asked if we, including me, have contacts with people who are experts in these fields who can go out and do these surveys, and I said yes, we certainly do. I haven't heard back from RUS on this. And from what I've seen on the Draft EIS apparently these surveys on the land have not been done. I think that's a great shortcoming in the Draft EIS and I believe needs to be corrected in the Final EIS. Correcting that would have to include inventory during the growing seasons and the bird nesting seasons at the right times. You can't go out and look for -- well, I saw our first robin. I was going to say you can't find robins this time of the year, but I'm slightly wrong. But you can't look for rare plants in the middle of winter, you can't look for a plant that comes in up in the spring and dies off in the year, if you're looking in September. We have to have people on the land to know what they are looking for and listening for bird inventories probably in June, for rare plants and animals in communities in early summer, maybe June or so, and again in late summer, let's say August. I don't think any of this has been done and I'm pretty darn sure it hasn't been done in different times of the year as is necessary for inventories.	Field surveys were conducted for portions of the proposed project area with access permission. For those areas where access was not provided, the most recent datasets were used to characterize existing resource conditions.
	Mittelstadt	EFF01; VEG01	Among other things, I happen to take care of the prairie here. A really nice, high quality, prairie with probably 20 rare species. That just sort of showed up as people started looking around the golf course and noticed some funny plants out there. There are many, many examples like that around this Driftless Area. We have dry rocky sand, we have wet spots and wetlands. We have a lot of diversity here. It's probably the most diverse areas in the Upper Midwest, or one of the two most diverse. If we were to have a golf course that just sort of went over that prairie out there and flattened, oh, seven, eight, nine acres, we would be losing all the species -- the rare species around this property. If we do have the power line across many properties we will run over things that we don't know and we don't understand and we are not aware are there until -- well, if we destroy them it will be forever. The Draft EIS really needs to go back to the field inventory for a season, find out what's actually out there, and incorporate all of that in the Final EIS. Just a quick suggestion for the commenters. I think I understand the process right here that our comments are more effective if we are saying here's what's not in the Draft EIS or I didn't see it there, or it at least be developed and explored more thoroughly. If comments are just, you know, I really like this or don't like that and I believe in ecology and so forth, but it's not a comment on the Draft EIS, I think I'm correct in saying they can't really do as much with those comments. I believe -- and anybody correct me if I'm wrong -- that it's more effective in our comments tonight or our comments being turned in in writing if we say, okay, here's what's not in the Draft EIS, here's what should be in the Draft EIS. Thank you. Thanks for coming tonight.	Field surveys were conducted for portions of the proposed project area with access permission. For those areas where access was not provided, the most recent datasets were used to characterize existing resource conditions.
	Beckett	SOCIO03	potential, adverse economic impacts resulting from loss of tourism, retirement housing, and business revenue in the area" from the high voltage option of the Cardinal-Hickory Creek (CHC) proposal.	Potential impacts to visual quality and aesthetics are disclosed in EIS Section 3.11, and potential impacts to social and economic conditions, including tourism, are disclosed in EIS Section 3.12.
	Beckett	NEP02	Wisconsin's own energy estimates indicate energy use is flat or barely rising in the next 10 years. How does the DEIS justify the need for this transmission line?	Comment noted. EIS Chapter 1 discusses the purpose and need for the proposed C-HC Project.
	Beckett	ALT02	Fall 2018, the US government published a report from 13 governmental agencies that declared CO2 output is rising precipitously and we MUST work to reverse this. Wisconsin used more coal-fired energy in 2017 than ever before. This transmission line will provide mostly nonrenewable energy from coal-fired plants and oil energy.	The C-HC Project would serve both renewable and non-renewable electricity generators.
	Akins	SOCIO03	"adverse economic impacts resulting from loss of tourism, retirement housing, and business revenue in the area" as a result of the high voltage option of the Cardinal-Hickory Creek (CHC) proposal.	Potential impacts to visual quality and aesthetics are disclosed in EIS Section 3.11, and potential impacts to social and economic conditions, including tourism, are disclosed in EIS Section 3.12.
	Akins	ALT02	I join with several hundreds of other people in concern that adding a high capacity, open access transmission line encourages nuclear, coal, and natural gas generation	Comment noted.
	Akins	SOCIO01	I strongly believe that to neglect to do the above requested studies, could cause terrible harm for our state's electric customers, environment, and directly effected communities.	Comment noted.
	Baum	HAS01	Look at CO2 on top of impact on human health of not being able to do citizen science, restful contemplation and connection to undisturbed nature. More and more studies show this is important to reduce stress on lives today.	Comment noted.
	Baum	NEP02	nd quantitatively analyze whether, in fact, there is a need for the project take into account the "decline in electricity demand in the Madison area." RRUS/PSCW Request: Please conduct independent, quantitative analysis concerning whether CHC is a needed to supply an adequate supply of power and include the analysis and opinion and in your Final EIS.	The C-HC Project has been independently modeled and verified by multiple entities, including MISO, which used a planning process approved by FERC. The Utilities have modeled and evaluated the C-HC Project, and the state regulatory agencies (PSCW and IUB) are currently evaluating the project. RUS and the other Federal agencies are considering all information, in addition to public comments, when analyzing the C-HC Project to comply with NEPA. This is explained in EIS Chapter 1. The Federal agencies must consider reasonable alternatives when considering their Federal decision. The Federal EIS considers alternatives that are ripe for Federal consideration. What that means is that a proposal has been made for those alternatives or that it is reasonably foreseeable that they could be implemented in a time frame that would meet the need for the Federal action. Requirements for alternatives consideration under Wisconsin Statute 196.491(d) are very specific and separate from NEPA. Per their jurisdictional responsibilities, the PSCW is considering if and how the range of alternatives meets those requirements (see Section 1.2.2.1 of PSCW [2019]). The impact analysis contained within the EIS has been independently verified by RUS and the other Federal agencies.
	Baum	ALT04	The draft EIS's do not yet show study and development of an independent evaluation of a Non-Transmission Alternative (NTA) under NEPA/WEPA obligation to give decision makers, residents and electric customers the opportunity to consider all alternatives presenting lesser environmental impact.	Comment noted. The EIS is not required to consider alternatives in the same manner as the PSCW or IUB. This comment refers to Wisconsin requirements.

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	Dolen	OOS02	This absolutely sucks! How greedy do you criminal hickory crack parasites need to be? Why are you poisoning my home and workplace? My government is nothing but a bunch of crooked money grubbing cocksuckers! This stinks to the high heavens! The saddest part is that you assholes will win because my government has already been sold to the highest bidder!	Comment noted.
	Wheat	ALT04	RUS also elected to not acquire the necessary, factual reliability information from transmission builders, the Low Voltage Transmission Alternative (LVA). Request: In the Final EIS, provide a detailed, quantitative description of at least one, fully developed NTA blending necessary amounts of targeted energy efficiency, load management and distributed solar resources at specified location to match the reliability performance of the LVA.	Non-transmission alternatives are dismissed from detailed analysis in the EIS, with rationale provided in EIS Section 2.2.
	Wheat	ALT04	In contrast a Non-Transmission Alternative investment in energy efficiency, load management and distributed solar guarantees CO2 reductions and significant energy savings with minimal, negative environmental impacts. Request: In the Final Environmental Impact Statement, compare the 40-year, CO2 impacts from the three alternatives: CHC, the Low-Voltage Alternative, and the Non-Transmission Alternative under modest, zero and negative growth in energy use. In estimating CO2 performance for the Non-Transmission Alternative, use a combination of targeted energy efficiency, load management, and distributed solar resources	EIS Chapter 4, Section 4.4 has been revised to estimate the CO2 emissions that could occur from generation sources that would benefit from the C-HC Project. This analysis compares two scenarios: 100% coal-generation sources benefitting from the C-HC Project and 100% wind-generation sources benefitting from the C-HC Project. This analysis provides a range of CO2 emissions from possible generation sources. Non-transmission and low-voltage alternatives are not analyzed for cumulative impacts because these alternatives are not carried forward for detailed analysis in the EIS.
	Wheat	WAT01; WLDLF01	In addition to the above, I strongly believe that we need more information about the actual impacts, with supporting data, of this CHC proposal on the following, and with this statement I am officially asking for it: Environmental and Economic issues: Critical Habitats and waterways	Comment noted. The EIS addresses potential impacts to a range of resources known to occur in the project area, including critical habitats (see EIS Section 3.4), water resources (see EIS Section 3.5), and socioeconomics (see EIS Section 3.12).
	Wheat	LAND02; SOCIO03	Rural property, organic farms and artisan businesses critical to our economy	Comment noted.
	Wheat	SOCIO05	rare natural ecosystems that are characteristic of the driftless area	Comment noted.
	Wheat	WLDLF03; WLDLF04	concern with habitat degradation and fragmentation for species with special status	Comment noted. Potential impacts to wildlife species, including habitat fragmentation, are disclosed in EIS Section 3.4.
	Wheat	REC01	tourism and recreation such as trout fishing, hunting, bird watching, etc.	EIS Section 3.10 discloses the potential impacts to recreation and EIS Section 3.12 discloses the potential impacts to tourism.
	Wheat	VIS01	visual impact of the lines on homes, community properties, and natural area need for more accurate visual representation of the lines concerns about maintaining correct practices on conserved lands	Comment noted.
	Wheat	NEP02	Energy Issues: The applicants should provide Proof that this line is needed by the citizens of WI (and the other affected states)	Comment noted.
	Wheat	AIR01; EFF01	There is a need for a comparison of CO2 levels with and without the transmission lines	Comment noted. EIS Chapter 4, Section 4.4 has been revised to estimate the carbon dioxide (CO2) emissions that could occur from generation sources that would benefit from the C-HC Project. This analysis compares two scenarios: 100% coal-generation sources benefitting from the C-HC Project and 100% wind-generation sources benefitting from the C-HC Project. This analysis provides a range of CO2 emissions from possible generation sources.
	Wheat	ALT04; SOCIO01	There is a need for a comparison of savings from building Cardinal Hickory Creek lines vs non-transmission alternatives.	As discussed in EIS Chapter 2, Section 2.2.2, non-transmission alternatives are not responsive to the applications to which the Federal agencies are responding, nor do they meet the six-point purpose and need described in EIS Chapter 1.
	Wheat	ALT04	More explanation is needed about reliability issues Non-transmission alternatives need to be more fully explored and examined.	EIS Section 3.13 has been revised to include a discussion about severe weather and security breaches. Non-transmission alternatives are dismissed from detailed analysis in the EIS, with rationale provided in EIS Section 2.2.
	Sandner	NEP02	Wisconsin's own energy estimates indicate energy use is flat or barely rising in the next 10 years. How does the DEIS justify the need for this transmission line?	Comment noted.
	Sandner	AIR01	Fall 2018, the US government published a report from 13 governmental agencies that declared CO2 output is rising precipitously and we MUST work to reverse this. Wisconsin used more coal-fired energy in 2017 than ever before. This transmission line will provide mostly nonrenewable energy from coal-fired plants and oil energy	Comment noted.
	Potter	NEP02; SOCIO06	Like most of the community in the surrounding area and along the pathway, I am in deep opposition to this line. The reasons have been already outlined, and I support all of them, from reduced property values to the unnecessary nature of it.	Comment noted.
	Potter	OOS02	I want to ask how the human beings that are wanting to build this line can feel good about continuing this process when knowing how strongly opposed so many individuals, groups, and organizations are to this? How do you feel good about the destruction, hardship and turmoil you will create?	Comment noted.
	Sandner	HAS01; LAND04	Now our kids will be going to school under an unnecessary 345kV power lines. That's 7 hours a day for 6 years in this electromagnetic field. School boards in Barneveld, Mount Horeb, and Dodgeville have passed resolutions opposing the Cardinal Hickory Creek power line. The studies cited here raise serious doubts about the safety of exposing developing brains to these kinds of power lines. We should not risk the health of our children for this superfluous power line the main purpose of which is not to move power but to move money from all our pockets to ATC pockets. The Barneveld School Board opposition resolution is on the Wisconsin PSD docket Electronic Records Filing System as 341023, Dodgeville's is 358319. I can't find the Mount Horeb Area School District's Board of Education opposition resolution on the docket.. I'd like to know how you will deal with this concern in the final EIS? Citations: Draper, G. et al, "Childhood Cancer in Relation to Distance from Power lines in England and Wales: A case-control study" British Medical Journal, Vol. 330, 2005 Feychting, M. et al, Magnetic Field and Childhood Cancer - A pooled analysis of two Scandinavian studies" European Journal of Cancer, Vol. 31, Issue 12, Nov. 1995. Kabuto, M. et al, "Childhood Leukemia and Magnetic Fields in Japan: a case-control study of childhood leukemia and residential power-frequency magnetic fields in Japan", International Journal of Cancer, Vol. 119, Issue 3, 2006. Kheifets, L. et al, "Pooled Analysis of Recent Studies on Magnetic Fields and Childhood Leukemia", British Journal	Potential impacts to human health from EMF are discussed in EIS Section 3.13 of the EIS. A discussion of studies of potential impacts on rates of childhood leukemia has been added to Section 3.13.1.1 of the EIS. The number of schools within 300 feet of the proposed transmission line has been updated in Section 3.13.2 of the EIS.

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			of Cancer, Vol. 103, 28 September 2010. Olsen, J. H. et al, "Residence Near High Voltage Facilities and Risk of Cancer in Children", British Medical Journal, Vol. 307, 1993. Savitz, David et al, "Case Control Study of Childhood Cancer and Exposure to 60 - HZ Magnetic Fields", Amer. Journal of Epidemiology, Vol. 128, Issue 1, July 1988. Tomenius, L., "50 - HZ Electromagnetic Environment and the Incidence of Childhood Tumors in Stockholm County" Bioelectromagnetics, Vol. 7, 1986. Wertheimer, H. et al, "Electrical Wire Configurations and Childhood Cancer" American Journal of Epidemiology, Vol. 109, 1979.	
	Gilman	SOCIO08	The line is unnecessary in terms of our energy needs. And it represents a government-funded project for private profit. As a Wisconsin taxpayer, I do not want my tax dollars enriching a privately held company (ATC) and its shareholders.	Comment noted.
	Gilman	SOCIO07	CHC will also endanger or destroy a beautiful and fragile ecosystem. I know and love the driftless region. It is why I moved to Wisconsin and bought a home here.	Comment noted.
	Gilman	DECI13	If this project were necessary in any way or enriched our community in any way, I might feel differently. But this is an unwarranted, unnecessary destruction of our environment and I vehemently oppose it.	Comment noted.
	Akins	INFO04	I am trying to find how to send my Public Comment letter to the Federal DEIS. I have been unable to locate where to do this online. Can you please provide me a link where this can be done? Thank you for your assistance.	Thank you for your comment. Your comment letter was received by RUS on March 8, 2019.
	Rohe	SOCIO01	Comment 1: Please add my name to the 252 citizens voicing concerns about, "...potential, adverse economic impacts resulting from loss of tourism, retirement housing, and business revenue in the area." Discussion in DEIS sections 3.12.1.4, 3.12.1.5, 3.12.2.1, 3.12.1.6 3.12.2.3.4 and 3.12.2.3.5 describes assessment tools, estimated values of unoccupied land types, tourism dollars and other assets. These findings, along with other data, need to be further analyzed to give decision makers understandings of potential monetary consequences under all three energy action choices before the Wisconsin PSC: the High Voltage Transmission option (C-CH), the low Voltage Transmission Alternative (LVA) and the Non-Transmission Alternative (NTA).	The socioeconomic analysis in EIS Section 3.12 has been revised to clarify potential impacts on property values and other economic impacts.
	Rohe	SOCIO03	Add values from all improvements to land (buildings, roads, natural habitat development) and provide an estimate the 40 year, total economic impacts (in dollars) from loss in property values, loss of tourism revenue, loss in potential housing and business development and losses from decline in population for the three (C-CH, LVA and NTA) energy options. Use RUS's minor, moderate and major impact scenarios to produce a range in these estimates. Compare the resulting range of monetary impacts to the amounts of the municipalities' designated environmental impact fees from the PSCW docket.	Comment noted. Section 3.12 of the EIS analyzes the potential socioeconomic impacts from the six action alternatives and the No Action Alternative to tourism, property value, housing, and other demographic topics. Quantifying the monetary impacts in the manner suggested is not required by NEPA regulations. As stated in NEPA regulations 40 CFR 1502.23, "For purposes of complying with the Act, the weighing of the merits and drawbacks of the various alternatives need not be displayed in a monetary cost-benefit analysis and should not be when there are important qualitative considerations."
	Rohe	NEP02	Comment/Request 2: Please add my name to the 481 persons asking the DEIS/FEIS to independently, quantitatively and scientifically analyze need incorporating the "decline in electricity demand in the Madison area" in relation to "need for the proposed C-HC Project." As the DEIS does not address the decline in demand in the Madison area, I request this independent, quantitative analysis be included in the Final EIS. - - - - -	Comment noted.
	Rohe	ALT04	Comment 3: I am concerned that the DEIS does not analyze CO2 emission impacts for use of the transmission or non transmission alternatives. I join other citizens in concern that the 'open access' transmission line enlargements would equally encourage nuclear, coal and natural gas generation. As Wisconsin utilities are able to produce more power than we can consume and state utilities have met their 10% Renewable Portfolio Standard, I am concerned by the lack of hard evidence of policies or economic drivers in the DEIS to support actual environmental benefits for the two transmission alternatives. Through direct investment in energy efficiency, load management and distributed solar, I note that the non-transmission alternative would guarantee development of CO2 offsetting reductions and renewable energy with minimal environmental impacts.	EIS Chapter 4, Section 4.4 has been revised to estimate the CO ₂ emissions that could occur from generation sources that would benefit from the C-HC Project. This analysis compares two scenarios: 100% coal-generation sources benefitting from the C-HC Project and 100% wind-generation sources benefitting from the C-HC Project. This analysis provides a range of CO ₂ emissions from possible generation sources. Non-transmission and low-voltage alternatives are not analyzed for cumulative impacts because these alternatives are not carried forward for detailed analysis in the EIS.
	Rohe	ALT04	Request 3: In the final EIS, using only verified evidence of likely generation sources, produce estimates and compare the 40 year, CO2 impacts from High Voltage Transmission option (C-CH), the Low Voltage Transmission Alternative (LVA) and the Non-Transmission Alternative (NTA) under modest, zero and negative load growth. In estimating CO2 performance for the Non-Transmission Alternative, target a combination of energy efficiency, load management and distributed solar resources to eliminate or delay potential reliability concerns in the same, Wisconsin-based low voltage transmission facilities assumed to be avoided by the High Voltage Transmission option.	EIS Chapter 4, Section 4.4 has been revised to estimate the CO ₂ emissions that could occur from generation sources that would benefit from the C-HC Project. This analysis compares two scenarios: 100% coal-generation sources benefitting from the C-HC Project and 100% wind-generation sources benefitting from the C-HC Project. This analysis provides a range of CO ₂ emissions from possible generation sources. Non-transmission and low-voltage alternatives are not analyzed for cumulative impacts because these alternatives are not carried forward for detailed analysis in the EIS.
	Rohe	ALT04	Comment 4: Please add my name to the list of 240 prior comments asking DEIS/EIS, to "consider other alternatives to the proposed C-HC Project transmission line," specifying "Non-Transmission Alternatives (NTA) reviewed for this DEIS include local renewable electricity generation (i.e., solar), energy storage, energy efficiency, and demand response." In the DEIS, RUS incorrectly assumes that NTA resources should be compared to the 1300 MW transfer capacity of the high voltage transmission option rather than comparison of economic benefits from energy savings and avoided reliability improvements. The DEIS does not yet independently define a Low Voltage Transmission Alternative (LVA) specifying transmission reliability projects in Wisconsin over 40 years under modest, flat and zero load growth. RUS has not yet provided the requested Non-Transmission Alternatives (NTA) to eliminate or significantly these potential reliability improvements by targeting a combination of energy efficiency, load management and distributed solar resources. Request 4: In the Final EIS, please provide a detailed, quantitative description of at least one, fully developed, Low Voltage Transmission Alternative (LVA) with estimated costs for each component. Also provide a detailed, quantitative description of at least one, fully developed, Non Transmission Alternative based on targeted, combined, uses of energy efficiency, load management and distributed solar resources to eliminate or delay the potential reliability improvements specified by the Low Voltage Transmission Alternative (LVA) along with estimated costs for each NTA component at each targeted location.	As discussed in EIS Chapter 2, Section 2.2.2, non-transmission and low-voltage alternatives are not responsive to the applications to which the Federal agencies are responding, nor do they meet the six-point purpose and need described in EIS Chapter 1.
	Batha	NEP02	I have read many articles regarding the need for the CH-C line to run through Southwest Wisconsin. In each case, there are statements from CH-C regarding reliability and need, but in no case is there ever any data given which proves the need. We need to know WHY this project is necessary. We need facts and figures which show there will be a higher need for energy in the near future. Both Alliant Energy and Madison Gas and Electric have indicated publicly that their energy demand is flat or declining. And, although SOUL of Wisconsin has asked CH-C for the proof of impact on local electric bills, they have been refused the data.	Comment noted. EIS Chapter 1 describes the need for the C-HC Project as well as the decisions facing the three Federal agencies that have received loan or permit applications for the C-HC Project.

Organization	Commenter Last Name	Comment Code(s)	Comment on DEIS	Agency Response to Comment
	Batha	SOCIO03	People's lives and homes will be disrupted if this project is allowed to continue. Already people are experiencing "condemnation blight" in the corridors proposed for the line.	Comment noted. Potential impacts to social and economic conditions, including property values, are provided in EIS Section 3.12.
	Batha	NEP02	Wisconsinites are aware of, and capable of, reducing their energy consumption. And, the US Department of Energy has provided data that proves the impact of such capability on local usage. The proposed line is out-of-date technology, it will result in higher energy costs for the citizens of Wisconsin with the addition of decimation of the local environment and people's lives with no proof of fulfilling a "greater good."	Comment noted.
	Batha	WLDF01	The fact that it will also go through a Federal Wildlife Refuge should be the final straw in refusing to allow this project to proceed.	Comment noted.
	Myers	HAS01	I am opposed to The Cardinal-Hickory Creek Transmission Line Project. High - voltage power lines may have negative health effects, such as causing an increased risk of cancer and leukemia.	Comment noted. Section 3.13 of the EIS discloses potential impacts to public health and safety that could occur from wildfire, occupational safety, hazardous materials, and electric and magnetic fields.
	Myers	SOCIO06	They are also very obtrusive to the landscape and decrease property values, making homes and land difficult to sell.	Comment noted. Potential impacts to social and economic conditions, including property values and tourism, are provided in EIS Section 3.12. Potential impacts to visual quality and aesthetics are disclosed in EIS Section 3.11.
	Myers	HAS01	These lines should never be placed near our schools, towns, or any populated areas. The proposed route goes through many towns impacting a lot of people which is totally unacceptable!! The Mount Horeb Area School District owns land, purchased for future use, that is on the currently preferred route for these high-voltage (345 kilovolt) power lines. Once again, the proposed preferred route effects too many people!! Would you want your children to go to school near massive transmission lines that could adversely affect their health? Would you want to live near them?	Comment noted.
	Myers	NEP02	Studies indicate that these lines are "not needed"!! Demand for electricity has been flat or declining in Wisconsin, and we are one of the top ten states for grid reliability. Supply exceeds demand. We should focus on "local" renewable energy and energy efficiency, instead of transporting electricity from Iowa on massive transmission lines. This would be better for our health and the health of our environment. This project must be stopped "immediately", before it damages the land and the people in the driftless area of Southwestern Wisconsin.	Comment noted.
	Myers	HAS01	I am opposed to the Cardinal-Hickory Creek Transmission Line Project. High-voltage power lines may have negative health effects, such as causing an increased risk of cancer and leukemia.	Comment noted. Section 3.13 of the EIS discloses potential impacts to public health and safety that could occur from wildfire, occupational safety, hazardous materials, and electric and magnetic fields.
	Myers	SOCIO06; VIS01	They are very obtrusive to the landscape and decrease property values, making homes and land difficult to sell.	Comment noted. Potential impacts to social and economic conditions, including property values and tourism, are provided in EIS Section 3.12. Potential impacts to visual quality and aesthetics are disclosed in EIS Section 3.11.
	Myers	LAND04; LAND05	These lines should never be placed near our schools, towns, or any populated areas. The proposed preferred route goes by many towns impacting a lot of people which is totally unacceptable!! The Mount Horeb Area School District owns land, purchased for future use, that is on the currently proposed preferred route for these high-voltage (345 kilovolt) power lines,	Comment noted. EIS Sections 3.7 and 3.12 disclose potential impacts to sensitive receptors, including schools.
	Myers	HAS01	Would you want your children to go to school near massive transmission lines that could adversely affect their health?	Comment noted.
	Myers	NEP02	Studies indicate that these lines are "not needed"!! Demand for electricity has been flat or declining in Wisconsin, and we are one of the top ten states for grid reliability. Supply exceeds demand.	Comment noted.
	Myers	ALT04	e should focus on "local" renewable energy and energy efficiency, instead of transporting electricity from Iowa on massive transmission lines. This would be better for our health and the health of our environment.	Comment noted.
	McConnell	NEP02; SOCIO01	Based on all available information, this CHC project is unnecessary, an economic boondoggle, and worst of all, an environmental disaster, all at the expense of the citizens and ecological health of our state.	Comment noted.
	McConnell	SOCIO07	Although the lines would not be built directly on our land, they would have a profound, and negative effect on my and my husband's life, as well as on the lives of hundreds of thousands of others who live here or travel from other areas. Like so many, we walk, hike and watch wildlife year round in many of the areas that would be affected by the construction of high-power transmission lines.	Comment noted. EIS Section 3.10 discloses potential impacts to recreation areas.
	McConnell	WLDF04	However, my primary concern is for the environmental health of the unique lands of the Driftless area, lands that include priceless habitat for several endangered, threatened and rare species.	Comment noted. EIS Sections 3.3 and 3.4 disclose potential impacts to threatened and endangered species. Furthermore, RUS consulted with USFWS regarding potential adverse effects to Federally listed species. The biological opinion for the C-HC Project is included as an appendix in the EIS.
	McConnell	WLDF02	NEGATIVE EFFECTS ON THREATENED SPECIES OF BIRDS IN THE MISSISSIPPI FLYWAY Many threatened and at risk bird species rely on the Upper Mississippi River National Wildlife and Fish Refuge near Cassville, Wisconsin. If high power lines are built to cross the 1.6 mi. span of the river and surrounding areas, there is little doubt that many will be injured or killed. It is estimated that 40% of all North American migrating waterfowl and shorebirds use this route every year. A study in 2014 (Loss et. al.) found that "between 12 and 64 million birds are killed each year at U.S. power lines, with between 8 and 57 million birds killed by collision and between 0.9 and 11.6 million birds killed by electrocution". Indeed, according to the power industry itself, "birds are a major problem for utilities," because of the frequency with which power lines cause avian collisions. T & D World, the trade magazine for electric power-delivery systems, lists eagles, red-tailed hawks, great-horned owls, all juvenile raptors, herons, cranes, swans and pelicans as especially vulnerable to electrocution. Thus, the populations of many of the species that use this route are in danger. For example, Audubon states it is "currently focusing intensive conservation efforts on twenty-seven bird species along the Mississippi Flyway", including a variety of shore birds, warblers, sparrows, bobolinks and the Eastern meadowlark. Citing power lines in this highly sensitive area creates an environmental crisis for these species that simply cannot be ignored. NEGATIVE EFFECTS ON BIRD SPECIES FROM COLLISIONS WITH HIGH POWER TRANSMISSION LINES IN THE DRIFTLESS AREA Along with birds who use the Mississippi Flyway, the construction of 345 kilovolt transmission lines running 100-125 miles from the Mississippi River to Middleton puts thousands, if not tens of thousands, of birds at risk. Not only would migrating birds be killed or badly injured by power lines in the flyway, but so would members of species	Comment noted. EIS Sections 3.4 and 3.14 disclose potential impact to wildlife, including migratory birds. The C-HC Project would follow APLIC guidelines to minimize collision impacts, and electrocutions are not a high risk for this project due to the project design and conductor spacing greater than large avian wingspans.

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			that feed and nest in the area. Based on all available evidence, it is undeniable that vast numbers of birds will be killed if these power lines are constructed.	
	McConnell	WLDF02; WLDF04	NEGATIVE EFFECTS DUE TO THE DISRUPTION OF THE ECOLOGY OF THE AREA The area impacted by the CHC plan has been carefully studied by several entities with expertise in wildlife conservation, including the WI DNR, which updated its Wisconsin Wildlife Action Plan in 2015. We know from that work, and the work of wildlife organizations like the Wisconsin Bird Conservation Initiative, that there are many threatened or endangered birds that are dependent on undisturbed land in SW Wisconsin, land that would be degraded or disturbed by the CHC. For example, Bald Eagles have been found to nest in abundance along the route of the proposed CHC, according to the Wisconsin Breeding Birds Atlas. Endangered Loggerhead Shrikes, as well as threatened species like hooded and cerulean warblers, Henslow's sparrows and Acadian flycatchers breed in the area that would be profoundly disrupted by the CHC. Many other species "of concern" who nest along the proposed route would be negatively impacted, including whip-poorwills, nighthawks, red-headed woodpeckers, bobolinks and dickcissels.	Comment noted. EIS Section 3.4 discloses potential impacts to bald eagles and other migratory birds (including sandhill crane).
	McConnell	WLDF02; WLDF03	NEGATIVE EFFECTS OF FOREST FRAGMENTATION AND THE EDGE EFFECT Fragmented forests not only favor edge species rather than those who need undisturbed and continuous forest cover, they also increase weather extremes and increase songbird mortality. According to Murcia (1995) and Laurence (2000), "edge effects reduce habitat quality and the functional connectivity between them". Many bird species in the area rely on the kind of continuous forest cover that is rarely found except in areas like the unique geological area, The Driftless. The waterways, valleys, and stone croppings that comprise the Driftless area create an environment in which many deep forest species—including birds like black-throated blue warblers, Canada warblers, golden-winged warblers, prothonotary warblers, wood thrushes and ovenbirds thrive. All of these birds would be negatively affected, exacerbating the continuing decrease of populations of song birds all around the country. In addition, Ortega & Capen (2002) discussed findings that nest predation and parasitism by cowbirds increased along forest edges, leading to declines in songbirds who require undisturbed and unfragmented forests. Conservation groups, like the WI Bird Conservation Initiative, have worked for years to conserve habitat for endangered, threatened and rare bird species, but this work would be destroyed by the large scale destruction and maintenance of a 100-125 mile long corridor. There are other negative implications of the edge effect, not the least of which is the creation of a virtual corridor for the transmission of CWD. According to the WI DNR, CWD is most prevalent in western Dane/Eastern Iowa County along with another area in southeastern WI along the Illinois border. Deer are a classic edge species, and creating a 100-125 mile highway for them is a perfect prescription to increase the prevalence of this serious disease.	Potential impacts to wildlife species and migratory birds, including a discussion of habitat fragmentation, are disclosed in EIS Section 3.4.
	McConnell	WLDF01	NEGATIVE EFFECTS ON OTHER MAMMALS Several threatened and rare mammals are at risk from the habitat degradation that is inevitable with the construction of this project. Bats are particularly vulnerable, including the state-threatened big and little brown bats. Ground living mammals like Franklin's ground squirrels live in the area and have been found to be declining, as are prairie voles and woodland voles. Badgers, that iconic Wisconsin ground dweller, is rarely seen now, but appears to hold out in some areas of the state, including SW Wisconsin. As a species they appear to do poorly around human disruptions, and there is little doubt that this project would decrease their numbers even more.	Comment noted. EIS Section 3.4 discloses potential impacts to wildlife.
	McConnell	HAS01; WLDF01	NEGATIVE EFFECTS OF POWER LINE MAINTENANCE AND HERBICIDE USE The use of herbicides like Roundup to maintain open corridors for power line maintenance should be a great concern to anyone with an interest in environmental and human health. Although there is still a great deal of research to be done, The World Health Organization has classified one of its ingredients, glyphosate, as "probably carcinogenic in humans". By itself, glyphosate has been shown to increase risk of Non-Hodgkin lymphoma (Schinasi & Leon 2014) and to be toxic to aquatic life by the European Chemicals Agency. Some studies have found no correlation between glyphosate and the occurrence of other human cancers, however, it is critical to note that most studies have used glyphosate not in the form in which it is used (as Roundup, for example) but as an isolated chemical. And yet, the "inert" ingredients in Roundup have found to be not inert at all, especially when interacting with glyphosate. For example, polyoxyethylene alkylamine, an "inert" ingredient in Roundup, was found to be 2,000 times more toxic when mixed with glyphosate than lower doses of glyphosate only (see the Intl Journal of Environmental Research and the Institute of Science in Society (2014). These substances act as endocrine disruptors, which means that they can affect reproductive health and create severe developmental deficits in mammals and amphibians. There are no small numbers of amphibians who would be negatively effected by the power lines, especially some species of frog (pickerel frogs and Blanchard's cricket frog to name a few).	Comment noted. Potential impacts to wildlife are disclosed in EIS Section 3.4, and potential impacts to public health and safety are disclosed in EIS Section 3.13.
	McConnell	HAS01	HUMAN PSYCHOLOGICAL AND PHYSIOLOGICAL HEALTH WOULD BE NEGATIVELY IMPACTED BY CONSTRUCTION AND THE PRESENCE OF THE LINES "Nature Deficit Disorder" is a term coined by Richard Louv, the author of Last Child in the Woods. It describes the value of time spent in nature on mental and physiological health, while it decries the decreasing time that American children spend in peaceful, natural settings, like the areas which would be negatively impacted by the proposed high-power transmission line. Time spent in natural settings has been found to be essential to healthy cognitive and psychological function. For example, Wells (2000) found that enhanced executive function in children (an important aspect of decision making, was the result of direct experience with nature. Time in undisturbed natural surroundings has also been found to reduce stress (Wells 2003). Burdette and Whitaker's study (2005) showed that important social behaviors like self-discipline and self-regulation were increased after time spent in natural settings. These are not trivial findings, and have been replicated many times over. And they are important: Rates of anxiety and depression are not only on the rise in our country, but are at epidemic levels according to some. Anxiety is the leading mental health issue among young people (see for example, Bitsko et. al., June 2018), and yet standard treatment is often not effective or available to many. However, we know that time spent in peaceful, undisturbed natural settings has a profound effect on anxiety, as well as a buffer of the kind of stress that many of us experience every day.	Comment noted.
	McConnell	NOISE01; REC04; VIS01	As a survivor of violent sexual assault and other violent trauma, allow me to add my personal story to the vast amount of data that supports the importance of undisturbed, natural settings, like those found in the areas that would be impacted by construction of massive transmission lines. I simply can not image functioning as well as I do now without the opportunity to take long walks on the Military Ridge Bike Path in Mt Horeb, to savor the scenery on our drives through SW Wisconsin, and hiking in parks like Blue Mound State Park and Governor Dodge State Park, as well as time spent bird watching along the Mississippi Flyway—all of which would be destroyed by the imposition of huge, ugly and noisy transmission lines.	Comment noted.
	McConnell	HAS01; VEG01; WLDF01	A multitude of animal and plant species would be negatively affected, as would human health.	Comment noted. Potential impacts to wildlife are disclosed in EIS Section 3.4, and potential impacts to public health and safety are disclosed in EIS Section 3.13.
	Beckett	NEP01; NEP02	There is no reason to approve this unneeded, outmoded, and extremely expensive project, paid for by ratepayers for the benefit of American Transmission Company's shareholders. ATC'S Draft Environmental Impact Statement relies on outdated data from 2011 suggesting a need for	Comment noted. EIS Chapter 1 describes the need for the C-HC Project as well as the decisions facing the three Federal agencies that have received loan or permit applications

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			more energy in Wisconsin. According to Wisconsin's current energy-use predictions, energy rates are flat or rising so slowly (less than 1%) that existing power lines are sufficient. In addition, ATC has not addressed many environmental impact concerns as required in their Federal EIS. How will the final Federal EIS address this lack of demonstrated need?	for the C-HC Project. EIS Chapter 3 and 4 disclose a detailed analysis of potential impacts from the C-HC Project as well as other present and reasonably foreseeable projects that may impact the same resources as the C-HC Project.
	Beckett	WLDLF02; WLDLF04	Rare and state-threatened bird species live and nest on our land, including Henslows, savanna, and grasshopper sparrows, bobolinks, dickcissels, snipe, woodcock, warblers, flycatchers, owls and red-headed woodpeckers. These birds eat pests that affect crops or that spread diseases that affect other species.	Comment noted. EIS Sections 3.4 discloses potential impacts to birds.
	Beckett	VEG04; WLDLF04	Across the road from us is wetland habitat supported by U.S. Fish and Wildlife funds and includes Blue Mounds Creek, a nursery for threatened native fish.	Comment noted. Potential impacts to wetlands are disclosed in EIS Section 3.3. Potential impacts to wildlife, including fish species, are disclosed in EIS Section 3.4.
	Beckett	WLDLF01	Neighbors have trail camera images of fishers, mink, bobcats and black bear, weasels, and other species that find refuge here. How will the Fed EIS address protecting habitats that are maintained by private property owners for the good of these creatures?	Comment noted. EIS Section 3.4 discloses potential impacts to wildlife.
	Beckett	LAND08	Like us, many of our neighbors have managed their land for animal and plant species and the disappearing habitats they depend on. State and federal grants helped us plant species for pollinators that are so important for farmers; improve wetlands for waterfowl, other animals and native fish; manage woodlands for open oak savannas, and harvestable trees for timber, and maintain their lands in CRP programs for agricultural land preservation?	EIS Section 3.10 has been revised to disclose potential impacts to lands enrolled in conservation programs such as the CRP and MFL.
	Beckett	REC01	How will the Federal EIS address the detrimental effects of towers and land "maintenance" on trout streams, farm land, woodlands and grasslands for hunting and fishing?	Comment noted. EIS Section 3.5 discloses potential impacts to trout streams and other water resources. EIS Section 3.10 discloses potential impacts to land use, including agricultural lands and recreation areas.
	Beckett	REC01; SOCIO03	For decades, my partner and I worked as designers for various groups, including Wisconsin Dept. of Natural Resources, the Nature Conservancy, Madison Audubon, Trout Unlimited, Blue Mounds Area Project, Citizens Utility Board, 1000 Friends of Wisconsin, and others. Several of our clients have world-class and nationally important nature preserves and conservancies in the Driftless Area. Environmental education was our main focus. Native species and habitats were models for educational displays and publications we produced for clients. We worked with local experts—fisheries biologists, ecologists, scientists, naturalists, artists, photographers—familiar with this unique Driftless landscape. How will the Federal EIS address the impact these transmission lines will have on all these peoples' livelihoods? What about the negative effects on tourism?	EIS Section 3.12 discloses the potential impacts to socioeconomics and tourism.
	Beckett	ALTO2	The power line is an inefficient, technologically outmoded, and unsafe long-distance grid.	Comment noted.
	Beckett	LAND01; SOCIO01	It will affect land conservancies, communities, and businesses dependent on tourism, local and organic farmers, schools, property owners and residents. How are these concerns being addressed in the final Federal EIS?	Comment noted. EIS Section 3.10 has been revised to disclose potential impacts to lands enrolled in conservation programs such as the Conservation Reserve Program (CRP) and Managed Forestry Land (MFL) program and herbicide drift to organic farms. Potential impacts to social and economic conditions, including property values and tourism, are provided in EIS Section 3.12.
	Beckett	HAS01	Three public schools are along the proposed transmission route, in Dodgeville, Barneveld, and Mt. Horeb. The school boards filed resolutions in objection to the power line because of very credible stray-voltage studies which cite an increase in childhood leukemia and other health problems. Why would you want to subject children to this? https://academic.oup.com/aje/article-abstract/128/1/21/80282 < https://academic.oup.com/aje/article-abstract/128/1/21/80282 > How will these concerns be addressed in the final Federal EIS?	Potential impacts to human health from EMF are discussed in Section 3.13.2.3.1 of the EIS. A discussion of studies of potential impacts on rates of childhood leukemia has been added to Section 3.13.1.1 of the EIS. A discussion of stray voltage has been added to Section 3.13.2.3.1 of the EIS. The number of schools within 300 feet of the proposed transmission line has been updated in Section 3.13.2 of the EIS.
	Beckett	VEG03	This power line will be punctuated by 15- to 17-story tall steel towers across more than 100 miles of southwestern Wisconsin with a 150-foot wide swath of heavily trimmed and poisoned vegetation. It will introduce invasive plants	Comment noted. EIS Section 3.3 discloses potential impacts from invasive species.
	Beckett	WLDLF01	create corridors for predators to hunt rare and threatened ground-nesting birds and other animals.	Comment noted. EIS Section 3.4 discloses potential impacts to wildlife.
	Beckett	WLDLF02	The line itself will negatively affect tens of thousands of migrating birds. Many birds travel only at night and will be killed by impact with this unexpected obstacle. An analysis of 14 studies published in 2014 by S. Loss, T. Will, & P. Mara, refer to birds killed or maimed by power lines through impact, electrocution and disruption of habitat: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4081594 Excerpt: "We conducted a quantitative review that incorporated data from 14 studies meeting our inclusion criteria to estimate that between 12 and 64 million birds are killed each year at U.S. power lines, with between 8 and 57 million birds killed by collision and between 0.9 and 11.6 million birds killed by electrocution. Nonetheless, our data-driven analysis suggests that the amount of bird mortality at U.S. power lines is substantial and that conservation management and policy is necessary to reduce this mortality." Even power companies note that bird strikes and electrocution are a problem. How will Federal EIS address the critical habitats and migratory flyways that are now protected in public trust lands and waterways across the region?	Comment noted. Potential impacts to wildlife species and migratory birds are disclosed in EIS Section 3.4.
	Beckett	AIR04; ALTO4	In October 2018, IPCC, the Intergovernmental Panel on Climate Change (which includes 194 nation members) and the U.S. government's own 2018 Report on Climate Change (produced by 13 U.S. governmental agencies) declared our planet is in dire trouble, with average world-wide temperatures climbing at unprecedented rates and carbon emissions at highest levels in recorded history. The U.S. Dept. of Energy, Nov. 2018, provided the following data: Non-Transmission Alternatives can reduce CO2 production by 50%, through conservation, local power, and efficiency load management. Utility Expansion with remote renewables (which lose power en route) and conversion of coal to natural gas will help lower CO2 output by 24% and 26%. Utility expansion in this case will cost customers nearly \$1 billion dollars, disrupt lives and the environment, and continue to use an outmoded and inefficient transmission model. How will these very real concerns be addressed in the final Federal EIS?	Comment noted. EIS Chapter 4, Section 4.4 has been revised to estimate the carbon dioxide (CO2) emissions that could occur from generation sources that would benefit from the C-HC Project. This analysis compares two scenarios: 100% coal-generation sources benefitting from the C-HC Project and 100% wind-generation sources benefitting from the C-HC Project. This analysis provides a range of CO2 emissions from possible generation sources. Non-transmission and low-voltage alternatives are not analyzed for cumulative impacts because these alternatives are not carried forward for detailed analysis in the EIS.
	Beckett	HAS01	On January 10, 2019, an article in The Wall Street Journal revealed parts of the U.S. electrical grid were hacked by Russians in 2017. Hundreds of small construction companies across the U.S. including in Minnesota, Iowa, Wisconsin, Illinois, Michigan, and Indiana were affected. The hackers planted malware on sites used by engineering firms, gained access to computer systems that monitor and control energy flows. This means that long-distance transmission lines can be damaged or incapacitated to produce multi-state blackouts, including emergency energy to army bases. https://www.wsj.com/articles/americas-electric-grid-has-a-vulnerable-back-door-and-russia-walked-through-it-11547137112?mod=searchresults&page=1&pos=12 The ATC/CHC power grid would definitely be on the list. Micro-grids of local energy provide	Section 3.13 of the EIS has been revised to address public comments about risks from severe weather and security breaches.

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			more secure energy, much less exposed to giant blackouts over long distances. In March 2019, Venezuela suffered a massive breakdown of their electrical grid, with all forms of power shut off for days. Giant transmission lines are no longer safe or reliable.	
	Phelan	DATA04	his email address is no longer monitored. Please update your file and re-send your email to clerk_treasurer@villageofridgeway.com	Comment noted.
	Reinders	DECI13	As a parent and resident of the Driftless area in southwestern Wisconsin, I am writing to voice my opposition to the building and placement of the ATC powerlines. I do so on the basis of: the environment, the protection of natural beauty and habitat for animals; property values; and quality of life, through the future preservation of the area for my daughter and generations to come.	Comment noted.
	Reinders	SOCIO06; SOCIO07	Having lived here most of my life, I know that residents and visitors are drawn to the natural beauty and bountiful wildlife of the Driftless area. It is truly unique and unlike any other area of the Midwest. Property values are rooted in this appeal and natural history.	Comment noted. Potential impacts to visual quality and aesthetics are disclosed in EIS Section 3.11. Potential impacts to social and economic conditions, including property values and tourism, are provided in EIS Section 3.12.
	Reinders	VIS01	Having sizable ATC lines - with a space roughly equivalent to a football field, between them - would do significant damage to the aesthetic appeal and natural use of the land,	Comment noted.
	Reinders	LAND02	impacting the many farmers and growers relying on every square inch for farming/food production.	Comment noted.
	Reinders	SOCIO03; SOCIO06	When individual land owners are impacted, we must use empathy to fully understand how pocking up the land with towers will devalue property and hamper their ability to sell. This is particularly relevant since many long time farmers/landowners have only their land as retirement nest eggs.	Comment noted.
	Reinders	HAS01	Finally, there are health concerns and the unknown and unstudied damage that these lines present to our mental, physical and emotional well-being. Until evidence based assessment and study can definitively rule out health threats posed by ATC lines - they have no place near homes and schools. The quality and sustainability of Human life is more valuable than the average savings of 6 cents (to Wisconsin residents) per energy bill.	Comment noted. Section 3.13 of the EIS discloses potential impacts to public health and safety that could occur from wildfire, occupational safety, hazardous materials, and electric and magnetic fields.
	Ferrin	SOCIO06	my wife and I have a rental property that sits on one of your proposed routes at 224 Grove St. Ridgeway, WI 53582. We had to turn the property into a rental property as we had the property for sale a couple of years ago and had 2 competing offers one which was above asking price and as soon as the realtor decided we should disclose to the potential buyers that the lines may go by our house both buyers pulled their offers and even after dropping the price after that we were not able to get any other offers as a result. The Village of Ridgeway assessor admitted that our property has already lost 10 - 30% of its value just with the specter of the lines going through. Imagine what will happen if they do go through. We believe our property will become unsellable damaging our life savings in a way we will never recover from. Of course the government still expects you to pay full taxes on a property that is worth zero. Further humiliation given to us because of this project.	Comment noted. Potential impacts to social and economic conditions, including property values, are provided in EIS Section 3.12. RUS has reviewed the recommended citations of additional peer-reviewed articles presented through public comments and has incorporated this information into the EIS.
	Ferrin	SOCIO05; VEG01	Environmentally our house sits on almost 5 acres of woods and where they would want to put the lines would clear out mature oak and walnut trees. Some of which are over 50 feet tall and probably 100 years old or more. You can not even quantify the economic and environmental impact that would have by removing them.	Potential impacts to vegetation, including forests, are disclosed in EIS Section 3.3.
	Berrie	LAND05; VIS01	EIS section 3.11 Visual Quality and Aesthetics: I do not feel that this section offers an accurate description of the visual impacts of the transmission line for three reasons: 1. Effects on visual quality were only considered within 300 feet of the line, so the DEIS could, for example, actually make statements that a line running 100 miles will only impact 26 residences: "The total length of Alternative 2 is approximately 104.3 miles... Within the 300-foot analysis area, but outside the ROW, there are an additional 26 private residences, which would result in moderate visual impacts to these residences. These visual resource impacts would be minor at the overall project level." (Quoted from 3.11.2.5.1VISUAL CHARACTERISTICS) I live in the village of Ridgeway, WI. Most of the village is not within 300 feet of the line, but I believe most of the villagers will still be able to see it, because of the immense height of the towers. I believe I will be able to see the line from our backyard, a view which currently looks over fields and trees. It is a place on our property where I often watch the sun and the moon rise, and if this line is built I would have to watch them rise behind power lines in the future. But since the DEIS does not consider anything beyond 300 feet, I don't know for sure whether or not I will be able to see the lines, and the lines' impact on me and hundreds (or thousands?) of other people who will see the lines regularly is ignored.	The analysis area for visual quality and aesthetics ranges from within the ROW to upward of 2 miles from the ROW, depending on topography, vegetation, and the potential visibility of the C-HC Project. The analysis area for visual resources was determined through the application of visibility mapping and field reconnaissance.
	Berrie	EFF01; VIS01	Visual impacts were inaccurately determined to be only minor for the overall project. For each alternative route in the DEIS, the number of private residences that will be affected is noted (the most of which is 53) and followed by a statement that the line "...would result in moderate visual impacts to these residences. These visual resource impacts would be minor at the overall project level." I found these definitions: Minor impact: Proposed changes could attract attention but would not dominate the view or detract from current user activities. Moderate impact: Proposed changes would attract attention and contribute to the landscape, but would not dominate the landscape. User activities would remain unaffected. But I could find no discussion of how it was determined whether the impact was minor or moderate, so it seems like it is a matter of opinion. In my opinion, having transmission line structures ranging from 90 to 175 feet tall, spaced every 900 to 1,100 feet (Section 3.11.2.3) would have much more than a minor impact and would definitely detract from the frequent outdoor activities that occur in my yard.	Comment noted. EIS Section 3.11 has been revised to provide additional context about potential visual resource impacts from the C-HC Project. Impact thresholds have been revisited and revised, as necessary, to reflect concerns expressed by the public during the DEIS public review period.
	Berrie	EFF01; VIS01	Many of the simulated after photos of the visual effect of the lines are narrow in height, so that all you see is the rusty base of the proposed tower. These seem deceptive to me because they ignore the visual impact of the tops of the towers that contain all the wires.	Comment noted. The visual simulations in EIS Section 3.11 are intended to provide a representative view of what the C-HC Project would look like from certain vantage points called KOPs. Because these simulations are based on fixed photographs, they are unable to exactly replicate the dynamic view that a human would see in-person when looking in various directions and angles.
	Berrie	SOCIO06	Property Values covered in Section 3.12.2.1: This section seems to underplay the impact of the lines on property value, again by only considering properties within 150 feet of the line. It implies that property owners are overreacting: "While it is possible that property owners near the proposed project may have the perception that their homes will diminish in value because of project implementation, the actual loss of property value and potential effects can only be tested through data from home sales." However, it notes that the required data are unavailable so it "assumes that the proposed transmission line could reduce property values from 0% to 20% within 150 feet of the ROW centerline, but that the impact would decrease over time. Therefore, impacts to property values within 150 feet of the ROW centerline under all action alternatives are expected to be moderate in the short term and minor in the long term." This section is full of assumptions, so could just have easily been written to assume that property values will be much more affected. I used to work in real estate, and can say from that experience that if people have options, they will choose the property with the best views over any that would be looking at high voltage transmission lines, and they will consider long distance views as much as anything that is within 150 feet of their property.	Comment noted. Potential impacts to social and economic conditions, including property values, are provided in EIS Section 3.12.

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	Berrie	HAS01; PUB02	Personal comments on the public meeting: I did not speak at the meeting, but my thoughts were echoed by those who did, whom I felt were expressing feelings of futility, anger, and betrayal. I left the meeting feeling very depressed, and realized that what I think is missing from the DEIS and this entire process is a discussion of the impact of the proposed transmission line on the human emotional/psychological environment. I felt a sense of futility at the meeting. It was people against the transmission line talking to people against the transmission line. What use is that? I have spent all morning of my day off drafting this letter, but it is difficult to believe my comments here will have an impact against imposing corporate and government forces. I sensed anger and betrayal from those at the meeting who previously believed they lived in a country based on personal freedom, but who now realize they do not because this project can be imposed upon them by faceless outside forces. I think that those of us impacted by this line have lost the sense of safety we used to feel in our homes, when outside forces have the authority to drastically change the things we value about our property and our surrounding environment.	Comment noted.
	Berrie	SOCIO07	I felt terrible for the people who would be living right under the line who told their personal stories of how it will impact them. This line would be imposed on innocent people who have spent decades improving their homes, reducing their carbon footprint, and trying to protect the environmental resources around them. They could be forced to live with daily visual reminders of something that goes against all their values. I am also one of these people, and I hope I am not forced against my will to live with the proposed transmission line.	Comment noted.
	Berrie	ALT02	I echo the sentiment that was voiced many times last night, that this type of technology is outdated, and we should choose more environmentally friendly local solutions.	Comment noted.
	Klopp	ALT04; SOCIO03	Please add my name to the 252 citizens voicing concerns about, "...potential, adverse economic impacts resulting from loss of tourism, retirement housing, and business revenue in the area." Discussion in DEIS sections 3.12.1.4, 3.12.1.5, 3.12.2.1, 3.12.1.6 3.12.2.3.4 and 3.12.2.3.5 describes assessment tools, estimated values of unoccupied land types, tourism dollars and other assets. These findings, along with other data, need to be further analyzed to give decision makers understandings of potential monetary consequences under all three energy action choices before the Wisconsin PSC: the High Voltage Transmission option (C-CH), the low Voltage Transmission Alternative (LVA) and the Non-Transmission Alternative (NTA).	Comment noted.
	Klopp	ALT01; EFF01; SOCIO03	For the Final EIS, please select three, municipalities expected to experience significant impacts from High Voltage Transmission option. Add values from all improvements to land (buildings, roads, natural habitat development) and provide an estimate the 40 year, total economic impacts (in dollars) from loss in property values, loss of tourism revenue, loss in potential housing and business development and losses from decline in population for the three (C-CH, LVA and NTA) energy options. Use RUS's minor, moderate and major impact scenarios to produce a range in these estimates. Compare the resulting range of monetary impacts to the amounts of the municipalities' designated environmental impact fees from the PSCW docket.	Comment noted. Section 3.12 of the EIS analyzes the potential socioeconomic impacts from the six action alternatives and the No Action Alternative to tourism, property value, housing, and other demographic topics. Quantifying the monetary impacts in the manner suggested is not required by NEPA regulations. As stated in NEPA regulations 40 CFR 1502.23, "For purposes of complying with the Act, the weighing of the merits and drawbacks of the various alternatives need not be displayed in a monetary cost-benefit analysis and should not be when there are important qualitative considerations."
	Klopp	NEP02	Please add my name to the 481 persons asking the DEIS/FEIS to independently, quantitatively and scientifically analyze need incorporating the "decline in electricity demand in the Madison area" in relation to "need for the proposed C-HC Project." As the DEIS does not address the decline in demand in the Madison area, I request this independent, quantitative analysis be included in the Final EIS.	Comment noted.
	Klopp	AIR01; ALT04; EFF01	Comment 3: I am concerned that the DEIS does not analyze CO2 emission impacts for use of the transmission or non transmission alternatives. I join other citizens in concern that the 'open access' transmission line enlargements would equally encourage nuclear, coal and natural gas generation. As Wisconsin utilities are able to produce more power than we can consume and state utilities have met their 10% Renewable Portfolio Standard, I am concerned by the lack of hard evidence of policies or economic drivers in the DEIS to support actual environmental benefits for the two transmission alternatives. Through direct investment in energy efficiency, load management and distributed solar, I note that the non-transmission alternative would guarantee development of CO2 offsetting reductions and renewable energy with minimal environmental impacts.	EIS Chapter 4, Section 4.4 has been revised to estimate the CO ₂ emissions that could occur from generation sources that would benefit from the C-HC Project. This analysis compares two scenarios: 100% coal-generation sources benefitting from the C-HC Project and 100% wind-generation sources benefitting from the C-HC Project. This analysis provides a range of CO ₂ emissions from possible generation sources. Non-transmission alternatives are not considered in this analysis because non-transmission alternatives are not carried forward for detailed analysis in the EIS.
	Klopp	AIR01; ALT04; EFF01	Request 3: In the final EIS, using only verified evidence of likely generation sources, produce estimates and compare the 40 year, CO2 impacts from High Voltage Transmission option (C-CH), the Low Voltage Transmission Alternative (LVA) and the Non-Transmission Alternative (NTA) under modest, zero and negative load growth. In estimating CO2 performance for the Non-Transmission Alternative, target a combination of energy efficiency, load management and distributed solar resources to eliminate or delay potential reliability concerns in the same, Wisconsin-based low voltage transmission facilities assumed to be avoided by the High Voltage Transmission option.	EIS Chapter 4, Section 4.4 has been revised to estimate the CO ₂ emissions that could occur from generation sources that would benefit from the C-HC Project. This analysis compares two scenarios: 100% coal-generation sources benefitting from the C-HC Project and 100% wind-generation sources benefitting from the C-HC Project. This analysis provides a range of CO ₂ emissions from possible generation sources. Non-transmission and low-voltage alternatives are not analyzed for cumulative impacts because these alternatives are not carried forward for detailed analysis in the EIS.
	Klopp	ALT04	Please add my name to the list of 240 prior comments asking DEIS/EIS, to "consider other alternatives to the proposed C-HC Project transmission line," specifying "Non-Transmission Alternatives (NTA) reviewed for this DEIS include local renewable electricity generation (i.e., solar), energy storage, energy efficiency, and demand response." In the DEIS, RUS incorrectly assumes that NTA resources should be compared to the 1300 MW transfer capacity of the high voltage transmission option rather comparison of economic benefits from energy savings and avoided reliability improvements. The DEIS does not yet independently define a Low Voltage Transmission Alternative (LVA) specifying transmission reliability projects in Wisconsin over 40 years under modest, flat and zero load growth. RUS has not yet provided the requested Non-Transmission Alternatives (NTA) to eliminate or significantly these potential reliability improvements by targeting a combination of energy efficiency, load management and distributed solar resources. Request 4: In the Final EIS, please provide a detailed, quantitative description of at least one, fully developed, Low Voltage Transmission Alternative (LVA) with estimated costs for each component. Also provide a detailed, quantitative description of at least one, fully developed, Non Transmission Alternative based on targeted, combined, uses of energy efficiency, load management and distributed solar resources to eliminate or delay the potential reliability improvements specified by the Low Voltage Transmission Alternative (LVA) along with estimated costs for each NTA component at each targeted location.	As discussed in EIS Chapter 2, Section 2.2.2, non-transmission and low-voltage alternatives are not responsive to the applications to which the Federal agencies are responding, nor do they meet the six-point purpose and need described in EIS Chapter 1.
	Brandt	EFF01; SOCIO08	Decision makers need access to a comparative analysis of the benefits/costs of meeting the energy and reliability needs through an investment in energy efficiency versus investment in transmission lines. As many studies for Wisconsin have shown, energy efficiency investments have contributed to zero or negative load growth. Therefore it is essential that decision makers have a complete analysis of the Project economics under zero or negative load growth scenarios over the 40 year timeframe. How will the final Federal EIS compare the benefits of the CHC transmission line in scenarios where energy efficiency investments result in modest, zero or negative load growth? DEIS 1.4.2.1 Applicants estimate potential	Comment noted. As stated in NEPA regulations 40 CFR 1502.23, "For purposes of complying with the Act, the weighing of the merits and drawbacks of the various alternatives need not be displayed in a monetary cost-benefit analysis and should not be when there are important qualitative considerations." As discussed in EIS Chapter 2, Section 2.2.2, non-transmission alternatives, such as energy efficiency and demand

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			net benefits of \$.06/month for WI residential electric customers if the CHC line is built. What are the net benefits of an investment in energy efficiency that would produce zero to negative load growth over the studied timeframe? For a sophisticated benefit/cost analysis of energy efficiency please review Wisconsin's Focus on Energy evaluations over the past 15 years. Note the complete benefit analysis of all externalities. How will the final Federal EIS compare the Project with the economic benefits/costs of energy efficiency?	response programs, are not responsive to the applications to which the Federal agencies are responding, nor do they meet the six-point purpose and need described in EIS Chapter 1.
	Nettesheim	NEP02	Based upon historical electrical use information and on the current capacity and grid reliability information, it appears the proposed CHC line is completely redundant. The implementation of this project will have no positive impact on ratepayers. Any new capacity carried by this line, regardless of how it is generated, will simply replace existing capacity using an expensive new conductor.	Comment noted.
	Nettesheim	SOCIO06; VIS01	On the other hand, due to the visual impact of the proposed line there will be an immediate adverse impact on property values along the entire route, reducing those values by as much as 20% and making it very difficult for owners to sell in the future.	Comment noted. Potential impacts to social and economic conditions, including property values and tourism, are provided in EIS Section 3.12. Potential impacts to visual quality and aesthetics are disclosed in EIS Section 3.11.
	Nettesheim	LAND02; SOCIO03	Also, the visual impact combined with the destruction of high quality farm land and natural habitat will adversely impact farming and tourism, two crucial industries in southern Wisconsin.	Comment noted. Potential impacts to visual quality and aesthetics are disclosed in EIS Section 3.11. EIS Section 3.10 discloses potential impacts to prime farmland and farmland of statewide importance. Potential impacts to social and economic conditions, including property values and tourism, are provided in EIS Section 3.12.
	Nettesheim	ALT02	My other concern is that this project will create a distribution system that precludes smaller, more local energy generation and distribution projects, simply because it is so big and so expensive. The tendency will be for utilities to use this tool since it was so expensive to build. By contrast, local generation of electricity would in fact be a way to increase grid resiliency and diversify sources of power.	Comment noted.
	Donaldson Carr	SOCIO07; VIS01	We chose to raise our family in an area unspoiled by the ugliness of city towers and structures. And now there's a proposal to hack through the rolling beauty of this region with a hideous stretch of monstrosities that are more aesthetically ghastly than any city building I can bring to mind. The effects on our growing and thriving community would be irreversibly devastating. Please do not approve the Cardinal-Hickory Creek transmission line. Along with being a blight in our otherwise extraordinarily beautiful landscape, it would be a detriment to our families and the growth of our community.	Comment noted.
	Durst	VIS01	As a resident of Blue Mounds, I believe that the proposed transmission line would be detrimental to the natural beauty of the driftless region.	Comment noted.
	Durst	HAS01	I also believe it would have negative health consequences to area residents.	Comment noted. Section 3.13 of the EIS discloses potential impacts to public health and safety that could occur from wildfire, occupational safety, hazardous materials, and electric and magnetic fields.
	Howe	NEP02	Wisconsin does not need these lines for many good reasons – The Wisconsin population has gone down. Better energy alternatives are available to us.	Comment noted.
	Howe	WLDF01	Wisconsin's landscape and wildlife are beautiful without destroying their habitat.	Comment noted.
	Howe	HAS01	Wisconsin residents do not need anymore potential health risks added into their environment.	Comment noted.
	Howe	SOCIO06	Property values for many homesteads will decrease.	Comment noted. Potential impacts to social and economic conditions, including property values, are provided in EIS Section 3.12.
	Howe	SOCIO03; VIS01	Tourism will decline as well. People do not come to look at these "eyesore" transmission routes.	Potential impacts to visual quality and aesthetics are disclosed in EIS Section 3.11.
	Howe	ALT01	How did Dubuque, Iowa no longer become an alternative route for the Hickory Creek Substation which is "based" in the state of Iowa? If its felt this transmission line must come through Wisconsin, why does it not go through Dubuque then follow Hwy 151? Maybe Wisconsin should be joining the Dubuque team for feedback on keeping these transmission lines out of our backyard too.	Comment noted. EIS Chapter 2 describes the multi-year routing process that was used to inform the alternatives analyzed in detail under NEPA.
	Howe	DECI13	Travis Tranel –The Wisconsin residents are asking for your support before its too late. We need the government to push back on this project so generations down the road can appreciate Wisconsin's natural beauty.	Comment noted.
	Winingham	SOCIO03	They MUST be an alternative to this plan that will not permanently scar this town both financially and as a potential tourist destination.	Comment noted.
	Winingham	TRANS02	If these comments are correct and the potential bridge project would be in jeopardy, why would you ever consider doing that!	Potential impacts to the transportation system are discussed in EIS Section 3.8. During the construction and operation phases of the project, coordination would be required with the U.S. Department of Transportation, FHWA, Iowa Department of Transportation, WisDOT, and local agencies to ensure the weight loads and width of the existing facilities are considered in the project planning and delivery of materials and equipment.
	Lind	NEP02	First, the EIS asserts as fact the need for the proposed transmission line without providing adequate backup, much less an independent analysis for this need. Once it is assumed as fact that the project is needed for things such as increasing the "transfer capability of the electrical system between Iowa and Wisconsin" alternatives are destined to fail.	The C-HC Project has been independently modeled and verified by multiple entities, including MISO, which used a planning process approved by FERC. The Utilities have modeled and evaluated the C-HC Project, and the state regulatory agencies (PSCW and IUB) are currently evaluating the project. RUS and the other Federal agencies are considering all information, in addition to public comments, when analyzing the C-HC Project to comply with NEPA. This is explained in EIS Chapter 1. The Federal agencies must consider reasonable alternatives when considering their Federal decision. The Federal EIS considers alternatives that are ripe for Federal consideration. What that means is that a proposal has been made for those alternatives or that it is reasonably foreseeable that they could be implemented in a time frame that would meet the need for the Federal action. Requirements for alternatives consideration under Wisconsin Statute 196.491(d) are very specific and separate from NEPA. Per their jurisdictional responsibilities, the PSCW is considering if and how the range of alternatives meets those requirements (see Section 1.2.2.1 of PSCW [2019]). The impact analysis

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				contained within the EIS has been independently verified by RUS and the other Federal agencies.
	Lind	ALT01; ALT04	After setting up alternatives for failure, the EIS delivers the fatal blow by refusing to consider the alternatives in combination. The document insists that each alternative taken on its own meet the purported needs. This is ridiculous and not a solution that anyone would propose. Rather, a combination of alternatives would be used to satisfy any needs that have merit. The EIS did not give the alternatives a chance and thus they got no detailed analysis.	Comment noted.
	Lind	NEP02	Finally, the document makes little attempt to measure the purported need for the line. Is it a "nice to have" or a dire need? Without having some measure of the need it is impossible to compare it with the economic and environmental cost of the line.	Comment noted.
	Lind	LAND04	Beyond these structural issues, the EIS is also deficient in its analysis of the environmental impact of the line. I am not qualified to analyze the more technical impacts, but I could easily identify some misses. As an example, the EIS omitted ball fields in Barneveld and Cobb that will be impacted. The Cobb park and baseball field is about 300ft. from the proposed route, as will be anyone playing left field in Barneveld.	Comment noted. Community parks and sporting complexes are not defined as sensitive receptors in the EIS. Potential impacts to public health and safety are disclosed in EIS Section 3.13.
	Lind	LAND05; VIS01	It states that 9 residences would have a major permanent visual impact from the line under Alternative 4. Yet the State's own draft EIS counts 89 houses and 74 apartment units within 300 ft. of the proposed right of way in just a segment of this alternative. In my view, and I am confident in the view of most others, being that close to a 170 ft. high transmission line is a major visual impact as defined in the EIS. These shortcomings must be addressed in the final draft and the inaccuracies corrected.	For residences within the 300-foot analysis area, the impact determination has been changed to "major" in the EIS. Photographs from the existing Badger-Coulee Transmission Line project from various distances have also been included in EIS Section 3.11 to illustrate this type of impact.
	Lind	SOCIO01	The Driftless is a rural region of the United States that can thrive. We are finding a way to marry industrial, agricultural and tourism uses. We are supporting small businesses and young families. That being said, the region is still struggling with many of the typical issues. Agriculture is under pressure and our youth are moving away. I urge you to use our federal dollars to support infrastructure that will help us make it – rural broadband anyone? – rather than unneeded infrastructure that will scar this special land, harm our community and deter our economic growth.	Comment noted.
	Moffet	ALT02; NEP02	1. Is there need for the additional power transfer capacity at this time or in the future? Additionally, evolving technology such as smart grid developments, more efficient transmission technology (line loss), and cold fusion, wind, solar, and battery storage solutions will make archaic infrastructure like this obsolete and unneeded. These towers and lines will remain for decades blighting the environment while the future of power generation is clearly moving towards local/region generation, storage, and distribution. The economic reality is, the higher the voltages, the larger the lines and the longer the transmission distances the greater the line/transmission losses and the more inefficient the system. This is and will continue to drive innovative technological developments that will ultimately make this a dinosaur long before it's useful life span expires. This will leave rate payers footing the bill for decades to come with no tangible benefits. How will EIS address these short, intermediate, and longer term evolving technological issues?	EIS Chapter 1 describes the purpose and need for the C-HC Project as well as the decisions facing the three Federal agencies that have written the EIS (RUS, USACE, and USFWS). EIS Chapter 2 describes all alternatives that were considered as part of the C-HC Project, including those alternatives that were dismissed from detailed analysis in the EIS. Non-transmission alternatives were dismissed from detailed analysis because they are not responsive to the applications to which the Federal agencies are responding, nor do they meet the six-point purpose and need described in EIS Chapter 1.
	Moffet	ALT01; LAND09	Route selection and easement process. There are serious question about the route selection process and the tendency to use existing easements as a way to facilitate the condemnation and easement acquisition. Clearly expanding existing easements is easier, cheaper, and more expedient than going after new easements. This puts many home owners in jeopardy of massive devaluation of up 45% in their properties valuation for correspondingly inadequate easement payments. How will the EIS compare and evaluate the easement/route motivation and selection process?	Comment noted. EIS Chapter 2 describes the multi-year routing process that was used to inform the alternatives analyzed in detail under NEPA. EIS Section 3.12 discloses the potential impacts to property values.
	Moffet	SOCIO06	Property owners compensation. Existing easements are the easiest to expand and acquire and the most difficult for property owners to contest. This process leaves property owners subject to accepting reasonable offers based on current "market value" of square footage or acreage being taken. This however, ignores completely the fact that a large transmission line of this type adjacent to a residence or on the property has historically reduced property values by up to 45%. This is not a wooden pole low voltage line that exists in our communities currently. Many people will not even consider acquiring property near, or as is the case with this proposal, adjacent to the buildings/homes. There is an inordinate financial burden on individuals whose property is taken for what will be comparatively small easement payment. If individuals do purchase these properties it will be because they are deeply discounted to pre-transmission line construction values. This means property owners on the route, many of whom will not be compensated anything because they are very close but not in the easement zone, will bear a hidden cost of construction for the benefit of the enterprise building the transmission line. How will the EIS address the property devaluation burden place on property owners along the entire route?	Comment noted. Potential impacts to social and economic conditions, including property values, are provided in EIS Section 3.12.
Badger-Hawkeye Bridge Coalition	Hochhausen	REF01; TRANS02	The thoughts of a transmission line crossing into Iowa from Cassville WI is not something that is even remotely helpful to our little village. It would end the chance for building a bridge, which "would" be a benefit to the town. I don't see why you can't join together with the bridge coalition and help each other build both. This can be done by using conduit and attaching the transmission lines in the concrete of the bridge. It would help the town by allowing people to drive here from across the river quicker as not having to drive all the way to Dubuque or to Prairie du Chien.	Comment noted.
Badger-Hawkeye Bridge Coalition	Hochhausen	VIS01	A transmission line put in anywhere near Cassville would ruin our view.	Comment noted.
	Buch	VIS01	To whom it may Concern I have lived in Grant County my whole life. Running a transmission line threw the Driftless Area would be a mistake. Scaring the Landscape in areas left untouched since the Ice Age. Please find a different route than the two proposed.	Comment noted.
	Brookins	NEP02	I am writing to register strong opposition to building the Cardinal-Hickory Creek transmission line for the following reasons: 1: I remain unconvinced that we need the line. Wisconsin has sufficient power for now and into the future so the line will be of no benefit to Wisconsin. Necessary efficiencies and reductions if growth of power use in response to climate change make the line even less necessary in any event.	Comment noted.
	Brookins	LAND02; WLDLF01	The environmental impact of the line running through the Driftless area has not been adequately studied. Harm to the land--both farms and woodlands, as well as the animals and people living near the line will likely be substantial and permanent.	Comment noted. EIS Section 3.10 discloses potential impacts to prime farmland and farmland of statewide importance. EIS Section 3.4 discloses potential impacts to wildlife. Potential impacts to human health are disclosed in Section 3.13 of the EIS.
	Brookins	SOCIO03; VIS01	The power poles and lines are an aesthetic disaster. They will destroy the landscape for over a hundred miles and very negatively affect the thousands of people who would live within sight of the line and the many thousands more who might have wanted to visit the Driftless area.	Potential impacts to visual quality and aesthetics are disclosed in EIS Section 3.11, and potential impacts to social and economic conditions, including tourism, are disclosed in EIS Section 3.12.

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	Brookins	SOCIO01; SOCIO06	Economic consequences to the line will also be substantial and negative. Falling property values will affect individual property owners as well as the communities along the line that depend on tax revenues to provide needed services.	Comment noted. Potential impacts to social and economic conditions, including property values, are provided in EIS Section 3.12.
	Kaiser	WLDF01	There would be 17 story towers [160-190 feet in height] 5 per mile resulting in over 600 towers through part of the most important ecological areas in the Midwest.	Comment noted.
	Kaiser	SOCIO01	The Federal Environmental Impact statement must adequately address issues of power needs, economic outcomes, and environmental impact among other issues	Comment noted. EIS Chapter 1 describes the need for the C-HC Project as well as the decisions facing the three Federal agencies that have received loan or permit applications for the C-HC Project. EIS Chapter 3 does disclose and analyze adverse direct and indirect impacts to all resources, including economic and environmental resources, known to occur in the proposed project area.
	Kaiser	NEP02	Most importantly ATC must provide evidence that more power is needed; at this time Wisconsin does not need more power. Usage in our state is flat or declining; renewable clean sources are increasingly available. Alternatives are available for needed transmission.	Comment noted.
	Kaiser	SOCIO08	If installed there would be huge cost [\$500-700 million dollars] for which investors would be guaranteed a 10% return annually over the lifetime of the lines!!!! And for which local payers would have increased rates!!!!	Comment noted.
	Kaiser	ALT02	Reliability has not been adequately addressed.	Comment noted.
	Kaiser	AIR01; ALT04	Comparison of CO2 levels with and without transmission line must occur and non-transmission line alternatives to must be more fully explored.	EIS Chapter 4, Section 4.4 has been revised to estimate the carbon dioxide (CO ₂) emissions that could occur from generation sources that would benefit from the C-HC Project. This analysis compares two scenarios: 100% coal-generation sources benefitting from the C-HC Project and 100% wind-generation sources benefitting from the C-HC Project. This analysis provides a range of CO ₂ emissions from possible generation sources. Non-transmission and low-voltage alternatives are not analyzed for cumulative impacts because these alternatives are not carried forward for detailed analysis in the EIS.
	Kaiser	HAS01; SOCIO06; VIS01	Real estate and property value will decrease significantly for miles near the lines due to the decreased visual appeal and concerns about stray voltage etc.	Comment noted. Potential impacts to visual quality and aesthetics are disclosed in Section 3.11, potential impacts to socioeconomics are disclosed in Section 3.12, and potential impacts to public health and safety are disclosed in Section 3.13.
	Kaiser	SOCIO03	And similarly, tourism and its economic benefit to the area will decrease due to the loss of scenic appeal.	Potential impacts to visual quality and aesthetics are disclosed in EIS Section 3.11, and potential impacts to social and economic conditions, including tourism, are disclosed in EIS Section 3.12.
	Loots-Gams	SOCIO03	Originally from Wisconsin and after living in Illinois for many years, we moved to southwest Wisconsin last summer to retire. We love the beauty of this part of the state and when I first read about the Cardinal-Hickory Creek Project, I was opposed to it mainly due to the severe blight it will cause to the beauty of the Driftless region. Not only will the surface be scarred, but the structures will cause irreparable damage to the earth. The landscape in the Driftless area is fragile and continentally significant. It doesn't exist anywhere else! People travel from all over to visit the world renowned cheese makers and farms in the area just as they do wineries in other parts of the country. Power lines across the farms and lands will greatly reduce tourism. But a more important factor is the toll it will take on the people living along the path of the proposed lines. Their property values, according to real estate agents, will be reduced by 40%, not to mention the negative health effects of living near the high intensity power lines. There are many alternatives to this type of energy and I urge you to reject this proposal.	Comment noted. Potential impacts to social and economic conditions, including property values, are provided in EIS Section 3.12. Potential impacts to public health and safety are disclosed in EIS Section 3.13.
	Myers	DECI13	To U.S.D.A. Rural Utilities Service, the USFWS, and USACE, DON'T give ATC, ITC, and Dairyland the permit to cross the Mississippi River with these massive transmission lines. DON'T give Dairyland a loan. Say NO!!	Comment noted.
	Myers	NEP02	The C-HC is NOT NEEDED!!	Comment noted.
	Myers	ALT01	There are better LOCAL Non-Transmission Alternatives - LOCAL Renewable Energy,	Comment noted.
	Myers	SOCIO07	The environment - nature, the beauty of nature, the rivers, the sky, the land, wildlife, and love of home and family. Think about what's really important in life and say NO to massive transmission lines now!!	Comment noted.
Badger-Hawkeye Bridge Coalition	Wamsley	SOCIO02	Up until late 2015, Cassville, Wisconsin was home to two power plants, generating over 200 MW of power for homes and businesses throughout the region. These power plants employed approximately 100 people which doesn't even factor in the supporting jobs created elsewhere in the community to serve the operational needs of these two plants. According to the 2010 U.S. Census, Cassville had a population of 947. Losing 100 jobs in a community of 947 has been "detrimental" to the economy of Cassville. Not one of those 100 jobs has been recreated as of March 2019. To add insult to injury, American Transmission Co., ITC Midwest, and Dairyland Power Cooperative want to construct the Mississippi River crossing of the 345-kV Cardinal-Hickory Creek Transmission Line at the site of one of those two power plants. Should the line get built, one of those sites will not be able to be redeveloped for a future business or industry. Cassville needs jobs. Cassville needs young families. Cassville needs an expanded tax base to survive. Construction of Cardinal-Hickory Creek will *not* provide these needs and will only rub salt in Cassville's wounds.	Comment noted.
Badger-Hawkeye Bridge Coalition	Wamsley	ALT01; TRANS02	Highway bridges on the Upper Mississippi River between Moline, Illinois and St. Paul, Minnesota are typically found every 30-40 miles, but there are 60 miles of bridgeless water along the western border of Grant County, Wisconsin. Cassville falls right in the middle of this 60-mile gap. Cassville was poised to receive a bridge in the 1930s/40s, but the advent of World War II put those plans on hold. After years of the idea getting placed on the back burner ever since, a movement has resurfaced to construct a bridge and redevelop the economy of Cassville and the surrounding region following the closure of the power plants. The placement of this bridge makes the most sense at the site of the former Nelson Dewey Generating Station, owned by Alliant Energy (a stakeholder in ATC), at the north end of Cassville, which coincidentally happens to be the preferred crossing for the Cardinal-Hickory Creek Transmission Line. Should the Cardinal-Hickory Creek Transmission Line cross at the Nelson	Comment noted.

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			Dewey site, there will be no room for a future bridge, the economic redevelopment potential of the property will be erased, and the aesthetic view of looking upstream from Cassville's picturesque Riverside Park will be forever tarnished.	
Badger-Hawkeye Bridge Coalition	Wamsley	ALT01; SOCIO03; VIS01	Should the transmission line cross at the lower end of Cassville at the site of the DTE Stoneman plant, the aesthetic view of Cassville will be destroyed by unsightly rust-colored towers, but the bridge initiative has a greater chance of survival along with the redevelopment of the Nelson Dewey site for future businesses and industries. Clearly though, both site solutions with 170-foot-tall towers and overhead wires have severe negative consequences for Cassville.	Comment noted.
Badger-Hawkeye Bridge Coalition	Wamsley	ALT06; TRANS02	If the stakeholders of C-HC could throw their support behind building a highway bridge across the Mississippi River at the site of the former Nelson Dewey plant, then the C-HC line could be attached to the bridge which would keep power flowing between Iowa and Wisconsin, all while Cassville and adjacent areas of northeast Iowa and southwest Wisconsin see economic growth with the addition of a bridge crossing. Plus, the breathtaking views of the Mississippi River in this area will be preserved too if the transmission line is encased in conduit, connected to the bridge, and placed out of sight, which will ease environmental concerns in the river valley and satisfy wildlife enthusiasts and river conservationists. On behalf of Badger-Hawkeye Bridge Coalition, I strongly urge the stakeholders of Cardinal-Hickory Creek to consider supporting construction of a highway bridge across the Mississippi River at Cassville. Save the community and the region by helping facilitate the bridge idea at the state level in Wisconsin and Iowa with their respective DOTs, and then you will have plenty of local support for attaching the transmission line to the bridge.	Comment noted.
	Gaskill	ALT04	No full and fair alternative of a combination of other energy methods has been given	Comment noted.
	Gaskill	SOCIO08	no questions on the full transparency of costs have been answered.	Comment noted.
	Gaskill	ALT07; LAND09	Recently, a company proposed building a high transmission line underground, following existing rail corridors. Will there be a cost comparison of such a proposal?	The project referred to in this comment is the SOO Green Renewable Rail project. It is currently in the very early phases of planning; therefore, the feasibility and engineering are not available to inform alternatives for the proposed the C-HC Project.
	Gaskill	ALT02	Will you try to convince me that this is a good investment for citizens for the next few decades, or is it just a good investment for the transmission companies, because this is what they do? Energy production is quickly changing. Are you examining whether locking us in to older solutions is the way to go?	Comment noted.
	Gaskill	EFF01	The effect on resources has not been sufficiently examined.	Comment noted.
	Gaskill	VEG01; WLDF01	This area of the state is one of exceptional birds, plants and animals. Is the analysis based on ground work surveys throughout the year, or is it based on older data collected for other reasons? Much of the area this would potentially go through is continuous forest needed by many species. Also, the grassland birds, declining in most areas, proliferate in these paths.	Comment noted. Potential impacts to wildlife are disclosed in EIS Section 3.4. Field surveys were conducted for portions of the proposed project area with access permission. For those areas where access was not provided, the most recent datasets were used to characterize existing resource conditions.
	Gaskill	VEG03; WAT03	Cutting big swaths will open up the area to exotic species, and use of chemicals will poison the lands and waters. How can you assure that the results of this will not be permanent?	Comment noted. EIS Section 3.3 discloses potential impacts from invasive species. EIS Section 3.1 includes the environmental commitments applicable to herbicide applications.
	Gaskill	WLDF02	Bats and large birds, particularly hawks, owls and cranes, often die upon collision with high wires. Much money, public and private, has gone into rebuilding the population of whooping cranes. They migrate right over where these lines will be. What assurance can you give that this will not have a significant effect on these species?	Potential impacts to wildlife species and migratory birds are disclosed in EIS Section 3.4. Environmental commitments to minimize impacts to species are provided in EIS Section 3.1.
	Gaskill	REC04; SOCIO03; VIS01	And what of the damage to the views in the numerous parks and the effect on tourism numbers; no one comes to see power lines in southwest Wisconsin.	Comment noted. Potential impacts to visual resources are disclosed in Section 3.11 of the EIS.
	Gaskill	LAND02; LAND03	And have you examined the potential cost to farmers, already struggling, from damage to dairy herds or organic certification?	Comment noted. EIS Section 3.10 has been revised to disclose potential impacts from herbicide drift to organic farms. Potential impacts to social and economic conditions, including property values and jobs, are provided in EIS Section 3.12.
	Gaskill	SOCIO06	Damage to the community can already be seen. Lives have been in limbo for two years already. People cannot sell their homes. Property values are a concern. Our assessments are partially based upon the view from our property; how do you deal with this? Will we be compensated for these losses, for these delays?	Potential impacts to social and economic conditions, including property values, are provided in EIS Section 3.12.
	Gaskill	VIS01	There is the UGLY FACTOR. We will be looking at these towers for the rest of our lives. No one who settled in this area bargained for that.	Comment noted.
	Gaskill	ALT02	And, when the towers and lines are no longer viable, perhaps sooner than later, who will pay to remove them? Will we citizens still be paying for the construction of them? How are you accounting for this? How do we know the construction crews will be responsive to concerns?	The Utilities would be responsible for decommissioning the C-HC Project. EIS Chapter 2 has been revised to include a description of decommissioning activities to remove the C-HC Project once it reaches the end of its life.
	Gaskill	WAT02	How will we know that erosion will not flood our streams with silt? Is there a track record that will be released so that we know who is accountable and how they have performed previously?	Comment noted. EIS Section 3.1 discloses environmental commitments that the Utilities would be required to follow during construction and operation of the C-HC Project. These commitments include measures to avoid, minimize, or mitigate for impacts, such as soil erosion.
	Gaskill	ALT02	Who will tell us, honestly, where the electricity is going? It seems pretty sure it is not for us, but heading to Illinois and potentially points east.	EIS Chapter 1 explains that the C-HC Project would create an outlet for additional wind power that would bring electricity from the wind-rich areas of the upper Great Plains to load centers like Madison and Milwaukee, and to the remainder of the MISO footprint.
	Gaskill	HAS01	I feel uncertain of the safety of the line; that is, I fear hacking of such long-distance, high voltage lines. Decentralization would seem to be far safer for the country from a national security standpoint. There are no believable assurances that the lines are secure.	Section 3.13 of the EIS has been revised to address public comments about risks from severe weather and security breaches.
	Gaskill	ALT01; EDIT	Finally, the maps shown at the Barneveld meeting had multiple alternative routes, but the details were so poor that some people had trouble figuring them out. The road names were not given...why? If you expect people to really examine these, they must be user-friendly. I've been	Comment noted.

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			concerned about this project for so long, and looked at so many maps, that I could figure it out. But some were confused and uncomfortable asking for clarification. Are these maps for citizens to peruse or just to fulfill requirements of the regs?	
	Berg	VEG01	This line will run through my dad's property and will remove hundreds of trees. His address is 21886 Clear Creek Rd.	Comment noted. EIS Section 3.3 discloses potential impacts to vegetation, including forested areas.
	Berg	ALT01	I am also the future owner of this farm as well, so I have vested interest in what happens to this property. I would prefer that alternative 2 or 5 be used instead which will avoid my dad's farm.	Comment noted.
	Berg	SOIL02; VEG01	The concerns I have on my dad's property are the removal of trees. He planted 11 acres of trees in order to maintain the river bed and to maintain the highly erodible soil. Removal of an entire acre of trees will only increase the soil erosion and reduce water quality. The removal of these trees may cause more flooding downstream in an area that already floods. And, additional trees outside of the easement area will die due to root disruption and soil compaction.	Comment noted. EIS Section 3.2 discloses potential impacts to soils. EIS Section 3.3 discloses potential impacts to vegetation, including forested vegetation communities.
	Berg	SOCIO05	No additional compensation is included for the future value of these trees. The trees are only a little over 20 years old, so there is essentially no logging value in them at this time. However, all of these trees have been planted to grow straight, and would have a future logging value for all of these hardwoods. Many of these trees are walnut, chestnut, and oak species.	EIS Section 3.10 has been revised to disclose potential impacts to timber value removed for ROW associated with the C-HC Project.
	Berg	LAND02; VEG01; WLDF01	Again, this easement, and the constant spraying to keep any future vegetation at bay will only harm any neighboring vegetation and will disrupt the already fragile ecosystem, and natural wildlife refuge that has been created. This spraying to keep the vegetation down on the easement will virtually eliminate the ability to use this land as an organic farm.	Comment noted. See EIS Section 3.1.2.2
	Berg	SOCIO06	The future value of this 280-acre farm will be diminished with the 345kV lines on the property.	Comment noted. Potential impacts to social and economic conditions, including property values, are provided in EIS Section 3.12.
	McGee	CUL01; REC04; SOCIO03	I don't think that the EIS has adequately considered the impacts of: 1) Our history, Military Ridge, The Military Ridge Trail users, or the cultural and religious significance of the Driftless Area to both its residents as well as people who live far away but use the Driftless Area for vacation, recreation, and emotional refuge.	Potential impacts to the Military Ridge Trail are disclosed in EIS Sections 3.10 and 3.12.
	McGee	WLDF01	The natural environment. ~Bird and insect migration might be affected. ~	Comment noted. EIS Section 3.4 discloses potential impacts to wildlife.
	McGee	VEG03; WLDF01	~Invasive species prevention and management has not been adequately considered. Invasive species will spread along line routes if construction and maintenance equipment are not sterilized daily. ~Herbicide usage and impacts on local ecology, organic farms, citizen health, and creation of "super-weeds" that tolerate long-term repeated herbicide applications. ~Pollinator impacts with regards to both herbicides and EMFs.	Comment noted. Potential impacts associated with invasive species are disclosed in Section 3.3 of the EIS. Impacts to wildlife species, including pollinators such as the rusty patched bumble bee, are disclosed in EIS Section 3.4.
	McGee	SOCIO01; VIS01	The aesthetics and its impact on our quality of life. These pylons are not just an eyesore, they would emotionally ruin people's lives. They destroy the reason we live, visit, do business, and recreate in the Driftless Area. Even for commuters along 18/151, it will ruin the daily commute and make a beautiful scene become depressing and drab. Emotional well-being was not adequately considered.	Comment noted. Potential impacts to visual quality and aesthetics are disclosed in EIS Section 3.11.
	McGee	VIS01	Light pollution. Light pollution is already a problem with overly bright LEDs taking over the market. The light pollution from lit-up power-line pylons will only add to this problem, and is significant in affecting our lifestyles. They will ruin the night skyline and views of the stars. Many people live in the country to avoid such light pollution that's more typical of cities. These pylon lights will destroy our emotional connection to the area and our dark-sky views.	The transmission line structures would not have lighting unless required by FAA permit. At this time, the only location where lighting may be required would be in the Cassville, Wisconsin area, if the Mississippi River is crossed by the C-HC Project at the Stoneman Substation.
	McGee	HAS01; LAND03; WLDF01	EMFs. Electromagnetic fields have not been adequately considered. People get increased rates of cancer and leukemia near such power-lines. Insect larvae might not develop right on nearby prairies and forests due to electromagnetic fields. Amphibian eggs could be affected. Migration could be affected. Monarchs could die from it. Livestock and commuters might be subjected to unsafe levels of radiation along the lines.	Section 3.13 of the EIS discloses information about electric and magnetic fields.
	McGee	CUL01; SOCIO01	The Amish and other cultures and sub-cultures who don't believe in such unnecessary "progress" have not been adequately considered. Many don't even know about the proposal.	Comment noted. The EIS has been revised to ensure that the potential impacts to the referenced community are reflected in the impacts analysis within the Socioeconomic section (EIS Section 3.12). RUS does not call out impacts to Amish communities specifically, but the school that was brought to our attention through the DEIS public comment period has been added to the impact analysis.
	McGee	SOCIO03	Tourism would be negatively impacted, as would the local economy. Parks, recreation, prairie lovers, agro-tourism, historical tourism, small-town economies, all would be negatively affected by such transmission lines.	Comment noted. Potential impacts to social and economic conditions, including property values and tourism, are provided in EIS Section 3.12.
	McGee	SOCIO06	Property values will plummet along proposed route, and anywhere within view of the lines will be negatively affected.	Comment noted. Potential impacts to social and economic conditions, including property values, are provided in EIS Section 3.12.
	McGee	AIR03; ALT02	The negative impact on the environment of the sheer quantity of materials used to build the pylons, their cement footings, and the hundreds of miles of wire have not been considered. Additionally, the energy consumption to get construction crews out to the sites every day for years of building and maintenance have not been factored into the net environmental impact of the proposal.	Section 3.6 of the EIS discusses air emissions associated with construction and operation of the C-HC Project.
	McGee	ALT04; NEP02	I ask that you not approve the loan to Dairyland Power Cooperative. It is not necessary. It is merely a money-maker for investors. The current infrastructure could simply be upgraded as needed, rather than adding the CHC line. If it must be approved against all of our wills and against better judgement, please only approve the loan if the entire line is buried and all considerations above are compensated for.	Comment noted.
	Addison-Jasso	NEP02	I object to the CHC transmission line proposed to be routed throughout southwest Wisconsin. It serves absolutely no purpose or benefit to the residents of Southwest Wisconsin. The power being transmitted through these lines will not be for the use of our communities or residents – which is evidence alone that they are unneeded. There are multiple factors that will impact southwest Wisconsin if this moves forward. A 2013 publication by the Public Service Commission explains every reason why the ATC/CHC transmission line is a bad idea https://psc.wi.gov/Documents/Brochures/Environmental%20Impacts%20TL.pdf .	Comment noted.
	Addison-Jasso	WLDF04	For each point I address below, please refer back to this PSC link as it will explain. I have additional supporting references: 1) Endangered and threatened species are in jeopardy as the CHC will: disrupt the habitat the species need to survive and grow in; disturb their nesting seasons; and	Comment noted. EIS Sections 3.3 and 3.4 disclose potential impacts to threatened and endangered species. Furthermore, RUS consulted with USFWS regarding potential

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			push them away and into environments they cannot exist or thrive in. a) Refer to cited DNR "Wisconsin Endangered and Threatened Species Laws & List" https://dnr.wi.gov/files/PDF/pubs/er/ER001.pdf b) According to the Public Service Commission (PSC), "construction and maintenance of transmission lines might destroy individual plants and animals or might alter their habitat so that it becomes unsuitable for them. For example, trees used by rare birds for nesting might be cut down or soil erosion may degrade rivers and wetlands that provide required habitat". https://psc.wi.gov/Documents/Brochures/Environmental%20Impacts%20TL.pdf c) The Endangered Species Act was created to protect endangered and threatened species, and their ecosystems needed to survive. d) Again the PSC, states that the construction of the CHC will interfere with the flying and migratory patterns of the various species.	adverse effects to Federally listed species. The biological opinion for the C-HC Project is included as an appendix in the EIS.
	Addison-Jasso	SOCIO01; SOCIO06	b) Property values will drop. Kurt Kielisch, a forensic real estate appraiser has been tracking the effects of property value being reduced due to the ATC lines. In a June 1, 2006 article titled POWER LINE WORRIES LANDOWNERS APPRAISER SAYS VALUES COULD DROP 15-20%. https://madison.com/business/power-line-worries-landowners-appraiser-says-values-could-drop/article_d2f1d662-9d7c-5373-a144-d111e3f4e761.html c) Also refer to effects of land prices on page 18: https://psc.wi.gov/Documents/Brochures/Environmental%20Impacts%20TL.pdf d) Loss of large employers driven out would create high unemployment. An August 21, 2016 Wisconsin State Journal article BIG INDUSTRIES SAY HIGH ELECTRIC PRICES MAY PUSH THEM OUT OF WISCONSIN. https://madison.com/wsj/business/big-industries-say-high-electric-prices-may-push-them-out/article_c1fab70d-3bb0-5035-bb62-410289c9309e.html	Comment noted. Potential impacts to social and economic conditions, including property values, are provided in EIS Section 3.12.
	Addison-Jasso	SOCIO02	d) Loss of large employers driven out would create high unemployment. An August 21, 2016 Wisconsin State Journal article BIG INDUSTRIES SAY HIGH ELECTRIC PRICES MAY PUSH THEM OUT OF WISCONSIN. https://madison.com/wsj/business/big-industries-say-high-electric-prices-may-push-them-out/article_c1fab70d-3bb0-5035-bb62-410289c9309e.html	Comment noted.
	Addison-Jasso	TRANS02	e) Wear and tear to our roads and bridges. Will the ATC fund the repairs?	Potential impacts to the transportation system are discussed in EIS Section 3.8. During the construction and operation phases of the project, coordination would be required with the U.S. Department of Transportation, FHWA, Iowa Department of Transportation, WisDOT, and local agencies to ensure the weight loads and width of the existing facilities are considered in the project planning and delivery of materials and equipment.
	Addison-Jasso	SOCIO03	f) Tourism will take a beating. Have you ever visited our part of the state? People come here to get away from the wires and concrete. The presence of the CHC line will be devastating in this regard as it will take away aesthetic beauty and peace. Small businesses that depend on tourists will be impacted.	Comment noted. Potential impacts to social and economic conditions, including property values and tourism, are provided in EIS Section 3.12. Potential impacts to visual quality and aesthetics are disclosed in EIS Section 3.11.
	Addison-Jasso	LAND02	g) Southwest Wisconsin is rural, meaning farming communities, will be greatly affected. If you know anything about farming, you would know of the hardships and more and more farms going out of business. Placement of transmission lines will be a detrimental by taking away land that sustains the farm and family. Pests, disease and contamination of soil, which can devastate a farming operation, can be spread over the 125 mile project. The CHC line will cause many inconveniences and hinderances, as well as hurting farmers economically. https://psc.wi.gov/Documents/Brochures/Environmental%20Impacts%20TL.pdf	Comment noted. The EIS includes discussions of impacts to agricultural lands.
	Addison-Jasso	HAS01	h) Safety issues cited, such as: https://psc.wi.gov/Documents/Brochures/Environmental%20Impacts%20TL.pdf	Comment noted.
	Addison-Jasso	VEG01	j) Rape of land and trees. There are several instances of where the ATC has raped land and trees, I am only going to note three: "They get to do what they want": Green Bay Residents Fight Power Company To Save Trees" https://www.greenbaypressgazette.com/story/news/2019/02/18/green-bay-residents-fight-american-transmission-co-save-trees/2869255002/ "UPDATE: Homeowner Says ATC Transmission Cut Down Nearly 30 Trees in his Yard" https://www.wearegreenbay.com/news/local-news/homeowner-says-atc-transmission-cut-down-nearly-30-trees-in-his-yard/908554165 "The Grid to Nowhere" Refers to the rape of the land. https://isthmus.com/news/cover-story/argument-against-building-giant-transmission-lines	Comment noted.
	Addison-Jasso	NEP02	3) Unnecessary and too Expensive: a) Only 60% capacity of the current 168kV line is being used. In other words, the supply is far greater than the current demand. b) Jay Regnier, Vice President of Projects for Project Resources Commission (PRC) was quoted in the November 15, 2018, Herald Independent (Lancaster WI) stating the connecting of proposed wind towers is not an issue, "Regnier said they feel there is room on the existing 168kV line there. Regnier said that the space on the existing transmission line is why they decided to connect and transmit power"	Comment noted. EIS Chapter 1 describes the need for the C-HC Project as well as the decisions facing the three Federal agencies that have received loan or permit applications for the C-HC Project.
	Addison-Jasso	ALT01; ALT04	4) Other Options: a) Bury the transmission lines. SOO Green – run parallel to the railway. The "HVDC (High Voltage Direct Current) underground technology is safe, reliable and proven." http://www.soogreenrr.com/ "Many benefits of burying high voltage power lines. Essentially, all of the negative impacts are either eliminated or significantly reduced when power lines are buried. And, when capital maintenance and transmission loss costs are combined over the life of a line... underground lines are less expensive than overhead lines". https://retasite.wordpress.com/2012/08/03/nobody-wants-overhead-high-voltage-power-lines/ b) Super Conducting Transmission Line – are buried, not above ground. Calculation shows that high currents of super-conducting transmission lines do not pose a threat. https://www.researchgate.net/publication/284359690_Superconducting_transmission_lines_-_Sustainable_electric_energy_transfer_with_higher_public_acceptance c) Erect your transmission lines and substation near the targeted destination. Transmitting power over long distances has significant losses. d) Per a March 25, 2013, article by Jacques Schonek, "The overall losses between the power plant and consumers is then in the range between 8 and 15%". e) https://blog.schneider-electric.com/energy-management-energy-efficiency/2013/03/25/how-big-are-power-line-losses/ f) Locate transmission lines and substation to support off-shore wind turbines – and transmit that energy to your targeted destination. g) https://en.wikipedia.org/wiki/Offshore_wind_power h) Personal solar power – harnessing power from the sun.	The project referred to in this comment is the SOO Green Renewable Rail project. It is currently in the very early phases of planning; therefore, the feasibility and engineering are not available to inform alternatives for the proposed the C-HC Project. EIS Chapter 2 discusses the alternative of burying the transmission line underground. EIS Chapter 1 describes the need for the C-HC Project as well as the decisions facing the three Federal agencies that have received loan or permit applications for the C-HC Project. As discussed in EIS Chapter 2, Section 2.2.2, non-transmission alternatives are not responsive to the applications to which the Federal agencies are responding, nor do they meet the six-point purpose and need described in EIS Chapter 1. The Federal EIS considers alternatives that are ripe for Federal consideration. What that means is that a proposal has been made for those alternatives or that it is reasonably foreseeable that they could be implemented in a time frame that would meet the need for the Federal action.
	Addison-Jasso	DEC113	In closing, the CHC transmission line will be a blight upon our Driftless area of Wisconsin. This endeavor offers no benefit or any assistance to we who live here. Who benefits from this proposal? Only those that want to build them, and the shareholders who will have their pockets filled with 10% of the profits. I cannot support your designing to put this burden on the residents of southwest Wisconsin who can barely make ends meet now.	Comment noted.

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	Addison	DECI13	I would like to express my strong opposition and disapproval of the proposed Cardinal Hickory Creek power transmission project by American Transmission Company. As a landowner and long-time resident in the potential path of this project, I see several negatives from a personal point of view. But more importantly, this project presents no appreciable benefits to the residents of southwest Wisconsin as a whole, and poses a host of serious concerns to those residents and the general public in terms of environmental and safety impact.	Comment noted.
	Nowak	REC01; SOCIO03	I would like to comment on the proposed power line. I live in Mount Horeb and served on the Board of Directors of the Mount Horeb Area Historical Society for 15 years. We just recently opened the Driftless Historium. Our permanent exhibit displays the history of this beautiful, unique landscape called the Driftless Area. Please don't destroy the character of this wonderful area. Once those power lines go up, there is no returning to the pristine landscape. I really don't want the pictures displayed in our museum to be the only reminder of what we once had. I am very concerned about the environmental impacts of the proposed line. My husband and I enjoy the outdoors; we go biking, hiking, camping, birdwatching. A lot of money had been invested in this area to make sure that everyone can enjoy its natural beauty, and visitors bring lots of dollars into our economy.	EIS Section 3.11 discloses the potential impacts to visual quality and aesthetics and EIS Section 3.12 discloses the potential impacts to tourism.
	Nowak	SOCIO07	The value of our public lands will be greatly degraded if the construction of these power lines is allowed to go through. They can have nothing by negative impacts on the birds, animals and plants that we so enjoy in the region. PLEASE consider how this transmission line will impact our area. Certainly there must be another way. The Driftless Area is the wrong place for this power line! Thank you for listening	Comment noted.
	Morton	EFF04	Issue One: The mitigating actions to all the concerns from environmental, to socio economic, to cultural, etc. can never really be mitigated or compensated for either in physical restoration or in dollars. It will be a loss to the Driftless Area forever and not recoverable. The mitigations are band-aids, enabling everything left in the wake to suffer including wetlands, woodlands, tallus slopes, special and rare status plants and animals, geology and soils, noise, and an enduring visual impact. I have lived in the area now 40 years and I see first hand what these practices do and the long-term effects of pesticide use and poor land management. There is no coming back from disturbing our environment to the degree ATC is proposing. Even the "low impact" items listed are really not "low impact" for an individual landowner. For example, I am still dealing with the mess (impacted soil, grass restoration, surface ruts, etc) that was made on my property when KDL placed fiber optic cable from Reedsburg to Dodgeville 8 years ago. They completed a "restoration" but our quality standards are not the same. I had labor costs, seed costs, drainage repair costs, machinery costs. These events have lasting negative long-term effects. The ATC Cardinal Hickory Creek project is much more destructive than the KDL minor project.	Comment noted.
	Morton	SOCIO01	Issue Two: Customers/citizens do not want the transmission lines. Period. No benefit to Wisconsin citizens. There comes a time when we have to recognize that this business model as it relates to the environment is outmoded and needs to change to a more sustainable environmentally progressive approach. ATC's real customers are not the citizens of Wisconsin, but are their shareholders who have little or no investment/commitment to Wisconsin and certainly not for the "care and feeding" of the Driftless Area.	Comment noted.
	Morton	VEG01; WLDLF02	Personal Property Impact: I am opposed to the transmission lines specifically on my property because: 1. We have planted hundreds and hundreds of trees, bushes and plants over 40 years to develop a bird refuge. Birds are very sensitive to changes and certainly to herbicides and pesticides. We attract almost every species of song bird that you would find in Wisconsin and many migrating flocks and seasonal residents stop here eg evening grosbeaks, rose breasted grosbeaks, bobolinks, prairie wren, house wren, orioles, warblers, sparrows, vireos, wood thrush, meadow lark, hummingbirds, tanagers, to name a few. We have resident pileated woodpeckers, hairy, downy, red-headed woodpeckers, barred, great horned and screech owls, nuthatches, cardinals, titmouse, chickadees, gold and red finches, blue jays, hawks of all kinds eg cooper's, sharp shinned, red tail, and on the list goes.	Comment noted. Potential impacts to wildlife, including avian species, are disclosed in EIS Section 3.4. EIS Chapter 3 includes the following environmental commitments related to herbicide use: The Utilities will employ a Certified Pesticide Applicator for all herbicide applications within the C-HC Project. The Certified Pesticide Applicators will only use herbicides registered and labeled by the USEPA and will follow all herbicide product label requirements. Herbicides approved for use in wetland and aquatic environments will be used in accordance with label requirements, as conditions warrant. During the easement negotiation, landowners can decline the use of herbicides for vegetation management activities once the line is in operation. Therefore, no herbicides would be applied within portions of the ROW on which the landowner wishes not to introduce it.
	Morton	WLDLF01	2. We have all types of Wisconsin mammals and recently bobcat captured on our DNR trail cam, as well as other creatures eg pickerel frog which is on the watch list.	Comment noted. EIS Section 3.4 discloses potential impacts to wildlife.
	Morton	LAND05; VEG01	We have planted trees along HWY Z for privacy and road noise barrier that would be impacted--cut down or pruned.	Comment noted.
	Morton	LAND05; SOCIO06	Also fencing that would be disturbed. ATC's siting of the towers will be at my entryway drive. Would you want one there on your property? I will be reminded every day for the rest of my life of this monstrosity. This will certainly affect our land value and others' land value near by.	Comment noted. Potential impacts to property values are disclosed in EIS Section 3.12.
	Morton	LAND02	We have used organic practices for 40 years and do not want any harmful sprays used on our property or anywhere close to us. Organic farms around us also would be negatively affected by installation and maintenance practices of the towers. We should be encouraging organic practices!!	Comment noted. See EIS Section 3.1.2.2
	Morton	VEG01; VEG02	Our 20 acre prairie can not handle pesticides or land disturbance. We have prairie bush clover (protected) in our Tall Grass Prairie, and a long list of prairie plants.	Comment noted.
	Morton	NEP02; SOCIO08	We do not have reliability issues for electric power; we do not want to pay more for power; and we don't want to pay for power that is not accessible to us and that just utilizes and damages our land for others gain.	Comment noted.
	Morton	SOCIO03	We are also business owners and rely on the tourism that the Driftless Area brings to keep our businesses going. Dotting the countryside, state parks, conservancy areas with 170 ft high voltage towers will be a deterrent to tourism and blights the open space that people come here for. We can't afford this.	Comment noted. Potential impacts to social and economic conditions, including property values and tourism, are provided in EIS Section 3.12. Potential impacts to visual quality and aesthetics are disclosed in EIS Section 3.11.
	Morton	ALT04	We believe that our environmental focus in Wisconsin needs to move in a much faster sustainable direction using solar and wind with locally distributed power which avoids all the issues that this project is attempting to mitigate.	Comment noted.
	Morton	SOCIO06	And at a personal level, I can not handle the negative financial impact to property and area economic effects.	Comment noted. Potential impacts to social and economic conditions, including property values, are provided in EIS Section 3.12.
	Morton	SOCIO08	Where is the comprehensive cost benefit analysis to justify this project?	As stated in NEPA regulations 40 CFR 1502.23, "For purposes of complying with the Act, the weighing of the merits and drawbacks of the various alternatives need not be

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				displayed in a monetary cost-benefit analysis and should not be when there are important qualitative considerations.”
	Brothers	VIS01	As a resident of Mount Horeb, Wisconsin, I write to express my objection to the proposed construction of 175-ft transmission towers immediately adjacent to my town. These towers are ugly, and we are being asked to look at their ugliness every day, forever.	Comment noted.
	Brothers	ALT01; VIS01	A cursory reference in the EIS was made to installing underground lines instead, as has been done elsewhere. This alternative should be explored in more detail. And alternate routes through less populated areas should be valued more highly, because they subject fewer people to perpetual ugliness.	EIS Chapter 2 discusses the alternative of burying the transmission line underground.
	Berg	LAND03	I am sending this on behalf of my dad Roger Bradshaw. ITC wants to build a transmission line on our farm and it's not needed. We have stock cattle and calves on pasture that will stampede from construction noise.	Comment noted. EIS Section 3.7 has been revised to disclose potential noise impacts to livestock.
	Berg	VEG04; WAT01	We have a 20 year-old tree plantation for stream bank stabilization and filtering purposes as well as many older oak trees. This bottom land is highly erodible and has a high CSR (Crop Suitability Rating). Tree removal will cause poor water quality and excess flooding downstream. This farm is a mile long and ITC intends to destroy everything in their path.	Comment noted.
	Berg	LAND02	Future aerial and ag spraying would be restricted.	Comment noted.
	Berg	SOCIO06	The resale value of this farm and land would be greatly reduced. This transmission line corridor is too expensive and the consumer will have to pay for it.	Comment noted. Potential impacts to social and economic conditions, including property values, are provided in EIS Section 3.12.
	Reyal	HAS01	I believe that the EIS has not adequately addressed the issues of stray EMF's. The electromagnetic fields emitted from such transmission lines is significant. What is the impact of EMF's on nearby communities and homes? Leukemia rates rise when high voltage lines go. This has not been thoroughly considered. Also: what is the impact of EMF's on other species? Cattle, horse, migratory birds, wildlife, and larval stages of insects in the soil and on nearby vegetation. How do EMF's affect pollination, insect breeding behavior, and migration	EIS Section 3.4 has been revised to include a discussion of impacts to honey bees from exposure to EMF. EIS Section 3.13 has been revised to include a discussion about stray voltage as well as disclose potential impacts to livestock from exposure to EMF.
	Reyal	VEG03	Further, the spread of invasive species along the proposed line hasn't been properly considered nor has the use of herbicides on local ecology. Construction and maintenance contractors spread invasive species.	Comment noted. EIS Section 3.3 discloses potential impacts from invasive species. EIS Section 3.1 includes the environmental commitments applicable to herbicide applications.
	Reyal	VIS01	The historical and emotional impact on our culture is great. The Military Ridge is visible from many miles around. The lights on the pilons would ruin views at night. Light pollution on pilons will destroy our "sense of place" in the Driftless Area.	The transmission line structures would not have lighting unless required by FAA permit. At this time, the only location where lighting may be required would be in the Cassville, Wisconsin area, if the Mississippi River is crossed by the C-HC Project at the Stoneman substation.
	Reyal	ALT04	If you approve this land, and I hope you don't, please mandate that it BE BURIED the entire route.	EIS Chapter 2 discusses the alternative of burying the transmission line underground.
	Nickels	NEP02	The Draft Environmental Impact Statement (EIS) has not demonstrated a need for the proposed transmission lines. The applications assumes that Wisconsin will purchase renewable power generated from Iowa, but does not indicate there have been any agreements or discussion to do so. WI now and in the past decade has had a flat demand for electric power, why would WI purchase additional renewable power when they meet and exceeded their goal for renewable generation? The final EIS should make clear that the Midcontinent Independent System Operator (MISO) agreement will force WI to purchase renewable generation from IA whether needed or not. Since renewable energy will at best provide 8 to 15 percent of our electrical power consumption, MISO and the power utilities associated with this proposed transmission line expansion will engage in energy arbitration similar to what now occurs between the States of California and Arizona. How will the final EIS address the misleading indication that Wisconsin needs or wants to purchase renewable energy from an opportunistic State (Iowa) which makes a show of their virtue in wind generation at an additional cost burden to Wisconsin? •	Comment noted. EIS Chapter 1 describes the need for the C-HC Project as well as the decisions facing the three Federal agencies that have received loan or permit applications for the C-HC Project. EIS Section 1.4 provides a list of both in-state and out-of-state generation sources that would benefit from the C-HC Project.
	Nickels	SOCIO06	Chapter 4, page 141; Several of the statements made regards property values are totally false and misleading, studies cited and their conclusions have been proven to be incorrect with respect to the proposed CHC transmission line. Several noted experts in the field of property values associated with transmission lines have publicly stated that property values adjacent to transmission lines have experienced a losses in market value of between 20 and 40 percent. In addition, sale of property adjacent to transmission lines has been difficult, which we have firsthand experience. How will the final EIS correct this misinformation and describe a more accurate discussion of loss in property value, in residual, commercial and community facilities?	Comment noted. Potential impacts to social and economic conditions, including property values, are provided in EIS Section 3.12. RUS has reviewed the recommended citations of additional peer-reviewed articles presented through public comments and has incorporated this information into the EIS.
	Nickels	WAT02; WAT03	Potential ground water pollution due to construction of the transmission line pole construction. Groundwater pollution, in varying degrees, exists today over much of the proposed transmission line route. Most of this is due to agricultural use of the land. Proposed construction of three to five foot diameter circular foundations, to depths of forty feet, will provide seepage paths directly into the groundwater table. Herbicide runoff from maintenance of the right-of-way potentially will pollute groundwater. How will the final EIS address groundwater pollution, who will mitigate pollution of the groundwater and who will be responsible to investigate polluted groundwater wells near the proposed transmission line route?	Comment noted. Potential impacts to water resources and quality, including groundwater, are disclosed in EIS Section 3.5.
	Nickels	ALT02	Reliability issues; the draft EIS makes a weak argument that the proposed transmission line will be more reliable than what? Supporting transmission cables 100 feet above the ground surface for over one hundred miles does not sound reliable to me, this is out dated technology. In reality the high cost of this project and its poor reliability makes no sense for the small amount of renewable energy obtained. How will the final EIS justify this when several alternative technologies exist and are being adopted now?	As discussed in EIS Chapter 2, Section 2.2.2, several non-transmission alternatives were considered and dismissed from detailed analysis in the EIS because they are not responsive to the applications to which the Federal agencies are responding, nor do they meet the six-point purpose and need described in EIS Chapter 1. EIS Section 3.13 has been revised to include a discussion about severe weather and security breaches.
	Nickels	NEP02	The Draft EIS does not address recent development of renewable solar energy installations that have been constructed or proposed in southwest Wisconsin. These developments do not rely on the CHC transmission line project and make it obsolete before construction would be completed. How will the final EIS address the issue of recent renewable generation facilities located in southwest Wisconsin?	EIS Section 1.4 identifies renewable wind and solar projects in southwest Wisconsin, which would benefit from the C-HC Project. These projects are also incorporated into the revised cumulative impacts analysis presented in EIS Chapter 4.
	McClean	ALT03	The draft EIS offers six alternatives for the C-HC Project. Our belief is that the No Action Alternative is the appropriate response to resolve this project. We reach this conclusion on the basis of our review of the materials provided at the informational meeting.	Comment noted.

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	McClean	LAND03	Mr. Deutmeyer owns farmland in Clayton County that includes parcels #0314400002, #0314200006, and #0314200007. His dairy operation is affected by the proposed line on several of the alternatives offered for review.	Comment noted.
	McClean	NEP02	Need. It does not appear that a need exist for the line as proposed. The consumption of electricity has not met the demand projected when this proposal was originally drafted. A new underground line is also proposed to move energy generated by solar, wind and offer "clean sources" in the same area.	EIS Chapter 1 describes the need for the C-HC Project as well as the decisions facing the three Federal agencies that have received loan or permit applications for the C-HC Project. The project referred to in this comment is the SOO Green Renewable Rail project. It is currently in the very early phases of planning; therefore, the feasibility and engineering are not available to inform alternatives for the proposed the C-HC Project.
	McClean	SOCIO08	Cost. The projected cost does not provide an effective cost savings for the Iowa consumer. It is frustrating to have to diminish a farm operation by running utility poles through the property that will see no benefit from the electrical transmission. 3. Cost (2). The benefit to Iowa consumers is also limited and not cost effective. It is unclear from the plan who benefits from this addition to the power grid, but it is certainly not electrical users in Iowa.	Comment noted.
	McClean	ALT01; LAND01	Route Selection. The outline of the process used to run the route is arbitrary and unreasonable. The selection process should be based on a route that has approval from the appropriate landowners as opposed to picking a route and demanding compliance by those effected by the route.	Comment noted. EIS Chapter 2 describes the multi-year routing process that was used to inform the alternatives analyzed in detail under NEPA.
	McClean	SOCIO06; SOIL03	Cost (3). The value offered for the landowner to recover any loss is insignificant compared to the impact on the land. Not only is the area of the easement impacted, but the surrounding land used by ITC to build the line will be affected for 2-3 years because of compaction.	Potential impacts to social and economic conditions, including property values, are provided in EIS Section 3.12. Potential impacts to geology and soils are disclosed in EIS Section 3.2.
	McClean	EFF04	Monitoring. There is nothing in the proposal that offers any type of monitoring to determine the change in electrical voltage before and after construction of the utility line. The risk assumed by the consumer is too great to assure given the compensation that is offered.	Comment noted.
	McClean	LAND02; SOCIO05; SOIL03	Classification. The proposed refund to value land is anti-agricultural and values unfettered farmland at too low of a value. There is also the question of egress and ingenious to maintain the field that unfairly uses crop ground without compaction.	Comment noted.
	McClean	WAT05	Watershed. There appears to be a lack of information on how the project the watershed in the path of the utility (except for the Mississippi River crossing.) The impact of the line on the watershed should be addressed prior to the selection of the route.	EIS Section 3.5 discloses potential impacts to water resources and quality, including the HUC-8 watersheds that would be crossed by the six action alternatives for the C-HC Project.
	McClean	ALT02; NEP02	Value. The purchase or lease of ground to use for the utility lines misclassified the process. ITC does not run the electricity it provides the route for the electricity through infrastructure. The use of the land should be on a biased basis with annual payments that are reviewed on a 3-5 year basis instead of a lump sum purchase for the property.	Comment noted. The details of the real estate transactions between the applicant utilities and private landowners are outside the scope of the EIS.
	McClean	ALT01	If a route has to be chosen, Mr. Deutmeyer would prefer Route 2 or Route 5.	Comment noted.
	Klunick, Klunick	ALT01; NEP02	The impact of alternative energy sources – has it been honestly and fully researched? There have been multiple statements that the existing electric infrastructure will support consumer demand for another 10 years. Has there been any honest and un-biased research quantifying the amount of non-traditional electricity that will be available in 5-10-15-20 years? Any substantial amounts of new energy sources will certainly have at minimum – a delaying impact on the need for this ATC project. Individual, community, state, federal and national opinions and actions are favoring the aggressive development of these new energy alternatives. Let's make sure the DEIS addresses this more completely!	Comment noted.
	Klunick, Klunick	SOCIO06; SOCIO07; VIS01	Profit and the non-emotional and emotional impact of the results of the DEIS. Corporate America is motivated by profit with almost complete disregard for emotion and long term non-financial impact. Environmental, personal, aesthetic, and real environmental are less important issues to corporations than they are to the humans affected by these scarring structures. For corporations, its on to the next new profit opportunity. For individuals, it's a constate long-term scar: aesthetically as they are an eyesore to all, environmentally as they are both a rape of land and permanent eyesore and financially – not only will immediately affected individuals lose the hearty and tranquility of their property, they will have to deal with that permanent eyesore and dread the potential for extreme stress and financial loss should the need or desire develop to sell their property. The corporations (ATC) justify a one time payout at appraised value that does not come close to covering the long term emotional and financial loss affecting individuals and communities.	Comment noted.
	Klunick, Klunick	SOCIO03	The Cardinal Hickory Project should be stopped for so many reasons and I ask you to thoroughly investigate just some of these reasons I am concerned with as a resident of the Mt Horeb area. The towers will skirt the village of Mount Horeb and have an enormous effect on the future growth of the community, land values will decrease considerably, it will impact tourism (hunting, fishing, biking, hiking, skiing, camping to name a few) causing great environmental damage to the landscape and communities.	Comment noted. Potential impacts to social and economic conditions, including property values and tourism, are provided in EIS Section 3.12. Potential impacts to visual quality and aesthetics are disclosed in EIS Section 3.11.
	Klunick, Klunick	LAND01	The area is rich with farmland, highly sensitive natural areas and residential development.	Comment noted. EIS Section 3.10 discloses potential impacts to land resources and land use.
	Klunick, Klunick	NEP02	Is the line truly needed "to keep the lights on" in terms of reliability when there are better and more cost effective alternative solutions that would provide more clean energy development?	Comment noted. EIS Chapter 1 describes the need for the C-HC Project as well as the decisions facing the three Federal agencies that have received loan or permit applications for the C-HC Project.
	Addison-Jasso	NEP02	It serves absolutely no purpose or benefit to the residents of Southwest Wisconsin. The power being transmitted through these lines will not be for the use of our communities or residents - which is evidence alone that they are unneeded. There are multiple factors that will impact southwest Wisconsin if this moves forward. A 2013 publication by the Public Service Commission explains every reason why the ATC/CHC transmission line is a bad idea https://psc.wi.gov/Documents/Brochures/Environmental%20Impacts%20TL.pdf . For each point I address below, please refer back to this PSC link as it will explain.	Comment noted.
	Addison-Jasso	WLDLF01; WLDLF04	Endangered and threatened species are in jeopardy as the CHC will: disrupt the habitat the species need to survive and grow in; disturb their nesting seasons; and push them away and into environments they cannot exist or thrive in. a) Refer to cited DNR "Wisconsin Endangered and Threatened Species Laws & List". https://dnr.wi.gov/files/PDF/pubs/er/ER001.pdf b) According to the Public Service Commission (PSC), "construction and maintenance of transmission lines might destroy individual plants and animals or might alter their habitat so that it becomes	Comment noted. EIS Section 3.4 discloses potential impacts to threatened and endangered species, migratory birds, and other wildlife species.

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			unsuitable for them. For example, trees used by rare birds for nesting might be cut down or soil erosion may degrade rivers and wetlands that provide required habitat". https://psc.wi.gov/Documents/Brochures/Environmental%20Impacts%20TL.pdf c) The Endangered Species Act was created to protect endangered and threatened species, and their ecosystems needed to survive.	
	Addison-Jasso	WLDF02	Again the PSC, states that the construction of the CHC will interfere with the flying and migratory patterns of the various species.	Comment noted. Potential impacts to wildlife species and migratory birds are disclosed in EIS Section 3.4.
	Addison-Jasso	SOCIO08	Added encumbrance to Southwest Wisconsin residents and land: a) The ATC lines will be highly expensive to residents and cause a hardship as our utility bills will rise significantly due to the capital expenses, maintenance, operating costs and the company's profits. https://driftlessdefenders.com/page/3/	Comment noted.
	Addison-Jasso	SOCIO06	Property values will drop. Kurt Kielisch, a forensic real estate appraiser has been tracking the effects of property value being reduced due to the ATC lines. In a June 1, 2006 article titled POWER LINE WORRIES LANDOWNERS APPRAISER SAYS VALUES COULD DROP 15-20%. https://madison.com/business/power-line-worries-landowners-appraiser-says-valuescould-drop/article_d2fd662-9d7c-5373-a144-d111e3f4e761.html c) Also refer to effects of land prices on page 18: https://psc.wi.gov/Documents/Brochures/Environmental%20Impacts%20TL.pdf	Comment noted. Potential impacts to social and economic conditions, including property values, are provided in EIS Section 3.12. RUS has reviewed the recommended citations of additional peer-reviewed articles presented through public comments and has incorporated this information into the EIS.
	Addison-Jasso	SOCIO02	Loss of large employers driven out would create high unemployment. An August 21, 2016 Wisconsin State Journal article BIG INDUSTRIES SAY HIGH ELECTRIC PRICES MAY PUSH THEM OUT OF WISCONSIN. https://madison.com/wsj/business/big-industries-say-high-electric-prices-may-push-them-out/article_c1fab70d-3bb0-5035-bb62-410289c9309e.html	Comment noted.
	Addison-Jasso	EFF04; TRANS02	Wear and tear to our roads and bridges. Will the ATC fund the repairs?	Potential impacts to the transportation system are discussed in EIS Section 3.8. During the construction and operation phases of the project, coordination would be required with the U.S. Department of Transportation, FHWA, Iowa Department of Transportation, WisDOT, and local agencies to ensure the weight loads and width of the existing facilities are considered in the project planning and delivery of materials and equipment.
	Addison-Jasso	SOCIO03	Tourism will take a beating. Have you ever visited our part of the state? People come here to get away from the wires and concrete. The presence of the CHC line will be devastating in this regard as it will take away aesthetic beauty and peace. Small businesses that depend on tourists will be impacted.	Comment noted. Potential impacts to social and economic conditions, including property values and tourism, are provided in EIS Section 3.12. Potential impacts to visual quality and aesthetics are disclosed in EIS Section 3.11.
	Addison-Jasso	LAND02; SOCIO01	Southwest Wisconsin is rural, meaning farming communities, will be greatly affected. If you know anything about farming, you would know of the hardships and more and more farms going out of business. Placement of transmission lines will be a detriment by taking away land that sustains the farm and family. Pests, disease and contamination of soil, which can devastate a farming operation can be spread over the 125 mile project. The CHC line will cause many inconveniences and hinderances, as well as hurting farmers economically. https://psc.wi.gov/Documents/Brochures/Environmental%20Impacts%20TL.pdf	EIS Section 3.10 discloses potential impacts to agricultural lands.
	Addison-Jasso	HAS01	Safety issues cited, such as: https://psc.wi.gov/Documents/Brochures/Environmental%20Impacts%20TL.pdf	Comment noted.
	Addison-Jasso	VEG01	Rape of land and trees. There are several instances of where the ATC has raped land and trees, I am only going to note three: "They get to do what they want": Green Bay Residents Fight Power Company To Save Trees" https://www.greenbaypressgazette.com/story/news/2019/02/18/green-bay-residents-fight-american-transmission-co-save-trees/2869255002/ "UPDATE: Homeowner Says ATC Transmission Cut Down Nearly 30 Trees in his Yard" https://www.wearegreenbay.com/news/local-news/homeowner-says-atc-transmission-cut-down-nearly-30-trees-in-his-yard/908554165 "The Grid to Nowhere" Refers to the rape of the land. https://isthmus.com/news/cover-story/argument-against-building-giant-transmissionlines	Comment noted.
	Addison-Jasso	NEP02	Unnecessary and too Expensive: a) Only 60% capacity of the current 168kV line is being used. In other words, the supply is far greater than the current demand. b) Jay Regnier, Vice President of Projects for Project Resources Commission (PRC) was quoted in the November 15, 2018, Herald Independent (Lancaster WI) stating the connecting of proposed wind towers is not an issue, "Regnier said they feel there is room on the existing 168kV line there. Regnier said that the space on the existing transmission line is why they decided to connect and transmit power".	Comment noted. EIS Chapter 1 describes the need for the C-HC Project as well as the decisions facing the three Federal agencies that have received loan or permit applications for the C-HC Project.
	Addison-Jasso	ALT04	Other Options: a) Bury the transmission lines. SOO Green - run parallel to the railway. The "HVDC (High Voltage Direct Current) underground technology is safe, reliable and proven." http://www.soogreenrr.com/ "Many benefits of burying high voltage power lines. Essentially, all of the negative impacts are either eliminated or significantly reduced when power lines are buried. And, when capital maintenance and transmission loss costs are combined over the life of a line... underground lines are less expensive than overhead lines". https://retasite.wordpress.com/2012/08/03/nobody-wants-overhead-high-voltage-powerlines/ b) Super Conducting Transmission Line - are buried, not above ground. Calculation shows that high currents of super-conducting transmission lines do not pose a threat. https://www.researchgate.net/publication/284359690_Superconducting_transmission_lines_-_Sustainable_electric_energy_transfer_with_higher_public_acceptance c) Erect your transmission lines and substation near the targeted destination. Transmitting power over long distances has significant losses. d) Per a March 25, 2013, article by Jacques Schonek, "The overall losses between the power plant and consumers is then in the range between 8 and 15%". e) https://blog.schneider-electric.com/energy-management-energy-efficiency/2013/03/25/how-big-are-power-line-losses/ f) locate transmission lines and substation to support off-shore wind turbines - and transmit that energy to your targeted destination. g) https://en.wikipedia.org/wiki/Offshore_wind_power h) Personal solar power - harnessing power from the sun.	The project referred to in this comment is the SOO Green Renewable Rail project. It is currently in the very early phases of planning; therefore, the feasibility and engineering are not available to inform alternatives for the proposed the C-HC Project. EIS Chapter 1 describes the need for the C-HC Project as well as the decisions facing the three Federal agencies that have received loan or permit applications for the C-HC Project. As discussed in EIS Chapter 2, Section 2.2.2, non-transmission alternatives are not responsive to the applications to which the Federal agencies are responding, nor do they meet the six-point purpose and need described in EIS Chapter 1. The Federal EIS considers alternatives that are ripe for Federal consideration. What that means is that a proposal has been made for those alternatives or that it is reasonably foreseeable that they could be implemented in a time frame that would meet the need for the Federal action.
	Addison-Jasso	SOCIO08	In closing, the CHC transmission line will be a blight in our Driftless area of Wisconsin. This endeavor offers no benefit or any assistance to we who live here. Who benefits from this proposal? Only those that want to build them, and the shareholders who will have their pockets filled with 10% of the profits.	Comment noted.
Environmental Law & Policy Center	Learner	ALT01	INTRODUCTION AND OVERVIEW The American Transmission Company ("ATC"), ITC Transmission ("ITC"), and Dairyland Power Cooperative ("Dairyland"), collectively ("Applicants"), are requesting funding and various federal regulatory approvals to construct a huge high-voltage electricity transmission line and 17-story tall towers through the scenic and ecologically sensitive Driftless Area of southwest Wisconsin. The Rural Utilities Service's ("RUS") responsibilities under the National Environmental Policy Act ("NEPA") require the agency to conduct a full and fair analysis of the need for the proposed transmission line to serve public, not private, purposes, and if there is a compelling need, "to explore and evaluate whether	As discussed in EIS Chapter 2, Section 2.2.2, non-transmission and low-voltage alternatives are not responsive to the applications to which the Federal agencies are responding, nor do they meet the six-point purpose and need described in EIS Chapter 1. Therefore, these alternatives were dismissed from detailed analysis in the EIS.

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			there may be reasonable alternatives to that action that may have fewer or less significant negative environmental impacts" and "take into account factors such as economic and technical feasibility." 7 C.F.R. § 1970.13. This analysis must be thorough, detailed, and based on science "in order to make better decisions based on an understanding of the environmental consequences of proposed actions, and take actions that protect, restore, and enhance the quality of the human environment." 7 C.F.R. § 1970.1(a). These requirements are critical to ensure the Environmental Impact Statement ("EIS") "provide[s] a full and fair discussion of significant environmental impacts and ... inform[s] the appropriate Agency decision maker and the public of reasonable alternatives to the Applicant's proposal, the Agency's proposed action, and any measures that would avoid or minimize adverse impacts." 7 C.F.R. § 1970.151(a). RUS cannot and should not merely go through the motions. The RUS must fully and fairly consider all reasonable "alternatives to the proposed action." 42 U.S.C. § 4332(c)(iii). When a federal agency prepares an Environmental Impact Statement, it must consider "all reasonable alternatives" in depth. 40 C.F.R. § 1502.14. No decision is more important than delimiting what these "reasonable alternatives" are. That choice, and the ensuing analysis, forms "the heart of the environmental impact statement." 40 C.F.R. § 1502.14. <i>Simmons v. U.S. Army Corps of Engineers</i> , 120 F.3d 664, 670 (7th Cir. 1997).	
Environmental Law & Policy Center	Learner	ALT01; NEP02	RUS's Draft Environmental Impact Statement ("DEIS") is legally insufficient, incomplete and inadequate in a number of ways. First, the purpose and need statement is impermissibly narrow and improperly restricts the range of alternatives that are seriously considered. The purpose and need statement makes the applicants' proposed high-voltage transmission line a preordained conclusion and defines away alternatives.	EIS Chapter 2 has been revised to explain that the non-transmission and low-voltage alternatives suggested through public comments are not responsive to the applications to which the Federal agencies are responding, nor do they meet the six-point purpose and need described in EIS Chapter 1.
Environmental Law & Policy Center	Learner	ALT01; ALT04	Second, and relatedly, the DEIS fails to meaningfully consider what can be called "alternative transmission solutions" or "non-transmission alternatives," including distributed renewable generation, demand response, energy storage, and energy efficiency. The DEIS also fails to meaningfully consider alternative routes that would avoid or minimize adverse impacts on the Driftless Area or low-voltage options.	As discussed in EIS Chapter 2, Section 2.2.2, non-transmission and low-voltage alternatives are not responsive to the applications to which the Federal agencies are responding, nor do they meet the six-point purpose and need described in EIS Chapter 1.
Environmental Law & Policy Center	Learner	NEP02	Third, RUS improperly relies on outdated ten-year-old and now inaccurate analyses by the Midcontinent Independent System Operator (MISO) that predetermine the outcome.	Comment noted. EIS Chapter 1 describes the need for the C-HC Project as well as the decisions facing the three Federal agencies that have received loan or permit applications for the C-HC Project. The MISO reports are cited in EIS Section 1.3 and have been updated in the latest 2017 MVP Triennial Review (MISO 2017) ⁷ .
Environmental Law & Policy Center	Learner	EFF01	Fourth, RUS improperly relies on information provided by the applicants without independent verification.	RUS and the other Federal agencies have independently evaluated the impacts to the human and natural environment of the six action alternatives and No Action Alternative analyzed in the EIS, as required by NEPA. Information provided by the Utilities for informing impact analysis for the natural and human environment was independently reviewed by RUS, cooperating agencies, and SWCA prior to being incorporated into the EIS.
Environmental Law & Policy Center	Learner	EFF01; EFF04	Fifth, the DEIS does not adequately discuss and analyze the significant adverse environmental impacts from the proposed transmission line and its alternatives. The information on impacts is conclusory, incomplete, and inconsistent with the science, and inappropriately relies on best management practices (BMPs), remediation, and mitigation measures to minimize or eliminate impacts without any evidence of their effectiveness.	Comment noted. EIS Chapter 3 does disclose and analyze adverse direct and indirect impacts to all resources known to occur in the proposed project area.
Environmental Law & Policy Center	Learner	EFF02	Sixth, RUS does not fully and fairly address the cumulative impacts of all "past, present and reasonably foreseeable" transmission line and other projects that will have significant adverse environmental impacts on the Driftless Area in conjunction with the proposed huge new transmission line project.	Chapter 4 of the EIS analyzes reasonably foreseeable future projects as part of the cumulative impacts analysis. Other transmission line projects known to be proposed for the area are disclosed in that section. Chapter 4 has been revised in the EIS to provide a characterization of the past, present, and reasonably foreseeable future projects that could impact the same resources as the C-HC Project, within spatial and temporal boundaries applicable to this project.
Environmental Law & Policy Center	Learner	AIR04; ALT01	Seventh, RUS does not consider the impacts on climate change of the proposed "open access" transmission line and the unspecified mix of electricity that it will carry generated by coal plants, natural gas plants, wind projects and nuclear power plants, both alone and in combination with other transmission lines, and compared to alternative transmission solutions.	Comment noted. EIS Chapter 4, Section 4.4 has been revised to estimate the CO ₂ emissions that could occur from generation sources that would benefit from the C-HC Project. This analysis compares two scenarios: 100% coal-generation sources benefitting from the C-HC Project and 100% wind-generation sources benefitting from the C-HC Project. This analysis provides a range of CO ₂ emissions from possible generation sources.
Environmental Law & Policy Center	Learner	ALT01	The above legal inadequacies and the additional insufficiencies identified below result in a fundamentally flawed EIS process. The DEIS lacks actual quantification of the asserted need and fails to compare it in any meaningful way to the reasonable alternatives and the significant adverse environmental impacts which likewise are not quantified. The RUS must restart its process by addressing these fundamental flaws, including "developing and evaluating alternatives not previously given serious consideration" and "supplementing or modifying the analysis." 7 C.F.R. § 1970.154. II.	As discussed in EIS Chapter 2, Section 2.2.2, non-transmission and low-voltage alternatives are not responsive to the applications to which the Federal agencies are responding, nor do they meet the six-point purpose and need described in EIS Chapter 1. Therefore, these alternatives were dismissed from detailed analysis in the EIS.
Environmental Law & Policy Center	Learner	NEP02	II. IMPERMISSIBLY NARROW PURPOSE AND NEED STATEMENT The purpose and need statement is a key part of the NEPA process. It frames the problem that needs to be solved and defines the range of possible alternatives to be fully evaluated. The purpose and need must therefore be written broadly enough not to foreclose reasonable alternatives. As explained in <i>Simmons v. United States Army Corps of Engineers</i> , 120 F.3d 664, 666 (7th Cir. 1997), "a federal agency must consider 'all reasonable alternatives' in an Environmental Impact Statement, and '[n]o decision is more important than delimiting what these 'reasonable alternatives' are.... To make that decision, the first thing an agency must define is the project's purpose.... The broader the purpose, the wider the range of alternatives; and vice versa." See also <i>City of Bridgeton v. FAA</i> , 212 F.3d 448, 458 (8th Cir. 2000) ("In reviewing the FAA's selection of FEIS alternatives, we properly look at whether the agency defined the project's purpose in terms so unreasonably narrow as to make the FEIS 'a 1 Almost all of the proposed transmission line will travel through Wisconsin, which is in the Seventh Circuit. foreordained formality.'" (quoting <i>Citizens Against Burlington, Inc. v. Busey</i> , 938 F.2d 190, 196 (D.C.Cir.)). The EIS must include a solution-neutral purpose and need statement, so that alternatives are not eliminated simply because they are different from the proposed	The C-HC Project has been independently modeled and verified by multiple entities, including MISO, which used a planning process approved by FERC. The Utilities have modeled and evaluated the C-HC Project, and the state regulatory agencies (PSCW and IUB) are currently evaluating the project. RUS and the other Federal agencies are considering all information, in addition to public comments, when analyzing the C-HC Project to comply with NEPA. This is explained in EIS Chapter 1. The Federal agencies must consider reasonable alternatives when considering their Federal decision. The Federal EIS considers alternatives that are ripe for Federal consideration. What that means is that a proposal has been made for those alternatives or that it is reasonably foreseeable that they could be implemented in a time frame that would meet the need for the Federal action. Requirements for alternatives consideration under Wisconsin Statute

⁷ MISO. 2017. MTEP17 MVP Triennial Review. Available at: <https://www.misoenergy.org/Library/Repository/Study/Candidate%20MVP%20Analysis/MTEP17%20MVP%20Triennial%20Review%20Report.pdf>.

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			project. Simmons, 120 F.3d at 666. RUS cannot adopt a limited purpose and need that acts as a "self-fulfilling prophecy" for this particular proposed transmission line and that effectively precludes full and fair consideration of all reasonable alternatives. Id.	196.491(d) are very specific and separate from NEPA. Per their jurisdictional responsibilities, the PSCW is considering if and how the range of alternatives meets those requirements (see Section 1.2.2.1 of PSCW [2019]). The impact analysis contained within the EIS has been independently verified by RUS and the other Federal agencies.
Environmental Law & Policy Center	Learner	NEP02	An agency violates NEPA if it simply adopts as its own the developer's purpose in seeking approval for the particular project. National Parks Conservation Ass'n v. Bureau of Land Management, 606 F.3d 1058 (9th Cir. 2010). The six-point purpose and need statement adopted by the DEIS is as follows: • Alleviate congestion that occurs in certain parts of the transmission system and thereby remove constraints that limit the delivery of power from where it is generated to where it is needed to satisfy end-user demand; • Expand the access of the transmission system to additional resources, including 1) lower-cost generation from a larger and more competitive market that would reduce the overall cost of delivering electricity, and 2) renewable energy generation needed to meet state renewable portfolio standards and support the nation's changing electricity mix; • Increase the transfer capability of the electrical system between Iowa and Wisconsin; • Reduce the losses in transferring power and increase the efficiency of the transmission system and thereby allow electricity to be moved across the grid and delivered to end-users more cost-effectively; and • Respond to public policy objectives aimed at enhancing the nation's transmission system and to support the changing generation mix by gaining access to additional resources such as renewable energy or natural gas-fired generation facilities. DEIS at 11. The DEIS improperly adopts the developers' purpose and need, as laid out in their now-outdated "Alternatives Evaluation Study" from 2016. As can plainly be seen, the purpose and need statement is not solution-neutral, but is drafted for the most part so that only a transmission line from Iowa to Wisconsin could meet the specified need. RUS's third identified "purpose," for example, is to "[i]ncrease the transfer capability of the electrical system between Iowa and Wisconsin." DEIS at 11. Only a new or upgraded transmission line could meet this "purpose," because it actually presents the developers' preferred solution, rather than identifying a need. By framing the need in a transmission-specific way, RUS has directly contravened NEPA's command that agencies adopt broad, solution-neutral purpose and need statements: [A]n agency may not define the objectives of its action in terms so unreasonably narrow that only one alternative from among the environmentally benign ones in the agency's power would accomplish the goals of the agency's action, and the EIS would become a foreordained formality. Nor may an agency frame its goals in terms so unreasonably broad that an infinite number of alternatives would accomplish these goals and the project would collapse under the weight of the possibilities. Citizens Against Burlington, Inc. v. Busey, 938 F.2d 190, 198 (D.C. Cir. 1991) (internal citations omitted); see e.g., Simmons, 120 F.3d at 666 ("[I]f the agency constricts the definition of the project's purpose and thereby excludes what truly are reasonable alternatives, the EIS cannot fulfill its role."); Van Abbema v. Fornell, 807 F.2d 633 (7th Cir. 1986) ("[T]he evaluation of 'alternatives' mandated by NEPA is to be an evaluation of alternative means to accomplish the general goal of an action; it is not an evaluation of the alternative means by which a particular applicant can reach his goals.") (emphasis in original). Furthermore, the purpose and need statement makes several unsupported assumptions. The first purpose is to "[a]lleviate congestion... and thereby remove constraints that limit the delivery of power from where it is generated to where it is needed to satisfy end-user demand." DEIS at 11 (emphasis added).	The C-HC Project has been independently modeled and verified by multiple entities, including MISO, which used a planning process approved by FERC. The Utilities have modeled and evaluated the C-HC Project, and the state regulatory agencies (PSCW and IUB) are currently evaluating the project. RUS and the other Federal agencies are considering all information, in addition to public comments, when analyzing the C-HC Project to comply with NEPA. This is explained in EIS Chapter 1. The Federal agencies must consider reasonable alternatives when considering their Federal decision. The Federal EIS considers alternatives that are ripe for Federal consideration. What that means is that a proposal has been made for those alternatives or that it is reasonably foreseeable that they could be implemented in a time frame that would meet the need for the Federal action. Requirements for alternatives consideration under Wisconsin Statute 196.491(d) are very specific and separate from NEPA. Per their jurisdictional responsibilities, the PSCW is considering if and how the range of alternatives meets those requirements (see Section 1.2.2.1 of PSCW [2019]). The impact analysis contained within the EIS has been independently verified by RUS and the other Federal agencies.
Environmental Law & Policy Center	Learner	NEP02	Yet RUS does not explain where there is unsatisfied end-user demand. The DEIS suggests that there may be reliability issues in Wisconsin due to the closures of the Nelson Dewey and Stoneman power plants in 2015. DEIS at 16. Yet Wisconsin was ranked seventh in the nation for power grid reliability based on data from 2016. ² The DEIS claims that there is a "need to bring electricity from more remote generation sources to maintain local electric service." Yet two years after the closure of those plants, in 2017, the then-Chairwoman of the Wisconsin Public Service Commission stated that "[r]ight now, there's not a need for a lot of a new generation of any source in Wisconsin... [w]hether it be wind, solar, coal or natural gas. The current fleets are doing well to serve the load that's necessary." ³ Furthermore, as explained in DALC's scoping comments, the electricity demand in southwest and central Wisconsin, and much of the rest of the Midwest, is flat or declining. DALC Scoping Comments at 10– 11 (Jan. 4, 2017). Moreover, instead of serving a public purpose, the claimed "need" and "purpose" here is directed much more to satisfy the private economic desires of privately-owned transmission businesses seeking to obtain hundreds of millions of dollars of profit and private energy businesses generating electricity in markets with a surplus of power that are looking to use the transmission line to sell their power to other parties somewhere to the east. Cf. Kelo v. City of New London, 545 U.S. 469 (2005).	Comment noted. EIS Chapter 1 describes the need for the C-HC Project as well as the decisions facing the three Federal agencies that have received loan or permit applications for the C-HC Project. As described in EIS Section 1.3, MISO adopted a portfolio of 17 MVPs to provide economic, reliability, and public policy benefits across what was then the entire MISO footprint: all or portions of 13 states and one Canadian province. MISO ultimately designated the C-HC Project as part of the MVP portfolio to be developed, identified as MVP #5. The C-HC Project has been independently modeled and verified by multiple entities, including MISO, which used a planning process approved by FERC. The Utilities have modeled and evaluated the C-HC Project, and the state regulatory agencies (PSCW and IUB) are currently evaluating the project. RUS and the other Federal agencies are considering all information, in addition to public comments, when analyzing the C-HC Project to comply with NEPA. This is explained in EIS Chapter 1. The Federal agencies must consider reasonable alternatives when considering their Federal decision. The Federal EIS considers alternatives that are ripe for Federal consideration. What that means is that a proposal has been made for those alternatives or that it is reasonably foreseeable that they could be implemented in a time frame that would meet the need for the Federal action. Requirements for alternatives consideration under Wisconsin Statute 196.491(d) are very specific and separate from NEPA. Per their jurisdictional responsibilities, the PSCW is considering if and how the range of alternatives meets those requirements (see Section 1.2.2.1 of PSCW [2019]). The impact analysis contained within the EIS has been independently verified by RUS and the other Federal agencies.
Environmental Law & Policy Center	Learner	NEP02	The second purpose states that an expansion of the transmission system is needed to allow greater access to renewable power from the west in order to meet state renewable portfolio standards. First, the proposed line would be an open-access line that would carry electricity from a mix of generation sources, certainly not only renewable resources. Second, this "need" ignores how many RPS standards are actually written and the current state of renewable energy credit markets. Wisconsin, for example, met its RPS standard in 2014 and continues to easily meet the 2 Energy Rankings: Measuring States' Energy Infrastructure, U.S. News & World Report (2018), https://www.usnews.com/news/best-states/rankings/infrastructure/energy . ³ Chuck Quirnbach, Manitowoc-Based Wind Tower Manufacturer Wants To Sell More In Wisconsin, Wisconsin Public Radio (Jan. 18, 2017), http://www.wpr.org/manitowoc-based-wind-tower-manufacturer-wants-sell-more-wisconsin . requirements. Illinois revised its RPS standard in 2016 to prioritize renewable generation within Illinois, and renewable energy from non-adjacent states, such as the Dakotas and Minnesota, would not even be eligible for compliance. (Wind power from Iowa would have to satisfy public interest factors in order to meet the Illinois RPS standard.) Furthermore, Iowa's largest utility, MidAmerican, has shifted from selling the renewable energy credits that it generates from its extensive wind farms to retaining these credits and retiring them on behalf of its own customers. Importantly, if electrons from a renewable facility are transported through the proposed line, but the corresponding renewable energy credits are retained by the generator, the	The MVP portfolio was designed to allow all MISO states to meet their renewable portfolio standards or goals (together RPS) set prior to 2008. While Wisconsin Utilities are currently in compliance with the Wisconsin RPS for 2015, it is unclear whether the other states that are dependent on the MVP portfolio have also met their requirements. The nation's generation portfolio is changing dramatically and rapidly both because of market forces and anticipated policy changes. For example, within the last year, investor-owned utilities in Wisconsin have announcement significant changes in their generation portfolios by establishing targets to reduce carbon emissions (Wisconsin Public Radio 2018). Transmission planning that starts now may select interstate lines that could become operational in 2035 or later. Given the rapid changes underway and the time to plan, permit, and construct transmission, the Utilities cannot plan transmission based on

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			purchaser or recipient of the electricity cannot make a claim to the renewable nature of the power. Michigan is well on its way to meeting its own RPS, Indiana does not have an RPS in place, and Ohio has severely cut back its RPS. Accordingly, the proposed line will not help these states meet their RPS standards.	what is needed now. They must predict and design solutions for what would likely be needed in 10, 15, or 20 years.
Environmental Law & Policy Center	Learner	NEP02	The fifth stated need is to “reduce the losses in transferring power and increase the efficiency of the transmission system.” DEIS at 11. The DEIS states that “[t]here is a need to reduce capacity and energy losses” for Dairyland and ATC customers. However, the DEIS provides no support or explanation for this assertion. Line losses are an unavoidable reality in the electricity grid, and there is no justification given for why current line losses in Wisconsin are unacceptably high. Further, the DEIS is unable to affirmatively state that the proposed transmission line will decrease energy losses. Rather, the DEIS states that new transmission lines “often” decrease capacity and energy losses and states that MISO’s MVP Portfolio as a whole will “reduce overall system losses.” DEIS at 16. Neither of these statements shows that this specific proposed Cardinal-Hickory Creek transmission line, on its own, will actually decrease energy losses. Furthermore, the DEIS ignores the fact that the farther electrons travel over a transmission line, the greater the line losses. The best way to reduce line losses is by implementing distributed generation, where the power is used closer to where it is generated.	The concept of line loss is explained in EIS Section 1.4. RUS has cited MISO 20148 to support the information provided about line losses associated with the C-HC Project.
Environmental Law & Policy Center	Learner	NEP02	The final purpose is to “support the changing generation mix” and improve access to renewables. DEIS at 11. Although the DEIS claims that there are 13 wind farms for which the interconnection agreements are conditional on the proposed Cardinal-Hickory Creek transmission line being built, eleven of those wind power projects are already in service, and the final two are under construction, despite the fact that even if it is built, the Cardinal-Hickory Creek line would not be in service until 2023. DEIS at 13. While there may be “conditions” on the interconnection agreements for these wind power projects, the DEIS fails to explain the actual significance or degree of these conditions—do the conditions result in curtailment for something like a few hours per year, or are they actually significant? Moreover, the DEIS does not discuss alternatives that could be available to the wind project owners to seek other transmission interconnections if the proposed Cardinal-Hickory Creek transmission line is not built. Further, the DEIS fails to acknowledge that new local distributed generation would more effectively improve access to renewables than a massive new transmission line that would also carry electricity from coal and natural-gas power plants and nuclear power plants. Of course, the DEIS must not only accurately define the purpose and need of the proposed government action, but also evaluate whether the need is real. If there is no need for the project, then the land and easements that the developers will acquire by eminent domain are not for a “public use” as the federal and Wisconsin constitutions require when private property is taken. If there is not a legitimate public purpose, this proposed high-voltage transmission line cannot be allowed to move forward. <i>Hawaii Hous. Auth. v. Midkiff</i> , 467 U.S. 229, 245 (1984) (“A purely private taking could not withstand the scrutiny of the public use requirement...”); <i>Adams Outdoor Advert. Ltd. P’ship v. City of Madison</i> , 2018 WI 70, ¶ 21 & n.7 382 Wis. 2d 377, 386, 914 N.W.2d 660, 664. To a considerable degree, this proposed transmission line is a solution in search of a problem. ATC is seeking to charge consumers for a highly-profitable 10.82% annual rate of return on equity, while ITC seeks a 11.32% annual rate of return, whether the line is needed “to keep the lights on” or not. The DEIS’s narrow focus and unsupported assumptions preclude reasonable alternative transmission solutions and other options that could meet the broader underlying needs just as well, such as sensible combinations of building more local renewable energy to reduce greenhouse gas emissions and implementing more energy efficiency to reduce energy costs.	EIS Section 1.4 provides a list of interconnection agreements that are conditional on the C-HC Project being in service. A description of the term “conditional” is provided to explain how existing wind farms may be currently limited with how much power can be delivered to the regional grid. This section of the EIS also lists renewable energy projects in southwest and central Wisconsin that would benefit from the C-HC Project. The C-HC Project has been independently modeled and verified by multiple entities, including MISO, which used a planning process approved by FERC. The Utilities have modeled and evaluated the C-HC Project, and the state regulatory agencies (PSCW and IUB) are currently evaluating the project. RUS and the other Federal agencies are considering all information, in addition to public comments, when analyzing the C-HC Project to comply with NEPA. This is explained in EIS Chapter 1.
Environmental Law & Policy Center	Learner	ALT01; ALT04	III. FAILURE TO EVALUATE ALTERNATIVES IN DETAIL NEPA requires RUS to “rigorously explore and objectively evaluate all reasonable alternatives,” including both no-build alternatives and alternatives other than building a massive new transmission line. 40 C.F.R. § 1502.14. This DEIS’s purpose and need statement, however, only analyzes two different corridors for the same proposed transmission line, both of which cross the Upper Mississippi River National Wildlife and Fish Refuge at Cassville, Wisconsin, and both of which therefore go straight through Wisconsin’s Driftless Area. See e.g. <i>Simmons</i> , 120 F.3d at 667 (agency violated NEPA by defining impermissibly narrow purpose for project and failing to consider a full range of alternatives). Considering only these very similar alternatives contravenes RUS’s duty to “evaluate whether there may be reasonable alternatives to that action that may have fewer or less significant negative environmental impacts.” 7 C.F.R. § 1970.13. The DEIS gives only cursory analysis of alternative transmission solutions or “non-transmission alternatives” that were considered, but not carried forward for detailed analysis: renewable energy generation, energy storage, demand response and energy efficiency, and local transmission and distribution system improvements. In each case, the DEIS dismisses the alternative, stating that the strategy, in isolation, cannot fulfill the purpose and need. DEIS at 56–59. This consideration of alternatives is improper because (1) the DEIS fails to fully and fairly consider different mixes of alternative transmission solutions, (2) the DEIS does not adequately consider routes outside of the Upper Mississippi River National Wildlife and Fish Refuge, and outside of the Driftless Area, as well as low-voltage alternatives, and (3) the DEIS fails to consider creative alternatives outside of its jurisdiction that more directly resolve underlying concerns. Instead of fulfilling its duties under NEPA, RUS adopted the developer’s unreasonably narrow purpose and need and used that to try to justify ignoring all alternatives besides construction of a massive new high-voltage transmission line. The goal of NEPA’s EIS requirement is “to insist that no major federal project should be undertaken without intense consideration of other more ecologically sound courses of action, including shelving the entire project, or of accomplishing the same result by entirely different means.” <i>Environmental Defense Fund, Inc. v. United States Army Corps of Engineers</i> , 492 F.2d 1123, 1135 (5th Cir. 1974) (emphasis added). An EIS must “[i]nclude reasonable alternatives not within the jurisdiction of the lead agency.” 40 C.F.R. § 1502.14(c).	The no action or “no build” alternative is fully analyzed throughout the EIS. As discussed in EIS Chapter 2, Section 2.2.2, non-transmission and low-voltage alternatives are not responsive to the applications to which the Federal agencies are responding, nor do they meet the six-point purpose and need described in EIS Chapter 1. For the alternatives considered for crossing the Mississippi River, EIS Section 2.2 describes the other river crossing alternatives that were studied and evaluated by the Utilities prior to engaging the NEPA process with RUS. These other Mississippi River crossing alternatives were eliminated because they were not permissible by other agencies or governments with jurisdictional authority or were not technically feasible.
Environmental Law & Policy Center	Learner	ALT01; ALT04	Further, RUS regulations state that “[t]he Agency shall not fund the proposal unless there is a demonstrated, significant need for the proposal and no practicable alternative exists to the proposed conversion” of “wetlands or important farmlands” or “encroachment on floodplains.” 7 C.F.R. § 1970.4. Without more thorough examination of alternatives, RUS cannot be assured that “no practicable alternative exists” other than building a large transmission line that will traverse wetlands, floodplains, and lands classified by the USDA’s Natural Resources Conservation Service as Prime Farmland and Farmland of Statewide Importance. A. The DEIS Fails to Adequately Consider Alternative Transmission Solutions. The DEIS’s discussion of alternative transmission solutions is inadequate because (1) it fails to consider combinations of alternative transmission solutions, both with and without local system upgrades and (2) it improperly discounts the benefits offered by alternative transmission solutions. Alternatives to the proposed project must be considered both individually and in combination. <i>Davis v. Mineta</i> , 302 F.3d 1104, 1121–22 (10th Cir. 2002); <i>Simmons</i> , 120 F.3d at 669. However, the DEIS analyzes each of the four alternative transmission solutions individually. Even though it notes, in its limited consideration of photovoltaic solar energy as an alternative, that “without sufficient power storage capacity, residential photovoltaic solar systems have limited usefulness in resolving the identified grid reliability deficiencies in the region” (DEIS at 56), the DEIS does not analyze an alternative that consists of solar power in combination with increased storage. Instead, it analyzes energy storage alone as a solution, and	As discussed in EIS Chapter 2, Section 2.2.2, non-transmission and low-voltage alternatives are not responsive to the applications to which the Federal agencies are responding, nor do they meet the six-point purpose and need described in EIS Chapter 1. Therefore, they are not carried forward for detailed analysis in the EIS.

⁸ MISO. 2014. MTEP14 MVP Triennial Review. September. Available at: <https://pubs.naruc.org/pub.cfm?id=3139EF15-0FF1-F820-4EB4-5D4E903D0020>.

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Environmental Law & Policy Center	Learner	ALT01	<p>determines that “[b]attery storage is not a technically feasible alternative at this time due to the large amount of storage capacity that would be required to match the beneficial impacts of the C-HC Project.” DEIS at 57. That each-standing-alone-in-isolation approach is not a reasonable or sensible consideration of alternatives under NEPA. 40 C.F.R. §§ 1502.14, 1502.16, 1508.25. That is especially true where, as here, the DEIS specifically noted the synergy between two proposed alternatives, but failed to analyze an alternative that leveraged that synergy. The DEIS similarly rejects the other two alternative transmission solutions for failing to, in isolation, provide the required degree of benefits, noting that “[a]n increase in energy efficiency substantial enough to offset the need for the proposed C-HC Project would not be possible” and “the level of demand response needed to provide sufficient congestion relief to match the scope of the C-HC Project[]is not known to currently exist.” DEIS at 58.</p>	<p>As discussed in EIS Chapter 2, Section 2.2.2, non-transmission and low-voltage alternatives are not responsive to the applications to which the Federal agencies are responding, nor do they meet the six-point purpose and need described in EIS Chapter 1. Therefore, the non-transmission alternatives were dismissed from detailed analysis in the EIS. Renewable energy projects in southwest Wisconsin would also benefit from the C-HC Project, as described in EIS Chapter 1.</p>
Environmental Law & Policy Center	Learner	ALT04	<p>Critically, this analysis does not disclose the degree to which each of these alternatives falls short, or whether the alternatives could, in concert, provide the same degree of benefits as the proposed transmission line. Federal regulations require that each alternative carried forward for analysis be discussed in enough detail “so that reviewers may evaluate their comparative merits,” 40 C.F.R. § 1502.14(b), and by rejecting alternative transmission solutions so quickly, the DEIS prevents the public from being able to effectively compare alternative transmission solutions to the transmission line. Importantly, these alternative transmission solutions must be examined in various packages, and also be considered in combination with local system upgrades. The reasons why these alternatives were improperly rejected underscore the inappropriate narrowness of the purpose and need statement and improper cursory dismissal of alternative transmission solutions without acknowledging the various benefits that these alternatives can provide. Indeed, the DEIS’s entire discussion of all alternatives other than building a new high-voltage transmission line is limited to approximately three pages of text. The DEIS states that “regional and local renewable electricity generation” was rejected because it would not meet the stated purpose and need to (1) expand the access of the transmission system, (2) reduce transmission losses, or (3) respond to public policy objectives aimed at enhancing the nation’s transmission system. DEIS at 57. Yet this analysis is both superficial and flawed. First, the analysis fails completely to examine any generation types besides solar, such as wind generation, despite the fact that the DEIS in other sections acknowledges numerous large new wind facilities in the region. Additionally, the discussion of solar generation is clearly not a full and fair analysis. The DEIS complains that “siting and construction of new photovoltaic solar facilities would take time.” DEIS at 57. Any alternative would take some amount of time, and the proposed transmission line would not be in service until 2023. While new solar development would not expand the transmission system, it would reduce any need for an expanded transmission system in the first place. Contrary to the DEIS’s claim, strategically-sited distributed solar would reduce transmission losses by providing generation closer to demand, and thereby reducing the distance that the electricity would have to travel over the grid.</p>	<p>As discussed in EIS Chapter 2, Section 2.2.2, non-transmission and low-voltage alternatives are not responsive to the applications to which the Federal agencies are responding, nor do they meet the six-point purpose and need described in EIS Chapter 1. Therefore, the non-transmission alternatives were dismissed from detailed analysis in the EIS.</p>
Environmental Law & Policy Center	Learner	ALT04	<p>Furthermore, the DEIS ignores the fact that the fundamental purpose behind the “public policy objectives aimed at enhancing the nation’s transmission system” is the greater integration of renewables into the electric grid. This is more directly achieved through distributed solar generation than it would be by building a new open-access transmission line, which would carry whatever electrons are on the grid, regardless of the generation type. Moreover, the cost of photovoltaic power has fallen rapidly in recent years and is projected to continue to fall during the decades that would make up the lifetime of the CHC transmission line. Lazard’s latest annual Levelized Cost of Energy Analysis (LCOE 12.0) shows that utility solar is between \$36 and \$44 per MWh, and utility-scale wind is as low as \$29 per MWh. The analysis of the rest of the alternative transmission solutions is equally flawed and dismissive. The DEIS states that battery storage is too expensive and relies on a Dairyland report from 2016, rather than providing current cost information, which is critical to an informed analysis considering the rapid technology advances and cost decreases for batteries. Lazard’s Levelized Cost of Storage Analysis (LCOS 4.0) shows utility-scale battery storage (solar + storage) as low as \$108 per MWh. Contrary to the DEIS’s conclusion, batteries most certainly do provide reliability and congestion services due to their ability to both take power off the grid during high generation / low demand, and put power back onto the grid during low generation / high demand. Battery storage also does respond to public policy objectives by making the transmission system more efficient and allowing for increased integration of renewables.</p> <p>The analysis of energy efficiency is deeply flawed because of its failure to consider efficiency in combination with other solutions, and because of the flawed argument that an energy efficiency alternative “would have to eliminate demand to a level that all the Renewable Portfolio Standards and Goals would be met with existing renewable resources.” DEIS at 58. This is a bizarre “red-herring” sort of argument and flawed analysis. As explained above, Wisconsin is already in compliance with its RPS, and for various reasons, much of the wind energy created in Iowa cannot even be used for compliance with RPSs in other states. Moreover, there is more than 500 megawatts of new solar energy development now in process in Wisconsin and more than 4,000 megawatts of new proposed solar energy development projects reported to be in the MISO transmission queue. Invernergy’s new 300-megawatt “Badger Hollow Solar Farm” project is located in Montfort, Wisconsin near the substation, and Invernergy has stated that: “The proposed CHC project by ATC was not a material reason for our choice to site the Badger Hollow Solar Farm project at its location in Iowa County. Invernergy planned the Badger Hollow Solar Farm project with the intention of using the existing 138kv infrastructure only....We did not select a site in Iowa County because of CHC, nor will we abandon Iowa County if CHC is not built.” The dismissal of demand response measures is equally inappropriate. The DEIS apparently states that it cannot consider demand response measures because “there is no regulatory authority to ensure energy user compliance with load reduction and energy efficiency goals and, thus, no mechanism has been identified that would ensure adequate participation over time.” DEIS at 59. Participation in demand response programs can be modeled and predicted based on design components, financial incentives, etc. and therefore must be fully considered as an alternative. State legislatures and utility regulators throughout the country have required utilities to develop and implement demand response and efficiency programs, to ensure that those programs meet specific numeric targets, and there is a substantial body of expert analysis that models and predicts participation rates and energy savings from these programs, based on their design components, communication effectiveness, and financial incentives. The purpose and need statement relies on an antiquated view of the electricity system that is rapidly becoming outdated. Distributed solar and wind energy generation, energy storage, smaller “grid edge” investments, demand response, and energy efficiency are proving to be more financially feasible, sophisticated, scalable, cleaner, and effective. A good example is Bonneville Power Administration’s 2017 decision to cancel a proposed \$1 billion 80-mile 500 kV transmission line in favor of a package of efficiency, demand response, rooftop solar, and storage, with total project expenses so far staying within a \$5 million per year budget. E4theFuture, Smart Peak Load Management Alliance, & Smart Electric Power Alliance, Non-Wires Alternatives: Case Studies from Leading U.S. Projects (Nov. 2018), available at https://sepapower.org/resource/non-wires-alternatives-case-studies-from-leading-u-s-projects/. In 2011, in language that mirrors the language in this DEIS, BPA and its consultants dismissed these alternatives as insufficient, based in part on load growth forecasts that did not materialize and then-current assessments of costs and feasibility. In subsequent years, however, BPA recognized that the world had changed, and that their giant transmission line project was not only not the most cost-effective solution, but indeed posed a risk of future stranded costs for ratepayers that its package of alternative transmission strategies did not. This DEIS ties itself to old assumptions and old models, and does not give these alternatives the analysis they deserve. That may benefit the bottom line of the applicants</p>	<p>As discussed in EIS Chapter 2, Section 2.2.2, demand response and energy efficiency alternatives are not responsive to the applications to which the Federal agencies are responding, nor do they meet the six-point purpose and need described in EIS Chapter 1.</p> <p>The MVP portfolio was designed to allow all MISO states to meet their renewable portfolio standards or goals (together RPS) set prior to 2008. While Wisconsin Utilities are currently in compliance with the Wisconsin RPS for 2015, it is unclear whether the other states that are dependent on the MVP portfolio have also met their requirements. The nation’s generation portfolio is changing dramatically and rapidly both because of market forces and anticipated policy changes. For example, within the last year, investor-owned utilities in Wisconsin have announced significant changes in their generation portfolios by establishing targets to reduce carbon emissions (Wisconsin Public Radio 2018). Transmission planning that starts now may select interstate lines that could become operational in 2035 or later. Given the rapid changes underway and the time to plan, permit, and construct transmission, the Utilities cannot plan transmission based on what is needed now. They must predict and design solutions for what would likely be needed in 10, 15, or 20 years.</p>

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			who stand to get a high guaranteed rate of return on a very expensive project, but it does not give the government agencies or the public the information they need to compare reasonable alternatives.	
Environmental Law & Policy Center	Learner	ALT01	Finally, it should be noted that RUS's consideration of the costs of the proposed line and alternative transmission solutions must be on an "apples-to-apples" basis. The proposed Cardinal-Hickory Creek transmission line, which was included in MISO's MVP portfolio would be cost-shared across MISO's footprint. MISO's FERC-approved MVP tariff allows for cost-sharing projects that meet specific criteria. Alternative transmission solutions can meet these criteria and accordingly be cost-shared, as recognized by FERC in Orders 8904 and 1000.5 This factor must be included in RUS's comparison of the costs and benefits of the proposed transmission line to alternative transmission solutions. 4 Order 890, Federal Energy Regulatory Commission, at ¶ 479 (Feb. 16, 2007), https://www.ferc.gov/whats-new/comm-meet/2007/021507/E-1.pdf?csrt=4501289794127783429 ("We therefore find that, where demand resources are capable of providing the functions assessed in a transmission planning process, and can be relied upon on a long-term basis, they should be permitted to participate in that process on a comparable basis."). 5 Order 1000, Federal Energy Regulatory Commission, at ¶ 148 (July 21, 2011), https://www.ferc.gov/whats-new/comm-meet/2011/072111/E-6.pdf?csrt=17842257593214718131 ("When evaluating the merits of such alternative transmission solutions, public utility transmission providers in the transmission planning region also must consider proposed non-transmission alternatives on a comparable basis.").	Comment noted. As stated in NEPA regulations 40 CFR 1502.23, "For purposes of complying with the Act, the weighing of the merits and drawbacks of the various alternatives need not be displayed in a monetary cost-benefit analysis and should not be when there are important qualitative considerations." As discussed in EIS Chapter 2, Section 2.2.2, non-transmission and low-voltage alternatives are not responsive to the applications to which the Federal agencies are responding, nor do they meet the six-point purpose and need described in EIS Chapter 1.
Environmental Law & Policy Center	Learner	ALT01	B. The DEIS Does Not Adequately Consider Alternative Routes that Avoid the Upper Mississippi River National Wildlife and Fish Refuge and the Driftless Area The DEIS does not evaluate route alternatives that avoid crossing through the Upper Mississippi River National Wildlife and Fish Refuge or even mention any routing options other than those with the start and end points of the proposed line. RUS must analyze route alternatives to bring power from the west to the east that do not cut a wide swath through the scenic and natural resource-rich Driftless Area and that do not cut through the Upper Mississippi Wildlife and Fish Refuge. According to minutes from a 2012 meeting between the developers and agency representatives, the U.S. Fish and Wildlife Service Deputy Refuge Manager explained that "the existing transmission lines [through the Refuge] were authorized many years ago and would likely not be permitted or considered a compatible use today." The Deputy Refuge Manager also "said he is very uncomfortable with moving forward with only Cassville options being considered, since all of these alternatives have impacts to the refuge." Exhibit A. U.S. EPA apparently also raised significant concerns in its scoping comments about only examining routes through the Refuge, although these scoping comments are interestingly not included in the PDF of federal, state, and tribal scoping comments at https://www.rd.usda.gov/publications/environmental-studies/impact-statements/cardinal-%E2%80%93-hickory-creek-transmission-line . According to a letter from the developers to RUS in response to EPA's comments, EPA stated: EPA recommends the Draft EIS present and evaluate one or more alternative(s) located outside Refuge lands. The selection of only two Refuge alternatives carried forward for further evaluation leaves USDA and the Applicant vulnerable to permit denial by USFWS and an ultimate decision of no action by USDA. EPA believes one or more non-Refuge alternatives is needed in order to compare and contrast impacts that would occur within and outside of the Refuge. Exhibit B. Most aspects of the asserted proposed need for the line could be met by a transmission line that does not even go through Wisconsin. While such a line would not "increase the transfer capability of the electrical system between Iowa and Wisconsin," that element of the purpose and need statement is impermissibly narrow; because electricity demand in Wisconsin is flat or declining, there is no real need to move western electricity into Wisconsin, but only a suggested need to move electricity to eastern states. Other currently-proposed transmission lines can potentially meet that asserted need that the CHC line attempts to meet: the Grain Belt line that would connect wind power in Western Kansas to markets in Missouri, Illinois, and Indiana, and which was approved by Missouri regulators in March 2019; and the SOO Green Renewable Rail (SOO Green) project, an underground transmission line that would follow railroad rights of way from Mason City, Iowa, to just outside Chicago. Even if these specific proposed lines are not built, they demonstrate that there are alternative corridors and routes for moving power from west to east that would avoid significant adverse environmental impacts on the special scenic Driftless Area landscape and unique natural resources.	For the alternatives considered for crossing the Mississippi River, EIS Section 2.2 describes the other river crossing alternatives that were studied and evaluated by the Utilities prior to engaging the NEPA process with RUS. These other Mississippi River crossing alternatives were eliminated because they were not permissible by other agencies or governments with jurisdictional authority or were not technically feasible.
Environmental Law & Policy Center	Learner	ALT01	C. The DEIS Does Not Adequately Consider Low-Voltage Line Improvements. The DEIS's analysis of low-voltage lines, and alternate routes is insufficient. The DEIS seems to reject low-voltage alternatives primarily, if not solely, on the basis of a determination by MISO almost a decade ago. DEIS at 59. As explained below, predetermination with respect to alternatives is impermissible, and RUS is required by law to independently analyze alternatives. The DEIS also alleges that lower-voltage transmission lines would not "respond[] to public policy objectives aimed at enhancing the nation's transmission system." DEIS at 59. To the contrary, new or rebuilt lower-voltage transmission lines could improve the transmission system here. The alternative of upgrading existing facilities should be evaluated in virtually any infrastructure project EIS, and certainly for any EIS on a large energy facility like a generation plant or a high-voltage transmission line. It is RUS's responsibility to develop upgrade alternatives, and give them full consideration.	RUS and the other Federal agencies have independently evaluated the impacts to the human and natural environment of the six action alternatives and No Action Alternative analyzed in the EIS, as required by NEPA. As discussed in EIS Chapter 2, Section 2.2.2, a low-voltage alternative is not responsive to the applications to which the Federal agencies are responding, nor do they meet the six-point purpose and need described in EIS Chapter 1.
Environmental Law & Policy Center	Learner	ALT04	The DEIS's discussion of an undergrounding alternative is also inadequate. First, the DEIS does not fully and fairly lay out both the costs and benefits of constructing the proposed transmission line underground. The DEIS states that "[p]ost-construction issues such as aesthetics, electric and magnetic fields, and property values are usually less of an issue for underground lines," DEIS at 60, but does not discuss reduced impacts on birds from collisions, electrocutions, and increased perches; reduced fire risk; reduced operation noise; or reduced impacts on tourism and recreational values. Further, RUS relies on the applicants' estimates of cost for undergrounding the line, rather than independently analyzing the cost. DEIS at 62. Underground transmission lines are not categorically uneconomical: The planned underground SOO Green transmission line from Mason City, Iowa to Chicago, following existing railroads, is expected to cost \$2.5 billion and is backed by investors. ⁶	EIS Section 2.2 provides independently developed rationale for why the Federal agencies eliminate the underground transmission line alternative from detailed analysis. The SOO Green Renewable Rail project is currently in the very early phases of planning; therefore, the feasibility and engineering are not available to inform alternatives for the proposed the C-HC Project.
Environmental Law & Policy Center	Learner	ALT01; NEP02	D. The DEIS Fails to Consider Alternatives that More Directly Resolve Underlying Issues. RUS is also required to consider alternatives not within its jurisdiction, and must analyze creative alternatives that more directly resolve underlying issues, such as reducing unneeded and older generation sources. The transmission developers' application describes a situation in which wind power in states to the west of Wisconsin (Iowa, Minnesota, North Dakota, and South Dakota) outstrips energy demand, creating "transmission congestion" and requiring additional transmission capacity to move the energy to the east. There is more electricity generating supply in these states than there is demand. States with surplus wind generation are nonetheless supporting and subsidizing the continued operation of otherwise uneconomic fossil fuel and nuclear power generating plants through various rate mechanisms, rather than better matching supply to demand, reducing transmission congestion, and eliminating the need to keep sending power farther and farther away with more and more transmission lines. For example, in Iowa, MidAmerican Energy continues to buy and build additional wind energy capacity while it continues to keep running several coal plants that are in its rate base and then attempt to export the surplus power to the east, and Alliant Energy (Interstate Power & Light) is building natural gas plants as well as wind projects while it avoids retiring	Comment noted. The retirement of generation sources is outside the scope of this EIS.

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			<p>coal plants. In North Dakota, more wind energy is being developed while rate-based lignite coal plants keep running. In Minnesota, Xcel Energy is developing more wind power, but is proposing to build a large new gas-fired power plant to replace the Sherco coal plant when it retires, and to keep running its rate-based Monticello and Prairie Island nuclear plants. There is also a surplus of electricity generating capacity, however, in Illinois, Wisconsin, and Indiana, Michigan and Ohio. Demand in Wisconsin and much of the rest of the Midwest is flat or declining so the power is not needed there either. In Illinois, the Legislature approved consumer subsidies for ten years to support continued operation of three otherwise uneconomic nuclear plants for which retirements were announced while at the same time also supporting 4,350 megawatts of new in-state (or close by) solar energy and wind power development; in combination, that increased Illinois' current surplus generating capacity. RUS must consider and disclose the impacts and benefits of reducing such unneeded or older generation sources. To the extent that the purpose and need to be accomplished by the proposed government action is to encourage the use of renewable energy, the most direct way to do that is to retire or reduce the use of fossil fuel and nuclear power generation at the same time.</p>	
Environmental Law & Policy Center	Learner	NEP02	<p>IV. PREDETERMINATION OF THE ISSUE RUS's improperly narrow purpose and need statement and its cursory exploration of alternative transmission solutions show that it predetermined the outcome of the NEPA analysis: a large transmission line and tall towers would be built between the Cardinal and Hickory Creek substations, and all that remained for the EIS to determine was the precise route. This approach violates NEPA because "Environmental Impact Statements shall serve as the means of assessing the environmental impact of proposed agency actions, rather than justifying decisions already made." 40 C.F.R. 1502.2(g) RUS seems to take the construction of a transmission line as foreordained merely because the line was approved as part of the MISO MVP portfolio nearly a decade ago. This is inappropriate for several reasons. First, the MISO MVP plan did not trigger a NEPA analysis, so a full analysis must happen at this point in time. The decisions that RUS and the other federal agencies must make now—whether to provide a loan and other permits—are completely separate from and based on different factors than MISO's considerations when it created its MVP portfolio. It is also impermissible for RUS to rely on MISO's analysis with respect to the need for the line. The MVP analysis took place in the late 2000s, and involved a set of assumptions about future energy usage and needs that does not match the current reality. For example, Madison Gas and Electric (MGE), saw its highest retail electricity sales in 2007 (pre-economic recession) and in 2011 (post-economic recession). From 2007 to 2017, MGE retail electricity sales fell by roughly 3.2%. Total electricity sales decreased by roughly 2.27% over the same period, notwithstanding a growing economy and an 11.03% increase in the number of customers. A Rocky Mountain Institute study found that "for at least the last decade, planners have, on average, over-forecast electricity demand by one percentage point for each year of their forecast," and that one reason for the tendency to over-forecast is that utilities have an incentive to build electricity infrastructure projects for which they can recover costs and earn a preapproved return on their investment, even if that infrastructure is "rarely needed or used."7 Alliant-WP&L's second-highest retail electricity sales were in 2007 (pre-economic recession) and declined steadily for nearly a decade before reaching a slightly higher level in 2016 and then declining again in 2017. Between 2007 and 2017, total electricity sales decreased notwithstanding economic growth and a 4.03% increase in the number of customers. A determination by MISO that the entire portfolio of projects was predicted, nearly a decade ago, to be "necessary" for the purposes of MISO planning is not the same as a specific determination, for the purposes of NEPA, that a current need can only be met by the last MVP project to be built—namely, the proposed Cardinal-Hickory Creek transmission line. The DEIS states that "many wind developments in Iowa and Minnesota list the C-HC Project as a conditional project," DEIS at 59, and that "MISO has informed at least 12 wind generators in Iowa and Minnesota that they are only eligible for conditional generation interconnect agreements until the C-HC Project is built and operational." DEIS at 13. It also notes that the "Quilt Block Wind Farm" in Lafayette County, Wisconsin" is conditional on the C-HC Project," DEIS at 14. Because they have conditional generation interconnect agreements, these generators "have limitations with how much power can be delivered and under what 7 Mark Dyson & Alex Engel, The Billion-Dollar Costs of Forecasting Electricity Demand, ROCKY MOUNTAIN INST., Oct. 23, 2017, https://rmi.org/billion-dollar-costs-forecasting-electricity-demand/. conditions within the current regional system." DEIS at 13. The fact that these generators have limitations—the nature and extent of which are not discussed in detail—does not mean that they need the CHC project in particular, however. When determining whether this transmission line or another solution would best meet the identified purpose and need, it is appropriate to consider that the CHC transmission line may facilitate other projects, but those projects' existence should not be used as an excuse for RUS to assume the project must be built instead of evaluating non-transmission alternatives to solve the identified problem. If it is predicted congestion on existing transmission that is limiting production from certain wind producers, then anything that can relieve that congestion—including alternative transmission strategies—should be evaluated. Moreover, other new transmission lines—such as the SOO Green Renewable Rail (SOO Green) transmission line—can provide alternatives. The DEIS does not quantify the alleged problem, and then it simply assumes that this specific proposed new Cardinal-Hickory Creek high-voltage transmission is the only way to address the alleged problem.</p>	<p>The C-HC Project has been independently modeled and verified by multiple entities, including MISO, which used a planning process approved by FERC. The Utilities have modeled and evaluated the C-HC Project, and the state regulatory agencies (PSCW and IUB) are currently evaluating the project. RUS and the other Federal agencies are considering all information, in addition to public comments, when analyzing the C-HC Project to comply with NEPA. This is explained in EIS Chapter 1.</p>
Environmental Law & Policy Center	Learner	DECI01	<p>V. FAILURE TO CONSIDER ISSUES INDEPENDENTLY RUS has abdicated its responsibility to independently evaluate the potential alternatives to and environmental consequences of the proposed transmission line, and instead has improperly deferred to the preferences of the applicant. RUS regulations make clear that RUS "is responsible for all environmental decisions and findings related to its actions" and must "independently evaluate" all environmental information submitted by applicants. 7 C.F.R. § 1970.5(a). Likewise, CEQ regulations applicable to all NEPA analyses state that "[t]he agency shall independently evaluate the information submitted and shall be responsible for its accuracy." 40 C.F.R. § 1506.5(a). The NEPA process is required to be objective. Sierra Club v. Froehlke, 486 F.2d 946, 950 (7th Cir. 1973). For example, when an EIS is prepared by an independent contractor, instead of a federal agency, the contractor must be chosen by the lead and/or cooperating agencies "to avoid any conflict of interest," the contractor must "execute a disclosure statement ... specifying they have no financial or other interest in the outcome of the project," and the responsible Federal official "shall independently evaluate the statement prior to its approval and take responsibility for its scope and contents." 40 C.F.R. § 1506.5(c). See also 7 C.F.R. § 1970.152. RUS's review of data submitted by an interested party—the applicant itself—should be even more searching than its review of statements authored by unbiased contractors. RUS therefore has a duty to verify all data and assumptions contained in information submitted by the applicants, and to determine for itself which alternatives to carry forward for further analysis, rather than merely repeating the applicants' views. The "Development of Alternatives" section, beginning on page 31 of the DEIS, demonstrates the extent to which RUS has chosen to defer to the applicants' analysis. This section describes documents created by the applicants or their contractors—the Alternatives Evaluation Study (AES), the Alternative Crossings Analysis, and the Macro-Corridor Study—but does not provide any additional analysis of the information contained in those documents or suggest any additional action alternatives. The Macro-Corridor Study and Alternatives Evaluation Study are required by RUS guidance,8 and the Alternative Crossings Analysis was prepared "at the request of the Refuge manager who has emphasized that, before determining whether the proposed use would be compatible and consistent with the USFWS Mitigation Policy, no transmission line crossing of the Refuge could be considered by the USFWS unless Utilities could demonstrate that non-Refuge options were infeasible." ACA at ES-7. Instead of analyzing the information provided by applicants, the DEIS merely parrots the conclusions of 8 RUS, 2016, RD Instruction 1970-O, Exhibit B: Guidance for Preparing an Alternative Evaluation Study, Exhibit D: Guidance for Creating a Macro-Corridor</p>	<p>The C-HC Project has been independently modeled and verified by multiple entities, including MISO, which used a planning process approved by FERC. The Utilities have modeled and evaluated the C-HC Project, and the state regulatory agencies (PSCW and IUB) are currently evaluating the project. RUS and the other Federal agencies are considering all information, in addition to public comments, when analyzing the C-HC Project to comply with NEPA. This is explained in EIS Chapter 1. The Federal agencies must consider reasonable alternatives when considering their Federal decision. The impact analysis contained within the EIS has been independently verified by RUS and the other Federal agencies. There is no conflict of interest with the independent contractor, SWCA, which is taking direction from the three aforementioned Federal agencies.</p>

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			Study, https://www.rd.usda.gov/files/1970o.pdf . those documents. For example, the discussion of alternative transmission corridors begins, “[t]his section describes the alternative transmission line corridors that were identified and investigated by the Utilities...” DEIS at 34 (emphasis added). The DEIS dismisses river crossing alternatives because “the Utilities determined” that they were not feasible. DEIS at 51. The discussion of energy storage as an alternative action cites only to Dairyland’s AES and contains language substantially similar to that in the AES. DEIS at 57–58; AES at 46–47. Similarly, the DEIS cites to Dairyland’s AES to support the statement that “[a]n increase in energy efficiency substantial enough to offset the need for the proposed C-HC Project would not be possible.” DEIS at 58. While RUS regulations require applicants to provide necessary environmental information, identify a project’s purpose and need, identify alternatives, and “assist the Agency in all aspects of preparing an EIS ..., including, but not limited to, information and data collection and public involvement activities,” 7 C.F.R. § 1970.5, NEPA “do[es] not permit the responsible federal agency to abdicate its statutory duties by reflexively rubber stamping a statement prepared by others.” <i>Sierra Club v. Lynn</i> , 502 F.2d 43, 59 (5th Cir. 1974).	
Environmental Law & Policy Center	Learner	EFF01	VI. INADEQUATE ANALYSIS OF IMPACTS Flaws in the analysis of the alternative routes’ impacts include: incomplete information and analysis; failure to fully consider the full range and scope of impacts, including impacts outside of the ROW; understating impacts or failure to fully disclose adverse effects; and overstating or assuming success of avoidance, remediation, and restoration efforts. One of the requirements of NEPA review is that “[t]he information [in NEPA documents] must be of high quality. Accurate scientific analysis, expert agency comments, and public scrutiny are essential to implementing NEPA.” 40 C.F.R. § 1500.1(b). The information in this DEIS is not thorough enough to “provide a full and fair discussion of significant environmental impacts and to inform the appropriate Agency decision maker and the public of ... any measures that would avoid or minimize adverse impacts.” 7 C.F.R. § 1970.151. RUS should respond to these comments by “supplementing or modifying the analysis” contained in the EIS so that it is sufficient for RUS to fulfill its obligations under NEPA. 7 C.F.R. § 1970.154. A. Scope of the Actions Included in the Impacts Analysis As an initial matter, the scope of the impacts analysis appears to be improperly narrow and fails to consider impacts from all aspects of the project and related and connected actions. In the description of the proposed project, the DEIS states: In a number of locations, there are existing lower-voltage electric lines along the proposed C-HC Project transmission line routes that would be relocated and double circuited with the new C-HC Project 234-kv line, using a portion of the existing ROW. In other cases, the Utilities propose to relocate the existing line elsewhere. In a few locations... the Utilities proposed to double circuit the existing and new C-HC Project 345-kV transmission lines on a new ROW. DEIS at 97. The DEIS also explains, “It is important to note that local distribution companies often relocate their distribution facilities ahead of transmission line construction.” DEIS at 98. Then in the section on connected actions, the DEIS also explains that once the CHC line is operational, Dairyland would retire and remove almost 3 miles of an existing transmission line from the Stoneman substation in Cassville, Wisconsin to the Turkey River Substation in Clayton County, Iowa. DEIS at 110. The impacts from taking down existing transmission and distribution lines, and then re-siting some of these in new corridors, may be substantial. Yet the DEIS does not seem to address the impacts from these actions, anywhere in the DEIS.	All actions and potential impacts associated with the C-HC Project alternatives are analyzed for impacts to the human and natural environment in EIS Chapter 3, which includes double circuit configuration of the C-HC Project with other transmission lines, retirement of the N-9 transmission line, and the 0.2-mile tap line between the existing N-9 transmission line that will stay in place and the Turkey River Substation.
Environmental Law & Policy Center	Learner	SOIL02	B. Geology and Soils The analysis of geology and soil impacts from the proposed transmission line is inadequate. In particular, this section characterizes many impacts as temporary by over-relying on mitigation measures, fails to disclose the precise nature and extent of many impacts, and examines an improperly narrow geographic scope. The DEIS improperly assumes that the only permanent impacts would be to the soil directly within the footprints of the individual towers, and that impacts to all other areas can be mitigated or restored. For example, the DEIS states that “[a]ssuming that all impacts would be repaired immediately following construction, temporary impacts to sensitive soils are generally expected to be moderate and short term for each alternative. The greatest potential temporary impact to soils and geology from the C-HC Project is severe erosion.” DEIS at 141. However, it provides no data to support the assumption that impacts can be “repaired” at all, let alone “immediately.”	Comment noted. Section 3.2 of the EIS has been revised to include potential adverse impacts to soils from compaction as well as to characterize appropriate soil impacts as long term. The environmental commitments disclosed in Section 3.1 of the EIS would be followed by the Utilities to reduce environmental impacts. Many of these commitments would avoid, minimize, or mitigate for impacts to soils.
Environmental Law & Policy Center	Learner	SOIL02	The analysis of cumulative soil impacts relies heavily on mitigation measures and best management practices, but does not describe the nature or quantify the extent of these “minimized” impacts, nor does it provide evidence that mitigation measures will be successful. DEIS at 419, 435. As explained in comments by Barbara Peckarsky, Emeritus Professor of Stream Ecology, Cornell University, “Silt loam soils, which are the most erodible of all soils, predominate in the analysis area.” Peckarsky Comments at 2, Exhibit C. The DEIS characterizes the majority of soil impacts, including erosion, as “temporary” and states that, other than the displacement of rocks and soil within construction footprints, “[i]t is assumed ... that long-term permanent impacts would not occur due to the implementation of appropriate environmental commitments, restoration, avoidance, and erosion and sediment control measures.” DEIS at 133. For example, Alternative 1 involves the “potential for severe erosion ... along 67% of the ROW,” and would cause “adverse impacts to sensitive soils” that “would be moderate and long-term if not immediately repaired.” DEIS at 136. If immediate repair occurs, “adverse impacts would be moderate, short-term, and generally limited to the impact area.” Id.	EIS Chapter 4 has been revised to address public comments received during the DEIS public review period about refinement of cumulative impacts analysis associated with the C-HC Project and other past, present, and reasonably foreseeable future projects in the area. These revisions include a revised analysis for cumulative impacts to geology and soils.
Environmental Law & Policy Center	Learner	SOIL02	There is no explanation of why erosion should be considered a temporary impact. While further erosion could perhaps be expected to cease once construction activity has ended and vegetation has been restored, the soil would continue to exist in an eroded state, compared to the pre-construction baseline, and downstream areas suffering from excessive sedimentation would continue to suffer. Where soil compaction occurs, the best management practices appendix to the DEIS states that “either the landowner would be compensated for lost productivity or appropriate equipment should be used to restore the soil tilth.” DEIS at D-3. This discussion of soil impacts ignores the potential that soil compaction could be a long term or permanent impact in wetlands or other locations in which the primary concern about soil compaction would be the effect on ecosystems, rather than lost crop productivity and ignores the fact that soil that has been compacted and then mechanically re-aerated may still suffer from ongoing issues compared to the pre-construction baseline. The alternative-specific analysis is improper because it is limited to impacts within 300 feet of the center of the right-of-way and land directly within the footprint of access roads. Yet the DEIS states earlier in the section that “potential for soil erosion increases not only in the affected area, but erosion could increase in area as rills and gullies are formed and stormwater runoff is channelized across broad areas of land.” DEIS at 135. RUS’s analysis does not fully disclose the scope and severity of impacts.	Comment noted. Section 3.2 of the EIS has been revised to include potential adverse impacts to soils from compaction as well as to characterize appropriate soil impacts as long-term. The environmental commitments disclosed in Section 3.1 of the EIS would be followed by the Utilities to reduce environmental impacts. Many of these commitments would avoid, minimize, or mitigate for impacts to soils.
Environmental Law & Policy Center	Learner	VEG04	C. Vegetation and Wetlands The DEIS’s discussion of wetlands relies on generalities and indicates a limited recognition of the importance of wetlands and how they function. RUS has not obtained or provided the necessary information on the specific wetlands that would be impacted, does not provide adequate or meaningful quantification of impacts, and relies on BMPs and mitigation without any evidence of their efficacy. First, the DEIS is insufficient because it does not provide the required information about the resources that will be impacted by the proposed massive transmission line. RUS repeatedly states that it has not carried out the surveys necessary to know exactly what plant communities exist in the corridor and would be impacted. See, e.g., DEIS at 149 (“Targeted plant inventories have not been completed for the project.”); DEIS at 151 (“Comprehensive vegetation community surveys and mapping has not been completed for the project.”). Without this information, RUS necessarily cannot analyze and disclose impacts. As retired WDNR Wetland Ecologist Pat Trochlell noted in her comments, wetland delineations cannot be	Wetland impact analyses are based on various datasets at varying levels of detail and specificity that include targeted on-the-ground surveys, state and Federal datasets, and landscape-scale data to sufficiently disclose potential impacts of the C-HC Project and compare alternatives. Additionally, community types are grouped based on common characteristics and similar levels of impacts to provide the best information possible as to the potential impacts of the proposed project. Specific field studies or alternative resource classifications will be implemented as required by state and Federal permits, if the C-HC Project is approved.

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			accurately determined without an on-the-ground survey, and RUS's delineation attempt—which relies on remote data—is likely to have missed significant areas of wetland." Trochlell Comments at 1-2, Exhibit D. In addition, the information on wetland plant communities seems to show a lack of understanding of different wetland plant communities. See, e.g., Trochlell Comments at 1, Exhibit D (identifying a lack of understanding of how wetlands are categorized, or what those categories mean). At several points, the DEIS refers to wetlands as a single type of plant community, despite the fact that WDNR's Bureau of Natural Heritage Conservation recognizes thirty-five natural wetland plant communities. See DEIS at 143 (noting existence of 14 natural communities), 152 Table 3.3-2 (seemingly characterizing wetlands as a single vegetation community, and mischaracterizing "floodplain forest" as a forest rather than a wetland); Trochlell Comments at 1, Exhibit D. At other points, the DEIS recognizes the existence of fourteen natural plant communities, but bases that assumption on element occurrence data from WDNR that is incomplete. Trochlell Comments at 1, Exhibit D.	
Environmental Law & Policy Center	Learner	VEG04	In addition, the DEIS is unclear regarding the geographical scope of wetlands impacts. The DEIS looks at the "resource evaluation area," which "reflect[s] the geographic extent of all data used to characterize vegetation." DEIS at 143. While it is appropriate to look at impacts beyond the right of way, providing information on the acreage of the various wetland types within the resource evaluation area is meaningless when there is no map or other information given about what the resource evaluation area encompasses, or what amount of the resource evaluation area will potentially be impacted. See DEIS at 148. As discussed by both wetland ecologists Professor Joy Zedler and Pat Trochlell, the DEIS also classifies much of the impacted wetlands as "degraded" without an adequate explanation of this determination. Zedler Comments at 3, Exhibit E; Trochlell Comments at 1, Exhibit D. The DEIS mentions the existence of "higher quality wetlands," including wet prairie, shrub carr, and hardwood swamp communities, DEIS at 148, but it does not describe these communities, either in the preceding section describing wetlands or anywhere else. Trochlell Comments at 1, Exhibit D. The DEIS claims on page 152 that a 300-foot wide analysis area along the proposed route "is sufficient to identify vegetation resources that could be directly and indirectly affected by the C-HC Project." Yet many impacts to vegetation and plant communities could easily reach beyond a 300 foot wide corridor (only 150 feet in each direction from the centerline). For example, ground disturbance from construction equipment, which may occur much closer than 150 feet to the edge of the 300 foot analysis area, could easily cause erosion that leads to increased sedimentation in nearby wetlands not within the analysis area. Comments of Pat Trochlell at 2, Exhibit D (stating that "[i]mpacts to wetlands along stream corridors may affect wetlands downstream"). "Removal of vegetation may have far-reaching adverse impacts on large areas of wetland outside the direct impact areas. These impacts include loss of native species diversity, increased erosion and sedimentation, habitat loss and loss of natural scenic beauty." Comments of Pat Trochlell at 2, Exhibit D. Similarly, if invasive species are introduced, they could quickly and easily spread far beyond this analysis area. As Professor Joy Zedler states in her comments, "disturbance typically leads to permanent dominance by invasive plants. Once the invaders are present, they spread vegetatively beyond the introduction sites." Zedler Comments at 5, Exhibit E. Furthermore, it is unclear what—if any—buffer area is considered for impacts along access roads and laydown yards.	The EIS includes a quantified analysis of acres within the ROW and within the 300-foot analysis area as well as the number of acres impacted for each vegetation category for each alternative. The 300-foot analysis area provides a buffer surrounding the ROW to evaluate the extent and severity of impacts to vegetation and wetland communities that might occur outside of the project construction footprint. The definition of a degraded wetland is included in EIS Section 3.3 and information pertinent to the impact analysis is included. In some cases, superfluous descriptions and ancillary information not pertinent to the analyses are not included because they would only increase page length and not provide for a more rigorous analysis than what is included in the EIS. Additionally, impacts resulting from loss of species diversity, increased erosion and sedimentation, habitat loss, and invasive species are discussed in EIS Sections 3.2, 3.3, 3.4, and 3.14. The EIS also includes resource-specific environmental commitments, mitigation requirements, and long-term operation procedures for the C-HC Project.
Environmental Law & Policy Center	Learner	VEG04	The DEIS fails to meaningfully quantify—or even fully discuss—impacts, instead relying entirely on simply listing number of acres that could be impacted. It is impossible to glean from the information provided the actual extent and degree of the direct impacts, and no attempt is made to quantify indirect impacts, such as sediment deposition and alteration of hydrology. As explained by Professor Joy Zedler: Massive concrete bases displace native plants and animals—and reduce the wetland's ability to soak up flood waters, purify runoff, and store carbon in the soil. It doesn't take much of a change in water flow and water depth (i.e., the wetland hydroperiod) to shift a species-rich wetland to a weedy patch of alien cattails. Such shifts are aided by soil disturbance during construction. Even a 6-inch pile of dirt invites weedy shrubs and trees to invade a wet meadow or marsh. Zedler Comments at 2, Exhibit E.	Comment noted. Potential impacts to wetlands as well as impacts from the introduction of invasive species are disclosed in EIS Section 3.3.
Environmental Law & Policy Center	Learner	VEG04	The DEIS also fails to acknowledge the importance and significant benefits of wetlands generally, or discuss the ecological services provided by the specific wetlands that would be impacted here. Wetlands ecologist Professor Joy Zedler explains that the DEIS does not provide data on the specific ecosystem services provided by the wetlands that would be impacted, despite the fact that this information is available. Zedler Comments at 3-4, Exhibit E (The Nature Conservancy and the Wisconsin Department of Natural Resources have the ability to quantify predicted services for wetlands throughout the State of Wisconsin. See http://www.wetlandsbydesign.org/ , which provides a free interactive tool called Explorer.). The DEIS should identify the relevant ecological services provided and quantify the monetary value of the services that might be lost. For reference, a 2014 article estimated that the monetary value of ecosystem services from inland wetlands is \$25,681/ha/yr or \$10,397/acre/yr in 2007 dollars. Robert Constanza, et al., Changes in the Global Value of Ecosystem Service, Global Environmental Change (May 2014). This is equivalent to \$12,929.07/acre/yr in 2019 dollars. The DEIS shows that, depending on the route, up to 183 acres of wetlands may be directly and indirectly impacted. DEIS at 167, Table 3.3-17. Over 40 years, the proposed line could disrupt ecological services with a value of almost \$95 million. Finally, the DEIS improperly discounts most wetland impacts by assuming—without support—that BMPs and restoration measures will all be fully successful, and that impacts will necessarily be temporary. See DEIS at 155 (seemingly asserting that the only permanent wetlands impacts will be the actual placement of structures within wetlands).	Comment noted. EIS Section 3.3 discloses potential impacts to vegetation, including wetlands. The analysis contained in EIS Section 3.3 focuses on acreages of wetlands that could be impacted by the C-HC Project. NEPA does not require the monetization of impacts to any resource. Per 40 CFR 1502.23, "For purposes of complying with the Act, the weighing of the merits and drawbacks of the various alternatives need not be displayed in a monetary cost-benefit analysis." Comparison of the potential wetland impacts, presented in acres, for each alternative is adequate to inform the decision-makers and the public about potential impacts from the C-HC Project.
Environmental Law & Policy Center	Learner	EFF04; VEG04	The DEIS claims that impacts from "construction access, staging areas, and access roads would be restored to original contours and reseeded," and would therefore be temporary. DEIS at 155. Yet "restoration" to original contours by simply adding more soil to compacted areas does nothing to restore the compacted soil or impacted hydrology—it is simply further impacting the area. Zedler Comments at 4-5, Exhibit E ("If you create a tire rut, filling it with imported soil creates a second impact; it does not reverse the first impact."); Trochlell Comments at 2, Exhibit D. And, as the appendix on best practices acknowledges, "improperly timed, impact minimization work on rutted soil could compound the damage already present." DEIS at D-3. Simply spreading seeds on an area is completely inadequate to ensure restoration of plant communities, and, as retired wetland ecologist Pat Trochlell notes, the DEIS does not specify that a native genotype seed will be used. Trochlell Comments at 2, Exhibit D. As Professor Joy Zedler explains, damage to wetlands does not end simply because "the wounds are covered by something green,"—rather, "altered ecosystem structures and functions persist long-term, both above- and belowground." Zedler Comments at 2, Exhibit E. RUS states that "[p]otential impacts to wetlands are assumed to be minimized by a number of environmental commitments," DEIS at 155, yet provides no support or evidence that these environmental commitments will be effective. How well have BMPs and restoration measures worked at other lines recently built by the developers? "There's no indication that RUS has consulted the science-based wetland restoration literature." Zedler Comments at 5, Exhibit E. RUS's entire analysis that wetlands impacts will be primarily temporary relies on the unsupported assumption that "environmental commitments" will be entirely successful. In multiple places, the DEIS notes in general language that mitigation and restoration efforts have varying efficacy levels, but does not attempt to explain how successful the planned mitigation and restoration techniques are predicted to be. Vegetation removal could affect vegetation communities by changing community structure and composition and altering soil moisture or nutrient regimes. The degree of impact depends on the type and amount of vegetation affected, and, for short-term impacts, the rate at which vegetation would regenerate following	The environmental commitments listed in EIS Section 3.1 would be included in, and thereby enforced by, applicable permits, authorizations, and orders issued by Federal and state agencies. These commitments may be revised as permits, authorizations, and orders actions are reviewed and issued, if deemed appropriate by the various decision-makers. Post-construction monitoring may be required by such permits, authorizations, and orders.

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			construction. These direct and indirect effects could reduce or change the functional qualities of vegetation, including as wildlife habitat DEIS at 154. Discussion at this level of generality is not sufficient to adequately inform RUS and the public of the magnitude of expected impacts, and thus could result in an unrealistic impression of how effective the planned mitigation activities will likely be. Scientific literature recognizes that many "restored" areas continue to suffer from a "recovery debt" for decades after restoration efforts have been implemented—failure to acknowledge and consider this is a major flaw in the DEIS. See Zedler Comments at 6, Exhibit E. One recent meta-analysis found that restored ecosystems continued to suffer from recovery debts in terms of species diversity, species abundance, carbon cycling, and nitrogen cycling, even decades after the disturbance has ended. Moreno-Mateos, D. et al. Anthropogenic ecosystem disturbance and the recovery debt, NATURE COMMUNICATIONS 8, 14163 doi: 10.1038/ncomms14163 (2017). As explained by Pat Trochlell, "wetland restoration rarely results in wetland plant communities which rate above low quality." Pat Trochlell Comments at 2, Exhibit D. It thus seems overly optimistic to believe that BMPs and restoration efforts would effectively reverse the impacts of the transmission line, thus rendering the impacts only temporary. And as explained by Barbara Peckarsky, "Wisconsin BMPs are often inadequate for protecting stream water quality, because of their frequent use of caveats such as BMPs should be implemented 'when practical' or 'when possible.'" Peckarsky Comments at 3, Exhibit C.	
Environmental Law & Policy Center	Learner	EFF04	In many circumstances, it is not clear whether various commitments are binding. In the section on special status plant species, the DEIS states that the developers would "avoid" certain damaging actions—for example, "[b]roadcast herbicide application would be avoided in areas where suitable habitat and/or where individual plants/populations are present." DEIS at 156 (emphasis added). If this is a firm commitment, it should be stated that broadcast herbicide application will not be used in these areas. It is important to discuss planned mitigation measures in detail, not only to facilitate informed decisionmaking, but because "[m]itigation measures described in the environmental review and decision documents must be included as conditions in Agency financial commitment documents." 7 C.F.R. § 1970.5. These mitigation measures must be incorporated in the plans and construction contracts for the project, and must be maintained "for the life of the loans." Id. D. The DEIS's Analysis of Wildlife Impacts Is Deeply Flawed and Legally Inadequate.	The environmental commitments listed in EIS Section 3.1 would be included in, and thereby enforced by, applicable permits, authorizations, and orders issued by Federal and state agencies. These commitments may be revised as permits, authorizations, and orders actions are reviewed and issued, if deemed appropriate by the various decision-makers. A mitigation plan has been included as an appendix to the EIS to provide additional details about the mitigation measures to be implemented by the Utilities as part of the C-HC Project.
Environmental Law & Policy Center	Learner	WLDF01	The DEIS's discussion of wildlife impacts is also significantly flawed and legally inadequate. First, species surveys have not been completed, and information on impacted species is therefore inadequate. Second, the DEIS misses, discounts, or mischaracterizes several adverse impacts. Third, the reliance on BMPs and restoration measures is unsupported. The RUS apparently did not conduct a species survey to inform the DEIS. RUS necessarily cannot reveal what species will be impacted, and what those impacts will be, if it does not even know this information itself. The wildlife discussion also misses, dismisses, or mischaracterizes numerous species impacts. The analysis of bird impacts is especially inadequate. The DEIS states that "[o]peration of the proposed project would present the potential for avian collisions with the transmission line" and that "[e]lectrocutions of large avian species, particularly raptors, have been known to occur from contact with energized lines." DEIS at 185. Bird collisions and electrocutions are well-known and widely-documented impacts from transmission line, and are guaranteed to occur if the Cardinal-Hickory Creek transmission line is built. Millions of birds die each year in the United States due to collisions with or electrocution by power lines. ⁹ Based on multiple studies in the northern United States and Canada, waterfowl are the bird group most vulnerable to death by transmission lines. ¹⁰ This presents a significant danger to the thousands of waterfowl congregating on the Upper Mississippi River National Wildlife and Fish Refuge each year. The DEIS downplays bird collisions and electrocutions as a minor and unlikely risk, while this ⁹ Scott R. Loss et al., Refining Estimates of Bird Collision and Electrocution Mortality at Power Lines in the United States, PLoS ONE, 9(7): e101565 (2014) http://dx.doi.org/10.1371/journal.pone.0101565 . ¹⁰ Sebastien Rioux, Avian Mortalities Due to Transmission Line Collisions, Avian Conservation and Ecology 8(2): 7 (2013) http://dx.doi.org/10.5751/ACE-00614-080207 . impact is actually quite significant. The DEIS points to bird safety guidelines, yet provides no evidence on the efficacy of these measures, let alone any data to support the assertion that the risk of electrocution would be "minor." DEIS at 185.	RUS used various state, federal, and public datasets, which provide varying levels of detail and specificity about species presence, habitat types, etc. These data were used to sufficiently disclose potential impacts of the C-HC Project to bird species in the analysis area. Furthermore, the two studies referenced in the comment provide coarse estimates of bird mortality from collisions with extremely wide ranges to account for numerous variables. However, one paper concludes that even with the estimated high rates of collisions, the population growth of species most susceptible is not limited. Lastly, both studies cited in the comment reference APLIC guidelines as effective means to reduce collision and electrocution hazards; the C-HC Project would follow APLIC guidelines to minimize collision impacts. Electrocutions are not a high risk for this project due to the project design and conductor spacing greater than large avian wingspans.
Environmental Law & Policy Center	Learner	WLDF01	Additionally, while the DEIS notes that "[t]he presence of transmission structures would provide perches... for some species," DEIS at 185, it fails to acknowledge that this may negatively impact rare and declining grassland bird species by providing perches for hawks and other predator species. The DEIS also downplays impacts to specific bird species. The DEIS states that "it was determined that there are no records of whooping cranes using land within the analysis area or near the Refuge." DEIS at 177. The DEIS's assertion that "the project would have no effect to whooping cranes" is completely unsupported. DEIS at 187. Regardless of whether anyone happens to have recorded whooping cranes within the very narrow specific corridors proposed for the transmission line, it is undeniable that the overall area in which the transmission line would be constructed is very important for whooping cranes. Whooping cranes almost certainly migrate across the proposed transmission line routes. ¹¹ In fact, in 2014, the U.S. Fish and Wildlife Service sent an email to ITC with "an image from this spring/summer of whooping cranes in the Turkey River Bottoms." See Exhibit F. The Turkey River Bottoms is the area where the Turkey River meets the Mississippi River—exactly the area where the proposed transmission line would run. "[C]ollision mortality from power lines is considered biologically significant" for whooping cranes, and one study found that "in the migratory Wisconsin population, 3 out of 18 11 See, e.g., Whooping Crane: Current Summering and Wintering Areas, https://www.savingcranes.org/images/stories/site_images/species-field-guide/wc_map2012_800.jpg . mortalities (17%) were from collisions with power lines." ¹² With a total world population of fewer than 1,000, any individual deaths are significant.	The EIS discloses the known locations of whooping crane observations, and consultation with USFWS has determined that the location of the proposed project would not impact whooping cranes because whooping cranes do not use habitats within the analysis area for the Refuge and non-Refuge lands.
Environmental Law & Policy Center	Learner	WLDF04	The DEIS also ignores impacts to bald eagles. Although acknowledging the presence of bald eagles—including nesting bald eagles—in the area, the DEIS seems to assume that following bird safety guidelines will eliminate any significant impacts. DEIS at 185. RUS has not yet conducted eagle nest surveys, but states that coordination with government agencies would "minimize the impacts to nearby nesting eagles." No details are provided about the safety guidelines or steps to minimizing impacts to nests, nor is evidence provided that such measures would actually be effective. Even if construction does not take place during the months when a nearby nest is active, bald eagles often return to the same nest year after year. In subsequent years, the massive high-voltage transmission line next to a nest would create a significant hazard for both adult eagles and young eaglets learning to fly.	The EIS discloses current bald eagle nests survey results from WDNR. EIS Section 3.1 identifies environmental commitments to protect bald eagles.
Environmental Law & Policy Center	Learner	WLDF01	The DEIS's explanation of habitat impacts is also flawed. The DEIS states: [P]ermanent displacement of [wildlife species] is not anticipated, except potentially in cleared forest areas that may provide habitat for forest-obligate species and in areas of permanent conversion to substations. Forest habitat would be available in other areas near or adjacent to the ROW, and any loss of woodland would be minimal, with adjacent woodland areas still available along the route for refuge during construction and as habitat during project operation. DEIS at 184. This analysis completely ignores species that require large and unbroken areas of habitat. This analysis would also find that any amount of forest habitat destruction is fine, as long as there is still some forest habitat remaining. This is inaccurate, and ignores the fact that a smaller amount of forest habitat will support fewer	Comment noted. Potential impacts to wildlife species and migratory birds are disclosed in EIS Section 3.4.

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			individuals of any given species. 12 Edison Electric Institute, Reducing Avian Collisions with Power Lines, http://www.aplic.org/uploads/files/15518/Reducing_Avian_Collisions_2012watermarkLR.pdf at 33–34 (2012).	
Environmental Law & Policy Center	Learner	EFF01; VEG01	A number of other impacts are ignored or discounted. "Increased invasive species establishment and spread" is categorized as a "short-term" impact. DEIS at 184. Invasive species by definition spread quickly and are difficult to eradicate once established. The introduction and spread of new invasive species would not be a short-term impact. The DEIS states that "[n]earby waterways could be used to obtain water to fill foundation excavation sites and for other construction purposes," DEIS at 186, yet provides no discussion of what environmental impacts this might create. Would it lower water levels? Would it cause entrainment and impingement of aquatic species?	EIS Section 3.4.2 explains that the standard practice is to notify the WDNR or IDNR of water withdrawal from water bodies for construction activities. Withdrawal activities would be scheduled to avoid spawning seasons, if possible. The Utilities would coordinate water withdrawal activities with the IDNR and WDNR; therefore, impacts to state-listed fish and other aquatic species or their habitat are considered minor and temporary.
Environmental Law & Policy Center	Learner	EFF01; EFF04	The DEIS's discussion around BMPs and restoration is confusing and fails to provide meaningful information. In the section on impacts to fish and aquatic species, the DEIS states that a spill prevention plan would be developed to "limit the potential for construction equipment to leak any hazardous materials that could impact water quality." DEIS at 186. This statement does not meaningfully inform the public or decisionmakers about the risk of hazardous materials leaking into ground and surface water. How effective are spill prevention plans? What amount of spilled hazardous material is typical for a transmission line project? The DEIS then states, "[I]f restoration activities were successful potential erosion would be minimized. However, if restoration activities were not successful erosion could continue to impact water quality for fish species throughout the operation and maintenance of the transmission line." DEIS at 186. The DEIS does not state how likely restoration activities are to be successful, or what level of erosion should be expected if they are now. Similarly, the section on reptiles and amphibians states: Areas of ground disturbance would be restored to the extent possible upon completion of construction activities. If restoration activities are successful, potential erosion would be minimized. However, if restoration activities are not successful, erosion could continue throughout the life of the transmission line operation and maintenance, which may contribute to long-term impacts to water quality for amphibian species. DEIS at 186. This says essentially nothing. It gives no information on what outcome is more likely, how likely restoration activities are to succeed and to what degree, how much erosion will be reduced if restoration is successful, and how severe impacts will be if restoration fails. Considering these clear admissions that BMPs and restoration activities are not infallible, it is surprising that the DEIS states just a page later that the construction and operation of the transmission line would have "no anticipated impacts to federally listed mussel species or their habitats" because "[e]rosion control BMPs would be implemented to avoid indirect effects to all waterways." DEIS at 187. RUS may not simply assume, with no support, that erosion control BMPs will be completely effective and avoid all impacts to federally protected mussels.	The environmental commitments listed in EIS Section 3.1 would be included in, and thereby enforced by, applicable permits, authorizations, and orders issued by Federal and state agencies. These commitments may be revised as permits, authorizations, and orders actions are reviewed and issued, if deemed appropriate by the various decision-makers.
Environmental Law & Policy Center	Learner	WAT01	E. Water Quality The DEIS's discussion of water quality impacts displays many of the same flaws already identified in other sections. Some impacts are not discussed in sufficient detail to inform the decision, such as vegetation removal, dewatering, and impacts to floodplains. The conclusion that many impacts would be only minor or short term relies heavily on the success of BMPs and mitigation measures, but the DEIS does not discuss those practices and mitigation measures in sufficient detail to justify that conclusion. As an initial matter, there appear to be mistakes in the calculation of number of impacted waterways. As pointed out by Barbara Peckarsky, the DEIS states on page 200: "There are approximately 21 Outstanding Resource Waters and Exceptional Resource Waters within the Wisconsin portion of the analysis area, including 10 that are within the analysis area." Peckarsky Comments at 2, Exhibit C. It is unclear what this sentence is supposed to say.	EIS Section 3.5 has been revised to update the number of outstanding resource waters and exceptional resource waters within the analysis area. Environmental commitments disclosed in EIS Section 3.1 identify the measures that would be taken by the Utilities and that would be required as permit conditions in many cases to avoid, minimize, or mitigate for impacts to resources, including water resources and quality.
Environmental Law & Policy Center	Learner	WAT01	The DEIS notes the impacts on water bodies from removing vegetation, but does not quantify the degree of impacts or describe specific impacts to aquatic habitat. Removal of trees and other tall vegetation that shade water bodies can elevate stream water temperatures, affecting trout and the insects on which trout feed. Peckarsky Comments at 3, Exhibit C (explaining long-term adverse effects of removal of shade trees). The DEIS seems to assume no impacts will remain after revegetation, but the ROW will not be revegetated with trees, and the particular plants that will be used for revegetation in the ROW and other areas are not specified. If low-growing plants replace shade trees, revegetation may help to mitigate soil and erosion impacts, but would not restore pre-construction water temperatures. Peckarsky Comments at 3, Exhibit C. The DEIS notes that "impacts to trout streams are expected to be moderate," DEIS at 207, but ignores trout streams when it later states in its summary that "impacts to both surface water and groundwater are expected to be short term and minor," DEIS at 212.	EIS Section 3.5 has been revised to disclose long-term adverse impacts to waterways where tall vegetation is removed. The removal of tall vegetation that provides shade to the nearby water body could result in long-term adverse impacts to aquatic habitat, especially if sufficiently tall vegetation cannot be allowed to reestablish within the ROW for safety reasons. Therefore, impacts to trout streams are expected to be moderate and long term.
Environmental Law & Policy Center	Learner	WAT02	The DEIS discusses dewatering of foundations, but does not adequately address impacts of drawing water from elsewhere when needed. Dewatering can affect stream water temperature and negatively impact organisms that depend on seasonal flow fluctuations. Peckarsky Comments at 4, Exhibit C ("Plans for extractions need to be developed in much more detail in the DEIS to demonstrate how the Utilities will mitigate or minimize damage to the stream organisms in sensitive streams.").	The environmental commitments in EIS Section 3.1 state, "Nearby waterways could be used as a water source during project construction. The Utilities would attempt to avoid water withdrawals during spawning seasons. The Utilities would coordinate water withdrawals with the IDNR and WDNR."
Environmental Law & Policy Center	Learner	EFF01; WAT01	The DEIS relies heavily on the existence of best management practices and mitigation measures, but does not discuss these commitments in adequate detail to allow evaluation of the impacts, and does not specify that these commitments will be binding. For example, the DEIS states that "[e]rosion and sediment control measures, including measures for stabilization of disturbed areas during and at the completion of construction, would be defined in the SWPPP for the project." DEIS at 205. How can impacts be analyzed now when the control measures are deferred until a later time? As Professor Peckarsky points out in her comments, many of the standard Wisconsin BMPs for erosion control and the commitments mentioned in the DEIS contain qualifying language such as "when practical" or "to the extent possible," but the DEIS does not attempt to explain how often such BMPs may be impossible or impractical and thus will not be utilized. Peckarsky Comments at 3, Exhibit C. The DEIS states that "[e]rosion controls would be regularly inspected and maintained throughout the construction phase of a project until exposed soil has been adequately stabilized," DEIS at 125, but erosion controls may be breached during storm events, so unless sites are inspected after every storm, sedimentation into vulnerable streams may still occur. Peckarsky Comments at 3, Exhibit C. Another example of this incomplete discussion of BMPs is the discussion of pesticides and other hazardous materials: [T]he Utilities will employ a Certified Pesticide Applicator for all herbicide applications within the C-HC Project. The Certified Pesticide Applicators will only use herbicides registered and labeled by the USEPA and will follow all herbicide product label requirements. Herbicides approved for use in wetland and aquatic environments will be used in accordance with label requirements, as conditions warrant. DEIS at 213. The DEIS does not explain the practical effect that use of these practices will have on the degree of pesticide impacts. Broad statements such as "[t]hese BMPs are standard industry practices and are typically effective at minimizing risk for accidental release of contaminants to surface water or shallow ground water when implemented properly," DEIS at 206, do not provide the needed explanation.	The environmental commitments listed in EIS Section 3.1 would be included in, and thereby enforced by, applicable permits, authorizations, and orders issued by Federal and state agencies. These commitments may be revised as permits, authorizations, and orders actions are reviewed and issued, if deemed appropriate by the various decision-makers. Specific to herbicide applications, EIS Chapter 3 includes the following environmental commitments related to herbicide use: The Utilities will employ a Certified Pesticide Applicator for all herbicide applications within the C-HC Project. The Certified Pesticide Applicators will only use herbicides registered and labeled by the USEPA and will follow all herbicide product label requirements. Herbicides approved for use in wetland and aquatic environments will be used in accordance with label requirements, as conditions warrant. During the easement negotiation, landowners can decline the use of herbicides for vegetation management activities once the line is in operation. Therefore, no herbicides would be applied within portions of the ROW on which the landowner wishes not to introduce it.

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Environmental Law & Policy Center	Learner	WAT06	The discussion of floodplain impacts is inadequate because it does not disclose how often best management practices or preferred mitigation measures will actually be used. As Prof. Peckarsky notes, the DEIS proposes spanning floodplains and placing structures above the ordinary high water mark when possible, but does not disclose how often these measures will prove impossible and does not adequately address the eventuality that structures above the ordinary high water mark may still be underwater during heaving rainfall events that will become more common as a result of climate change. Peckarsky Comments at 3-4, Exhibit C. The DEIS also does not disclose what will be done when it is not possible to use these planned BMPs.	Comment noted. EIS Section 3.1 discloses environmental commitments that the Utilities would be required to follow during construction and operation of the C-HC Project. These environmental commitments would be included in, and thereby enforced by, applicable permits, authorizations, and orders issued by Federal and state agencies. These commitments may be revised as permits, authorizations, and orders actions are reviewed and issued, if deemed appropriate by the various decision-makers.
Environmental Law & Policy Center	Learner	AIR04	F. Air Quality and Climate Change The DEIS does not contain a comprehensive greenhouse gas (“GHG”) analysis that discloses the full climate change impact of the proposed Cardinal-Hickory Creek transmission line and the cumulative impacts in combination with other transmission line projects. <i>WildEarth Guardians v. Zinke</i> , No. 16-1724, slip op. at 2, 24, 28-40, 44-46 (D.D.C. March 19, 2019). RUS must “use the NEPA process, to the maximum extent feasible, to identify and encourage opportunities to reduce greenhouse gas (GHG) emissions caused by proposed Federal actions that would otherwise result in the emission of substantial quantities of GHG.” 7 C.F.R. § 1970.4. RUS cannot meet that obligation if the EIS does not even acknowledge the full scope of emissions the project will create. First, the proposed Cardinal-Hickory Creek transmission line is “open access” under Federal Energy Regulatory Commission rules. Accordingly, all electricity generators—coal plants, natural gas plants, wind power projects, nuclear power plants and others—can bid to reserve transmission capacity on the line. That will enable some coal plants and natural gas plants, which might otherwise be retired, to keep operating and continue to produce greenhouse gas emissions that would not occur if this surplus generating capacity in Iowa, Minnesota, North Dakota and South Dakota were to shut down. Because most wind power generation occurs at night when demand is relatively low in the Midwest electric power market, fossil fuel plants that can operate with full production during all 24 hours of the day are also likely to seek to reserve capacity on the Cardinal-Hickory Creek transmission line. The DEIS therefore should have analyzed the greenhouse gas emissions, and climate change impacts, associated with the electricity that the line would carry. <i>WildEarth Guardians v. Zinke</i> , No. 16-1724, slip op. at 2 (D.D.C. March 19, 2019) (EIS must “provide the information necessary for the public and agency decisionmakers to understand the degree to which the [federal action] at issue would contribute to [climate change] impacts”).	EIS Chapter 4, Section 4.4 has been revised to estimate the CO ₂ emissions that could occur from generation sources that would benefit from the C-HC Project. This analysis compares two scenarios: 100% coal-generation sources benefitting from the C-HC Project and 100% wind-generation sources benefitting from the C-HC Project. This analysis provides a range of CO ₂ emissions from possible generation sources.
Environmental Law & Policy Center	Learner	AIR04; EFF01	RUS in its DEIS must fully and fairly analyze the impact of the proposed Cardinal-Hickory Creek transmission line, alone, on greenhouse gas emissions, and the cumulative effects in combination with all “past, present and reasonably foreseeable” projects, including those that affect the need for the transmission line, such as the proposed solar projects now being developed in Wisconsin and those in the MISO queue, the surplus wind, solar and nuclear capacity in Illinois that can move on existing transmission lines to Wisconsin, and the multiple other transmission lines such as the Badger-Coulee transmission line, the Grain Belt and Rock Island lines, and the SOO Green Renewable Rail project and others in Illinois, Iowa, Minnesota, North Dakota, South Dakota, Wisconsin and nearby areas. <i>WildEarth Guardians v. Zinke</i> , No. 16-1724, slip op. (D.D.C. March 19, 2019). See <i>Grand Canyon Trust v. F.A.A.</i> , 290 F.3d 339, 345 (D.C. Cir. 2002) Second, as explained in DALC’s scoping comments, a proper lifecycle analysis would consider at least: the carbon impacts of manufacturing, construction, maintenance; emissions caused by any increased fossil-fueled electricity generation the line would induce; and the effects land use changes would have on carbon sequestration. See DALC Scoping Comments at 30–31 (Jan. 4, 2017). Instead, the DEIS section on greenhouse gases discusses only the emissions from construction activities (construction equipment, worker commuting, and deliveries) and ongoing emissions from operation of gas-insulated circuit breakers and from vehicles used for inspection and maintenance activities. DEIS at 220–222. It is insufficient to merely state that “GHG emissions from the construction, operation, and maintenance of the project (including potential SF6 leaks from circuit breakers) would result in a minor (relative to local, national, and/or global GHG emissions) long-term increase in GHGs.” DEIS at 222. Without quantification of the full lifecycle of emissions attributable to the project, RUS and the public cannot adequately evaluate the individual and cumulative environmental consequences of the transmission line. See <i>Sierra Club v. Fed. Energy Regulatory Comm’n</i> , 867 F.3d 1357, 1374 (D.C. Cir. 2017) (holding that, despite any uncertainty, EIS should have at least attempted to quantify downstream greenhouse gas emissions attributable to oil pipeline); <i>WildEarth Guardians v. United States Bureau of Land Mgmt.</i> , 870 F.3d 1222, 1235 (10th Cir. 2017) (holding that NEPA analysis of coal lease could not ignore emissions from burning coal by assuming that, in absence of lease, perfect substitution from other sources would occur); <i>Border Power Plant Working Grp. v. Dep’t of Energy</i> , 260 F. Supp. 2d 997, 1017 (S.D. Cal. 2003) (“Because the EBC turbine and the BCP transmission line are two links in the same chain, the emissions resulting from the operation of the EBC turbine are ‘effects’ of the BCP transmission line that must be analyzed under NEPA.”); <i>Mid States Coal. for Progress v. Surface Transp. Bd.</i> , 345 F.3d 520, 550 (8th Cir. 2003) (holding that “it would be irresponsible for the [Surface Transportation] Board to approve a [coal-hauling train] project of this scope without first examining the effects that may occur as a result of the reasonably foreseeable increase in coal consumption.”)	EIS Chapter 4, Section 4.4 has been revised to estimate the CO ₂ emissions that could occur from generation sources that would benefit from the C-HC Project. This analysis compares two scenarios: 100% coal-generation sources benefitting from the C-HC Project and 100% wind-generation sources benefitting from the C-HC Project. This analysis provides a range of CO ₂ emissions from possible generation sources. The generation sources that would benefit from the C-HC Project are considered cumulative impacts because they are not directly associated with the proposed C-HC Project; therefore, associating potential climate change and resource impacts (adverse or beneficial) from different generation sources accessing the C-HC Project is outside the scope of this EIS.
Environmental Law & Policy Center	Learner	AIR04	A 2016 CEQ guidance document directed agencies to “quantify a proposed agency action’s projected direct and indirect greenhouse gas emissions, taking into account available data and GHG quantification tools that are suitable for the proposed agency action” or “explain the basis for determining that quantification is not reasonably available.” ¹³ Multiple resources exist to help agencies quantify the full range of direct and indirect greenhouse gas emissions projects may create, ¹⁴ and RUS should either use these tools (for example, by using an emissions calculator based on the current mix of generation in Iowa, Minnesota and North Dakota) or explain why it is not able to account for the project’s full range of greenhouse gas emissions. See <i>Citizens for a Healthy Community v. BLM</i> , No. 1:17-cv-02519-LTB-GPG, slip op. at 17 (D. Colo., Mar. 27, 2019) (“[A]n agency cannot rely on production estimates while simultaneously claiming it would be too speculative to rely upon the predicted emissions from those same production estimates.”). The DEIS reports emissions of greenhouse gases in metric tons per year, but notably does not attempt to put a monetary value on the adverse impacts of these emissions. A tool exists to do exactly this: the social cost of carbon. This metric refers to the cost that emitting one ton of carbon dioxide (or a quantity of other greenhouse gases with the equivalent global warming potential) into the atmosphere has in terms of future harms to public health, infrastructure, agriculture, and other human activities. The correct value for the social cost of carbon is disputed. The federal government formerly used a value of \$42 (in 2007\$ per metric ton) for each ton of carbon emitted in 2020 when calculating the costs and benefits of agency 13 Final Guidance for Federal Departments and Agencies on Consideration of Greenhouse Gas Emissions and the Effects of Climate Change in National Environmental Policy Act Reviews, at 4, https://ceq.doe.gov/docs/ceq-regulations-and-guidance/nepa_final_ghg_guidance.pdf . While this guidance document has since been withdrawn, it has not been replaced with alternative guidance, and it still represents a reasoned position on the appropriate way to consider climate change impacts during NEPA review. ¹⁴ See, e.g. Greenhouse Gas (GHG) Accounting Tools, NEPA.GOV, https://ceq.doe.gov/guidance/ghg-accounting-tools.html . ¹⁵ Recently, the government has indicated a preference for a value of \$1 to \$7 (in 2016\$ per metric ton) in 2020. ¹⁶ RUS could easily calculate the social cost of carbon according to either federal number (or according to an alternative value put forth by other groups ¹⁷), or use both numbers to provide a range for the monetized benefits. <i>WildEarth Guardians v. Zinke</i> , No. 16-1724, slip op. at 33 (D.D.C. March 19, 2019) (agency cannot “simply throw	Comment noted. EIS Chapter 4, Section 4.4 has been revised to estimate the CO ₂ emissions that could occur from generation sources that would benefit from the C-HC Project. This analysis compares two scenarios: 100% coal-generation sources benefitting from the C-HC Project and 100% wind-generation sources benefitting from the C-HC Project. The analysis contained in the EIS Section 4.4 focuses on units of CO ₂ emissions from different generation sources. NEPA does not require the monetization of impacts to any resource. Per 40 CFR 1502.23, “For purposes of complying with the Act, the weighing of the merits and drawbacks of the various alternatives need not be displayed in a monetary cost-benefit analysis.” Comparison of the potential cumulative CO ₂ emissions, presented in metric tons and compared to the United States total greenhouse gas emissions for 2017, is adequate to inform the decision-makers and the public about potential impacts from the C-HC Project.

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			<p>up its hands” in the face of uncertainty, but must make an effort to provide an estimate, even if in a range of forecasts). Providing a dollar amount estimate of the social cost of the project’s greenhouse gas emissions would make this impact more easily understandable and concrete for members of the public. It is probably hard for most people to envision what a ton of carbon dioxide looks like, let alone understand the impacts caused by this volume of invisible gas. The RUS’s failure to monetize the climate change impacts by using the social cost of carbon, or some other appropriate recognized method, stands out in light of the DEIS’s monetization of many other impacts of the project. At least one federal court has held that an EIS “was arbitrary and capricious to quantify the benefits of an action while failing to quantify the costs of the action even though such an analysis was possible” through use of the social cost of carbon. <i>Montana Env’tl. Info. Ctr. v. U.S. Office of Surface Mining</i>, 274 F. Supp. 3d 1074, 1096 (D. Mont. 2017), amended in part, adhered to in part sub nom. <i>Montana Env’tl. Info. Ctr. v. 15 Interagency Working Group on Social Cost of Greenhouse Gases</i>, Technical Support Document: Technical Update of the Social Cost of Carbon for Regulatory Impact Analysis Under Executive Order 12866, at 4, August 2016, https://www.epa.gov/sites/production/files/2016-12/documents/sc_co2_tsd_august_2016.pdf. 16 U.S. Environmental Protection Agency, Office for Air Quality Planning and Standards, Regulatory Impact Analysis for the Proposed Emission Guidelines for Greenhouse Gas Emissions from Existing Electric Utility Generating Units; Revisions to Emission Guideline Implementing Regulations; Revisions to New Source Review Program, at 4-4, August 2018, https://www.epa.gov/sites/production/files/2018-08/documents/utilities_ria_proposed_ace_2018-08.pdf. 17 One 2018 study noted that recent estimates of the social cost of carbon range from \$10 to \$1000 per ton. Katharine Ricke, et al., Country-level Social Cost of Carbon, <i>NATURE CLIMATE CHANGE</i> 8, 895–900 (Sept. 24, 2018). The same study suggested that the median global social cost of carbon is \$417, but that this cost is distributed unequally across countries, with the U.S. directly experiencing \$48 (or approximately 11%) of the impact of every ton of carbon emitted across the globe. <i>Id.</i> <i>United States Office of Surface Mining</i>, No. CV 15-106-M-DWM, 2017 WL 5047901 (D. Mont. Nov. 3, 2017). And another federal court has stated that NEPA’s “hard look” requirement includes “a ‘hard look’ at whether this tool [the social cost of carbon], however imprecise it might be, would contribute to a more informed assessment of the impacts than if it were simply ignored.” <i>High Country Conservation Advocates v. United States Forest Serv.</i>, 52 F. Supp. 3d 1174, 1193 (D. Colo. 2014). RUS should provide an estimate of the social cost of the project’s GHG emissions and, if it chooses not to use the social cost of carbon to create this estimate, must explain its reasons for that choice. <i>18 WildEarth Guardians v. Zinke</i>, No. 16-1724, slip op. at 48–50 & n.30 (D.D.C. March 19, 2019). Even the DEIS’s limited analysis appears to miss the carbon emissions from helicopters, which may be used to construct the line, and airplanes, which may be used to inspect the line. See DEIS at 219, 243.</p>	
Environmental Law & Policy Center	Learner	AIR04; VEG04	<p>The DEIS also does not acknowledge the carbon impacts from land use changes and disruption of ecosystems. As recognized in Wis. Stat. § 1.12(3)(c)’s goal of “reduc[ing] atmospheric carbon dioxide by increasing the forested areas of the state,” destroying forests will reduce carbon storage. Wetlands can also be an important carbon sink. As explained in Moomaw et al., <i>Wetlands in a Changing Climate: Science, Policy and Management</i>, <i>Wetlands</i> 38:183-205 (2018): <i>The Millennium Ecosystem Assessment (2005)</i> identifies climate regulation as one of the most significant ecosystem services provided by wetlands, and also identifies their role in buffering the effects of climate change (thereby supporting climate adaptation and resiliency), as well as many additional ecosystem services. Wetlands sequester some of the largest stores of carbon on the planet, but when 18 See Final Guidance for Federal Departments and Agencies on Consideration of Greenhouse Gas Emissions and the Effects of Climate Change in National Environmental Policy Act Reviews, supra note 13 at 33 (“[I]f an agency chooses to monetize some but not all impacts of an action, the agency providing this additional information should explain its rationale for doing so.”). disturbed or warmed, they release the three major heat-trapping greenhouse gases (GHGs), carbon dioxide (CO2), methane (CH4) and nitrous oxide (N2O)... Wetland conservation has important implications for atmospheric C cycles, since a substantial portion of the soil C pool is stored in wetlands...Wetland conditions are critical for C accumulation and storage since decomposition in these systems is limited by a lack of oxygen due to water saturation.</p>	<p>Comment noted. Potential impacts to forested areas are disclosed in Sections 3.3 of the EIS. Potential impacts to wetlands are disclosed in EIS Section 3.3 and are explained as conversion of wetland type, such as conversion from forested wetland to emergent wetland. The C-HC Project would result in a complete loss of a wetland area.</p>
Environmental Law & Policy Center	Learner	NOISE01	<p>G. Noise The DEIS’s analysis of noise impacts is also flawed. First, the estimated construction noise levels are based on sound measurements from a highway project in the 1990s, stating that the model used “includes the same types of equipment that would be used in the construction of the project.” DEIS at 226. It is not clear that this is the best information available to analyze the noise impacts of the construction of the proposed transmission line—is there not more recent and relevant information available? Does this model include the use of helicopters (which will be used for the CHC line) or “drilling, blasting, [and] excavation” (DEIS at 135)? The noise modeling for substation construction is also flawed because it assumes that all construction activity operates at the very center of the construction area. DEIS at 227. Any time construction activity is not at this exact spot, it will necessarily be closer to one of the property lines and closer to neighboring residences, with louder and more disruptive impacts than modeled. In addition, measuring impacts based on distance to nearest residence likely underestimates impacts, as there may be closer land uses that may be impacted, such as hiking or bird watching. Impacts from corona noise during line operation are also likely underestimated, as the DEIS only considers the decibel level “as heard from the edge of the ROW,” DEIS at 232, when people will indisputably pass directly underneath the line within the ROW—for example, landowners whose land falls under the line, wildlife observers within the Upper Mississippi River National Wildlife and Fish Refuge, or hikers on the Pecos State trail. The DEIS states that “[g]enerally, construction-related groundborne vibration is not expected to extend beyond 25 feet from the generating source.” DEIS at 232. It is unclear whether “drilling, blasting, [and] excavation” was considered in this statement. DEIS at 135. The DEIS’s qualitative characterizations of noise impacts are also problematic. For example, it describes helicopter noise impact as “minor,” while stating that noise level at nearby residences would be “in the range of about 83 to 87 dBA,” DEIS at 231, which is characterized as “very loud” and approaching a level that can cause hearing damage. DEIS at 224. General construction noise is predicted to be at a similar level, DEIS at 231, yet is also characterized as being “minor.” DEIS at 235. It is highly unlikely that noise at this level would not “detract from current user activities,” as would be required to meet the DEIS’s own standard for a “minor impact.” DEIS at 227.</p>	<p>As discussed in EIS Section 3.7, the FHWA Roadway Construction Noise Model has noise levels for various types of common construction equipment pre-programmed into the software; therefore, the noise level associated with the equipment is typical for the equipment type and not based on any specific make or model. The maximum noise levels presented at a specified distance from the source are based on the roster of likely construction equipment used to construct the C-HC Project (bulldozers, concrete trucks, cranes, pickup trucks, forklift, flatbed trucks, etc.), which is presented in Section 3.7.2. The same types of equipment are used to construct highways. With the improvement of noise-reduction technology used in vehicles and construction equipment since the 1990s, the estimated noise levels in the FHWA Roadway Construction Noise Model would likely decrease, if they changed at all, if data from today’s construction equipment are used. Thus, the EIS construction noise estimates are conservative. Noise from the use of helicopters is discussed separately in Section 3.7.2. Construction equipment used to construct the Hill Valley Substation could be used at a spot closer to the receptor than the center of the construction site, and it could also be used at a spot farther away from the sensitive receptor than the center of the construction site. Each piece of construction equipment would also be located a different distance from the sensitive receptor. One piece could be operating close to the property line at a point nearest to the sensitive receptor and another piece operating at the opposite end. For ease of modeling, RUS estimated sound level based on the source’s average location being the center of the construction area. Furthermore, the noise analysis is conservatively based on the modeling assumption that the maximum amount of construction equipment planned to be used at the construction site would all be operated at the same time over the course of the construction period, which is unlikely. It is expected that several pieces of equipment would be in use while other equipment is shut off until needed. It is reasonable to assume that the maximum amount of construction equipment scheduled to be used at the construction site in a given day over the course of the project would not be operating simultaneously at the location that is closest to the sensitive receptor.</p>

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Environmental Law & Policy Center	Learner	CUL01	<p>H. Cultural and Historic Resources It is impossible to fully evaluate the impact the transmission line would have on cultural and historical resources when only a small portion of the project route has actually been inventoried for cultural resources as of yet and cultural consultation with tribes is ongoing. DEIS at 255. The RUS must comply with Section 106 of the National Historic Preservation Act as well as directly with NEPA. Two tribes have identified sensitive cultural resources within the area, but the RUS states that because it has not yet been notified of what or where these resources are, it cannot yet evaluate how the line might impact them. DEIS at 283. The DEIS acknowledges that the full extent of impacts is unknown because there could be remaining unknown sites which would suffer irreversible impacts. DEIS at 283. The DEIS acknowledges that “[u]nder Section 106 of the NHPA, agencies are required to make a reasonable and good faith effort to identify, in coordination with other interested parties including State Historic Preservation Offices (SHPOs) and Native American tribal groups, whether historic properties are present within the area of potential effects (APE) of an undertaking and whether they would be significantly impacted by that undertaking.” DEIS at 252. Yet this review has apparently not yet been completed, since one of the listed “environmental commitments” states that consultation “would be required under Section 106 of the NHPA” and that it “must be completed prior to the start of construction activities.” DEIS at 126. The summary of impacts states that “impacts to those sites where adverse effects are mitigated would be minor or moderate,” DEIS at 283, but provides no support for the conclusion that steps taken to avoid or minimize impacts would actually mitigate impacts to only a “minor or moderate” level, and does not discuss specific mitigation measures in detail. The DEIS states that “[f]or resources within the Indirect APE, the impacts to affected resources would be evaluated on a case-by-case basis,” DEIS at 284, but does not explain when or how this evaluation would occur. The analysis of impacts of each alternative lists several sites as “Undetermined, recommended not eligible,” but does not explain what this recommendation is based on. See, e.g., DEIS at 261 Table 3.9-2, 262 Table 3.9-3.</p>	<p>A residence cannot simply pick up and move to a location further away like a hiker or birdwatcher can. A hiker or birdwatcher would not be located at a single spot over the long term. The analysis was based on fixed-location sensitive receptors because the impact would be greater to those who cannot relocate than it would be to those who may be temporarily (less than a day) located closer to the project site. Again, the analysis was based on fixed-location sensitive receptors who would be affected by any noise generated by the project, night and day. Corona noise would be louder to someone walking directly underneath the transmission line; however, the amount of time they would be affected by the corona noise level as they walk under the transmission line would be far less than the amount of time a fixed location sensitive receptor would be affected. Although the short-term impact might be greater to the hiker who chooses to be briefly located under the transmission line, the overall, long-term impact would be greater to the permanent receptor. Furthermore, wildlife observers and hikers would be unlikely to be under the transmission line during extreme weather events when corona noise would be loudest.</p> <p>Blasting or pile-driving activities are not anticipated in the construction of the project. However, if unanticipated geotechnical conditions are discovered, blasting may be the best method for excavation. Text has been added to EIS Section 3.7 to make it clear that blasting vibration has been addressed.</p> <p>Long-term exposure is required for hearing damage to occur at a noise level of 85 A-weighted decibels. The use of a helicopter in transmission line construction would not generate long-term exposure at a specific location. If a helicopter is used, towers would be preassembled at one or more central staging areas and then transferred by helicopter to tower sites. The helicopter would hover at central staging areas on average from a few to several minutes per tower as it picked up each tower section, and it would then hover at each tower site from a few to several minutes during a 1-hour period while the tower is placed on the foundation. The time spent close enough to a sensitive receptor to generate high noise levels would not last long enough to cause hearing damage.</p>
Environmental Law & Policy Center	Learner	CUL01	<p>Finally, the DEIS explains that impacts to the Nelson Dewey State Park and Home Site were identified as concerns during public scoping, but asserts that the proposed corridors would be no closer than 3,100 feet to the park. DEIS at 263, 280, 283. In fact, the map included in the DEIS clearly shows that the northernmost proposed corridor would be no more than 1000 feet from the edge of the Park. Further, the state DEIS states that the closest route would be approximately 400 feet from Nelson Dewey State Park. Included here is the entire map of [Figure 3.14-1 C-HC Project vicinity with the Upper Mississippi River National Wildlife and Fish Refuge] proposed Mississippi River crossings from page 407, along with a close-up of the transmission lines as they pass by the Nelson Dewey State Park, with the distance scale superimposed for reference. The inclusion of this clear factual error, which was used as the basis to entirely dismiss valid concerns raised by the public about impacts to the Nelson Dewey State Park, raises concern generally about the accuracy of information throughout the DEIS.</p>	<p>Comment Noted: EIS Section 3.9 has been updated to include the Nelson Dewey Plantation National Register of Historic Places property within the indirect impacts considerations under Alternatives 1, 5, and 6.</p>
Environmental Law & Policy Center	Learner	REC01	<p>2. Recreation The section on recreation is deeply flawed because it does not consider impacts to recreation areas or trails not directly in the ROW. People flock to the Driftless Area for outdoor recreation because of the natural scenic beauty. For example, routes for organized cycling events, such as the successful Horribly Hilly Hundred, which begins at Blue Mound State Park, have passed directly under some of the proposed Cardinal-Hickory Creek transmission line segments. The construction of a massive high-voltage transmission line will impact recreation opportunities far beyond the actual right of way. The summary of impacts also assumes that, in recreation areas in which the transmission line would “follow an existing transmission line ROW, ... impacts are limited to only construction activities.” DEIS at 309. This assumption ignores the possibility that the new towers could be taller and therefore more visible and much more aesthetically disrupting than existing towers, that the cleared area of the ROW would be expanded or widened, or that two transmission lines in a single ROW could create any other impacts different from those of a single line.</p>	<p>EIS Section 3.11 discloses the potential impacts to visual quality and aesthetics.</p>

Organization	Commenter Last Name	Comment Code(s)	Comment on DEIS	Agency Response to Comment
Environmental Law & Policy Center	Learner	LAND01	3. Land Cover The summary of impacts to land cover leaves out many crucial details. The discussion of land cover impacts common to all alternatives states that "environmental commitments to prevent the spread of invasive species, plant disease, and pest species would be implemented as needed." DEIS at 292 (referring to Table 3.1-4), but fails to specify how, or by whom, the determination will be made of which commitments are "needed." While the DEIS asserts that "grasslands would also be restored to existing conditions after construction," DEIS at 307, it never establishes what measures would actually be taken, or what metric will be used to judge whether the restoration has been successfully completed. The "Land Cover Permanent Impact Summary" table that appears on page 308 bafflingly lists ">1" for the acreage of several types of land cover that will be permanently affected by the different alternatives.	Comment noted. The environmental commitments listed in EIS Section 3.1 would be included in, and thereby enforced by, applicable permits, authorizations, and orders issued by Federal and state agencies. These commitments may be revised as permits, authorizations, and orders actions are reviewed and issued, if deemed appropriate by the various decision-makers. EIS Chapter 3 includes the following environmental commitments related to herbicide use: The Utilities will employ a Certified Pesticide Applicator for all herbicide applications within the C-HC Project. The Certified Pesticide Applicators will only use herbicides registered and labeled by the USEPA and will follow all herbicide product label requirements. Herbicides approved for use in wetland and aquatic environments will be used in accordance with label requirements, as conditions warrant. During the easement negotiation, landowners can decline the use of herbicides for vegetation management activities once the line is in operation. Therefore, no herbicides would be applied within portions of the ROW on which the landowner wishes not to introduce it.
Environmental Law & Policy Center	Learner	LAND02	5. Agriculture The Wisconsin Farmers Union has publicly announced its opposition to the proposed Cardinal-Hickory Creek transmission line. The DEIS's analysis of agricultural impacts is also insufficient. The DEIS acknowledges that construction of the CHC line may lead to some farms losing their organic certifications due to introduction of chemicals or herbicides that are prohibited in organic crops. DEIS at 293. There is no analysis of how many organic farms may be affected, nor is there any quantification of the economic impact that this loss of certification would have. Farmers invest significant resources in compliance with organic standards, relying on the price premium commanded by organic crops to compensate them for more costly growing practices. Scoping comments submitted by five agriculturally-related businesses, including organic farmers, explained that RUS "should evaluate the adverse direct, indirect, and cumulative environmental impacts on our and other dairy farms, organic farms, and other farm-related businesses in the Driftless Area." To minimize the impacts to organic farmers, herbicide spraying would be at least fifty feet away from organic croplands. DEIS at 396. But there is no data provided to support the notion that herbicide drift is limited to only fifty feet, or that herbicide sprayed over 50 feet away couldn't otherwise reach organic cropland (e.g., by being washed from the ROW by rain and contaminating soil used for organic crops). The DEIS also states that "to protect organic farms during vegetation management activities once the line is in operation, herbicide would not be applied within portions of the ROW where the landowner does not wish to introduce it." DEIS at D-2. However, it is unclear whether this gives landowners control only over the application of herbicide on their own property, or whether a landowner could prevent the use of herbicides beyond his or her property lines.	EIS Section 3.10 has been revised to disclose potential impacts from herbicide drift to organic farms.
Environmental Law & Policy Center	Learner	LAND01	4. Development Plans The DEIS concludes that there will be no impact to comprehensive land use plans because "transmission line ROW development is not prohibited" and "[u]nder the applicable zoning ordinances and comprehensive plans, transmission lines are either a permitted or a conditional use in all jurisdictions traversed by the proposed ROW." DEIS at 311. Just because a transmission line is not completely prohibited does not mean that its construction would be consistent with development goals of local communities or other entities, which may prioritize preserving the natural character of the area. For example, one of the proposed corridors would run adjacent to the Village of Ridgeway, which has a 2018 Comprehensive Plan that emphasizes the importance of the natural scenic beauty and small town feel of the community. One of the three guiding principles for the whole plan is to "[p]rotect and preserve the small community character of the Village of Ridgeway."20 The first two guiding principles for the "Agricultural, Cultural & Natural Resources" section are to "propose tourism opportunities, with an emphasis on local resources/features, such as trails, walking tours, the depot & other historical areas, etc.," and to "[n]ote the value of local agricultural, cultural, & natural resources/heritage, and recommend protecting and leveraging them for community development."21 The section on Future Land Use states that "[p]eople will visit the area due to its scenic beauty and recreational advantages" and 20 Village of Ridgeway 2018 Comprehensive Plan at 21, https://www.villageofridgeway.com/comprehensive-plan/ . Id. at 15. notes that the Military Ridge Trail (which would join up with the proposed transmission line corridor just north and south of the Village), is a primary draw for residents.22 The proposed transmission line would certainly interfere with the Village's vision for its development, and would likely similarly interfere with the comprehensive plans and development goals of many of the other towns and villages along the proposed routes. The Dane County Board, the Iowa County Board, and numerous local municipalities have passed resolutions opposing the line or requesting the consideration of alternatives for this precise reason.23 The DEIS cannot ignore these impacts. Beyond zoning ordinances and municipality plans, RUS must also consider compatibility of the proposed transmission line with other local land use and development plans in the area, many of which call for protection of environmental, scenic, cultural, and recreational values. For example, the Southwest Wisconsin Regional Planning Commission's Grow Southwest Wisconsin plan (2013)24 envisions: The Driftless Area of southwestern Wisconsin will have plentiful, clean surface and groundwater, fresh, clean air, and numerous outdoor recreational opportunities and venues. Local, healthy food options will abound as sustainable, diverse, and alternative farms will supply all sorts of markets from local niche markets to national commodity crops. Forests will be healthy and managed for multiple uses including timber, wildlife, and habitat. Wind, solar, and other regionally produced energy sources will power southwestern Wisconsin homes, businesses, and transportation systems. The native vegetation and habitats will be invasive-free, high in biodiversity, with larger and more plentiful natural communities integrated across the landscape. The transmission line will impact "outdoor recreational opportunities and venues," and may impact the environmental values presented. RUS should also consider interference with the 22 Id. at 42. 23 See the numerous resolutions filed with the Public Service Commission of Wisconsin in Docket No. 5-CE-146 at http://apps.psc.wi.gov/vs2015/ERF_search/content/searchResult.aspx?UTIL=5&CASE=CE&SEQ=146&START=none&END=none&TYPE=none&SERVICE=none&KEY=none&NON=N . 24 Grow Southwest Wisconsin, Southwest Wisconsin Regional Planning Commission, https://www.swwrpc.org/Content/Documents/Grow-Southwest-Wisconsin.pdf (2013). objectives of the master plans for Governor Dodge, Blue Mound, and Nelson Dewey State Parks; Pecatonica and Military Ridge State Trails; the Ice Age National Scenic Trail; DNR's Wildlife Action Plan; as well as comprehensive plans for townships and counties in the area.	EIS Section 3.10 has been revised to include communities that have resolutions opposing the C-HC Project based on the concept that the C-HC Project may not align with the goals and objectives identified in local land use plans.
Environmental Law & Policy Center	Learner	VIS01	J. Visual Quality and Aesthetics The DEIS understates the visual and aesthetic impacts from the proposed transmission line and towers. First, the DEIS examines the impact the proposed transmission line would have on specific scenic resources at specific places in specific parks and nature areas, but does not discuss the importance or value of scenic, natural beauty of the area in general, or how this resource will be impacted. As former Wisconsin State Planning Director and State Energy Director Professor Stephen Born of the University of Wisconsin states in his comments, "a region having a psychic identity in the minds of people and institutions is a critical factor in regional definition," and the Driftless Area "has taken	For residences within the 300-foot analysis area, the impact determination has been changed to "major" in the EIS. Photographs from the existing Badger-Coulee Transmission Line project from various distances have also been included in EIS Section 3.11 to illustrate this type of impact.

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			on a brand name in promoting ecotourism, the regional economy, and the overall quality of life." For example, in determining the visual impact of the proposed line, the DEIS looks at the number of residences within a 300 foot analysis area (150 from the line on either side) ²⁵ and the number of people likely to see the line "from designated overlooks at state parks [and the] Ice Age National Scenic Trail." DEIS at 316. People who live farther than 150 feet from the transmission line will still be able to see the line and high towers from their homes, their property (which may be within the analysis area, but wouldn't be counted in the number of residences), and as they travel to and from work, school, errands, and otherwise carry on their daily lives. ²⁵ Note that while the DEIS at page 316 states that it considered the "[n]umber of residences within 300 feet of the C-HC Project," suggesting that it considered residences within 300 feet in either direction from the actual line, the DEIS on page 318 clarifies that the 300 foot "analysis area" is in fact centered over the line, with only a 150 area considered on either side. Indeed, someone with a home 160 feet from the line was not considered in the analysis, yet is closer to the line than the towers will be tall—namely, 17-stories high. In addition, many people visiting the area and recreational resources will see the line from places other than a "designated overlook."	
Environmental Law & Policy Center	Learner	REC03; VIS01	Further, the DEIS fails to discuss impacts to the aesthetics of the Military Ridge State Trail, the Pecos Trail, or a proposed recreation/hiking trail, called the Driftless Trail, which seeks to connect Blue Mounds, Governor Dodge, and Tower Hill State Parks with other public and private conservation areas and local communities. The aesthetics of each of these trails would certainly be impacted by the high-voltage line. The DEIS does acknowledge that there will be "a long-term major adverse impact to scenic resources" of the viewsheds from the Ice Age National Scenic Trail. DEIS at 324. The report does not, however, discuss the potential economic impact of such adverse effects. A 2012 study found that the Ice Age Trail had a direct economic effect of \$113 million. Ice Age Trail Alliance, JOINT MARKETING EFFORT YEAR ONE REPORT, at 73, https://www.iceagetrail.org/wp-content/uploads/2014/09/IATA-JEM-REPORT.pdf . The Ice Age Trail is still being expanded, and, as the DEIS acknowledges, the viewsheds adversely impacted by the proposed Cardinal-Hickory Creek transmission line would include those from the new interpretive center proposed for the Black Earth Trench. DEIS at 324.	Comment noted. The potential visual resource impacts to the Ice Age NST are disclosed in EIS Section 3.11. It is unclear if or how these visual impacts would result in economics impacts associated with trail visitation. Therefore, this type of analysis is not included in the EIS due to the speculative nature of issue.
Environmental Law & Policy Center	Learner	VIS01	The DEIS notes that a viewshed map was created using USGS digital elevation model data, "defin[ing] the maximum area from which the tallest elements of the C-HC Project (i.e., the tops of the transmission line structures) could potentially be seen from ground-level vantage points (existing grade plus 1.7 meters to account for viewer height)," DEIS at 317, but does not provide this map. This map is an important way for decisionmakers and the public to understand the visual impact of the line and towers, and should have been included in the DEIS. The DEIS's qualitative impacts characterizations are also problematic. The DEIS states that for residences outside of the ROW but within the 300 foot analysis area (again, which is 150 feet on either side of the line), visual impacts would only be "moderate." DEIS at 349. RUS is asserting that if there was a homeowner's property directly below the line, but the house itself was 155 feet away from the line (that is, close enough to be hit if a pole were to topple), the impact to that property would only be "moderate." See diagram, showing to scale a 170 foot tower, 150 feet buffer, and a house with peak roof [figure] 150 ft height of 20 feet. It is hard to imagine that the visual and aesthetic impact in this property would not be major. The DEIS also claims that "at the overall project level," visual resource impacts from the proposed transmission line would be "minor." It is unclear how it was determined that a high-voltage transmission line, with 17-story towers, cutting a 125-mile swath through the scenic and rural Driftless Area would not have more than a "minor" visual impact.	The digital elevation model was not included in the EIS because it would provide an unnecessary level of detail in Section 3.11. Furthermore, as described in EIS Section 3.11.2, the locations of the KOPs were informed not only by the digital elevation model, but also through discussions with land managers, such as the Refuge manager and the NPS for the Ice Age NST. For residences within the 300-foot analysis area, the impact determination has been changed to "major." Photographs from the existing Badger-Coulee Transmission Line project from various distances have also been included in EIS Section 3.11.2 to illustrate this type of impact.
Environmental Law & Policy Center	Learner	VIS01	Finally, the simulated images of the proposed line are designed to minimize the visual impacts of the line. For example, the DEIS images situate the towers in the background rather than the foreground, use an angle looking down at the line from above, use pictures when there is full tree foliage to hide the line, and undoubtedly utilized a wide-angle lens. [photo] Provided here is a professionally-simulated to scale image overlaying high-voltage transmission infrastructure along the proposed route alongside the historic Thomas Stone Barn on US 18/151. See Exhibit G for additional images.	Visual simulations are representative and are only intended to show how the C-HC Project might look from sensitive locations. They illustrate a two-dimensional view and do not represent a three-dimensional image as seen in the field with the human eye. Additional photographs of an existing transmission line (the Badger-Coulee Transmission Line project near Madison, Wisconsin) have been added to Section 3.11.2 to provide a "real-world" view from various distances.
Environmental Law & Policy Center	Learner	SOCIO01; SOCIO04	K. Socio-Economic and Environmental Justice Impacts The DEIS's discussion of socio-economic and environmental justice impacts is also insufficient and flawed.	Comment noted.
Environmental Law & Policy Center	Learner	SOCIO03	L. Tourism As an initial matter, the DEIS fails to recognize the way the degradation of the natural and visual environment from this proposed large transmission line would affect tourism to the Driftless Area as a whole—it will go beyond specific discrete impacts to the view at specific, discrete tourism sites. People come to the Driftless Area to experience the natural beauty and rural feel of the area holistically, and the presence of a massive high-voltage transmission line and 17-story high towers will likely depress tourism in the area generally. The DEIS concedes that "specific tourism sites that could experience negative impacts include the Driftless Area," DEIS at 384, but does not fully account for the fact that the Driftless Area is not a "specific tourism site," but is rather a region encompassing the whole area through which the transmission line would run. The DEIS fails to recognize that "[t]he maintenance of this regional character will be increasingly important to the growth of recreation, tourism, and sustainable agriculture in the future." Comments of Emeritus Professor Stephen M. Born, Exhibit H. The DEIS's failure to account for the holistic experience of living in or touring the Driftless Area is reflected in the limited acknowledgment that the transmission line would have a negative impact on "birdwatching tourism" at the Upper Mississippi River National Wildlife and Fish Refuge during the operations phase.	Comment noted. EIS Section 3.12 discloses potential impacts to tourism. EIS Section 3.10 discloses potential impacts to recreation and natural areas, which likely support tourism.
Environmental Law & Policy Center	Learner	REC01; SOCIO03	The DEIS fails to mention that impacts will be felt by people who are hiking, engaged in photography, and enjoying many other nature-based activities. The DEIS does not acknowledge other types of nature-based recreation, such as recreational fishing, which had an economic impact of \$1.6 billion in the multi-state Driftless Area in 2016. Trout Unlimited, Celebrating the Economic Impact of a Priceless Jewel: The Economic Impact of Trout Angling in the Driftless Area, available at http://www.fishhabitat.org/files/uploads/TU_Driftless_Economic_Report.pdf ; Comments of Stephen M. Born at 1, Exhibit H (citing report). Further, the DEIS downplays even the impacts to specific tourist attractions. For example, the DEIS states that the long-term tourism impact to the Military Ridge State Trail (a popular biking, running and hiking "rail-to-trail") from the proposed adjacent transmission line and very high towers for many miles would only be "minor."	Comment noted. EIS Section 3.5 discloses potential impacts to trout streams and other water resources. EIS Section 3.10 discloses potential impacts to land use, including recreation areas. A citation for the Trout Unlimited report has been added to EIS Section 3.10. EIS Section 3.12 discloses potential impacts to tourism.
Environmental Law & Policy Center	Learner	SOCIO03	The DEIS also anticipates no long-term impacts to Blue Mound State Park, stating that it is "approximately 1 mile north" of the proposed route along US 18/151. As seen from this Google map measurement, the closest point of Blue Mound State Park is, in fact, barely half of a mile from the proposed route (2874 feet = 0.54 miles). As noted above in the discussion on Nelson Dewey State Park, reliance on clearly erroneous information in the DEIS for facts as basic as geographic distance raises significant concerns about the accuracy and validity of other information in the DEIS. [map] The tourism analysis is also inadequate because it makes no attempt to try to quantify the actual economic impacts from reductions in tourism, instead simply claiming that operation of the line is "expected to have a minor negative impact on the approximately \$1.7 billion in direct	Comment noted. Potential impacts to social and economic conditions, including property values, are provided in EIS Section 3.12. RUS has reviewed the recommended citations of additional peer-reviewed articles presented through public comments and has incorporated this information into the EIS.

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			<p>visitor spending and approximately \$197.5 million in state and local taxes that the analysis area counties receive annually from tourism income." DEIS at 371. The DEIS cites to a recent article from a peer-reviewed international journal, in which surveys were taken at seven nature-based tourism destination areas in Iceland to determine opinions regarding transmission lines.²⁶ The DEIS cites the article for the statement that "in rural and less developed landscapes, the potential 26 Þorkell Stefánsson et al., When Tourists Meet Transmission Lines: The Effect of Electric Transmission Lines on Tourism in Iceland, Energy Research & Social Science (Dec. 2017), available at https://www.researchgate.net/publication/317988255_When_tourists_meet_transmission_lines_The_effects_of_electric_transmission_lines_on_tourism_in_Iceland. Impacts to tourism in these areas would be moderate and long term because the alteration of the landscape could deter visitation from tourists seeking a less developed setting." DEIS at 370. In fact, the study found that "[p]ower lines have a negative effect on the interest in travelling around the areas of the seven research locations for 62.9–85.9% of tourists."²⁷ In other words, a significant majority of the surveyed individuals would be deterred from visiting natural areas where a transmission line had been build. "Additionally, respondents were asked what infrastructure could be in place without the concept of wilderness, and/or unspoiled nature, losing its meaning.... Around 7.7% of respondents considered that transmission lines can be in place in wilderness."²⁸ For the idea that transmission lines do not have significant tourism impacts, the DEIS cites to an apparently non-scientific, non-peer-reviewed report that was written for the purpose of supporting a proposed transmission line in its review process before a state agency. DEIS at 371 (referencing a New Hampshire "study" cited as "Nichols Tourism Group 2015," which presumably refers to Nichols Tourism Group, Northern Pass transmission and New Hampshire's Tourism Industry (Sept. 2015), available at http://www.northernpass.us/assets/filings/Volume%20XXIV/Appendix%2045%20Northern%20Pass%20Transmission%20and%20New%20Hampshires%20Tourism%20Industry.pdf). 2. Property Values RUS's analysis of property value impacts of the proposed transmission line is similarly insufficient. Context matters significantly when it comes to the impact of transmission lines on the value of nearby properties. The presence of a transmission line and 17-story high towers 27 Stefánsson, supra, at 6. 28 Id. at 6. through a scenic natural and rural area—an area that people live in and visit precisely because of its natural beauty—will impact property values much more significantly than it would in a highly developed urban area. The DEIS fails to acknowledge or reflect this reality. The DEIS cites a 2007 paper by Pitts and Jackson, which found that the value of properties adjacent to transmission lines only decreased between 2% and 7%—yet the article is not clear about whether the studies it references for its conclusions are in urban, suburban, or rural areas. DEIS at 372. Further, in contrast to the assumptions made in the DEIS, the article states that "[t]he value diminution on lots adjacent to or with direct views on a tower may not decrease with time."²⁹ The DEIS also cites to a 2009 article by Chalmers and Voorvaart, which looked at the impacts of 130-foot transmission structures—significantly smaller than the 17-story towers that would support the Cardinal-Hickory Creek transmission line. DEIS at 372.</p>	
Environmental Law & Policy Center	Learner	SOCIO06	<p>Yet at the same time, the DEIS ignores a more recent article by Chalmers that DALC referenced in its scoping comments to RUS, which found that property values for residential properties up to 1,000 feet away fell by 15%.³⁰ Notably, the DEIS only considers the number of residential buildings within 150 feet from the transmission line when discussing property value impacts. See, e.g., DEIS at 374. The DEIS also ignored a valuation guidance report by Appraisal Group One that DALC cited in its scoping comments, which included a review of many empirical studies, including several from Wisconsin. This report concluded that "it can be stated with a high degree of 29 Jennifer Pitts and Thomas Jackson, Power Lines and Property Values Revisited at 324, The Appraisal Journal (Jan. 2007). 30 James A. Chalmers, Transmission Line Impacts on Rural Property Value, Right of Way (May/June 2012), http://eweb.irwaonline.org/eweb/upload/web_mayjune12_Transmission.pdf. certainty that there is a significant negative effect ranging from -10% to -30% of property value due to the presence of the high voltage electric transmission line."³¹ The DEIS's reference to a study that found that an adjacent high-voltage transmission line corridor could increase property values is misleading. The context for this study was likely developed urban or suburban areas with smaller than rural lot sizes, where open space is limited, and the existence of a transmission line will prevent development of directly adjacent property. An abutting right-of-way can, in that instance, provide "improved visual clearance, increased privacy, and larger lot sizes."³² In a rural and small-town setting, a right-of-way would not provide any of these benefits, but instead would simply detract from the aesthetics of the communities and countryside. Further, the DEIS makes no attempt to estimate the actual total monetary value of the diminished values of the numerous pieces of property due to the proposed transmission line and 17-story high towers.</p>	Comment noted. Potential impacts to social and economic conditions, including property values, are provided in EIS Section 3.12. RUS has reviewed the recommended citations of additional peer-reviewed articles presented through public comments and has incorporated this information into the EIS.
Environmental Law & Policy Center	Learner	LAND02; SOCIO03	<p>Finally, the DEIS's characterization of agricultural income impacts is flawed. For all alternatives, 22 acres of farmland would be "permanently disturbed by the transmission line structure and substation footprints," yet in the very next sentence for each alternative, the DEIS states that potential negative economic impacts on agriculture would be "short term." DEIS at 373, 374, 377, 378–79, 381, 382–83. Permanent impacts by definition are not short term. 31 Kurt C. Kielisch, Appraisal Group One, Inc., Valuation Guidelines for Properties with Electric Transmission Lines, http://fieldpost.org/StarkEnergy/Studies/Valuation%20Guidelines%20for%20Properties%20with%20Electric%20Transmission%20Lines%201.pdf at 6. 32 Pitts and Jackson, supra, at 324.</p>	Comment noted. The 22 acres of farmland referenced in this comment refers to permanent removal of farmland for the transmission line structures. Potential economic impacts to farmland are disclosed as minor and long term due to the small area of transmission line structures compared to the amount of farmland available in the analysis area and that landowners would be financially compensated for these areas in ROW agreements.
Environmental Law & Policy Center	Learner	SOCIO04	<p>3. Environmental Justice The EIS's discussion of environmental justice impacts does not thoroughly explain its assumptions and does not engage in the level of detailed analysis necessary to determine whether communities of concern would be disproportionately impacted. The EIS identifies an area as an environmental justice community if the county's minority or low income population percentage is at least 20% or greater than the state's overall minority or low income population. DEIS at 363. However, the choice of this metric seems to defy common sense for several reasons. First, a county is a large unit of analysis, and it is entirely possible that the statistics at the county level mask large inequalities that occur within the county. The DEIS does not even attempt to explain why a county was chosen as the unit of analysis, and the FEIS should discuss whether data on income level, or some other metric that could be used as a proxy for income—such as home value, or percentage of children receiving free or reduced price lunches in public schools—is available at more granular geographic level.</p>	The environmental justice impact analysis has been revised in EIS Section 3.12 to address potential impacts at the census tract level rather than the county level. Census tracts are defined by the U.S. Census Bureau and often coincide with the limits of cities, towns, or other administrative areas. Thus, 160 census tracts in the analysis area are analyzed instead of the six counties in the analysis area. The metrics used in the EIS to identify potential environmental justice communities within the census tracts (minority population percentages and low-income/poverty level percentages) are metrics recommended in Council on Environmental Quality environmental justice guidance.
Environmental Law & Policy Center	Learner	SOCIO04	<p>Second, RUS has not explained its decision to use the U.S. Census Bureau's poverty threshold as its metric for low income populations. The poverty threshold is low enough—\$24,339 (2016 dollars) for a family consisting of two adults and two children—that many households above the poverty level may still struggle to afford housing—median home value in Wisconsin is \$167,000—and other basic life necessities. DEIS at 363. The DEIS's analysis of impacts to the only environmental justice community it identifies—Grant County, which has a poverty level at least 20% greater than the state's poverty rate percentage—demonstrates a misunderstanding of the concept of environmental justice. The DEIS concludes that there will be no "disproportionate impacts" to Grant County because "the potential negative impacts from the proposed transmission line and facilities experienced in Grant County would be the same in nature and intensity as those experienced by all other analysis area counties." DEIS at 372. Comparing Grant County to other counties in the analysis area—that is, other counties through which the transmission line would run—misses the point of an environmental justice review. Environmental justice communities face disproportionate impacts when undesirable or environmentally-damaging projects, such as landfills, transmission lines, or polluting factories are located in those communities instead of in communities with</p>	The environmental justice impact analysis has been revised in EIS Section 3.12 to address potential impacts at the census tract level rather than the county level. Census tracts are defined by the U.S. Census Bureau and often coincide with the limits of cities, towns, or other administrative areas. Thus, 160 census tracts in the analysis area are analyzed instead of the six counties in the analysis area. The metrics used in the EIS to identify potential environmental justice communities within the census tracts (minority population percentages and low-income/poverty level percentages) are metrics recommended in Council on Environmental Quality environmental justice guidance.

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			higher incomes and lower percentage of minority populations. Without comparing Grant County to other counties that do not contain multiple high voltage transmission lines, RUS cannot conclude that Grant County faces no disproportionate impact from transmission lines. Additionally, if a low income community and a high income community experience impacts that are "the same in nature and intensity," those impacts may have a disproportionate effect on the low income community.	
Environmental Law & Policy Center	Learner	AIR04; HAS01	<p>L. Public Health and Safety The DEIS analysis of fire risks created by the proposed transmission line is inadequate. The DEIS provides no quantitative analysis of the risks posed by transmission lines generally or this line specifically. Indeed, the only data provided is on the number of extreme weather events in an undisclosed area that includes the proposed line corridors, in comparison to other undisclosed areas, from 1980 to 2006. While severe weather information may be relevant to the fire risk, the information provided here is outdated and not sufficient to provide any meaningful analysis. Importantly, the DEIS fails to even mention the fact that climate change will likely lead to an increasing risk of fire. Climate change will impact fire risk in multiple ways in the Midwest—both by creating an environment in which fires can rapidly take hold and spread, and by increasing the likelihood of lightning strikes and severe weather, which can start fires when they damage transmission lines. Precipitation will increase during wet seasons, and will contribute to vegetation growth, but this vegetation will likely dry out and die during hotter summer days. Warmer temperatures will also increase insect outbreaks and tree mortality, leading to greater accumulation of fuel. This provides an ideal situation for more severe wildfires.³³ Climate change will also cause more frequent and extreme severe weather (such as high winds, hail, tornadoes), which can damage transmission lines or structures and result in fires. Further, warmer weather is also linked to greater frequency of lightning strikes due to increased evapotranspiration.³⁴ See DEIS at 389. As noted in the DEIS, transmission towers are often the tallest structures in an area and can attract lightning strikes, causing fire. DEIS at 389. A 2016 study published in the Proceedings of the National Academy of Sciences argues that climate change has already played a substantial role in western U.S. forest fires, almost doubling the area(s) affected by fires over the last 30 years.³⁵ Transmission lines are likely the cause of many of these fires. The San Francisco "Camp Fire" in late 2018 may have been caused by a transmission line, and in 2017, PG&E transmission lines were the probable cause of 17 fires.³⁶ Just as climate change increases fire risk from transmission lines in the western U.S., as the Midwest climate shifts, leading to longer droughts and more extreme weather events, occurrence and severity of wildfires will increase. ³³ Brad Neumann, Climate Change and Wildfire in the Great Lakes Region, Michigan State University Extension, https://www.canr.msu.edu/uploads/resources/pdfs/e-3277_wcag_2_aa.pdf. ³⁴ 34 David Romps, Jacob Seely, David Vollaro, and John Molinari, Projected increase in lightning strikes in the United States due to global warming, Science (November, 2014), http://science.sciencemag.org/content/346/6211/851 (number of lightning strikes in the United States could increase by roughly 12 percent for every degree Celsius of warming). ³⁵ John Abatzoglou and Park Williams, Impact of anthropogenic climate change on wildfire across western US forest Proceedings of the National Academy of Sciences (October, 2016), https://www.pnas.org/content/113/42/11770.abstract. ³⁶ David Baker, What's Causing California's Annual Wildfires, Bloomberg (Nov. 13, 2018), https://www.bloomberg.com/news/articles/2018-11-13/why-california-wildfires-put-heat-on-power-companies-quicktake. In addition, the DEIS is insufficient because it does not actually explain what the impacts of a wildfire started by a transmission line would be, such as economic costs from fighting the fires and property destruction, environmental impacts, and safety and health impacts. The DEIS does not examine the ability of local fire departments to appropriately respond to fires from a high-voltage transmission line. Finally, the DEIS does not provide enough information on BMPs and fire risk mitigation. The DEIS states that "if the proposed transmission line has a temporary outage, possibly caused by a lightning strike, the line protection would attempt to automatically reclose the line so the outage duration could be limited to less than a second." DEIS at 393. The DEIS does not explain what "line protection" is, how it works, the likelihood that it could successfully fix outages, or whether it provides any protection against starting fires. Indeed, a recent news article explains that some power lines have devices "that automatically try to restart power lines when the flow of electricity is interrupted, like in a blackout."³⁷ The article explains that such devices "can be catastrophic if lines snap and the devices, called reclosers, shoot electricity into dry grass." Will these devices be used on the proposed transmission line? The DEIS also states that best management practices would be followed to reduce fire risk, but the only thing mentioned is vegetation management. Appendix D does not provide any additional BMPs to reduce fire risk.</p>	Comment noted. Section 3.13 of the EIS discloses potential impacts to public health and safety that could occur from wildfire.
Environmental Law & Policy Center	Learner	REC02	<p>M. Upper Mississippi River National Wildlife and Fish Refuge The DEIS's analysis of the impacts to the Upper Mississippi River National Wildlife and Fish Refuge is flawed. The DEIS description of the existing aesthetic values of this National Refuge is misleading. It states that 37 Id. The viewshed within in the Refuge from the position of a human observer standing in the Refuge, looking west to Wisconsin, can be characterized as having native vegetation in the foreground and middle ground, with some human disturbances, such as Oak Road and the existing transmission line in the middle ground, and the Village of Cassville and the demolished Nelson Dewey generation site in the background. DEIS at 408. First, if a person was standing in the Refuge near Oak Road, then Wisconsin would be to the east, not to the west. Second, Oak Road is a narrow dirt road, and significantly less visually intrusive than a massive new high-voltage transmission line with a 260 foot wide right-of-way and 17-story high towers. The descriptions of the alternative-specific impacts are also highly flawed. For example, for Alternative 1, the DEIS acknowledges that it would create "long-term, major adverse impacts to scenic resources within the Refuge." DEIS at 422. Yet it claims that the transmission line would be in the "middle-ground" for viewers traveling along Oak Road. DEIS at 422. In fact, the transmission line would follow Oak Road, making the infrastructure clearly in the foreground for individuals on the road. The DEIS also states, without support, that "[r]ecreation activities are expected to return to preconstruction levels after construction ends." DEIS at 421. The discussion of impacts to this National Refuge also repeats several flaws found in other sections of the DEIS. On page 413, the DEIS lists possible impacts, such as erosion, but does not disclose the likelihood of such impacts or the degree / severity of the impacts. The DEIS also states that various impacts would be short term if repaired, but does not describe repair methods or likelihood of success. See, e.g., DEIS at 419. The DEIS also seems to assume that there will be no impacts to eagles as long as the transmission line is not sited close to an active nest. DEIS at 421. What about collisions from bald eagles that frequently fly through the area? Finally, the DEIS claims that there will be benefits from the proposed route that would include the retirement of an existing transmission line through the refuge, yet does not even mention impacts from the construction activities required to take down the existing line and associated infrastructure. DEIS at 421.</p>	<p>Comment noted. The visual simulations are intended to provide a representative view of what the C-HC Project would look like from certain vantage points called KOPs. Because these simulations are based on fixed photographs, they are unable to exactly replicate the dynamic view that a human would see in-person when looking in various directions and angles. Additional photographs of an existing transmission line (Badger-Coulee Transmission Line project near Madison, Wisconsin) have been added to EIS Section 3.11.2 to provide a "real-world" view from various distances. In addition, visual simulations have been revised to include the distance to the nearest transmission structure to provide scale. Potential impacts to the resources (i.e., recreation, soils, wildlife) in the Refuge are disclosed in EIS Section 3.14.</p>
Environmental Law & Policy Center	Learner	EFF02	<p>N. Cumulative An EIS must include comprehensive analysis of cumulative actions and cumulative impacts. 40 C.F.R. §§ 1508.25(a)(2) and (c)(3). The DEIS's analysis of cumulative impacts is inadequate. The geographical area is too limited and the nature and extent of many cumulative actions and impacts are not fully and fairly addressed. The EIS must analyze all past, present and reasonably foreseeable projects in the area and explain how these projects and other circumstances may, in combination with the proposed transmission line, cause cumulative impacts in the region. The DEIS does not adequately analyze the cumulative impacts of the proposed Cardinal-Hickory Creek transmission line in combination with all other recently-built or planned transmission lines and electricity infrastructure projects. As explained in Delaware Riverkeeper Network v. F.E.R.C., 753 F.3d 1304, 1319 (D.C. Cir. 2014), a cumulative impacts analysis must consider "other actions—past, present, and proposed, and</p>	EIS Chapter 4, Cumulative Impacts, has been revised to provide a detailed characterization of the past, present, and reasonably foreseeable future projects that could impact the same resources as the C-HC Project, within spatial and temporal boundaries applicable to this project.

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			reasonably foreseeable—that have had or are expected to have impacts in the same area,” along with “the impacts or expected impacts from these other actions,” and “the overall impact that can be expected if the individual impacts are allowed to accumulate.” In Delaware Riverkeeper, the court overturned an EIS that failed to consider the cumulative impacts of a pipeline project in conjunction with three other pipeline projects in the area. Id. at 1320.	
Environmental Law & Policy Center	Learner	EFF03	The DEIS here must consider cumulative impacts from other transmission line projects in the area. For example, the large Badger-Coulee transmission line that also connects to the Cardinal substation also traverses the Driftless Area. The proposed SOO Green Renewable Rail line is proposed to be built in the same overall area. The proposed Grain Belt and Rock Island transmission lines are also in the planning and development processes. Among other things, the existence of other past, present, and reasonably foreseeable high-voltage transmission lines should be accounted for and quantified in RUS’s analysis of whether the Cardinal-Hickory Creek transmission line will really provide sufficiently large incremental reliability benefits to justify its significant adverse environmental impact costs. The DEIS acknowledges that the Badger Coulee would “alleviate constraints on the existing 345-kV system and on the 138- and 161-kV systems in southwest Wisconsin and Iowa.” DEIS at 430. This must be factored into the discussion of whether there is truly a need for the proposed Cardinal-Hickory Creek line, when the Badger Coulee, which is now up and running, has the same benefits as are being used to justify the Cardinal-Hickory Creek line.	Comment noted. EIS Chapter 4, Cumulative Impacts, has been revised to provide a detailed characterization of the past, present, and reasonably foreseeable future projects that could impact the same resources as the C-HC Project, within spatial and temporal boundaries applicable to this project. Not all of the projects listed in this comment fall within the spatial boundaries for cumulative impacts analysis (for example, Grain Belt Express and Rock Island transmission lines are outside the cumulative impacts analysis area). The SOO Green Renewable Rail project is currently in the very early phases of planning; therefore, the feasibility and engineering are not available to inform alternatives for the proposed the C-HC Project.
Environmental Law & Policy Center	Learner	EFF03	Similarly, RUS must consider whether the numerous new wind and solar developments being built or proposed in Wisconsin will eliminate the need for this proposed additional huge high-voltage transmission line. The increased availability of renewable power generated in Wisconsin should influence the determination whether increased transmission capacity into the state is needed or not. Additionally, an open-access transmission line which may carry fossil-fuel-generated electricity may be at cross-purposes with increasing the clean renewable energy capacity within Wisconsin.	EIS Chapter 4, Cumulative Impacts, has been revised to provide a detailed characterization of the past, present, and reasonably foreseeable future projects that could impact the same resources as the C-HC Project, within spatial and temporal boundaries applicable to this project. This includes new wind and solar projects identified for southwest Wisconsin. EIS Chapter 4, Section 4.4 has been revised to estimate the CO ₂ emissions that could occur from generation sources that would benefit from the C-HC Project. This analysis compares two scenarios: 100% coal-generation sources benefitting from the C-HC Project and 100% wind-generation sources benefitting from the C-HC Project. This analysis provides a range of CO ₂ emissions from possible generation sources. Non-transmission and low-voltage alternatives are not analyzed for cumulative impacts because these alternatives are not carried forward for detailed analysis in the EIS.
Environmental Law & Policy Center	Learner	EFF02	The cumulative impacts considered are also analyzed only for “the estimated life of the C-HC Project, which is 40 years.” DEIS at 427. However, unless the towers and substations are removed after 40 years and the ecosystems effectively returned to pre-construction conditions, impacts of the Cardinal-Hickory Creek transmission line and very high towers would persist, meaning that cumulative impacts would also persist.	The temporal boundary for cumulative impacts analysis has been extended to 60 years.
Environmental Law & Policy Center	Learner	EFF02	Different spatial boundaries are used for each of the affected resources, and for many, all projects within Iowa and Wisconsin are analyzed for cumulative effect. However, for several categories, the analysis uses inappropriately narrow spatial boundaries. Cumulative impacts on wetlands and vegetation are analyzed only for those projects in Dane, Grant, Iowa and Lafayette Counties in Wisconsin, an Clayton and Dubuque Counties, Iowa. DEIS at 428, Table 4.2-1. Cumulative impacts on the Upper Mississippi River National Wildlife and Fish Refuge are analyzed only for those projects occurring between miles 606 and 608 of the Mississippi River. DEIS at 428, Table 4.2-1. Choosing such narrow spatial boundaries ignores the fact that water resources traverse county boundaries such that impacts to one wetland affect the entire watershed and that impacts to species may radiate beyond the two miles of the Refuge analyzed.	EIS Chapter 4, Cumulative Impacts, has been revised to provide a detailed characterization of the past, present, and reasonably foreseeable future projects that could impact the same resources as the C-HC Project, within spatial and temporal boundaries applicable to this project. Specific to the Refuge, the spatial boundary for cumulative impacts analysis has been expanded to Refuge Pool 11.
Environmental Law & Policy Center	Learner	EFF02	Regarding cumulative recreation impacts, the DEIS states that “the visitor experiences would be slightly changed near specific projects, but recreational experiences would still be available in the region.” DEIS at 439. The DEIS seems to assume that hiking trails and other recreation areas are completely fungible. There is no discussion of the possibility that visitors will choose to instead enjoy tourism and other recreational activities elsewhere, potentially overtaxing other sites in the region, or that tourists will choose not to visit in Southwestern Wisconsin, leading to declines in the region’s tourism revenue.	EIS Chapter 4, Cumulative Impacts, has been revised to provide a detailed characterization of the past, present, and reasonably foreseeable future projects that could impact the same resources as the C-HC Project, within spatial and temporal boundaries applicable to this project.
Environmental Law & Policy Center	Learner	EFF02	The “Description of the Proposed Project Section” notes that “In a number of locations, there are existing lower-voltage electric lines along the proposed C-HC Project transmission line routes that would be relocated and double circuited with the new C-HC Project 345-kV line, using a portion of the existing ROW. In other cases, the Utilities propose to relocate the existing line elsewhere.” DEIS at 97. However, the cumulative impacts section does not describe any impacts of moving those lines, and nowhere does the DEIS explain where these lines would be relocated. The discussion of cumulative erosion impacts does not describe the nature or extent of impacts in any detail, and continues the pattern of relying heavily on mitigation measures without discussing the limitations, likely success, or details of those measures. DEIS at 435.	Comment noted. EIS Chapter 4, Cumulative Impacts, has been revised to provide a detailed characterization of the past, present, and reasonably foreseeable future projects that could impact the same resources as the C-HC Project, within spatial and temporal boundaries applicable to this project.
Environmental Law & Policy Center	Learner	EFF04	VII. MITIGATION AND REMEDIATION The inadequacy of the mitigation and remediation information and measures is discussed above in the context of specific resource impacts. There is, overall, a lack of adequate information in the DEIS about mitigation and remediation, lack of commitment to specific measures, and failure to provide any evidence of the effectiveness of proposed measures. RUS must “seek to mitigate potential adverse environmental impacts resulting from Agency actions” and ensure that “[a]ll mitigation measures will be included in Agency commitment or decision documents.” 7 C.F.R. § 1970.16. CEQ regulations require that agency records of decision for which an EIS was prepared must “[s]tate whether all practicable means to avoid or minimize environmental harm from the alternative selected have been adopted, and if not, why they were not. A monitoring and enforcement program shall be adopted and summarized where applicable for any mitigation.” 40 C.F.R. § 1505.2. The DEIS refers the reader to Appendix D for information on Best Management Practices. For the most part, however, this document simply lists what best management practices might include in various circumstances. It does not identify or commit to specific measures for this proposed transmission line. It also lists possible BMPs that have already apparently been rejected, such as undergrounding the transmission line beneath waterways. DEIS at D-9.	The environmental commitments listed in EIS Section 3.1 would be included in, and thereby enforced by, applicable permits, authorizations, and orders issued by Federal and state agencies. These commitments may be revised as permits, authorizations, and orders actions are reviewed and issued, if deemed appropriate by the various decision-makers. A mitigation plan has been included as an appendix to the EIS to provide additional details about the mitigation measures to be implemented by the Utilities as part of the C-HC Project.

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Environmental Law & Policy Center	Learner	EFF04	Appendix D does little to clarify issues around mitigation and remediation. The DEIS's discussion of alternatives also does not "[i]nclude appropriate mitigation measures not already included in the proposed action or alternatives." 40 C.F.R. § 1502.14(f). RUS has also not made clear how it will fulfill its duty to "monitor implementation of all mitigation measures during development of design, final plans, inspections during the construction phase of projects, as well as in future servicing visits." 7 C.F.R. § 1970.16. CEQ guidance on mitigation states that "mitigation commitments should be carefully specified in terms of measurable performance standards or expected results," ³⁸ and that agencies should implement a mitigation monitoring program that both "tracks whether mitigation commitments are being performed as described in the NEPA and related decision documents (i.e., implementation monitoring), and whether the mitigation effort is producing the expected outcomes and resulting environmental effects (i.e., effectiveness monitoring)." ³⁹ Fully describing these aspects of proposed mitigation is important because, without appropriate documentation and monitoring, "the use of mitigation may fail to advance NEPA's purpose of ensuring informed and transparent environmental decisionmaking. Failure to document and monitor mitigation may also undermine the integrity of the NEPA review." ⁴⁰ The DEIS does not explain what will happen to the transmission infrastructure after the 40 year "life" of the project. Will the transmission line, 17-story high towers and other structures be removed? Will they be left up? Will the developers continue to maintain the ROW? This important consideration is completely neglected in the DEIS. 38 Council on Environmental Quality, <i>Appropriate Use of Mitigation and Monitoring and Clarifying the Appropriate Use of Mitigated Findings of No Significant Impact</i> , at 8, https://ceq.doe.gov/docs/ceq-regulations-and-guidance/Mitigation_and_Monitoring_Guidance_14Jan2011.pdf . 39 Id. at 11. 40 Id. at 2. VIII.	The environmental commitments listed in EIS Section 3.1 would be included in, and thereby enforced by, applicable permits, authorizations, and orders issued by Federal and state agencies. These commitments may be revised as permits, authorizations, and orders actions are reviewed and issued, if deemed appropriate by the various decision-makers. A mitigation plan has been included as an appendix to the EIS to provide additional details about the mitigation measures to be implemented by the Utilities as part of the C-HC Project. EIS Chapter 2 has been revised to include a description of decommissioning activities to remove the C-HC Project once it reaches the end of its life.
Environmental Law & Policy Center	Learner	DECI03	CONCLUSION As explained in detail above, RUS's DEIS is legally incomplete and inadequate. It fails to comply with the requirements of NEPA and implementing regulations. With due respect, the RUS decisionmakers and the public deserve a better environmental impact statement that fully and fairly analyzes the adverse environmental impacts and issues explained above and provides an objective evaluation of all reasonable alternatives. That would lead to more informed decisionmaking by federal and state officials, and a better informed public as Congress sought to achieve in NEPA. That more reasonable, full, and fair process could and should lead to a better result in this case than the apparently predetermined course of action that is unfortunately reflected in the DEIS	Comment noted.
Environmental Law & Policy Center	Learner	LAND01; LAND07	I. Land Use, Agriculture, and Recreation The DEIS's discussion and analysis of impacts to land use, agriculture, and recreation is also inadequate for a number of reasons. 1. Conservation Land Uses First, the discussion of "Other conservation Land Uses" is incomplete. It doesn't list, let alone consider impacts to the Military Ridge Prairie Heritage Area ("MRPHA") or Southwest Grassland Conservation Area ("SWGCA"). DEIS at 289-90. One of the proposed routes runs along the northern border of the Military Ridge Prairie Heritage Area and the Southwest Grassland Conservation Area. The Military Ridge Prairie Heritage Area is the Wisconsin Department of Natural Resources' highest priority for landscape-scale grassland protection and management in Wisconsin, and is also part of the larger 490,000-acre protected Southwest Wisconsin Grasslands and Stream Conservation Area macrosite established by the Wisconsin Department of Natural Resources. Even if the proposed transmission line route along US 18/151 does not directly overlap these important conservation areas, selection of that route could have significant impacts on the success of the conservation and restoration efforts. The Nature Conservancy states that: The Military Ridge Prairie Heritage Area (MRPHA) is a 95,000+ acre grassland landscape in Dane and Iowa counties in southwest Wisconsin. The area provides habitat for 14 rare and declining grassland bird species and contains more than 60 prairie remnants, representing one of the highest concentrations of native grasslands in the Midwest. The agricultural history of the area has helped keep the landscape much as it was when the first settlers saw it and has made it possible for plants and animals like grassland birds, which have disappeared in more developed parts of the Midwest, to survive. The MRPHA has been identified as the highest priority for landscape-scale grassland protection and management in Wisconsin by the Wisconsin Department of Natural Resources and represents one of the best opportunities in the Midwest to protect prairie remnants and area sensitive species, such as grassland birds. ¹⁹ The DEIS notes the existence of privately-held conservation easements in the analysis area (DEIS at 32, 289-90) and states that proposed routes were selected to "avoid[], to the extent practicable, properties with recorded conservation land interests." (DEIS at D-13). But it also acknowledges that some privately-held easements might not have been identified and that "[e]fforts would be made to work with landowners to accommodate existing agreements or to make them whole if there are additional monetary burdens landowners would incur." DEIS at D-13. This cursory discussion, which does not attempt to consider the actual impacts on individual conservation easements, is insufficient. Furthermore, the DEIS does not even provide the list of already identified affected easements that was included in the developers' application to the Public Service Commission (PSCW Docket No. 5-CE-146). The Final EIS should analyze impacts on DALC's conservation easements and properties being restored through U.S. Fish & Wildlife Service's Partners for Fish & Wildlife Program and the Wisconsin DNR's Landowner Incentive Program. Several DALC easements are either directly in or close to a proposed corridor. For example, DALC holds a conservation easement on part of the Thomas Farm on US 18/151 just west of Barneveld, within or directly adjacent to a proposed corridor. This easement was purchased with funds from both federal (USDA Farm and Ranch Lands Protection Program) and state (Knowles-Nelson Stewardship Program) programs, and the stone barn on the property is listed on the National and State Register of Historic Places. 19 The Nature Conservancy, https://www.nature.org/en-us/get-involved/how-to-help/places-we-protect/priority-area-military-ridge-prairie-heritage-area/ (last visited April 1, 2019).	EIS Section 3.10 has been revised to disclose potential impacts to lands enrolled in conservation programs such as the CRP and MFL.
	Fitzgerald, Swedlund	NEP02	Lack of need: Given the information available, we do not think that the CHC 345kV transmission line is needed. Also, the DEIS does not include a clear and detailed analysis to justify the need for the CHC project. Ø According to the Driftless Area Land Conservancy, the demand for energy in Wisconsin is level and decreasing and this trend is expected to continue. We seriously question the data in the DEIS that indicate increasing energy demand. Shouldn't the DEIS also include data to address the opposing assessment of decreasing energy demand? Ø Even if energy demand increases in the future, there are better and more cost-effective alternatives, including improved energy efficiencies, and locally generated wind and solar power. With wind turbines and solar panels throughout all appropriate locales, not as much electricity would need to be moved across long distances and this new high-voltage transmission line would not be necessary. Ø One argument for the CHC line is to move power (including wind energy) from western states where it is more abundant to eastern states where it is needed. Can't the wind power be moved on existing lines? Can't more renewable energy sources be developed in eastern states? Ø The CHC line is one of 17 new high-voltage line projects that have been or are being built in the Midwest, including a "sister project," the Badger-Coulee Project, from North La Crosse to North Madison. Given the large number of new lines, why not eliminate construction of this CHC line? v	Comment noted. EIS Chapter 1 describes the need for the C-HC Project as well as the decisions facing the three Federal agencies that have received loan or permit applications for the C-HC Project. As described in EIS Section 1.3, MISO adopted a portfolio of 17 MVPs to provide economic, reliability, and public policy benefits across what was then the entire MISO footprint: all or portions of 13 states and one Canadian province. MISO ultimately designated the C-HC Project as part of the MVP portfolio to be developed, identified as MVP #5.
	Fitzgerald, Swedlund	SOCIO08	Negative economic impacts: Ø The CHC line is estimated to cost at least \$500 million, plus financing costs with a 10.2% annual rate of return for the developers. Why should corporations and stockholders benefit, while Wisconsin consumers pay higher electric bills for 30 to 40 years to fund a transmission line that we don't need? Ø	Comment noted.

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	Fitzgerald, Swedlund	SOCIO06	Landowners should not be required to relinquish their property for a transmission line that is not necessary. ∅ The high-voltage transmission line will cause property values to decrease, resulting in detrimental effects on businesses, farmers, and home owners. Some families will lose their home equity and long term financial security, especially if their plans included selling property to provide income during retirement. The DEIS minimizes the negative impacts on property values, labeling them as "moderate temporary" and "minor permanent." This is inaccurate and offensive to people with properties within or near the transmission line right of way (ROW). The DEIS does not include an analysis of the financial impact of decreased property values on landowners. ∅	Potential impacts to social and economic conditions, including property values, are provided in EIS Section 3.12.
	Fitzgerald, Swedlund	SOCIO03; VIS01	The 17-story towers that support 125 miles of lines will disfigure the scenic landscape, and thus discourage tourism. Consequently, local businesses that benefit from tourism will be adversely affected economically. The DEIS does not delineate the costs of lost tourism. v	Potential impacts to visual quality and aesthetics are disclosed in EIS Section 3.11, and potential impacts to social and economic conditions, including tourism, are disclosed in EIS Section 3.12.
	Fitzgerald, Swedlund	LAND02; SOCIO01	Detrimental effects on the agricultural economy and farm operation: ∅ Valuable agricultural land will be removed from production. The DEIS points out that the CHC line will affect a relatively small acreage of agricultural land, in comparison to the total agricultural land available, and thus have a minor long term impact on agriculture. This perspective ignores the fact that the CHC line would have a major long term impact on individual farmers. ∅ The high-voltage transmission line could create stray voltage on nearby circuits, causing cows to experience stress, changes in behavior, health problems, and decreased milk production. ∅ In addition to destroying natural vegetation, the application of herbicides in the ROW could jeopardize the certification status of organic farms. ∅ The DEIS includes the number of farmland acres in the analysis area, but does not quantify the number and type of farms that would be affected by the CHC line, does not present a clear description of the impacts on the farms, and does not provide estimates of the financial loss to the farm operations. v	EIS Sections 3.10 and 3.12 disclose potential impacts to agricultural lands, and EIS Section 3.12 discloses potential financial impacts to farmers. EIS Section 3.13 has been revised to include a discussion of stray voltage to livestock. EIS Section 3.10 has been revised to disclose potential impacts to organic farm practices from herbicide drift.
	Fitzgerald, Swedlund	SOCIO05; WLDF01	Harm to the ecosystem: Construction of the CHC transmission line will have a negative impact on the environment, disrupting plants, animals, and water resources and negatively impacting endangered and threatened species. ∅ The environmental impacts are of special concern because the line would be located in the Driftless Area. According to the Driftless Area Land Conservancy, "The area is recognized internationally and by the Departments of Natural Resources in four states as a region of critical conservation opportunity and concern. It contains multiple rare habitats and is the largest contiguous area of fish and wildlife habitat in the Upper Mississippi River basin area." ∅ The DEIS presents a detailed and comprehensive analysis of the impacts on the ecosystem and describes many measures to mitigate problems that would arise. However, the substantial qualitative value of leaving nature undisturbed is not adequately addressed. ∅ The CHC transmission line will destroy, alter, and fragment the habitat for plants and animals, including special status species.	EIS Section 3.3 discloses potential impacts to vegetation, Section 3.4 discloses potential impacts to wildlife including habitats and special status species, and Section 3.5 discloses potential impacts to water resources.
	Fitzgerald, Swedlund	WLDF02	Negative impacts include: avian collisions;	Comment noted. Potential impacts to wildlife species and migratory birds are disclosed in EIS Section 3.4.
	Fitzgerald, Swedlund	SOIL02; WAT02	soil erosion and compaction; siltation of streams;	Comment noted. EIS Section 3.2 discloses potential impacts to soils, including soil erosion. EIS Section 3.5 discloses potential impacts to water resources and quality.
	Fitzgerald, Swedlund	VEG01	clear cutting forest within the ROW;	Comment noted. EIS Section 3.3 discloses potential impacts to vegetation, including forested areas.
	Fitzgerald, Swedlund	EFF04; VEG03	introduction and spread of invasive species, including emerald ash borers and gypsy moths; spread of oak wilt and other tree diseases; and destruction of native vegetation from use of herbicides in the ROW. The DEIS describes these impacts and presents best management practices to prevent or mitigate them, but more details are needed to assure that the best management practices will be enforced.	Comment noted.
	Fitzgerald, Swedlund	HAS01	Potential public health issues: Although publications are cited to provide evidence that there are no adverse health effects from low level long term exposures to electric and magnetic fields, the DEIS states that scientists continue to research this topic. We remain cautious and are still concerned about possible adverse health effects that have not yet been determined. v	Comment noted. Section 3.13 of the EIS discloses potential impacts to public health and safety that could occur from wildfire, occupational safety, hazardous materials, and electric and magnetic fields.
	Fitzgerald, Swedlund	CUL03	Potential damage to the cultural heritage and undiscovered cultural resources: We want all remaining undisturbed American Indian burial mounds to be respected and preserved.	The EIS uses the best available records and data provided by the Iowa and Wisconsin SHPO databases and site-specific surveys to identify potential historic properties within the alternatives. The EIS recognizes that additional historic properties may be present along one or more project alternatives, and the Iowa and Wisconsin SHPOs, RUS, the Utilities, and other consulting Federal agencies have drafted a PA under Section 106 of the NHPA. This PA details a phased identification and treatment plan for cultural resources identified within the chosen alternative. This PA is included as an appendix of the EIS.
	Fitzgerald, Swedlund	VIS01	Damage to the aesthetic beauty and rural character of our environment: We believe that the CHC line will harm the beauty of our nationally unique Driftless Area. We want everyone to continue to see beautiful rolling hills, farms with their barns and cows, deer in the woods, trout streams, and prairie wildflowers, all without the massive transmission line. We want to maintain the current beauty of rural Wisconsin and preserve it for generations to come. ∅ The photographs provided in the DEIS are deceptive. Several simulated photos show the transmission line from a great distance, not what would be seen while walking or driving nearby. The simulated photo of a residential neighborhood in the town of Cassville only shows a pole, not the looming presence of the entire tower and lines. ∅ The DEIS states that the transmission line will be visible from the Great River Road and the Ice Age National Scenic Trail. However, there is no acknowledgement of the fact that the CHC line will mar the landscape for everyone who lives near it or drives along the corridor.	Potential impacts to visual quality and aesthetics are disclosed in EIS Section 3.11.
	Fitzgerald, Swedlund	EFF02	The DEIS states that it is "likely that the current project would be seen as an opportunity site for the construction of additional transmission features." We do not want to experience the future ongoing degradation of our environment.	Comment noted.
	Fitzgerald, Swedlund	PUB01	Insufficient emphasis on public input: The overwhelming public outcry against the CHC transmission line is not addressed. Because people are part of the environment, the DEIS should present a detailed summary of public opposition to the CHC line, including the number of people who signed various petitions, submitted comments to state and federal agencies, and attended public meetings; a listing of governmental agencies and organizations who oppose the CHC transmission line and descriptions of their efforts, including the number of meetings held and their attendance; and the number of billboards and yard signs in the CHC transmission line area.	Comment noted. Chapter 1 of the EIS provides a summary of the public involvement activities for the NEPA compliance process.

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	Booth	SOCIO06	The third proposed route, the yellow route, would take some land away from some of these properties. This route would place the towers south of the railroad tracks. The blue proposed route would also place the towers along Hwy 14 but on the north side of the tracks. Either way the large tower(s) will be visible and will therefore affect the esthetic value of my property.	Potential impacts to social and economic conditions, including property values and tourism, are provided in EIS Section 3.12. Potential impacts to visual quality and aesthetics are disclosed in EIS Section 3.11.
	Booth	SOCIO06	Local realtors confirm there is no question that buyers are reluctant to purchase homes where electric towers are on the property and even just when wires are in sight of the property. Some buyers will absolutely refuse to even consider a home with such conditions. And when home buyers do purchase properties with electric towers, poles or wires, they definitely offer less money for the purchase price. They do this, because knowing their own reluctance; they know that when it is time for them to sell the home, they will run in to the same concern from other buyers.	Comment noted. Potential impacts to social and economic conditions, including property values, are provided in EIS Section 3.12.
	Booth	HAS01; SOCIO06	There are two main reasons why electric towers, poles and wires affect home values. First is the aesthetics. They are just plain unsightly to virtually everyone. The second is that people are concerned about potential dangers of radiation from these wires. While one can cite study after study that presumably shows that there is little to no danger from radiation from these wires, that doesn't matter if a home buyer believes the radiation to be a problem. So, it may be more a problem of perception than reality, but that doesn't matter when it comes to the purchase of a home. People will not put their children, or themselves, in a home where they feel they are at risk. And for those who do, they will require a "really good deal" on the purchase price. So again, without question, these towers, poles and wires decrease property values	Comment noted. Potential impacts to socioeconomics are disclosed in EIS Section 3.12, potential impacts to public health and safety are disclosed in EIS Section 3.13.
	Booth	SOCIO06	<ul style="list-style-type: none"> When a person places a home on the market, they are required to disclose "known defects" and anything that is planned that may impact the value of the home. These towers, poles and wires meet that definition. Perhaps even now, but definitely, if and, when a plan for this line becomes certain, I would have to disclose this information when listing my home. The fact that I would be required to list this information is how we truly know that this line would negatively affect home and property values. 	Comment noted. Potential impacts to social and economic conditions, including property values, are provided in EIS Section 3.12.
	Booth	OOS01	<ul style="list-style-type: none"> I have made energy efficient upgrades to my home over the years 	Comment noted.
SOUL Wisconsin	Danielson	ALT01; LITREV01	On behalf of the 2,400 lifetime members of SOUL of Wisconsin, we firmly add our support to every one of the comments and requests made in this document: http://bit.ly/SellaDan_RUS_DEIS pertaining to improvements in the FINAL Environmental Impact Statement Vol19 for the Cardinal Hickory Creek proposal, which in the case before the PSC of Wisconsin, involves high-voltage, low-voltage, non-transmission and no action alternatives.	Comment noted.
SOUL Wisconsin	Danielson	PUB01	RUS previously received the same 50+ requests, corrections and comments endorsed by Inter-Municipal Energy Planning Committee (IMEPC), the nine municipalities that provided RUS significant input on three prior stages of the EIS process.	Comment noted.
SOUL Wisconsin	Danielson	ALT04; NEP01	SOUL is very sorry it did not work out that USDA could afford an outside specialist to help RUS study and develop Non-Transmission Alternatives (NTA's). Fact: NTA's are our energy futures. Its also a fact that RUS is a key player in influencing electric cooperatives. Cost effective changes come first at rural electric cooperatives because they have the most regulatory flexibility and the least profit motivation. It is no coincidence that all three, energy informed organizations formally intervening in Cardinal Hickory Creek hired Non-transmission Alternative Specialists. Even CHC Applicants proposed an NTA. We trust that RUS's Final EIS will contain a more studied, updated assessment of NTA's -- a mixture off energy efficiency, load management and distributed solar resources. As treated in RUS's current DEIS, isolating energy efficiency, load management and distributed solar and tasking each to remove a fictional 1300 MW of firm capacity has no basis in NTA design or in the Applicants AES materials for CHC or others before the Wisconsin PSC. SOUL understands that RUS was working with a small budget and that the CHC applicants provided RUS way too little information. The failure to provide a low-voltage transmission option to establish factual reliability parameters was extraordinarily debilitating, as anticipated. I personally believed Dairyland's promise to deliver a low-voltage transmission alternative for the Cardinal Hickory Creek proposal as they stated at the IMEPC/RUS/Dairyland Power Cooperation meeting in Barneveld on December 7, 2016. Just as RUS has become fully accustomed to hiring outside specialists to conduct the extensive on the ground, environmental scoping, Non-transmission Alternatives have the same, on the ground specificities. To study and propose NTA's with in the field the implementation requires at least one, NTA specialist. For your next EIS effort, SOUL encourages USDA/RUS to hire an NTA specialist to conduct the necessary study and development. Then RUS can do what governmental agencies do best: let the economic and CO2 impact facts speak for themselves! We trust that RUS does look forward, someday, to having these modern skills, on board. It is tragic that the severe limitations in information at your disposal— both in scope and perspective— makes it extremely challenging to inform decision-makers to the degree you desire.	Comment noted. As discussed in EIS Chapter 2, Section 2.2.2, non-transmission and low-voltage alternatives are not responsive to the applications to which the Federal agencies are responding, nor do they meet the six-point purpose and need described in EIS Chapter 1.
	Stroncek	LAND02; SOCIO06	As a land, home and business owner along a proposed route of the CHC high voltage power line, I vehemently oppose this line because of effects on our farm livelihood, environmental issues and business reasons. A. Farm Livelihood: 1. The proposed line could go directly over my land detrimentally effecting our seven generation family run, organic, pasture-based farm; Seven Seeds Farm LLC, by taking land out of organic production under the power lines and towers with at least a 200 wide path including a buffer zone. Potentially 8.81 acres (200 ft. x 1920 ft./43560sq.ft.) could be lost for our organic production	Comment noted. Impacts to agricultural lands and organic farms are presented in Section 3.10
	Stroncek	LAND02; SOCIO03	2. Our farm store relies on agritourism depending on sales of our organic grass-fed beef, organic pastured pork, chicken and eggs. The store sales would be negatively impacted by the 160 foot CHC high electrical towers. The negative agritourism could easily discourage enough customers to put us out of business.	Comment noted.
	Stroncek	WLDF01	3. Our farm has spent the last 14 years returning our land to the way our forefathers found it We have planted 12,000 fruit and nut trees along key-lines (a water control system of 1% grade of berms and swales). We now have developed an extraordinary habitat for birds and other wildlife. I would hate to see this damaged by the ATC lines as herbicides are used in a 150 swath under the line.	Comment noted. EIS Section 3.4 discloses potential impacts to wildlife. EIS Section 3.1 identifies environmental commitments that the Utilities would follow during construction and operation of the C-HC Project. Specific to herbicides, the Utilities will employ a Certified Pesticide Applicator for all herbicide applications within the C-HC Project. The Certified Pesticide Applicators will only use herbicides registered and labeled by the USEPA and will follow all herbicide product label requirements. Herbicides approved for use in wetland and aquatic environments will be used in accordance with label requirements, as conditions warrant. During the easement negotiation, landowners can decline the use of herbicides for vegetation management activities once the line is in operation. Therefore, no herbicides would be applied within portions of the ROW on which the landowner wishes not to introduce it.

Organization	Commenter Last Name	Comment Code(s)	Comment on DEIS	Agency Response to Comment
	Stroncek	VIS01; WLDLF01	B. Environmental Issues: 1. The Driftless Region is a national treasure with an unglaciated recent past offering a geological masterpiece. The panoramic views are unparalleled in Midwest. The area is a most unique ecological with a diverse array of ecotypes and tremendous plant and animal diversity 2. CHC 150 to170 foot tall power lines would destroy the natural beauty and endanger plant and animals in its path.	Comment noted.
	Stroncek	ALT02	3. The Earth's magnetosphere has been decreasing making any grid more vulnerable to coronal mass ejections from the sun (Carrington Event 9/1859). The macro-electrical grid (CHC) is much more vulnerable to CMEs which could easily disrupt the energy grid for weeks.	EIS Section 3.13 has been revised to include a discussion about severe weather and security breaches.
	Stroncek	ALT01	4. Seven Seeds Farm has two arrays of 14 KW of solar PV panels and two arrays of solar hot water panels. We are also sequestering Carbon with our regenerative farming practices as per Gabe Brown, Dirt to Soil. We are doing our part. I firmly believe that the state of Wisconsin would be better served with an emphasis with renewable energy grants for solar, wind and battery storage systems. It would be wise to take the savings from not doing the CHC power line and put it in renewable energy.	Comment noted.
	Stroncek	NEP02	C. Bad Business: 1. There is no need for this line as Wisconsin has a reliable electrical system. 2. Consumer electrical demand has been falling over the past 10 years. 3. Renewable energy is becoming less expensive every year. 4. Battery storage capability will become less expensive and safer within the next several years making it more likely to have more consumers leave the grid. 5. Our energy rates are already very high in the region. My three daughters living in Chicago and my brother who is living in Minneapolis are paying 10 % less than I am per KW. We do not need higher rates. 6. The state of Wisconsin already has one of the countries most reliable energy systems. The CHC line is not needed for reliability.	Comment noted.
	Stroncek	SOCIO06	7. The CHC line would decrease land values significantly along the power line corridor according to Kurt Kielisch Sr., forensic appraiser. This would be devastating to dairy farmers, who are already struggling, along the route who plan on this being their retirement fund.	Comment noted. Potential impacts to social and economic conditions, including property values, are provided in EIS Section 3.12.
	Stroncek	SOCIO03	8. The CHC line would desecrate the Driftless region that is an important in bringing tourist dollars to this region.	Comment noted. Potential impacts to social and economic conditions, including property values and tourism, are provided in EIS Section 3.12.
	Stroncek	ALT02	9. The macro-grid concept is outdated because of vulnerability to terrorism and the falling costs of renewable energy. The renewable costs will continue to fall over the next 2 decades making this CHC line appear like a dinosaur of technology. I vehemently oppose the Cardinal Hickory Creek line	EIS Section 3.13 has been revised to include a discussion about severe weather and security breaches.
	Bettner Steele	SOCIO07	I am writing to express my opposition and concern for the proposed Cardinal Hickory Creek high voltage transmission line to be sited across Southwestern Wisconsin and into Iowa. The harm that building such a line would bring to the area is farreaching and substantial, and includes damages to the environment (human, natural resource, preservation), economy, agriculture, tourism, and aesthetics.	Comment noted.
	Bettner Steele	NEP02	There is literally no benefit to anyone in our Driftless Area, as the stated need for the line is to connect this one segment of MultiValue Project #5, or MVP #5, to other segments already built in order to bring electricity to unnamed "population centers in the east." (dEIS, chapter 2.3) Other "needs" for the line stated in the dEIS, such as to ameliorate imagined future grid failures and to supply additional energy transmission, are either not of immediate consequence or irrelevant to the people of the area affected by the building of the lines, as electricity use here is level or falling in recent years. What the entities behind the proposal are really asking for is approval to create a de facto utility district here in this precious landscape to benefit highly populated areas on the eastern seaboard.	Comment noted.
	Bettner Steele	ALT04	One of the many reasons I oppose this project is that I believe that nontransmission alternatives have not been fully examined in the draft EIS, both singly and in combination. In chapter section 2.2.2.1 (Regional and Local Renewable Electricity Generation), the federal dEIS states that "peak load often extends into summer nights as well, when photo voltaic systems stop generating electricity. Thus, without sufficient power storage capacity, residential solar systems have limited usefulness in resolving the identified grid reliability deficiencies in the region." I would like to note that this chapter section is maybe a page in length, and, in its brevity, dismisses the myriad ways of structuring local and regional power generation that could be examined as alternatives to the construction of this wasteful high voltage power line. To address the point the above paragraph attempts to make, it is my understanding that what is holding Wisconsin homeowners back in terms of storing their own energy from daytime generation for use overnight is the pricing and contract structures that the utility companies offer their customers that install solar panels. In some other states or with other utility companies, it is more incentivized to purchase a battery for energy storage for a home, and the homeowner can save money that way and actually use the battery to offset peak usage from the grid. That utilities have free reign to set policies that effectively tie their customers to the grid, even if they have purchased solar panels for electrical generation to attempt to meet some of their own energy needs, is an issue that must be looked at before 175 ft tall high voltage transmission lines are built across the Driftless Area. This CHC project is admitted in the dEIS to be only one part of MVP #5 which MISO has apparently been implementing for the past several years. Millions of dollars have already been spent on the project to construct other segments and electrical generation facilities.	As discussed in EIS Chapter 2, Section 2.2.2, non-transmission alternatives are not responsive to the applications to which the Federal agencies are responding, nor do they meet the six-point purpose and need described in EIS Chapter 1.
	Bettner Steele	PUB01	I question why we in the Driftless are only able to comment now on the project, why we were not asked in combination with all the other areas affected by all the other segments of the project about our willingness to pay for and build such a thing at its inception. It is not fair to the public if the project is treated as a foregone conclusion from the start, and the public involvement is time and resource limited in the way that has resulted from the approval for sections being broken up and treated separately.	RUS provided public notification about the C-HC Project and held public scoping meetings in the fall/winter of 2016. The public review period for the Federal Draft EIS is the second opportunity that the public has been able to provide input into the NEPA compliance process. All possible segments of the C-HC Project are discussed in the EIS.
	Bettner Steele	DECI01	MISO and the Utilities have the vast majority of the situational "power," to lay plans in advance, to build neighboring sections, and then point to the sections being already built as driving the supposed "need" for this CHC section. I find this current treatment of the project, getting approval locale by locale to be truly ironic because the argument for the line is to reinforce largescale infrastructure rather than improving grid concept and structure on a local and regional level. I propose that the approval process should be matched to the scope of MVP #5, and other projects like it. I also would like to remind the reader that this project is guaranteeing certain shareholders a large profit, that it is not a not-for-profit venture being undertaken for the public good.	Comment noted.
	Bettner Steele	WLDLF01	Another admission in the dEIS (2.4.1.2) is that there is expected harm to avian wildlife brought about by the design of the lines and accompanying 175 ft. poles being proposed, and that this harm would be ameliorated in portions crossing a wildlife refuge by changing the structure of that segment to a lower, wider profile. Since birds do not actually acknowledge the boundaries of wildlife sanctuaries, I propose that those same birds would be colliding with the higher, narrower structures along the rest of the route and that changing the profile of the lines within a small section	Comment noted. Potential impacts to wildlife species and migratory birds are disclosed in EIS Section 3.4.

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			does not actually solve the problem. And, this is just one tiny fraction of the harm that would come to our state's wildlife and natural resources should the lines be installed.	
	Bettner Steele	AIR04	Overall, we as a nation and world need to prioritize funding projects that cause an immediate drop in CO2 emissions to combat climate change, the CHC line does not meet this criterion. The environmental consequences with regard to climate change of building this line, continuing the same long-distance inefficient infrastructure that carries a mix of fossil fuel generated electricity with a small portion of renewable, are dire and would make no change to the CO2 being released to the atmosphere. Another local concern to the human environment is the recent finding that a large percentage of our rural wells in Southwest Wisconsin are contaminated with coliform bacteria and nitrates. We should examine the cause of this crisis, and work to make sure that any utility infrastructure projects do not exacerbate the pollution.	Comment noted. EIS Chapter 4, Section 4.4 has been revised to estimate the carbon dioxide (CO ₂) emissions that could occur from generation sources that would benefit from the C-HC Project. This analysis compares two scenarios: 100% coal-generation sources benefitting from the C-HC Project and 100% wind-generation sources benefitting from the C-HC Project. This analysis provides a range of CO ₂ emissions from possible generation sources.
	Bettner Steele	SOCIO07; VIS01	Finally, I want to stress that the poor aesthetics of this project is a factor that drives much of the harm that we would experience here in the Driftless Area. Not only would the lines pose a threat to human and plant/animal health and safety, but the looming ugliness of the lines would cause clear, significant harm to land values, tourism, and the economy of the region. The Driftless Area is important to all of us; to its residents, our state, our nation, and to the world of science. If we do not prioritize its wellbeing, how can we expect other regions and countries to prioritize the preservation of natural landmarks and important resources under their purview? We must take our responsibility to protect this precious area seriously and prove to the world that we are up to the challenge.	Comment noted.
	Bettner Steele	HAS01	Additional points to consider in the EIS: 1. Safety to humans and farm animals living and working near the high voltage power lines.	EIS Section 3.13 has been revised to include a discussion about stray voltage as well as disclose potential impacts to livestock from exposure to EMF.
	Bettner Steele	SOIL02; VEG01	2. Damage to land and woodlands during construction, irreversible soil compaction and damage to native plant life.	Comment noted. EIS Section 3.2 discloses potential impacts to soils, including soil compaction. EIS Section 3.3 discloses potential impacts to vegetation.
	Bettner Steele	HAS01	3. Passing the line over and close to buildings, especially made of metal.	Comment noted.
	Bettner Steele	CUL02	4. The historic remnants of mining that honeycomb the underground bedrock of the Driftless, as well as historic artifacts that may be on or near the surface.	The EIS uses the best available records and data provided by the Iowa and Wisconsin SHPO databases and site-specific surveys to identify potential historic properties within the alternatives. The EIS recognizes that additional historic properties may be present along one or more project alternatives, and the Iowa and Wisconsin SHPOs, RUS, the Utilities, and other consulting Federal agencies have drafted a PA under Section 106 of the NHPA. This PA details a phased identification and treatment plan for cultural resources identified within the chosen alternative. This PA is included as an appendix of the EIS.
	Bettner Steele	REC01	5. The proximity of the Ridgeway Pine Relict and other natural areas to the line.	Comment noted. EIS Section 3.10 discloses potential impacts to recreation areas, including natural areas.
	Prescott	DECI13	Name Mailing Address 1# Comment: Please add my name to the 252 citizens initially concerned about the DEIS address of, "...potential, adverse economic impacts resulting from loss of tourism, retirement housing, and business revenue in the area" from the high voltage option of the Cardinal Hickory Creek (CHC) proposal. My name is Joseph Prescott, and I live at 4974 County Road J Mount Horeb WI 53572. My home is within sight of the preferred route of the line, if it is to be built. I'd like to register my disagreement with ATC regarding the need or wisdom of such a project.	Comment noted.
	Prescott	SOCIO03	1# Comment: Please add my name to the 252 citizens initially concerned about the DEIS address of, "...potential, adverse economic impacts resulting from loss of tourism, retirement housing, and business revenue in the area" from the high voltage option of the Cardinal-Hickory Creek (CHC) proposal.	Comment noted. Potential impacts to social and economic conditions, including property values and tourism, are provided in EIS Section 3.12.
	Prescott	OOS03	Please enter these comments and requests into the record. Thank you.	Comment noted.
	Zastrow/Hendrickson	NEP01	It is apparent that this document is heavily influenced and caters to transmission operators. The U.S. Department of Agriculture, Rural Utilities Services and cooperating agencies ¹ are either ignorant of, or indifferent to transmission operators degradation of the environment.	Comment noted. RUS and the other Federal agencies have independently evaluated the impacts to the human and natural environment of the six action alternatives and No Action Alternative analyzed in the EIS, as required by NEPA.
	Zastrow/Hendrickson	SOCIO06	This EIS does not consider the ramifications of taking of property under eminent domain and handing total control to corporations without moral compasses.	Comment noted.
	Zastrow/Hendrickson	VEG01	As a Certified Arborist with the international Society of Arboriculture (ISA), I find that ANSI standards and BMP are being violated at every building project and trim cycle	Comment noted.
	Zastrow/Hendrickson	EFF04; VEG01	Vol. I pg.16 (ES-12) • In non-agricultural areas where ground disturbance occurs, the area would be monitored until ground cover is reestablished to at least 70% of the vegetation type, density, and distribution that was documented in the area prior to construction. Comment (CMT); Our property was not restored to 70%. ATC kills all woody vegetation, including raspberries, and is in the process of completely changing the veg. type to a western style grassland, or invasive reed canary grass and hybrid cattails as was done to the ROW abutting ours to the north. Our hours of labor have saved some of our native plants and reduced the invasives, but it is not the wildlife habitat it once was. • In areas that were previously forested, disturbed areas would be revegetated consistent with non-invasive herbaceous vegetation that occurs in the area. (CMT); We see you have bought into the Duke/ATC method of scorched earth practices and are giving no thought to sustainable IVM and Wire Zone - Border Zone methods. There should be shrubs and small trees bordering woods to protect them and alleviate fragmentation. "Vegetation Management Standard Drafting Team (VM SDT) believes that Transmission Owners who adopt and effectively implement IVM principles, particularly the "wire zone - border zone" concept, are far less likely to experience a vegetation caused outage than those who do not."	The Utilities follow Integrated Vegetative Management (also referred to as IVM) practices based upon site conditions, construction type, accessibility, predominant species, and other factors. All of these factors will determine how Integrated Vegetative Management is implemented.
	Zastrow/Hendrickson	VEG01; VEG03; VEG04	• If algific talus slopes are identified, vegetation removal on steep slopes would be minimized to only the amount necessary to maintain conductor clearances. • Broadcast spraying of herbicides will be avoided and careful spot spraying will be used in suitable algific talus slope habitat areas. (CMT); Veg removal and broadcast spraying of herbicides should be minimized everywhere, not just on slopes. Unfortunately these are ATC's only tools. They have no knowledge of BMPs and have sprayed the wetland property abutting ours with chemicals that specify on the label that they are	EIS Chapter 3 includes the following environmental commitments related to herbicide use: The Utilities will employ a Certified Pesticide Applicator for all herbicide applications within the C-HC Project. The Certified Pesticide Applicators will only use herbicides registered and labeled by the USEPA and will follow all herbicide product label requirements. Herbicides approved for use in wetland and aquatic environments will be

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			"not to be used in wetlands." When ATC is prohibited from spraying they mow. Not BMP. ATC needs to be monitored and not by a company or individual who has something to lose by not following ATC's orders.	used in accordance with label requirements, as conditions warrant. During the easement negotiation, landowners can decline the use of herbicides for vegetation management activities once the line is in operation. Therefore, no herbicides would be applied within portions of the ROW on which the landowner wishes not to introduce it. This environmental commitment and others would be included in, and thereby enforced by, applicable permits, authorizations, and orders issued by Federal and state agencies. These commitments may be revised as permits, authorizations, and orders actions are reviewed and issued, if deemed appropriate by the various decision-makers.
	Zastrow/Hendrickson	EFF04; VEG01	Woodlands • To minimize the spread of oak wilt, the cutting or pruning of oak trees between April 15 and July 1 for maintenance would be conducted in accordance with Wisconsin Administrative Code (WAC) Public Service Commission (PSC) 113.051. (CMT); What about cutting 8" diameter limbs from trees, or leaving 4' stubs that will eventually decay and never scab over? What about bad trimming practices that strip the bark from the trees? They may be trimming these trees at the right time but their practices are so destructive the tree cannot wall off the diseases in time, if ever. When is ATC going to clean up their trimming practices? Helicopter trimming has no place in BMP.	The Utilities follow Integrated Vegetative Management (also referred to as IVM) practices based upon site conditions, construction type, accessibility, predominant species, and other factors. All of these factors will determine how Integrated Vegetative Management is implemented.
	Zastrow/Hendrickson	EFF04; VEG03	Standard practices used in the quarantine area to avoid the spread of gypsy moth damage include inspections by trained staff and avoiding movement of wood products (logs, posts, pulpwood, bark and bark products, firewood, and slash and chipped wood from tree clearing) from gypsy moth quarantine areas to non-quarantine areas, according to WAC ATCP 21.10. (CMT); We never had gypsy moths until this year after ATC mutilated around 100 trees outside the ROW. The trees send out pheromones that attract the moth when they have been damaged to such a degree. The practice of squaring up the ROW to satisfy some insane notion that it will increase electrical reliability has to stop. That will reduce gypsy moth infestations. ATC moved a all logs and most chips off the ROW.	Comment noted.
	Zastrow/Hendrickson	EFF04; VEG04	Wetlands o Use of equipment with low ground-pressure tires or tracks. (CMT); In our experience this has never been done. ATC just moves the big equipment in and runs over every square foot of ROW. Big boys playing with big toys.	Wetland matting would be used during construction activities in areas where wetlands and other wet conditions occur along the line and access roads. However, there are no identified wetlands at the Hill Valley Substation alternative sites nor the laydown yards.
	Zastrow/Hendrickson	EFF04; SOIL02	• Erosion control BMPs will be installed where needed to prevent soil erosion into and within wetlands. (CMT); The rolls of excelsior on our property were made with synthetic netting. ATC's "prevention" measures cause more erosion than if left to heal themselves. Crews don't seem to be able to do any work unless it involves heavy equipment that leaves even frozen ground rutted and compacted. ATC's methods need to be changed. First do no harm.	Comment noted.
	Zastrow/Hendrickson	EFF04; VEG03	ES-13 (pg 17)• Any spoils will be removed from wetlands to non-sensitive upland areas or other approved location. Cleaning of construction equipment and mats, per the Wisconsin Council on Forestry's "Invasive Species Best Management Practices: Rights-of-Way" guidance to mitigate the spread of invasive species (Appendix D). Where necessary to ameliorate minor impacts, such as rutting and vegetation disturbance due to equipment operation and mat placement in wetlands, site restoration activities will be implemented, monitored, and remedial measures applied until established restoration goals are achieved, as required by regulatory permits obtained for the C-HC Project. (CMT); ATC BMP; • Cordon off invasive species (IS) and set up signs. • Mow everything else so the wind can disperse the IS seed to mowed and rutted areas. • Run heavy equipment over the entire ROW, including the quarantined patches, to grind the seed into the ground. • Disperse IS throughout ROW and onto the next site. The DNR was not very good at identifying IS. They made some up and overlooked others.	Comment noted.
	Zastrow/Hendrickson	EFF04	Invasive Species • The Utilities would follow the Wisconsin Council on Forestry's "Invasive Species Best Management Practices: Rights-of-Way" guidance to mitigate the spread of invasive species (see Appendix D). • Work below the ordinary high-water mark (OHWM) of waterways would be avoided to the extent practicable; the most likely activity would be withdrawing water to stabilize excavations. (CMT); ATC/Asplundh do not follow ISBMP. Dirty equipment was moved onto our property. We asked Asplundh's crew boss to give us a call when the equipment was to be moved in. He refused, We had to wait in -7 degree weather for nearly two hours to take photos of the dirty equipment they moved onto our property.	The environmental commitments listed in EIS Section 3.1 would be included in, and thereby enforced by, applicable permits, authorizations, and orders issued by Federal and state agencies. These commitments may be revised as permits, authorizations, and orders actions are reviewed and issued, if deemed appropriate by the various decision-makers.
	Zastrow/Hendrickson	EFF04; VEG03	Before moving construction equipment and material between waterway construction locations where equipment or materials are placed below the OHWM of a waterway, standard inspection and disinfection procedures would be incorporated into construction methods as applicable (see WAC NR 329.04(5)). • Uninfested natural areas, such as high-quality wetlands, forests, and prairies, will be surveyed for invasive species following construction and site revegetation. If new infestations of invasive species due to construction of the C-HC Project are discovered, measures should be taken to control the infestation. o The WDNR or IDNR, as applicable, would be consulted to determine the best methods for control of encountered invasive species. (CMT); Dirty mats were placed in the wet areas (2+ ft water) to build them up. Because the WDNR receives large payments from ATC to fund their pet projects they cannot be relied on to protect landowners and our properties. Perhaps that is why they were putting up signs for IS that had never been on our property, to claim it was already there. We have reed canary grass that ATC introduced eleven years ago that they have never begun to control and continue to thwart our efforts to do so.	Comment noted.
	Zastrow/Hendrickson	EFF04; VEG03; VEG04	The Utilities will employ a Certified Pesticide Applicator for all herbicide applications within the C-HC Project. The Certified Pesticide Applicators will only use herbicides registered and labeled by the U.S. Environmental Protection Agency (USEPA) and will follow all herbicide product label requirements. Herbicides approved for use in wetland and aquatic environments will be used in accordance with label requirements, as conditions warrant. (CMT); Since ATC doesn't follow ANSI trimming standards or DNR hazard tree ID why do you think they would follow label requirements. ATC sprayed our neighboring wetland. Garlon 4, ATC's chemical of choice specifically states it is not to be used in wetlands.	Comment noted. The environmental commitments listed in EIS Section 3.1, which includes appropriate herbicide application methods, would be included in, and thereby enforced by, applicable permits, authorizations, and orders issued by Federal and state agencies. These commitments may be revised as permits, authorizations, and orders actions are reviewed and issued, if deemed appropriate by the various decision-makers.
	Zastrow/Hendrickson	EFF04; WLDF02	Bird flight diverters would be installed on shield wires when overhead transmission lines are built in areas heavily used by rare birds or large concentrations of birds or in specific areas within known migratory flyways. (CMT); No bird diverters were installed in our area. We used to have a wide variety of birds before ATC destroyed their habitat. • The Utilities will work with the IDNR and the WDNR to determine locations where state-listed bird species habitat is present, and implement appropriate measures to avoid and/or minimize impacts to those species. (CMT); ATC has and will continue to destroy songbird habitat within ROWs	Comment noted. Impacts to wildlife, including birds, are disclosed in Section 3.4 of the EIS.
	Zastrow/Hendrickson	EFF04; VEG01	The use of BMPs during construction and vegetation management activities to prevent the spread of invasive species will help to maintain greater plant diversity along the cleared transmission corridors. (CMT); BMPs must be spelled out. ATC and WDNR practices are questionable if not	The Utilities follow Integrated Vegetative Management (also referred to as IVM) practices based upon site conditions, construction type, accessibility, predominant

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			downright destructive. What is the need to mow/spray the vegetation from edge to edge the entire length of the ROW? ATC's Rob Schuh, construction, said it was not necessary to clear the entire ROW. That is just ATC's vegetation management plan.	species, and other factors. All of these factors will determine how Integrated Vegetative Management is implemented.
	Zastrow/Hendrickson	EFF04; WLDLF04	Northern long-eared bat surveys may be performed along other portions of project segments per the most recent survey guidelines to determine northern long-eared bat presence or probable absence. Areas having survey results of probable absence would not be subject to tree removal restrictions during the pup season. (CMT); We have mosquitoes and have asked to erect bat houses in the ROW. As with every other request this one has also been refused. Improving bat habitat would go a long way to keeping the mosquito population in check, and help a diminishing bat population.	A mitigation plan has been included as an appendix to the EIS to provide additional details about the mitigation measures to be implemented by the Utilities as part of the C-HC Project.
	Zastrow/Hendrickson	EFF04; WLDLF04	Rusty Patched Bumble Bee • Prior to construction, areas within High Potential Zones preliminarily screened as low-quality habitat or questionable habitat will be evaluated and documented using the Rusty Patched Bumble Bee Habitat: Assessment Form and Guide (Xerces Society for Invertebrate Conservation 2017). (CMT); ATC is shifting ROWs from shrub/meadow to grassland, more often than not reed canary grass. This is not bumble bee habitat. "Bumble bees gather pollen and nectar from a variety of flowering plants. They need a constant supply and diversity of flowers blooming throughout the colony's long life, April through September." ATC is killing 3 off early and mid flowering species in particular.	Comment noted. RUS has consulted with the USFWS regarding potential impacts to the rusty patched bumble bee. The EIS has been updated to reflect that consultation effort and information provided by USFWS in the biological opinion. See EIS Section 3.1 for additional environmental commitments and Section 3.4 for potential impacts to the rusty patched bumble bee.
	Zastrow/Hendrickson	EFF04; VEG01	Seed mixes containing a diversity of native flowering plants will be used to reseed existing suitable habitat areas that require revegetation/restoration within High Potential Zones, as well as opportunity areas for expanding suitable habitat within known High Potential Zones. (CMT); Much more study has to be put into seed mixes and the restoration process. Seed mixes in use now do not match area native plant-life. ATC methods kill spring ephemerals and bulbs. They lean heavily toward prairie style grass, sedge and rough fall flowering perennial. Their seed mixes are not certified weed free. ATC foists this on landowners when the native plants would have re-established given a chance. Destroying native plants to seed in western prairie plants doesn't make sense, environmentally or economically.	Comment noted.
	Zastrow/Hendrickson	EFF04; VEG03	The use of BMPs during construction and vegetation management activities to prevent the spread of invasive species will help to maintain greater plant diversity along the cleared transmission corridors. (CMT); ATC crews move dirty equipment from one site to the next. They do not follow DNR NR40.	Comment noted.
	Zastrow/Hendrickson	EFF04; VEG04	(ES- 16 pg. 20) • To minimize soil compaction during construction in agricultural lands, low-lying areas, saturated soils, or sensitive soils, low-impact machinery with wide tracks could be used. (CMT); Not only did they not use this equipment on our wetland they ran dump trucks loaded with rocks removed from a mile south of us, on the mats through our property rather than use the road, compacting the ground under the matting.	Comment noted.
	Zastrow/Hendrickson	WLDLF01	1.7.3.3 WILDLIFE pg.27 (67) Two hundred sixty-two comments were received regarding wildlife. Most commenters were concerned about potential adverse impacts the proposed C-HC Project could have on wildlife, including threatened and endangered species and species considered unique to the region known as the Driftless Area in Wisconsin and Iowa. (CMT); They have a right to be concerned. ATC and their contractors consistently trash the environments within ROWs. They are not unlike their parent company Duke. "Duke Energy and PacifiCorp Energy both were prosecuted during the Obama administration for failing to take steps to protect birds at their Wyoming wind farms, despite the U.S. Fish and Wildlife Service's efforts to get them to do so."4	Comment noted.
	Zastrow/Hendrickson	ALT02	Underground transmission lines produce lower magnetic fields than aboveground lines because the underground conductors are placed closer together, which causes the magnetic fields created by each of the three conductors to cancel out some of the others' fields. This results in reduced magnetic fields (PSCW 2011). (CMT); Above ground lines must also be placed closer together to reduced magnetic fields, but that would reduce the applicants return on investment. The WPSC completely ignored our requests to look into ROW widths. The PSC head of gas and electric, Jeff Ripp, wrote in a letter that ROW width was negotiable through the easement. This of course was a lie. We were to work with Jeff Ripp on ROW width but PSC lawyer Mike Varda emailed us to not contact Mr. Ripp again. He then sent us on wild goose chase to MISO's Miggie E. Cramblit who was not in the least equipped to answer our queries. According to IEEE; " Standard phase spacing should also be taken into account. For example, if two lines of the same voltage using the same type structures and phase conductors are on a single ROW, a logical separation of the two closest phases of the two lines should be at least the standard phase separation of the structure." The standard phase 5 separation of the structure is twelve feet (vert= nine feet). ATC demanded forty five feet and the WPSC granted it.	Comment noted.
	Zastrow/Hendrickson	ALT02; EFF04	Pg. 137 The temporary C-HC Project transmission line construction ROW might be wider than the permanent ROW, to provide adequate room for the construction equipment to build the transmission line. (CMT); This must be stricken from the EIS. Permanent ROWs are overly wide. Crews with better training are what is needed. Driving through/to the site and equipment should be kept to a minimum.	Comment noted.
	Zastrow/Hendrickson	ALT02	The C-HC Project would typically have a permanent 150-foot-wide ROW in Wisconsin and 200-foot-wide ROW in Iowa, based on design standards used by the Utilities in each state. In a few select locations the proposed ROW would vary from 70 to 260 feet wide. For example, the ROW would be 260 feet wide in the Refuge to accommodate the low-profile structures. In only a few locations, the ROW would be narrower than 150 feet to address pinch-points or constraints associated with other infrastructure. For much of its length, the C-HC Project ROW would share or overlap existing ROWs of other electric lines, roads, and railroads. The Utilities have stated that all new C-HC Project transmission line easements would be acquired where the project ROW overlaps other existing transmission line ROWs. The disposition of the existing, but potentially unneeded, transmission line easements would be determined on a case-by-case basis by the Utilities. (CMT); The utilities always grab more land than needed. They are not about to dispose of any lines because they get paid rent whether the line is used or not. To allow the utilities to determine the need is the tail wagging the dog. This needs independent engineer and landowner input. Doesn't the WPSC have a mandate to look into engineering specs rather than allowing the applicants to dictate terms?	Comment noted. This comment appears to be addressed to the PSCW.
	Zastrow/Hendrickson	ALT02	(Pg. 139) 2.4.2.3 RIGHT-OF-WAY CLEARING AND MATTING For the majority of the C-HC Project ROW, the full width of the ROW would be cleared before the start of construction. However, in a few unique places where the routes would cross hilly terrain, tree clearing might be avoided or minimized due to the existing adequate clearances between the proposed conductors and tree heights. Where these areas exist, some woody vegetation could be left in place, provided that the vegetation posed no safety or reliability concerns to the transmission line and (CMT); This is completely unnecessary. It is just ATC's standard practise and now the U.S. Department of Agriculture, Rural Utilities Services and cooperating agencies have bought into the propaganda. A mat trail in and matting around the poles are all that needs to be cleared. In upland shrubby grasslands and cropped fields, the C-HC Project ROW would be cleared with a mower. Other vegetation would be cut at or slightly above the ground surface by hand or by using mechanized mowers, sky trims, processors, or harvesters. Rootstocks would generally be left in place, except in areas where stump grinding would be necessary to facilitate the movement of construction vehicles. Woody vegetation might be chipped with a	Comment noted.

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			forestry mower or a chipper and scattered over the ROW in nonagricultural upland areas. In wetlands or floodplains, care would be taken to ensure that the mowed or chipped material is spread in accordance with the requirements of any necessary permits. (CMT); This is totally unacceptable. No utility using scorched earth practices should be granted a CPCN for new building projects or given the rights of eminent domain. Mat access roads would generally be 16 to 20 feet wide and mat work platforms for structures might be 100 x 100 feet. (CMT); This is all the area that needs to be cleared for construction, other than tall trees.	
	Zastrow/Hendrickson	ALT02; LAND05	(Pg. 145) 2.4.3.2 FOUNDATION INSTALLATION The installation method used and the diameter and depth of the foundations for the C-HC Project would vary depending on the soil characteristics and structure loadings. Excavation would be required for all structures, whether they are directly embedded or use reinforced concrete foundations. (CMT); Landowners should be informed, well before construction begins which foundation will be installed on their property. We were not. How is the opposition expected to make informed decisions when information is withheld?	RUS requested a response to this comment from the Utilities. The response is as follows, "The Utilities intend to approach the C-HC Project in a similar fashion as other successful 345-kV projects that they have built. This process involves communication with landowners from beginning to the end. The pole locations will be staked well in advance of construction for review by the Project team to confirm accurate placement according to the approved design. If vegetation needs to be removed on either side of the transmission line, the outside boundary of the easement area will be surveyed and clearly staked prior to any tree removal. The Utilities will have contractors on site that will be able to discuss each of these types of staking with the landowner so that they are aware of the Project impacts. Following the completion of any construction or maintenance activities, contractors will meet with landowners to begin a comprehensive damage settlement process."
	Zastrow/Hendrickson	ALT02	(pg 146) Figure 2.4-12. Installing the top section of a structure with a crane. (CMT); Does every worker have to drive his own vehicle onto the property?	Comment noted. Construction methods and activities are described in EIS Chapter 2. RUS defers to the Utilities about the number of vehicles allowed to access the construction zone.
	Zastrow/Hendrickson	ALT01; ALT02	Figure 2.4-13. Installing a structure on a foundation with a helicopter. (CMT); This should be done throughout to minimize destruction. Better yet install the line underground. If it is worth building the line it is worth the upfront cost of underground construction. Future maintenance cost will be lower than above ground transmission. Land use and destruction, given intelligent maintenance and design will be minimized. The view will certainly be better.	EIS Chapter 2 discusses the alternative of burying the transmission line underground.
	Zastrow/Hendrickson	EFF04	(Pg. 148) The need for and approach to site restoration and revegetation would be based on the degree of disturbance caused by construction activities and the ecological setting of each site, and would comply with the easement agreements previously established with the landowners. Otherwise, the sites would be graded back to their original conditions as much as possible, (CMT); This is a lie. There are no easement agreements in Wisconsin. ATC refuses to negotiate easements to mitigate damage and the WI court system stands behind them. ATC's boiler plate easement, unless the PSC steps up, is forced on landowners and their land is destroyed. No negotiation. No mitigation.	The environmental commitments listed in EIS Section 3.1 would be included in, and thereby enforced by, applicable permits, authorizations, and orders issued by Federal and state agencies. These commitments may be revised as permits, authorizations, and orders actions are reviewed and issued, if deemed appropriate by the various decision-makers.
	Zastrow/Hendrickson	EFF04; VEG01	If construction and access in any particular location could be accomplished without creating appreciable soil disturbance, restoration might not require active revegetation efforts. In some cases, where it is reasonable to allow the natural ground cover to reestablish itself, the underlying perennial vegetation would usually re-establish within one growing season. (CMT); ATC does not follow this reasoning and killed off our local native plants to prove a point. That being they had total control of our property and did not have to accede to any of our wishes. The DNR's, Ben Callen and Stantec's, Everett Grosskopf dutifully followed ATC orders and destroyed any revegetation. (Pg. 149) Negotiated easements might require replacing vegetation with landscaping and low-growing shrubs and grasses. (CMT); Tell that to Jim Wegener, of Howard whose property was given the scorched earth treatment even though he had compatible low growing ornamental shrubs. Tell 6 that to all the others whose properties have been given the scorched earth treatment. Check out all the news stories of ATC's belligerent treatment of landowners. Quit lying to landowners. There is no negotiation. No woody vegetation allowed.	Comment noted.
	Zastrow/Hendrickson	EFF04; VEG01	ROW In the remaining ROW width (sometimes referred to as the border zone), from the wire zone to the edge of the ROW, the Utilities might decide to allow low-growing and minimally dense woody vegetation. But anything located in the border zone could be removed, if it is not specified in the easement contract or if there is a change to the operation or maintenance requirements of the electrical facilities. Easement rights vary depending on the language used in the contract. The Utilities reserve the right to trim and remove all trees and shrubs for the full width of the easement. To the extent practicable, the Utilities would attempt to conduct routine maintenance in threatened and endangered avian species habitat outside of the migratory bird nesting season. The Utilities' maintenance crews are trained to identify and avoid active nests during vegetation-clearing activities. (CMT); Again, quit the lies. ATC does not negotiate easements. There is no woody vegetation allowed. Our rights have been violated by a corrupt private company, and an uncaring PSC and state legislature.	Comment noted.
	Zastrow/Hendrickson	ALT02; VEG01	(Pg. 150) "Hazard" trees, pose an unacceptable risk of falling and contacting the transmission line before the next ROW maintenance cycle. If identified, these hazard trees must be topped, pruned, or felled so that they no longer pose a hazard. In Iowa, the 200-foot ROW would accommodate all necessary vegetation management, including the removal of hazard trees, to occur only within the ROW to protect the transmission line. (CMT); ATC does not follow DNR hazard tree rules. In 2011 ATC cut 181 trees and damaged another 68 trees on either side of a 1/8th stretch of ROW. It should also be noted that the ROW, a 138 kV line, had a clear width of 60 feet from the conductor drip line to the ROW edge. This is 20 feet beyond ROW engineering specs, or 20 feet of what NERC considers inactive ROW. "Most hazard tree programs removed about 5 trees per mile, with the most intense averaging 10 to 15 trees per mile. A hazard tree program removing 30 trees per mile was viewed as very aggressive and a major undertaking by all the utilities surveyed."7	Comment noted.
	Zastrow/Hendrickson	EFF04	(Pg. 162) • Regulatory agencies may require independent third-party environmental monitors related to permitted aspects of the C-HC Project. The Utilities use trained staff members or contractors as monitors for special resource conditions as a standard practice (CMT); 3rd party monitors are another lie to appease the conscience of our government. The monitors look out for ATC's interest or they risk losing their job. Stantec, "monitors to the industry" is not willing to go against the wishes of the largest transmission conglomerate in the USA (world?). The DNR receives substantial funding from ATC and therefore agrees to any ATC practices.	The environmental commitments listed in EIS Section 3.1 would be included in, and thereby enforced by, applicable permits, authorizations, and orders issued by Federal and state agencies. These commitments may be revised as permits, authorizations, and orders actions are reviewed and issued, if deemed appropriate by the various decision-makers.
	Zastrow/Hendrickson	EFF04; VEG01	• In areas that were previously forested, disturbed areas would be revegetated consistent with non-invasive herbaceous vegetation that occurs in the area. (CMT); Again I cannot stress enough the need for small trees and shrubs within the ROW to control invasive species, provide wildlife habitat, protect wooded corridors and reduce fragmentation of wooded areas. Leaving the decisions up to the utilities will ensure the ROWs will	The Utilities follow Integrated Vegetative Management (also referred to as IVM) practices based upon site conditions, construction type, accessibility, predominant

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			become swaths of useless invasive and noxious species. Our land was seeded with rough western grasses. We spent hours trying to negotiate with ATC/DNR to allow the vegetation to reestablish itself and be seeded in with seeds we had gathered. ATC never negotiates and overruled our request. The state has taken away our right to negotiate..	species, and other factors. All of these factors will determine how Integrated Vegetative Management is implemented.
	Zastrow/Hendrickson	EFF04; VEG01	(CMT); Are you only allowing herbaceous plants in the ROW as noted above ES-12 (pg.16) or are you using ecologically sound IVM strategies like wire zone - border zone? ATC kills all veg by either mowing or spraying at every maintenance cycle, period. ATC crews drive tractors over every inch of ground causing maximum damage. This EIS is much too vague and contradictory. It removes all control from landowners and places it in the hands of environmentally irresponsible transmission operators.	The Utilities follow Integrated Vegetative Management (also referred to as IVM) practices based upon site conditions, construction type, accessibility, predominant species, and other factors. All of these factors will determine how Integrated Vegetative Management is implemented.
	Zastrow/Hendrickson	VEG03	(Pg. 195) With respect to species composition, noxious weeds and other invasive species would also potentially be introduced and spread through ground disturbances and transfer by equipment. (CMT); If ATC is involved you can guarantee there will be invasive species introduced. Continual mowing and chemical spraying favors noxious and invasive species and knocks out native less aggressive species. Noxious weeds and other invasive species would also potentially be introduced and spread through ground disturbances and transfer by equipment. (CMT); No precautions were taken on our property. Dirty equipment was moved onto it.	Comment noted.
	Zastrow/Hendrickson	DECI05; EFF04; VEG01	(Pg. 454) Minimal vegetation management activities would be required to maintain the operating transmission line. Operation and maintenance activities would include vegetation trimming within the ROW, aerial inspections, ground inspections, and repairs. Vegetation trimming would result in the removal of limited, target vegetation, including non-native species. Aerial inspections would not affect vegetation. Ground inspections, where vehicles are confined to existing roadways, are unlikely to have any additional direct or indirect impacts on vegetation. Repairs to the transmission structures and conductors could have minor direct and indirect impacts on vegetation resources within areas disturbed by this activity. Impacts would be reduced by implementing BMPs. (CMT); Is mowing everything to the ground at every trim cycle considered minimal vegetation management activity? ATC not only mows everything, they flail the surface and leave ruts across the entire ROW. Then ATC removes 60 - 100 % of the limbs from the edge trees outside the ROW. Whether helicopter or Jarraff trimming ATC crews rip through the trees with no consideration of ANSI A300 trim standards. Long stubs are left and bark is ripped down the sides of the trees. They do not know how to read or conduct surveys. ATC has been measuring from the poles, assuming they were centered within the ROW. They were cutting healthy trees outside the ROW. Trees that had been growing well before the ROW was established in 1965. ATC has sent work crews out to guerilla mow or hack trees on our and neighboring properties without notification, then lied about it in court. " When trimming trees and other vegetation in electric line right-of-way maintenance, the utility shall make a reasonable attempt to contact the landowner a minimum of twenty-four hours prior to beginning of work on the landowner's property."8 When crews show up, after proper notification, they need to individually identify themselves with business cards and be prepared to consider the wishes of the landowners.	Comment noted.
	Zastrow/Hendrickson	ALT04	(CMT); If you were really concerned about the impacts you would first look at non wire alternatives. As a last resort you would minimize the damage. If this line is so important it should be buried. These companies are demanding extremely wide corridors. There are many ways to minimize damage. The companies involved exaggerate the need and land use to increase their profits. Why is it up to the public to point out discrepancies and go up against multimillion dollar companies that can buy all the political favor they want?	Comment noted.
	Zastrow/Hendrickson	EFF02; WLDLF01; WLDLF03	(Pg.16) 4.6 WILDLIFE, INCLUDING SPECIAL STATUS SPECIES Cumulative effects on wildlife occur when an action results in modification, degradation, or fragmentation of their habitat, or effects the natural processes that sustain them and their ability to feed, breed, and shelter. Habitat within the C-HC Project analysis area includes forested areas, grassland, wetlands, open water habitat, and streams. Additionally, there are both High and Low Potential Occurrence zones for rusty patched bumble bees and algific talus slopes that may be occupied by Iowa Pleistocene snails. As discussed in Section 3.4, direct and indirect impacts from the C-HC Project to wildlife would be both short and long term and moderate. (CMT); Effects could be minimized but ATC prefers to completely wipe out the native vegetation and replace it with reed canary grass. Fragmented woods could be minimized by leaving small tree and shrub bridges between the wooded sections. Unfortunately ATC does not have the foresight to create and maintain wildlife habitat. As such we do not think they should be allowed to seize any more land for their ill advised building projects.	The environmental commitments listed in EIS Section 3.1 would be included in, and thereby enforced by, applicable permits, authorizations, and orders issued by Federal and state agencies. These commitments may be revised as permits, authorizations, and orders actions are reviewed and issued, if deemed appropriate by the various decision-makers.
	Zastrow/Hendrickson	EFF04; VEG03	Standard BMPs have been developed by the Wisconsin Council on Forestry to avoid and minimize the spread of invasive species. The Utilities would use the appropriate BMPs based on conditions encountered in the ROW, according to the degree of invasiveness, severity of the current infestation, and susceptibility of non-infested areas to invasion (see attachment at the end of this appendix). It is the Utilities' standard practice to restore work areas either by allowing the native seed bank to regenerate, or applying a seed mix that is consistent with preconstruction conditions and would not include invasive species (or that is appropriate to the surrounding area in work locations that were previously forested or shrubland). The Utilities follow BMPs during construction to avoid introducing invasive species into areas where they did not previously exist. (CMT); It is the utilities standard practice to do as much damage as they can get away with, with the compliments of the DNR. ATC crews tilled and killed the native vegetation and then seeded with inappropriate grasses and rough forbs. ATC, DNR and Stantec, rather than allowing the native seed bank to regenerate as we wished, totally overrode our rights to prove a point. They are all powerful and we are nothing. If new infestations of invasive species due to construction of the C-HC Project are discovered, measures should be taken to control the infestation. Each exotic or invasive species requires its own protocol for control or elimination. Techniques to control exotic/invasive species include the use of pesticides, biological agents, hand pulling, controlled burning, and cutting or mowing. (CMT); You didn't mention growing native shrubs as a means to eliminate invasive species. There are many native small trees and shrubs that not only suppress invasive grasses but offer excellent food and habitat for wildlife. They have so much more to offer than the dead zones ATC creates.	Comment noted.
	Zastrow/Hendrickson	EFF04; VEG04	• Final site stabilization in wetlands that were non-forested prior to construction, and on streambanks, requires reestablishment of vegetation at least 70% of the type, density, and distribution of the vegetation that was documented in the area prior to construction; or • Final site stabilization in wetlands requires the reestablishment of native or pre-existing perennial vegetation to at least 70% vegetative cover. (CMT); Ever hear of no till gardening or farming? What good does tilling up a site that is already stable. Our land is virtually flat with roots holding the soil in place. Some of those plants would have come back to life given a chance. The ephemerals and bulbs would have awakened in spring, but ATC had to push its weight around, till and destroy them. Our wetland soils were frozen or stable and the vegetation was dormant! 70% of type would have included small trees and shrubs and yet you continue to say only herbaceous plants are allowed in the ROW. This EIS contradicts itself.	Potential impacts to vegetation, including wetlands, are disclosed in EIS Section 3.3. A mitigation plan has been included as an appendix to the EIS to provide additional details about the mitigation measures to be implemented by the Utilities as part of the C-HC Project. USACE has jurisdiction over waters of the U.S., including wetlands. As disclosed in EIS Chapter 1, the USACE may need to issue a permit under Section 404 of the Clean Water Act (CWA), for activities that discharge fill into waters of the U.S., including wetlands. Therefore, USACE has been closely involved in the development of the mitigation plan, which addresses compensatory mitigation that may be required under CWA Section 404.

Organization	Commenter Last Name	Comment Code(s)	Comment on DEIS	Agency Response to Comment
	Zastrow/Hendrickson	EFF04	(Pg. 124) • Using alternative construction methods and equipment such as helicopters, marsh buggies, and vibratory caisson foundations; • Careful cleaning of construction equipment and mats after working in areas infested by invasive species; and • Using vibratory caisson foundations that eliminate the need for concrete or other fill. (CMT); Is this ever really done, or are you just placating the landowners?	The environmental commitments listed in EIS Section 3.1 would be included in, and thereby enforced by, applicable permits, authorizations, and orders issued by Federal and state agencies. These commitments may be revised as permits, authorizations, and orders actions are reviewed and issued, if deemed appropriate by the various decision-makers.
	Zastrow/Hendrickson	EFF04; VEG02	Matting generally preserves native plant rootstocks so that the preconstruction vegetation can reestablish more quickly after construction is completed. (CMT); So why did ATC/DNR refuse to leave well enough alone. They killed the trout lilies, (a threatened species in Iowa). I guess Wisconsin trout lilies don't matter. The DNR should be consulting with landowners who often have a much better idea of what is growing on their property in all seasons.	Comment noted.
	Zastrow/Hendrickson	ALT02; VEG04	(Pg. 125) If a steel structure on a concrete foundation needs to be removed from a wetland, the concrete would be removed to a depth of about 2 feet. (CMT); A depth of 4 feet would be preferable. 2 feet is just hiding it.	Comment noted. The removal of structure foundations in a wetland to a depth of 2 feet is the practice most commonly used by the Utilities and therefore is included in the EIS.
	Zastrow/Hendrickson	VEG01; VEG03	Pg. 126) Woodlands Best Management Practices (CMT); Transmission operators are the main purveyor of invasive species and disease. They would be even if they were conscientious about cleanliness and BMP. Unfortunately once a CPCN is granted transmission operators throw out the rule book and treat the easements as if they were their own personal playgrounds. ATC is among the worst. With their penchant for secrecy, bluff - bluster and "donations" to favorite organizations the truth about their vegetation management never comes to light. Hired guns such as Stantech and the WDNR are only there to whitewash the projects.	Comment noted. Potential impacts related to invasive species are disclosed in Section 3.3 of the EIS.
	Zastrow/Hendrickson	SOCIO08	Wisconsin courts in their infinite lack of wisdom will always yield to utilities claims. After all we all want electricity. The truth is that we already have enough and this project is just an investment opportunity with a high guaranteed payback of 10.2%	Comment noted.
	Zastrow/Hendrickson	LAND01	Until our government has true independent monitors, understands environmentally sound vegetation management, and sets precise limits on utilities easements, the EIS is a mockery of all landowners. An electrical powerline easement is to ensure safe movement of electricity from point A to point B. It is not to give transmission operators complete control of that property. It is time you started looking into transmission operators practices. To write easement agreements that include landowners needs.	Comment noted. See EIS Section 3.1.2.2.
	Zastrow/Hendrickson	ALT01; NEP02	It is time to say enough is enough. How much redundancy does the system need? Time to look into new ways to produce energy closer to where it will be used. New and/or wider easements should never again be granted. There are better ways to move and efficiently use electricity. New technology, towers that carry equal or greater wattage with smaller profiles.	Comment noted.
	French	SOCIO07	Concern: Protecting the critical fragile habitat in the Wisconsin Driftless Region We are strongly opposed to the proposed Cardinal Hickory Creek transmission line. We live in the town of Cross Plains in the area slated to carry the transmission line. We know that there are credible studies that show that Wisconsin's unique Driftless Region will be deleteriously impacted for such a period of time that permanent ecological damage will occur. For ourselves, we strive to preserve the natural beauty of the area through minimal environmental impact.	Comment noted.
	French	WLDF01	For ourselves, we strive to preserve the natural beauty of the area through minimal environmental impact. We preserve the unique and native plants and animals taking caution not to disturb the fragile remnants of the original ecosystem and biosphere. The relationships among the organisms is essential to maintain for even human health benefit	Comment noted.
	French	AIR01	The transmission line companies will ignore conservation and environmental impacts and forever change our biosphere comprised of landscape and air quality	Comment noted.
	French	DECI03	Eminent domain was intended in the constitution under certain circumstances if the land is for "public use". Public use must confer some benefit to the public. The benefits that the CHC transmission line confers is to the shareholders of the corporations. The public, citizens of Wisconsin, are receiving no benefits only damage to a fragile ecological system found nowhere else. The Driftless area needs protections for it to remain in its unique state. Many organizations all over the region have been instituted to do just that by its citizens, and have been operating for years in attempts to give assistance for PRESERVATION! The requirements of eminent domain are not met, therefore we believe this project must be stopped.	Comment noted. The use of eminent domain is a decision for the Public Service Commission of Wisconsin (PSCW) and Iowa Utilities Board (IUB) as they consider whether or not to grant Certificates of Public Convenience and Necessity (CPCNs). The potential use of eminent domain disclosed in EIS Chapter 1, Section 1.6.
	Michael	DECI01	I write regarding the construction and proposed routes for the Cardinal Hickory creek Transmission line. I must note that I, like almost everyone, uses and appreciates the many things that safe, reliable electricity brings to modern life both for uses that are necessities as well as those that could be considered luxury. Reasonable cost and environmentally friendly power is important as well. I am not an expert or even very knowledgeable about the rules governing such matters, but from my understanding the American Transmission Company (ATC) is a joint venture owned by the utilities that generate electricity. I have also been informed that ATC does not make any money unless they build transmission lines and that they are guaranteed a certain return on such construction. If that is the case I wonder how impartial the assessment of need for the construction would be. I have heard and wonder if the needs have changed since the original proposal and plans of the line. There was recent news that allowed ATC to recover certain costs for planning and approval if the proposed line were not constructed. Might that indicate that circumstances have changed? If indeed the line is a necessary addition to the electrical grid infrastructure I would again question the route.	Comment noted.
	Michael	SOCIO07	I will present three options starting with the least desirable. I live in Black Earth, Wisconsin so the comment could certainly be made that my views are based on a Not In My Back Yard (NIMBY) outlook. I plead guilty to that as my living in this area for almost 23 years has made me so aware of the incredible beauty and uniqueness of the driftless region. I have driven in the area almost daily since moving here and have taken hundreds if not thousands of photos. It has created an awareness of how special this region is and how important it is to preserve its beauty for present and future generations.	Comment noted.
	Michael	ALT01; VIS01	If you note the satellite image which clearly shows the that the northern alternate route goes through a less developed, more wooded area. I point out that the views from Blue Mound and Governor Dodge State parks as well as from the highway would be seriously compromised by lines along the alternate route. The proposed route is a better choice than the alternate but given it has a more visible immediate impact on more people the NIMBY factor might create more support for the alternate route but I believe this is short sighted given the fact that there is already a major 4 lane highway which would mitigate acquisition, construction, and maintenance costs.	Comment noted.

Organization	Commenter Last Name	Comment Code(s)	Comment on DEIS	Agency Response to Comment
	Michael	ALT01	I believe there is also an opportunity to site wind generators along the route in the future. If the proposed route is accepted, it could be showcased as "an energy corridor for renewables". A large part of the proposed route already contains a 69 KV line that could be incorporated or upgraded as part of the project. Rerouting parts of the new line to segments west of Dodgeville along CTH B and east of Dodgeville along CTH H would lessen the impact as well.	Comment noted.
	Michael	ALT01	The third, and I believe the best, option would be to consider a route that uses already operating power line corridors. The corridor from Mt. Horeb to Mineral Point could be an option. This would probably be more expensive but there is no dollar to dollar comparison to judge the consequences of the northern alternate route especially but also of the proposed route.	Comment noted.
	Michael	SOCIO07	The uniqueness of the area and its value as a tourist draw and just for its own sake as a place of beauty and refuge for residents and the proximity of Madison and other regional urban centers make it impossible to do a correct cost benefit analysis. The fact that four periods of glaciation passed through Wisconsin and this area was left untouched call for very careful consideration on what uses should be permitted when there are alternatives to protect an area 10,000 years old. I understood that part of the rationale for the line is to deliver more renewable and wind energy. That is an admirable environment, goal but I feel strongly that the severe impact the line would make on the character, appearance, and even culture of the region outweighs any cited benefits.	Comment noted. Potential impacts to social and economic conditions, including property values and tourism, are provided in EIS Section 3.12.
	Zimmerman	ALT01	The following comments are in addition to my previous comments, written on 3/13/2019 and submitted at the Draft EIS Hearing, at the Dodger Bowl in Dodgeville, WI. It appeared on the ATC aerial map of the Powell Family Farmland that there are 2 subsegment end points. Presently it is believed the Powell Farmland does not have any utility lines on their property. It appears both of these subsegment end points are located just inside the Powell Family Farm line fences, on the northeast and northwest border, of the Powell Family Farmland property. It seems unreasonable that 2 subsegments end points should be located on one property. The Q03 and Q04 subsegment endpoints could be located on neighboring property owners land; to the east of the Powell Property, in the City of Dodgeville, there is a parcel of 3.3 acres that Q04 subsegment end point could be located on and to the west of the Powell property, in the Township of Dodgeville, there are numerous points located west, beyond Lehner Road, that the second subsegment end point, Q03, could be located on. The engineer I spoke to was vague, when questioned about the Q04 and Q03 subsegment end points structures, which are presently pictured on Powell Property. It did appear he felt that subsegment end points were larger structures and would be at placed at an angle	Comment noted.
	Zimmerman	NOISE01	I have heard there could be considerable Noise Pollution emitted from ATC lines.	Section 3.7 of the EIS includes a discussion on noise impacts from the proposed transmission line.
	Zimmerman	HAS01	Also there is a concern that other Communication Airwaves Reception could also be disrupted from emissions from the electric magnetic fields, which are produced from ATC transmission lines.	No studies could be found that suggest that EMF disrupts communication airwaves reception. Radio waves used in communication technologies such as television, mobile phones, and radios are, themselves, a form of electromagnetic radiation.
	Zimmerman	HAS01	I am very concerned that the Proposed Preferred Route for ATC Transmission Lines are proposed to go directly through the City of Dodgeville, in close proximity to schools, daycare, apartment buildings, individual residences, businesses as well as be environmentally disruptive of agricultural land and the future development of the City of Dodgeville. The Population of approximately 4,800 Dodgeville City residents, in addition to people who work daily in the City of Dodgeville and bring their children to daycare and area schools should not health-wise be exposed to further electromagnetic transmission from the ATC lines.	Comment noted. Section 3.13 of the EIS discloses potential impacts to public health and safety that could occur from wildfire, occupational safety, hazardous materials, and electric and magnetic fields.
	Zimmerman	NEP02	The ATC Cardinal Hickory Transmission Line Route SHOULD NOT go through the City of Dodgeville, WI. The ATC Cardinal Hickory transmission lines are NOT needed.	Comment noted.
	Zimmerman	PUB01	Some of the above concerns may or may not have been addressed in prior comments. I do not understand how or if the prior comments were addressed in the Draft EIS. How will my concerns be addressed in the Final Federal EIS? Please add these additional concerns to my Draft EIS that I submitted in March 13, 2019, at the Dodger Bowl in Dodgeville, WI. Thank you.	All comments received on the DEIS during the public comment period have been reviewed and responded to in the EIS.
	Spaulding	DECI01	I would like to comment on the environmental impact statement regarding the proposed Cardinal Hickory Creek power line. To begin with, it feels like this is a lost cause and has already decided. When members of RUS USDA refuse to enter into any type of discussion with the opponents of the project, even when there is adequate time for discussion, it feels like the democratic process is being abused.	Comment noted.
	Spaulding	DECI01	It also feels like MISO or ATC decided, by looking at a map in a corporate office building 20 years ago that this project was needed and would be accepted by the locals. Did they ever actually visit the region? Did they talk with the locals? Did they observe the unique geologic structures and the wildlife? Did they discuss how important tourism is to the area, and farming, and art? There are many aspects to the environment of an area; for example, the sigh of relief when one crosses the Mississippi and returns home to the bluffs and valleys of Wisconsin. How will these aspects of the environment be addressed when deciding whether or not to put gigantic structures through a natural and special area of our state? Thank you for your consideration.	Comment noted.
	McGee	REC03	Please don't approve the loan for the proposed Cardinal Hickory Creek transmission line. I am opposed to this line for many reasons. I don't think that the EIS has adequately considered the impacts of: 1) Our history, Military Ridge, The Military Ridge Trail users, or the cultural and religious significance of the Driftless Area to both its residents as well as people who live far away but use the Driftless Area for vacation, recreation, and emotional refuge.	EIS Section 3.10 discloses the potential impacts to the Military Ridge Trail and EIS Section 3.9 discloses the potential impacts to cultural and historical resources.
	McGee	VEG01; WLDF01	2) The natural environment. ~Bird and insect migration might be affected. ~Invasive species prevention and management has not been adequately considered. Invasive species will spread along line routes if construction and maintenance equipment are not sterilized daily. ~Herbicide usage and impacts on local ecology, organic farms, citizen health, and creation of "superweeds" that tolerate longterm repeated herbicide applications. ~Pollinator impacts with regards to both herbicides and EMFs.	Comment noted. EIS Section 3.4 discloses potential impacts to wildlife from the C-HC Project. EIS Section 3.3 discloses potential impacts from invasive species. EIS Section 3.1 includes the environmental commitments applicable to herbicide applications.
	McGee	SOCIO07; VIS01	3) The aesthetics and it's impact on our quality of life. These pylons are not just an eyesore, they would emotionally ruin people's lives. They destroy the reason we live, visit, do business, and recreate in the Driftless Area. Even for commuters along 18/151, it will ruin the daily commute and make a beautiful scene become depressing and drab. Emotional wellbeing was not adequately considered.	Comment noted.

Organization	Commenter Last Name	Comment Code(s)	Comment on DEIS	Agency Response to Comment
	McGee	VIS01	4) Light pollution. Light pollution is already a problem with overly bright LEDs taking over the market. The light pollution from litup powerline pylons will only add to this problem, and is significant in affecting our lifestyles. They will ruin the night skyline and views of the stars. Many people live in the country to avoid such light pollution that's more typical of cities. These pylon lights will destroy our emotional connection to the area and our darksky views.	The transmission line structures would not have lighting unless required by FAA permit. At this time, the only location where lighting may be required would be in the Cassville, Wisconsin area, if the Mississippi River is crossed by the C-HC Project at the Stoneman Substation.
	McGee	HAS01	5) EMFs. Electromagnetic fields have not been adequately considered. People get increased rates of cancer and leukemia near such powerlines. Insect larvae might not develop right on nearby prairies and forests due to electromagnetic fields. Amphibian eggs could be affected. Migration could be affected. Monarchs could die from it. Livestock and commuters might be subjected to unsafe levels of radiation along the lines.	Section 3.13 of the EIS discloses information about the impacts of electric and magnetic fields to humans and livestock. EIS Section 3.4 has been revised to include information about the impacts of electric and magnetic fields to honey bees.
	McGee	PUB01; SOCIO01	6) The Amish and other cultures and subcultures who don't believe in such unnecessary "progress" have not been adequately considered. Many don't even know about the proposal.	Comment noted. The EIS has been revised to ensure that the potential impacts to the referenced community are included in the impacts analysis within the Socioeconomic section (EIS Section 3.12).
	McGee	SOCIO03	7) Tourism would be negatively impacted, as would the local economy. Parks, recreation, prairie lovers, agro-tourism, historical tourism, small-town economies, all would be negatively affected by such transmission lines.	Comment noted. Potential impacts to social and economic conditions, including property values and tourism, are provided in EIS Section 3.12.
	McGee	SOCIO06	8) Property values will plummet along proposed route, and anywhere within view of the lines will be negatively affected.	Comment noted. Potential impacts to social and economic conditions, including property values, are provided in EIS Section 3.12.
	McGee	AIR03	9) The negative impact on the environment of the sheer quantity of materials used to build the pylons, their cement footings, and the hundreds of miles of wire have not been considered. Additionally, the energy consumption to get construction crews out to the sites every day for years of building and maintenance have not been factored into the net environmental impact of the proposal.	Section 3.6 of the EIS discusses emissions associated with construction and operation of the C-HC Project.
	McGee	ALT01	For these and more reasons, I ask that you not approve the loan to Dairyland Power Cooperative. It is not necessary. It is merely a moneymaker for investors. The current infrastructure could simply be upgraded as need be, rather than adding the CHC line. If it must be approved against all of our wills and against better judgement, please only approve the loan if the entire line is buried and all considerations above are compensated for. Thank you for considering my points above	Comment noted.
	Powell	SOCIO06	As partial owner of the 153 acre Powell Family Farmland, I'm contacting you with a continual concern about the Cardinal-Hickory Creek transmission project. This project is set to impact approximately seven acres of our land. We are concerned about the likely loss of value of our property and the sure loss of income generated from our property. For various reasons, which I will later briefly discuss, I am adamantly opposed to this project moving forward using our land or any other land in or around Dodgeville. Not only will this project directly impact the value and potential development of our property, but it also seems unwise for the entire village and township of Dodgeville.	Comment noted. Potential impacts to social and economic conditions, including property values, are provided in EIS Section 3.12.
	Powell	HAS01	The proposed plan brings high voltage lines in close proximity of already existing homes and schools endangering the community. Our family has been in the business of agriculture for many years, and we also have a long history of educators of future generations. The thought of high voltage lines even being considered in such close proximity to where children and community members regularly gather seems ignorant. We have researched proclamations that state there is no danger to a person's health when regularly exposed to high voltage power lines; however, there is equal research saying those claims are not conclusive. Putting children regularly at risk of potential harm seems irresponsible.	Comment noted. Section 3.13 of the EIS discloses potential impacts to public health and safety that could occur from wildfire, occupational safety, hazardous materials, and electric and magnetic fields.
	Powell	ALT01	There are many other factors that I could write about; the ecosystem, financial equity and future development, but for the sake of a brief and concise letter I will stop here. Apart from all of the concerns, my family does not understand why the proposed route for the transmission lines can't be routed around the city of Dodgeville and constructed along the County Road B (one of the alternative routes)? This road appears to be more feasible. My family and I urge you to consider an alternative route away from the Powell property, and far away from the schools in the Dodgeville community.	Comment noted.
	Powell	PUB01	Some of the above concerns may or may not have been addressed in prior comments, but I do not understand how/if the prior comments were addressed in the Draft EIS. How will my concerns be addressed in the Final Federal EIS?	All comments received on the Draft EIS during the public comment period have been reviewed and responded to in the EIS.
	Zimmerman	LAND02; SOCIO06	Comments: The approximate 153 acres Powell Family Farmland is in the City of Dodgeville, WI and in the Town of Dodgeville, WI. The Powell Family Farmland would sustain a huge Economic disadvantage and lose, if the proposed preferred route of the Cardinal-Hickory Creek transmission line project would go through our agriculture and residential zoned land. Not only would the approximate 7 acres of cropland (with possible wooded areas), that have been earmarked for the use of the Cardinal- Hickory Creek transmission lines be impacted, but our entire farm would be impacted and be put at a disadvantage for future residential development and face possible devaluation. Not only would we lose our yearly rent on the farm cropland disrupting the field and possible lose of wooded areas, but our property value for future residential development would be impacted.	Comment noted.
	Zimmerman	HAS01	Presently there are no power lines on the Powell Family Farmland. If power lines were constructed on the Powell Property the transmission lines would be near the Dodgeville Middle School, the Dodgeville Elementary School and the Dodgeville High School. These educational buildings house most of the Dodgeville School Districts children, educators and staff employees. Many children, employees and residents would be in close contact to the huge transmission towers. The transmission lines would also be near homes, already constructed near the Powell Family Farmland. The above would have social impact on City and Town of Dodgeville residents.	Comment noted. Section 3.13 of the EIS discloses potential impacts to public health and safety that could occur from wildfire, occupational safety, hazardous materials, and electric and magnetic fields.
	Zimmerman	SOCIO03	Socially the transmission lines would have impact on family residences already in existence and future family residences in future developments.	Comment noted. Potential impacts to social and economic conditions, including property values, are provided in EIS Section 3.12.
	Zimmerman	HAS01	The proposed lines could have future impact on unknown problems including health issues.	Comment noted. Section 3.13 of the EIS discloses potential impacts to public health and safety that could occur from wildfire, occupational safety, hazardous materials, and electric and magnetic fields.
	Zimmerman	NEP02	It is also felt that the Cardinal-Hickory lines are not needed to provide additional power usage and will increase the amount of money for utility users in this area.	Comment noted.

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	Zimmerman	ALT01	Why isn't the Preferred Proposed Route for the transmission lines routed around the City of Dodgeville and constructed along County Road B, as the County B route is listed as one of the alternative routes? It is felt that either of the two alternate transmission power line routes would impact less people than the present preferred route, through the City of Dodgeville.	Comment noted.
	Zimmerman	LAND02; VIS01	The present Preferred Route impacts agricultural land, as well as city habitants. The Aesthetics of the transmission lines would impact the open, untouched lay of the Powell Family Farmland damaging the aesthetic view, putting power lines where no power lines have ever existed. In viewing aerial maps of the Powell Family Farmland, the proposed transmission line appears to cut into our existing crop field, instead of running along the property's north boundary fence line. The proposed transmission lines would have negative Environmental impact, resulting in taking away the rural agricultural view and lay of the land, taking cropland out of production, disturbing non-glaciated land, impacting wild life, eliminating timber and wooded habitat, compromising the ecosystem, and contributing to the downturn of the rural economy, rural life as well as impacting city dwellings and inhabitants. Culturally the Powell's have been an agrarian family, immigrating and farming land in Wisconsin from approximately 1847. The Powell Family has owned and farmed the present Powell Family Farm since 1931.	EIS Section 3.3 discloses the potential impacts to wooded areas, EIS Section 3.4 discloses the potential impacts to wildlife, EIS Section 3.10 discloses the potential impacts to agricultural land uses, EIS Section 3.11 discloses the potential impacts to visual quality, and EIS Section 3.12 discloses the potential impacts to socioeconomics.
	Zimmerman	PUB01	Some of the above concerns may or may not have been addressed in prior comments, but I do not understand how/if the prior comments were addressed in the Draft EIS. How will my concerns be addressed in the Final Federal EIS? Thank You.	All comments received on the Draft EIS during the public comment period have been reviewed and responded to in the EIS.
	Dolan-Stroncek	LAND02	in these difficult times of juggling a farm and family, I am faced with this additional task of defending our farm from the encroachment of this proposed project that will affect all aspects of our family farm. We hold 4 certifications, Animal Welfare Approved, American Grassfed, MOSA Organic and USDA organic. We produce beef, pork, chicken and eggs. Our standards meet the most strict criteria in all these certifications and without them our product is simply not the same. As we are faced with the possibility of giant power lines passing near our crops, cows, chickens and pigs, spraying prohibitive substances, that always drifts in the wind will put us out of business. We depend of our certifications to show transparency and guarantee our customers they are buying this highest standard of grassfed beef and organic pork & chicken that they can buy. We are the gold standard for these products, available for our customers with compromised immune systems and those who are informed of the health benefits depend on farms like ours to produce medicinal food to get them well again and live well.	EIS Section 3.10 has been revised to disclose potential impacts from herbicide drift to organic farms.
	Dolan-Stroncek	NEP02	This project is not needs and I highly doubt that it will make our electricity more reliable than it is currently.	Comment noted.
	Dolan-Stroncek	LAND02	Please stop this senseless destruction of Wisconsin's finest farmland where we produce healthy local food which is more important than ever in light of the historic, unprecedented flooding in the midwest region. Globally the grain stores are declining as the solar driven weather has wrecked havoc with crops and livestock over the entire globe. Please, please, STOP this project for food sake.	Comment noted.
	Campbell	ALT02	ATC's proposal and a large percentage of the discussions about it say little about the guaranteed returns of approximately 10.2% annually for 3040 years. This fact suggests that the investors are the principal factors in the power line. We, the ratepayers, should know who they are individually and their investment amounts, since this is a public utility. This investor aspect of the power line is hardly mentioned in ATC's public statements.	Comment noted.
	Campbell	PUB01	I hope you will publish all the comments on the EIS, Cardinal-Hickory Creek line.	Comment noted. All comments received are included in the EIS.
	Dolen	HAS01	I have a major in construction management and a minor in electrical engineering. My concern is that of the schools along the proposed route, Barneveld, Ridgeway, as well as all the houses that are in harms way of electromagnetic resonance to cause health problems with respect to neurological health aberrations. I don't much care what you do to me, poison my farm, reduce my property values, but why poison little kids? The people from criminal hickory creek abortion have to be aliens, as no human being would do this to another human being!	Comment noted. Section 3.13 of the EIS discloses potential impacts to public health and safety that could occur from wildfire, occupational safety, hazardous materials, and electric and magnetic fields.
	Michmerhuizen	NEP02	I am writing with comments on the recent Federal EIS for the proposed Cardinal Hickory Creek Power Line. First of all, there is no demonstration that more power is needed. Instead, all indications are that power use is falling, due to more energy efficient appliances and practices. Continuing to rubber stamp outmoded approaches to reliability in delivery of electricity does not address the consensus that mixed source power generation that remains local is what experts now see as the future. Residents in the affected areas do not want the natural beauty and organic production of the land torn up by herbicide drenched clear cuts, created to erect huge metal towers that bring no benefit to the area and increase the utility costs to those who have to endure these intrusions. Money could better be spent making the existing system more reliable and particularly protected from hacking, a threat that has been demonstrated by the US Government to be real.	Comment noted. EIS Chapter 1 describes the need for the C-HC Project as well as the decisions facing the three Federal agencies that have received loan or permit applications for the C-HC Project. EIS Section 3.13 has been revised to include a discussion about potential security breaches.
	Michmerhuizen	AIR04	Climate change has brought with it more extreme weather fluctuations. Recent devastating wildfires in California and the west are one direct consequence of having high voltage lines cutting through swathes of woodland. Constant maintenance is required to simply reduce the potential for fires and with the recent extreme weather swings, likely to become more frequent, drought conditions will leave a tinderbox situation around any such lines. These lines do not peacefully transfer power but merely aim it, with sparking transformers in conditions that provide dry fuel for wildfires. The following links go to news stories supporting this scenario. https://www.npr.org/692249102 https://www.sfchronicle.com/business/article/PG-E-expands-power-shutoff-plan-All-electric-13595621.php?utm_campaign=CMS%20Sharing%20Tools%20(Premium)&utm_source=shareby-email&utm_medium=email https://www.npr.org/683815660 . How will the Federal EIS address the impact of increased potential for devastating wildfires in Grant, Lafayette and Iowa counties on the proposed high-voltage towers?	Comment noted. Section 3.13 of the EIS discloses potential impacts to public health and safety that could occur from wildfire.
	Michmerhuizen	WAT02	While the EIS discusses the potential impact of C-HC on both surface and ground water, there is a huge gap in its analysis. In a systematic study of wells conducted in November 2018 in Grant, Lafayette, and Iowa counties this winter, 42% of the 301 wells tested were found to have hazardous drinking water. Fractured rock and shallow soils mean that elements poured onto the ground sink into the ground water with little filtering. There will be a second, more widespread testing this spring 2019 and the state legislature has convened a committee to study this problem.	EIS Section 3.5 discloses the potential impacts to water resources and quality, including groundwater.
	Michmerhuizen	VEG01; WAT05	The cause of the contamination, whether by the spreading of manure, herbicides, or pesticides, is not yet clear. Historically, ATC liberally uses herbicides along their tower ROWs. Using herbicides that are EPA approved is not sufficient for Southwest Wisconsin since those EPA approved chemicals are the exact ones that might be causing our ground water problem. Until further studies of our wells are conducted, adding to the contamination load with the use of additional herbicides is worrisome. How will the federal EIS address and evaluate the additional use of herbicides on the already compromised groundwater of Grant, Lafayette, and Iowa counties? Thank you,	EIS Chapter 3 includes the following environmental commitments related to herbicide use: The Utilities will employ a Certified Pesticide Applicator for all herbicide applications within the C-HC Project. The Certified Pesticide Applicators will only use herbicides registered and labeled by the USEPA and will follow all herbicide product label requirements. Herbicides approved for use in wetland and aquatic environments will be used in accordance with label requirements, as conditions warrant. During the easement negotiation, landowners can decline the use of herbicides for vegetation management

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				activities once the line is in operation. Therefore, no herbicides would be applied within portions of the ROW on which the landowner wishes not to introduce it.
	Polizzi	SOCIO07	I grew up in SW WI where my family owns a home and a small business. My wellbeing relies on many aspects of this unique and important area, including wildlife and biodiversity, tourism, outdoor recreation, local foods, parks, libraries, and schools. I am very concerned about the impacts this project would have on my family, our neighbors, and wildlife.	Comment noted.
	Polizzi	SOCIO03	We need a full assessment of: The loss of tourism (which I know would be significant during a recent trip through northern WI my friends, huge power lines obscured the scenery, so we plan to travel a different way in the future, therefore not spending money at art galleries, restaurants, museums, parks, convenience stores, gas stations, and other businesses in the communities along that path)	Comment noted. Potential impacts to social and economic conditions, including property values and tourism, are provided in EIS Section 3.12.
	Polizzi	SOCIO03	The loss of tax revenue to communities (schools, libraries, parks, roads, emergency services, etc.) as property values plummet and as people decide not to build their families and careers in this area Impact on farmers (we definitely need more science on the impacts of these lines on crops and livestock before we can move forward with any project like this)	Comment noted. Potential impacts to social and economic conditions, including property values, are provided in EIS Section 3.12.
	Polizzi	LAND02; SOCIO07	Impacts on the individual and community health as people would not have as much access to locally produced organic food if farmers have less land, productivity, or ecotourism revenue Impacts on human minds and bodies (especially physiological and psychological impacts on children, elderly people, and pregnant people, again, we need more science on this before we can move forward with this project)	Comment noted.
	Polizzi	LAND01; NOISE01	Additional sound pollution from the construction, loss of trees, and changes to land	Comment noted. Impacts resulting from noise during construction are presented in Section 3.7, and impacts to woodland areas are presented in Section 3.3.
	Polizzi	VIS01	Additional light pollution from construction and the towers themselves.	The transmission line structures would not have lighting unless required by FAA permit. At this time, the only location where lighting may be required would be in the Cassville, Wisconsin area, if the Mississippi River is crossed by the C-HC Project at the Stoneman Substation.
	Polizzi	WLDF01	Impacts on wildlife (especially bald eagles, cranes, great horned owls, song birds, bats, bees and other small pollinators, and amphibians) due to loss of habitat, pollution (electromagnetic, light, sound, land, air, and water), construction, and chemical spraying.	Potential impacts to wildlife species and migratory birds, including a discussion of habitat fragmentation, are disclosed in EIS Section 3.4.
	Polizzi	SOCIO03	Impacts to community and individual wellness, as well as tourism, due to any changes in quality of outdoor recreation including hiking, bicycling, canoeing, camping, skiing, swimming, state park usage (particularly Governor Dodge State Park), and bird watching (bird watching alone is a multibillion dollar ecotourism industry) Impacts to our 12,000 years of human cultural history in this area that is built into this landscape (mounds, cave art, historical evidence of burns, and other important pieces of our history that could be destroyed by a project of this magnitude)	Potential impacts to social and economic conditions, including property values and tourism, are provided in EIS Section 3.12. Potential impacts to visual quality and aesthetics are disclosed in EIS Section 3.11. Potential impacts to cultural resources are disclosed in EIS Section 3.9.
	Polizzi	VEG01; WAT06	Impacts the changes to plants and land composition and shape on prairies, woods, and wetlands, and how will these changes impact flooding, water quality, and road conditions such as patterns of drifting snow	Comment noted. Potential impacts to vegetation are disclosed in Section 3.3 of the EIS.
	Polizzi	SOCIO01	How a project like this discourages the next generations from building their lives here since there is growing interest in communities that value wellness, sustainability, and energy efficiency	Comment noted.
	Polizzi	SOCIO01	Trends in energy efficiency and usage Ramifications of using eminent domain to increase corporate profits	Comment noted.
	Polizzi	ALT01	Evaluation of the security of this project vs alternatives like microgrids (for example, vulnerability to widespread or lengthy blackouts due to acts of domestic or foreign terrorism, including the hackability of projects like this) If we did nothing, how do the harms compare to the harms of the project? If we took the money the people of WI would be required to pay for this project over the years, and instead used it for alternatives, do some of those alternatives result in less harm?	EIS Section 3.13 has been revised to include a discussion about severe weather and security breaches.
	Polizzi	ALT02	Even without including all the impacts above, how accurate are the projections for how much this project could possibly cost the people of Wisconsin? What is the track record of projects like this coming in under budget? And how are repairs factor in to costs? We need to consider all of these factors in both the short term, as well as the long term (50 years, 100 years, 300 years).	Comment noted.
	Polizzi	EFF01	We must take all of these considerations into account when comparing with all other options and we must use up to date research. If up to date research is not available, we must complete the research before moving forward with this project.	Comment noted.
	Zimmerman	PUB01	Some of the below comments were written on November 5, 2018, after I first learned that the Proposed Preferred Route for the ATC transmission line was proposed to go through both the City and Town of Dodgeville, WI on the Powell Family Farmland Property. My father, William A. Powell, age 93, had passed away in April of 2017. I had little knowledge of this proposed ATC transmission line, until sometime after his death and then mailings were not being address to me and to my knowledge not addressed to other owners of the Powell Family Farmland. Consequently we have not had an extended time to voice our concerns and opposition to the Proposed Preferred Route of the Cardinal Hickory transmission line, ATC towers, going through our property.	Comment noted.
	Zimmerman	ALT01; LAND02; LAND05	I was appalled after speaking with Alice Halpin, Agricultural Impact Analyst (1-608- 224-4646) at the State of Wisconsin, DATPC 2811 Agriculture Drive, Madison, WI 53708 that there are 6.08 Acres of Powell Land that maybe impacted by the ATC high voltage electric transmission line. The Total Potential Acres of Impact is to run the whole south side of the Highway on the Powell Land. This land is both in the City of Dodgeville and Township of Dodgeville and is presently being used for agriculture, with VERY likely future use of residential development. The land borders houses on Lehner Road and Powell Street. The Powell Land is directly across from the Dodgeville Middle School, with close proximity to the Dodgeville High School and Dodgeville Elementary School. Presently there are electric poles on the North side of the Highway, which is the Business District side, and not on Powell Property. The North side of the Highway, business property, is a much better choice to leave or erect future electrical poles than to across the highway to Powell Family Farm Property that maybe used for future residential usage.	Comment noted. EIS Section 3.10 discloses potential impacts to land use, including agricultural land. This information will be used to inform RUS, USACE, and USFWS decision-makers about the differences among alternatives as they relate to resource impacts, including impacts to farmland.
	Zimmerman	NEP02	Since there is not a need for these power lines they simply should Not be erected.	Comment noted.
	Zimmerman	ALT01	We are very proud of our beautiful Powell large open acres and feel that placing ATC high voltage electric transmission lines would have a very large impact on our land and the residential area surrounding it. Please RECONSIDER running the lines on the Southside of the Highway on	Comment noted.

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			Powell Property and if need be place the ATC transmission high voltage lines on the North side of the Highway (as the poles are now on the North side Business District of the Highway).	
	Zimmerman	ALT01; LAND01	I am sure by viewing our Powell Property you can see how devastating the ATC lines would be to future residential use and the potential decreasing value impact. Going through the City of Dodgeville is a poor choice for all residences, businesses and those that work and go to school in the City of Dodgeville. A rural route for the ATC line would impact less people, resulting with less people living and working in the Cardinal Hickory Transmission Line (ATC Towers) path/route. The best solution is to NOT build the ATC towers. They are NOT NEEDED. Thank you for your time and reconsideration of the ATC placement and hopefully elimination. The Powell Family has owned the Powell Family Farm Property for the last 87 years, being conscientious of land use and practices.	Comment noted.
	Zimmerman	PUB01	Some of the above concerns may or may not have been addressed in prior comments. I do not understand how/if the prior comments were addressed in the Draft EIS. How will my concerns be addressed in the Final Federal EIS? Thank you.	All comments received on the DEIS during the public comment period have been reviewed and responded to in the EIS.
	Tennessee	SOCIO07	Anything we do impacts our environment. The draft of the EIS does not address how the unique plants and animals of the Driftless Area of Wisconsin will be protected. ATC has had many opportunities to impact Wisconsin's environment with the previous high capacity power lines. In filing the EIS for each of those lines, the air, water, land, plants and animals did not have enough consideration. The Final EIS for Southwest Wisconsin must consider the air, water, land, plants and animals this time around! This is the place where the environment matters the most. This time the environment must have the highest regard and consideration because we are talking about the Driftless Area of Wisconsin so the risk of impact to the natural resources is even higher.	EIS Section 3.3 discloses potential impacts to vegetation, Section 3.4 discloses potential impacts to wildlife, Section 3.5 discloses potential impacts to water resources, and Section 3.6 discloses potential impacts to air resources.
	Tennessee	DECI01	ATC needed an EIS before it started planning twelve years ago. ATC should have had an EIS before manufacturing towers, buying easements, ordering power line, or hiring people. Just because they had plans, shiny brochures, and fancy maps of the proposed routes doesn't mean this is the right place to build.	Comment noted.
	Tennessee	REC04	The Final EIS will have the Final say about the environmental impact, not the investors nor the politicians. The environment in the Driftless needs special protection. There are unique habitats with specialized plants and animals found nowhere else. There is fresh water in streams and underground that support these plants and animals. Just because ATC went ahead with their plans doesn't mean that they "win" in this situation. They did not do their homework about the Driftless Area, what it means, and how very unique it is in all the world.	Comment noted.
	Tennessee	SOCIO03	People from all over the world come to visit this area because it is so special with its trout streams to fish, rolling hills to bike, forests and prairies to hike, birds to watch, and outcroppings to photograph. People do not come expecting to see new "outdated" power lines nor to see the dead zone of the 125 miles needed to maintain them.	Comment noted. Potential impacts to social and economic conditions, including property values and tourism, are provided in EIS Section 3.12.
	Tennessee	AIR01	The Final EIS needs to consider the "voices" of those who cannot talk or write: The AIR would remind you of the negative impact of burning fossil fuels to create electricity that would be carried on these lines.	Comment noted. EIS Chapter 4, Section 4.4 has been revised to estimate the carbon dioxide (CO ₂) emissions that could occur from generation sources that would benefit from the C-HC Project. This analysis compares two scenarios: 100% coal-generation sources benefitting from the C-HC Project and 100% wind-generation sources benefitting from the C-HC Project. This analysis provides a range of CO ₂ emissions from possible generation sources. Non-transmission and low-voltage alternatives are not analyzed for cumulative impacts because these alternatives are not carried forward for detailed analysis in the EIS.
	Tennessee	LAND01	The LAND would wonder about the actual construction of the towers through this fragile area. How will the lines deal with land that is already protected, the agricultural lands being farmed, the deep valleys and high hills, and the areas that have never been disturbed before?	EIS Section 3.10 discloses the potential impacts to agricultural lands.
	Tennessee	WLDF01	The ANIMALS would generate much discussion about the variety of creatures that would be affected. How will the temperatures in the streams be monitored so that the fish are safe? If the 300 to 500 foot swath along the routes will be sprayed, how will this affect the insects, birds and fish?	Potential impacts to wildlife species and migratory birds, including a discussion of habitat fragmentation, are disclosed in EIS Section 3.4.
	Tennessee	VEG01	The PLANTS would probably whisper their opinions to the trees that will be the most visible plants affected by the lines as they are cut down. The cardinal plant may go unnoticed. All the plants along the length and width of the power lines need to be considered. How is the interdependence of the plant and animal world being addressed in the Final EIS? Some of these relationships are quite intricate and may be more important to us than we realize.	Comment noted. EIS Section 3.3 discloses potential impacts to vegetation. EIS Section 3.4 discloses potential impacts to wildlife.
	Tennessee	REC04	The draft of the EIS does not ensure the protection of the unique resources of the Driftless Area. The Final draft of the EIS must ensure that the plants and wildlife of the region and the air and water that they depend on are going to be protected. Thank you for considering my comments about the proposed ATC power lines	The environmental commitments listed in EIS Section 3.1 include protection measures for vegetation and wildlife resources.
Friendship Center	Tennessee	VIS01	Friendship Camp is a summer children's camp at Friendship Center that is located north of Hwy 151 east of Dodgeville in a deep coulee. It is in a natural setting with rock outcroppings, a stream, relic pines, a prairie, old growth oaks, and walnut trees. The fields attract butterflies and insects that pollinate the prairie flowers and grasses. The sand attracts ant lions and ornate box turtles. The shrubs and fruit trees protect the birds. The owls, coyotes, and whip-por-wills call out in the quiet night. Part of Friendship Center's slogan is "...to become intimate with nature." The proposed ATC power lines will be visible from the camp. That visible clash will be disappointing to us for the years to come.	Comment noted.
Friendship Center	Tennessee	WLDF01	However, we have many more concerns about the high capacity power lines related to the environment: We would like the Final EIS to address the variety or rare habitats in our area and how they will be protected. They support plants and animals that need that particular habitat. (cactus, lizards, bees, certain microbes)	Comment noted. EIS Section 3.4 discloses potential impacts to wildlife and their habitat. EIS Section 3.1 identifies environmental commitments that would be followed by the Utilities to avoid, minimize, or mitigate for impacts to wildlife as well as other resources.
Friendship Center	Tennessee	WAT02	Our stream and many others originate just to the south or north of the ridge that the power lines may follow. How will the streams be protected when the land is disturbed for building the towers or sprayed to keep vegetation from growing?	Comment noted. EIS Section 3.1 discloses environmental commitments that the Utilities would be required to follow during construction and operation of the C-HC Project. These commitments include measures to avoid, minimize, or mitigate for impacts, such as soil erosion. The Utilities will employ a Certified Pesticide Applicator for all herbicide applications within the C-HC Project. The Certified Pesticide Applicators will only use herbicides registered and labeled by the USEPA and will follow all herbicide product

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				label requirements. Herbicides approved for use in wetland and aquatic environments will be used in accordance with label requirements, as conditions warrant.
Friendship Center	Tennessee	VEG01; WLDF01	The power lines are not an isolated project. When insects are affected in our area, the habits of birds also change. When plants are sprayed by poison, the poison is passed along the food chain affecting each creature and the water. What is the plan about keeping the land clear under the power lines? What sort of sprays will be used? How will the insects, especially the bees be protected? Our campers and our board of directors will be interested in how the Final EIS addresses our concerns. Thank you for all of your efforts on the environmental impact statement.	Comment noted. EIS Section 3.4 discloses potential impacts to wildlife from the C-HC Project. EIS Section 3.3 discloses potential impacts from invasive species. EIS Section 3.1 includes the environmental commitments applicable to herbicide applications.
	Bayuk	LAND02	I am one-third owner of 210 acres of farmland, known as Wepking Farm Partnership. The Cardinal Hickory Creek project alternatives 1, 2 and 6 would affect our property located at 9102 State Road 129, Lancaster, WI. Our farm currently has ATC transmission lines crossing this property. The Wepking Farm is currently a third generation beef farm. It is certified organic with the Oregon Tilth program. The following is a summary of concerns regarding the farming operation: loss of our organic certification, according to WI Dept. of Agriculture, Trade and Consumer Protection publication. This is a valuable asset to our operation. Loss of this certification is vital for survival of our operation. destruction of conservation efforts developed on the property, including grass areas, contour strips, and earth dams, during the construction and maintenance of ATC transmission lines.	Comment noted. Potential impacts to agriculture are disclosed in EIS Section 3.10.
	Bayuk	LAND03; WAT02	During the construction of this proposed project the EIS statement indicates that blasting may occur. Our farm has natural water springs that flow into the Pigeon Creek. These springs are a water source to our beef farm operation. Also located on our property is naturally occurring spring water fed water cress field. Blasting may have an adverse effect on these naturally occurring springs. How would these springs be restored, if they are affected by the blasting? Also, what assurances are there that our farm well water will not be adversely affected?	Comment noted. Potential impacts to geology are disclosed in EIS Section 3.2. Potential impacts to water resources and quality, including groundwater, are disclosed in EIS Section 3.5. Revisions were made to EIS Sections 3.2 and 3.5 to discuss potential impacts from blasting. It should be noted that based on preliminary geotechnical information, at this time, the Utilities do not anticipate the need to blast. However, if unanticipated geotechnical conditions are discovered, blasting may be the best method for excavation.
	Bayuk	LAND03; VEG01	loss of trees through the easement process, including shade trees for beef cattle and 40+ year old pine trees developed for a windbreak. Also, volunteer oak trees are present in this pine tree grove. According to the EIS statement on page 110, it indicates that 'hazard' trees outside the border zone and project ROW would also be affected. How would landowners have any control of the destruction of these trees that are so valuable to our beef farm operation and conservations efforts?	Under Wisconsin law, the Utilities are required to trim or remove other trees that could pose a threat to the transmission line even if those trees occur outside the border zone and project ROW. In Iowa, the 200-foot ROW would accommodate all necessary vegetation management, including the removal of hazard trees.
	Bayuk	WLDF04	invasion of a 22 acre NCIS (a federal program) monarch butterfly habitat program. We are in the second year of a 15 year program. The proposed line passes through this program plot. Monarch butterflies population numbers have been declining for decades and are close to being considered endangered. According to the National Center for Biotechnology Information, the presence of transmission line interferes with the insect/pollinator communication. The proposed transmission lines would increase the exposure to the destruction of current efforts to increase the butterfly population. What efforts/assurances would we receive that would habitat restoration would help this project?	The EIS discloses potential impacts to insects in Section 3.4. EIS Section 3.3 discloses potential impacts to grasslands, which could serve as pollinator habitat. EIS Section 3.10 discloses potential impacts to lands enrolled in CRP and other conservation easements.
	Bayuk	LAND02; SOCIO06	loss of land value due to ATC transmission lines on property. This project dissects our farm by approximately onethird. The EIS states that average land values decrease by 14%. Inhibit potential business development of an organic composting operation on the farm in the future. Limitation of operation capabilities through the extension of the right of way would inhibit development of many future business developments.	Comment noted. Potential impacts to land use, including agriculture, are discussed in EIS Section 3.10. Potential impacts to socioeconomic conditions, including property values, are disclosed in EIS Section 3.12.
	Bayuk	HAS01	Electric and magnetic fields. The lines will pass through pastureland where approximately 65 beef cattle graze.	EIS Section 3.13 has been revised to include a discussion about stray voltage as well as disclose potential impacts to livestock from exposure to EMF.
	Bayuk	WLDF01	Along with the monarch program, there is natural wildlife located on this property. Birds such as blue herons, bald eagles, hawks, owls, and mallard ducks can be seen. Wildlife animals such as deer, coyotes, foxes, snapping turtles, whose habitat could be disrupted due to this project presence, can also inhabit this area.	Comment noted. EIS Section 3.4 discloses potential impacts to wildlife and their habitat.
	Bayuk	ALT02; LAND01	A map has been provided for the proposed right of way easements. It is felt that these estimates appear low, proposed transmission lines access rights-of-way are unrealistic due to the terrain of this property. Also, the proposed transmission lines would pass over current fences eight times. Part of the proposed right of way would take advantage of a blacktop driveway, resulting in significant wear and tear, due to the use of heavy equipment traffic used by ATC and other contractors during the construction and maintenance process. Again, as landowners, what assurances are there that this damage would be restored? The property, as I mentioned, currently has transmission line and have been in existence since 1963. My parents were compensated in the amount of \$625 for the current easement. Information has been presented that during the installation of this existing line, mistakenly a valuable shade tree was taken down, that was not to have been disturbed. Also, during one incident, nonorganic chemicals were sprayed under these lines in error.	The environmental commitments listed in EIS Section 3.1 would be included in, and thereby enforced by, applicable permits, authorizations, and orders issued by Federal and state agencies. These commitments may be revised as permits, authorizations, and orders actions are reviewed and issued, if deemed appropriate by the various decision-makers.
	Bayuk	SOCIO01	When meeting with ATC about this project in February 2018, discussion was held regarding the easement compensation. A representative of ATC indicated that they would have the ability to obtain such easements through eminent domain.	Comment noted.
	Bayuk	REC01; VIS01	Aesthetically, the proposed project passes just south of the city of Lancaster which is also, just south of the Lancaster Golf Course. North of the proposed project is a small residential subdivision, the ATC lines will deter the pleasant golfing surroundings and views from houses in the small subdivision.	Comment noted. Potential impacts to visual resources are disclosed in Section 3.11 of the EIS.
	Bayuk	VEG01	On page 390 of the EIS, it indicates the risk of fire from severe weather. Other weather related situations not listed would be ice storms and straight winds.	EIS Section 3.13 has been revised to include a discussion of other severe weather events.
	Bayuk	LAND02	In reviewing the supporters of this project, Rural Service Utility has been named. Why would a 'RURAL' organization be supporting an urban project that adversely affects precious farmland? Please take into consideration these concerns, along with others who have voiced their opinions and stop this proposed project through our valuable Driftless region, whose resources are so precious.	Comment noted. RUS is not a supporter of the C-HC Project, but is one of three Federal agencies that have been requested to decide whether or not to issue a loan or permit for the C-HC Project. EIS Chapter 1 describes the decisions facing the three Federal agencies that have received loan or permit applications for the C-HC Project.
	Quinn-Roberts	NEP02	I wanted to take a moment to express my concern and opposition of the Cardinal-Hickory Creek Transmission Line (CHC). Here are a few of my reasons: 1.) No Need the demand for electricity has been flat or declining in WI and adjacent states.	Comment noted.

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	Quinn-Roberts	SOCIO08	Exorbitant Cost-cost of construction at \$500\$ 700 million in addition to WI electric consumers being committed paying for the project, we have one of the highest electric bills in the Midwest. In addition ATC would receive 10.2% annual rate of return for 3040 years. A private company making money on the backs of Wisconsinites who don't have a need for the project to begin with. Private companies and imminent domain, lets not set a standard for them to take private land.	Comment noted.
	Quinn-Roberts	VEG01; WLDF01	Environmental Impact The CHC transmission line is planning on going through some of Wisconsin's most valuable, pristine resources, The Driftless area permanently altering native plants and wildlife. Clear cutting, herbicide treatments to maintain a corridor with lines measuring 160 feet wide by 125 miles long.	EIS Section 3.3 discloses potential impacts to vegetation and Section 3.4 discloses potential impacts to wildlife.
	Quinn-Roberts	AIR04; HAS01	In addition climate change coupled with large power lines could cause surmountable damage. As an example some of the deadliest fires in California have been attributed to PG&E power lines, including the deadliest and most destructive wildfire in California State history (Camp Fire) in the fall of 2018. Investigators attribute more than 1,500 fires to PG&E power lines and hardware between June 2014 and December 2017 (according to the Wall Street Journal). Lets learn from this and not subject our state to the what if's as we recently had a high risk for fires throughout the lower portion of Wisconsin (last saw 3/27/2019 on Channel 27 News) which included the areas the proposed CHC line is slated to go through. There was a large brush fire near Governor Dodge State Park on 3/27/2019 and this could be much worse if the presence of a large power line is there.	Comment noted. Section 3.13 of the EIS discloses potential impacts to public health and safety that could occur from wildfire.
	Quinn-Roberts	SOCIO03	Economic Impact many rural communities that will be effected have spent decades trying to build tourism in an environmentally conscious way so others can enjoy the Driftless areas beauty while boosting their economy. Gigantic transmission lines will be disruptive creating an economic impact.	Comment noted.
	Quinn-Roberts	VIS01	As I've traveled to neighboring states one thing I don't see is miles and miles of transmission lines. This state is littered with unneeded and unsightly lines.	Comment noted.
	Quinn-Roberts	ALT01	We can do better using more efficient, environmental and lower cost options if there is a need in the future.	Comment noted.
	Meylor	SOCIO06; VIS01	Following are Windy Ridge Farm environmental, visual and property value concerns with the proposed Cardinal Hickory Creek Transmission Line. In addition, an explanation on energy issues. Our farm is located at 2749 Town Hall Rd, Mt. Horeb, Wisconsin which has been in existence for more than 50 years. The farm was used as a dairy operation and currently as crop land. Currently we are in the process of selling the property but have experienced reluctance from potential buyers. Why the reluctance? Our property is in a direct view of the proposed transmission lines. We have been required to disclose this line to our realtor which has resulted in potential buyers to back away from a purchase. The visual impact of the lines on our property along with all homes, community properties and the natural areas in the direct line is extremely troublesome. CHC and all parties involved in the construction, of this potential line, are well aware of the decrease in property values and the absolute disgusting visual view of this line. Simply put, no one in their right mind would want these lines on their property or within eye sight!!	Comment noted. Potential impacts to social and economic conditions, including property values and tourism, are provided in EIS Section 3.12. Potential impacts to visual quality and aesthetics are disclosed in EIS Section 3.11.
	Meylor	NEP02	Regarding energy issues or demand, I still have not seen any evidence the demand for energy is increasing as CHC seems to be indicating. Even they would agree, customers are now more energy efficient with usage. Appliances, lighting, and other household or businesses understand the importance of using energy wisely.	Comment noted.
	Meylor	ALT04	How has CHC explained the use/savings, as they continue to promote, this proposed line compared to non-transmission alternatives? So far they have not. Non-transmission lines have yet to be fully explored as an alternative option to this unneeded line. How will your Final Environmental Impact Statement address these concerns?	As discussed in EIS Chapter 2, Section 2.2.2, non-transmission alternatives are not responsive to the applications to which the Federal agencies are responding, nor do they meet the six-point purpose and need described in EIS Chapter 1.
	Brunton	NEP02	For the Love of God and Humanity, PLEASE, PLEASE, PLEASE, DO NOT put up the transmission lines through the beautiful countryside of Southwest Wisconsin. Preserve the historical and natural beauty of the Driftless area. One of the routes is across our property. This line is NOT needed.	Comment noted.
	Brunton	SOCIO03	We and everyone that we talk to are against this and we have signed several petitions against it. There are signs everywhere. Farmers are already having a hard time holding on, without their light bills going up to pay for this. Wisconsin already is losing an average of 3 farm families per day.	Comment noted.
	Brunton	DECI13	This is NOT going to benefit anyone. If Iowa needs electricity, let them generate it themselves with wind or solar. This will be on your conscience!!	Comment noted.
	Thomson	WAT02	In addition, and OF PARTICULAR CONCERN Under "Specify, by name and location, natural assets you feel would be harmed by the high voltage power lines describing the negative impacts (plants, animals, water resources, habitats, etc.)" Please refer to the attached PDF: Record of Decision (ROD) by the Environmental Protection Agency (EPA) regarding The Refuse Hideaway Landfill SUPERFUND Site (EPA ID: WID98061064), in the Town of Middleton, one mile from my Deer Run Heights neighborhood. Since the contaminants carcinogenic Volatile Organic Compounds (VOC's) were never removed from the site, the potential for disturbing contaminated groundwater plumes, thereby jeopardizing human and animal health, and the environment in the Deer Run Heights neighborhood (closest home in the neighborhood approximately 1300 feet from contaminant plume [p. 26, EPA ROD document]) and beyond, exists (see section II, subsection B paragraph 7: Groundwater Monitoring Study,) particularly with any development in the area surrounding the Superfund Site, such as plans by ATC to construct the Cardinal Hickory Creek powerline through the area. As stated in the EPA document, Appendix A Responsiveness Summary Refuse Hideaway Landfill ROD, reply to a question about a proposed development stated, "If the groundwater contamination does spread due to pumping by the golf course well, or because of the density of private wells in the development, the developer may be liable under Superfund laws for the movement of the contamination and might therefore be considered a Potentially Responsible Party." This proposed property was northeast of the Superfund Site. As stated in the same EPA document, page 26, "Groundwater flow indicates that contaminated groundwater has the potential to flow through the wells in the Deer Run Heights neighborhood, located approximately one mile west southwest of the Site." The proposed ATC powerline project will disturb the environment directly between the Superfund Site and the Deer Run Heights neighborhood, thereby potentially disturbing the contaminated groundwater plume and contaminating our drinking, cooking, and bathing water with toxins (carcinogenic) from "approximately 1.2 million cubic yards" of "commercial and industrial wastes including: "full barrels of glue and paint, barrels of ink and ink washes, spray paint booth byproducts and paint stripper sludge, and spill residue containing VOCs. In addition, large volumes of municipal wastes from cities and towns in Dane County were also disposed of at	Thank you for your comment. EIS Section 3.5 has been revised to address this comment. The Refuse Hideaway Landfill Superfund site is located approximately 600 feet north of the analysis area. The November 2015 groundwater monitoring report (Leggette, Brashears & Graham, Inc. 2015) ⁹ notes that both trichloroethene and tetrachloroethene are above the enforcement standard in the groundwater plume beneath the site. The groundwater plume has migrated to the southwest and does intersect the analysis area. Beneath the analysis area, tetrachloroethene is above the enforcement standard of 5 parts per billion. For this reason, site selection for structures will be evaluated to avoid the groundwater plume, if possible. Should drilling within the groundwater plume be unavoidable, all necessary precautions will be taken to ensure worker and environmental safety procedures are followed. Regarding the comment on groundwater flow, should a structural foundation be placed within the groundwater plume, the potential impact to groundwater flow direction will be limited in extent since the structures will be a maximum of 8 feet in diameter and the plume is over 2,000 feet wide.

⁹ Leggette, Brashears & Graham, Inc. 2015. November 2015 Groundwater Monitoring Report Refuse Hideaway Landfill WDNR PO# YME 00001000. Prepared for Wisconsin Department of Natural Resources. Fitchburg, Wisconsin: Leggette, Brashears & Graham, Inc.

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			the landfill." (p. 3, EPA ROD document.) Precedent exists of homeowners (plaintiffs) winning judgments against the insurance companies of Refuse Hideaway, in jury trials, "for damages they suffered due to loss of home value and possible health effects from the contamination." (EPA ROD document.) Our annual well-water testing in the Deer Run Heights neighborhood has been contaminant-free for as long as I have records (since April 20, 1988 water sample draw/ report issued April 29, 1988.) I do not want to find, following construction of an ATC Cardinal Hickory Creek powerline, that I, my family, my pets, my vegetable garden, the animals in our local environment, my neighbors, and their small children have been drinking, cooking, eating garden vegetables, and bathing in water contaminated with Benzene, Chloroform, 1,2-Dichloroethane, cis1,2-Dichloroethane, 1,2-Dichloropropane, Tetrachloroethene, Trichloroethene, Vinyl Chloride (of the VOC class of contaminants found above Federal Maximum Contaminant Level (MCL) enforcement standards at the Refuse Hideaway Landfill SUPERFUND site) Thank you for your attention to my concerns, Grace Thomson, Deer Run Heights	
	Thomson	WLDF01	Input on the proposed ATC lines Specify, by name and location, natural assets you feel would be harmed by the high voltage power lines describing the negative impacts (plants, animals, water resources, habitats, etc.) • McKenna Pond is located at the corner of our subdivision's property. This is a picture of the salamander found in a neighbor's yard.	Comment noted. RUS reviewed the latest conservation status for the eastern newt and blue-spotted salamander, both of which have a conservation status of least concern, meaning the population status is stable. Potential impacts to wildlife, including amphibians, are disclosed in EIS Section 3.4.
	Thomson	WLDF01	In some cases herbicides and other toxic chemicals will be used to keep the area open at a cost reduced from manual labor and machinery, but at what cost to the environment? And therefore, all along the hundreds of miles of this new ATC line, every plant and animal species that inhabits the area will be put in harm's way.	Comment noted. EIS Section 3.4 discloses potential impacts to wildlife. EIS Section 3.3 discloses potential impacts to vegetation.
	Thomson	DECI13	Specify energy-related improvements you have made to your home or hope to make to your home in the future • The newer houses in our neighborhood were built to be energy efficient. • Many people in our neighborhood have made energy efficient upgrades to their homes over the years such as: changing to LED lightbulbs, tankless water heaters, new insulation, new windows and doors, and ceiling fans, as well as furnace and air conditioner upgrades	Comment noted.
	Czyzewski	SOCIO03	The 175foot towers of the proposed Cardinal Hickory Creek 345kilovolt highvoltage transmission line (CHC HVTL) would surround Mount Horeb on two sides and run directly through the town of Springdale. On behalf of our constituents, we have reviewed the potential effect of the transmission line on the Mount Horeb area and have been working to persuade state regulators to reject the proposal. We believe there would be a negative economic impact on our community's future. When a HVTL is built near a community, property values there decline, whether the line directly affects the property or not. Property owners may be unable to sell their homes and land at the price they deserve. A decline in property tax revenue requires local governments (county, school district, village) to find ways to replace that revenue, often at the expense of other properties in the community.	Comment noted. Potential impacts to social and economic conditions, including property values, are provided in EIS Section 3.12.
Village of Mt. Horeb	Czyzewski	SOCIO01	Lastly, the proposed location of the CHC HVTL towers is in areas of the community where future growth is planned. The ability to add new businesses and housing is diminished when HVTL lines are built through and next to a community like ours. So, new construction is limited and tax rates could go up. This is a recipe for financial disaster. It is important for all of us to address these potential impacts while we still have the chance. But time is running out. To learn more about making your voice heard, please look for more information and updates at NoATC.com and in the Mount Horeb Mail. Mount Horeb Village Board	Comment noted. Potential impacts to social and economic are provided in EIS Section 3.12.
Village of Mt. Horeb	Czyzewski	ALT01; SOCIO01	I respectfully submit the following comments on the Environmental Impact Study (EIS) for the proposed Cardinal Hickory Creek Transmission Line Project. Mount Horeb resides in the southwestern corner of Dane County, WI. State Highway 151 currently acts as our southern border, though growth is planned within the sited route path. We have spent the last several months reviewing the proposal and its effect on Mount Horeb. There are potential environmental and economic impacts to the future of our community, and thus we propose limiting the route being built within the Village as well as in areas of planned future growth.	Comment noted. The purpose of the EIS is to disclose potential impacts to the human and natural environment from the proposed C-HC Project.
	Czyzewski	WAT05	Mount Horeb sits within the Upper Sugar River Watershed. This watershed is an important resource for wildlife (Sandhill cranes and eagles), agriculture, and recreational activities (trout fishing and Military Ridge Bike Trail). Disruptions to the watershed would have a negative impact on a pristine area. The diverse and sensitive nature of this area should be protected.	EIS Section 3.4 discloses potential impacts to wildlife and Section 3.10 discloses potential impacts to agriculture and recreation areas.
	Plotkin	NEP02	I am a resident in Mount Horeb, WI, a community that would be directly affected by the proposed transmission line. I vehemently oppose the building of the Cardinal Hickory Transmission Line. There is no need to build this transmission and according to sound research it would only serve to deteriorate and destroy the beautiful and unique Driftless Region on Wisconsin.	Comment noted.
	Dunn	SOCIO03	Please add my name to the 252 citizens voicing concerns about, "...potential, adverse economic impacts resulting from loss of tourism, retirement housing, and business revenue in the area" from the high voltage option of the Cardinal-Hickory Creek (CHC) proposal.	Comment noted. Potential impacts to social and economic conditions, including property values and tourism, are provided in EIS Section 3.12.
Friends of the Military Ridge Bike Trail	Pearson	REC03; SOCIO03	The Military Ridge Bike Trail follows the old railroad bed that followed the high ridge from Madison to Prairie du Chien through the Driftless Area of Wisconsin. To make a trail was wise use of the land and it did not disturb much new land. Bicycle traffic does not interfere with the ecosystems in place, the streams and wetlands, nor the natural cycles. Building the high capacity power lines proposed by ATC in this area would very much disturb the basic cycles of nature and the wildlife that depends on them. It would also have an impact on the visual beauty of the Driftless Area which attracts bikers and hikers who use the trail. The noise and disruption of actually building the lines will have a negative impact on the trail initially. Then the long term maintenance will continue to have an adverse environmental impact. We hope the EIS addresses all these issues and concludes that Southwest Wisconsin is not the right place for another ATC high capacity power line. How will the final EIS ensure that the tourism-dependent businesses along the Military Ridge bike trail will not be severely impacted by the ATC project?	Potential impacts to visual quality and aesthetics are disclosed in EIS Section 3.11. Potential impacts to social and economic conditions, including property values and tourism, are provided in EIS Section 3.12.
	Stauffer	ALT01; SOCIO08	I question the "need" for such a line. It seems WI has more than enough electricity and this appears to be a cost to the taxpayers of WI in order to secure guaranteed profits for ATC investors. How is the "need" being quantified? It is my understand there is a 6 cent calculated savings to energy users PER MONTH. 6 whole pennies a month doesn't make sense for the taxpayers to make such an investment. How do we know this is the best investment by the taxpayers? How will the Federal EIS address this option in comparison to alternative options?	EIS Chapter 1 describes the purpose and need for the C-HC Project as well as the decisions facing the three Federal agencies that have written the EIS (RUS, USACE, and USFWS). EIS Chapter 2 describes all alternatives that were considered for detailed analysis in the Federal EIS. Some alternatives were considered and dismissed from detailed analysis, as described with rationale in EIS Section 2.2.
	Stauffer	ALT01; HAS01	These long transmission lines lose energy and off put EMF pollution impacting the local communities and wildlife. How will there be an apples to apples comparison of alternative options?	Comment noted. Transmission line losses are described in EIS Chapter 1. Potential impacts to human health from electric and magnetic fields (EMF) are disclosed in

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				Section 3.13.2 of the EIS. All alternatives carried forward for detailed analysis are compared in the same manner in EIS Chapter 3.
	Stauffacher	LAND02; WLDLF01	he Driftless Area is home to many types of habitats, how will these be protected if the bad decision is made to approve the project? How will land values and organic farmers be compensated for decrease in production?	Comment noted. Potential impacts to land use, including agriculture, are discussed in EIS Section 3.10. Potential impacts to socioeconomic conditions, including property values, are disclosed in EIS Section 3.12.
	Stauffacher	WLDLF01; WLDLF02	How will ATC be held accountable for damages to habitats and vegetation? It really blows when local residents are put out by big business, wildlife and nature damaged, then to only cost the public more money to go after negligent practices? Species of concern include rare terrestrial snails, cool water trout species, numerous avian and bat species including raptors, songbirds and grassland birds plus the 40% of all avian species worldwide that migrate along the Mississippi River flyway each year.	Comment noted. EIS Section 3.4 discloses potential impacts to wildlife and their habitats. EIS Section 3.3 discloses potential impacts to vegetation.
	Stauffacher	WLDLF04	Eight species that are federally listed as endangered or threatened may occur in the CHC area. There are 11 pollinators and other insect species in the area that are on state lists, four state endangered fish species, six state threatened fish species, three state endangered mussel species and five state threatened mussel species, four state listed frog and turtle species, and five state listed snake species ALL within two miles of the CHC line.	Potential impacts to wildlife and special status species are disclosed in EIS Section 3.4.
	Stauffacher	VIS01	These things are ugly... How will the Fed EIS reevaluate and analyze homes and community property to address whether these areas will experience a "moderate visual impact" or a "major visual impact"? It seems all so convenient that these towers are never shown to scale with proper visuals to provide a better representation of the project. How is the Federal EIS going to address these concerns?	Comment noted. Potential impacts to social and economic conditions, including property values, are provided in EIS Section 3.12.
Minnesota Center for Clean Energy	Vohs	AIR04	In the Matter of the Joint Application of American Transmission Company LLC and Dairyland Power Cooperative, for Authority to Construct and Operate a New 345kV transmission Line from the Existing Hickory Creek Substation in Dubuque County, Iowa to the Existing Cardinal Substation in Dane County, Wisconsin to be known as the Cardinal-Hickory Creek PSCW Docket No. 5-CE-146 Clean Grid Alliance, Fresh Energy, and Minnesota Center for Environmental Advocacy (collectively Clean Energy Organizations or "CEOs") are nongovernmental organizations working to support the transition from fossil fuels to a clean energy future. CEOs understand that the Cardinal Hickory Creek transmission line ("the Project") will support renewable energy development, reduce grid congestion, and improve electric system reliability. As such, CEOs recognize the Project as a necessary component of a clean energy future and support the development of the Project. CEOs appreciate the analysis provided by the United States Department of Agriculture ("USDA") in the Draft Environmental Impact Statement ("DEIS") for the Project, but not that it does take into account the significant greenhouse gas ("GHG") reductions this project offers in comparison to the No Action Alternative. As described below, CEOs request that the Final EIS include a discussion of the critical role the Project plays in supporting renewable energy and achieving state clean energy goals, as well as the substantial GHG emission reductions that will result from the Project and the associated environmental and human health benefits that will stem from these emissions reductions.	Comment noted. EIS Chapter 4, Section 4.4 has been revised to estimate the carbon dioxide (CO ₂) emissions that could occur from generation sources that would benefit from the C-HC Project. This analysis compares two scenarios: 100% coal-generation sources benefitting from the C-HC Project and 100% wind-generation sources benefitting from the C-HC Project. This analysis provides a range of CO ₂ emissions from possible generation sources. Non-transmission and low-voltage alternatives are not analyzed for cumulative impacts because these alternatives are not carried forward for detailed analysis in the EIS.
Minnesota Center for Clean Energy	Vohs	AIR04; NEP02	I. The Project is Needed to Support Renewable Energy Resources that are Necessary to Achieve State Clean Energy Goals This Project is needed to enable additional renewable energy resources on the transmission system and to help "meet state renewable portfolio standards and support the nation's changing energy mix." 1 Thus far, Minnesota, Wisconsin and Iowa have met the requirements of their renewable portfolio standards. However, additional wind resources will be needed to meet other public policy requirements beyond these states' renewable portfolio standards. Minnesota has a statutory goal of reducing GHG emissions by 80 percent by 2050.2 Both Minnesota and Wisconsin have joined the U.S. Climate Alliance, which aims to meet the goals of the Paris Agreement and requires at least a 26-28 percent decrease in GHG emissions by 2025. Neither state is currently on track to meet these climate goals.3,4 Additional wind resources will also be needed to meet stronger policy goals in the future. In recent months, lawmakers in Illinois,5 Minnesota,6 and Wisconsin7 have proposed plans to reach 100 percent renewable energy by 2050. Meeting these goals will require a significant increase in renewable energy penetration throughout the Midcontinent region, which in turn will require expanded transmission to support the new wind and solar resources. Finally, additional renewable resources will also continue to come online for economic reasons, as the cost of wind technology continues to drop. According to Lazard's Levelized Cost of Energy Analysis in 2018, building new onshore wind generation is now cost-competitive with running existing coal plants, and running existing wind farms is significantly cheaper than running coal plants.8 This data shows that renewable energy is quickly becoming the cheapest option for utilities and their customers. This increase in renewable energy—driven by policy as well as economics—is illustrated by the significant renewable generation in the MISO Interconnection Queue. Figure 1 below illustrates the amount of generation in the queue across MISO regions by fuel type. In all regions—and particularly in the West region, which includes Minnesota, Iowa and Western Wisconsin—wind and solar dominate all other technologies. Moving forward, MISO expects to continue adding significant amounts of renewable energy onto its system: In 2019, nearly three-quarters of the generation 1 United States Department of Agriculture, Rural Utilities Service, Draft Environmental Impact Statement, December 2018, at ES-2 2 Minn. Stat. 216H.02 3 Minnesota Pollution Control Agency and Minnesota Department of Commerce, Greenhouse gas emissions in Minnesota: 1990-2016, January, 2019, available at https://www.pca.state.mn.us/sites/default/files/Iraq-2sy19.pdf 4 United States Energy Information Administration, State Carbon Dioxide Emissions Data, October 31, 2018, available at https://www.eia.gov/environment/emissions/state/ 5 Julia Pyper, New Illinois bill targets 100% renewable—not just clean—electricity by 2050, March 4, 2019 6 Clean Energy First Act, H.F. 1956, 91st Leg. (2019). 7 Chris Hubbuch, Tony Evers proposes carbon-free electricity by 2050, March 1, 2019, available at https://madison.com/wsj/news/local/environment/tony-evers-proposes-carbon-free-electricityby/ article_47e58324-d301-537f-adf6-61cddf6760cc.html 8 Lazard, Levelized cost of energy and levelized cost of storage 2018, November 8, 2018, available at https://www.lazard.com/perspective/levelized-cost-of-energy-and-levelized-cost-of-storage-2018/ capacity expected to come online will be from wind. 9 However, doing so requires regional transmission expansion focused on connecting renewables to the regional grid, such as this Project. Figure MISO Active Queue by Study Area Approving this Project will expand access to low-cost, low-carbon generation, allowing Midwestern states to continue the transition to a clean energy future. The project will also improve system reliability, reduce congestion, and increase efficiency. Several recent studies have quantified the economic benefits of expanded interstate transmission and found that this type of project is necessary to keep costs low for households as the transition to a clean energy future occurs. 10, 11 Therefore, CEO respectfully request that the FEIS address the full extent of the ways in which this Project enables renewable energy resources and facilitates the achievement of state goals. 9 S&P Global Market Intelligence, ISO outlook 2019: Wind makes up nearly three-fourths of new MISO power supply, February 14, 2019, available at https://www.spglobal.com/marketintelligence/en/newsinsights/trending/JK_Y1sJ001ZGzX1VC1nGw2 10 Vibrant Clean Energy, Minnesota's Smarter Grid: Pathways toward a clean, reliable, and affordable transportation and energy system, July 31, 2019, available at https://www.mcknight.org/wp-content/uploads/Minnesotas-SmarterGrid_FullReport_NewFormat.pdf 11 Midcontinent Power Sector Collaborative, A	EIS Chapter 4, Section 4.4 has been revised to estimate the CO ₂ emissions that could occur from generation sources that would benefit from the C-HC Project. This analysis compares two scenarios: 100% coal-generation sources benefitting from the C-HC Project and 100% wind-generation sources benefitting from the C-HC Project. This analysis provides a range of CO ₂ emissions from possible generation sources. The generation sources that would benefit from the C-HC Project are considered cumulative impacts because they are not directly associated with the proposed C-HC Project; therefore, associating potential climate change and resource impacts (adverse or beneficial) from different generation sources accessing the C-HC Project is outside the scope of this EIS.

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			road map to decarbonization in the Midcontinent, July 2018, available at http://roadmap.betterenergy.org/wpcontent/uploads/2018/08/GPI_Roadmap_Web.pdf II. The Environmental Benefits of Additional Renewable Energy Must Be Considered According to the 2011 MISO Transmission Expansion Plan ("MTEP"), the multi-value project ("MVP") portfolio—which includes the Cardinal-Hickory Creek line and 16 other transmission projects—would enable 41 million megawatt-hours ("MWh") of wind energy each year. ¹² As lowcost wind generation replaces higher-cost fossil fuel generation, this would result in a reduction of GHG emissions by 8.3-17.8 million tons per year. ¹³ This direct benefit to the environment and human health should be considered in the Final EIS.	
Minnesota Center for Clean Energy	Vohs	AIR04; HAS01	This direct benefit to the environment and human health should be considered in the Final EIS. Climate change is expected to impact Wisconsin and other Midwestern states in a variety of ways. According to the United States Environmental Protection Agency, instances of heavy precipitation and flooding are already increasing, and are expected to increase further. ¹⁴ Warmer water in Lake Michigan will lead to more algal blooms, which will reduce water quality and harm fish populations. As average temperatures increase, populations of North Woods species like paper birch, quaking aspen, balsam fir, and black spruce, and of cold-water fish like trout, will likely decline.	Human health impacts are discussed in Section 3.13 of the EIS, and climate change impacts are discussed in Section 3.6 of the EIS.
Minnesota Center for Clean Energy	Vohs	AIR01; HAS01	In terms of human health, Wisconsin residents may see increases in heat stroke, more water and vector-borne illnesses, and longer allergy seasons, among other impacts. ¹⁵ Enabling more renewable energy would benefit the environment and human health beyond mitigating climate change. Many air pollutants associated with burning coal—including particulate matter, mercury, nitrogen oxides, and sulfur dioxide—lead to various health issues such as asthma, bronchitis, cardiovascular disease and premature death. ¹⁶ These pollutants are also harmful for forests, wildlife, and agricultural crops.	Comment noted.
Minnesota Center for Clean Energy	Vohs	WAT01	Finally, wind energy leads to a direct reduction in water use, as the technology requires virtually no water to generate electricity.	Comment noted.
Minnesota Center for Clean Energy	Vohs	AIR04	Therefore, CEOs respectfully request the reductions in GHG emissions and the corresponding benefits to the environment and human health discussed here be considered in the final EIS. Conclusion CEOs urge the USDA to consider the important environmental and human health benefits outlined above in the Final EIS. Consideration of these benefits is necessary to fully capture the environmental impacts that would result from developing the Cardinal-Hickory Creek Transmission Line. ¹² Midcontinent Independent System Operator (MISO), "MISO Transmission Expansion Plan," 2011, at 42 ¹³ MISO 2011, at 75 ¹⁴ United States Environmental Protection Agency, What climate change Means for Wisconsin, August 2016, available at https://19january2017snapshot.epa.gov/sites/production/files/2016-09/documents/climatechange-wi.pdf ¹⁵ Wisconsin Initiative on Climate Change Impacts, Human health working group, 2009, available at https://www.wicci.wisc.edu/human-health-working-group.php ¹⁶ Union of Concerned Scientists, Coal and air pollution, December, 2017, available at https://www.ucsusa.org/clean-energy/coal-and-other-fossil-fuels/coal-air-pollution Thank you for your consideration of these comments and we look forward to working with parties throughout this proceeding.	EIS Chapter 4, Section 4.4 has been revised to estimate the CO ₂ emissions that could occur from generation sources that would benefit from the C-HC Project. This analysis compares two scenarios: 100% coal-generation sources benefitting from the C-HC Project and 100% wind-generation sources benefitting from the C-HC Project. This analysis provides a range of CO ₂ emissions from possible generation sources.
Town of Springdale	Fagan	SOCIO07	The Town of Springdale, Wisconsin, respectfully submits the following comments for your consideration regarding the draft environmental impact statement (EIS) prepared under your leadership for the proposed Cardinal-Hickory Creek Transmission Line Project. Springdale is located in Dane County, Wisconsin, and would be directly affected by the preferred route. Considerable environmental assets exist within our town, and our residents have a strong collective commitment to preserving the rural character of Springdale. This rural character would be irreparably damaged by the proposed transmission line.	Comment noted. The EIS discloses and analyzes adverse and beneficial effects from the C-HC Project to inform both the public and agency decision-makers.
Town of Springdale	Fagan	LAND01	1. The Town of Springdale has a land use plan, adopted in March of 2002, that reflects the values and goals of our citizens and is intended to preserve the rural character of our town. Through consensus and compromise, the volunteer leadership and citizens of Springdale developed a land use plan that reflects our core values. This plan provides guidelines to the local town government from its citizens regarding how land use decisions should be made. The Springdale plan commission continues to make its land use decisions based on this document. The most significant shared value we agreed on is that we wish to preserve the rural character of Springdale. We encourage you to appreciate the strong emotions that questions of land use engender in a rural municipality. A variety of perspectives on property rights and appropriate land use must be considered and accommodated. The development of our land use plan was a long and sometimes contentious process that involved thousands of volunteer hours, along with input from a great number of our citizens. Two drafts were disseminated, with public comments encouraged. During the eleven-month period from May 2001 to March 2002, the town conducted 10 information meetings, 30 citizen committee work sessions, three plan commission work sessions with the citizen committees, two public input sessions, and one public hearing. When the Springdale land use plan went before the Dane County Board of Supervisors for approval, the plan was praised for its innovative approach and incorporation of conservation subdivisions. A Dane County supervisor said, "In some ways, this (plan) may be the best plan that's ever come to this board. This is one of the few land use plans in Dane County that will be enforced primarily by land division ordinance. And that's innovative." The Springdale land use plan has these stated objectives, among others: • To preserve the agricultural land, open spaces, and other natural resources of a rural town • To respect environmentally sensitive areas and culturally significant sites • And to prohibit large commercial development and industrial development. The plan is a living document. During the 17 years since the plan was adopted, it has been reviewed every year, but never challenged.	Comment noted.
Town of Springdale	Fagan	LAND05; VIS01	2. The land use plan for the Town of Springdale includes specific provisions to protect the rural landscape. • The land use plan contains provisions that prevent development on the highest points in our varied topography. For homes that require a certified survey map, the town asks that new homes be built so that they blend into the landscape as much as possible. Residential developments must be built off of farmland and in less obtrusive sites. • Given our varied topography, characterized by rolling hills, forests, wetlands, and rich farmland, a 345 -kV transmission line would directly conflict with the town's land use plan. A high-voltage line would be visible for miles from many vantage points—hardly blending in with the landscape as our land use plan requires of new structures. • Previous environmental impact studies we have seen define "affected households" as those that are within either 150 feet or 300 feet of the proposed transmission line. We encourage you to consider the fact that the visual impact of transmission towers and lines extends significantly beyond that distance in environmentally rich, rural areas such as the town of Springdale, where our topography includes rolling hills, forests, wetlands, and rich farmland. Neither 150 feet nor 300 feet are adequate measures for capturing the impact on our visual landscape.	Text has been added in EIS Section 3.11 to acknowledge that impacts could extend outside of the 300-foot analysis area. Photographs from the existing Badger-Coulee Transmission Line project from various distances have also been included in Section 3.11 to illustrate this type of impact. The EIS has been revised to include communities that have resolutions opposing the C-HC Project and a general discussion of potential impacts of the project that are inconsistent with communities' land use plans.
Town of Springdale	Fagan	CUL02	3. The land use plan for the town of Springdale has provisions that preserve and protect the unique and irreplaceable culturally significant sites found in the town. • Culturally significant sites include—but are not limited to—the First Norwegian Church Cemetery and Monument to the early Norwegian settlers, and a century-old, historically significant farmhouse. The town also contains other archaeological and historic assets.	The EIS uses the best available records and data provided by the Iowa and Wisconsin SHPO databases and site-specific surveys to identify potential historic properties within the alternatives. The EIS recognizes that additional historic properties may be present along one or more project alternatives, and the Iowa and Wisconsin SHPOs, RUS, the Utilities, and other consulting Federal agencies have drafted a PA under Section 106 of

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				the NHPA. This PA details a phased identification and treatment plan for cultural resources identified within the chosen alternative. This PA is included as an appendix of the EIS. The Norwegian Church Cemetery and Monument to the early Norwegian settlers are discussed in EIS Section 3.9.4 under Alternatives 4 and 6
Town of Springdale	Fagan	WAT05; WLDF01	<p>4. We are concerned about the impact of a 345-kV transmission line on the environmental assets within the Upper Sugar River Watershed, as well as the impact on agricultural producers. • The Upper Sugar River Watershed, with a drainage area of approximately 170 square miles (109,404 acres) and 115 stream miles, is located in Dane County in southern Wisconsin. It is rich in resources, including fisheries, wildlife habitat (including rare and endangered species), native plant communities (many in decline), and recreational opportunities. The Upper Sugar River Watershed could be directly affected by the proposed transmission line. • The Upper Sugar River Watershed Association (USRWA) is a grassroots organization that provides leadership for continuous resource improvement through strategic partnerships that benefit the watershed's land, water, and people. In 2016, USRWA received funding from the Department of Agriculture, Trade, and Consumer Protection to form a farmer-led coalition focusing on water quality. The Upper Sugar River Producer Coalition is targeting the Headwaters Sugar River and West Branch Sugar River watersheds, which are both impaired due to excess phosphorus loading. The mission of the coalition is to "...ensure the future of agriculture by being responsible stewards of the land and water quality in the Upper Sugar River Watershed." The coalition plans to promote and incentivize conservation practices among agricultural producers, in order to address the problem of agricultural runoff and its impact on water quality in the Sugar River Watershed. http://usrwa.org/farmers/ • The sandhill cranes have been observed to travel up and down the Sugar River valley daily, and this daily migration could bring the cranes directly into the path of the proposed transmission line. Possible destruction of the area's sandhill crane population in collisions with lines should also be considered when evaluating the impact of the proposed transmission line on wildlife. This is a particular concern in the Sugar River valley, where the sandhill cranes are a visible and much-beloved part of the natural environment. • Eagles also have been observed feeding in the Sugar River Valley in the winter months on a regular basis. • In addition to sandhill cranes and eagles, the area provides habitat to a great many other species of wild birds. Migratory birds that travel through our town include rubythroated hummingbirds, cedar waxwings, and several species of warblers. The presence of transmission lines presents a threat to this rich and varied bird population due to the impact of collisions with the lines. • Construction of a transmission line may cause significant damage to the Sugar River wetlands, including the natural springs. • Construction work is likely to introduce invasive species into the Sugar River wetlands.</p>	Potential impacts to wildlife, including migratory birds, are disclosed in EIS Section 3.4. Potential impacts to vegetation, including wetlands and invasive species, are disclosed in EIS Section 3.3.
Town of Springdale	Fagan	LAND07	<p>5. We are concerned about the impact of the proposed transmission line on the Southwest Wisconsin Grassland and Stream Conservation Area, which is located immediately to the south of the proposed transmission line that runs through the town of Springdale. http://dnr.wi.gov/topic/lands/grasslands/swgrassland.html http://swgsc.org/ Southwestern Wisconsin has been recognized for many years as one of the best grassland conservation opportunities in the Upper Midwest. The area stands out for its distinctive combination of resources: exceptional populations of grassland birds, which are in serious decline across their range; many scattered remnants of the area's original prairie and savanna that once covered the region; concentrations of rare plants and animals, and spring-fed streams, all set within this expansive rural farming region of open fields, croplands, oak groves, and pastures. These disappearing habitats, bird populations, and varied natural assets merit protection and would be threatened by the proposed transmission line. The Wisconsin Department of Natural Resources has joined with a diverse group of conservation partners, local governments, and landowners in southwestern Wisconsin to establish a habitat conservation area known as the Southwest Wisconsin Grassland and Stream Conservation Area (SWGSCA). The SWGSCA protects 12,000 acres, expanding on an existing grassland boundary for the federal Conservation Reserve Enhancement Program (CREP), a voluntary set-aside program aimed at buffering area streams. SWGSCA is a partnership between local, state, federal, non-profit organizations, landowners, and individual citizens, all working together towards the common goal of sustaining functional grasslands, savannas, and stream habitats. We also are concerned about the impact of the proposed transmission line on the Driftless Area of Wisconsin, so called because it was never touched by glaciers and, as a result, has no glacial deposits or "drift," the silt, clay, sand, gravel and boulders left behind by glaciers. The unique driftless geology of this large area of south central and southwestern Wisconsin has created a varied and beautiful topography over tens of thousands of years. The area is home to environmentally-significant cold-water trout streams and wetlands. Its forests, prairie remnants and grasslands provide habitat for a range of wildflowers and wildlife.</p>	EIS Section 3.10 has been revised to disclose potential impacts to the Southwest Wisconsin Grassland and Stream Conservation Area.
Town of Springdale	Fagan	REC03; SOCIO03	<p>6. We are concerned about the impact of the proposed transmission line on the aesthetic appeal, popularity, and use of the Military Ridge State Trail. • The 40-mile Military Ridge State Trail is one of southern Wisconsin's top tourist attractions, and is part of the Aldo Leopold Legacy Trail System. It also crosses the Ice Age National Scenic Trail. The trail passes by agricultural lands, woods, wetlands, and prairies. Several observation platforms are available adjacent to the trail for viewing wildlife, natural springs, and other natural features. • The Military Ridge State Trail is used by more than 200,000 people per year (Wisconsin Department of Natural Resources, 2004). Every chamber of commerce along the trail, including Mount Horeb, features the trail prominently in literature for visitors. The Military Ridge State Trail also is featured in numerous recreational guide books and websites, and is widely recognized as a haven for recreational bicyclists. All of these mentions extol the trail for its environmental virtues. • The economic impact of the Military Ridge State Trail on the stores, restaurants, lodging and other businesses along its path is likely to be considerable. • The trail provides visitors with an opportunity to experience the rural landscape, including the asset-rich Sugar River Valley—an experience that will be forever altered by the presence of the 345-kV transmission line. We believe that the proposed power line would lessen the appeal of the Military Ridge State Trail as a destination. This, in turn, is likely to have a negative economic impact on the communities along the Trail, all of which serve Trail visitors with shopping, restaurants, lodging, and other services. In summary, we believe that the proposed Cardinal-Hickory Creek Transmission Line would do irreversible damage to the environmental, economic, and culturally significant assets within the town of Springdale. This extraordinary collection of diverse assets should be preserved, for the benefit of our economy, our agricultural producers, our citizens, and the visitors who come here to appreciate the aesthetic beauty of rural lands. Thank you for your consideration.</p>	EIS Section 3.10 discloses the potential impacts to the Military Ridge Trail and recreation, and EIS Section 3.12 discloses the potential impacts to tourism.
	Kurth	NEP02	<p>Thank you for the opportunity to comment on the draft EIS for the Cardinal Hickory Creek transmission line. On page ES2 of the Draft EIS, it's noted, "RUS administers programs that provide much-needed infrastructure or infrastructure improvements to rural communities." The infrastructure of C-HC will benefit load centers to the east and is not needed (and certainly not "much-needed") by the rural areas for which the RUS supposedly exists to advocate.</p>	Comment noted.
	Kurth	SOCIO03	<p>These rural areas will get all of the negative environmental impact, and loss of tourism dollars and property value, however. Request: For the final EIS, please show the benefit or cost of C-HC to the Driftless Area, net of environmental and loss of tourism and property value costs.</p>	Comment noted. Potential impacts to social and economic conditions, including property values and tourism, are provided in EIS Section 3.12.

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	Kurth	ALT04	Request: For the final EIS, please show the net benefit or cost to the state of Wisconsin of C-HC in the scenario of zero electric demand growth for the state of Wisconsin. In section 2.2.2 regarding non-transmission alternatives, as well as in section 1.4.1, it is noted that CHC will increase transfer capability 1300 MW, allowing access to wind from the west. At the same time, 1800 MW of generation, nearly half of which is not yet in service, is requesting interconnection to the grid (section 1.4.1.2), presumably in some cases to move power to the west. Request: For the final EIS, please show the net benefit of new generation announced that is not subject to completion of C-HC, compared to the net benefit of C-HC.	Comment noted. The EIS is not required to consider alternatives in the same manner as the PSCW or IUB. This comment refers to Wisconsin requirements. EIS Chapter 4 has been revised to include new generation identified for southwest Wisconsin.
	Kurth	SOCIO03	In addition, please note the following comments and requests: 1) Please add my name to the 252 citizens initially concerned about the DEIS address of, "...potential, adverse economic impacts resulting from loss of tourism, retirement housing, and business revenue in the area" from the high voltage option of the Cardinal-Hickory Creek (C-HC) proposal. The DEIS does not provide an estimate of monetary impacts as requested. Request: For the Final EIS, please select three municipalities expected to experience significant impacts from the High Voltage Transmission option. Study and estimate the 40-year losses in property value, tourism revenue, potential housing and business development and decline in population for each. Compared the total losses for each municipality to the Environmental Impact Fees amounts they would receive based on WI law.	Comment noted. Section 3.12 of the EIS analyzes the potential socioeconomic impacts from the six action alternatives and the No Action Alternative to tourism, property value, housing, and other demographic topics. Quantifying the monetary impacts in the manner suggested is not required by NEPA regulations. As stated in NEPA regulations 40 CFR 1502.23, "For purposes of complying with the Act, the weighing of the merits and drawbacks of the various alternatives need not be displayed in a monetary cost-benefit analysis and should not be when there are important qualitative considerations."
	Kurth	ALT04	2) Please add my name to the 481 persons asking the DEIS/FEIS to independently, and quantitatively analyze whether, in fact, there is a need for the project take into account the "decline in electricity demand in the Madison area." Request: Conduct quantitative analysis about C-HC need and include in the Final EIS. 3) In the draft EIS, RUS elected to not study and develop a Non-Transmission Alternative (NTA) under NEPA obligation to give decision makers, residents and electric customers the opportunity to consider all alternatives presenting lesser environmental impact. RUS also elected to not acquire the necessary, factual reliability information from transmission builders, the Low Voltage Transmission Alternative (LVA). Request: In the Final EIS, provide a detailed, quantitative description of at least one, fully developed NTA blending necessary amounts of targeted energy efficiency, load management and distributed solar resources at specified location to match the reliability performance of the LVA. Provide the total budget for the NTA with estimated costs for each NTA component at each location. Refer to detailed requests presented here: http://bit.ly/SellaDan_RUS_DEIS Thank you for your consideration. Best, Joel Kurth	As discussed in EIS Chapter 2, Section 2.2.2, non-transmission and low-voltage alternatives are not responsive to the applications to which the Federal agencies are responding, nor do they meet the six-point purpose and need described in EIS Chapter 1.
	Porter	SOCIO07; VIS01	After studying the overview of the environmental impact and suggested remediation, and listening to comments and testimony of many individuals in the affected communities, it is clear that there will be environmental, economic and social damage across the impacted route or routes. Aesthetic/Scenic Once this project has been built upon the land, there is no remediation possible. The mere presence of the towers along the trails and roads and through the rich habitats of the Driftless area will forever mar their beauty and destroy the vistas for we who live here and for the many visitors and tourists who come to enjoy this land. There are economic impacts that result from this obscene intrusion on the landscape.	Comment noted. Potential impacts to social and economic conditions, including property values and tourism, are provided in EIS Section 3.12. Potential impacts to visual quality and aesthetics are disclosed in EIS Section 3.11.
	Porter	VEG01; WLDLF01	Wildlife Habitat and Vegetation Although many measures are outlined to minimize danger and disruption of habitats, nesting areas and migratory pathways, they do not outweigh the obviously more beneficial choice of NOT building the line. Additionally, there is no way to protect plants, animals, soil and water from the local application of dangerous herbicides. Sprayed herbicide is carried by wind and water and permeates groundwater. How will the use of herbicides be regulated or inspected? Will the contracting companies regulate and inspect their own practices? How will people be reassured of the limits of herbicide use so that they may avoid its ill effects and further be assured that adjacent natural areas are not impacted?	EIS Chapter 3 includes the following environmental commitments related to herbicide use: The Utilities will employ a Certified Pesticide Applicator for all herbicide applications within the C-HC Project. The Certified Pesticide Applicators will only use herbicides registered and labeled by the USEPA and will follow all herbicide product label requirements. Herbicides approved for use in wetland and aquatic environments will be used in accordance with label requirements, as conditions warrant. During the easement negotiation, landowners can decline the use of herbicides for vegetation management activities once the line is in operation. Therefore, no herbicides would be applied within portions of the ROW on which the landowner wishes not to introduce it.
	Porter	REC01; SOCIO07	As already noted, this proposed line transverses or is along side state parks, natural areas, refuges, publicly used trails, etc. How can the stewards of these lands be certain that the habitats entrusted to their care can be protected? It is highly doubtful that they can. Environmental Justice How can it be fair to place this project on Lands where owners and communities cannot oppose or reject them? This is a matter of personal livelihood as well as health and spiritual wellbeing. The Driftless area is the beneficiary of the love and care of countless land owners, conservationists, advocates, and those who depend on the natural world for the peace and beauty it offers. (Already, there are for sale signs on Lands along the proposed route of the line as people try to depart before this project is built.)	EIS Section 3.10 discloses the potential impacts to state parks, natural areas, and recreational areas. EIS Section 3.12 discloses the potential impacts to environmental justice populations.
	Porter	SOCIO03	Further, there is the danger of loss of tourism dollars in this area. There is no adequate compensation for this loss.	Comment noted. Potential impacts to social and economic conditions, including property values and tourism, are provided in EIS Section 3.12.
	Porter	SOCIO01	I have heard that one possible route would cross the farms of eight Amish families. Because of their religious beliefs and way of life, this community would be forced to sell their farms (perhaps at a loss) and relocate to a different area. This is an extremely callous disregard for the religious freedom of this community.	Comment noted. The EIS has been revised to ensure that the potential impacts to the referenced community are included in the impacts analysis within the Socioeconomic section (EIS Section 3.12).
	Porter	CUL01	Historic/Cultural I read that the project planners will meet with and take input from historic preservation organizations, tribal authorities and other entities concerned with preservation of cultural heritage to determine what impact there might be. How will the information collected be made known to the public and how will the company be held accountable to the requirements to protect these irreplaceable and sometimes sacred cultural resources?	Comment Noted: The Iowa and Wisconsin SHPOs, RUS, the Utilities, and other consulting Federal agencies have drafted a PA under Section 106 of the NHPA. This PA details a phased identification and treatment plan for cultural resources identified within the chosen alternative. This PA is included as an appendix of the EIS.
	Porter	DECI13	Although much is promised by those wishing to construct this project, once it has begun everyone in the community loses control of any actual practices or outcomes. How much wiser to never incur the widespread pain, disruption and loss inherent in this project.	Comment noted.
	Curtis D'Angelo	DECI01	This federal Environmental Impact Statement was fatally flawed from the start. Before the authors even began to write the draft, they were biased in favor of building the Cardinal Hickory Creek transmission line. Why? Because the United States Department of Agriculture hired out the work to a subcontractor, SWCA Environmental Associates, a company that supports transmission companies! Two years ago I attended the USDA Scoping meetings in Dodgeville for Cardinal-Hickory Creek. I assumed the purpose of an environmental impact statement would be to determine first and foremost if a proposed project is worthy of being built. Is it needed and will it have some benefit to the public? I expected to be able to state my concerns about building such an obtrusive, destructive, and expensive project that seemed to be unneeded. A scoping staff person was standing by a display describing CHC in glowing terms. It felt like I was back at ATC's Open House listening to all their propaganda. I was confused because I assumed scoping for an EIS would be unbiased. I asked if she worked for the transmission companies. She answered she worked for SWCA. I went home and read the following on SWCA's website: "SWCA provides complete environmental services to support all types of electric transmission projects, from routing, siting, and permitting new lines to rebuild and capacity-increase projects. Faced with issues such as multistate	Comment noted.

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			line crossings, the complex mix of public and private land ownership for line siting, and the visual impact of lines for communities, transmission project owners can benefit from SWCA's proficiency with federal regulations, understanding of the legal intricacies of each state, and ability to address transmission-related environmental impacts." (Bolding mine.) It sure looked to me like the USDA used taxpayer money to hire a firm to help Dairyland push through their project!	
	Curtis D'Angelo	NEP02	Thinking I misunderstood because I was new to this whole process, I waited to see the draft EIS. I am shocked to discover that the draft EIS is written with the assumption that Cardinal-Hickory Creek will be built. SWCA simply took at face value the applicants statement of need. They did not do an independent, verifiable analysis.	RUS and the other Federal agencies have independently evaluated the impacts to the human and natural environment of the six action alternatives and No Action Alternative analyzed in the EIS, as required by NEPA.
	Curtis D'Angelo	ALT01	They did not fully examine alternative forms of energy. They have not adequately explained the benefits of the CHC project.	Comment noted. EIS Chapter 1 describes the benefits of the C-HC Project.
	Curtis D'Angelo	REC04	They did not give serious consideration to the geological and ecological history of the Driftless Area.	EIS Section 3.2 discloses the potential impacts to geology and soils, and EIS Sections 3.3 and 3.4 disclose the potential impacts to vegetation and wildlife, respectively.
	Curtis D'Angelo	DECI01	I returned to SWCA's website. Although it has been updated since two years ago it states: "SWCA's transmission practice supports many of the largest electric utilities, transmission developers, and operators in the country." (Bolding mine.) True to SWCA's website, this EIS supports a transmission company! It is a travesty. I leave you with this question: Where is the contractor the USDA hired to support the people?	Comment noted.
	Murphy	NEP02	Thank you you for listening to my concerns. My husband and I retired from careers in central Illinois, purchased land in the Driftless region of southwest Wisconsin, and built a home to permanently relocate to this region. We consider ourselves good citizens, willing to assist our fellow citizens and make sacrifices for the common good. However, we have concerns that the draft EIS concerning the proposed CHC transmission line does not adequately address some issues. The CHC applicants claim that these lines are needed for power flow. But how does the EIS address the lack of documented need for additional power for this region?	Comment noted. EIS Chapter 1 describes the need for the C-HC Project as well as the decisions facing the three Federal agencies that have received loan or permit applications for the C-HC Project.
	Murphy	SOCIO03; SOCIO06	Additionally, given that our property lies between the two proposed routes, how does the EIS truly evaluate the impact of these towers on our property values plus the impact on local economies linked to organic farming, scenic tourism, and property taxes? Thank you for your consideration.	Comment noted. Potential impacts to social and economic conditions, including property values and tourism, are provided in EIS Section 3.12. Potential impacts to visual quality and aesthetics are disclosed in EIS Section 3.11.
	Hart	NEP02	I am a resident of Grant County Wisconsin. I oppose approval of the Cardinal Hickory Creek transmission line because of the damage it will do to our environment, because it is not needed, because it will benefit a for-profit corporation and its investors instead of Wisconsin residents and taxpayers, and because it will delay the development of more modern and environmentally sound electricity production.	Comment noted.
	Hart	DECI13	I have read the opposition statements of the Driftless Area Land Conservancy and the Driftless Defenders. I am in complete agreement with their positions.	Comment noted.
	Moffett	SOCIO06	I am opposed to this Joint application of American Transmission Company LLC, ITC Midwest LLC, and Dairyland Power Cooperative, for authority to construct and operate a new proposed 345-kV line known as the Cardinal-hickory Creek Project being built now or at any future time due to the following reasons: Direct economic damage: From DEIS Section 3.12.2.3.5, Property Values: Studies cited seem to have been conducted in urban and suburban landscapes, very different from the rural landscape of southwest Wisconsin. The studies cited contradict a study cited in a Wall Street Journal article as well as the presentation given by Kurt Kielisch. I grew up at 9356 County Highway S, Mt Horeb, and my family are still property owners within close proximity to the line (approximately 300 feet). The large towers required to accommodate the line, will reduce the property value – some sources indicated as the decrease could results to as much as 40 45% due to the presence of a high-voltage line.	Comment noted. Potential impacts to social and economic conditions, including property values, are provided in EIS Section 3.12. RUS has reviewed the recommended citations of additional peer-reviewed articles presented through public comments and has incorporated this information into the EIS.
	Moffett	SOCIO06	* The DEIS has not adequately considered the adverse impact of the lines on rural property land values, especially those properties that derive some of their value in part from their aesthetic qualities, such as our hobby farm with pine trees that date to over a century old – a portion of which will be removed.	Comment noted. Potential impacts to social and economic conditions, including property values and tourism, are provided in EIS Section 3.12. Potential impacts to visual quality and aesthetics are disclosed in EIS Section 3.11.
	Moffett	VIS01	Visual Impact: DEIS Section 3.11 defines a major visual impact as one where changes to the characteristic landscape would be considered significant when those changes dominate the landscape and detract from current user activity. My family's home is within this distance of 300 feet from the ROW and will have a devastating major visual impact on the aesthetic quality of landscape and will likely result in a decrease in property value due to adverse visual impacts. Conclusion: I do not feel the DEIS has adequately addressed these environmental areas relative to my family's home and do not feel the purpose and need of the project is adequate when compared to the level of environmental impacts. I urge decision makers to deny the application for the construction of the Cardinal Hickory Creek Project at this time.	Potential impacts to visual quality and aesthetics are disclosed in EIS Section 3.11. For residences within the 300-foot analysis area, the impact determination has been changed to "major" in the EIS. Photographs from the existing Badger-Coulee Transmission Line project from various distances have also been included in EIS Section 3.11 to illustrate this type of impact.
	Kurt	SOCIO03	1# Comment: Please add my name to the 252 citizens initially concerned about the DEIS address of, "...potential, adverse economic impacts resulting from loss of tourism, retirement housing, and business revenue in the area" from the high voltage option of the Cardinal-Hickory Creek (CHC) proposal.	Comment noted. Potential impacts to social and economic conditions, including property values and tourism, are provided in EIS Section 3.12.
	Kurt	VEG03	#5. Comment: I am concerned about the impacts of herbicides on the unique flora and fauna of the driftless area. The report does not provide enough detail on vegetation management to appease my concerns. Request: Please include a detailed Vegetation Management Plan, including which of the 3 entities involved in the project will be overseeing vegetation management, what chemicals would be used, how they would be applied, how often they would be applied and how the plan will prevent chemical run-off into waterways and kill-off of critical plant species like mildweed. Please show the over-time impacts of repeated chemical applications and build-up in soils of toxic residue vs. no chemical applications. Please indicate how the plan will be adapted and changed over the course of the 40 years that rate payers would pay for this project. Please provide a detailed Vegetation Management Plan for non-spray areas – how will vegetation be managed in organic and fragile environments.	EIS Chapter 3 includes the following environmental commitments related to herbicide use: The Utilities will employ a Certified Pesticide Applicator for all herbicide applications within the C-HC Project. The Certified Pesticide Applicators will only use herbicides registered and labeled by the USEPA and will follow all herbicide product label requirements. Herbicides approved for use in wetland and aquatic environments will be used in accordance with label requirements, as conditions warrant. During the easement negotiation, landowners can decline the use of herbicides for vegetation management activities once the line is in operation. Therefore, no herbicides would be applied within portions of the ROW on which the landowner wishes not to introduce it. The Utilities follow Integrated Vegetative Management (also referred to as IVM) practices based upon site conditions, construction type, accessibility, predominant species, and other factors. All of these factors will determine how Integrated Vegetative Management is implemented.

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	Kurt	AIR03; SOIL01	#6. Comment: According to many studies, cement production is the third ranking producer of anthropogenic (man-made) CO2 in the world. 4 - 5% of the worldwide total of CO2 emissions is caused by cement production. I am puzzled that the draft plan draft plan does not detail how much concrete is needed for each concrete foundation. after transport and energy generation. Request: Please indicate the total number of tons or yards of concrete that would be used in this project, the total number of concrete mixers required to transport the needed amount to each foundation and the environmental impacts of the CO2 production used to generate and transport the concrete used, along with the environmental impacts of the mixers, including estimated fuel consumption, etc. Please state any known environmental impacts of concrete on topsoil and subsoil health.	Concrete would be used to construct certain transmission line structure types, depending on geotechnical conditions. Cement is one ingredient of concrete, and CO ₂ emissions from cement production varies based on the type of facility used to produce cement. Due to confidentiality of data from the industry, EPA suggested in Hanle 2004, "an average emissions factor may introduce bias, particularly at the facility level. Further, it is difficult to identify and attribute emissions to the wide variety of solid waste materials used in kilns." For the C-HC Project, it is not possible to develop a reliable estimate of CO ₂ emissions that could occur from the type of cement used for an uncertain number of transmission line foundations and substation construction that would require concrete. However, to help provide some context on this issue, United States cement production accounts for approximately 0.76% of the United States greenhouse gas emissions estimate from 2017. The C-HC Project would use a very small portion of the nation's total cement production to build the C-HC Project. Although we cannot quantify these emissions for the C-HC Project, a cursory review suggests the CO ₂ emissions from cement necessary to construct the C-HC project would be small. The difference among action alternatives would be even smaller. This analysis does not seem necessary to reasonably compare alternatives for the decision-makers and the public.
	Kurt	GEO01	#7. Comment; I am very concerned about the impacts of high-tower transmission line poles on karst topography and the added water run-off that row clearance may impose. Request: Please hire an independent karst hydrology specialist to determine the long-term impacts high-tower structures might have on Iowa and Wisconsin, especially Dubuque, Clayton, Grant, Dane and Iowa Counties. Please include possible karst fracturing and subterranean absorption of chemicals applied during vegetation management over 40 years.	Comment noted. The EIS Sections 3.2 and 3.5 discloses potential impacts to karst landscapes.
	Kurt	ALT04	#8. Comment: Alternative transmission corridors not carried forward for detailed analysis Table 2.2-1, page 34 include such comments as "corridors were removed because of residential development and civic sensitivities, as well as constraints like the Lower Wisconsin Riverway and associated wetlands", "potential impacts to residential, aviation, cultural resources", impacts to the communities of Lancaster and Montfort, Cassville, Platteville", and so on and so forth. Request: In the final report, please explain how the preferred corridor and all alternatives suggested by Dairyland differ significantly from the corridors not carried forward. In other words, how are the impacts of all proposed alternates less significant than the impacts to the corridors not carried forward?	Comment noted. Only those alternatives carried forward for detailed analysis in the EIS are evaluated in detail for potential impacts to the human and natural environment. The alternatives described in EIS Chapter 2 that were dismissed from detailed analysis were eliminated due to a combination of environmental, technical, feasibility, or cost constraints.
	Kurt	AIR04	#9. Comment: I am concerned about the impact deforestation imposed by clear-cutting will have in the longterm, both on habitat, climate and CO2 sequestration. Request: In the final report, please indicate the total number of trees that would be removed to provide required row width, including any trees outside the easement that would likely need to be removed. Please calculate the CO2 sequestration that will be lost over the 40 years of this project, the water removal that will be lost, and the total oxygen generation that will be lost. Also, please provide statistics on climate change impacts caused by loss of forestation.	Comment noted. Potential impacts for forested areas are disclosed in Sections 3.3 of the EIS. A discussion of potential changes in carbon sequestration due to the C-HC Project has been added to EIS Section 3.6.
	Kurt	REC02	#10 Comment: I am concerned about the threat to the Upper Mississippi Wildlife Refuge this project imposes. There are fewer and fewer places where a sense of wilderness still exists. The refuge is one of these special places. Dairyland is already piggybacking a fiber optic line onto the proposed new 345kV poles. I am concerned that granting, what is in effect an entirely new easement, will lead to more utility expansion into the Wildlife Refuge. Request: Don't approve any corridor that results in crossing the Upper Mississippi Wildlife Refuge, since it is highly unlikely that the utilities would not take advantage of the 345kV corridor to push for more expansion.	Comment noted. Chapter 1, Section 1.5, discusses the Federal decisions to be made for the C-HC Project, including the decision to be made by USFWS.
	Kurt	VIS01	#11 Comment: Having driven the entire "preferred" route of the line, and having observed many 365kV poles and lines in my travels, I am concerned that the mock-ups of the transmission-line photos does not adequately convey the sensory impacts. Request: Please make sure the poles are shown to scale, please include farms, homes and vehicles to scale in the photo mock-ups. Please understand that transmission lines seen from a distance do have a sensory impact – please be more clear in the photo representations.	Comment noted. Potential impacts to visual quality and aesthetics are disclosed in EIS Section 3.11.
	Kurt	SOCIO04	#12 Comment: Section 3.12.1.6, Environmental Justice, page 364, addresses the topic of environmental justice and goes on to classify environmental justice characteristics by county. I am very concerned that grouping individuals into county classifications fails to address environmental justice at the household level. Just because a county fails to meet the criteria defining as an environmental justice community, I worry that individuals faced with impacts from the line who do qualify are being ignored, abused and dismissed. Request: Please review your criteria for determining environmental justice. It appears flawed, and does not take into account the higher health risks associated with such communities.	The environmental justice impact analysis has been revised in EIS Section 3.12 to address potential impacts at the census tract level rather than the county level. Census tracts are defined by the U.S. Census Bureau and often coincide with the limits of cities, towns, or other administrative areas. Thus, 160 census tracts in the analysis area are analyzed instead of the six counties in the analysis area. The metrics used in the EIS to identify potential environmental justice communities within the census tracts (minority population percentages and low-income/poverty level percentages) are metrics recommended in Council on Environmental Quality environmental justice guidance.
	Kurt	SOCIO04	#13 Comment: Section 3.12.3.6 Environmental Justice, page 373, "Grant County, Wisconsin was the only analysis area of the county identified as a potential environmental justice community. However, the potential negative impacts from the proposed transmission line and facilities experience in Grant County would be the same in nature and intensity as those experienced by all other analysis area counties. Therefore, there would be no disproportionate impacts to Grant County under any of the action alternatives." This statement assumes one of the alternative would be built. It does not account for the potential benefits non-transmission alternatives and distributive energy could have on environmental justice communities. Request: Please describe possible benefits to Grant County of not building the line – impacts on residential housing, rural housing, tourism, etc. Please include possible benefits of Non-transmission alternatives and distributive energy options on reducing energy costs to environmental justice communities.	Potential environmental justice impacts from the No Action Alternative are described in Section 3.12 of the EIS. Non-transmission alternatives have been dismissed from detailed analysis in the EIS; therefore, impacts from such alternatives are not discussed in EIS Chapter 3.
	Kurt	NEP02	#14 Comment: Introduction ES-2, paragraph 2 "RUS administers programs that provide much-needed infrastructure or infrastructure improvements to rural communities." I am not clear how this project fits with this RUS statement. Request: Please provide specifics on how this project contributes to much-needed infrastructure or infrastructure improvement to rural communities. 1.4 Project Purpose and Need, page 10, lists a lot of things the project is projected to do. None of these pertains specifically to benefits to rural communities. 1.41. Increase Transfer Capability Enabling Additional Generation, page 13, states the project, "would bring electricity from the wind-rich areas of the upper Great Plains to load centers like Madison and Milwaukee, and to the remainder of the MISO footprint." Madison and Milwaukee are hardly rural areas.	Comment noted. There are many rural areas within the MISO footprint, which would be served by the C-HC Project. The urban areas of Madison and Milwaukee are two examples of larger load centers that would be served.

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	Kurt	NEP02	#15 Comment: 1.4.2.2 Reduce Capacity and Energy Losses, page 15, "There is a need to reduce capacity and energy losses for electricity delivered for Dairyland's member and ATC's customers." I do not find any data that shows how this line is needed to reduce capacity and energy losses, or any proof that it will do so. Request: Please ask Dairyland and ATC to provide the data that shows what, if any, excess capacity exists and what, if any, energy losses have been recorded and reported to any government agencies that monitor such events. Please provide detailed data that shows exactly what capacity and energy loss CHC would address. Please provide detailed information on the projected energy loss that occurs on a 345kV line.	The concept of line loss is explained in EIS Section 1.4. RUS has cited MISO 2014 to support the information provided about line losses associated with the C-HC Project.
	Kurt	NEP02	#16 Comment: In its 2017 Annual Report, Dairyland Cooperative earned about \$27 million, up more than 17 percent from the previous year. Revenues were up about 6.4 percent to \$441 million. It projects that 50% of its energy generation will come from coal in 2027, that natural gas will increase from 5% to 20% of total energy production and that wind & solar will increase from 19% to 21%. Request: How much revenue does Dairyland plan to reinvest in non-transmission and distributive energy alternatives over the next 10 years. If CHC is not built, how will Dairyland's energy planning model change over the next 10 years. #16 Comment: I have brought out only a few items in this comment form. Reading through this report, I felt like I was reading something that was mostly "canned" jargon. Information in the report conflicts with information filed in the PSC docket. Every section lead to unanswered questions. After spending over 50 hours trying to get through the report and verify and fact check, I am absolutely convinced that this line is a boondoggle. Transmission is important. So are energy efficiency and non-transmission alternatives. CHC is the 5th "Miso Value Project in Iowa. And, there are at least two more of these projects in the works. All these projects claim to improve reliability, relieve congestion, allow import and export of wind generation, and provide regional delivery of renewable energy and reduce energy costs. Many of these projects have led to additional line expansion of lesser kV capacity. Alliant Energy is now asking for an 11.7% rate hike in Iowa, ostensibly to do all the things just stated, and reduce energy costs. None of the planning in Iowa embraces a pathway that promotes CO2 reduction through energy efficiencies and non-transmission alternatives. I am greatly concerned that this present expansion path is turning the rural heartland into an industrial wasteland. Request: Ask Dairyland Cooperative to come up with a plan that does not build this line – an honest and thorough plan that brings rural communities to the table to find cost savings and shared energy opportunities. That might be a plan I would support, because it would be inclusive of the needs of the people of rural Iowa and Wisconsin.	Comment noted.
	Kurt	SOCIO07	#17. Final Comment: Having walked many properties on the proposed route, having driven the full length of the route, having talked to individuals all along its path, I was struck by the sense of profound pride our rural communities have in their unique settings, deeply saddened by the feelings of helplessness these folks have, and their justifiable concerns about their land being taken and the possible impacts on the well-being of their children, livestock and the habitats in which they reside. The driftless region has a certain wild beauty found few other places in the Midwest. None of that tenor was conveyed in the pages of the report. I kept searching for something that really captures the essence of the Upper Mississippi River Wildlife Refuge and the people and places of the driftless; some word or phrase that properly conveys the great sorrow communities along the proposed route are experiencing at a potential loss of something truly nameless. I would invite all the folks who worked on preparing the report to come spend a day or two in the driftless region and find out for yourselves what will go missing should this line be built.	Comment noted. EIS Section 3.10, Land Use, discloses the communities that have expressed concerns or opposition to the C-HC Project through comment letters and/or resolutions.
	Jewell	DECI13	10.2% interest, with a 40-year amortization, guaranteed by the ratepayers of Wisconsin, and other states. What more do you need to know? Typically, if you have high risk, you have high interest, if you have low risk, you have low interest, but here with the CHC powerline, you have nearly no risk and high interest payments spread over a unreal 40 years. What a scam. Legalized financial rape imposed on an unwilling citizenry, for an unneeded gimmick. Where are the Adults? We know where the pigs are, as they run with, and are cultivated by, the elites. No wonder the American Public doesn't trust our government, when you have antics like the CHC powerline being permitted to scam the ratepayers of multiple states, again and again.	Comment noted.
	Curtis D'Angelo	SOCIO06	Following are my comments on the draft Environmental Impact Statement. Property Values I cannot find an indepth analysis of effect on property values. All I find are a few sentences and some charts at 3.12.1.5 Property values are severely reduced in areas known for scenic beauty, which is exactly what encompasses the Driftless Area of Southwest Wisconsin. It does not affect simply the land upon which the lines are built. Any property from which the towers and lines can be seen will see its value reduced, as much as 40%. This puts a significant hardship on people counting on their land to provide retirement income. (Kurt C. Kielisch, "Valuation Guidelines for Properties with Electric Transmission Lines.") For myself, I could not live here with the heartbreak of seeing and hearing the transmission lines from every point on my property. When I am forced to sell, the price will be seriously reduced. Consequently, I will face a financial hardship when purchasing a new home and my retirement income will be jeopardized. The lines will go across the most desirable building site on my property, which commands spectacular views of Blue Mounds, Wyoming Valley, and nearby Governor Dodge State Park. The site appeals to people who love beautiful views and want to live in a natural setting. Massive steel highvoltage towers and buzzing 345 kilovolt lines are not part of the picture. The site will completely lose its value, I will be hard pressed to find a buyer, and I will lose retirement income if I can find someone to pay a low ball price. For others, a portion of my property lies atop the high elevation of Pleasant Ridge which means the lines will be visible for miles around. Everyone who can see those lines from their property will have its value diminish.	Comment noted. Potential impacts to social and economic conditions, including property values and tourism, are provided in EIS Section 3.12. Potential impacts to visual quality and aesthetics are disclosed in EIS Section 3.11.
	Curtis D'Angelo	SOCIO03	Tourism People flock to Southwest Wisconsin to enjoy being in nature and experiencing all the kinds of recreation offered here. When the area is disfigured by transmission lines the tourists will leave for the places that still remain unspoiled. Local businesses and the tourism industry will wither away. Your charts do not compare places before and after transmission lines are built so there is no data to tell how tourism income would be impacted. This editorial cartoon by Ken Stark describes the situation better than I can.	Comment noted. Potential impacts to social and economic conditions, including property values and tourism, are provided in EIS Section 3.12.
	Curtis D'Angelo	VEG01	Pine Relicts The only reference I can find to pine relicts is 3.3.1.1.8, a mere short, bland paragraph acknowledging their existence in the Driftless Area. It explains nothing about how pine relicts go back 12,000 years to the time of the last glacier. Remnants exist today only on "islands" of steep slopes and rocky cliffs in the Driftless Area of Southwestern Wisconsin.	Comment noted. Specific details of these unique areas have been added to EIS Section 3.3 and potential impacts are disclosed.
	Curtis D'Angelo	VEG01	The plants at ground level are an unusual mixture of both northern species — from their origins in a colder and wetter climate, — and southern species. In my scoping letter I described how I was fortunate to have a unique pine relict on my property and also noted that the most notable and largest one in my area is the Ridgeway Pine Relict State Natural Area. Where in this draft is an the explanation about how these areas will be treated if the transmission lines go through?	Comment noted. Specific details of these unique areas have been added to EIS Section 3.3 and potential impacts are disclosed.
	Curtis D'Angelo	REC04	Governor Dodge State Park I find a short description of this state park at 3.11.1.2.2. Nowhere does it state that the transmission lines would run atop the bluffs on County Road Z in Dodgeville which means they would be visible from the park and one of the lakes. People visit and camp at Governor Dodge to enjoy an experience in a beautiful, natural setting; they do not go there to look at transmission lines. More and more studies	County Road ZZ was not selected as a KOP; therefore, visual simulations were not developed for this ridgetop looking down into the valley. As discussed in EIS Section

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			emphasize the importance of time spent in nature and how important is for people's mental health. We need to protect and save these special areas.	3.11, the C-HC Project would not be visible from any of the locations within Governor Dodge State Park.
	Curtis D'Angelo	WLDF04	Endangered Species and Species of Special Concern I see them listed in a chart beginning on page 174 but do not see any plans for how to protect these species from transmission lines.	The environmental commitments listed in EIS Section 3.1 provide protection and mitigation measures for special status species.
	Curtis D'Angelo	DECI01	The Greater Common Good All in all I am extremely disappointed with this draft environmental statement. It is difficult for the average person to read and it is redundant with words that do not provide indepth information about the impact of the transmission lines I would think the basic reason for an environmental impact statement would be to assess if a project is needed and if there is a benefit to the public that justifies taking on such an enormous, expensive project that has many negative implications. I cannot find justification for this project in the DEIS. Instead it simply assumes that Cardinal Hickory Creek is going to be built without giving adequate reasons why. Since the USDA subcontracted the work to SWCA, who supports transmission companies, we taxpayers spent all this money for a biased report that, not surprisingly, supports Cardinal Hickory Creek.	Comment noted.
	Woloszyk	DECI13	I, Thomas Woloszyk, a resident of the Town of Wyoming Wisconsin, am writing in opposition to the proposed Cardinal Hickory Creek transmission lines. There are many reasons to oppose this endeavor and few if any to be in favor of it. To me, it appears as corporate greed and not really a need for a more "stable" grid system. How can a "business" venture be guaranteed a 10.2% profit? Unheard of in the "free" marketplace where competition drives the prices and efficiencies.	Comment noted.
	Woloszyk	NEP02; SOCIO08	I respectfully request answers to the following questions: 1. Please provide proof of the need for this line in this area and the costs of overhead vs. buried lines.2. Please provide proof that these lines will benefit us in cheaper power 3. Please provide proof and evidence that this "travel" route is not for the benefit of the residents of Milwaukee area and the fine citizens of the State of Illinois	Comment noted. As stated in NEPA regulations 40 CFR 1502.23, "For purposes of complying with the Act, the weighing of the merits and drawbacks of the various alternatives need not be displayed in a monetary cost-benefit analysis and should not be when there are important qualitative considerations." As discussed in EIS Chapter 2, Section 2.2.2, non-transmission and low-voltage alternatives are not responsive to the applications to which the Federal agencies are responding, nor do they meet the six-point purpose and need described in EIS Chapter 1. EIS Section 2.2.2 also provides rationale explaining why underground construction for the C-HC Project was dismissed from detailed analysis.
	Woloszyk	ALT04	4. Why are the lines in Illinois buried and not overhead as you are proposing here.	EIS Chapter 2 discusses the alternative of burying the transmission line underground.
	Woloszyk	HAS01	5. Please provide proof that these overhead lines are stable and safe. 6. How will you control all the stray electricity and the harm it will do to those residing here. I expect ATC will pay to fix the stray electricity problem? Yes or No? Please answer.	Comment noted. Section 3.13 of the EIS discloses potential impacts to public health and safety that could occur from wildfire, occupational safety, hazardous materials, and electric and magnetic fields. Stray voltage is also discussed in this section.
	Woloszyk	SOCIO07; WLDF01	This Driftless area of Wisconsin is unique to the world. It's a flyway for all the migrating birds. It has plant life found no where else in the world, animals found no where else in the world. Its a remarkably beautiful area, and people making these decisions need to come out of their offices and come here and see how these towers will destroy the natural beauty. I suggest for all the decision makers in this fiasco to see the production "Decoding the Driftless Region". It will explain and show you the preciousness of this area I've looked at the routes proposed. The information is vague as to where its proposed to go. Its all just very general descriptions of someone looking at Google earth and picking roads and routes. What that tells me is that no one has really ventured out to see what will actually be disturbed, destroyed by these towers and lines.	Comment noted.
	Woloszyk	SOCIO01; SOCIO06	As a homeowner and taxpayer in this State, that a Corporation can pull eminent domain on me is wrong, so wrong, in order for them to have a guaranteed profit while my property values plummet and may never be able to sell my home due to these lines and towers.	Comment noted.
	Woloszyk	NEP02	If this power is for Milwaukee and Illinois areas, build a plant there and run your lines from there to satisfy their "needs". Put windmills out in Lake Michigan and have your green power there. Don't bring them through here to benefit them. Please log my opposition to the Cardinal Hickory Creek Transmission Project	Comment noted.
	Scott	PUB02	Your task to receive testimony on the Environment Impact of the proposed Cardinal Hickory Creek (CHC) transmission line in undoubtedly daunting. You and your staff did a great job organizing these hearings and very graciously and patiently listened and responded to the citizen concerns that were raised.	Thank you. Comment noted.
	Scott	EFF01; VIS01	My testimony focused on the aesthetic impact the transmission line will have. It is unfortunately that aesthetic impact does not weigh significantly in your EI analysis, because it is a primary factor for those of us who must live with such an imposing transmission line. I have since submitted similar testimony to several local newspapers, and the attached version "Fenced in by the CHC line" was recently published in the Mount Horeb Mail (March 28 edition). I would like to supplement my oral testimony with the attached statement as evidence of the detrimental aesthetic and economic impact it will have in the Blue Mounds/Mount Horeb area of Wisconsin.	Comment noted. Section 3.11 provides detailed analysis regarding impacts to visual resources. This resource topic is given the same level of attention and analysis as the other resource topics analyzed in Chapter 3.
	Scott	NEP02; SOCIO08	I have spent a great deal of time researching the benefit analysis strategies (ProMod, PowerWorld, etc.) that are publicly available online and in the correspondence and documentation submitted to the Wisconsin Public Service Commission regarding both the Badger-Coulee and Cardinal Hickory Creek transmission lines (PSC Dockets 05-CE-142, 05-CE-145). I have concluded that It is impossible for even a knowledgeable citizen to comprehend the intricacies of the benefit analysis used to justify the power grid expansion. In fact, I have been advised that not only is the software proprietary, but the model inputs themselves are confidential and inaccessible. So how is one, even with a technically advanced background, able to challenge the benefit analysis used to justify these massive transmission lines? Frankly, can anyone really determine the accuracy of these models or confirm that they can be validated with actual data? Despite the restricted access to actual data and having attempted an investigation of the "advertised merits" of the CHC 345kV transmission line, it is easy to conclude that the CHC transmission line will primarily function as a pass-through electrical conduit that will provide very little benefit for those of us who live in the Driftless region of Wisconsin.	Comment noted. EIS Chapter 1 describes the need for the C-HC Project as well as the decisions facing the three Federal agencies that have received loan or permit applications for the C-HC Project.
	Scott	VIS01	In fact, to the contrary, it will forever have a devastating impact on the aesthetic beauty of this unique environment we call our home.	Comment noted.
	Scott	REC04; VIS01	For the hearing in Cassville, I decided to drive along the southern proposed route to imagine the aesthetic impact this transmission line will have. On my way, I drove to the top of Blue Mounds and climbed both towers and was, as always, struck by the beauty and expanse of our spectacular Driftless region. I was even surprised to see that there is now a sign on the east tower encouraging visitors to take a selfie! Blue Mounds is an	Comment noted. Potential impacts to visual resources are disclosed in EIS Section 3.11.

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			ancient landform that stands proud above the Driftless region. For those of us who live here, it's a park refuge, a navigational landmark (even used for this purpose by pioneers), a seasonal wonder of changing colors, and a darned tough hill to bike up! Unfortunately, it doesn't take a great deal of imagination to realize how devastating the aesthetic impact this transmission line will have. Picture this: Blue Mounds is elevated about 1700ft above the surrounding plain, which is at 1300ft. At 175ft tall, the towers will reach about half the height of Blue Mounds and extend east-to-west as far as the eye can see. Now that's a fence!	
	Scott	NEP02; SOCIO08	You'd think that with this increased development the demand for electric power would be increasing? Surprisingly, in southwest Wisconsin, it has not. So why is the CHC transmission line needed? Why should we, as taxpayers, provide a \$45,000,000 loan for its construction? Why, as residents of Wisconsin, should we pay a guaranteed 10% return to its builders? Why, with the construction of new and proposed wind farms and solar installations, should we transmit this cheap, renewable energy out of Wisconsin?	Comment noted. EIS Chapter 1 describes the need for the C-HC Project as well as the decisions facing the three Federal agencies that have received loan or permit applications for the C-HC Project.
	Kiep	PUB02	We recently were informed at a comments only meeting held (conveniently held from 57 p.m. at all locations, making it difficult for those who work to attend, particularly farmers), in Dodgeville on March 13, 2019,	Comment noted. There were other opportunities to submit public comments for those who could not attend the public meetings. This information was provided online and in newspapers throughout the project area. This information is summarized in the EIS.
	Kiep	ALT01; NEP02	the power delivered from the lines is to benefit primarily the Chicago and Milwaukee areas. Also at that time, it was discovered Illinois had the lines in place, UNDERGROUND. Knowing the above, one begins to wonder why the connection from Iowa to the Chicago area is to be diverted through a rare place in the world, the Driftless region. Developing a pathway for the power that hasn't proven necessary thru the Driftless, when it makes more sense ENVIRONMENTALLY to go thru Illinois, is disheartening.	EIS Chapter 1 describes the need for the C-HC Project as well as the decisions facing the three Federal agencies that have received loan or permit applications for the C-HC Project.
	Kiep	SOCIO01	In addition to the lack of necessity for power lines, the lack of concern on the impact for the people in rural communities, let alone charging them as well, for the benefit of the citizens in urban/suburban areas is deplorable. For us, it can only be surmised it is cheaper to go thru Wisconsin since it is allowed to have these lines above ground. How will the Environmental Impact Statement address this concern?	Comment noted. EIS Chapter 2 discusses the potential alternative for constructing the proposed C-HC Project underground and provides rationale for why this alternative was dismissed from detailed analysis.
	Kiep	ALT01; EDIT	The map provided to the federal level is vague, little detail is presented showing specifically where the proposed path of these said lines are tearing through the Driftless, destroying/impacting the environment found but in a couple of places in the world.	Comment noted.
	Kiep	ALT02	When the 40 year life of these lines is reached, how will hundreds of 175 feet steel towers, with cables, and tons of cement be dismantled? How is the building of these, utilizing fossil fuel, environmentally sound? How will the Environmental Impact Statement address this said concerns?	The Utilities would be responsible for decommissioning the C-HC Project. EIS Chapter 2 has been revised to include a description of decommissioning activities to remove the C-HC Project once it reaches the end of its life.
	Kiep	SOCIO07	I would like to strongly recommend the Environmental Impact Statement Committee view, Decoding the Driftless, a film produced by scientists in 2018. This award winning film scientifically explains the uniqueness of the Driftless. How will the Environmental Impact Statement Address the concern it is not fully aware (perhaps physically take oneself to the Driftless area!) the Driftless area is not the place for these power lines to ruin?	RUS has viewed the film and visited the area on more than one occasion.
	Kealy	DECI13	I urge you to deny funding and block in any way possible the Cardinal Hickory Creek high voltage transmission line that will affect the Driftless Area of Wisconsin and the Mississippi River.	Comment noted.
	Kealy	VIS01	The natural beauty of this area is some of the most gorgeous in the state. These enormous power lines would mar the landscape for generations. Once they are installed, they cannot be easily undone.	Comment noted.
	Kealy	SOCIO01; WLDF01	Surely we should take a conservative approach to approving these lines, which will have a negative impact on the wildlife and environment, as well as property values, tourism and our children.	Comment noted.
	Kealy	NEP02	In addition, the recent studies show that Wisconsin electricity usage is steady or even declining and these additional lines are not needed. ATC itself is unable to provide specific information regarding an increased demand for electricity, and they are misleading the public with their ad campaign which implies that these lines are needed to transmit electricity from renewable sources. When I spoke to a PSC engineer at a PSC open house, he explained that there is no way that ATC can claim they are transmitting renewable energy along their power lines. In his words "an electron is an electron" and the market determines what electricity is transmitted at any given time.	Comment noted.
	Kealy	SOCIO08	Why saddle Wisconsin residents with more debt to pay for electricity that they may not even be able to use? The only entities to profit from these lines are the companies themselves, which guarantee a 10.3% rate of return to their investors. That's a pretty amazing return in today's world, paid for by the taxpayers	Comment noted.
	Bettner	SOCIO03	I am writing to express my opposition to the proposed Cardinal Hickory Creek high voltage transmission line which is planned to stretch across an area of southwestern Wisconsin from Cassville to Middleton. I have many concerns with this proposed project, and the more I learn about the project, the more I oppose it. There are numerous reasons to oppose it, including damage to the environment, damage to the economy (especially agriculture and tourism), and lack of demonstrated need for the line.	Comment noted.
	Bettner	NEP02	I have yet to learn of any convincing reasons that this power line should be built. Perhaps the most important reason this line should not be built is the lack of a need for it. If there is a need for the line, that has not been explained sufficiently in the Draft Environmental Impact Statement, and should be addressed in the final version of the EIS. In sections 2.1 and 2.2 of the dEIS (the need summary), it mentions studies undertaken between 2008 and 2011. Those studies were undertaken 8-11 years ago. Those studies are out of date in 2019, due to the rapid development of renewable energy technology.	Comment noted. EIS Chapter 1 describes the need for the C-HC Project as well as the decisions facing the three Federal agencies that have received loan or permit applications for the C-HC Project. The MISO reports are cited in EIS Section 1.3 and have been updated in the latest 2017 MVP Triennial Review (MISO 2017) ¹⁰ .
	Bettner	NEP02	One of the purposes of the CHC high voltage transmission line according to the dEIS, is to transfer wind-generated power. From pages 15 and 16 of the dEIS (section 2.2): "...study efforts...have focused on how to move wind-generated energy from high wind areas in Iowa, Minnesota, South Dakota, and North Dakota to load Cardinal-Hickory Creek 345 kV Transmission Line Project Alternatives Evaluation Study July 2016 16 centers throughout the MISO footprint. As states have enacted renewable portfolio standards and goals ("RPSs") and the country shifts its energy mix to reduce carbon emissions, the need for additional renewable energy and the ability to transfer this energy has increased and is forecasted to continue to rise." However, this plan to transfer large amounts of energy across the country seems outdated for two reasons. First, there is	Line losses are explained in EIS Section 1.4. EIS Section 1.4 also identifies renewable energy projects in southwest and central Wisconsin that would benefit from the C-HC Project. EIS Section 3.13 provides a discussion about potential security breaches.

¹⁰ MISO. 2017. MTEP17 MVP Triennial Review. Available at: <https://www.misoenergy.org/Library/Repository/Study/Candidate%20MVP%20Analysis/MTEP17%20MVP%20Triennial%20Review%20Report.pdf>.

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			enormous untapped potential for generating renewable energy close to home (I will elaborate more on that below). Second, electrical grids are vulnerable, both from hacking by malicious forces and from damage due to storms, which are predicted to increase in intensity due to climate change. In addition, around 2% of the electricity is lost when transmitted long distances. According to the Wisconsin Academy of Sciences, Arts, and Letters, renewable energy is an under- developed opportunity for Wisconsin. Currently, only 10.2 percent of Wisconsin's electricity is generated from renewable sources. However, it is technically possible for locally-produced renewable energy to supply all of Wisconsin's energy needs. (https://www.wisconsinacademy.org/content/renewableenergy) If it is one of the primary goals of the CHC transmission line to enhance renewable energy transmission across the country, that should be stated more clearly and concretely in the final EIS.	
	Bettner	ALT01	Additionally, alternative routes should be looked at that do not cross ecologically important areas such as the driftless region of Wisconsin and Iowa.	Comment noted. EIS Chapter 2 discusses other routes considered for the C-HC Project.
	Bettner	NEP02	Reliable energy may be important, but in my opinion, climate change is an emergency. It is even more important to work toward moving our state and country toward renewable energy. We also must do whatever we can to protect the landscape and ecology of the precious driftless area of Wisconsin.	Comment noted.
	Kealy	SOCIO01; VIS01	I am vehemently opposed to allowing ATC to run a high voltage transmission line through the Village of Mt. Horeb/Town of Blue Mounds and the Driftless Area surrounding these thriving unique communities. Allowing ATC to build this unnecessary transmission line through or near these areas will have a devastating, irreversible impact on its communities and their environments. As an educator and home owner in the above mentioned region, I feel obligated to state my concerns regarding the negative impacts this line will have on this region: 1) These enormous, towering, transmission lines would be an extreme eye sore and their presence would negatively impact our local commerce which relies on tourism, recreation, and quality schools.	Comment noted. Potential impacts to social and economic conditions, including property values, are provided in EIS Section 3.12. Potential impacts to visual quality and aesthetics are disclosed in EIS Section 3.11.
	Kealy	LAND01	2) The building of these lines would damage the environment/ecosystems in the path of these immense structures, which can be up to 175 feet tall and 50 feet deep.	Comment noted.
	Kealy	SOCIO03; SOCIO07	3) Many area residents have moved to this area, in part, due to its scenic/rural feel. The presence of these lines would have a negative impact on property values in this area.	Comment noted. Potential impacts to social and economic conditions, including property values and tourism, are provided in EIS Section 3.12. Potential impacts to visual quality and aesthetics are disclosed in EIS Section 3.11.
	Kealy	HAS01	4) These lines will be located close to our schools and existing residents which will expose this areas residents and children to the negative affects on the large amount of power being transmitted through these proposed lines.	Comment noted. Section 3.13 of the EIS discloses potential impacts to public health and safety and potential exposure to electric and magnetic fields.
	Kealy	NEP02	4) It has not been demonstrated to me that there is a need for the energy that is being transmitted through these lines in the State of Wisconsin. In fact, ATC who has proposed to build this line through our communities receives over a 10% guaranteed profit. Because of the above concerns, I urge all involved decision makers to deny ATC the permission to build this line through the Wisconsin Driftless area.	Comment noted.
	Miller	EFF03	Hi, I have written and been to one of the public meetings about the transmission line and I think today is the last day for public comment. I was made aware of yet another transmission company putting a line in the same area of Iowa. I think these transmission lines need to be controlled a little better and communicate with each other. Direct Connect Development Company announced the SOO Green Renewable Rail project which will be underground and following rail routes from Mason City Iowa to Plano, IL It will follow the rail route through Guttenberg. It will be perpendicular where the Cardinal-Hickory Creek crosses the Mississippi then run parallel until the Hickory Creek substation. This is a better idea through the Driftless area since it follows railroads and will be buried than the Cardinal Hickory Creek line. Please don't make the Driftless area a maze of transmission lines. Do not approve so many of these lines. Vote no for Cardinal Hickory Creek. Thank you	The SOO Green Renewable Rail project is currently in the very early phases of planning; therefore, the feasibility and engineering are not available to inform alternatives for the proposed the C-HC Project.
	Hamilton	WAT02; WLDLF01	RESPONSE TO THE DEIS FOR THE CHC POWER LINE PROPOSAL ATC MAP DETAIL The accompanying map (Fig. 1) shows a small area in Township 7, Range 7 West, Section 12 of the Town (not the Village) of Cross Plains, Wisconsin that includes the intersection of Highway 14 and Cleveland Road. Though it shows only a small portion of the more than 100 miles of the proposed 345kV Cardinal-Hickory Creek high voltage power line route, the map contains references to a unique aquatic feature known as the McKenna Pond. MANAGEMENT PLAN FOR MCKENNA POND Shown on the map in green, the 3.3-acre McKenna Pond is located directly across from a large agricultural operation on Cleveland Road. The Bollenbeck Farm LLC, presently threatens the present use of the pond for academic research by University of Wisconsin students and faculty (See Fig. 2), such as that conducted for many years by UW-Madison Professor William Hilsenhoff's (1929201) on two rare amphibians, the Eastern Newt and the Blue-Spotted Salamander, that inhabited the pond.	Comment noted. RUS reviewed the latest conservation status for the eastern newt and blue-spotted salamander, both of which have a conservation status of least concern, meaning the population status is stable. Potential impacts to wildlife, including amphibians, are disclosed in EIS Section 3.4.
	Hamilton	WAT02	THE DRAINAGE CULVERT UNDER CLEVELAND RD. A drainage culvert (see Figs. 3&4) that extends from the corporate farm field and under Cleveland Rd. empties directly into the McKenna Pond. Considering that the owners of that farm bring in multiple truckloads of manure for distribution on the land every spring, it's no wonder that last summer the pond was coated with a thick layer of green algae. But the CHC line would create an even worse outcome for the pond	Thank you for your comment.
	Hamilton	ALT02	LARGER SUB STATION TO REPLACE SMALLER POLES The fate of a red triangle identified as a "substation" on the Cleveland/Route 14 ATC map is not specifically described on page ES1 of the Draft Environmental Impact Statement (DEIS), where proposed substation expansions in Iowa are mentioned in considerable detail. Instead, the Cleveland Rd. upgrade and other replacements of extant poles and related equipment in Wisconsin are buried under the "At the Mississippi River in Cassville, Wisconsin" subhead. The accompanying text simply reads "multiple, partial, or complete rebuilds of existing 69kV and 138kV transmission lines in Wisconsin that would be collected (sic?) with the new 345kV line." Was this a simple error or an effort to deceive readers facing more than 400 pages of text?	it is not clear from this comment which substation is being referenced. There is no substation proposed for Cleveland Road and Wisconsin Route 14 in Dane County. The closest C-HC Project substation to this intersection is the Cardinal Substation. Improvements to the Cardinal Substation as well as other substation improvements are described in EIS Section 2.4.
	Hamilton	VEG01	Another photo (Fig. 5) shows multiple lower voltage power line poles now located on the corporate farm near the intersection of Cleveland and Route #14 that presumably would be replaced with one or more huge metal tower surrounded by at least a 150 ft. area devoid of any vegetation if the CHC proposal is approved. If that's the case, still more additional residue from the powerful herbicides used to maintain that condition would flow through the same culvert and across the road and directly into the McKenna Pond.	Comment noted. Potential impacts to vegetation are disclosed in Section 3.3 of the EIS.
	Hamilton	EFF01	WHAT THE EIS DRAFT TEXT AND BIBLIOGRAPHY CONVEY ABOUT THE LEVEL OF EFFORT TO SECURE AND ACCOMMODATE INPUT FROM OTHER GOVERNMENT AGENCIES AND THE BREADTH AND QUALITY OF RESEARCH EMPLOYED IN PRODUCING THE PRESENT EIS	Comment noted.

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	Hamilton	REC03	By 2012, the National Park Service staff working on the Cross Plains Ice Age Complex had already developed their long term plans (see Fig.6), which included expanding the boundary of that complex, which already bordered on Cleveland Road, down to and along Route 14, a major east/west highway. In Chapter 5, pages 449 and 450 under 5.2, mention that the RUS staff met with Ice Age Scenic Trail staff on June 12, 2017 and Feb. 5, 2018 at which time they discussed "concerns about the proximity of the CHC Project to the Trail..." Not surprisingly, the Ice Age staff did not approve of the huge metal CHC towers that the ATC expects to place along the same Route 14 property that the Ice Age Trail staff had already earmarked for their project. Is this the normal ATC approach?	Comment noted.
	Hamilton	CUL01	Although Section 106 of the National Historic Preservation Act requires consideration of proposed actions or impacts on historic properties, the Draft EIS shows very little evidence of input from Iowa or Wisconsin State Historic Preservation Offices (SHPOs). A reference appears on page 449 to an Iowa State Historic Preservation Office representative attending a meeting in Iowa on Oct. 31, 2016, but neither state SHPO staff members attended a meeting held in Wisconsin on Nov. 3, 2016. The last two sentences in Chapter 5, page 451, suggest that the CHC proposal was developed without any early input about "adverse effects of an undertaking on historic properties." Instead, the text reads, "RUS plans to initiate consultation with the Iowa and Wisconsin SHPOs during the public review period for the DEIS." These quotes, and the lack of a concerted effort to seek out architectural resources as part of the research for the DEIS, except for the 1972 National Register of Historic Places Inventory Nomination for Frank Lloyd Wright's Wisconsin home known as Taliesin (p. 457), betray a pervasive lack of concern for identifying historic buildings in Wisconsin and Iowa that are important to local residents and that could be harmed by constructing the CHC power lines. Had the firm hired to prepare the DEIS made an effort to locate books on historic buildings in Dane County, they would surely have come across "Historic Places of Rural Dane County," which includes photos and texts describing some of the county's oldest structures (Figs. 7,8,9). One of the oldest, the Berry Haney Tavern, is located on Stagecoach Rd. in the Town of Cross Plains. If the CHC line is approved, after crossing to the opposite side of Route 14 at Cleveland Rd. and continuing down Route 14, the towers would then head up Stagecoach and extend over the Haney building before joining up with County P and then to other places where it will spoil yet more architectural and natural treasures. The CHC line will cause more damage than good and is not needed.	The EIS uses the best available records and data provided by the Iowa and Wisconsin SHPO databases and site-specific surveys to identify potential historic properties within the alternatives. The EIS recognizes that additional historic properties may be present along one or more project alternatives, and the Iowa and Wisconsin SHPOs, RUS, the Utilities, and other consulting Federal agencies have drafted a PA under Section 106 of the NHPA. This PA details a phased identification and treatment plan for cultural resources identified within the chosen alternative. This PA is included as an appendix of the EIS. The Berry Haney Tavern (Structure Reference Number 4789) is discussed in EIS Section 3.9 under Alternatives 1, 2, 3, 5 and 6.
U.S. Senate	Baldwin	ALT01	I am writing to highlight local stakeholders' concerns about the draft environmental impact statement (EIS) for the proposed Cardinal Hickory Creek high-capacity transmission line. My constituents contacted me to share their concerns that the draft EIS lacks a thorough analysis of alternatives to constructing the project and did not consider a full range of potential locations for crossing the Mississippi River. I urge you to include a meaningful analysis of non-transmission alternatives and additional river crossing locations in the project's final EIS.	For the alternatives considered for crossing the Mississippi River, EIS Section 2.2 describes the other river crossing alternatives that were studied and evaluated by the Utilities prior to engaging the NEPA process with RUS. These other Mississippi River crossing alternatives were eliminated because they were not permissible by other agencies or governments with jurisdictional authority or were not technically feasible. As discussed in EIS Chapter 2, Section 2.2.2, non-transmission alternatives are not responsive to the applications to which the Federal agencies are responding, nor do they meet the six-point purpose and need described in EIS Chapter 1.
U.S. Senate	Baldwin	NEP02	While I support the Rural Utilities Service's mission to improve rural electricity infrastructure, it is also important to comprehensively evaluate the need for new transmission infrastructure, particularly when much of the cost of this construction will be borne by electricity ratepayers for decades to come. For years, local leaders and residents across southwest Wisconsin have been actively engaged in the planning process for this project that could substantially impact their communities. Nonprofit groups and many individuals submitted numerous comments during the project's scoping process, requesting that the draft EIS for the Cardinal Hickory Creek project include a thorough evaluation of alternatives to constructing the high-voltage transmission line.	Thank you for your comment. As discussed in EIS Chapter 2, Section 2.2.2, non-transmission and low-voltage alternatives are not responsive to the applications to which the Federal agencies are responding, nor do they meet the six-point purpose and need described in EIS Chapter 1.
U.S. Senate	Baldwin	NEP01	The draft EIS, released in December 2018, did not accommodate these requests and instead provided only a cursory evaluation of possible alternatives to constructing a transmission line. I request that you respond to the community's request for a thorough analysis of non-transmission alternatives prior to finalizing the EIS	Non-transmission and low-voltage alternatives are not responsive to the applications to which the Federal agencies are responding, nor do they meet the six-point purpose and need described in EIS Chapter 1. Additional details and rationale for dismissing alternatives from detailed analysis in the EIS are provided in EIS Chapter 2, Section 2.2.
U.S. Senate	Baldwin	NEP02	Local leaders who have reviewed this project point out that evaluating these alternatives is particularly important because projections for electricity demand in Wisconsin and across the region have changed significantly since the project was first proposed over ten years ago. Similarly, the technology of non-transmission alternatives has advanced substantially and their cost has declined. In addition, regional transmission planning will soon provide updated analyses of regional transmission needs that are informed by these substantial changes. These are all significant changes that ought to be addressed. Thank you for your attention to the concerns of the communities that would host this project. I again urge the agency to produce a final EIS that meaningfully reflects their important input.	Non-transmission and low-voltage alternatives are not responsive to the applications to which the Federal agencies are responding, nor do they meet the six-point purpose and need described in EIS Chapter 1. Additional details and rationale for dismissing alternatives from detailed analysis in the EIS are provided in EIS Chapter 2, Section 2.2.
	Gabriel	DECI09	Good evening. My name is Eric Gabriel, and I'm the superintendent for Ice Age National Scenic Trail for the National Park Service. I would like to say thanks to the United States Department of Agriculture and Rural Utilities Services and the planning team for allowing us the opportunity to give comments. National Park Service is a participating agency in the Cardinal-Hickory project in regards to the Ice Age National Scenic Trail. We will be submitting our comments when they're finalized through the proper channels as we have on multiple occasions previously, and I want to say thank you for having me here tonight	Comment noted.
	Klopp	DECI13	Hi. Yes. I want to thank all the folks here who have come and made this possible for us to come and comment, and it's a very important activity for all of us. Cardinal-Hickory Creek transmission line project is like a dark cloud hovering over Wisconsin and threatening the prosperity of -- and the quality of life of Wisconsinites, and I think a lot of people in this room probably feel that. Everybody has their own opinion. That's really what this is for, so that we can make our comments and -- on the EIS and hope that the people who make the decisions will hear our voices. The EIS covers many different aspects of the project, and it covers need, alternatives, environment, and many other things. There's a lot of things that are going to affect the lives of people who live in the areas where the project is proposed, like effects to our local economies, our tourism, property values, our environment, and the beauty of the frivolous area, which is just really a treasure for most of us.	Comment noted.
	Dolan	HAS01	Hi, my name is Bill Dolan. I really don't even understand why we're here. Any road you drive down, there's signs up everywhere. Nobody wants us. Who isn't listening to what we're saying? Or is there anybody listening at all? I did a little bit of research on these lines, and I think anybody that knows any -- I know dozens of farmers that have suffered financially and physically from electricity. Nobody would help them. They're either broke or were (inaudible) health-wise. Straight voltage. Now they're running this show through, and they can't even begin to target the dangers of it. I've done a little bit of research on it. I contacted a charged particle physicist who's Nobel awarded, and we got to talking. And he said, what direction does the wind blow where you're at? Well, I really didn't know. I kind of knew. The warmest eight months out of the year blows out of the south. The	Potential impacts to human health from EMF are discussed in Section 3.13.2.3.1 of the EIS. A discussion of stray voltage has been added to this section.

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			other four months when it's cold out, it blows north/northwest. Now, it just so happens I hit the lottery. My house is within 100-foot north of where this is going. He said, if you ever -- have you ever went behind, like, your refrigerator or your washer or dryer and you see all of that dust that's real sticky and it sticks to the wall? It doesn't blow away or vacuum clean up easy. He said, that's charged particles. Now, imagine a small volume of air that blows through there and the volume of charged particles you get. That kind of made sense now. Now, imagine 345 kV 70- to 90-foot in the air. That's charging every dust particle that blows through there. Now, common dust isn't a problem. Now, all of a sudden, it's real sticky. So when you breathe it in, it's not easily smelled. Now you're going to have health consequences. I asked this man what I should do. He says, Mr. Dolan, just sell your property before -- you get out or get away. The day you leave, start smoking a pack of cigarettes a day. That didn't make sense. I asked him, why -- why would I do that? Well, you'll live longer doing that than staying where you're at. And I've asked these people right along. I went to numerous of these meetings for three years. I thought it was wrong to begin with to do somebody else this misdeed, but now it's at my front door step; and I've got a dog in a fight. So I asked one of the guys at these meetings, well, how close can you build this. Well, we can build it right over your house if we want. I looked up -- federal law says you've got to stay 50-foot away. I asked my Nobel glory buddy. And he said, anywhere in Europe where they've built these, they're 750-foot away minimum distance from any dwelling. I says, well, why are we so lucky. He says, you live in the most corrupt country in the world. Your bankers and big business control everything. And he says, I don't mean to be nasty or rude to you; but you American people are the most naive, stupid people in the world. And after some of the stuff he told me, I couldn't believe it. If they build anything like this closer than 750 feet, it has to be encased in concrete and surrounded by carbon fibers [ph]. And here, they just do what they want; and we're stuck with it in the end. I'm so disappointed in my government and the people who are supposed to be watching out for me. I went to one meeting and asked this guy, is there dangers involved in this, is there a health risk. Well, he said, the government's watching out for you. And I thought -- I said to him, I says, but it took them 50 years to write a little thing on the side of a pack of cigarettes saying it might be harmful for you. I'm going to count on these guys to watch out for my best interest? Somebody's asleep at the wheel here. Now, nobody paid me to come here tonight; but there's so many people that are getting paid. There's this much money in doing this to pay all of these folks? I guess I said enough, huh?	
	Sandner	HAS01	I'm Frank Sandner. I live north of Blue Mounds. I attended the meeting about this environmental impact statement in Dodgeville last week. I realized that I did not hear this issue addressed. So I thought about it, and I'm back. There are four schools that I know of that are affected by this project. In the written information I submitted, I cited a list of studies that say there's evidence that electromagnetic fields possess a danger to developing brains. The risk of childhood cancer appears to increase. I live in the Barneveld School District where we recently passed a referendum taxing ourselves substantially for improvements to our school. Work is in progress on those improvements now, and now we're learning that our kids will have to be going to school near an unnecessary 345 kilovolt power line. That's seven hours a day for six years in this electromagnetic field. The school board in Mount Horeb passed a resolution opposing this unprecedented, unproduced utility expansion. The Dodgeville School Board passed a resolution opposing this outdated power line. Barneveld School Board passed a resolution opposing this (inaudible) power line.	Potential impacts to human health from EMF are discussed in Section 3.13.2.3.1 of the EIS. A discussion of studies of potential impacts on rates of childhood leukemia has been added to Section 3.13.1.1 of the EIS. The number of schools within 300 feet of the proposed transmission line has been updated in Section 3.13.2 of the FEIS.
	Sandner	SOCIO01	Last week, I learned that this power line is also going to pass over an Amish school. I'm wondering about how the final environmental impact statement will deal with this risk.	Comment noted. The EIS has been revised to ensure that the potential impacts to the referenced community are included in the impacts analysis within the Socioeconomic section (EIS Section 3.12).
	Sandner	HAS01	And RUS people, Rural Utility Services people, I'd appeal to you to turn down that loan to Dairyland Power. The health of a lot of kids might be at stake for a power line, which is not -- which purpose is not to move power; but it's to move money from taxpayers' pockets to ATC pockets.	Comment noted.
	Goodman	DECI13	Yeah. My name is Mike Goodman. I live on the north side of Madison. I hadn't really come prepared to make a statement, but I am grateful for this opportunity since you've come this close to Madison that I thought it'd be worth it to stand up. I -- my main opposition is going to be very general terms. I've not had an opportunity to read the draft impact statement, so my comments are all very general. But basically I'm opposed to building a line through what is very pristine, scenic, a rural, natural area in southwest Wisconsin.	Comment noted.
	Goodman	ALT01	I feel that there could be other ways of rerouting the line perhaps along rights-of-way, along public highways, or along the railroads.	Comment noted. EIS Chapter 2 discusses other routes considered for the C-HC Project.
	Goodman	ALT01	I think -- I'm opposed to putting the line in pristine areas, in open country where it will just be a blight on what is presently a fairly scenic natural area; and so I would be urging a reconsideration of routing.	Comment noted. EIS Chapter 2 discusses other routes considered for the C-HC Project.
	Goodman	SOCIO03	I'm aware that southwest Wisconsin is not an economically blessed part of the state and that it is, in fact, desperate for economic development; but I'm not sure that just running a power line cutting across this pristine natural area is the way of fostering that economic development.	Comment noted. Potential impacts to social and economic conditions, including property values and tourism, are provided in EIS Section 3.12.
	Goodman	DECI13	There's also two larger concerns. A previous speaker mentioned the question of -- the fact that the private enterprise system has so much power in U.S. public policy. I think he's exactly right, and I am concerned about companies like ATC. I'm concerned that they have essentially been given the right to possess powers of eminent domain. And in general, I'm opposed to the fact that eminent domain has now been expanded not only to the public sector but now private companies are able to invoke those powers too. And I think that that is outrageous. And I share the previous speaker's concern that in Europe, people tend to be much more advanced as far as concepts of corporate responsibility and limitations on profit and stronger regulations to protect the environment that we for some reason have never approached. And I think a lot of that is just because traditional American history's role of free enterprise and the private sector	Comment noted.
	Goodman	OOS01	Another issue that concerns me, although it goes way beyond the scope of what we can discuss here tonight, is that there has to be some limitations on population growth both in Wisconsin and the country as a whole and in the world as a whole. If that is not done, we are going to be having many more meetings like this in the future, and we will keep -- we will keep on fighting the same battles until we realize that population growth has to be curtailed somehow. Thank you very much.	Comment noted.
	Wheat	HAS01; SOCIO06	Hi. I'm Jeanette Wheat. I didn't come here tonight with anything in particular to say. But I live in Darien [ph] Heights right along Highway 14 near Cleveland, and there are 30 or so homes there that would be very specifically directly affected by this line; potentially health-wise, depending on what studies you read, and definitely monetarily in terms of property values. I've spoken with Realtors who will just tell you, in space [ph], somebody sees one of these lines, they'll either turn around and walk right out. Or if they decide to buy the property, they'll expect a really deep discount on it for having lines like that either on the property or visible from the property.	Comment noted. Potential impacts to socioeconomics are disclosed in Section 3.12 of the EIS.
	Wheat	SOCIO07	Just a couple of things that I'll mention that's readily available from -- I think her name was Chris Klopp who spoke earlier. Anyway, we need more information about actual impacts with supporting data of this (inaudible) proposal on things like the following: Critical habitats and waterways,	Comment noted. The EIS discloses and analyzes adverse and beneficial effects from the C-HC Project to inform both the public and agency decision-makers. EIS Chapter 3

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			impacts on rural property, organic farms, artisan businesses that are critical to our economy, impacts on natural rare earth, natural ecosystems that are characteristic of the (inaudible) area, which is very unique here.	discloses impacts to vegetation (EIS Section 3.3), wildlife and critical habitats (EIS Section 3.4), waterways (EIS Section 3.5), agriculture (EIS Section 3.10), social and economic conditions (EIS Section 3.12) and several other resource topics.
	Wheat	WLDF04	Concern with habitat degradation and fragmentation for species with special status.	Potential impacts to wildlife are disclosed in EIS Section 3.4.
	Wheat	WLDF01	I don't know if any of you have seen -- and I'm sure you can't see it from here, but this is a picture that was taken in my yard by my husband a couple of years ago of one of those little newt lizard, salamander sorts of things that are very rare; and apparently this is the only place they live this side of the Mississippi. Whatever you think, we're all dependent on each other, including those little pains.	Potential impacts to wildlife are disclosed in EIS Section 3.4.
	Wheat	SOCIO03	The impact on tourism, recreation such as trout fishing, hunting, bird watching.	Comment noted. Potential impacts to social and economic conditions, including property values and tourism, are provided in EIS Section 3.12. Potential impacts to land use, including recreation, are disclosed in EIS Section 3.10.
	Wheat	VIS01	The visual impact on the lines from homes, community properties and natural areas and concerns about maintaining correct practices on conserved lands.	Comment noted.
	Wheat	DECI13	Bottom line is, this is not something we need, not something we should have. Alternatives must be investigated. Thank you.	Comment noted.
	Vosen	ALT03	Good evening. I'm Grace Vosen, and I'm here to speak in support of the no-action alternative for this plan.	Comment noted.
	Vosen	SOCIO07	I'm a restoration ecologist, but I'm not here representing any group or agency. I'm just here as myself. I have lived for 25 years, and 21 of them I've spent in this part of Wisconsin. And as another speaker alluded to, the towns in a driftless area, they vary widely in their economic success, which means that we need to be very smart about taking what makes us unique and using that to ensure that we have an economic future. And in our case, what makes us unique are these high-quality natural landscapes and ecosystem services that they provide to us; and these are fragile landscapes. So it doesn't matter what -- you know, how big the disturbance is. It doesn't matter where you put this thing. When those landscapes are gone, they'll be gone. And even as a restoration ecologist, I can tell you there's simply no putting them back. Thank you.	Comment noted.
	Koffel	ALT04; NEP02	Good evening. I'm John Koffel. I live at 4144 Pikes Peak Road in Ridgeway, Wisconsin, on a farm that will look at this -- that would see this proposed line. I think there's a real need to recalculate for a nontransmission alternative. The calculations that Mizo [ph] made to justify this line were made more than 10 years ago, and they were made without any knowledge of the current power production that's being planned for Wisconsin. Some of that power production -- and I'm talking about renewable wind and solar power production for Wisconsin in Wisconsin local power, and it's more than 500 megawatts of power that's coming on the line. Some of it is likely to be approved and -- as an approval process that will arrive at a decision before anything that is being finalized by Cardinal-Hickory Creek. This is real progress. None of this power was contemplated by the calculations for Cardinal-Hickory Creek. Those calculations were made more than a decade ago. Cardinal-Hickory Creek, it's my understanding, will -- can supply only 1,300 megawatts of power from Dubuque to the Madison substation. Only about 10 percent of that power will be renewable power. They emphasize time and time again that the purpose of this line is to provide renewable power. We are doing that ourselves. We do not need to spend \$500 million, and there honestly should be an argue with denial of this \$45 million loan application. There is no need.	Comment noted. The C-HC Project has been independently modeled and verified by multiple entities, including MISO, which used a planning process approved by FERC. MISO regularly updates its analysis of the Multi-Value Project Portfolio, of which the C-HC Project is one project in the portfolio. The latest update by MISO was in 2017. The Utilities have modeled and evaluated the C-HC Project, and the state regulatory agencies (PSCW and IUB) are currently evaluating the project. RUS and the other Federal agencies are considering all information, in addition to public comments, when analyzing the C-HC Project to comply with NEPA. This is explained in EIS Chapter 1. The Federal agencies must consider reasonable alternatives when considering their Federal decision. As discussed in EIS Chapter 2, Section 2.2.2, non-transmission alternatives are not responsive to the applications to which the Federal agencies are responding, nor do they meet the six-point purpose and need described in EIS Chapter 1. The Federal EIS considers alternatives that are ripe for Federal consideration. What that means is that a proposal has been made for those alternatives or that it is reasonably foreseeable that they could be implemented in a time frame that would meet the need for the Federal action.
	Koffel	ALT04	The nontransmission alternatives are reviewed under Section 2.2.2; and these must be recalculated, must include the current proposed and about to be approved renewable resources that do not require new transmission lines, \$500 million worth of new transmission lines. The cost has been represented as only 4 like \$50 million to Wisconsin ratepayers, but what they don't tell you is that the other 17 MVP projects that were proposed and had largely been approved by for Mizo and for ATC, most of them -- many of them, 10 of them never came before the PSC, but we were allocated - under the FERC regulations, Wisconsin was allocated those costs; and we are paying for them. It's about \$1 billion worth of costs. It is not \$66 million that they falsely state we are absorbed. So anyway, we are doing our own power. We don't need this transmission line. Energy efficiency also under Section 2.2.2.3 completely eliminates CO2 production. It's not 10 percent of the power that's going to be sent to us at 4 percent line loss every mile that comes from Iowa. It's 100 -- it's -- a watt that we do not use produces no CO2, and that's really what we're all about. We want to preserve our environment. We want to stop climate decline as much as possible. So there's a lot that needs to be done by the consultants that are rewriting and had the responsibility for careful evaluation of this loan request. Thank you. (Applause.)	Comment noted.
	Wardoor	DECI13	Well, I guess this is my test of thinking on the fly because I didn't come prepared to talk at all. My assumptions were actually borne out that we would have some very elegant, educated, smart, particular people already talking. But we have two hours, and I only have five minutes. I wish I could babble on and use all -- the rest of the time. But what I'm going to talk about is very difficult data to accumulate. It's called human effect -- human dynamic effect. I listened to the nice introduction of all of the different agencies that are involved. We have people that are going to measure water temperature and air temperature and look at salamanders and EMS and all kinds of things. I kind of wish we had gone to the same school as Bill Dolan and Chris Klopp who -- who are the kind of people I am glad came and spoke tonight. But I've -- I live near Mount Horeb, but I don't live in Mount Horeb. My property is well outside of Mount Horeb. I get -- I'm interested only because when I -- when I see something wrong, I like to jump in; and what I see wrong is that there's deference shown to corporations. And the one effect, the human dynamic effect that's going to happen from this in the Mount Horeb area struck me as incredibly wicked; and let me talk about that. Mount Horeb is -- it's not my hometown. It's my adopted. It's the closest town to me. I love to shop there, and I love the people; and I wanted to live out the rest of my days with these kind of people in this kind of environment.	Comment noted.
	Wardoor	SOCIO06; VIS01	So when you see people whose property values are going to be hit significantly, when you see people suffering like Glen and his wife, Stefan, it's going to pass right over their house. They're located right on the edge of 151 at JG for those of you who don't know that particular area. I did my own little appraisal over the last couple of years, and I took a bunch of photographs of what Mount Horeb looks like; and I want to talk about the stadium effect of Mount Horeb. Mount Horeb sits at 1,204 feet above sea level, and 151 sits significantly below it. In fact, I can't -- it's 1,100 feet, but	Comment noted. Potential impacts to social and economic conditions, including property values and tourism, are provided in EIS Section 3.12. Potential impacts to visual quality and aesthetics are disclosed in EIS Section 3.11.

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			then we dug out for 151 years ago; so it's a little more than that. What you get when you go to a Badger football game is you sit in the top row. You have a beautiful sight of everything out in front of you. And the people of Mount Horeb, hundreds and hundreds of houses, everybody that's south of Main Street -- Main Street's 1,204 feet, 1,100 feet. You can look downhill from Mount Horeb except for one little plateau where you're going to be able to see every wire and every tower passing like a horseshoe around Mount Horeb. I don't know what the actual property value effect is going to be. I think only the marketplace is going to determine that, but I have yet to see any study anywhere that says when you have 170-foot towers and 345,000 volts going by your house, your property value increases. In addition to that, of course, is just the aesthetics. My son has a Drone, and we're going to take some pictures; and we're going to have them adapted to show where -- the towers and the wires. And I'm going to show those to as many people as I can around Mount Horeb so they can get a little excited about this. You know, we approach a lot of people; and they basically say, no, the corporations always win. Thank you for your time.	
	Belkin	DECI13	I want to thank everyone for coming tonight. First of all, this is great. But I have kind of something to show everyone what this -- they're wanting -- they're wanting us to have actually. They're wanting us to have an energy, factory, industrial park in southern Wisconsin	Comment noted.
	Belkin	VIS01	AUDIENCE MEMBER: Ugh. MS. BELKIN: This is what it's going to look like. AUDIENCE MEMBER: Ugh. MS. BELKIN: They want windmills. They want -- we're talking about windmills that are factory windmills. We're not talking about a wind -- you know, a couple of windmills here and there. We're not talking about a couple of solar panels here and there that would be on a residential house. We're talking about solar farms that's going to take 3,500 acres in Iowa County and other parts of the southern part of our southern State of Wisconsin. And I don't know about you, but -- I don't know -- taking a look at this, is there too much room for buildings, for homes, for residents, for businesses, for our families, for our children? It's very, very scary. This is what they're talking about. Not just meaning one transmission line of a C-HC but others to follow. AUDIENCE MEMBER: Amen.	Comment noted.
	Belkin	HAS01	MS. BELKIN: And that is so scary. Do we want to live by something like this? AUDIENCE MEMBER: No. MS. BELKIN: What about our schools with our children? And talking about our children, what about the electrical -- EMS, the electric magnetic fields, that can harm our children? That has been proven by the data and the research of the World Health Organization. Leukemia for our children let alone what we're talking about, the health issues that have been proven in other countries. And if you want to take a look at the fact that if you're a tractor -- semi driver that goes towards Chicago, the computers are fried. And then the gentleman of that truck driver, he fixed that one. And he went down again towards Chicago; and sure enough, he fried that computer too. So if you're going to fry computers, think of what it does to your body. Think about what -- take a look at the arcs that have happened in California and their wildfires. And these wildfires, of course, they're coming back and saying, hey, you know, look at the transmission lines with this arc because it goes from one spot to the other with this electricity that you can see at night. And the California -- the electric company -- well, they -- they -- they sued them. They sued the electric company in California because -- because they started the wildfires in California. Is this what we want? AUDIENCE MEMBER: No. MS. BELKIN: Is this what we want?	Comment noted. Potential impacts to public health and safety are disclosed in EIS Section 3.13.
	Belkin	DECI13	AUDIENCE MEMBER: No. MS. BELKIN: To destroy our soil, our ecosystem, our species coming in and destroying everything that we in Wisconsin have -- have tried so diligently to keep our ecosystem, to keep our natural resources, and then all of a sudden have them destroyed by companies? And some of these companies are foreign companies. They don't even live around here in the United States. AUDIENCE MEMBER: That's true. MS. BELKIN: They don't care about -- they do not care about a farm or a home or a business in southern Wisconsin. They don't care about that because they're going to make lots of money. They're going to put it in their pocket, and they're not even going to drive down here. They're going to be making some good money. The root of all evil. So I want to thank you for listening to me very much.	Comment noted.
	Fey	SOCIO07	Good evening. It's nice to see some of you folks here this evening. I want to talk about just two things. I didn't come prepared to speak this evening, but I spent part of my afternoon watching a film called Decoding the Driftless, which is an award-winning film that spends very careful time teaching us about what's so special about the driftless area. It's continentally significant. There's no other place like it on the planet, really. And that means that the kinds of species that were referred to earlier are unique to that area. So I think it's very important that we don't challenge that fragile area with industrial landscapes like this.	Comment noted.
	Fey	NEP02; SOCIO08	But the other two points that occurred to me are more energy-related. One -- the first is I happen to become aware of a study that was recently done to find out how much could -- how many jobs and how much money could Wisconsin save if we went to 100 percent renewable energy, and the answer is about \$14 billion a year because Wisconsin has no fossil fuel energy in its borders; so we import all of that. If we were to go to 100 percent electric, most of it is coming from renewable energy. We would say billion of that would stay in the State of Wisconsin. The other really significant fact that I learned there is that every day in Wisconsin, 22 times the amount of renewable energy that we need hits the state or is in our borders one way or another. Whether it's wind or solar or biomass, we're currently harnessing about 1 percent of that. And so we have the potential to meet all of the State's energy needs with renewable sources, and those are much more -- much more often done on a very local basis	Comment noted. As explained in EIS Chapter 1, the C-HC Project would benefit renewable energy generation within the states of Iowa and Wisconsin.
	Fey	ALT02	And that brings me to the third point, which is that these large transmission lines are not resilient. When they go down, a whole area goes down. And do you remember when the eastern third of the U.S. blacked out? But the kinds of energy systems that are going in on a renewable basis now in --whether they are solar farms or on people's rooftops, wind farms, all of those can be considered distributed energy resources. They do not have to feed into very large transmission systems. They could be designed to serve more local areas that are, say, within 10 miles of where a particular installation is. And that, to me, is a far more resilient way to be planning our -- for our energy needs in the future than this very, very outdated old-fashion technology of sending electrons halfway across the country. Thank you.	EIS Section 3.13 has been revised to include a discussion about severe weather and security breaches.
	Scott	VIS01	MR. SCOTT: My name is Tim Scott, and I'm from Mount Horeb. MR. LEE: Tim, can you speak into the microphone for the court reporter? MR. SCOTT: Sorry. I'm not used to -- I'm used to a PowerPoint and flipping through slides. I'm obviously very much opposed to the transmission line and, in particular, what's been designated as the primary route, the one that goes -- the southern route that crosses east to west in front of Blue Mounds and around Mount Horeb. I finally got to go for a bike ride yesterday. It was breakout day. And I thought, well, I'll cruise around to the south a little bit and tried to get some idea of what that whole topography's going to look like when that transmission's line in place. And, you know, it turns out the top of Blue Mounds is about at 1,700 feet; and that -- Blue Mounds is really a landmark for all of us locals, and it's been a landmark since settlement times. And you've all seen it. You know it. You can tell which way is north or south or east or west from Blue Mounds. And the top of Blue Mounds is about 1,700 feet, and the planes just at the base of it is roughly around 1,300 feet. So that's about a 400-foot elevation, and it stands out. Blue Mounds is very distinctive. It's like the highest point in southern Wisconsin. And the towers more or less will come to about half of that height, 175 feet. So I 14 was trying to picture how that would look east to west as far as the I can see from my view to the south, and I was very discouraged by that. I think there are a lot of very valid technical reasons to oppose the transmission line regardless of the placement, and a lot of	Comment noted.

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			you have spoken well and passionately about that; and you should be submitting your comments for sure. And I have valid comments. But I really think, you know, aesthetics is such a big part of that; and that's sort of the elephant in the room, really, is nobody likes the appearance of a transmission line.	
	Scott	NEP02	I grew up actually driftless; and I grew up in Hollandale, which is about 15 miles south of Blue Mounds. And when I grew up in my -- you know, early days were in the '60s when we -- power was nice. It was available more or less all the time. Every once in a while, it would go out; and we'd have to fire up the alternators on the farms. But we got by, and we really didn't think much about conserving energy in those days. You know, it was nice to have cheap, available power; and we very much appreciate that. The funny thing too is, you know, you could tell back in those days the farms were -- there was a lot of small farms. There was a lot of local cheese factories. And you can kind of tell, you know, who was the last one to finish milking by when you heard the vacuum pumps go off. You know, that's just the way it was back then. And it turns out, actually, I have a farm still down by Hollandale; and I'd very much like to climb -- walk up to the ridge at night and sit on the roll-around bales and kind of watch the sun go down. And of course, Blue Mounds is always there. And at night, too, though, you know, it's not what it used to be. The glow over Madison is so much brighter now than it used to be. There's cell towers everywhere flashing. There's three wind farms that I can see from the ridge that really flash. It's kind of annoying in a way. It's nice to have renewable energy, but they're massive wind farms. So, you know, there's an understandable demand for power. We all appreciate that. But I looked at -- you know, I'm -- as a farmer in Iowa County, I'm a member of the Scenic Rivers Energy Co-Op; and I was looking at their flat demand over the last few years. And I'm thinking why -- you know, the demand is flat, you know, obviously -- you know, I don't know what the projections are; but I don't see the need for -- at least supplying energy in our area hopefully will embrace more alternative energy sources. So thanks for listening. So make your comments, please.	Comment noted. EIS Chapter 1 describes the need for the C-HC Project as well as the decisions facing the three Federal agencies that have received loan or permit applications for the C-HC Project. EIS Chapter 1 also explains the renewable energy projects that would benefit from the C-HC Project.
	Spaay	SOCIO01	Thank you for this opportunity to speak. I really enjoyed the fellow who gave us the term "the human dynamic effect" because that's kind of what I wanted to address. The EIS draft does not recognize the sociological nor the psychological damage done to all the folks who have worked for decades to protect and enhance this unique driftless area of Wisconsin. If the C-HC proposal gets approved, how can they -- those people ever be compensated for their millions of hours of volunteered labor when all of their efforts are wiped out by the blatant lack of regard from big energy companies? I have owned and lived in my home on County Highway S near -- in Springdale Township near Mount Horeb for 44 years. I've raised my family there and have been part of the Mount Horeb community as an educator, a naturalist, and a volunteer with several parks and restoration projects.	Comment noted.
	Spaay	SOCIO06	My property is less than a half mile from the proposed C-HC line. My property value will drop 15 to 40 percent. But even more damaging than that by far is that the driftless area will suffer if this unnecessary high-voltage transmission line is allowed to populate our land and landscape.	Comment noted. Potential impacts to social and economic conditions, including property values, are provided in EIS Section 3.12.
	Spaay	WLDF01	My pond, pollinator gardens, prairie restoration projects will see fewer birds, bees, bats, and butterflies with those monster poles and wires interfering with their habitat.	Comment noted. EIS Section 3.4 discloses potential impacts to wildlife and their habitat.
	Spaay	SOCIO03; SOCIO07	The beautiful Military Ridge Trail just down the hill from my home will be horribly scarred and will attract fewer hikers and bikers creating a revenue shortfall for upkeep. As a citizen, scientist with the DNR and with The Prairie Enthusiasts, I have felt the rapture of seeing a great fritillary butterfly and finding beautiful, rare orchids and other endangered plants in our preserved prairie (inaudible). Those living things could be wiped out by the land clearing necessary to build that proposed line. I've always made an effort to use our resources wisely, and protecting our natural resources has been a way for life for many folks in the Mount Horeb area; and it's an important part of the curriculum in our schools. We added solar panels to our -- to the south side of our home in 1976, and that system has been providing about half of our heat ever since. No pollution and no ugly poles. Many other residents in this area use less energy and work hard to preserve our resources. Many have made changes to their homes and land to lessen the carbon footprint on the land we love.	Comment noted.
	Spaay	ALT04	So when we're told some new huge high-voltage transmission lines is necessary, we say, look at the alternatives. Rebates are incentives for energy efficiency development of locally utilized renewable energy and power and load management.	Comment noted.
	Spaay	DECI13	We have to protect this beautiful driftless area of Wisconsin. There are thousands like me who have donated millions of volunteer hours to protect our natural resources. Our endeavors to protect would be wiped out by the mindless land clearing for those towers to produce energy we don't need. Can we ever be compensated when everything we worked for is gone? Will we ever again volunteer for the good of the many? Thank you.	Comment noted.
	Bowar	DECI13	All right. Thanks, guys. You know, this whole thing just seems (inaudible) from even just coming here and all this is the comment section. You know, I mean, there's nobody giving any answers for this. You know, and then when we submit by mail, it's going to Pennsylvania. You know, it's not even going anywhere near us. You know, nobody in Pennsylvania has any idea what we're going through here.	Comment noted.
	Bowar	VEG01	I've worked hard my whole life. I'm 34 now. I bought my house when I was 21, and this power line is going to go about 150 feet away from my house. It's a three-acre farm that I have. I live on 4475 County Road J just outside of Mount Horeb. And where it's proposed to go by, I have about an acre of woods right there; and that's pretty much getting wiped out because it runs along Highway J. Between me and Highway J, they're going to wipe out obviously because trees can't sustain or can't be around it or within 100 feet of this line.	Potential impacts to vegetation, including forests, are disclosed in EIS Section 3.3.
	Bowar	HAS01	You know, it just --it really just irritates me. I just cannot believe we're going to allow this to happen. I hope it doesn't happen. I mean, number one, the line -- you know, for health reasons. You know, I mean, people say, you know, there's no health reasons -- or health risks in this line. That's what ATC's thresholds say. I mean, in the '70s, you know, cigarette companies had professionals that say, you know, there's no risks in that. I mean, everybody -- you know, for a certain dollar price, they can make anybody say something. You know, that there's no risks. There's a bunch of reading I've done about it. You know, I mean, 10, 15 percent of, you know, all children -- you know, I don't have any children yet; but some day, I will. And, you know, 10, 15 percent of child cancer -- or, you know, have -- they go close -- or hand-in-hand with, you know, power lines being close or whatnot. I live just on the south side of it. So what that gentleman said, you know, with that-- with all -- I mean, just with all of the-- I can't think of what I was going to say	EIS Section 3.13 disclose the potential impacts to human health.
	Bowar	SOCIO06	Oh, yeah. So -- and then -- so for -- I paid, you know, quite a bit of money for it. You know, and I've got a couple of buddies that are Realtors. And like I said, when I want to sell my house some day and hopefully move somewhere else, I'm going to lose like 40 percent of what I put into that place; and it's -- you know, it's a hard number to swallow, you know, a couple hundred thousand dollar place; and losing 40 percent of that. I mean, like I said, this ATC line is going to go right through my place. You know, it just -- I can't believe it. You know, I'm part of the Mount Horeb community; and I just -- I love that area. I grew up on a dairy farm there, and I don't want to see this happen in our community. That's all I've got.	Potential impacts to social and economic conditions, including property values, are provided in EIS Section 3.12.

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	Gerl	OOS01	Thank you, sir. Hi, everyone. So I, one, am not great at giving speeches; but I'm trying to work on things like this, so I might as well talk. I'm reading a book right now. I didn't grow up reading and whatnot. I grew up into video games and all that kind of stuff. The first-person shooters are my jam, but all of that stuff is just escaping reality; and it's time, like, we actually step up and face reality, at least the reality that we know in this world.	Comment noted.
	Gerl	HAS01	I'm reading one book right now. It's called Better, Not Bigger; and all of this -- this proposal is not better. It's bigger, obviously, as many people have previously mentioned. Somebody once told me -- so I've been getting interested in organic farming and gardening and all of that, restoring ecosystems, the birds and bees. My father's always said that, you know, when he was younger, he remembers -- whether or not this was accurate. But, you know, he remembers riding his bike and go through DDT [ph]. And, you know, all of the -- all of the birds and butterflies, animals in general, that have been affected. Contaminants -- so this guy mentioned in the past, contaminants have a compound effect on our bodies and ecosystems. This is a contaminant as many people mentioned. This summer, I had the opportunity to travel. My occupation allows me to take time off, and I was able to basically travel the United States and see the beauty that still exists. Sorry. If I can't read my handwriting, it'll take a second. I should have been a doctor, but I'm not. So -- but we are all unaware of the full effects that we're experiencing as a whole and, like, the ecosystems that are being tarnished as a whole.	Comment noted.
	Gerl	SOCIO07	I was so grateful to see the Sequoias, the Redwoods, Devils Tower. Like, I mean, I could go on. There was like 10 to 20 of them that I saw. And, like, the thing is, I came back to Wisconsin. I wanted California to keep me. I didn't want to stay in California. I wanted to come back where I am. I want to make an impact here. Like, the driftless area is such a gem. It's incredible. Yeah. I love Wisconsin. I'm going to keep going. The economy and money should not trump nature, and it does not. This whole area used to be an old savannah in the past. There's some restorations occurring, but not enough. We can see our own health when we look around us at the health of our ecosystem, savannahs, wetland and more; seeing national parks this summer.	Comment noted.
	Gerl	HAS01	Yeah. I mean, overall, I feel like, you know, technology in general, contamination, we need less of that, not more. I mean, what just happened this past week, you know, or a week ago as far as, like, the storms that went through, if I phrased it that way. I mean, these days, I know people that are interested in light contaminations. People brought up are soil, food, and water is frequently more and more being contaminated. Our bodies give off vibrational [ph] frequencies, and these are being interrupted; and we're not being healthy. Healthy people operate at a higher frequency. It's proven. And an unhealthy person does not operate at that same high frequency. We're just not doing enough to basically work towards -- maybe we are, but we should keep going and basically keep on working towards combatting evasive species and keeping ecosystems as pristine as possible; and this is not the answer.	Comment noted.
	Kean	DECI13	My name is Bill Kean. I live in Madison, and this damn thing is worse than I thought. These contributions tonight are really earthshaking; and it's a major, major problem. This power line cannot be approved. Somebody once said, what is a prismatic problem. Well, it's one from every angle; and that's what we have here. I want to thank all of you who came and who have participated. And I want to know, are there any individuals from the political situation in Wisconsin either representing a senator or the governor or any other position? Apparently not. So let's get on the phone tomorrow and make calls. Find out where these people stand and what they're going to do to help prevent this whole thing from occurring. Thank you for your time.	Comment noted.
	Crossfield	DECI01	Just a couple comments to maybe relate to things that may have been marginally touched on tonight -- there's been a lot of great comments -- that I hope everyone is clear that these entire proceedings from start to finish only involve a 9 percent loan from the agency of the federal government for this project; that this project could still succeed without the loan being approved. Now, everyone needs to beware that the Wisconsin Public Service Commission has published two of their own maps for this line, and they took comments until about four to six weeks ago; but this does not decide the entire issue. This is just a 9 percent loan application. That is one point	Comment noted.
	Crossfield	ALT02	Another thing from the environmental impact statement, or EIS, is that a project like this has a 30- to 50-year design cycle that if this is not needed now but it's needed in 20 years, it'll almost have to be replaced before it gets started. I would ask people to consider that the EIS itself document says this is a 30- to 50-year design cycle for this engineered power line.	Comment noted.
	Crossfield	VEG01	The last thing I'd like to -- I -- I talked once before, and I'd just like to revisit one item that may not have been clear is that the remnant prairie oaks that exists-- well, I'm aware of some. In the past, I have known some -- more burn scars from the Indian prairie burns that ended in the 1830s. Now, that one tree I was specifically aware of has died; but I am aware of other trees that fall into this remnant prairie oak. And the reason they grew as prairie oaks -- and they're very distinctive in the woods because they're very (inaudible), very large with huge trunks -- is that they grew in an open prairie from Indian burns of this area; and I would like them to clear -- to consider more clearly (inaudible) the loan. Thank you.	Comment noted.
	Beckett	DECI13	MS. BECKETT: Caroline Beckett. MS. BURNETT: Did I capture your name correctly on the screen there? MS. BECKETT: You did. You know me. Some of you know me. I've -- one good thing about this is that people (inaudible). I've met a lot of nice people who I didn't know before that we're pulling together against this power line. One of the things I'd like to see is a show of hands of people who are for the power line. You'll be surprised to know that there's nobody in this group that's for the power line. If you've seen the giant towers from driving through -- from Cross Plains to Middleton, those are big enough. Those are not anywhere close to 170 to 175 feet tall. We've already talked about the power's not needed. It's overloaded. It's hackable. It's from 1950s technology. This is just a really bad idea, so I hope the RUS will please take everything into consideration and turn down the power line. I can only hope that we can get to our state PSC too. There have been legislators who have come on with a letter against it, including Sondy Pope, Jon Erpenbach, Travis Tranel. Those of you who can help me out, there are two or three others who signed the letter too. Marklein, Novak. Yes. They understand the people they represent are against it. There's counties, Dane County, Iowa County, maybe Grant. I'm not sure about Grant -- AUDIENCE MEMBER: Yes. MS. BECKETT: -- are against it. Lots of municipalities. So for the people who don't live in Wisconsin who get to make the decision, please remember the people in Wisconsin don't want it. Thank you.	Comment noted.
	Bauer	SOCIO03	My wife and I strenuously oppose the ATC power line for all the reasons raised by the Driftless Area Land Conservancy. We believe that an additional reason also compels disapproval of the proposed project--saving the region's family farms via agro-tourism. The power line would deprive local farmers of one of the few strategies they can pursue to protect the area's remarkable agricultural heritage that is unquestionably key to their successful future. My opinions on this matter are based on considerable expertise and experience. I have a PhD in economics, with regional economic development as one of my areas of specialization. I also operated a 275-acre organic farm from 1983 to 2003, an activity that was terminated due to energy development (oil shale fracking in northeast Colorado, in my case). I am well-aware of the potential for rural renaissance through agriculture...and the rural economic damage that can be done by developments to meet urban needs. Given the alternatives to ATC's	Comment noted.

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			proposal, there's absolutely no justification for destroying the Driftless with unnecessary power lines. A bit of personal history should help make our point. I had to leave rural Colorado when energy development began ruining family farming there. My day job caused us to move to Chicago in 2004, and we began regular visits to southwest Wisconsin to get our rural "fix." The beauty of the area's farms is what caused us to retire to Madison two years ago, and we are appalled by the thought it could be destroyed by massive power lines. We love this area and take all our out-of-state visitors on tours to see it. We have personally observed the growth of agro-tourism as the area's cheese industry has risen to international prominence over the past decade. We have been "cheese-heads" all our adult lives and have noted how the national cheese press has focused on the Driftless in recent years. As a reader of several "foodie" magazines that feature cheese, I have seen Wisconsin take over the spotlight from Vermont and other cheese-producing states. I don't have data at hand, but I'll bet the Wisconsin tourism experts can show how much cheese-related tourism has boosted the area's economy in the 2000s. The ATC power line could wipe out this new business almost overnight, eliminating what is arguably farmers' last chance to save agriculture. Please let me know if you would like any additional information about this special reason to oppose the ATC project. My wife and I firmly believe that the power line is a disaster-in-the-making for the local economy and the beauty that brought us here. Agricultural renaissance is essential to a successful future for southwest Wisconsin; Cardinal-Hickory Creek is not.	
	McKernan	CUL01	I find the U.S. Department of Agriculture Rural Utilities Service decision to prepare this Draft Environmental Impact Statement to be not encompassing enough, to say the least. The list of potential environmental consequences that they have presented falls far short of the actual areas and concerns impacted! For instance, under the general listing of Cultural and Historic Resources, there are no details whatsoever of the process that would be used to survey and record the impact on Native American campsites and burial sites throughout the complete proposed paths of construction. I therefore fail to see how this can be considered a legitimate process without doing a detailed analysis of each of the general categories listed which have similar omissions! Otherwise, lacking these details, the R.U.S. decision itself will be in question since it is possibly providing funds for the project which need to be based on these details.	The EIS uses the best available records and data provided by the Iowa and Wisconsin SHPO databases and site-specific surveys to identify potential historic properties within the alternatives. The EIS recognizes that additional historic properties may be present along one or more project alternatives, and the Iowa and Wisconsin SHPOs, RUS, the Utilities, and other consulting Federal agencies have drafted a PA under Section 106 of the NHPA. This PA details a phased identification and treatment plan for cultural resources identified within the chosen alternative. This PA is included as an appendix of the EIS.
	Schutz	DECI13	STOP THIS POWER LINE eminent domain for private gain ongoing tremendous debt	Comment noted.
	Schutz	WLDF01	destruction of animal/wildlife habitat	Potential impacts to wildlife species and habitat are disclosed in EIS Section 3.4.
	Schutz	DECI13	1950's technology	Comment noted.
	Schutz	SOCIO06	affects property values	Comment noted. Potential impacts to social and economic conditions, including property values, are provided in EIS Section 3.12.
	Schutz	LAND02	pesticides use around organic + other farms	Comment noted. Herbicides to treat an invasive plant infestation or to manage vegetation within the ROW would be used by certified pesticide applicators, and the herbicides would be registered and labeled by the USEPA according to product label requirements.
	Schutz	DECI13	Stop this insanity!	Comment noted.
	Schilling	DECI13	I think this should be banned -they take private property for private gain -7% is renewable energy - only 7% nothing -	Comment noted.
	Schilling	LAND02	organic farms, important to our country's food supply will be negatively affected pesticides to kill the growth under	EIS Chapter 3 includes the following environmental commitments related to herbicide use: The Utilities will employ a Certified Pesticide Applicator for all herbicide applications within the C-HC Project. The Certified Pesticide Applicators will only use herbicides registered and labeled by the USEPA and will follow all herbicide product label requirements. Herbicides approved for use in wetland and aquatic environments will be used in accordance with label requirements, as conditions warrant. During the easement negotiation, landowners can decline the use of herbicides for vegetation management activities once the line is in operation. Therefore, no herbicides would be applied within portions of the ROW on which the landowner wishes not to introduce it.
	Schilling	SOCIO07	The Driftless Area (which would be affected negatively) is a national treasure and a unique area in the world.	Comment noted.
	Michaud	WLDF01	I am writing over serious concerns about the Cardinal Hickory Creek Transmission Line. My concerns reflect those of others and I feel it is very important to add my voice. Among my concerns are the following: - The line would go over very environmentally sensitive areas - for example the Mississippi River Flyway	Comment noted. EIS Sections 3.4 and 3.14 disclose potential impacts to bald eagles and other migratory birds (including sandhill crane).
	Michaud	NEP02	Residents of the Driftless Area would be paying for Iowa Residents -There is not a need for more electrical power in the Driftless Area	Comment noted.
	Michaud	WLDF01	-Towers are ecologically dangerous to birds and will significantly disturb other wildlife	Comment noted. EIS Section 3.4 discloses potential impacts to wildlife, include migratory birds.
	Michaud	DECI13	This will be - eminent domain for private gain.	Comment noted.
	Crossfield	LAND02; VEG01	Forest Augmentation to forest comments of Barneveld Meeting While 150' power line easement may have a negative impact on row crop agriculture the same 150 easement in a forest totally destroys the land, both its environment and value to grow crops. Can it be made clear that when 150' of forest is cleared the next 100' on both sides of the easement are crippled (or more). In a forest competition encourages clear, straight, value tree growth. When a 150 degree segs?? Is cut into it the trees no longer have to grow straight up, but can find sunlight by going sideways. The encased sunlight also encourages weed and trash species that can invade the clear cut and invade the forest. If land siting for this power line (proposed) destroys the environment of a large swath of forest are our Utilities (and therefore us) willing to pay for the lands production and the continuing lost production in the leases of the power line life?	EIS Section 3.10 has been revised to disclose potential impacts to timber production.
	Crossfield	VEG01	Support for my verbal testimony at Barneveld Wis. This is to confirm my desire that the EIS revisit my scoping letter (2) of 1-3-19 and please review the scoping letter of Emeritus Dean Doctor Barney Eastenday of the University of Wisconsin School of Veterinary Medicine. Along with my Barneveld oral statement should give this EIS consideration a broad basis for environmental needs in Iowa counties forest environment	Comment noted. EIS Section 3.3 discloses potential impacts to vegetation, including forested areas.

Organization	Commenter Last Name	Comment Code(s)	Comment on DEIS	Agency Response to Comment
N/A	Crossfield	VEG02	This is a continuation of environment concerns raised by this proposed power line on <i>Asplenium Pinnatifidum</i> . Please revisit my scoping period comment of 1-4-19. This letter is to report that I have finally succeeded in viewing a Transaction of the Wisconsin Academy of Science, Arts, and Letters Volume 67, 1979 that was alluded to in my scoping letter of 1-4-19. Here information was found that updated my oral history that I presented in the Barneveld EIS meeting. This plant listed as threatened but has two locations in the town of Arena, and one in the town of Bringham to the south. Another Iowa county location exists in the town of Highway. These 4 locations for <i>Asplenium Pinnatifidum</i> are the only known location in the state of Wisconsin. Please reconsider my scoping letter 1 of 1-4-19 in view of this EIS.	EIS Section 3.3 has been revised to incorporate information about this species. <i>Asplenium pinnatifidum</i> is a fern species that is only found in Iowa County in Wisconsin. This fern is found at four sites: two located in Arena, one in Highland, and one in Brigham Wisconsin (Hanson and Hanson 1979). All four sites are outside the analysis area for the C-HC Project.
N/A	Form letter	WLDLF01; WLDLF04	McKenna Pond is located at the corner of our subdivision's property. The Pond is a unique site that supports two significant populations of amphibians - the only known population of Eastern Newt, <i>Notophthalmus viridescens</i> , in Dane County and the southernmost known population of BlueSpotted Salamander, <i>Ambystoma laterale</i> , in Wisconsin. Any activity in this area could upset their habitat. The photo below, of the Blue-Spotted Salamander, was taken in my yard in 2010 and I have seen a few of them as recently as last summer. [picture of salamander] A 150-foot wide cut swath would run along the entire length of the new ATC electric line interfering in wildlife habitat. This would include clear cutting of trees, shrubs, bushes, grasses and wildflowers and would disturb or destroy the habitat for every animal species that inhabits the area- whether it be a protected, an endangered or an abundant life form. It may make this area essentially devoid of every animal species that inhabits the areas. That ranges from butterflies to bumble bees to deer and coyote. It would also create a "highway" through the habitat, for the animals to traverse, without the protective cover of the brush, trees and grasses. This provides advantages for some predators and disadvantages for smaller prey. It will upset the balance of the ecosystem and have a negative ripple effect throughout the greater area. And therefore, all along the hundreds of miles of this new ATC line, every plant and animal species that habits the area will be put in harm's way.	Comment noted. RUS reviewed the latest conservation status for the eastern newt and blue-spotted salamander, both of which have a conservation status of least concern, meaning the population status is stable. Potential impacts to wildlife, including amphibians, are disclosed in EIS Section 3.4. Potential impacts to vegetation are disclosed in EIS Section 3.3.
N/A	Form letter	VEG01; VEG03; WLDLF04	In some cases herbicides and other toxic chemicals will be used to keep the area open at a cost reduced from manual labor and machinery, but at what cost to the environment? And therefore, all along the hundreds of miles of this new ATC line, every plant and animal species that inhabits the area will be put in harm's way.	Potential impacts to wildlife are disclosed in EIS Section 3.4.
N/A	Form letter	SOIL02; VEG04; WLDLF01	The Black Earth Creek and watershed runs along the proposed route. The proposed work could result in erosion and pesticides getting into the creek which would affect the wildlife negatively.	Potential impacts to wildlife are disclosed in EIS Section 3.4. EIS Chapter 3 includes the following environmental commitments related to herbicide use: The Utilities will employ a Certified Pesticide Applicator for all herbicide applications within the C-HC Project. The Certified Pesticide Applicators will only use herbicides registered and labeled by the USEPA and will follow all herbicide product label requirements. Herbicides approved for use in wetland and aquatic environments will be used in accordance with label requirements, as conditions warrant. During the easement negotiation, landowners can decline the use of herbicides for vegetation management activities once the line is in operation. Therefore, no herbicides would be applied within portions of the ROW on which the landowner wishes not to introduce it.
N/A	Form letter	VEG01; WLDLF01	The proposed lines run through the Driftless area. It has a special eco system that could be harmed by the lines, as well as a home to many diverse animals and plants.	Comment noted.
N/A	Form letter	SOCIO06; VIS01	Specify, by name and location, residences and businesses you feel would lose value if the high voltage transmission line was built. Describe the changes you feel would cause the property values to drop. The Deer Run neighborhood in Cross Plains, where I currently live, consists of 30 homes. These houses would lose property value. The third proposed route would take some of their land away. If the lines are put in on their side, that is the south side of Highway 14, or the other side of it, the large tower will be visible and will therefore affect the esthetic value of the property. Anyone living along the proposed route will lose property value whether it is from the pole being directly on their property or having a close-up view of it from the property. Also, when the houses across the street lose value, your home loses value too.	Potential impacts to social and economic conditions, including property values, are provided in EIS Section 3.12.
N/A	Form letter	HAS01; SOIL02	With the flooding in our area last summer, our hill along Highway 14 experienced major erosion. We believe any further activity by it that involves the cutting of trees would only increase the likelihood of more erosion. The homes that sit on top of this bluff would experience land loss, aesthetic loss, and possibly danger to their homes.	Potential impacts to geology and soils are disclosed in EIS Section 3.2.
N/A	Form letter	LAND02	Farmers would be negatively affected as land will be taken away from them to build these towers. This is land they need to grow their crops on. Less crops means less income for them. They may also be impacted from an increased risk of stray voltage, which may affect their livestock. Here are two web pages with articles regarding stray voltage and farmers and milk production: https://www.twincities.com/2016/02/22/6-3m-judgment-in-minnesotadairy-farms-stray-voltage-suit-upheld/ from TwinCities.Com Pioneer Press, "\$6.3M judgment in Minnesota dairy farm's stray voltage suit upheld" and http://www.omafra.gov.on.ca/english/livestock/dairy/facts/strayvol.htm Ontario's Ministry of Agriculture, food and Rural Affairs "Dairy Cattle - Stray Voltage Problems in Livestock Production"	Potential impacts to land use, including agricultural lands, are disclosed in EIS Section 3.10 A discussion about stray voltage has been added to EIS Section 3.13.
N/A	Form letter	NEP02	The newer houses in our neighborhood were built to be energy efficient. Many people in our neighborhood have made energy efficient upgrades to their homes over the years. I personally have changed virtually all light bulbs in my home to LED lightbulbs, installed a tankless water heater, added additional insulation in the attic and am considering adding insulation to the walls when I install new siding later this year. I replaced 9 skylights, about 1 & 1/2 dozen windows and doors, added ceiling fans, and upgraded my furnaces and air conditioners- I have two of each. With the trend being using less energy, we do not see a need for this line. There is data that shows that Wisconsin is steadily decreasing its energy use.	Comment noted.
N/A	Form letter	LAND02	This clear cutting will create expanses farmers would not be able to plant or harvest and areas they would have to drive across and work around. And any herbicides or other toxic chemicals will raise questions about the safety and quality of the crops raised in the vicinity.	Comment noted. EIS Chapter 3 includes the following environmental commitments related to herbicide use: The Utilities will employ a Certified Pesticide Applicator for all herbicide applications within the C-HC Project. The Certified Pesticide Applicators will only use herbicides registered and labeled by the USEPA and will follow all herbicide product label requirements. Herbicides approved for use in wetland and aquatic environments will be used in accordance with label requirements, as conditions warrant. During the easement negotiation, landowners can decline the use of herbicides for vegetation management activities once the line is in operation. Therefore, no herbicides would be applied within portions of the ROW on which the landowner wishes not to introduce it.

Organization	Commenter Last Name	Comment Code(s)	Comment on DEIS	Agency Response to Comment
N/A	Form letter	REC01; REC04; SOCIO03	We have quite a lot of tourism area around here with the Ice Age Trail including, hiking, bird watching, snowshoeing, and cross-country skiing. All of it may be affected by the installation of such eyesores at these electric poles and the clear-cutting of wide swaths of land all along the path of the towers. • Fishing in Black Earth Creek may be affected. • There is potential for snowmobile and ATV paths to be disrupted. • Many tourists visit attractions in the Driftless area. They attend plays at American Players Theatre, visit House on the Rock, tour Frank Lloyd Wright's Taliesin, recreate in Blue Mounds and Governor Dodge state parks and even buy from the many farm stands offering local produce for sale.	Comment noted. Potential impacts to social and economic conditions, including property values and tourism, are provided in EIS Section 3.12. Potential impacts to visual quality and aesthetics are disclosed in EIS Section 3.11.
N/A	Form letter	ALT01	The proposed yellow line option runs across the northern edge of my property. The proposed blue line option runs along the north side of highway 14, parallel to the proposed yellow line option, and immediately across the highway from my property. From my point of view, there is much similarity in these two proposed lines I am very concerned about how my property would be affected by placing this new electric line along the northern edge of my property.	Comment noted.
N/A	Form letter	SOIL02	The flooding of the summer of 2018 caused a great washout of soil and mature trees. Any additional disturbance to the soil could result in significantly greater problems, up to and including the stability of the ground in which the foundation of my home is located.	Potential impacts to geology and soils are disclosed in EIS Section 3.2.
N/A	Form letter	SOCIO06; VIS01	Also, with my home being built on top of a bluff above highway 14, I am very concerned that the view outside my second story solarium would go from a beautiful nature filled scene, of the fields on the north side of the highway, with the many colors of nature with green fields and blue skies to one filled with clear cut swaths of essentially bare ground dotted with 180 foot rusted steel poles and multiple, long, heavy, dangling wires obstructing my view of the sky. I am concerned that at least 2 of the options for routes for this line, the yellow and blue ones, will cause many of the same end-results for my property. And I do believe that this will adversely affect the value of my home. Even the proposed red line is not so far removed to the north, beyond the yellow and blue proposed lines, that its effects on the view out my solarium windows would be much different.	Comment noted. Potential impacts to social and economic conditions, including property values, are provided in EIS Section 3.12.
N/A	Form letter	VIS01	I enjoy the vista of the rolling hills covered with green growing crops. Planting one of these towers in the middle of a landscape and clear cutting all around it will certainly decrease the aesthetics and my enjoyment, and that of my guests, in looking at it. My view from my house will go from being one of natural beauty to one marred by the presence of one of these 150' or so tall towers with wires just about at eye level. People have moved to this area to get away from the city. The last thing residents or sightseers want to look at are large utility poles with the land clear cut around them.	Comment noted. Potential impacts to social and economic conditions, including property values and tourism, are provided in EIS Section 3.12. Potential impacts to visual quality and aesthetics are disclosed in EIS Section 3.11.
N/A	Form letter	WAT02; WAT05	The clear cutting of land necessary for these poles could also result in problems with water retention for the Black Earth Creek watershed area. And, McKenna Pond is an active drainage area that should not be tampered with as it would increase the likelihood of flooding. This pond has been there for over 100 years.	Comment noted. EIS Section 3.5 discloses potential impacts to water resources, including potential impacts to floodplains.
N/A	Form letter	VIS01	The Drift less area - these lands were never touched by glaciers and therefore has some of Wisconsin's most scenic landscapes. This landscape would be marred by the tall poles and power lines.	Potential impacts to visual quality and aesthetics are disclosed in EIS Section 3.11.
N/A	Form letter	HAS01	The cause of the most recent fire in November 2018 is under investigation because "suspicion fell on PG&E after it reported power line problems nearby around the time the fire broke out." If the proposed CHC line, which would extend through lots of remote areas of Wisconsin served primarily by volunteer fire departments with limited equipment encountered a similar conflagration, would ATC and its partner companies be liable for the resulting damage and possible loss of life? New legislation should be passed that would make them accountable for damages caused by their towers and lines. If their shareholders automatically receive over a 10% profit on erecting the CHC towers, they should also be responsible for any damages caused by those structures. 11& The decision to install these towers should not be made only if it is thought it won't harm much of anything.	Comment noted. Section 3.13 of the EIS discloses potential impacts to public health and safety that could occur from wildfire, occupational safety, hazardous materials, and electric and magnetic fields.
N/A	Form letter	SOCIO08	We must consider whether it cause benefit. Rather than just looking at how these towers and wires might cause harm to many areas and facets of the localities through which they would pass, we should be asking who will benefit from construction of these lines. It's not just that any given home or business or tourist attraction may or may not be harmed that should decide whether these towers will be built: It is important to determine if they will benefit from these lines. And if not them, who will? We all know the answer is that the only entity(ies) guaranteed to benefit are the ones doing the building. They are guaranteed at least 10% return on their investment. These lines are not needed and would not therefore benefit the citizens at large. In 2005 it was assumed that the growth in need for electricity, in the mid-states region, would be about 1.125% per year. That growth did not materialize due to energy saving devices and lifestyles. The price of solar power is going down and battery technology is improving.	Comment noted.
N/A	Form letter	SOCIO08	As an electric customer, I much prefer Investments In targeted energy efficiency- load management and distributed generation such as solar-support at substations Instead of high voltage transmission. Therefore, I adamantly request that the Rural Utility Service EIS conducted for the Cardinal Hickory Creek proposal Include comprehensive cost-benefit analysis of these non transmission alternatives.	Comment noted. As stated in NEPA regulations 40 CFR 1502.23, "For purposes of complying with the Act, the weighing of the merits and drawbacks of the various alternatives need not be displayed in a monetary cost-benefit analysis and should not be when there are important qualitative considerations." As discussed in EIS Chapter 2, Section 2.2.2, non-transmission and low-voltage alternatives are not responsive to the applications to which the Federal agencies are responding, nor do they meet the six-point purpose and need described in EIS Chapter 1.
N/A	Form letter	SOCIO03	Please add my name to the 252 citizens initially concerned about the DEIS address of, "... potential, adverse economic impacts resulting from loss of tourism, retirement housing, and business revenue in the area" from the high voltage option of the Cardinal-Hickory Creek (CHC) proposal. The DEIS does not provide an estimate of monetary impacts as requested. Request: For the Final EIS, please select three municipalities expected to experience significant impacts from the High Voltage Transmission option. Study and estimate the 40-year losses in property value, tourism revenue, potential housing and business development and decline in population for each. Compared the total losses for each municipality to the Environmental Impact Fees amounts they would receive based on WI law.	Comment noted. Section 3.12 of the EIS analyzes the potential socioeconomic impacts from the six action alternatives and the No Action Alternative to tourism, property value, housing, and other demographic topics. Quantifying the monetary impacts in the manner suggested is not required by NEPA regulations. As stated in NEPA regulations 40 CFR 1502.23, "For purposes of complying with the Act, the weighing of the merits and drawbacks of the various alternatives need not be displayed in a monetary cost-benefit analysis and should not be when there are important qualitative considerations."
N/A	Form letter	NEP02	2: Comment: Please add my name to the 481 persons asking the DEIS/FE IS to independently, and quantitatively analyze whether, in fact, there is a need for the project take into account the "decline in electricity demand in the Madison area." Request: Conduct quantitative analysis about CHC need and include in the Final EIS.	Comment noted.
N/A	Form letter	ALT04	Comment: In the draft EIS, RUS elected to not study and develop a Non-Transmission Alternative (NTA) under NEPA obligation to give decision makers, residents and electric customers the opportunity to consider all alternatives presenting lesser environmental impact. RUS also elected to not acquire the necessary, factual reliability information from transmission builders, the Low Voltage Transmission Alternative (LVA). Request: In	Comment noted. As stated in NEPA regulations 40 CFR 1502.23, "For purposes of complying with the Act, the weighing of the merits and drawbacks of the various alternatives need not be displayed in a monetary cost-benefit analysis and should not be

Organization	Commenter Last Name	Comment Code(s)	Comment on DEIS	Agency Response to Comment
			the Final EIS, provide a detailed, quantitative description of at least one, fully developed NTA blending necessary amounts of targeted energy efficiency, load management and distributed solar resources at specified location to match the reliability performance of the LVA. Provide the total budget for the NTA with estimated costs for each NTA component at each location. Refer to detailed requests presented here: http://bit.ly/SellaDanRUS_DEIS	when there are important qualitative considerations.” As discussed in EIS Chapter 2, Section 2.2.2, non-transmission and low-voltage alternatives are not responsive to the applications to which the Federal agencies are responding, nor do they meet the six-point purpose and need described in EIS Chapter 1.
N/A	Form letter	AIR01; ALT04	Comment: I join in concern that adding a high capacity, open access transmission line encourages nuclear, coal, and natural gas generation. The current DEIS does not quantify CO2 emission impacts associated with using the transmission line options or substantiate transmission builders' claims of only potential environmental benefits. In contrast a Non-Transmission Alternative investment in energy efficiency, load management and distributed solar guarantees CO2 reductions and significant energy savings with minimal, negative environmental impacts. Request: In the Final Environmental Impact Statement, compare the 40-year, CO2 impacts from the three alternatives: CHC, the Low-Voltage Alternative, and the Non-Transmission Alternative under modest, zero and negative growth in energy use. In estimating CO2 performance for the Non-Transmission Alternative, use a combination of targeted energy efficiency, load management, and distributed solar resources.	EIS Chapter 4 has been revised to provide an estimate of CO ₂ emissions that could result from generation sources benefitted by the C-HC Project. The other alternatives referenced in this comment have not been carried forward for detailed analysis, therefore they are not analyzed for CO ₂ emissions.
	Form letter	LITREV01	RUS: I would like to add my support to the requests made in this document: http://bit.ly/SellaDan_RUS_DEIS pertaining to Draft Environmental Impact Statement (DEIS) for the Cardinal Hickory Creek transmission line proposal https://www.rd.usda.gov/files/CHC_DEIS_Vol_I_Web_508_111918.pdf	Comment noted.

List of Appendices

- Appendix A.** Notices published in the *Federal Register*
- Appendix B.** Public Meeting Materials
- Appendix C.** Agency Notification Letters and Mailing List
- Appendix D.** Tribal Notification Letters and Mailing List
- Appendix E.** Local Government Notification Letters and Mailing List

Note: The Section 508 amendment of the Rehabilitation Act of 1973 requires that the information in federal documents be accessible to individuals with disabilities. The U.S. Department of Agriculture, Rural Utilities Service has made every effort to ensure that the information in the Cardinal-Hickory Creek 345-kV Transmission Line Project Final Environmental Impact Statement is accessible. However, this appendix is not fully compliant with Section 508, and readers with disabilities are encouraged to contact the USDA, Rural Utilities Service Project Manager, Dennis Rankin, at dennis.rankin@usda.gov or (202) 720-1953 if they would like access to the information.

APPENDIX A

Notices Published in the *Federal Register*

information: (1) Name, address and telephone number of the individual, organization or other entity requesting a hearing; (2) a brief statement of the requesting person's interest in the Regional Administrator's determination and a brief statement on information that the requesting person intends to submit at such hearing; (3) the signature of the individual making the request or, if the request is made on behalf of an organization or other entity, the signature of a responsible official of the organization or other entity. Requests for Public Hearing shall be addressed to: Regional Administrator, Environmental Protection Agency, Region 7, 11201 Renner Boulevard, Lenexa, Kansas 66219.

All documents relating to this determination are available for inspection between the hours of 9:00 a.m. and 3:00 p.m., Monday through Friday at the following offices: (1) Environmental Protection Agency, Region 7, Drinking Water Management Branch, Water Wetlands and Pesticides Division, 11201 Renner Boulevard, Lenexa, Kansas 66219 and (2) the Kansas Department of Health and Environment Natural Resources, Public Water Supply Section, Bureau of Water, Curtis State Office Building, 1000 SW Jackson, Suite 420, Topeka, Kansas 66612.

FOR FURTHER INFORMATION CONTACT: Douglas J. Brune, Environmental Protection Agency, Region 7, Drinking Water Management Branch, (913) 551-7178, or by email at brune.doug@epa.gov.

SUPPLEMENTARY INFORMATION: The EPA is hereby giving notice that the state of Kansas is revising its approved Public Water System Supervision Program delegated to the Kansas Department of Health and Environment. The Kansas Department of Health and Environment revised their program by incorporating the following EPA National Primary Drinking Water Regulation: Stage 2 Disinfectants and Disinfection Byproducts Rule (Vol. 71, No. 2, Jan. 4, 2006, Pages 387-493), Long Term 2 Enhanced Surface Water Treatment Rule (Vol. 71, No. 3, Jan. 5, 2006, Pages 653-786), Ground Water Rule (Vol. 71, No. 216, Nov. 8, 2006, Pages 65573-65660), Lead and Copper Rule: Short-Term Regulatory Revisions and Clarifications (Vol. 72, No. 195, Oct. 10, 2007, Pages 57781-57820), and Revised Total Coliform Rule (Vol. 78, No. 30, Feb. 13, 2013, Pages 10269-10365). EPA has reviewed the application and determined that the revisions are no less stringent than the corresponding Federal regulations and that the state of

Kansas continues to meet all requirements for primary enforcement responsibility as specified in 40 CFR 142.10. Therefore, EPA intends to approve these program revisions.

(Authority: Section 1413 of the Safe Drinking Water Act, as amended, and 40 CFR 142.10, 142.12(d) and 142.13)

Dated: December 18, 2018.

James B. Gulliford,

Regional Administrator, Region 7.

[FR Doc. 2019-01551 Filed 2-7-19; 8:45 am]

BILLING CODE 6560-50-P

ENVIRONMENTAL PROTECTION AGENCY

[ER-FRL-9043-3]

Environmental Impact Statements; Notice of Availability

Responsible Agency: Office of Federal Activities, General Information 202-564-5632 or <https://www.epa.gov/nepa/>.

Weekly receipt of Environmental Impact Statements
Filed 01/28/2019 Through 02/01/2019
Pursuant to 40 CFR 1506.9.

Notice

Section 309(a) of the Clean Air Act requires that EPA make public its comments on EISs issued by other Federal agencies. EPA's comment letters on EISs are available at: <https://cdxnodengn.epa.gov/cdx-enepa-public/action/eis/search>.

EIS No. 20180315, Final, USFWS, NE, Issuance of an Incidental Take Permit and Implementation of a Habitat Conservation Plan for the R-Project Transmission Line, Review Period Ends: 03/11/2019, Contact: Drue DeBerry 303-236-4774

EIS No. 20190001, Final, DOE, LA, ADOPTION—Driftwood LNG Project, Contact: Brian Lavoie 202-586-2459

The Department of Energy (DOE) has adopted the Federal Energy Regulatory Commission's Final EIS No. 20180331, filed 01/18/2019 with the EPA. DOE was a cooperating agency on this project. Therefore, recirculation of the document is not necessary under Section 1506.3(c) of the CEQ regulations.

EIS No. 20190002, Final, HUD, VA, Ohio Creek Watershed Project, Review Period Ends: 03/11/2019, Contact: Kerry Johnson 804-822-4803

EIS No. 20190003, Final, FERC, LA, Port Arthur Liquefaction Project, Texas Connector Project, and Louisiana Connector Project, Review Period Ends: 03/11/2019, Contact: Office of External Affairs 866-208-3372

EIS No. 20190004, Final, NMFS, OR, Final Environmental Impact Statement to Analyze Impacts of NOAA's National Marine Fisheries Service Proposed Approval of Hatchery and Genetic Management Plans for spring Chinook salmon, steelhead, and rainbow trout in the Upper Willamette River Basin Pursuant to Section 7 and 4(d) of the Endangered Species Act, Review Period Ends: 03/11/2019, Contact: Lance Kruzic 541-957-3381

EIS No. 20190005, Draft, USACE, CA, Prado Basin Ecosystem Restoration and Water Conservation Study, Comment Period Ends: 03/27/2019, Contact: Megan Wong 213-448-4517

Amended Notices

EIS No. 20180244, Draft, USFS, CA, Plumas National Forest Over-Snow Vehicle (OSV) Use Designation, Comment Period Ends: 03/01/2019, Contact: Katherine Carpenter 530-283-7742, Revision to FR Notice Published 12/07/2019; Extending the Comment Period from 01/24/2019 to 03/01/2019.

EIS No. 20180260, Draft Supplement, USFS, ND, Northern Great Plains Management Plans Revision (Dakota Prairie Oil and Gas RFDS SEIS), Comment Period Ends: 02/20/2019, Contact: Leslie Ferguson 701-989-7308, Revision to FR Notice Published 12/14/2018; Extending Comment Period from 01/16/2019 to 02/20/2019.

EIS No. 20180289, Draft, USFS, AZ, Fossil Creek Wild and Scenic River Comprehensive River Management Plan, Comment Period Ends: 04/04/2019, Contact: Marcos Roybal 928-203-2915, Revision to FR Notice Published 11/30/2018; Extending the Comment Period from 02/28/2019 to 04/04/2019.

EIS No. 20180292, Draft, RUS, WI, Cardinal-Hickory Creek 345-kV Transmission Line Project, Comment Period Ends: 04/01/2019, Contact: Dennis Rankin 202-720-1953, Revision to FR Notice Published 12/07/2018; Extending the Comment Period from 02/05/2019 to 04/01/2019.

EIS No. 20180304, Draft, VA, CA, Draft Programmatic Environmental Impact Statement and National Historic Preservation Act Section 106 Consultation West Los Angeles Medical Center Campus Proposed Master Plan for Improvements and Reconfiguration, Comment Period Ends: 02/13/2019, Contact: Glenn Elliott 202-632-5879, Revision to FR Notice Published 12/14/2018;

Extending the Comment Period from 01/26/2019 to 02/13/2019.

EIS No. 20180307, Draft, USFS, OR, Black Mountain Vegetation Management Project, Comment Period Ends: 02/28/2019, Contact: Elysia Retzlaff 541-416-6436, Revision to FR Notice Published 12/14/2018; Extending the Comment Period from 01/28/2019 to 02/28/2019.

EIS No. 20180316, Draft Supplement, USFS, SC, AP Loblolly Pine Removal and Restoration Project, Comment Period Ends: 02/25/2019, Contact: Victor Wyant 864-638-9568, Revision to FR Notice Published 12/21/2018; Extending the Comment Period from 02/04/2019 to 02/25/2019.

EIS No. 20180322, Draft, APHIS, PRO, Rangeland Grasshopper and Mormon Cricket Suppression Program, Comment Period Ends: 03/11/2019, Contact: Jim Warren 202-316-3216, Revision to FR Notice Published 12/28/2018; Extending the Comment Period from 02/11/2019 to 03/18/2019.

EIS No. 20180323, Draft Supplement, DOE, KY, Disposition of Depleted Uranium Oxide Conversion Product Generated from DOE's Inventory of Depleted Uranium Hexafluoride, Comment Period Ends: 03/04/2019, Contact: Jaffet Ferrer-Torres 202-586-0730, Revision to FR Notice Published 12/28/2018; Extending the Comment Period from 02/11/2019 to 03/04/2019.

Dated: February 5, 2019.

Robert Tomiak,

Director, Office of Federal Activities.

[FR Doc. 2019-01638 Filed 2-7-19; 8:45 am]

BILLING CODE 6560-50-P

ENVIRONMENTAL PROTECTION AGENCY

[EPA-HQ-OPPT-2018-0097; FRL-9986-72]

Certain New Chemicals or Significant New Uses; Statements of Findings for September 2018

AGENCY: Environmental Protection Agency (EPA).

ACTION: Notice.

SUMMARY: Section 5(g) of the Toxic Substances Control Act (TSCA) requires EPA to publish in the **Federal Register** a statement of its findings after its review of TSCA section 5(a) notices when EPA makes a finding that a new chemical substance or significant new use is not likely to present an unreasonable risk of injury to health or the environment. Such statements apply

to premanufacture notices (PMNs), microbial commercial activity notices (MCANs), and significant new use notices (SNUNs) submitted to EPA under TSCA section 5. This document presents statements of findings made by EPA on TSCA section 5(a) notices during the period from September 1, 2018 to September 30, 2018.

FOR FURTHER INFORMATION CONTACT:

For technical information contact: Greg Schweer, Chemical Control Division (7405M), Office of Pollution Prevention and Toxics, Environmental Protection Agency, 1200 Pennsylvania Ave. NW, Washington, DC 20460-0001; telephone number: 202-564-8469; email address: schweer.greg@epa.gov.

For general information contact: The TSCA-Hotline, ABVI-Goodwill, 422 South Clinton Ave., Rochester, NY 14620; telephone number: (202) 554-1404; email address: TSCA-Hotline@epa.gov.

SUPPLEMENTARY INFORMATION:

I. General Information

A. Does this action apply to me?

This action is directed to the public in general. As such, the Agency has not attempted to describe the specific entities that this action may apply to. Although others may be affected, this action applies directly to the submitters of the PMNs addressed in this action.

B. How can I get copies of this document and other related information?

The docket for this action, identified by docket identification (ID) number EPA-HQ-OPPT-2018-0097, is available at <http://www.regulations.gov> or at the Office of Pollution Prevention and Toxics Docket (OPPT Docket), Environmental Protection Agency Docket Center (EPA/DC), West William Jefferson Clinton Bldg., Rm. 3334, 1301 Constitution Ave. NW, Washington, DC. The Public Reading Room is open from 8:30 a.m. to 4:30 p.m., Monday through Friday, excluding legal holidays. The telephone number for the Public Reading Room is (202) 566-1744, and the telephone number for the OPPT Docket is (202) 566-0280. Please review the visitor instructions and additional information about the docket available at <http://www.epa.gov/dockets>.

II. What action is the Agency taking?

This document lists the statements of findings made by EPA after review of notices submitted under TSCA section 5(a) that certain new chemical substances or significant new uses are not likely to present an unreasonable risk of injury to health or the environment. This document presents

statements of findings made by EPA during the period from September 1, 2018 to September 30, 2018.

III. What is the Agency's authority for taking this action?

TSCA section 5(a)(3) requires EPA to review a TSCA section 5(a) notice and make one of the following specific findings:

- The chemical substance or significant new use presents an unreasonable risk of injury to health or the environment;
- The information available to EPA is insufficient to permit a reasoned evaluation of the health and environmental effects of the chemical substance or significant new use;
- The information available to EPA is insufficient to permit a reasoned evaluation of the health and environmental effects and the chemical substance or significant new use may present an unreasonable risk of injury to health or the environment;
- The chemical substance is or will be produced in substantial quantities, and such substance either enters or may reasonably be anticipated to enter the environment in substantial quantities or there is or may be significant or substantial human exposure to the substance; or
- The chemical substance or significant new use is not likely to present an unreasonable risk of injury to health or the environment.

Unreasonable risk findings must be made without consideration of costs or other non-risk factors, including an unreasonable risk to a potentially exposed or susceptible subpopulation identified as relevant under the conditions of use. The term "conditions of use" is defined in TSCA section 3 to mean "the circumstances, as determined by the Administrator, under which a chemical substance is intended, known, or reasonably foreseen to be manufactured, processed, distributed in commerce, used, or disposed of."

EPA is required under TSCA section 5(g) to publish in the **Federal Register** a statement of its findings after its review of a TSCA section 5(a) notice when EPA makes a finding that a new chemical substance or significant new use is not likely to present an unreasonable risk of injury to health or the environment. Such statements apply to PMNs, MCANs, and SNUNs submitted to EPA under TSCA section 5.

Anyone who plans to manufacture (which includes import) a new chemical substance for a non-exempt commercial purpose and any manufacturer or processor wishing to engage in a use of

APPENDIX B

Public Meeting Materials

WELCOME

Cardinal-Hickory Creek 345-kV Transmission Line Project Environmental Impact Statement (EIS) Public Meeting

Lead Federal Agency:

**U.S. Department of Agriculture (USDA)
Rural Utilities Service (RUS)**



Cooperating Agencies:

**U.S. Environmental Protection Agency
U.S. Fish and Wildlife Service
U.S. Army Corps of Engineers**



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Cardinal-Hickory Creek 345-kV Transmission Line Project Environmental Impact Statement (EIS) How to Participate

Public involvement is an essential part of the process. With public involvement and environmental analysis, the National Environmental Policy Act (NEPA) process will support the USDA RUS and other federal agencies in making informed decisions.

Three Ways to Provide Comments

1. Submit written comments at the meeting, using comment forms
2. Email your comments to: comments@CardinalHickoryCreekEIS.us
3. Mail your written comments to:

SWCA Environmental Consultants
Attn: Cardinal-Hickory Creek EIS
80 Emerson Lane, Suite 1306
Bridgeville, PA 15017

Comments are due April 1, 2019.



Committed to the future of rural communities.



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Cardinal-Hickory Creek 354-kV Transmission Line Project Draft Environmental Impact Statement (Draft EIS) Public Comment Meetings

Notice of Availability

On December 7, 2018, the Notice of Availability for the Draft EIS was published in the Federal Register and the public review began.

Draft EIS Public Comment Period

The Draft EIS public review period ends on April 1, 2019. Public meetings are being held in March 2019.

Final EIS Comment Period

The Final EIS will be released for a 30-day review period.

Record of Decision

After the Final EIS is released, the Federal agencies will issue a Record of Decision (ROD).

For more information contact:

Dennis Rankin, Co-Project Manager
USDA, Rural Utilities Service
Phone: (202) 720-1953
Email: dennis.rankin@wdc.usda.gov

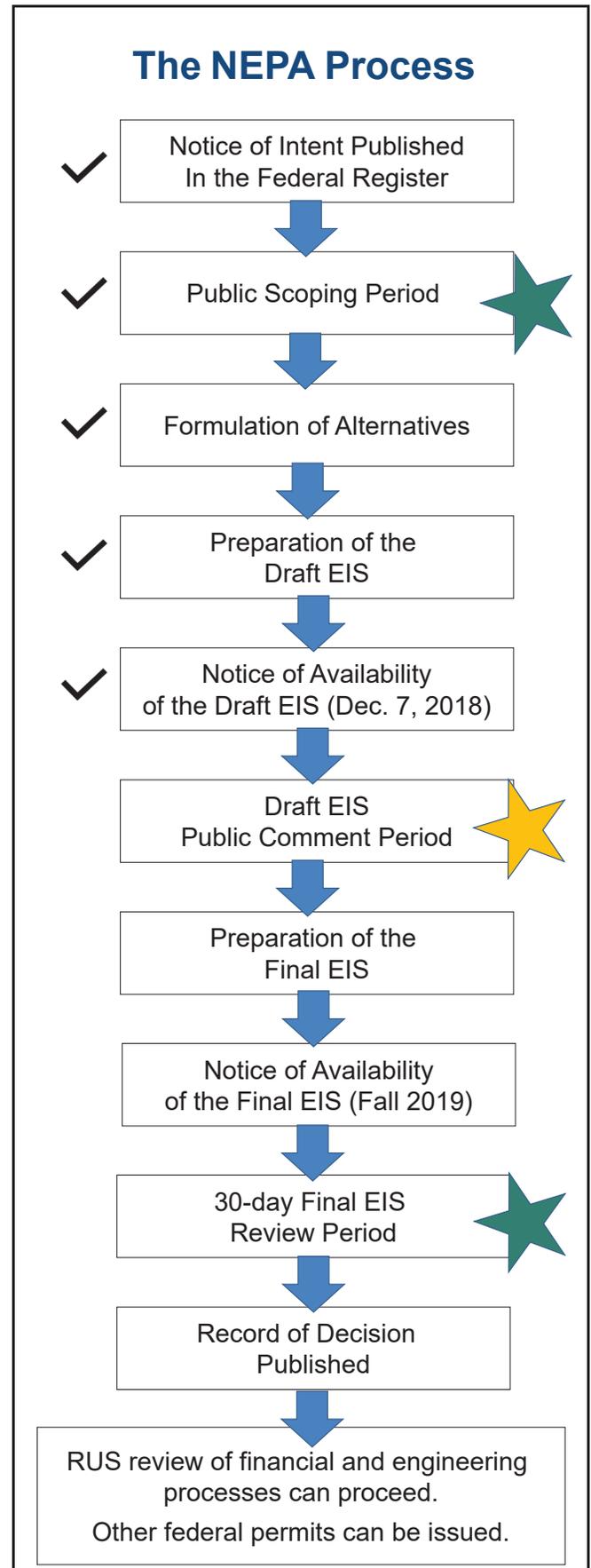
Lauren Cusick, Co-Project Manager
USDA, Rural Utilities Service
Phone: (202) 720-1414
Email: lauren.cusick@wdc.usda.gov



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Cardinal-Hickory Creek 345-kV Transmission Line Project Environmental Impact Statement (EIS) Resources Analyzed in the Draft EIS

NEPA requires Federal agencies to assess the direct, indirect, and cumulative impacts of alternatives carried forward for analysis. In Chapter 3 of the Draft EIS, potential impacts are identified and evaluated for the following resources:

- Geology and Soils
- Vegetation, including Wetlands and Special Status Plants
- Wildlife, including Special Status Species
- Water Resources
- Air Quality
- Noise
- Transportation
- Cultural and Historic Resources
- Land Use, including Agriculture and Recreation
- Visual Quality and Aesthetics
- Socioeconomics and Environmental Justice
- Public Health and Safety
- Upper Mississippi River National Wildlife and Fish Refuge



Cumulative impacts result from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency or entity undertake such other actions (40 CFR 1508.7).



Actions analyzed in Chapter 4 of the Draft EIS:

- Renewable energy projects
- Nemadji Trail Energy Center
- Multi-Value Portfolio Projects in Wisconsin and Iowa
- Other transmission projects
- Major transportation improvements
- Pipeline projects
- Restoration within the Refuge



Cardinal-Hickory Creek 345-kV Transmission Line Project Draft Environmental Impact Statement (DEIS) Public Meeting

March 2019

U.S. Department of Agriculture, Rural Utilities Service (RUS)
U.S. Fish and Wildlife Service (USFWS)
U.S. Army Corps of Engineers (USACE)
U.S. Environmental Protection Agency (USEPA)



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Purpose of Meeting

- Inform the public of the Draft EIS
- Collect public comments
 - Interested parties may make verbal comments within the allotted time.
 - A court reporter is present.
 - Written comments will also be accepted by RUS.
 - RUS will not be answering questions during this meeting.
- Meeting transcripts and written comments will be used to inform potential revisions to the Final EIS



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Draft EIS Public Meeting Schedule

Dates/Times	Locations	Venues
March 13 5:00–7:00 p.m.	Dodgeville, Wisconsin	Dodger Bowl Banquet Hall 318 King Street
March 14 5:00–7:00 p.m.	Barneveld, Wisconsin	Deer Valley Lodge 401 W. Industrial Drive
March 15 5:00–7:00 p.m.	Guttenberg, Iowa	Guttenberg Municipal Building 402 S. First Street
March 18 5:00–7:00 p.m.	Cassville, Wisconsin	Cassville Middle School Cafeteria 715 E. Amelia Street
March 19 5:00–7:00 p.m.	Peosta, Iowa	Peosta Community Center 7896 Burds Road
March 20 5:00–7:00 p.m.	Middleton, Wisconsin	Madison Marriott West 1313 John Q Hammons Drive



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National Environmental Policy Act (NEPA)

Public Scoping Meetings

RUS held public scoping meetings in October, November, December 2016.

Notice of Availability

On December 7, 2018, the Notice of Availability for the Draft EIS was published in the Federal Register and the public review period began.

Draft EIS Public Comment Period

The public review period for the Draft EIS ends on April 1, 2019. Public meetings are being held in March 2019.

Final EIS Review Period

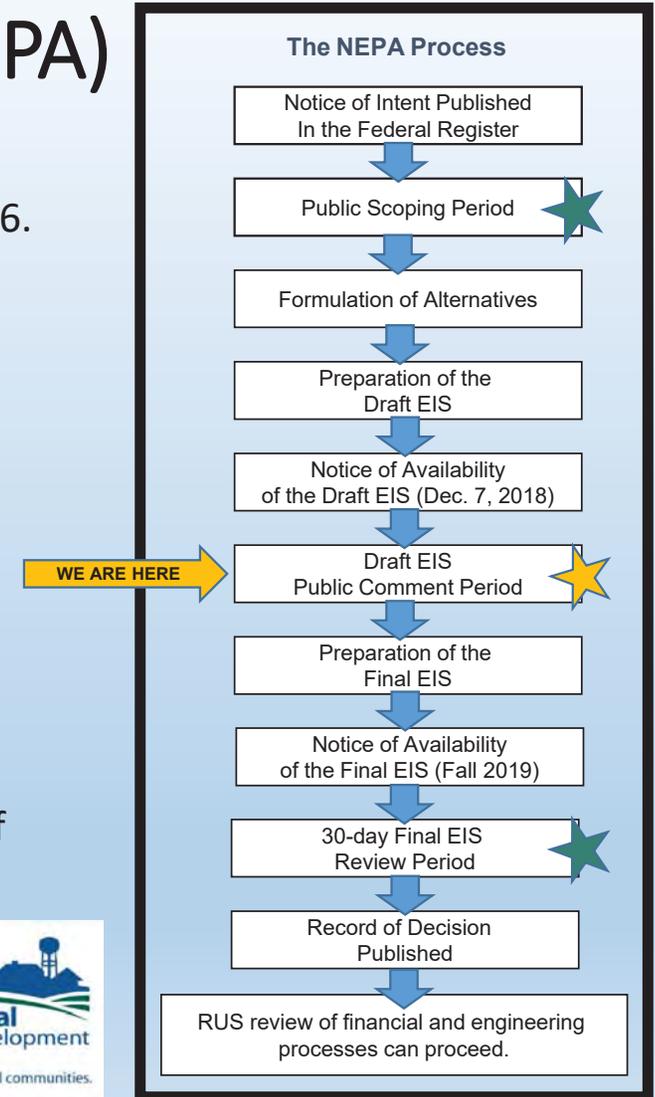
The Final EIS will be released for a 30-day review period.

Record of Decision

After the Final EIS is released, the Federal agencies will issue a Record of Decision (ROD).

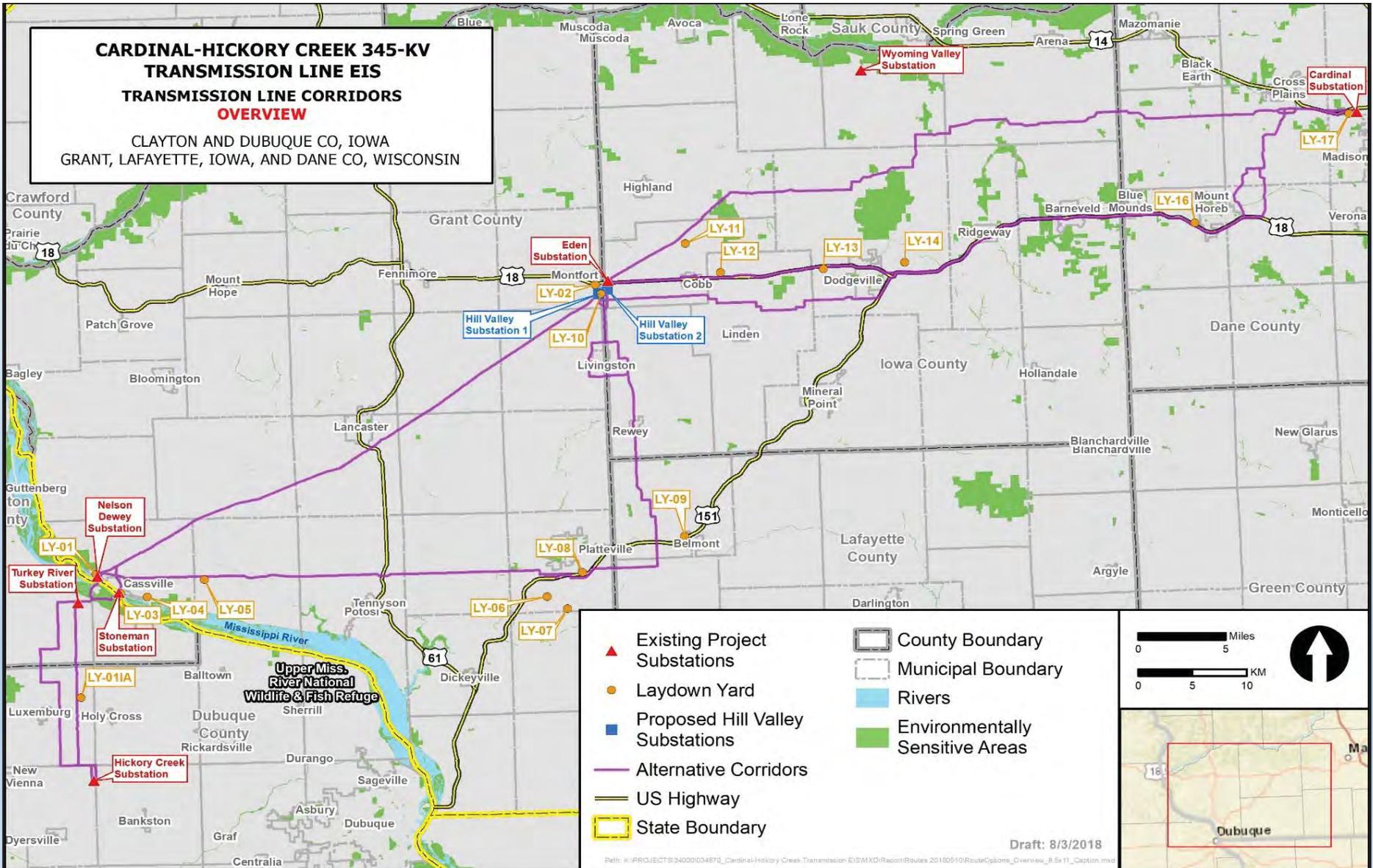


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**CARDINAL-HICKORY CREEK 345-KV
TRANSMISSION LINE EIS
TRANSMISSION LINE CORRIDORS
OVERVIEW**

CLAYTON AND DUBUQUE CO, IOWA
GRANT, LAFAYETTE, IOWA, AND DANE CO, WISCONSIN



Federal Actions (EIS Ch. 1)

- RUS is the lead Federal agency for the NEPA environmental review of the Project.
- The U.S. Fish and Wildlife Service (USFWS), U.S. Army Corps of Engineers (USACE), and U.S. Environmental Protection Agency (EPA) are cooperating agencies for the NEPA process.
- The National Park Service is a participating agency.



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Rock Island District



Ways to Provide Comments

Public involvement is an essential part of the process. With public involvement and environmental analysis, the NEPA process will support the RUS and other federal agencies in making informed decisions.

1. Submit written comments at the meeting, using comment forms
2. Email your comments to: comments@CardinalHickoryCreekEIS.us
3. Mail your written comments to:

SWCA Environmental Consultants
Attn: Cardinal-Hickory Creek EIS
80 Emerson Lane, Suite 1306
Bridgeville, PA 15017



US Army Corps
of Engineers®

Comments are due April 1, 2019.



For more information contact:

Dennis Rankin, Co-Project Manager
USDA, Rural Utilities Service
Phone: (202) 720-1953
Email: dennis.rankin@wdc.usda.gov

Lauren Cusick, Co-Project Manager
USDA, Rural Utilities Service
Phone: (202) 720-1414
Email: lauren.cusick@wdc.usda.gov



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Public Comments

- The remaining meeting time will be divided by number of people who signed up to provide a verbal comment.



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Cardinal-Hickory Creek 345-kV Transmission Line Project

Draft Environmental Impact Statement

Lead Federal Agency: USDA, Rural Utilities Service

Proposed Project

Dairyland Power Cooperative (Dairyland), American Transmission Company LLC (ATC), and ITC Midwest LLC (ITC Midwest), together referred to as “the Utilities,” propose to construct and own a new 100- to 125-mile 345-kilovolt (kV) transmission line between Dane County, Wisconsin, and Dubuque County, Iowa. The proposed project includes the following facilities:

- **At the existing Cardinal Substation in Dane County, Wisconsin:** a new 345-kV terminal within the substation;
- **At the proposed Hill Valley Substation near the village of Montfort, Wisconsin:** an approximately 22-acre facility with four 345-kV circuit breakers, one 345-kV shunt reactor, one 345-/138-kV autotransformer, and three 138-kV circuit breakers;
- **At the existing Eden Substation near the village of Montfort, Wisconsin:** transmission line protective relaying upgrades to be compatible with the new protective relays installed at the new Hill Valley Substation and replacement of conductors and switches to meet Utilities’ operating limits;
- **Between the existing Eden Substation and the proposed Hill Valley Substation near the village of Montfort, Wisconsin:** a rebuild of the approximately 1 mile of Hill Valley to Eden 138-kV transmission line;
- **At the existing Wyoming Valley Substation near Wyoming, Wisconsin:** installation of nine 16-foot ground rods to mitigate potential fault current contributions from the proposed project;
- **Between the existing Cardinal Substation and the proposed Hill Valley Substation:** a new 50- to 53-mile (depending on the final route) 345-kV transmission line;
- **Between the proposed Hill Valley Substation and existing Hickory Creek Substation:** a new 50- to 70-mile (depending on the final route) 345-kV transmission line;
- **At the Mississippi River in Cassville, Wisconsin:** a rebuild and possible relocation of the existing Mississippi River transmission line crossing to accommodate the new 345-kV transmission line and Dairyland’s 161-kV transmission line, which would be capable of operating at 345-/345-kV but would initially be operated at 345-/161-kV;
 - depending on the final route and the Mississippi River crossing locations:
 - a new 161-kV terminal and transmission line protective relaying upgrades within the existing Nelson Dewey Substation in Cassville, Wisconsin;
 - a replaced or reinforced structure within the Stoneman Substation in Cassville, Wisconsin;
 - multiple, partial, or complete rebuilds of existing 69-kV and 138-kV transmission lines in Wisconsin that would be collocated with the new 345-kV line;
- **At the existing Turkey River Substation in Dubuque County, Iowa:** two 161-/69-kV transformers, four 161-kV circuit breakers, and five 69-kV circuit breakers; and
- **At the existing Hickory Creek Substation in Dubuque County, Iowa:** a new 345-kV terminal within the existing Hickory Creek Substation.

These upgrades and new construction projects are all together referred to as the “Cardinal-Hickory Creek Project” (or the “C-HC Project”).

Dairyland intends to request financial assistance from the U.S. Department of Agriculture Rural Utilities Service (RUS) to fund its anticipated 9% ownership interest in the C-HC Project. RUS administers programs that provide much-needed infrastructure or infrastructure improvements to rural communities. RUS’s determination to potentially finance the Dairyland portion of the C-HC Project constitutes a Federal action, requiring it to perform an environmental review within the context of the National Environmental Policy Act (NEPA). To comply with NEPA, RUS has prepared this Draft Environmental Impact Statement (Draft EIS) prior to the determination of whether RUS funds should be obligated to finance Dairyland’s ownership portion of the project and prior to initiation of construction.

Federal Agencies Involved in the C-HC Project

RUS is serving as the lead Federal agency for the NEPA environmental review of the C-HC Project. The U.S. Fish and Wildlife Service (USFWS), U.S. Army Corps of Engineers (USACE), and U.S. Environmental Protection Agency are cooperating agencies for the DEIS. The National Park Service is serving as a participating agency.

- RUS will determine whether or not to provide financial assistance for Dairyland’s portion of the project.
- USFWS will evaluate the Utilities’ request for a right-of-way (ROW) and a Special Use Permit to cross the Upper Mississippi River National Wildlife and Fish Refuge (Refuge).
- USACE will review a ROW request as well as permit applications and requests for permission by the Utilities, as required by Section 10 and Section 408 of the Rivers and Harbors Act and Section 404 under the Clean Water Act.

In addition to the federal decisions to be made for the C-HC Project, the project must also be approved by the Wisconsin Public Service Commission and Iowa Utilities Board. These state processes are independent of the Federal NEPA process.

Purpose and Need for the Proposed Project

The C-HC Project would increase the capacity of the regional transmission system to meet the following needs:

- Address reliability issues on the regional bulk transmission system and ensure a stable and continuous supply of electricity is available to be delivered where it is needed even when facilities (e.g., transmission lines or generation resources) are out of service;
- Alleviate congestion that occurs in certain parts of the transmission system and thereby remove constraints that limit the delivery of power from where it is generated to where it is needed to satisfy end-user demand;
- Expand the access of the transmission system to additional resources, including 1) lower-cost generation from a larger and more competitive market that would reduce the overall cost of delivering electricity, and 2) renewable energy generation needed to meet state renewable portfolio standards and support the nation’s changing electricity mix;
- Increase the transfer capability of the electrical system between Iowa and Wisconsin;
- Reduce the losses in transferring power and increase the efficiency of the transmission system and thereby allow electricity to be moved across the grid and delivered to end-users more cost-effectively; and
- Respond to public policy objectives aimed at enhancing the nation’s transmission system and to support the changing generation mix by gaining access to additional resources such as renewable energy or natural gas-fired generation facilities.

Alternatives Analyzed in the DEIS

RUS has identified six alternatives for the C-HC Project. These alternatives consist of individual route segments that, when combined, form complete route alternatives connecting the Cardinal Substation in Wisconsin with the Hickory Creek Substation in Iowa. The attached figure shows all routes considered in the Draft EIS, which are presented as six action alternatives for the C-HC Project.

Among the alternatives addressed in the Draft EIS is the No Action alternative, under which the proposed project would not be undertaken. Additional alternatives addressed in the Draft EIS include six complete route alternatives connecting the Cardinal Station in Wisconsin with the Hickory Creek Station in Iowa.

Resources Analyzed for Potential Environmental Consequences

NEPA requires agencies to assess the direct, indirect, and cumulative impacts of the alternatives carried forward for detailed analysis. Potential impacts were identified and evaluated for each aspect of the natural and built environments potentially affected by the C-HC Project, including the following resources:

- geology and soils;
- vegetation, including wetlands and special status plants;
- wildlife, including special status species;
- water resources and quality;
- air quality;
- noise;
- transportation;
- cultural and historic resources;
- land use, including agriculture and recreation;
- visual quality and aesthetics;
- socioeconomics and environmental justice;
- public health and safety; and
- the Upper Mississippi River National Wildlife and Fish Refuge.

Direct and indirect impacts are discussed for each resource immediately following the characterization of each resource's affected environment in Chapter 3 of the Draft EIS.

Cumulative impacts are analyzed in Chapter 4 of the Draft EIS. The cumulative impact analysis describes the types of present and reasonably future actions that are included in the cumulative impact analysis area for each affected resource identified and evaluated in the Draft EIS.

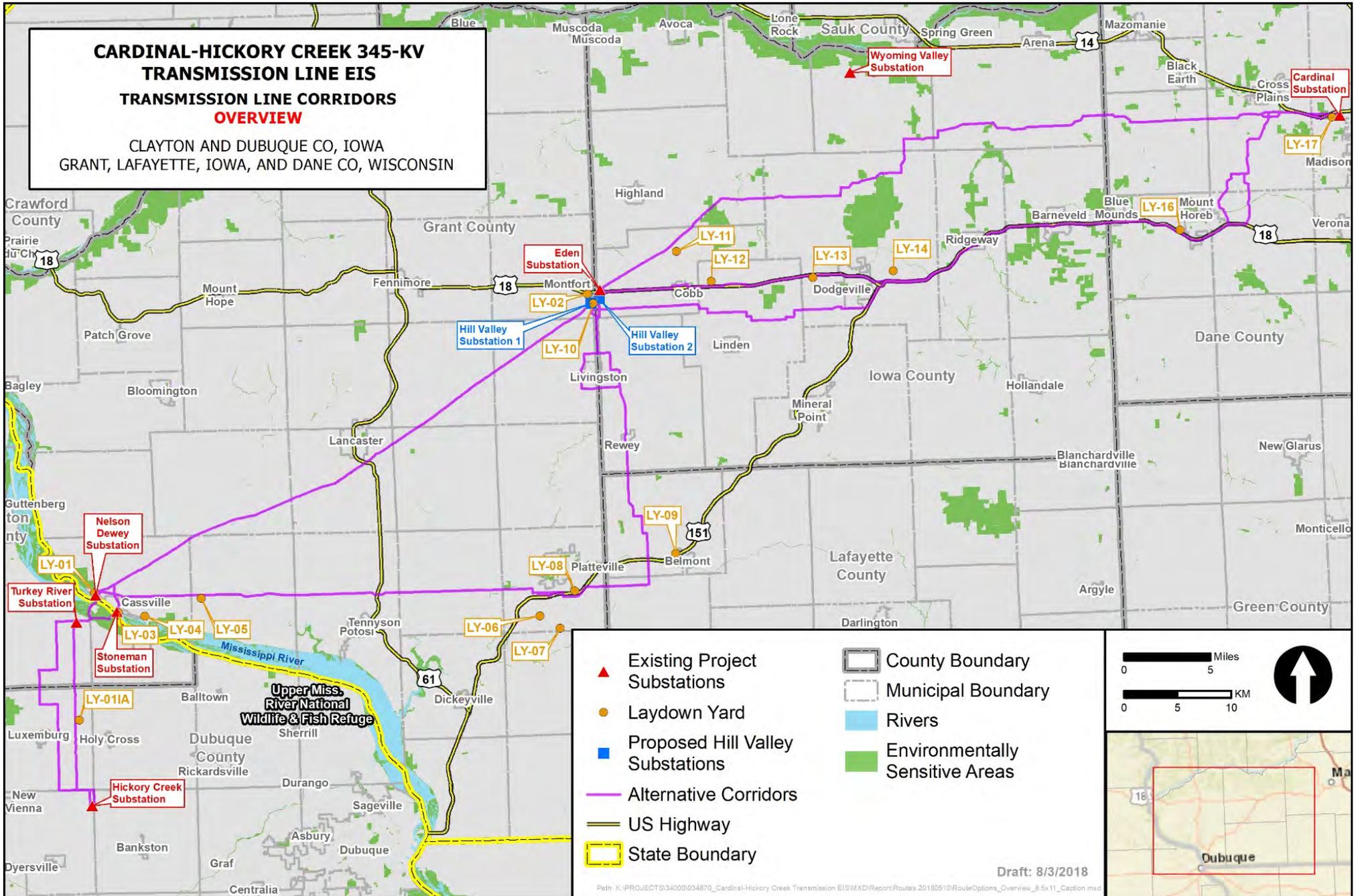
How to Comment on the Draft EIS

- Provide comments during one of the six public meetings in March 2019.
- Email written comments to comments@CardinalHickoryCreekEIS.us
- Mail comments to: SWCA Environmental Consultants

The public comment period for the Draft EIS ends on **April 1, 2019**.

CARDINAL-HICKORY CREEK 345-KV TRANSMISSION LINE EIS TRANSMISSION LINE CORRIDORS OVERVIEW

CLAYTON AND DUBUQUE CO, IOWA
GRANT, LAFAYETTE, IOWA, AND DANE CO, WISCONSIN



	Existing Project Substations		County Boundary
	Laydown Yard		Municipal Boundary
	Proposed Hill Valley Substations		Rivers
	Alternative Corridors		Environmentally Sensitive Areas
	US Highway		
	State Boundary		

0 5 Miles

0 5 10 KM

Draft: 8/3/2018

Path: K:\PROJECTS\34000\034870_Cardinal-Hickory Creek Transmission EIS\MXD\Report\Routes 20180510\RouteOptions_Overview_8.5x11_Caption.mxd

Attn: Cardinal-Hickory Creek EIS
80 Emerson Lane, Suite 1306
Bridgeville, PA 15017

TO MAIL BACK, FOLD HERE AND TAPE BELOW (NO STAPLES PLEASE)

To help us keep our mailing list accurate and up-to-date, please check the boxes below that apply to your wishes.
Thank you for your assistance.

- Please add my name to the mailing list.
- Please withhold my name and/or address from the public record (see disclaimer below).
- I prefer to be updated by email.

Name:

Organization (if any):

Address:

City/State/Zip:

Email address:

Please note: Before including your address, telephone number, electronic mail address, or other personal identifying information in your comments, you should be aware that your entire comment (including your personal identifying information) may be made publicly available at any time. Although you can ask us in your comments to withhold your personal identifying information from public review, we cannot guarantee that we will be able to do so.

**Cardinal-Hickory Creek Transmission Line Project
Draft Environmental Impact Statement Public Meeting
March 14, 2019 - Barneveld, Wisconsin**



Name (please print clearly)	Address (please print clearly)	Email Address (please print clearly)	Please check if to receive a copy of the EIS
Sharon Gaskill	10405 Bell Rd. Black Earth ⁵³⁵¹⁵	sgaskill@tds.net	✓
Linda Millunzi-Jones	7771 Lakeview Rd, Barneveld, WI 53507		
Dale Kuehler	109 Aspen Glen Dr., Spring Green 53588	dkuehler109@gmail.com	x
Tim Scott	1100 W. Third St. Mott	At	
Chris Harris	4104 11th-Harris Rd. Barneveld, WI 53507	cdh.628@gmail.com	
Deborah Judge	8157 Sweeney Rd Barneveld ⁵³⁵⁰⁷	judgefam2000@yahoo.com	
DAVID HAHN	5203 CTY RD 22, DODGEVILLE	DLHAHN@WIS.EDU	
CINDY BECKER	19876 STATE RD 78, BVILLE WI ⁵³⁵¹⁴	cebeckerred@gmail.com	✓
Chris Kenly	3058 State Rd 78, Mt. Airy ⁵³⁵⁷²	Chris.Kenly@gmail.com	✓

**Cardinal-Hickory Creek Transmission Line Project
Draft Environmental Impact Statement Public Meeting
March 14, 2019 - Barneveld, Wisconsin**



Name (please print clearly)	Address (please print clearly)	Email Address (please print clearly)	Please check if to receive a copy of the EIS
THERESA BERRIE	223 MAIN ST RIDGEMAN WI	THERESAB223@GMAIL.COM	X
ROBERT "	"		
Victoria Bindl	109 Aspen Glen Dr. ^{Spring} Green, WI	victoriabindl@yahoo.com	x
Moni Schuster	8324 Spring Rd ^{Blue} Mounds	monischuster@hotmail.com	+
William HARRIS	4104 Ihm - HARRIS Rd. Barneveld	bharris@starkhomes.com	X
Ben Harris	301 N Kenzie St Barneveld	harris_golf@hotmail.com	X
Darla Patterson	8149 Sweeney Rd Barneveld	darla@pattersons.org	
Rep Amy Lape	317 Nesheim Trl Mott		
Todd Ferrin	224 Grove St. Ridgeman WI	todd@ferrin@gmail.com	X
Mark B. Rooney	300 W. 2 nd	MBRooney@charter.net	X
Kellie Aquino	132 Valley View Rd. Mt. Horeb WI	XXXX Kellie@mhtc.net	X
Susan Ludington	2910 Cave of Mounds 53517	suzaniludington@gmail.com	
Ann Kealy	3058 State Rd 78	skealy@mhtc.net	

**Cardinal-Hickory Creek Transmission Line Project
Draft Environmental Impact Statement Public Meeting
March 14, 2019 - Barneveld, Wisconsin**



Name (please print clearly)	Address (please print clearly)	Email Address (please print clearly)	Please check if to receive a copy of the EIS
Charlanne Fitzgerald	4889 County Rd T, Barneveld WI 53507	charlannef@outlook.com	
Jeff Crossfield	917 Harvey Rd., Madison, 53704		
Margaret Steele	2533 Co. Rd F Barneveld 53507	maggier@mhtc.net	
Warren Gaskill	10401 Belo Rd. Blad Earth, WI 53515		
FRED & JULIE MARTI	6180 CITY HWY 44 BARNEVELD WI		
John Wright	6692 Amos Hill Hollow Rd Arena WI		
Patty Harris	4104 Ihm Harris Rd. Barneveld, WI		
GLENN STEFFEN	2511 Amy JG South Mt Horeb WI	gwkasteffen@mhtc.net	
Carolyn Hahn	5203 County Rd ZZ Dodgeville	cphahn@gmail.com	
Phil Leavenworth	230 N. Grove St. Mt. Horeb	pleav@charter.net	
Sharon Hughes	3896 Conthouca Rd, Lucas WI	SBHAUG@ GMAIL.COM	
Jeanne Licari Brown	6155 Blue Ridge Rd Barneveld	jjbrownfan@yahoo.com	
Anne Aelhalben	5713 Foster Rd, Blue Mounds	annecoombes@ hotmail.on	

**Cardinal-Hickory Creek Transmission Line Project
Draft Environmental Impact Statement Public Meeting
March 14, 2019 - Barneveld, Wisconsin**



Name (please print clearly)	Address (please print clearly)	Email Address (please print clearly)	Please check if to receive a copy of the EIS
SANDRA STANFIELD	10900 STANFIELD ROAD	SANDIESTAN@aol.com	✓
Janet Brandt	7565 Mellum Rd	janetbrandt10@gmail	
GERALD KOERNER	6300 REED RD, RIDGEWAY	DOGBITE@MHTC.NET	
Penny Koerner	6300 Reed Road Ridgeway	jpenney14@mhtc.net	
Allan Pincus	7836 Lakeview Rd, Barneveld	aljpincus@gmail.com	✓
Cheri Klunick	1609 County JG - MT Horeb WI	cheri.klunick@gmail.com	
Bill Hinrichs	7348 WAYSIDE Rd Middleton WI		
Michael Myers	410 Jennison Ave Barneveld	e.k.m.1234@hotmail.com	
Monica Sella	5563 Far Look Rd Spring Green WI 53588	monicasella2@gmail.com	
Scott ZAHLE	2581 Hwy 92 Mt Horeb	—	
James Leuzinger	2581 HWY 92 Mt Horeb		
Mark Sturnick	PO Box 67 Hollandale WI 53544		✓
PAUL DYBDAHL	4201 BLUE mds TRAIL Black Earth	paul@dybdahl.com	✓

**Cardinal-Hickory Creek Transmission Line Project
Draft Environmental Impact Statement Public Meeting
March 14, 2019 - Barneveld, Wisconsin**



Name (please print clearly)	Address (please print clearly)	Email Address (please print clearly)	Please check if to receive a copy of the EIS
Marvin Winch	359B Evans Quarry Rd. Deleville	mwinch@icloud.com	✓
Kerrie Hauser	St. Paul District ACOE		
John Rosenbaum	8449 Klevenville Riley Rd. Mt. Horeb	jvrosen@tds.net	
Mark Muffalstadt	4126 Erich Rd	MarkM@wi.foxster.com	
Lisa & Nancy Moffitt	9356 Hwy 5 Mt Horeb		
Dena Kuff	4023 Braellan Ln Hazel Green	gocance@hotmail.com	
Marilyn Conley		mmconley46@aol	
Dennis C McKernan	132 Spruce Mineral Point		
Judith Pincus	7836 Lakeview Barneveld		
JAMES KLUNICK	1609 COUNTY JG MT. HOREB	klunick@nhtc.net	
Debra Eide	5380 Hwy Z Spring Green		
Duane Eide	5380 CTH Z Spring Green		
Cregg Nettsheden	2533 Cty Rd F Barneveld	gregga@nhtc.net	

**Cardinal-Hickory Creek Transmission Line Project
Draft Environmental Impact Statement Public Meeting
March 14, 2019 - Barneveld, Wisconsin**



Name (please print clearly)	Address (please print clearly)	Email Address (please print clearly)	Please check if to receive a copy of the EIS
WILLIAM W. KEAN	110 S. HENRY ST APT 204 MADISON WI 53703	—	X
Debra A. Gauger	2985 Norwegian Trl. Mt. Horeb WI 53572	gaugerworks@gmail.com	
Stephen GAUGER	"	"	
David Starfield	10900 Starfield Rd, Blue Mounds WI 5355A		
Mary A. Spaay	9227 County Road S, Mt. Horeb WI 53572		
Jim Malcheski	3857 W. Brigham Rd Barneveld		
Pat Malcheski	↑ ↓		
James J Conley	X		
Ken Nickels	4679 County Rr. J, Mt Horeb, WI		
Michel Aethalbern	5713 Foster Rd, Blue Mounds WI	ZOBUCK@hotmail.com	
John Wiest	5040 Wiest Rd, Spring Green, WI 53588		
Bill Dolen	5252 Hwy 151 Dodgeville		
Roland Buechner	321 Wilson St. Mt Horeb		

Cardinal-Hickory Creek Transmission Line Project
Draft Environmental Impact Statement Public Meeting



Date: 3/14/19 Location: Barneveld

Verbal Public Comment Sign-up Sheet

	Name (please print clearly)
1	Stephen Gauger
2	John Rosenbaum
3	Mark Mittelstadt
4	David Stanfield
5	Dennis C. McKernan
6	Alan Pincus
7	Will Dolen
8	Mary Spaay
9	Jeff Crossfield
10	Dena Kurt
11	Glen Steffen
12	Philip Leavenworth
13	

**Cardinal-Hickory Creek Transmission Line Project
Draft Environmental Impact Statement Public Meeting
March 18, 2019 - Cassville, Wisconsin**



Name (please print clearly)	Address (please print clearly)	Email Address (please print clearly)	Please check if to receive a copy of the EIS
George Schwarzmans	21791 Sand Hill Rd ^{Platteville}	wi 53518 gasj@lagrant	✓
Linda Grace	25739 170 th St. South English, FL	352335 lindagrace66@gmail.com	✓
Alan Wegking	10526 Liberty Ridge Rd. Lancaster WI	wegkingpumpservice@gmail.com	✓
Joan Bausch	405 W. Bluff St	Cassville W.	
Susan Anderson	PO Box 99 Beetown WI ⁵³⁸⁰²	suselhuan@gmail.com	
Lorna Bradley	102 Elm St Mt Horeb WI ⁵³⁵⁷²	pemberly57@gmail.com	
Dena Kurt	4023 Braellan Ln Hazel Green WI	gocarae@hotmail.com	
Kerrie Hauser	USACE		
DOVE SCHAUFF	9973 RATTLESNAKE RD CASSVILLE		
Ivans Kalniks	600 Schrein PK Rd Mount Pleasant	kalniks@chorus.net	
Dennis Bausch	10010 Hwy 133		
CHARLEY SCOTT	MT. HOREB, WI	cmetfly@mlhc.net	

**Cardinal-Hickory Creek Transmission Line Project
Draft Environmental Impact Statement Public Meeting
March 18, 2019 - Cassville, Wisconsin**



Name (please print clearly)	Address (please print clearly)	Email Address (please print clearly)	Please check if to receive a copy of the EIS
Catherine Phil Bayuk	258 S Polk St Lancaster WI 53813	Cawepbay@yahoo.com	
Joel Maurer	CASSVILLE 405 W ALUFF ST 53801		
Brenda Gold	Deshmire		
William Hochhausen	5877 Hwy 109 Cassville WI.		
Patrick L. Patterson	7683 Alderson Rd Mt. Hope, WI 53216	plmj.patterson@gmail.com	
David Timmerman	333 W. Hickory Lancaster	newseditor@tds.net	
Jamie+Ken Howe	8483 West Park Lane Potosi WI		
Brad Breakers	102 Elm St Mt. Hope Montfort WI	brad@mtvernonock.org	
Dr Gloria Pelton	1127 Cass Hollow Rd		
Gene No. Smith	204 4th Rd X	Livingston	

Cardinal-Hickory Creek Transmission Line Project
Draft Environmental Impact Statement Public Meeting



Date: 3/18/19 Location: Cassville

Verbal Public Comment Sign-up Sheet

	Name (please print clearly)
1	George Schwarzmann
2	Susan Anderson
3	Patrick Patterson
4	Dena Kurt
5	Linda Grice
6	Ivars Kalnius
7	Gloria Belkin
8	Gene Smith
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**Cardinal-Hickory Creek Transmission Line Project
 Draft Environmental Impact Statement Public Meeting
 March 13, 2019 - Dodgeville, Wisconsin**



Name (please print clearly)	Address (please print clearly)	Email Address (please print clearly)	Please check if to receive a copy of the EIS
Lisa Kiep	3695 County RD Z, Spring Green	mahican10@gmail.com	
Ron Hueckle	5217 Pauls Lane Dodgeville		
Dan Duest	4221 U.S. Hwy 18 Dodgeville		

**Cardinal-Hickory Creek Transmission Line Project
Draft Environmental Impact Statement Public Meeting
March 13, 2019 - Dodgeville, Wisconsin**



Name (please print clearly)	Address (please print clearly)	Email Address (please print clearly)	Please check if to receive a copy of the EIS
Eleanor Reynolds	708 Red Oak Trail	norrie@mhte.net	
Carolyn Meuer	1104 Georgeville St, Dodgeville	DCMeuer@MHFC.net	
LINDA KELEN	5801 KORBAL Rd. S.E	ticks pit@yahoo.com	
Cassie Anderson	106 Mauld View St Cobb	clanderson1@charter.net	
Rick Zemlicka	825 willowsprings Rd Cobb		
Rick Connolly	400 S. Johnson Manthart		
Donna Jenkins	615 Uplands	Dodgeville	
Jack Jenkins	615 Uplands Drive	Dodgeville	
Mary Kay Baum	205 Dougherty Ct.	Ridgeway 53582	<input checked="" type="checkbox"/>
Karen Tennesen	3893 Mill Creek Rd Dodgeville WI	twaters@yousg.net	
Ed U'Guill	271 City Rd B Mount Forest WI	None	
DEBI MORTON	5200 City Rd Z Spring Green	debi.morton@CountrySpood.com	
CARL R PETERSON	6317 CTY RD HA BARNEVED		

**Cardinal-Hickory Creek Transmission Line Project
Draft Environmental Impact Statement Public Meeting
March 13, 2019 - Dodgeville, Wisconsin**



Name (please print clearly)	Address (please print clearly)	Email Address (please print clearly)	Please check if to receive a copy of the EIS
Bill ZIMMERMAN	804 S. Lindsey Dodgeville, WI ⁵³⁵³³		
Theresa Helm	3977 State Rd 23 Dodgeville, WI ⁵³⁵³³	thelm0707@hughes.net	✓
Jeff Helm	" " " "	" "	
Genny Helm	" " " "	" "	
Joe Dorwig	1002 State Wausau		
TOM WOLOSZYK	5695 County Rd Z ^{SPRING} Green	TWOLOSZYK1@gmail.com	
Kerrie Hauser	St. Paul District Corps	Kerrie.hauser@usace.army.mil	
KEN MICKELS	4679 COUNTY RD. J, MITHROR, WI	kennemickels@msn.com	
Kathie Swanson	971 Lawinger Rd, Mineral Point, WI	KJJSWANG@ yahoo.com	
Joel Dehn	5079 County Rd 2 Spring Green	lea@SevenSeedsOrganicFarm.com	✓
RODNEY HERRMAN	3648 COUNTY W DODGEVILLE	RHERRMAN@GMAIL.COM	
Joe Schwarzmann	10285 Scenic Rd, Stitzer, WI ⁵³⁷²⁵	joeschw@centurylink.net	✓
Bob & LaNell Wagner	3249 Bridge Rd., Cobb, WI ⁵³⁵²⁶		

**Cardinal-Hickory Creek Transmission Line Project
Draft Environmental Impact Statement Public Meeting
March 13, 2019 - Dodgeville, Wisconsin**



Name (please print clearly)	Address (please print clearly)	Email Address (please print clearly)	Please check if to receive a copy of the EIS
Bev Zimmerman	804 South Lindsey St. Dodgeville, WI 53533	bbziman@charter.net	<input checked="" type="checkbox"/>
Joel H. Goodman	104 main circle apt 114 Dodgeville WI 53533		<input checked="" type="checkbox"/>
Michelle Citron	5175 Cty Rd 22 Dodgeville WI 53533	citron7@gmail.com	<input type="checkbox"/>
Carol Thomas	4168 Hwy 18 Dodgeville WI	-	<input checked="" type="checkbox"/>
Catherine Phillip Barr	258 S Park St Lancaster WI 53813	cawepbay@yahoo.com	<input checked="" type="checkbox"/>
David Gibben	668 Amacher Hollow Road Alma WI 53503	barnow11941@gmail.com	<input type="checkbox"/>
Karen O'Brien	831 Center St Mineral Point, WI 53565	karen.obrien.4034@yahoo.com	<input type="checkbox"/>
Grey Anble	6899 Ray Hollow Rd AREWA WI 5393		<input type="checkbox"/>
John Wiest	5040 Wiest Rd Spring Green, WI 53588	vwviewpoint1031@gmail.com	<input type="checkbox"/>
Elmer Beiler	20870 Sunnydale Rd - Platteville WI 53818		<input type="checkbox"/>
Pat Murphy	5106 E Anderson Rd Dodgeville, WI 53533		<input type="checkbox"/>
Lanni Dorse	5945 County Road T Spring Green, WI 53588	lloydorse@gmail.com	<input type="checkbox"/>
Roger Stewart	4240 Mulkey Rd Dodgeville		<input type="checkbox"/>

**Cardinal-Hickory Creek Transmission Line Project
Draft Environmental Impact Statement Public Meeting
March 13, 2019 - Dodgeville, Wisconsin**



Name (please print clearly)	Address (please print clearly)	Email Address (please print clearly)	Please check if to receive a copy of the EIS
J, KEVIN LORD	3560 HWY 23	Dodgeville	
Tom Morgaller	W 8480 Hwy H	Blanchardville	✓
Anne B. Beckner	4091 Cty Rd 2	Dodgeville WI	✓
Marie Baker	5318 Weaver Rd.	Dodgeville WI	
Susan Slatten	19413 W Mound Rd	Platteville WI	
Dona Muller	4124 SR 23	Dodgeville	✓
Monte Muller	4124 St. Rd. 23	Dodgeville	✓
Jim Campbell	1520 CTY RD E	Roxey	✓
Caroline Beckett	5452 Co Rd K	Blue Mounds	
Wayne Dieter	29790 Mitchell Hollow Rd	Platteville	✓
John Spaulding	245 Abernold Ln	Mineral Point	
Walker Hoyt	205 N. MAIN ST.	Dodgeville	✓
Dor Campbell	4001 Berg Rd	Dodgeville	✓

**Cardinal-Hickory Creek Transmission Line Project
Draft Environmental Impact Statement Public Meeting
March 13, 2019 - Dodgeville, Wisconsin**



Name (please print clearly)	Address (please print clearly)	Email Address (please print clearly)	Please check if to receive a copy of the EIS
Betsy D'Angelo	5106 County Rd Z Spring Green, WI 53588	mulchmark@mtc.net	<input checked="" type="checkbox"/>
Ronna Heftman	3648 County H. Dodgeville	RonnaORT@aol.com	<input type="checkbox"/>
Jean Breslow	4560 Goldmine Rd Dodgeville	jeusbm@gmail.com	<input type="checkbox"/>
Nancy Giffey	6686 Amacker Hollow Rd	Arena WI 53503	<input type="checkbox"/>
Patty Lucas	3560 Hunter Hollow Rd	Dodgeville	<input type="checkbox"/>
Monica Sella	5563 Far Look Rd	Spring Green, WI	<input type="checkbox"/>
Delia D. Wunderlin	P.O Box 3 106 Hotel St	COBB WI 53526	<input checked="" type="checkbox"/>
Andrew L Kinsinger	21695 Ctr Rd G	Platteville Wis 53818	<input type="checkbox"/>
Caroline Chamblen	5481 City Rd C S.G. 53588	chamblen@mail.com	<input type="checkbox"/>
CATHERYN KAISER	601 Decatur St MP 53565	ckais@frontier.ca	<input checked="" type="checkbox"/>
Jane Batha	245 Aebersold Ln. MP. 53565	jpbatha@charler.net	<input checked="" type="checkbox"/>
Bill HANSON	608 E North St Dodgeville		<input checked="" type="checkbox"/>
George Schwartzman	21791 Sand Hill Rd Platteville WI	gasj@lagrant.net	<input checked="" type="checkbox"/>

**Cardinal-Hickory Creek Transmission Line Project
Draft Environmental Impact Statement Public Meeting
March 13, 2019 - Dodgeville, Wisconsin**



Name (please print clearly)	Address (please print clearly)	Email Address (please print clearly)	Please check if to receive a copy of the EIS
ARABELLA QUINN	5008 GRIFFITHS	DODGEVILLE	
Michael Knoedler	5324 weaver Rd	Dodgeville	
Phebe Luce	25739 170 th	Ernest Englund	✓
Isaac F Stoltzfus	156 City G		✓
Eli S. Stoltzfus	19900 Sunny Lane	Platteville WI 53888	
Ephraim Z Allgier	20125 Sunny Lane	Platteville WI 53818	
MYRA + ROBERT ENWE	3881 Norwegian Hollow Rd.	Dodgeville WI 53533	
Shull & Eugene Jones	13366 Bluff Rd	Montfort, WI 53569	
Michael Hanson	3369 Bennett Rd	Dodgeville WI 53533	
MARY GIL MARTIN	412 PINE ST MINERAL POINT		
Leonard LENZ	Dodgeville		
Phillip Christiansen	727 Old Hwy 18	Montfort	
Elizabeth Spring	2776 Wearne Rd Mineral Pt		✓

**Cardinal-Hickory Creek Transmission Line Project
Draft Environmental Impact Statement Public Meeting
March 13, 2019 - Dodgeville, Wisconsin**



Name (please print clearly)	Address (please print clearly)	Email Address (please print clearly)	Please check if to receive a copy of the EIS
FIZANK SANDNIEZ	RT 1, BLUE MOUNDS, WI	fzank@mhtc.net	<input checked="" type="checkbox"/>
Pam Schuler	700 Royovac Dr, Madison	Pam-Schuler@wi.gov	<input type="checkbox"/>
Jean Luecke	521 Blacks Grove Rd Dodgeville	rjml@mhtc.net	<input type="checkbox"/>
Cynthia Porter	305 Fountain, Mineral Point	porter.cynthia88@gmail.com	<input type="checkbox"/>
Mark G. Sukowaty	409 S. Randall Ave, Madison, WI		<input type="checkbox"/>
Richard F Reger	321 N Chestnut St. M.P.	fregere@mac.com	<input type="checkbox"/>
Marjean Addison-Jasso	406 E. Park, Montfort	addisonmjm@yahoo.com	<input type="checkbox"/>
Joan Bethner Steele	5124 Section Line Rd, Dodgeville	jebsteele@yahoo.com	<input type="checkbox"/>
Gayl Stewart	4240 Military Ridge Rd	tr1rdga@country-speed.com	<input type="checkbox"/>
Erol Royal	1510 N 40th St Wausau, WI	erolroyal@me.com	<input type="checkbox"/>
Rod R. Reed	4202 Hwy 18 Dodgeville	LUKE.RREED@YAHOO.COM	<input type="checkbox"/>
John Hess	5851 County Road 2 Spring Green, WI	johnhesswyoing@gmail.com	<input type="checkbox"/>
Julie Weiskircher	308 S. Dakota St. Dodgeville		<input type="checkbox"/>

Cardinal-Hickory Creek Transmission Line Project
Draft Environmental Impact Statement Public Meeting

Date: __3/12/19_____ Location: Dodgeville_____



Verbal Public Comment Sign-up Sheet

	Name (please print clearly)
1	Joel Goodman
2	Michelle Citron
3	Joe Schwarzmann
4	Monica Sella
5	Betsy D'Angelo
6	Lea Dolan
7	George Schwarzmann
8	Linda Grice
9	Caroline Beckett
10	Robert Enloe
11	Mary Kay Baum
12	Lisa Keep
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**Cardinal-Hickory Creek Transmission Line Project
Draft Environmental Impact Statement Public Meeting
March 15, 2019 - Guttenberg, Iowa**



Name (please print clearly)	Address (please print clearly)	Email Address (please print clearly)	Please check if to receive a copy of the EIS
Nancy Dahl	28583 Shuler Rd Guttenberg		
Joe Soebel	28583 Shuler Rd Guttenberg IA		
Roger Bradshaw	21886 Clear Creek Rd Guttenberg IA		
Ryan Stran	38806 Velvet Lane Prairie du Chien WI 53021		
KAREN Riser	306 TURKEY Ridge Ct 52052		
Alma Osburn	602 S 4th Guttenberg Ia 52052	Countryproless02@yahoo	
Jim Osterhaus	615 Acce St, Guttenberg, IA 52052		
Judy Miller	Colesburg		
Michael Dautmeyer	21710 Clear Creek Rd Guttenberg 52052		
Dana Kelcher	200 E Bridge St Elkader IA	acdg@alpine.com.wa	
Lynn J. Jorgensen	518 N River Park		
Matt Cochran	28086 Hogan Rd		
Dena Kurtz	4023 Braellan Ln Hazel Green IA	gocance@hotmail.com	

Cardinal-Hickory Creek Transmission Line Project
Draft Environmental Impact Statement Public Meeting

Date: 3/15/19 Location: Guttenberg



Verbal Public Comment Sign-up Sheet

	Name (please print clearly)
1	JoAnn Miller
2	Gina Osborne
3	Karen Riser
4	Dena Kurt
5	Jeff Dolan
6	Joe Goebel
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**Cardinal-Hickory Creek Transmission Line Project
Draft Environmental Impact Statement Public Meeting
March 20, 2019 - Middleton, Wisconsin**



Name (please print clearly)	Address (please print clearly)	Email Address (please print clearly)	Please check if to receive a copy of the EIS
WILLIAM KEAN	110 S. HENRY APT 204 MADISON WI 53703		x
Zach			
Pam Schuster	700 Rayvae Drive, Madison, WI	Pam-Schuster@nps.gov	
Chris Klopp	4283 County Rd P Cross Plains WI 53528	gypsydancer@tds.net	
Dawn Kellersig	9296 Kellersig Rd Mt. Horeb WI 53572	—	x
Kerrie Hausen	USACE		
Adam Yarina	NPS	adam-yarina@nps.gov	
Bill Polun	5252 Hwy 151 Portage WI	BartMcGill@starkweather.com	x
Charley SCOTT	Mt. Horeb, WI	curefly@mltc.net	
Jeanette Wheat	4306 Fawn Ct Cross Plains 53528	jwurdgic@gmail.com	x
Susan Lausberg	3320 Sugar Valley Rd	Lauf4@tds.net	
Constance B Fox	9197 CR S, Mt Horeb	csf@mltc.net	
Gary (Addison) Kalish	439 Twin Valley Rd. Middleton WI	addison@kalishmasonry.com	

**Cardinal-Hickory Creek Transmission Line Project
Draft Environmental Impact Statement Public Meeting
March 20, 2019 - Middleton, Wisconsin**



Name (please print clearly)	Address (please print clearly)	Email Address (please print clearly)	Please check if to receive a copy of the EIS
Eric Gabriel	700 Rayovac Dr. Suite 100 Madison, WI 53711		yes
Barbara Alexander	407 S DIVISION ST SOUTH WAYNE WI 53587	alexanderdonar@yahoo	yes
Michelle Phillips		trngesdrbarreditor@newsportsinc.com	
Banu Laufenberg	3301 Sugar Valley Rd Mt Horeb WI 53572	jmelaufenberg@gmail	
Liz + Nancy Myfett	9356 Hwy 5 Mt Horeb		
Caroline Beckett	5452 G Rd K Blue Mounds	ffg@whtc.net	
John Wardoor	3250 Kyser Dr	jward@chonus.net	
Carl M Wadaw	" "	" "	
Jeff Daugherty	4319 Twin Valley Rd, Middleton WI	shamrock11c@charter.net	-
Karol French	4184 Gar Foot Rd Cross Plains	jkfrench@tds.net	
Mike Barnett	2748 Kendall Ave Madison, WI	mike.s.barnett@gmail.com	
Dan Bank	4475 county Road J Mt. Horeb		
Dan Dura	4221 U.S. Hwy 18 Dodgeville		yes

**Cardinal-Hickory Creek Transmission Line Project
Draft Environmental Impact Statement Public Meeting
March 20, 2019 - Middleton, Wisconsin**



Name (please print clearly)	Address (please print clearly)	Email Address (please print clearly)	Please check if to receive a copy of the EIS
FRANK SANDNER	BLUE MOUNDS, WI	Ag@mhcc.net	
Diana Louts-Gams	6237 Oak Hollow, Oregon, WI	dianalouts@gmail.com	
WANG, Radd	4742 Howell St Oregon, WI	rlwang118@gmail.com	
JANE Roemer	7410 Companion Ln Middleton	imirish@tds.net	
Janet Loewi	5642 Lake Mendota Dr Madison 53705	jloewi@aol.com	
Greg Kellesvig	508 Nordic Trl Mt Horeb 53572	agkellesvig@charter.net	
Ellen Myers	203 N 2nd St Mt Horeb WI 53572	ellengail22@gmail.com	
John Murphy	901 Pebble Beach Dr Madison	836-7191	
GRACE Vosen	2412 CHURCH ST., CROSS PLAINS	feathersand.such@gmail.com	
Rosa Meinholz	4413 Travis Ter M 53711	meinhock@hotmail.com	
Terry Nicdai	3244 Ryser Drive Mount Horeb WI		
Jackson Hall	3010 ALLIES LANE CROSS PLAINS WI 53528	JACKSONMASTERSHALL@gmail.com	X
John Kottal	4144 Pikrs Peak Rd Ridgeway WI	john@delta-properties.com	✓

**Cardinal-Hickory Creek Transmission Line Project
Draft Environmental Impact Statement Public Meeting
March 20, 2019 - Middleton, Wisconsin**



Name (please print clearly)	Address (please print clearly)	Email Address (please print clearly)	Please check if to receive a copy of the EIS
Catherine Sawyer	4679 Cty Rd J, Mt Horeb, WI	csawyer@icloud.com	
Ken Nickerson	4679 COUNTY ROAD J, Mount Horeb, WI	-	
Diane Crossfield	Pinnacle Road Barneveld		
Chike S. Goodman	21 Maple Wood Ln, Mad. #205 J3701	xenorh.goodman @jgmail.com	x
Sue JANCZAK	221 KARL AVE Belleville 53508	svezak4@gmail.com	x
Jeff Crossfield			
Nan Fey	4746 County Hwy 22 Dodgeville		
Mike Dubis	8544 STAGECOACH RD 53528 CROSS PLAINS	mike.dubis@snet.net	
Cyrus Polizzi	1317 Chandler St, Madison, WI 53715	ckpolizzi@wisc.edu	
Mary Spaay	9227 County Rd S, Mt. Horeb, WI 53572		
Lynne Carroll	10727 CTH 1D, Blue Mounds, WI		
Jane Bettner	5714 Old Sauk Rd, Madison WI	bettnerj@gmail.com	

**Cardinal-Hickory Creek Transmission Line Project
Draft Environmental Impact Statement Public Meeting
March 20, 2019 - Middleton, Wisconsin**



Name (please print clearly)	Address (please print clearly)	Email Address (please print clearly)	Please check if to receive a copy of the EIS
Julianne Dwyer	2943 McKinley St. Madison, WI		
Virginia Matush	4310 Fawn Ct. CP, WI	EVMatush@yahoo.com	
Nancy Cox	9805 Moen Valley Rd B.E. WI	castonietds.net	✓
Ben Meylor	2090 E. Blue Mts Rd MTH	meylor@mhtc.net	
Sue Kealy	3058 State Rd 78	skealy@mhtc.net	
Lianne Stephenson	559 Park Lane	stephenson.lianne@gmail.com	
Tom Masgaller	718 Huron Hill, Madison		
Amelia Williams	7932 Old Sawk Pass Rd	amelia.williams42@goc...	←
Gloria Belker	1127 Cass Hotel Court	gbelker@tds.net	✓
David C. Tuttle	206 S. Iowa St., Appleton WI	dave@drc.house.org	
Bonnie Bollig	2521 Bugler Cir		
Brenda Schmidt	3158 K&R Rd MTHoreb 53522	brendalee@mhtc.net	✓
Drew Hanson	4422 Yuma Dr., Madison, WI 53711	drewhansiii@gmail.com	

**Cardinal-Hickory Creek Transmission Line Project
Draft Environmental Impact Statement Public Meeting
March 20, 2019 - Middleton, Wisconsin**



Name (please print clearly)	Address (please print clearly)	Email Address (please print clearly)	Please check if to receive a copy of the EIS
Ed Malosh	4310 Lacon Ct.	Cross Plains	
Laurie Gauper	9637 Roberts Rd. Black Earth, WI 53515	gauperctds.net	✓
David Meylor	20510 E Blue Mounds Rd ^{MT. HOLES} 53572	david.meylor@wisconsin.gov	
Chris Kealy	3058 State Rd 78	chris.kealy@gmail.com	
Dave Stephenson	5198 Ayerson Rd. Dodgeville WI	dsteph@gmail.com	
Jerry French	4184 GARFOOT RD Cross Plains	jtfrench@tds.net	
Amy Noble	25 Hiawatha Cir. Madison WI	amywnoble@gmail.com	
Keith Canfield	105 Dougherty Ct		
Keith Canfield	PO Box 45 Oxford WI 53952		
GARRY WILLIAMS	7932 OLD SAWYER RD	garristafo@gmail.com	✓
Dug Corbin	1018 Oakleaf Ave Madison		
Angela Hamilton	79		
The Hamiltons	7940 DEER RUN RD		

Cardinal-Hickory Creek Transmission Line Project
 Draft Environmental Impact Statement Public Meeting



Date: 3/20/19 Location: Middleton

Verbal Public Comment Sign-up Sheet

	Name (please print clearly)
1	NPS – Eric Gabriel
2	Chris Klopp
3	Bill Dolan
4	Frank Sandner
5	Mike Goodman
6	Jeanette Wheat
7	Grace Vosen
8	John Koffel
9	John Wardoor
10	Gloria Belkin
11	Nan Fey
12	Tim Scott
13	Mary Spaay

14	Dan Bowar
15	Zach Gerl
16	Bill Kean
17	Jeff Crossfield
18	Caroline Beckett
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**Cardinal-Hickory Creek Transmission Line Project
Draft Environmental Impact Statement Public Meeting
March 19, 2019 - Peosta, Iowa**



Name (please print clearly)	Address (please print clearly)	Email Address (please print clearly)	Please check if to receive a copy of the EIS
Dan McDonald	900 Jackson	danielm@greaterdubugve.org	✓
Dr. Glenn Becker	1127 Cars Hollow Rd	gbe	
Lynn Berg	2839 Argyle St Dubuque	lynnberg75@gmail.com	
John McWhorter	1850 Bristol Dub IA	jmcwhortli@aol.com	
R & Bradshaw	21886 Clear Creek Rd ^{Guthrie} IA	Na.	✓
Chas. Winterwood	1555 Montrose DBQ	Cwinterwood@yahoo.com	✓
Ann McDonough	2469 Whitetail Dr.	Ann.mcdonough@dubuguecounty.us	
Dan McClean	401 1 st Ave E Dussick	mcclean12w@iowatele.com.net	✓
Mike Deutmeyer	21710 Clear Creek Rd Guttenberg	mikedeutmeyer@iowatele.com.net	
Dave Timmerman	10328 Shore Ct Dk	dovet@zephyralum.com	
CRAIG ZEBER	760 FREMONT AVE #13 DBQ	CRAIGZEBERSI@GMAIL.COM	
Jim Schmitz	304 Dale Dr. Montfort WI, 53569	JRMschmitz@charter.net	

**Cardinal-Hickory Creek Transmission Line Project
Draft Environmental Impact Statement Public Meeting
March 19, 2019 - Peosta, Iowa**



Name (please print clearly)	Address (please print clearly)	Email Address (please print clearly)	Please check if to receive a copy of the EIS
Chris Klopp	4023 4203 Cty Rd P ^{Cross Plains WI 53528}	dysydancer@tds.net	
Dena Kurt	4023 Braellan Ln Hazel Green IA	(563) 551-4538	
Mary Soebel	28583 Shunder Rd Metterley		
Karla Braig	5168 Rolling Hills Pt Asbury IA		
Tim Coulon	480 Watsburg Pl. / Fair Look Rd Spring Green WI	+ coulont@conlcomco.com	✓
Frank Ward	2228 Seippel Rd Dubuque, IA		

Cardinal-Hickory Creek Transmission Line Project
Draft Environmental Impact Statement Public Meeting



Date: 3/19/19 Location: Peosta

Verbal Public Comment Sign-up Sheet

	Name (please print clearly)
1	Roger Bradshaw
2	Charles Winterwood
3	Frank Ward
4	Dan McClean
5	Mike Deutmeyer
6	Ann McDonough
7	Mary Goebel
8	Dena Kurt
9	Karla Braig
10	Jim Schmitz
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APPENDIX C

Agency Notification Letters and Mailing List

Appendix C: Agency Distribution List for Cardinal-Hickory Creek Draft EIS Notices

Name	Agency	Office/Department
Jack Gilbertsen	Federal Aviation Administration	Chicago Airports District Office, CHI-ADO-600
Vivian Vilaro	Federal Aviation Administration	
Dan Higginbottom	Historical Society of Iowa	State Historical Preservation Office
John F. Doershuck	Office of State Archaeologist	University of Iowa
Seth Moore	Iowa Department of Natural Resources	Conservation and Recreation Division
Kelly Stone	Iowa Department of Natural Resources	Floodplain
Kelly Poole	Iowa Department of Natural Resources	Sovereign Lands
Joe Griffin	Iowa Department of Natural Resources	Stormwater
Colleen Conroy	Iowa Department of Natural Resources	
Christine Schwake	Iowa Department of Natural Resources	Water Quality
Mike La Pietra	Federal Highway Administration, Iowa Division	
Joel Batha	FHWA Wisconsin Division	
Pete Garcia	FHWA Wisconsin Division	
Bryan Bradley	Iowa Department of Transportation	Traffic and Safety
Don Tormey	Iowa Utilities Board	Customer Service and Communications Section
Adam Yarina	National Park Service	Midwest Regional Office
Pam Schuler	National Park Service	Ice Age National Scenic Trail
Eric Gabriel	National Park Service	Ice Age National Scenic Trail
Adam Ingwell	Public Service Commission of Wisconsin	Division of Energy Regulation
Jim Lepinski	Public Service Commission of Wisconsin	Division of Energy Regulation
Marilyn Weiss	Wisconsin Department of Agriculture, Trade and Consumer Protection	Div. of Agricultural Resource Management
Sara Walling	Wisconsin Department of Agriculture, Trade and Consumer Protection	Div. of Agricultural Resource Management
David R Siebert	Wisconsin Department of Natural Resources	Bureau of Environmental

Name	Agency	Office/Department
		Analysis and Sustainability
Joshua A Brown	Wisconsin Department of Natural Resources	Bureau of Environmental Analysis and Sustainability
Bob Fasick	Wisconsin Department of Transportation	Bureau of Highway Maintenance
Mike Finkenbinder	Wisconsin Department of Transportation	Emergency Relief
Adam Schleicher	Wisconsin Department of Transportation	Utility and Access Unit
Leslie Eisenberg	Wisconsin Historical Society	State Historical Preservation Office
Eric Washburn	U.S. Coast Guard	
Beverly Ohman	Iowa Utilities Board	Utilities Division
Bao Nguyen	Iowa Utilities Board	Utilities Division
Wendy Frohlich	U.S. Army Corps of Engineers	Rock Island Planning Div.
Charlene Carmack	U.S. Army Corps of Engineers	Rock Island Planning Div.
Amanda Forslund	U.S. Army Corps of Engineers	Real Estate Division North (Rock Island District)
Susan Monson	U.S. Army Corps of Engineers	Real Estate Division North (Rock Island District)
Cheryl Shocklie	U.S. Army Corps of Engineers	Real Estate Division North (Rock Island District)
Joseph Lundh	U.S. Army Corps of Engineers	Mississippi River Project
Paul St. Louis	U.S. Army Corps of Engineers	Emergency Management Section (Rock Island District)
Ben Vandermyde	U.S. Army Corps of Engineers	Rock Island District
Abby Steele	U.S. Army Corps of Engineers	Rock Island District
Joey Shoemaker	U.S. Army Corps of Engineers	Rock Island District
Kerrie Hauser	U.S. Army Corps of Engineers	St. Paul District
Jim Ross	U.S. Army Corps of Engineers	Rock Island Archaeologist
Kathy Kowal	U.S. Environmental Protection Agency	Region 5
Ken Westlake	U.S. Environmental Protection Agency	Region 5
Amber Tilley	U.S. Environmental Protection Agency	Region 7

Name	Agency	Office/Department
Tim Yager	U.S. Fish and Wildlife Service	Upper Mississippi River National Wildlife Refuge
Wendy Woyczik	U.S. Fish and Wildlife Service	Upper Mississippi River National Wildlife Refuge
Andrew Horton	U.S. Fish and Wildlife Service	Twin Cities Ecological Services
Brandon Jones	U.S. Fish and Wildlife Service	Upper Mississippi River National Wildlife Refuge and Driftless NWR



David Reinhart <comments@cardinalhickorycreekeis.us>

Notice of Public Comment Period for the Cardinal-Hickory Creek 345-kV Transmission Line Project Draft Environmental Impact Statement

Comments <comments@cardinalhickorycreekeis.us>

Mon, Dec 3, 2018 at 3:37 PM

Bcc: jgilbertsen@faa.gov, vivian.vilaro@faa.gov, Kathy.Gourley@iowa.gov, seth.moore@dnr.iowa.gov, kelly.stone@dnr.iowa.gov, kelly.poole@dnr.iowa.gov, joe.griffin@dnr.iowa.gov, colleen.conroy@dnr.iowa.gov, christine.schwake@dnr.iowa.gov, Mike.lapietra@dot.gov, joel.batha@dot.gov, pete.garcia@dot.gov, bryan.bradley@dot.iowa.gov, jim.sundermeyer@iub.state.ia.us, don.tormey@iub.iowa.gov, adam_yarina@nps.gov, pam_schuler@nps.gov, Adam.Ingwell@wisconsin.gov, Jim.Lepinski@wisconsin.gov, marilyn.weiss@wisconsin.gov, sara.walling@wisconsin.gov, david.siebert@wisconsin.gov, JoshuaA.Brown@wisconsin.gov, robert.fasick@dot.wi.gov, michael.finkenbinder@dot.wi.gov, adam.schleicher@dot.wi.gov, chip.brown@wisconsinhistory.org, Eric.Washburn@uscg.mil, laura.klewicki@swca.com

Dear Stakeholder,

The U.S. Department of Agriculture, Rural Utilities Service (RUS) is announcing the availability of the Cardinal-Hickory Creek 345-kV Transmission Line Project (C-HC Project) Draft Environmental Impact Statement (EIS). RUS has prepared the Draft EIS to evaluate potential environmental impacts of construction and operation of the proposed C-HC Project, which would extend approximately 125 miles, connecting Dane County, Wisconsin, and Dubuque County, Iowa (see enclosed map).

The purpose of the C-HC Project is to improve electric system reliability, increase the transfer capability needed to respond to the nation's changing energy mix, provide economic benefits to utilities and electric consumers, and expand the electric infrastructure to support public policy for greater use of renewable energy. Utilities participating in the C-HC Project are Dairyland Power Cooperative, ITC Midwest LLC and American Transmission Company LLC.

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Comments must be received or postmarked on or before February 5, 2019.

There are three ways to provide comments during the Draft EIS public comment period:

1. Email written comments to: comments@CardinalHickoryCreekEIS.us
2. Mail comments to: SWCA Environmental Consultants
Attn: Cardinal-Hickory Creek EIS
80 Emerson Lane, Suite 1306
Bridgeville, PA 15017
3. Submit comments during one of the Draft EIS public meetings (see schedule below):

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Public comments become part of the project's official administrative record.

For further information about the Draft EIS, contact:

Dennis Rankin
Rural Utilities Service Co-Project Manager
202-720-1953
dennis.rankin@wdc.usda.gov

Lauren Cusick
Rural Utilities Service Co-Project Manager
202-720-1414
lauren.cusick@wdc.usda.gov

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Sincerely,

Kellie Kubena
Director, Engineering and Environmental Staff
USDA, Rural Utilities Service
Engineering and Environmental Staff
(202) 720-1649
kellie.kubena@wdc.usda.gov

Enclosure

2 attachments

 **Cardinal-Hickory Creek Transmission Line Route Map.pdf**
789K

 **Cardinal-Hickory Creek DEIS NOA_120318.pdf**
125K

Coleman Burnett

From: Coleman Burnett
Sent: Monday, January 14, 2019 5:49 PM
To: Coleman Burnett (Cburnett@swca.com)
Cc: Amanda Nicodemus
Subject: Notice of Cancelled Public Meetings for the Cardinal-Hickory Creek Project Draft EIS

Notice of Cancelled Public Meetings for the Cardinal-Hickory Creek Project Draft EIS

The public meetings hosted by the U.S. Department of Agriculture Rural Utilities Service (RUS) for the Cardinal-Hickory Creek 345-kV Transmission Line Project (C-HC Project) Draft Environmental Impact Statement (EIS) have been postponed due to the partial Federal Government shutdown.

These meetings were scheduled to run from January 22 through January 29, 2019 and will be rescheduled once the Federal Government reopens.

RUS will notify the public of the new meeting dates once they are scheduled.

Public comments are still being collected for the C-HC Project Draft EIS via the following options:

1. Email written comments to: comments@CardinalHickoryCreekEIS.us
2. Mail comments to:
SWCA Environmental Consultants
Attn: Cardinal-Hickory Creek EIS
80 Emerson Lane, Suite 1306
Bridgeville, PA 15017

Thank you,

Coleman T. Burnett, AICP
Environmental Planner/Senior Project Manager

SWCA Environmental Consultants
200 W. 22nd Street, Suite 220
Lombard, IL 60148
P 505.603.0811 (Cell)



Coleman Burnett

From: Coleman Burnett
Sent: Saturday, February 2, 2019 3:07 PM
To: Coleman Burnett (Cburnett@swca.com)
Cc: Lauren Cusick; Amanda Nicodemus; Dennis Rankin
Subject: Notice of public comment extension for the Cardinal-Hickory Creek Draft EIS

Notice of Public Comment Extension for the Cardinal-Hickory Creek Project Draft EIS

A Notice of Availability was published in the Federal Register by the Rural Utilities Service (RUS) on December 7, 2018 (83 FR 63149) for the Cardinal-Hickory Creek 345-kV Transmission Line Project Draft Environmental Impact Statement (EIS). Meetings were scheduled for January 2019 and the public review period was to conclude on February 5, 2019. **This notice announces an extension of the public comment period to April 1, 2019** due to the partial Federal government shutdown. Previously scheduled Draft EIS public comment meetings in January 2019 were also cancelled due to the partial Federal government shutdown and will be rescheduled, once RUS receives full funding for FY 2019.

RUS will notify the public once the Draft EIS public comment meetings are rescheduled. The scoping report, Draft EIS, and other project documentation can be found on the RUS website:

<http://www.rd.usda.gov/publications/environmental-studies/impact-statements>

Public comments are still being collected for the C-HC Project Draft EIS via the following options:

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2. Mail comments to:
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Attn: Cardinal-Hickory Creek EIS
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Bridgeville, PA 15017

For further information about the Draft EIS, contact:

Dennis Rankin, RUS Co-Project Manager
202-720-1953
dennis.rankin@wdc.usda.gov

Lauren Cusick, RUS Co-Project Manager
202-720-1414
lauren.cusick@wdc.usda.gov

Thank you,

Coleman T. Burnett, AICP
Environmental Planner/Senior Project Manager

SWCA Environmental Consultants
200 W. 22nd Street, Suite 220
Lombard, IL 60148
P 505.603.0811 (Cell)



Coleman Burnett

From: Coleman Burnett
Sent: Wednesday, February 20, 2019 11:13 AM
To: jgilbertsen@faa.gov; vivian.vilaro@faa.gov; Kathy.Gourley@iowa.gov; seth.moore@dnr.iowa.gov; kelly.stone@dnr.iowa.gov; kelly.poole@dnr.iowa.gov; joe.griffin@dnr.iowa.gov; colleen.conroy@dnr.iowa.gov; christine.schwake@dnr.iowa.gov; Mike.lapietra@dot.gov; joel.batha@dot.gov; pete.garcia@dot.gov; bryan.bradley@dot.iowa.gov; jim.sundermeyer@iub.state.ia.us; don.tormey@iub.iowa.gov; Yarina, Adam; pam_schuler@nps.gov; Eric_Gabriel@nps.gov; Ingwell, Adam - PSC; Jim.Lepinski@wisconsin.gov; marilyn.weiss@wisconsin.gov; sara.walling@wisconsin.gov; david.siebert@wisconsin.gov; JoshuaA.Brown@Wisconsin.gov; robert.fasick@dot.wi.gov; michael.finkenbinder@dot.wi.gov; adam.schleicher@dot.wi.gov; chip.brown@wisconsinhistory.org; Eric.Washburn@uscg.mil; Burtley, Cindy L - PSC
Cc: Dennis Rankin; Lauren Cusick; Amanda Nicodemus
Subject: Rescheduled public meetings for the Cardinal-Hickory Creek Draft EIS

Notice of Rescheduled Public Meetings

The USDA, Rural Utilities Service (RUS) has rescheduled the Cardinal-Hickory Creek (C-HC) Draft Environmental Impact Statement (EIS) public meetings for the following dates/locations:

- March 13 at 5-7pm – Dodger Bowl Banquet Hall at 318 King St. in Dodgeville, Wisconsin
- March 14 at 5-7pm – Deer Valley Lodge at 401 W. Industrial Dr. in Barneveld, Wisconsin
- March 15 at 5-7pm – Guttenberg Municipal Bldg at 502 S. First St. in Guttenberg, Iowa
- March 18 at 5-7pm – Cassville Middle School at 715 E. Amelia St. in Cassville, Wisconsin
- March 19 at 5-7pm – Peosta Community Center at 7896 Burds Rd. in Peosta, Iowa
- March 20 at 5-7pm – Madison Marriott West at 1313 John Q. Hammons Dr. in Middleton, Wisconsin

All meetings will be held from 5:00 to 7 p.m. CT.

The information collected during the Draft EIS public review period will be used to prepare the Final EIS.

Comments must be received or postmarked on or before April 1, 2019.

There are three ways to provide comments during the Draft EIS public comment period:

1. Email written comments to: comments@CardinalHickoryCreekEIS.us
2. Mail comments to: SWCA Environmental Consultants, Attn: Cardinal-Hickory Creek EIS, 80 Emerson Lane, Suite 1306, Bridgeville, PA 15017
3. Submit comments during one of the Draft EIS public meetings

Thank you.

Coleman T. Burnett, AICP
Environmental Planner/Senior Project Manager

SWCA Environmental Consultants
200 W. 22nd Street, Suite 220
Lombard, IL 60148
P 505.603.0811 (Cell)

APPENDIX D

Tribal Notification Letters and Mailing List

Appendix D: Native American Tribes Distribution List for Cardinal-Hickory Creek Draft EIS Notices

Absentee-Shawnee Tribe of Indians of Oklahoma	Kickapoo Traditional Tribe of Texas	Ponca Tribe of Oklahoma
Alabama-Quassarte Tribal Town	Kickapoo Tribe in Kansas	Prairie Band Potawatomi Nation
Apache Tribe of Oklahoma	Kickapoo Tribe of Oklahoma	Prairie Island Indian Community*
Bad River Band of Lake Superior Chippewa Indians of Wisconsin	Lac Courte Oreilles Band of Lake Superior Chippewa Indians of Wisconsin	Red Cliff Band of Lake Superior Chippewa Indians of Wisconsin
Bah Kho-je - Iowas of Oklahoma	Lac du Flambeau Band of Lake Superior Chippewa Indians of Wisconsin	Red Lake Band of Chippewa Indians
Bay Mills Indian Community	Lac Vieux Desert Band of Lake Superior Chippewa Indians of Michigan	Rosebud Sioux Tribe*
Bois Forte Band of Chippewa	Leech Lake Band of Ojibwe*	Sac and Fox Nation of Missouri in Kansas and Nebraska
Caddo Nation of Oklahoma	Little Traverse Bay Bands of Odawa Indians	Sac and Fox Nation of Oklahoma
Cayuga Nation of New York	Lower Brule Sioux Tribe	Sac and Fox Tribe of the Mississippi in Iowa*
Cherokee Nation	Lower Sioux Indian Community	Saginaw Chippewa Indian Tribe of Michigan
Cheyenne and Arapaho Tribes of Oklahoma	Mendota Mdewakanton Dakota Community	Santee Sioux Tribe of Nebraska
Cheyenne River Sioux Tribe	Menominee Indian Tribe of Wisconsin*	Sault Ste. Marie Tribe of Chippewa Indians
Chippewa Cree Tribe of the Rocky Boy's Reservation of Montana	Miami Nation of Indians in Indiana	Shakopee Mdewakanton Sioux Community of Minnesota*
Citizen Potawatomi Nation	Miami Tribe of Oklahoma	Sisseton-Wahpeton Oyate
Crow Creek Sioux Tribe	Mille Lacs Band of Ojibwe Indians*	Sokaogon Chippewa Community of Wisconsin
Flandreau Santee Sioux Tribe*	Minnesota Chippewa Tribe	Spirit Lake Tribe*
Fond du Lac Band of Lake Superior Chippewa	Oglala Sioux Tribe	St. Croix Chippewa Indians of Wisconsin
Forest County Potawatomi Community	Omaha Tribe of Nebraska	Standing Rock Sioux Tribe
Fort Belknap Indian Community	Oneida Nation of Wisconsin	Stockbridge-Munsee Band Community Band of Mohican Indians
Fort Peck Assiniboine and Sioux Tribes	Osage Nation	Three Affiliated Tribes Mandan, Hidatsa and Arikara Nation
Grand Portage Band of Lake Superior Chippewa	Otoe-Missouria Tribe*	Turtle Mountain Band of Chippewa Indians*
Grand Traverse Band of Ottawa and Chippewa Indians	Ottawa Tribe of Oklahoma	Upper Sioux Community, Minnesota*
Hannahville Indian Community	Pawnee Nation of Oklahoma	White Earth Reservation
Ho-Chunk Nation*	Peoria Tribe of Indians of Oklahoma	Winnebago Tribe of Nebraska*
Iowa Tribe of Kansas and Nebraska*	Pokagon Band of Potawatomi Indians	Yankton Sioux Tribe*
Iowa Tribe of Oklahoma	Ponca Tribe of Nebraska	



David Reinhart <comments@cardinalhickorycreekeis.us>

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Comments <comments@cardinalhickorycreekeis.us>

Mon, Dec 3, 2018 at 3:18 PM

Bcc: llonghorn@astribe.com, chief@alabama-quassarte.org, aqhpo@mail.com, thpo@badriver-nsn.gov, lcarricksr@baymills.org, paulacarrick@baymill.org, blatady@boisforte-nsn.gov, tffourkiller@caddonation.org, Sheila-bird@cherokee.org, haroldfrazier@yahoo.com, steve.vance@crst-nsn.gov, alvin@nei-yahw.com, rbarrett@potawatomi.org, kelli.mosteller@potawatomi.org, r.sazue@hotmail.com, darrellzephier78@gmail.com, tony.reider@fsst.org, Garrie.killsahundred@fsst.org, melissa.cook@fcpotawatomi-nsn.gov, fazure@fortpecktribes.net, cultres@nemontel.net, tyderyien@hannahville.org, Bill.Quackenbush@ho-chunk.com, George.Garvin@ho-chunk.com, Wilfrid.Cleveland@ho-chunk.com, lfoster@iowas.org, rhodd@iowas.org, emcclellan@iowanation.org, BWalkup@iowanation.org, ljr3131@hotmail.com, dpacheco@okkt.net, kentcollier@kickapootribeofoklahoma.com, jsmith@lco-nsn.gov, gmartin@lvdtribal.com, laura.klewicki@swca.com

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Rural Utilities Service Co-Project Manager
202-720-1953
dennis.rankin@wdc.usda.gov

Lauren Cusick
Rural Utilities Service Co-Project Manager
202-720-1414
lauren.cusick@wdc.usda.gov

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Kellie Kubena
Director, Engineering and Environmental Staff
USDA, Rural Utilities Service
Engineering and Environmental Staff
(202) 720-1649
kellie.kubena@wdc.usda.gov

Enclosure

2 attachments

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125K

 **Cardinal-Hickory Creek Transmission Line Route Map.pdf**
789K



David Reinhart <comments@cardinalhickorycreekeis.us>

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Comments <comments@cardinalhickorycreekeis.us>

Mon, Dec 3, 2018 at 3:26 PM

Bcc: ldftpa@ldftribe.com, amy.burnette@llojibwe.org, moly@usd.edu, clairgreenoffice@gmail.com, cheyanne.stjohn@lowersioux.com, mendotadakota@gmail.com, dgrignon@mitw.org, jodelabreau@mitw.org, myaamialenia@gmail.com, dhunter@miamination.com, jolds@miamination.com, johns@oglala.org, dennis@oglalathpo.org, thomaslp99@yahoo.com, vmiller@omahatribe.com, ahunter@osagenation-nsn.gov, sodonnell@osagenation-nsn.gov, gstandingbear@osagenation-nsn.gov, jshotton@omtribe.org, ewhitehorn@omtribe.org, rhonda.oto@gmail.com, mknifechief@pawneenation.org, jfroman@peoriatribe.com, lpappenfort@peoria.com, marcus.winchester@pokagonband-nsn.gov, rteboe@poncatribene.org, swright@poncatribene.org, thowe3@ymail.com, ps.men54@yahoo.com, lbarber@redcliff-nsn.gov, laura.klewicki@swca.com

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Comments <comments@cardinalhickorycreekeis.us>

Mon, Dec 3, 2018 at 3:31 PM

Bcc: kade.ferris@redlakenation.org, william.kindle@rst-nsn.gov, rstthpo@yahoo.com, rst.thpo@rst-nsn.gov, egreen@sacandfoxcasino.com, wahnesh@yahoo.com, chief@sacandfoxnation-nsn.gov, director.historic@meskwaki-nsn.gov, tamafriend4@hotmail.com, wjohnson@sagchip.org, rick_thpo02@yahoo.com, rickthomas_06@yahoo.com, rtrudell@santeedakota.org, aaronpayment@saulttribe.net, cmedicine@saulttribe.net, culturalresources@shakopeedakota.org, dianned@swo-nsn.gov, chairman@swo-nsn.gov, chris.mcgeshick@scc.nsn.gov, thpo@gondtc.com, wandam@stcroixtribalcenter.com, darchambaultll@standingrock.org, redhawk@mhanation.com, pcoffey@mhanation.com, rmc1man@yahoo.com, archerl45@yahoo.com, kevinj@uppersiouxcommunity-nsn.gov, wazyatawin@uppersiouxcommunity-nsn.gov, henry.payer@winnebagotribe.com, yst.thpo@gmail.com, Kipspottedeagle247@gmail.com, rfischer@hotmail.com, maryanng@grandportage.com, natalie.weyaus@millelacsband.com, cayla.olson@whiteearth-nsn.gov, laura.klewicki@swca.com

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The C-HC Project is a federal undertaking subject to review under Section 106 of the National Historic Preservation Act (NHPA), 54 U.S.C. 306108, and its implementing regulations, 36 CFR Part 800. RUS is using its procedures for public involvement under NEPA to meet its responsibilities to solicit and consider the views of the public during the Section 106 review for the proposed project.

RUS is releasing the Draft EIS to obtain feedback from the public, as part of the federal environmental review process required by NEPA and NHPA. The information collected during the Draft EIS public review period will be used to prepare the Final EIS.

Comments must be received or postmarked on or before February 5, 2019.

There are three ways to provide comments during the Draft EIS public comment period:

1. Email written comments to: comments@CardinalHickoryCreekEIS.us
2. Mail comments to:
 - SWCA Environmental Consultants
 - Attn: Cardinal-Hickory Creek EIS
 - 80 Emerson Lane, Suite 1306
 - Bridgeville, PA 15017

3. Submit comments during one of the Draft EIS public meetings (see schedule below):

Cardinal-Hickory Creek Draft EIS Public Meetings Details

Date	Location	Time	Venue
Tuesday, January 22	Peosta, Iowa	1-3pm	Peosta Community Center 7896 Burds Rd. Peosta, IA 52068
Tuesday, January 22	Guttenberg, Iowa	6-8pm	Guttenberg Municipal Building 502 S. First St. Guttenberg, IA 52052
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Tuesday, January 29	Middleton, Wisconsin	5-7pm	Madison Marriott West 1313 John Q Hammons Dr. Middleton, WI 53562

Public comments become part of the project's official administrative record.

For further information about the Draft EIS, contact:

Dennis Rankin
Rural Utilities Service Co-Project Manager
202-720-1953
dennis.rankin@wdc.usda.gov

Lauren Cusick
Rural Utilities Service Co-Project Manager
202-720-1414
lauren.cusick@wdc.usda.gov

Additional information about the project can be found on the Utilities' website:

<http://www.cardinal-hickorycreek.com/>

Sincerely,

Kellie Kubena
Director, Engineering and Environmental Staff
USDA, Rural Utilities Service
Engineering and Environmental Staff
(202) 720-1649
kellie.kubena@wdc.usda.gov

Enclosure

2 attachments

 **Cardinal-Hickory Creek DEIS NOA_120318.pdf**
125K

 **Cardinal-Hickory Creek Transmission Line Route Map.pdf**
789K



David Reinhart <comments@cardinalhickorycreekeis.us>

Notice of Cancelled Public Meetings for the Cardinal-Hickory Creek Project Draft EIS

1 message

Comments <comments@cardinalhickorycreekeis.us>

Mon, Jan 14, 2019 at 4:33 PM

To: cardinal hickory creek comments <comments@cardinalhickorycreekeis.us>

Bcc: llonghorn@astribe.com, chief@alabama-quassarte.org, aqhp@mail.com, thpo@badriver-nsn.gov, lcarricksr@baymills.org, paulacarrick@baymill.org, blatady@boisforte-nsn.gov, tffourkiller@caddonation.org, Sheila-bird@cherokee.org, haroldfrazier@yahoo.com, steve.vance@crst-nsn.gov, alvin@nei-yahw.com, rbarrett@potawatomi.org, kelli.mosteller@potawatomi.org, r.sazue@hotmail.com, Plush Tastic <darrellzephier78@gmail.com>, tony.reider@fsst.org, Garrie.killsahundred@fsst.org, melissa.cook@fcpotawatomi-nsn.gov, fazure@fortpecktribes.net, cultres@nemontel.net, Ken Meshigaud <tyderyien@hannahville.org>, Bill.Quackenbush@ho-chunk.com, George.Garvin@ho-chunk.com, jon.greendeer@ho-chunk.com, amanda.nicodemus@swca.com

Dear Stakeholder,

The public meetings hosted by the U.S. Department of Agriculture Rural Utilities Service (RUS) for the Cardinal-Hickory Creek 345-kV Transmission Line Project (C-HC Project) Draft Environmental Impact Statement (EIS) have been postponed due to the partial Federal Government shutdown. The cancelled meetings are listed below and will be rescheduled once the Federal Government reopens.

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Dennis Rankin

Rural Utilities Service Co-Project Manager

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dennis.rankin@wdc.usda.gov

Lauren Cusick

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202-720-1414

lauren.cusick@wdc.usda.gov

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<http://www.cardinal-hickorycreek.com/>

Sincerely,

Coleman Burnett, on behalf of RUS

Environmental Planner/Senior Project Manager

SWCA Environmental Consultants



David Reinhart <comments@cardinalhickorycreekeis.us>

Notice of Cancelled Public Meetings for the Cardinal-Hickory Creek Project Draft EIS

1 message

Comments <comments@cardinalhickorycreekeis.us>

Mon, Jan 14, 2019 at 4:36 PM

To: cardinal hickory creek comments <comments@cardinalhickorycreekeis.us>

Bcc: lfoster@iowas.org, trhodd@iowas.org, emcclellan@iowanation.org, BWalkup@iowanation.org, ljr3131@hotmail.com, dpacheco@okkt.net, kentcollier@kickapootribeofoklahoma.com, jsmith@lco-nsn.gov, gmartin@lvdtribal.com, ldfthpa@ldftribe.com, amy.burnette@llojibwe.org, moly@usd.edu, Clair Green <clairgreenoffice@gmail.com>, cheyenne.stjohn@lowersioux.com, Mendota Dakota <mendotadakota@gmail.com>, dgrignon@mitw.org, jodelabreau@mitw.org, myaamialenia@gmail.com, Diane Hunter <dhunter@miamination.com>, jolds@miamination.com, amanda.nicodemus@swca.com

Dear Stakeholder,

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For further information about the Draft EIS, contact:

Dennis Rankin

Rural Utilities Service Co-Project Manager

202-720-1953

dennis.rankin@wdc.usda.gov

Lauren Cusick

Rural Utilities Service Co-Project Manager

202-720-1414

lauren.cusick@wdc.usda.gov

Additional information about the project can be found on the Utilities' website:

<http://www.cardinal-hickorycreek.com/>

Sincerely,

Coleman Burnett, on behalf of RUS

Environmental Planner/Senior Project Manager

SWCA Environmental Consultants



David Reinhart <comments@cardinalhickorycreekeis.us>

Notice of Cancelled Public Meetings for the Cardinal-Hickory Creek Project Draft EIS

1 message

Comments <comments@cardinalhickorycreekeis.us>

Mon, Jan 14, 2019 at 4:40 PM

To: cardinal hickory creek comments <comments@cardinalhickorycreekeis.us>

Bcc: johns@oglala.org, dennis@oglalathpo.org, thomaslp99@yahoo.com, vmiller@omahatribe.com, ahunter@osagenation-nsn.gov, sodonnell@osagenation-nsn.gov, gstandingbear@osagenation-nsn.gov, jshotton@omtribe.org, ewhitehorn@omtribe.org, Rhonda Hayworth <rhonda.oto@gmail.com>, mknifechief@pawneenation.org, john froman <jfroman@peoriatribe.com>, lpappenfort@peoria.com, marcus.winchester@pokagonband-nsn.gov, rteboe@poncatrib-ne.org, Shannon Wright <swright@poncatrib-ne.org>, Trey Howe <thowe3@ymail.com>, ps.men54@yahoo.com, noah.white@piic.org, lbarber@redcliff-nsn.gov, kade.ferris@redlakenation.org, William Kindle <william.kindle@rst-nsn.gov>, amanda.nicodemus@swca.com

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80 Emerson Lane, Suite 1306
Bridgeville, PA 15017

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For further information about the Draft EIS, contact:

Dennis Rankin

Rural Utilities Service Co-Project Manager

202-720-1953

dennis.rankin@wdc.usda.gov

Lauren Cusick

Rural Utilities Service Co-Project Manager

202-720-1414

lauren.cusick@wdc.usda.gov

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<http://www.cardinal-hickorycreek.com/>

Sincerely,

Coleman Burnett, on behalf of RUS

Environmental Planner/Senior Project Manager

SWCA Environmental Consultants



David Reinhart <comments@cardinalhickorycreekeis.us>

Notice of Cancelled Public Meetings for the Cardinal-Hickory Creek Project Draft EIS

1 message

Comments <comments@cardinalhickorycreekeis.us>

Mon, Jan 14, 2019 at 4:44 PM

To: cardinal hickory creek comments <comments@cardinalhickorycreekeis.us>

Bcc: Kathy Arcoren <rstthpo@yahoo.com>, RST THPO <rst.thpo@rst-nsn.gov>, egreen@sacandfoxcasino.com, wahnesh@yahoo.com, chief@sacandfoxnation-nsn.gov, director.historic@meskwaki-nsn.gov, tamafriend4@hotmail.com, wjohnson@sagchip.org, rick_thpo02@yahoo.com, rickthomas_06@yahoo.com, rtrudell@santeedakota.org, aaronpayment@saulttribe.net, cmedicine@saulttribe.net, culturalresources@shakopeedakota.org, Dianne Desrosiers <dianned@swo-nsn.gov>, chairman@swo-nsn.gov, chris.mcgeshick@scc.nsn.gov, Erich Longie <thpo@gondtc.com>, wandam@stcroixtribalcenter.com, darchambaultII@standingrock.org, redhawk@mhanation.com, pcoffey@mhanation.com, rmc1man@yahoo.com, brucefnadeau@gmail.com, kevinj@uppersiouxcommunity-nsn.gov, amanda.nicodemus@swca.com

Dear Stakeholder,

The public meetings hosted by the U.S. Department of Agriculture Rural Utilities Service (RUS) for the Cardinal-Hickory Creek 345-kV Transmission Line Project (C-HC Project) Draft Environmental Impact Statement (EIS) have been postponed due to the partial Federal Government shutdown. The cancelled meetings are listed below and will be rescheduled once the Federal Government reopens.

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For further information about the Draft EIS, contact:

Dennis Rankin

Rural Utilities Service Co-Project Manager

202-720-1953

dennis.rankin@wdc.usda.gov

Lauren Cusick

Rural Utilities Service Co-Project Manager

202-720-1414

lauren.cusick@wdc.usda.gov

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Sincerely,

Coleman Burnett, on behalf of RUS

Environmental Planner/Senior Project Manager

SWCA Environmental Consultants



David Reinhart <comments@cardinalhickorycreekeis.us>

Notice of Cancelled Public Meetings for the Cardinal-Hickory Creek Project Draft EIS

1 message

Comments <comments@cardinalhickorycreekeis.us>

Mon, Jan 14, 2019 at 4:46 PM

To: cardinal hickory creek comments <comments@cardinalhickorycreekeis.us>

Bcc: samanthao@upperiouxcommunity-nsn.gov, darla.lapointe@winnebago-tribe.com, emily.smith@winnebago-tribe.com, Kip Spotted Eagle <yst.thpo@gmail.com>, Kipsottedeagle247@gmail.com, rfischer@hotmail.com, maryannng@grandportage.com, natalie.weyaus@millelacsband.com, cayla.olson@whiteearth-nsn.gov, amanda.nicodemus@swca.com

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Sincerely,

Coleman Burnett, on behalf of RUS

Environmental Planner/Senior Project Manager

SWCA Environmental Consultants



David Reinhart <comments@cardinalhickorycreekeis.us>

Extension of Public Comment Period for Draft Environmental Impact Statement for Proposed Cardinal-Hickory Creek Transmission Line

1 message

Comments <comments@cardinalhickorycreekeis.us>

Mon, Feb 4, 2019 at 2:56 PM

To: cardinal hickory creek comments <comments@cardinalhickorycreekeis.us>

Bcc: amanda.nicodemus@swca.com, llonghorn@astribe.com, chief@alabama-quassarte.org, aqhpo@mail.com, thpo@badriver-nsn.gov, lcarricksr@baymills.org, paulacarrick@baymill.org, blatady@boisforte-nsn.gov, tffourkiller@caddonation.org, Sheila-bird@cherokee.org, haroldfrazier@yahoo.com, steve.vance@crst-nsn.gov, alvin@nei-yahw.com, rbarrett@potawatomi.org, kelli.mosteller@potawatomi.org, r.sazue@hotmail.com, Plush Tastic <darrellzephier78@gmail.com>, tony.reider@fsst.org, Garrie.killsahundred@fsst.org, melissa.cook@fcpotawatomi-nsn.gov, fazure@fortpecktribes.net, cultres@nemontel.net, Ken Meshigaud <tyderyien@hannahville.org>, Bill.Quackenbush@ho-chunk.com, George.Garvin@ho-chunk.com, jon.greendeer@ho-chunk.com, lfoster@iowas.org, trhodd@iowas.org, emcclellan@iowanation.org, BWalkup@iowanation.org, ljr3131@hotmail.com

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Dennis Rankin, RUS Co-Project Manager

202-720-1953

dennis.rankin@wdc.usda.gov

Lauren Cusick, RUS Co-Project Manager

202-720-1414

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Sincerely,

Kellie Kubena

Director, Engineering and Environmental Staff

USDA, Rural Utilities Service

Engineering and Environmental Staff

kellie.kubena@wdc.usda.gov



David Reinhart <comments@cardinalhickorycreekeis.us>

Extension of Public Comment Period for Draft Environmental Impact Statement for Proposed Cardinal-Hickory Creek Transmission Line

1 message

Comments <comments@cardinalhickorycreekeis.us>

Mon, Feb 4, 2019 at 3:01 PM

To: cardinal hickory creek comments <comments@cardinalhickorycreekeis.us>

Bcc: amanda.nicodemus@swca.com, dpacheco@okkt.net, kentcollier@kickapootribeofoklahoma.com, jsmith@lco-nsn.gov, gmartin@lvdtribal.com, ldfthpa@ldftribe.com, amy.burnette@llojibwe.org, moly@usd.edu, Clair Green <clairgreenoffice@gmail.com>, cheyanne.stjohn@lowersioux.com, Mendota Dakota <mendotadakota@gmail.com>, dgrignon@mitw.org, jodelabreau@mitw.org, myaamialenia@gmail.com, Diane Hunter <dhunter@miamination.com>, jolds@miamination.com, johns@ogla.org, dennis@oglalathpo.org, thomaslp99@yahoo.com, vmiller@omahatribe.com, ahunter@osagenation-nsn.gov, sodonnell@osagenation-nsn.gov, gstandingbear@osagenation-nsn.gov, jshotton@omtribe.org, ewhitehorn@omtribe.org, Rhonda Hayworth <rhonda.oto@gmail.com>, mknifechief@pawneenation.org

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dennis.rankin@wdc.usda.gov

Lauren Cusick, RUS Co-Project Manager

202-720-1414

lauren.cusick@wdc.usda.gov

Sincerely,

Kellie Kubena

Director, Engineering and Environmental Staff

USDA, Rural Utilities Service

Engineering and Environmental Staff

kellie.kubena@wdc.usda.gov



David Reinhart <comments@cardinalhickorycreekeis.us>

Extension of Public Comment Period for Draft Environmental Impact Statement for Proposed Cardinal-Hickory Creek Transmission Line

1 message

Comments <comments@cardinalhickorycreekeis.us>

Mon, Feb 4, 2019 at 3:04 PM

To: cardinal hickory creek comments <comments@cardinalhickorycreekeis.us>

Bcc: amanda.nicodemus@swca.com, john froman <jfroman@peoriatribe.com>, lpappenfort@peoria.com, marcus.winchester@pokagonband-nsn.gov, rteboe@poncatribes-ne.org, Shannon Wright <swright@poncatribes-ne.org>, Trey Howe <thowe3@ymail.com>, ps.men54@yahoo.com, noah.white@piic.org, lbarber@redcliff-nsn.gov, kade.ferris@redlakenation.org, William Kindle <william.kindle@rst-nsn.gov>, Kathy Arcoren <rstthpo@yahoo.com>, RST THPO <rst.thpo@rst-nsn.gov>, egreen@sacandfoxcasino.com, wahnesh@yahoo.com, chief@sacandfoxnation-nsn.gov, director.historic@meskwaki-nsn.gov, tamafriend4@hotmail.com, wjohnson@sagchip.org, rick_thpo02@yahoo.com, rickthomas_06@yahoo.com, rtrudell@santeedakota.org, aaronpayment@saultribe.net, cmedicine@saultribe.net, culturalresources@shakopeedakota.org, Dianne Desrosiers <dianned@swo-nsn.gov>, chairman@swo-nsn.gov, chris.mcgeshick@scc.nsn.gov

Dear Stakeholder,

A Notice of Availability was published in the Federal Register by the Rural Utilities Service (RUS) on December 7, 2018 (83 FR 63149) for the Cardinal-Hickory Creek 345-kV Transmission Line Project Draft Environmental Impact Statement (EIS). Meetings were scheduled for January 2019 and the public review period was to conclude on February 5, 2019. This notice announces an extension of the public comment period to April 1, 2019 due to the partial Federal government shutdown. Previously scheduled Draft EIS public comment meetings in January 2019 were also cancelled due to the partial Federal government shutdown and will be rescheduled, once RUS receives full funding for FY 2019.

RUS will notify the public once the Draft EIS public comment meetings are rescheduled. The scoping report, Draft EIS, and other project documentation can be found on the RUS website:

<http://www.rd.usda.gov/publications/environmental-studies/impact-statements>

Public comments are still being collected for the C-HC Project Draft EIS via the following options:

Email written comments to: comments@CardinalHickoryCreekEIS.us

Mail comments to: SWCA Environmental Consultants, Attn: Cardinal-Hickory Creek EIS, 80 Emerson Lane, Suite 1306, Bridgeville, PA 15017

For further information about the Draft EIS, contact:

Dennis Rankin, RUS Co-Project Manager

202-720-1953

dennis.rankin@wdc.usda.gov

Lauren Cusick, RUS Co-Project Manager

202-720-1414

lauren.cusick@wdc.usda.gov

Sincerely,

Kellie Kubena

Director, Engineering and Environmental Staff

USDA, Rural Utilities Service

Engineering and Environmental Staff

kellie.kubena@wdc.usda.gov



David Reinhart <comments@cardinalhickorycreekeis.us>

Extension of Public Comment Period for Draft Environmental Impact Statement for Proposed Cardinal-Hickory Creek Transmission Line

1 message

Comments <comments@cardinalhickorycreekeis.us>

Mon, Feb 4, 2019 at 3:06 PM

To: cardinal hickory creek comments <comments@cardinalhickorycreekeis.us>

Bcc: amanda.nicodemus@swca.com, Erich Longie <thpo@gondtc.com>, wandam@stcroixtribalcenter.com, darchambaultII@standingrock.org, redhawk@mhanation.com, pcoffey@mhanation.com, rmc1man@yahoo.com, Bruce Nadeau <brucefnadeau@gmail.com>, kevinj@upper Sioux community-nsn.gov, samanthao@upper Sioux community-nsn.gov, darla.lapointe@winnebagotribe.com, emily.smith@winnebagotribe.com, Kip Spotted Eagle <yst.thpo@gmail.com>, Kipspottedeagle247@gmail.com, rfischer@hotmail.com, maryann@grandportage.com, natalie.weyaus@millelacsband.com, cayla.olson@whiteearth-nsn.gov

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Dennis Rankin, RUS Co-Project Manager

202-720-1953

dennis.rankin@wdc.usda.gov

Lauren Cusick, RUS Co-Project Manager

202-720-1414

lauren.cusick@wdc.usda.gov

Sincerely,

Kellie Kubena

Director, Engineering and Environmental Staff

USDA, Rural Utilities Service

Engineering and Environmental Staff

kellie.kubena@wdc.usda.gov



David Reinhart <comments@cardinalhickorycreekeis.us>

Notice of Rescheduled Public Meetings for the Cardinal-Hickory Creek 345-kV Transmission Line Project Draft Environmental Impact Statement

1 message

Comments <comments@cardinalhickorycreekeis.us>

Mon, Feb 25, 2019 at 11:29 AM

To: cardinal hickory creek comments <comments@cardinalhickorycreekeis.us>

Bcc: amanda.nicodemus@swca.com, llonghorn@astribe.com, thpo@badriver-nsn.gov, blatady@boisforte-nsn.gov, Sheila-bird@cherokee.org, haroldfrazier@yahoo.com, alvin@nei-yahw.com, rbarrett@potawatomi.org, kelli.mosteller@potawatomi.org, r.sazue@hotmail.com, Plush Tastic <darrellzephier78@gmail.com>, tony.reider@fsst.org, Garrie.killsahundred@fsst.org, fazure@fortpecktribes.net, cultres@nemontel.net, Ken Meshigaud <tyderyien@hannahville.org>, Bill.Quackenbush@ho-chunk.com, George.Garvin@ho-chunk.com, lfoster@iowas.org, trhodd@iowas.org, emcclellan@iowanation.org, BWalkup@iowanation.org, ljr3131@hotmail.com, dpacheco@okkt.net, kentcollier@kickapootribeofoklahoma.com, gmartin@lvdtribal.com, amy.burnette@llojibwe.org, moly@usd.edu, Clair Green <clairgreenoffice@gmail.com>

Dear Stakeholder,

A notice of availability, public meetings, and National Historic Preservation Act (NHPA) Section 106 notification was published in the Federal Register by the U.S. Department of Agriculture, Rural Utilities Service (RUS) on December 7, 2018 (83 FR 63149) for the Cardinal-Hickory Creek 345-kV Transmission Line Project (C-HC Project) Draft Environmental Impact Statement (EIS). RUS has prepared the Draft EIS to comply with the National Environmental Policy Act (NEPA) and to evaluate potential environmental impacts of construction and operation of the proposed C-HC Project, which would extend approximately 125 miles, connecting Dane County, Wisconsin, and Dubuque County, Iowa. The scoping report, Draft EIS, and other documentation can be found on the RUS website:

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RUS is hosting public comment meetings to obtain feedback from the public, as part of the federal environmental review process required by NEPA and NHPA. The dates, times, and locations for the rescheduled meetings are as follows:

March 13 – Dodger Bowl Banquet Hall at 318 King St. in Dodgeville, Wisconsin

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March 18 – Cassville Middle School at 715 E. Amelia St. in Cassville, Wisconsin

March 19 – Peosta Community Center at 7896 Burds Rd. in Peosta, Iowa

March 20 – Madison Marriott West at 1313 John Q. Hammons Dr. in Middleton, Wisconsin

All meetings will be held from 5:00 to 7 p.m. Central Time. A court reporter will be available.

The information collected during the Draft EIS public review period will be used to prepare the Final EIS. Public comments become part of the project's official administrative record.

For further information about the Draft EIS, contact:

Dennis Rankin

Rural Utilities Service Co-Project Manager

202-720-1953

dennis.rankin@wdc.usda.gov

Lauren Cusick

Rural Utilities Service Co-Project Manager

202-720-1414

lauren.cusick@wdc.usda.gov

The purpose of the C-HC Project is to improve electric system reliability, increase the transfer capability needed to respond to the nation's changing energy mix, provide economic benefits to utilities and electric consumers, and expand the electric infrastructure to support public policy for greater use of renewable energy. Utilities participating in the C-HC Project are Dairyland Power Cooperative, ITC Midwest LLC and American Transmission Company LLC. Additional information about the project can be found on the Utilities' website:

<http://www.cardinal-hickorycreek.com/>

Sincerely,

Kellie Kubena

Director, Engineering and Environmental Staff

2/25/2019

SWCA Mail - Notice of Rescheduled Public Meetings for the Cardinal-Hickory Creek 345-kV Transmission Line Project Draft Environmental Impact Statement

USDA, Rural Utilities Service

Engineering and Environmental Staff

(202) 720-1649

kellie.kubena@wdc.usda.gov



David Reinhart <comments@cardinalhickorycreekeis.us>

Notice of Rescheduled Public Meetings for the Cardinal-Hickory Creek 345-kV Transmission Line Project Draft Environmental Impact Statement

1 message

Comments <comments@cardinalhickorycreekeis.us>

Mon, Feb 25, 2019 at 11:32 AM

To: cardinal hickory creek comments <comments@cardinalhickorycreekeis.us>

Bcc: amanda.nicodemus@swca.com, cheyanne.stjohn@lowersioux.com, Mendota Dakota <mendotadakota@gmail.com>, dgrignon@mitw.org, jodelabreau@mitw.org, Diane Hunter <dhunter@miamination.com>, jolds@miamination.com, johns@oglala.org, thomaslp99@yahoo.com, vmiller@omahatribe.com, ahunter@osagenation-nsn.gov, sodonnell@osagenation-nsn.gov, gstandingbear@osagenation-nsn.gov, jshotton@omtribe.org, ewhitehorn@omtribe.org, Rhonda Hayworth <rhonda.oto@gmail.com>, marcus.winchester@pokagonband-nsn.gov, Shannon Wright <swright@poncatribene.org>, Trey Howe <thowe3@ymail.com>, ps.men54@yahoo.com, noah.white@piic.org, kade.ferris@redlakenation.org, William Kindle <william.kindle@rst-nsn.gov>, egreen@sacandfoxcasino.com, wahnesh@yahoo.com, chief@sacandfoxnation-nsn.gov

Dear Stakeholder,

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All meetings will be held from 5:00 to 7 p.m. Central Time. A court reporter will be available.

The information collected during the Draft EIS public review period will be used to prepare the Final EIS. Public comments become part of the project's official administrative record.

For further information about the Draft EIS, contact:

Dennis Rankin

Rural Utilities Service Co-Project Manager

202-720-1953

dennis.rankin@wdc.usda.gov

Lauren Cusick

Rural Utilities Service Co-Project Manager

202-720-1414

lauren.cusick@wdc.usda.gov

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Sincerely,

Kellie Kubena

Director, Engineering and Environmental Staff

2/25/2019

SWCA Mail - Notice of Rescheduled Public Meetings for the Cardinal-Hickory Creek 345-kV Transmission Line Project Draft Environmental Impact Statement

USDA, Rural Utilities Service

Engineering and Environmental Staff

(202) 720-1649

kellie.kubena@wdc.usda.gov



David Reinhart <comments@cardinalhickorycreekeis.us>

Notice of Rescheduled Public Meetings for the Cardinal-Hickory Creek 345-kV Transmission Line Project Draft Environmental Impact Statement

1 message

Comments <comments@cardinalhickorycreekeis.us>

Mon, Feb 25, 2019 at 11:33 AM

To: cardinal hickory creek comments <comments@cardinalhickorycreekeis.us>

Bcc: amanda.nicodemus@swca.com, director.historic@meskwaki-nsn.gov, tamafriend4@hotmail.com, wjohnson@sagchip.org, rtrudell@santeedakota.org, culturalresources@shakopeedakota.org, Dianne Desrosiers <dianned@swo-nsn.gov>, chairman@swo-nsn.gov, Erich Longie <thpo@gondtc.com>, wandam@stcroixtribalcenter.com, darchambault11@standingrock.org, redhawk@mhanation.com, pcoffey@mhanation.com, rmc1man@yahoo.com, Bruce Nadeau <brucefnadeau@gmail.com>, kevinj@uppersiouxcommunity-nsn.gov, samanthao@uppersiouxcommunity-nsn.gov, frank.white@winnebagotribe.com, randy.teboe@winnebagotribe.com, Kip Spotted Eagle <yst.thpo@gmail.com>, Kipspottedeagle247@gmail.com, rfischer@hotmail.com, maryanng@grandportage.com, natalie.weyaus@millelacsband.com, cayla.olson@whiteearth-nsn.gov

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March 20 – Madison Marriott West at 1313 John Q. Hammons Dr. in Middleton, Wisconsin

All meetings will be held from 5:00 to 7 p.m. Central Time. A court reporter will be available.

The information collected during the Draft EIS public review period will be used to prepare the Final EIS. Public comments become part of the project's official administrative record.

For further information about the Draft EIS, contact:

Dennis Rankin

Rural Utilities Service Co-Project Manager

202-720-1953

dennis.rankin@wdc.usda.gov

Lauren Cusick

Rural Utilities Service Co-Project Manager

202-720-1414

lauren.cusick@wdc.usda.gov

The purpose of the C-HC Project is to improve electric system reliability, increase the transfer capability needed to respond to the nation's changing energy mix, provide economic benefits to utilities and electric consumers, and expand the electric infrastructure to support public policy for greater use of renewable energy. Utilities participating in the C-HC Project are Dairyland Power Cooperative, ITC Midwest LLC and American Transmission Company LLC. Additional information about the project can be found on the Utilities' website:

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Sincerely,

Kellie Kubena

Director, Engineering and Environmental Staff

2/25/2019

SWCA Mail - Notice of Rescheduled Public Meetings for the Cardinal-Hickory Creek 345-kV Transmission Line Project Draft Environmental Impact Statement

USDA, Rural Utilities Service

Engineering and Environmental Staff

(202) 720-1649

kellie.kubena@wdc.usda.gov



David Reinhart <comments@cardinalhickorycreekeis.us>

Notice of Rescheduled Public Meetings for the Cardinal-Hickory Creek 345-kV Transmission Line Project Draft Environmental Impact Statement

1 message

Comments <comments@cardinalhickorycreekeis.us>

Mon, Feb 25, 2019 at 2:41 PM

To: cardinal hickory creek comments <comments@cardinalhickorycreekeis.us>

Bcc: amanda.nicodemus@swca.com, tffourkiller.cn@gmail.com, stevev.crstpres@outlook.com, gus.frank@fcpotawatomi-nsn.gov, Jon.Greendeer@ho-chunk.com, pamwesley@kickapootribeofoklahoma.com, jerry.smith@lco-nsn.gov, ldfthpo@ldftribe.com, oglalathpo@goldenwest.net, aknifechief@pawneenation.org, chiefharper@peoriatribe.com, lpappenfort@peoriatribe.com, lbalber@redcliff-nsn.gov, RST THPO <rst.thpo@rst-nsn.gov>, rick_thpo02@yahoo.com, Chris.mcgeshick@scc-nsn.gov, pcross@caddonation.org

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For further information about the Draft EIS, contact:

Dennis Rankin

Rural Utilities Service Co-Project Manager

202-720-1953

dennis.rankin@wdc.usda.gov

Lauren Cusick

Rural Utilities Service Co-Project Manager

202-720-1414

lauren.cusick@wdc.usda.gov

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Sincerely,

Kellie Kubena

Director, Engineering and Environmental Staff

USDA, Rural Utilities Service

2/25/2019

SWCA Mail - Notice of Rescheduled Public Meetings for the Cardinal-Hickory Creek 345-kV Transmission Line Project Draft Environmental Impact Statement

Engineering and Environmental Staff

(202) 720-1649

kellie.kubena@wdc.usda.gov



David Reinhart <comments@cardinalhickorycreekeis.us>

Notice of Rescheduled Public Meetings for the Cardinal-Hickory Creek 345-kV Transmission Line Project Draft Environmental Impact Statement

1 message

Comments <comments@cardinalhickorycreekeis.us>

Mon, Feb 25, 2019 at 3:15 PM

To: cardinal hickory creek comments <comments@cardinalhickorycreekeis.us>

Bcc: amanda.nicodemus@swca.com, lcarricksr@baymills.org, paulacarrick@baymills.org, chad.frank@fcpotawatomi-nsn.gov, Marvin.Defoe@redcliff-nsn.gov, aaronpayment@saulttribe.net, cmedicine@saulttribe.net, mfaith@standingrock.org

Dear Stakeholder,

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For further information about the Draft EIS, contact:

Dennis Rankin

Rural Utilities Service Co-Project Manager

202-720-1953

dennis.rankin@wdc.usda.gov

Lauren Cusick

Rural Utilities Service Co-Project Manager

202-720-1414

lauren.cusick@wdc.usda.gov

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Sincerely,

Kellie Kubena

Director, Engineering and Environmental Staff

USDA, Rural Utilities Service

Engineering and Environmental Staff

2/25/2019

SWCA Mail - Notice of Rescheduled Public Meetings for the Cardinal-Hickory Creek 345-kV Transmission Line Project Draft Environmental Impact Statement

(202) 720-1649

kellie.kubena@wdc.usda.gov



David Reinhart <comments@cardinalhickorycreekeis.us>

Notice of Rescheduled Public Meetings for the Cardinal-Hickory Creek 345-kV Transmission Line Project Draft Environmental Impact Statement

1 message

Comments <comments@cardinalhickorycreekeis.us>

Thu, Feb 28, 2019 at 10:32 AM

To: cardinal hickory creek comments <comments@cardinalhickorycreekeis.us>

Bcc: nharjo@alabama-quassarte.org, jlowe@alabama-quassarte.org, bnewland@baymills.org, jon.greendeer@ho-chunk.com, kentcollier@kickapootribeofoklahoma.com, brian.bisonette@lco-nsn.gov, daisy.mcgeshick@lvdtribal.com, t.brings@ogalala.org, president.bearrunner@ogalala.org

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RUS is hosting public comment meetings to obtain feedback from the public, as part of the federal environmental review process required by NEPA and NHPA. The dates, times, and locations for the rescheduled meetings are as follows:

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March 14 – Deer Valley Lodge at 401 W. Industrial Dr. in Barneveld, Wisconsin

March 15 – Guttenberg Municipal Bldg at 502 S. First St. in Guttenberg, Iowa

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March 19 – Peosta Community Center at 7896 Burds Rd. in Peosta, Iowa

March 20 – Madison Marriott West at 1313 John Q. Hammons Dr. in Middleton, Wisconsin

All meetings will be held from 5:00 to 7 p.m. Central Time. A court reporter will be available.

The information collected during the Draft EIS public review period will be used to prepare the Final EIS. Public comments become part of the project's official administrative record.

For further information about the Draft EIS, contact:

Dennis Rankin

Rural Utilities Service Co-Project Manager

202-720-1953

dennis.rankin@wdc.usda.gov

Lauren Cusick

Rural Utilities Service Co-Project Manager

202-720-1414

lauren.cusick@wdc.usda.gov

The purpose of the C-HC Project is to improve electric system reliability, increase the transfer capability needed to respond to the nation's changing energy mix, provide economic benefits to utilities and electric consumers, and expand the electric infrastructure to support public policy for greater use of renewable energy. Utilities participating in the C-HC Project are Dairyland Power Cooperative, ITC Midwest LLC and American Transmission Company LLC. Additional information about the project can be found on the Utilities' website:

<http://www.cardinal-hickorycreek.com/>

Sincerely,

Kellie Kubena

Director, Engineering and Environmental Staff

USDA, Rural Utilities Service

Engineering and Environmental Staff

2/28/2019

SWCA Mail - Notice of Rescheduled Public Meetings for the Cardinal-Hickory Creek 345-kV Transmission Line Project Draft Environmental Impact Statement

(202) 720-1649

kellie.kubena@wdc.usda.gov



David Reinhart <comments@cardinalhickorycreekeis.us>

Notice of Rescheduled Public Meetings for the Cardinal-Hickory Creek 345-kV Transmission Line Project Draft Environmental Impact Statement

1 message

Comments <comments@cardinalhickorycreekeis.us>

Fri, Mar 1, 2019 at 9:09 AM

To: cardinal hickory creek comments <comments@cardinalhickorycreekeis.us>

Bcc: wilfrid.cleveland@ho-chunk.com, maasusga@ho-chunk.com, t.brings@oglala.org

Dear Stakeholder,

A notice of availability, public meetings, and National Historic Preservation Act (NHPA) Section 106 notification was published in the Federal Register by the U.S. Department of Agriculture, Rural Utilities Service (RUS) on December 7, 2018 (83 FR 63149) for the Cardinal-Hickory Creek 345-kV Transmission Line Project (C-HC Project) Draft Environmental Impact Statement (EIS). RUS has prepared the Draft EIS to comply with the National Environmental Policy Act (NEPA) and to evaluate potential environmental impacts of construction and operation of the proposed C-HC Project, which would extend approximately 125 miles, connecting Dane County, Wisconsin, and Dubuque County, Iowa. The scoping report, Draft EIS, and other documentation can be found on the RUS website:

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For further information about the Draft EIS, contact:

Dennis Rankin

Rural Utilities Service Co-Project Manager

202-720-1953

dennis.rankin@wdc.usda.gov

Lauren Cusick

Rural Utilities Service Co-Project Manager

202-720-1414

lauren.cusick@wdc.usda.gov

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<http://www.cardinal-hickorycreek.com/>

Sincerely,

Kellie Kubena

Director, Engineering and Environmental Staff

USDA, Rural Utilities Service

Engineering and Environmental Staff

3/1/2019

SWCA Mail - Notice of Rescheduled Public Meetings for the Cardinal-Hickory Creek 345-kV Transmission Line Project Draft Environmental Impact Statement

(202) 720-1649

kellie.kubena@wdc.usda.gov

APPENDIX E

Local Government Notification Letters and Mailing List

Appendix E: Local Government Distribution List for Cardinal-Hickory Creek Draft EIS Notices

NAME	TITLE	CITY	STATE
Dave Considine	Wisconsin State Assembly	Madison	WI
Dianne Hesselbein	Wisconsin State Assembly	Madison	WI
Sondy Pope	Wisconsin State Assembly	Madison	WI
Todd Novak	Wisconsin State Assembly	Madison	WI
Travis Tranel	Wisconsin State Assembly	Madison	WI
Howard Marklein	Wisconsin State Senate	Madison	WI
Jon Erpenbach	Wisconsin State Senate	Madison	WI
Scott McDonell	Dane County Clerk	Madison	WI
Audra Anderson	Blue Mounds Village President	Blue Mounds	WI
Dennis Jelle	Blue Mounds Town Chairperson	Mount Horeb	WI
Pat Andreoni	Cross Plains Village President	Cross Plains	WI
Greg Hyer	Cross Plains Town Chairperson	Cross Plains	WI
David Shaw	Middleton Town Administrator/Clerk/Treasurer	Verona	WI
Sara Ludtke	Middleton Town Deputy Clerk	Verona	WI
Randy Littel	Mount Horeb Village President	Mount Horeb	WI
David Becker	Mount Horeb Village President	Mount Horeb	WI
Ed Eloranta	Springdale Town Chairman	Mount Horeb	WI
Vicki Anderson	Springdale Town Clerk	Mount Horeb	WI
Barbara Grenlie	Vermont Town Chairperson	Mount Horeb	WI
Robert Keeney	Grant County Chairperson	Mount Hope	WI
Thomas Cartwright	Beetown Town Chairperson	Cassville	WI
Keevin Williams	Cassville Village President	Cassville	WI
Douglas Schauff	Cassville Town Chairperson	Cassville	WI
Steve Barth	Clifton Town Chairperson	Livingston	WI
Jim Broihahn	Ellenboro Town Chairperson	Lancaster	WI
Nathan Niehaus	Harrison Town Chairperson	Platteville	WI
Jerry Wehrle	Mayor, City of Lancaster	Lancaster	WI
Patrick Schroeder	Liberty Town Chairperson/Grant County Supervisor	Lancaster	WI
Pat Ostendorf	Lima Town Chairperson	Platteville	WI
Tom Brown	Livingston Village President	Livingston	WI
James Schmitz	Montfort Village President	Montfort	WI
Karen Kurt	Platteville City Manager	Platteville	WI
Tom Weigel	Platteville Town Chairperson	Platteville	WI
Curtis Fetzek	Potosi Town Chairperson	Potosi	WI
Gary Schneider	South Lancaster Town Chairperson	Lancaster	WI
John Patcle	Waterloo Town Chairperson	Lancaster	WI
Kevin Bickford	Wingville Town Chairperson	Montfort	WI
John Meyers	Iowa County Chairperson	Barneveld	WI
Curt Kephart	Iowa County Administrator	Dodgeville	WI

NAME	TITLE	CITY	STATE
David Lucey	Arena Town Chairperson	Arena	WI
Scott Leahy	Barneveld Village President	Barneveld	WI
Jason Carden	Brigham Town Chairperson	Barneveld	WI
Bob Roelli	Cobb Village President	Cobb	WI
Todd Novak	Mayor, City of Dodgeville	Dodgeville	WI
Curtis Peterson	Dodgeville Town Chairperson	Dodgeville	WI
Larry Stenner	Eden Town Chairperson	Dodgeville	WI
Allan Kosharek	Highland Town Chairperson	Highland	WI
Dean Liddicoat	Linden Town Chairperson	Mineral Point	WI
Mark Pinch	Mifflin Town Chairperson	Livingston	WI
Paul Simon	Rewey Village President	Rewey	WI
Jon Steen	Ridgeway Village President	Ridgeway	WI
Joe Thomas	Ridgeway Town Chairperson	Dodgeville	WI
John Hess	Wyoming Town Chairperson	Spring Green	WI
Brad Schobert	Belmont Town Chairperson	Belmont	WI
Bradley Kettler	Elk Grove Town Chairperson	Platteville	WI
Roy D. Buol	Mayor - City of Dubuque	Dubuque	IA
Mike VanMilligen	City Manager - City of Dubuque	Dubuque	IA
Mary Willett	City Manager - City of Guttenberg	Guttenberg	IA
Geoff Barkalow	City Manager - City of East Dubuque	East Dubuque	IL
Wayne Demmer	Dubuque County Supervisor	Epworth	IA
Gary Bowden	Clayton County Supervisor	Elkader	IA
Pam Jochum	Iowa State Senator	Dubuque	IA
Michael Breitbach	Iowa State Senator	Strawberry Point	IA
Tod Bowman	Iowa State Senator	Maquoketa	IA
Kristi Hager	Iowa State Representative	Dorchester	IA
Abby Finkenauer	Iowa State Representative	Dubuque	IA
Charles Isenhardt	Iowa State Representative	Dubuque	IA
Karen Carlock	Town of Vermont	Black Earth	WI
Juanita Hilkin	City of Dubuque	Dubuque	IA
Jane Smith	Engineer, City of Dubuque	Dubuque	IA
Colette Steffen	City of Platteville	Platteville	WI



Rural Development

December 3, 2018

Rural Utilities Service

1400 Independence
Ave SW, Room 2242
Stop 1571
Washington, DC
20250

Voice 202.720.1649
Fax 202.690.0649

«Name»
«Agency»
«Address»
«City», «State» «Zip»

Subject: Notice of Public Comment Period for the Cardinal-Hickory Creek 345-kV Transmission Line Project Draft Environmental Impact Statement

Dear «Name»,

The U.S. Department of Agriculture, Rural Utilities Service (RUS) is announcing the availability of the Cardinal-Hickory Creek 345-kV Transmission Line Project (C-HC Project) Draft Environmental Impact Statement (EIS). RUS has prepared the Draft EIS to evaluate potential environmental impacts of construction and operation of the proposed C-HC Project, which would extend approximately 125 miles, connecting Dane County, Wisconsin, and Dubuque County, Iowa (see enclosed map).

The purpose of the C-HC Project is to improve electric system reliability, increase the transfer capability needed to respond to the nation's changing energy mix, provide economic benefits to utilities and electric consumers, and expand the electric infrastructure to support public policy for greater use of renewable energy. Utilities participating in the C-HC Project are Dairyland Power Cooperative, ITC Midwest LLC and American Transmission Company LLC.

RUS initiated the National Environmental Policy Act (NEPA) process for the C-HC Project in October 2016 when the Notice of Intent to prepare an EIS was published in the Federal Register. Public scoping meetings were held throughout the project area in October, November, and December 2016. The scoping report, Draft EIS, and other documentation can be found on the RUS website:

<http://www.rd.usda.gov/publications/environmental-studies/impact-statements>

The C-HC Project is a federal undertaking subject to review under Section 106 of the National Historic Preservation Act (NHPA), 54 U.S.C. 306108, and its implementing regulations, 36 CFR Part 800. RUS is using its procedures for public involvement under NEPA to meet its responsibilities to solicit and consider the views of the public during the Section 106 review for the proposed project.

RUS is releasing the Draft EIS to obtain feedback from the public, as part of the federal environmental review process required by NEPA and NHPA. The information collected during the Draft EIS public review period will be used to prepare the Final EIS.

Comments must be received or postmarked on or before February 5, 2019.

There are three ways to provide comments during the Draft EIS public comment period:

1. Email written comments to: comments@CardinalHickoryCreekEIS.us
2. Mail comments to: SWCA Environmental Consultants
Attn: Cardinal-Hickory Creek EIS
80 Emerson Lane, Suite 1306
Bridgeville, PA 15017
3. Submit comments during one of the Draft EIS public meetings (see schedule below):

USDA is an equal opportunity provider and employer.

If you wish to file a Civil Rights program complaint of discrimination, complete the USDA Program Discrimination Complaint Form, found online at http://www.ascr.usda.gov/complaint_filing_cust.html, or at any USDA office, or call (866) 632-9992 to request the form. You may also write a letter containing all of the information requested in the form. Send your completed complaint form or letter to us by mail at U.S. Department of Agriculture, Director, Office of Adjudication, 1400 Independence Avenue, S.W., Washington, D.C. 20250-9410, by fax (202) 690-7442 or email at program.intake@usda.gov.

Cardinal-Hickory Creek Draft EIS Public Meetings Details

Date	Location	Time	Venue
Tuesday, January 22	Peosta, Iowa	1-3pm	Peosta Community Center 7896 Burds Rd. Peosta, IA 52068
Tuesday, January 22	Guttenberg, Iowa	6-8pm	Guttenberg Municipal Building 502 S. First St. Guttenberg, IA 52052
Wednesday, January 23	Cassville, Wisconsin	5-7pm	Cassville Middle School Cafeteria 715 E. Amelia St. Cassville, WI 53806
Thursday, January 24	Dodgeville, Wisconsin	5-7pm	Dodger Bowl Banquet Hall 318 King St. Dodgeville, WI 53533
Monday, January 28	Barneveld, Wisconsin	5-7pm	Deer Valley Lodge 401 West Industrial Dr. Barneveld, WI 53507
Tuesday, January 29	Middleton, Wisconsin	5-7pm	Madison Marriott West 1313 John Q Hammons Dr. Middleton, WI 53562

Public comments become part of the project's official administrative record.

For further information about the Draft EIS, contact:

Dennis Rankin
Rural Utilities Service Co-Project Manager
202-720-1953
dennis.rankin@wdc.usda.gov

Lauren Cusick
Rural Utilities Service Co-Project Manager
202-720-1414
lauren.cusick@wdc.usda.gov

Additional information about the project can be found on the Utilities' website:

<http://www.cardinal-hickorycreek.com/>

Sincerely,

Kellie Kubena
Director, Engineering and Environmental Staff
USDA, Rural Utilities Service
Engineering and Environmental Staff
(202) 720-1649
kellie.kubena@wdc.usda.gov

Enclosure



Rural Development

January 15, 2019

Rural Utilities Service

1400 Independence Ave SW, Room 2242 Stop 1571 Washington, DC 20250

Voice 202.720.1649 Fax 202.690.0649

Name Agency Address City, State Zip

Subject: Notice of Cancelled Public Meetings for the Cardinal-Hickory Creek Project Draft EIS

Dear Name:

The public meetings hosted by the U.S. Department of Agriculture Rural Utilities Service (RUS) for the Cardinal-Hickory Creek 345-kV Transmission Line Project (C-HC Project) Draft Environmental Impact Statement (EIS) have been postponed due to the partial Federal Government shutdown. The cancelled meetings are listed below and will be rescheduled once the Federal Government reopens.

Cardinal-Hickory Creek Draft EIS Public Meetings that have been Canceled

Table with 4 columns: Date, Location, Time, Venue. Rows include meetings in Peosta, Iowa; Guttenberg, Iowa; Cassville, Wisconsin; Dodgeville, Wisconsin; Barneveld, Wisconsin; and Middleton, Wisconsin.

RUS will notify the public of the new meeting dates once they are scheduled.

The scoping report, Draft EIS, and other project documentation can be found on the RUS website:

http://www.rd.usda.gov/publications/environmental-studies/impact-statements

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Public comments are still being collected for the C-HC Project Draft EIS via the following options:

1. Email written comments to: comments@CardinalHickoryCreekEIS.us
2. Mail comments to: SWCA Environmental Consultants
Attn: Cardinal-Hickory Creek EIS
80 Emerson Lane, Suite 1306
Bridgeville, PA 15017

Public comments become part of the project's official administrative record.

For further information about the Draft EIS, contact:

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Rural Utilities Service Co-Project Manager
202-720-1953
dennis.rankin@wdc.usda.gov

Lauren Cusick
Rural Utilities Service Co-Project Manager
202-720-1414
lauren.cusick@wdc.usda.gov

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<http://www.cardinal-hickorycreek.com/>

Sincerely,



Coleman Burnett, *on behalf of RUS*
Environmental Planner/Senior Project Manager
SWCA Environmental Consultants



Rural Development

January 31, 2019

Rural Utilities Service

1400 Independence
Ave SW, Room 2242
Stop 1571
Washington, DC
20250

Voice 202.720.1649
Fax 202.690.0649

«Name»
«Agency»
«Address»
«City», «State» «Zip»

Subject: Extension of Public Comment Period for Draft Environmental Impact Statement for Proposed Cardinal-Hickory Creek Transmission Line

Dear «Name»,

A Notice of Availability was published in the Federal Register by the Rural Utilities Service (RUS) on December 7, 2018 (83 FR 63149) for the Cardinal-Hickory Creek 345-kV Transmission Line Project Draft Environmental Impact Statement (EIS). Meetings were scheduled for January 2019 and the public review period was to conclude on February 5, 2019. This notice announces an extension of the public comment period to **April 1, 2019** due to the partial Federal government shutdown. Previously scheduled Draft EIS public comment meetings in January 2019 were also cancelled due to the partial Federal government shutdown and will be rescheduled, once RUS receives full funding for FY 2019.

RUS will notify the public once the Draft EIS public comment meetings are rescheduled. The scoping report, Draft EIS, and other project documentation can be found on the RUS website:

<http://www.rd.usda.gov/publications/environmental-studies/impact-statements>

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For further information about the Draft EIS, contact:

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202-720-1953
dennis.rankin@wdc.usda.gov

Lauren Cusick, RUS Co-Project Manager
202-720-1414
lauren.cusick@wdc.usda.gov

Sincerely,

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Director, Engineering and Environmental Staff
USDA, Rural Utilities Service
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Rural Development

February 22, 2019

Rural Utilities Service

1400 Independence
Ave SW, Room 2242
Stop 1571

Washington, DC
20250

Voice 202.720.1649
Fax 202.690.0649

Name
Agency
Address
City, State Zip

Subject: Notice of Rescheduled Public Meetings for the Cardinal-Hickory Creek 345-kV Transmission Line Project Draft Environmental Impact Statement

Dear **Name**,

A notice of availability, public meetings, and National Historic Preservation Act (NHPA) Section 106 notification was published in the Federal Register by the U.S. Department of Agriculture, Rural Utilities Service (RUS) on December 7, 2018 (83 FR 63149) for the Cardinal-Hickory Creek 345-kV Transmission Line Project (C-HC Project) Draft Environmental Impact Statement (EIS). RUS has prepared the Draft EIS to comply with the National Environmental Policy Act (NEPA) and to evaluate potential environmental impacts of construction and operation of the proposed C-HC Project, which would extend approximately 125 miles, connecting Dane County, Wisconsin, and Dubuque County, Iowa. The scoping report, Draft EIS, and other documentation can be found on the RUS website:

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Sincerely,



Kellie Kubena
Director, Engineering and Environmental Staff
USDA, Rural Utilities Service
Engineering and Environmental Staff
(202) 720-1649
kellie.kubena@wdc.usda.gov

APPENDIX G

C-HC Project Biological Opinion



United States Department of the Interior

FISH AND WILDLIFE SERVICE

Ecological Services

Minnesota-Wisconsin Field Office

4101 American Boulevard East

Bloomington, Minnesota 55425-1665

Phone: (952) 252-0092 Fax: (952) 646-2873



May 31, 2019

Ms. Lauren Cusick
Rural Utility Service
1400 Independence Ave. SW, Room 2244
Washington, DC 20250

FWS No. 03E19000-2018-F-0180 Cardinal – Hickory Creek 345-kV Transmission Line;
Formal Consultation on Rusty Patched Bumble Bee; Informal Consultation on Iowa
Pleistocene snail and northern wild monkshood

Dear Ms. Cusick:

This document transmits the U.S. Fish and Wildlife Service's (Service) updated biological opinion (Opinion) based on our review of the referenced project and its effects on the federally listed endangered rusty patched bumble bee (*Bombus affinis*, hereafter RPBB) in accordance with Section 7 of the Endangered Species Act (16 U.S.C. 1531-1544, 87 Stat. 884), as amended.

This Opinion is based on information provided in the 2 November 2018 biological assessment as well as telephone conversations, field investigations, and other sources of information. The biological assessment also included a request for Service concurrence with "not likely to adversely affect" determinations as well as stated "no effect" determinations for other federally listed species. It is Service policy to not respond to "no effect" determinations, however, we acknowledge that potential impacts were considered and analyzed for whooping crane, Higgins eye pearymussel, spectaclecase, Hine's emerald dragonfly, Mead's milkweed, prairie bush clover, eastern prairie fringed orchid and western prairie fringed orchid.

The Rural Utilities Service (RUS) determined the proposed action is not likely to adversely affect the Iowa Pleistocene snail (*Discus macclintocki*) or northern wild monkshood (*Aconitum noveboracense*) because habitat associated with occupied areas for these species will not be directly affected. Transmission line poles will not be placed on cliffs or alfgific talus slopes (suitable to both species) or immediately adjacent to cold-water streams (indicator of suitable habitat for northern wild monkshood only). Transmission lines will span potential habitat for both species, however, no construction activities will occur within these sensitive habitats. Vegetation removal along other portions of the line may indirectly affect the steep slopes or waterways adjacent to the proposed action but are anticipated to be minimized by proposed

conservation measures to the point that impacts would be unlikely. We concur with your determination because all impacts that may be associated with this project on Iowa Pleistocene snail and northern wild monkshood are considered to be discountable. Further, RUS will rely on the 4d rule for impacts to the northern long-eared bat (*Myotis septentrionalis*) and has made the determination that the proposed action may affect, but take is not prohibited. Since all anticipated incidental take from the project were from activities addressed by the 4(d) rule and are therefore exempted, no reasonable and prudent measures were required. A complete administrative record of this consultation is on file in this office.

Please contact the Service if the project changes or new information reveals effects of the proposed action to proposed or listed species or critical habitat to an extent not covered in your biological assessment. If you have any questions or comments on this biological opinion, please contact Andrew Horton at 952-252-0092 or andrew_horton@fws.gov.

Sincerely,



Peter Fasbender
Field Supervisor

Enclosure

Cc (email only): RUS, Washington, DC (Attn: Dennis Rankin)
SWCA, Lombard, IL (Attn: Coleman Burnett)
USFWS, Bloomington, MN (Attn: Elizabeth Rigby)
USFWS, Rock Island, IA (Attn: Kristin Lundh)
USFWS, Falls Church, VA (Attn: Frankie Green)

BIOLOGICAL OPINION

**Effects to Rusty Patched Bumble Bee
from the
Cardinal-Hickory Creek 345-kV Transmission Line**

FWS TAILS Code: 03E19000-2018-F-0180

**Prepared by:
U.S. Fish and Wildlife Service
Minnesota-Wisconsin Field Office**

May 31, 2019

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INTRODUCTION

This biological opinion was issued to the Rural Utilities Service (RUS) by the U.S. Fish and Wildlife Service's (Service) and analyzed the effects to federally listed species described the *Cardinal – Hickory Creek 345-kV Transmission Line Biological Assessment* (hereafter referred to as the BA) (RUS 2018a) which extends approximately 125-miles from Dubuque County, Iowa to Dane County, Wisconsin. The BA was received at the Service's Minnesota-Wisconsin Ecological Services Field Office on November 2, 2018 as part of a letter requesting us to initiate formal consultation on potential adverse effects to the federally endangered rusty patched bumble bee (*Bombus affinis*; RPBB). This BA also requested consultation informally for impacts to the Iowa Pleistocene snail (*Discus macclintocki*) and northern wild monkshood (*Aconitum noveboracense*) and acknowledged that the 4d rule will be utilized for potential impacts to the northern long-eared bat (*Myotis septentrionalis*). The individual site-specific consultation under Section 7 of the Endangered Species Act was used to address one proposed project. This consultation analyzed the direct, indirect, and cumulative impacts from the management project on RPBB. The Service concluded that the effects of the Project are not likely to jeopardize the RPBB and no critical habitat has been designated.

This biological opinion was prepared in accordance with Section 7(a)(2) of the Endangered Species Act of 1973 (ESA), as amended (16 U.S.C. 1531 et seq.) and is the culmination of formal Section 7 consultation under the Act. The purpose of formal Section 7 consultation is to insure that any action authorized, funded, or carried out by the Federal government is not likely to jeopardize the continued existence of any listed species or result in the destruction or adverse modification of any officially designated critical habitat of such species. This biological opinion satisfies the Section 7(a)(2) consultation requirement for federal agencies. A complete administrative is available at the Minnesota-Wisconsin Field Office.

CONSULTATION HISTORY

April 20, 2017: USFWS Information for Planning and Consultation (IPaC) review was initiated for the Wisconsin portion of Project to identify federally listed species present within the Project vicinity.

Aug. 2, 2017: USFWS State-of-Iowa county-species lists reviewed for Iowa portion of Project to identify federally listed species that may be present within the Project vicinity.

August 4, 2017: A conference call was held between ATC, Stantec, ITC, Burns & McDonnell, and USFWS to review federally listed species identified within the action area. Preliminary effects determinations for listed species, and the format and organization of the BA were discussed.

October 17, 2017: USFWS Information for Planning and Consultation (IPaC) review was initiated for the Iowa portion of Project to identify federally listed species that may be present within the Project vicinity.

January 5, 2018: USFWS submitted comments on preliminary draft Biological Assessment

November 2, 2018: SWCA submitted Biological Assessment on behalf of RUS and the document was determined to be complete. Targeted completion date was scheduled for March 18, 2019.

December 19, 2018: SWCA submitted updated GIS shapefiles of the proposed C-HC route to USFWS to verify project impact boundaries.

February 25, 2019: USFWS requested an extension for completing the Biological Opinion as a result of the 35-day Government shutdown. Request was granted on March 12, 2019 and the new completion date for formal consultation was scheduled for April 22, 2019.

March 25, 2019: USFWS updated RPBB connectivity model based on new 2018 observations. This resulted in two of the High Potential Zones (HPZ) analyzed in this Biological Opinion to increase in size and encompass more suitable habitat within the action area not previously considered under the BA.

SPECIES NOT ADDRESSED IN THIS BIOLOGICAL OPINION

Consultation has been completed informally for the Iowa Pleistocene snail and northern wild monkshood. All potential actions described in the BA resulted in a determination that the proposed actions may affect, but are not likely to adversely affect these two species. The Service has concurred that this proposed action would result in insignificant or discountable impacts to the Iowa Pleistocene snail and northern wild monkshood. A determination of “no effect” was made for nine additional species that had potential to be within action area; however, no suitable habitat was identified or anticipated to be impacted.

On January 14, 2016, the Service published a species-specific rule pursuant to section 4(d) of the ESA for the northern long-eared bat (81FR 1900). The Service's 4(d) rule for the northern long-eared bat exempts the take of northern long-eared bats from the section 9 prohibitions of the ESA, as follows:

- (1) Incidental take that is outside the white nose syndrome zone.
- (2) Incidental take that is inside the white nose syndrome zone, provided these activities:
 - a. Occur more than 0.25 mile (0.4 km) from a known, occupied hibernacula;
 - b. Avoid cutting or destroying known, occupied roost trees during the pup season (June 1–July 31); and
 - c. Avoid cutting or destroying any trees within a 150 foot (45 meter) radius of known, occupied roost trees during the pup season (June 1–July 31).
- (3) Removal of hazard trees (no limitations).
- (4) Purposeful take that results from
 - a. Protection of human health and safety;
 - b. Removal of bats from within human structures; and
 - c. Capture, handling, and related activities for northern long-eared bats by individuals permitted to conduct these activities for other species of bats until May 3, 2016.

Thus any take of northern long-eared bats occurring in conjunction with these activities that complies with the conservation measures, as necessary, is exempted from section 9 prohibitions by the 4(d) rule, and does not require incidental take authorization.

However, 4(d) rules do not afford exemption from the ESA's section 7 procedural requirements in and of themselves. Therefore, the Service completed a biological opinion on the Service's action of finalizing and implementing the 4(d) rule. The biological opinion allows for streamlined consultation to meet section 7 requirements for all federal agency actions that may affect the northern long-eared bat, provided the agencies follow the criteria in the 4(d) rule and the biological opinion (USFWS 2015). Since the proposed actions are consistent with the intra-Service consultation for the 4(d) rule, a separate formal consultation is not required and the northern long-eared bat will not be addressed further in this Opinion.

BIOLOGICAL OPINION

The Federal action evaluated in this biological opinion (BO) is funding by the Rural Utilities Service (RUS) to allow for the authorized construction of Cardinal-Hickory Creek 345-kV Transmission Line. In addition to this action, the U.S. Army Corps of Engineers (Corps) will issue Clean Water Act section 404 permits for temporary fill to protected wetlands within their jurisdiction, and the Service will issue a Special Use Permit and easement for a new or expanded rights-of-way (ROW) across a portion of the Upper Mississippi National Wildlife and Fish Refuge.

The Service is issuing this BO pursuant to Section 7 of the Endangered Species Act of 1973. Direct and indirect effects of Federal actions and their interrelated or interdependent activities are analyzed to ensure they are not likely to jeopardize the continued existence of federally listed or proposed endangered or threatened species. Indirect effects of the Federal actions include, "...effects that are caused by or result from the action, are later in time but are reasonably certain to occur..." Interdependent actions have no independent utility apart from the proposed action, and interrelated actions are part of a larger action and depend on the larger action for their justification (50 CFR §402.02).

DESCRIPTION OF PROPOSED ACTION

As defined in the ESA Section 7 regulations (50 CFR 402.02), "action" means "all activities or programs of any kind authorized, funded, or carried out, in whole or in part, by federal agencies in the United States or upon the high seas." The "action area" is defined as "all areas to be affected directly or indirectly by the federal action and not merely the immediate area involved in the action."

The following is a summary of the proposed action and a detailed description can be found in *Cardinal-Hickory Creek 345-kV Transmission Line Biological Assessment* submitted by the Rural Utility Service.

The Project is a new 345-kV transmission line connecting the Hickory Creek Substation in Dubuque County, Iowa with the Cardinal Substation in Dane County, Wisconsin. The Project also extends through Grant, Lafayette, and Iowa Counties, Wisconsin and Clayton County, Iowa. Further, it includes a new intermediate 345/138-kV substation near the Village of Montfort in either Grant or Iowa County, Wisconsin. Some portions of the 345-kV line may be double circuited with existing lines along certain routes. In other areas, the Project would result in new cleared ROW or expansion of the existing transmission line or road ROW. The total length of the 345-kV transmission lines associated with the proposed Project will be approximately 125 miles and have a variable width ROW, typically between 150 and 200 feet. Project is currently divided into six alternative routes that contain multiple segments considered as alternatives in the federal Draft Environmental Impact Statement (RUS 2018b; Figure 1).

Trees and brush will be cleared for the full width of the ROW to facilitate construction equipment access and ensure safe clearances between vegetation and the transmission line. This clearing will be done to facilitate construction. The ROW will be maintained free of tall growing vegetation throughout the operational life of the facility.

Vegetation will be cut at or slightly above the ground surface using mechanized mowers, sky trims, processors, harvesters, or by hand. Rootstocks will generally be left in place except in areas where stump grinding is necessary to facilitate the movement of construction vehicles. In areas of steep topography, access roads and work platforms may need to be constructed prior to construction access. This work is

typically completed using equipment such as a bulldozer, track-hoe, skid-loader, and dump trucks. The travel surface of the access road is typically 14- to 20-feet wide and work platforms are typically 30 feet by 30 feet. The total amount of disturbance of the road (cut slope to base of the spoils slope) is dependent on soil type and topography. Following construction, the access roads will be left in place or returned to prior conditions, depending on landowner preference. Construction matting will be installed to provide access through wetlands or other unstable soil areas where needed prior to construction access.

Construction matting may consist of timber, composite, or hybrid timber mats and will be installed with rubber-tired mat trucks, forwarders, forklifts, or skid loaders. Mat access roads will generally be 16- to 20-feet wide and mat work platforms may be as large as 100 feet by 100 feet or more, depending on the type of structure.

Restoration will occur once Project work is complete. The Utilities will conduct ongoing monitoring to ensure re-vegetation and to minimize erosion. The need for and approach to site restoration and revegetation will be based on the degree of disturbance caused by construction activities and the ecological setting of each site, and will need to reflect and satisfy the requirements of the property owner. In areas where soil disturbance occurs, erosion control best management practices will be installed, maintained, and monitored until the area is revegetated to 70% cover.

CONSERVATION MEASURES

Conservation measures proposed as part of the action (measures that will avoid, minimize, and mitigate effects of the proposed action on the species and/or benefit the species as a whole) are referred to as avoidance and minimization measures (AMMs) in this Opinion. AMMs are provided in the BA but are summarized below.

- Prior to construction, areas within HPZs preliminary screened as low quality habitat or questionable habitat will be evaluated and documented using the Rusty Patched Bumble Bee Habitat: Assessment Form & Guide (Xerces Society 2017).
- Areas determined to contain suitable habitat within HPZs per the Rusty Patched Bumble Bee Habitat: Assessment Form & Guide (Xerces Society 2017) will be surveyed for RPBB no more than one year prior to construction per the Survey Protocols for the Rusty Patched Bumble Bee (*Bombus affinis*) (USFWS 2019c). Additional surveys may be performed more than one year prior to construction to guide project planning.
- Where RPBB is confirmed to be present, disturbance and vegetation clearing will be minimized to the extent possible along edges of woodlots and tree/shrub lines where nesting habitat is likely to be found.
- Seed mixes containing a diversity of native flowering plants will be used to re-seed existing suitable habitat areas that require re-vegetation/restoration within HPZs, as well as opportunity areas for expanding suitable habitat within known HPZs.
- The use of BMPs during construction and vegetation management activities to prevent the spread of invasive species will help to maintain greater plant diversity along the cleared transmission corridors.

- Herbicide application where used for vegetation management purposes in suitable habitat within HPZs will be targeted to limit the effects of the herbicide beyond the targeted species.
- Avoid or minimize impacts in areas documented to be occupied by RPBB through surveys; activities within occupied habitat will be sequenced with seasonal timeframes as much as is feasible (i.e. late spring/summer work in woodlands to avoid overwintering queens, late fall/winter work in open areas to avoid foraging and nesting sites).

ACTION AREA

Action area, as defined by the ESA’s implementing regulations (50 CFR 402.02), is defined as all areas to be affected directly or indirectly by the Federal action and not merely the immediate area involved in the action (our emphasis). Action is defined in the regulations as “...all activities or programs of any kind authorized, funded, or carried out, in whole or in part, by Federal agencies in the United States or upon the high seas. Examples include, but are not limited to: (a) actions intended to conserve listed species or their habitat; (b) the promulgation of regulations; (c) the granting of licenses, contracts, leases, easements, rights-of-way, permits, or grants-in-aid; or (d) actions directly or indirectly causing modifications to the land, water, or air.

The action area for the Project is defined as the area physically covered by the Project proposed ROW alternatives that will extend the entire length of the final corridor (approximately 125-miles and 150-foot wide), the temporary access routes, and the substation parcels (Figure 1). The approximate acreage for the action area is summarized by proposed route segment alternative in Table 1 of the Biological Assessment. The action area includes a crossing of the Upper Mississippi River National Wildlife and Fish Refuge. In addition, the action area includes anticipated access routes – both on ROW and off-ROW. Temporary construction access will primarily occur within the Project ROW from the closest public road; however, temporary off-ROW construction access may be required in some areas.

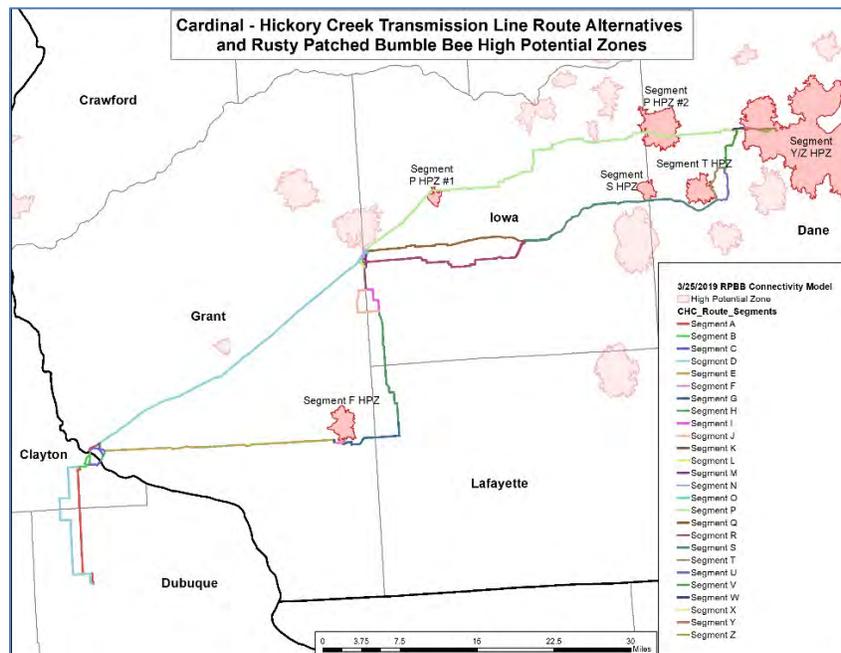


Figure 1. Project Location and the Mapped High Potential Zones for the RPBB.

STATUS OF THE SPECIES

Per the ESA Section 7 regulations (50 CFR 402.14(g)(2)), it is the Service’s responsibility to “evaluate the current status of the listed species.”

To assess the current status of the species, it is helpful to understand the species’ conservation needs, which are generally described in terms of reproduction, numbers, and distribution (RND). The Service frequently characterizes RND for a given species via the conservation principles of resiliency (ability of species/populations to withstand stochastic events – numbers, growth rates), redundancy (ability of a species to withstand catastrophic events – number of populations and their distribution), and representation (variation/ability of a species to adapt to changing conditions) (collectively known as the three Rs).

As described by the Service (2016), the RPBB conservation needs include assessing resiliency to environmental variation, perturbations affecting habitat size and quality, and population size. Currently, as a whole, the rangewide status of the species is declining (82 FR 3186-3209). The primary factors influencing the status include risks posed by “pathogens, pesticides, habitat loss and degradation, small population dynamics, and climate change” (82 FR 3186-3209). For a more detailed account of the species description, life history, population dynamics, threats, and conservation needs, refer to: <https://ecos.fws.gov/ecp0/profile/speciesProfile?spcode=IOWI>.

STATUS OF CRITICAL HABITAT

No critical habitat has been designated for RPBB.

ENVIRONMENTAL BASELINE

Regulations implementing the ESA (50 CFR 402.02) define the environmental baseline as the past and present impacts of all federal, state, or private actions and other human activities in the action area. Also included in the environmental baseline are the anticipated and/or ongoing impacts of all proposed federal projects in the action area that have undergone Section 7 consultation, and the impacts of state and private actions which are contemporaneous with the consultation in progress.

STATUS OF THE SPECIES WITHIN THE ACTION AREA

The proposed action is within the historical range of RPBB in WI and IA. Prior to the mid-1990s, RPBB was widespread and considered common throughout its historical range. There are no historical records of RPBBs located in Dubuque County, Iowa; however, there are current records for the species located in the surrounding counties. The remainder of the proposed route has RPBB observations between 2014 and 2018 in close proximity and crosses areas designated as RPBB High Potential Zones (HPZ) by the Service at 6 locations (Figure 1).

High Potential Zones (HPZ) are modeled by evaluating the likelihood of RPBB movement across the surrounding vegetation cover classes through various habitat types. The model is based on the latest available National Land Cover Database and uses extant (i.e., sites where RPBB has been documented in 2007 or later) RPBB observations. The HPZ includes the areas within which the RPBBs would move

from the point of observation to forage and where queens may be most likely to disperse and overwinter as predicted by species experts and other bumble bee literature. This model allows us to predict where the species may be found based on empirical information and scientific inferences as opposed to using a buffer of an arbitrary radius. The HPZs generated by the model suggest areas with the highest potential for the species to be present based on the location of one or more RPBB records, typical foraging distances, and inferred habitat suitability

(<https://www.fws.gov/midwest/endangered/insects/rpbb/pdf/HabitatConnectivityModelRPBB.pdf>).

The southern alternative routes (Segments F, S and T) are not anticipated to have impacts to RPBB as the habitat does not appear to be suitable for the species where the proposed action area intersects with the HPZs. The northern alternative route crosses mapped HPZs at two locations along Segment P and suitable habitat is anticipated to be impacted. Regardless of which alternative is chosen, suitable RPBB habitat is also anticipated to be impacted in a third HPZ located where the proposed transmission line terminates in Dane County, Wisconsin at Segment Y and Segment Z (Table 1).

Table 1. Route segments that intersect High Potential Zone for the RPBB.

High Potential Zone	Size of HPZ (km2)	RPBB detections	Suitable RPBB Habitat Impacted
Segment F HPZ	14.26	2017	No
Segment S HPZ	5.88	2017	No
Segment T HPZ	14.11	2018	No
Segment P HPZ #1	3.72	2014	Yes
Segment P HPZ #2	29.01	2018	Yes
Segment Y/Z HPZ	234.54	2018	Yes

Segment F HPZ

The proposed ROW crosses approximately 17.5 ha of unsuitable habitat on the edge of this HPZ and consists mainly of agricultural row-crop but may include some low quality grassland areas that represent a low likelihood of RPBB use. The project action area is located over 1.4 miles away from multiple 2017 RPBB observations.

Segment S HPZ

The proposed ROW crosses approximately 5.39 ha of unsuitable habitat on the edge of this HPZ and consists mainly of agricultural row-crop but may include some low quality grassland areas that represent a low likelihood of RPBB use. The project action area is located over 1.1 miles away from multiple 2017 RPBB observations.

Segment T HPZ

The proposed ROW crosses the edge of this HPZ through approximately 9.91 ha of unsuitable habitat (mostly agricultural row-crop) and approximately 1.91 ha of forested areas that appear to be of poor quality due to the proximity of established roads, ditches and agriculture. We anticipate the small amount of forested habitat impacted to have compacted soils, heavy understory and to cover such a small area that there is a low likelihood of overwintering use. The project action area is located over 1.2 miles away from multiple 2017/2018 RPBB observations.

Segment P HPZ #1

The proposed ROW crosses the edge of this HPZ at three locations. The impacted ROW area intersects approximately 7.85 ha of unsuitable habitat that consists mostly of area, but also includes approximately

2.35 ha of early successional forested habitat that is likely of poor suitability as RPBB overwintering habitat. We anticipate the remaining 4.05 ha of forested habitat affected to have some likelihood of overwintering use and is considered to be of low to moderate quality suitability based on the BA (Figure 2). The project action area is located between 0.71 miles and 1.22 miles away from a single 2014 RPBB observation.

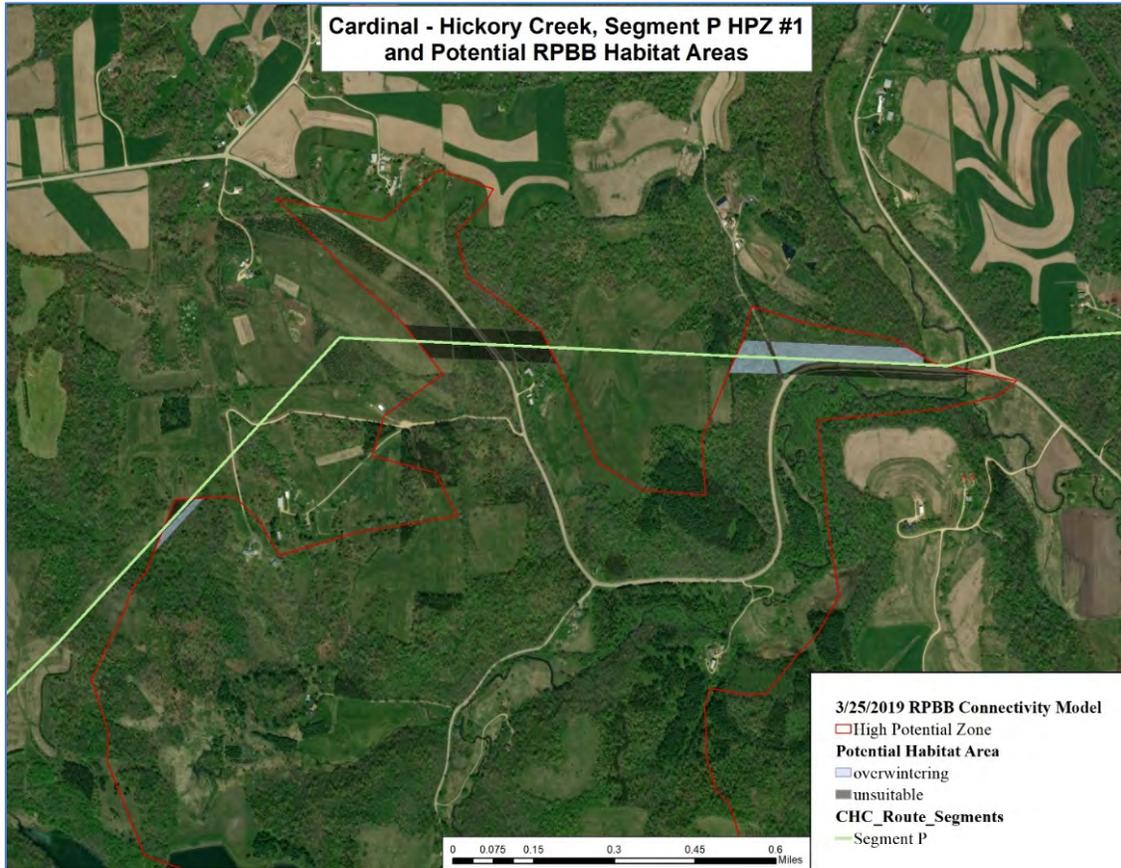


Figure 2. C-HC Segment P HPZ #1 and RPBB High Potential Zone.

Segment P HPZ #2

We believe that RPBB most likely occurs within the action area located inside this 290-hectare (ha) (29.01 km²) high potential zone (HPZ) (Figure 3), which was modeled based on the multiple 2014 and 2018 RPBB locations as well as the species' potential ability to disperse across the landscape (Service 2019b). Although it is unknown where the colony nests associated with the observed RPBB are located, there is significant open herbaceous grassland habitat suitable for nesting within the foraging distance for RPBB and this habitat extends into the proposed ROW at two locations. The HPZ is also heavily forested and has abundant opportunity for overwintering queens, including in those areas intersected by the proposed project. The boundary for this HPZ has changed since the Biological Assessment was submitted, and were updated as recently as March 25th, 2019 when new 2018 RPBB observations were incorporated into the model that were not available in previous versions. At the closest point to the proposed action area, RPBB were observed within 0.55 miles in 2014 and 2018.

The habitat present within the proposed ROW of Segment P HPZ #2 consists of high quality foraging, nesting and overwintering habitat, whereas the proposed ROW of Segment Y/Z consists of what is

believed to be low quality foraging and moderate quality overwintering habitat. A detailed analysis was completed for the assumed percent composition of suitable habitat available to RPBB within Segment P HPZ #2 (Table 2).

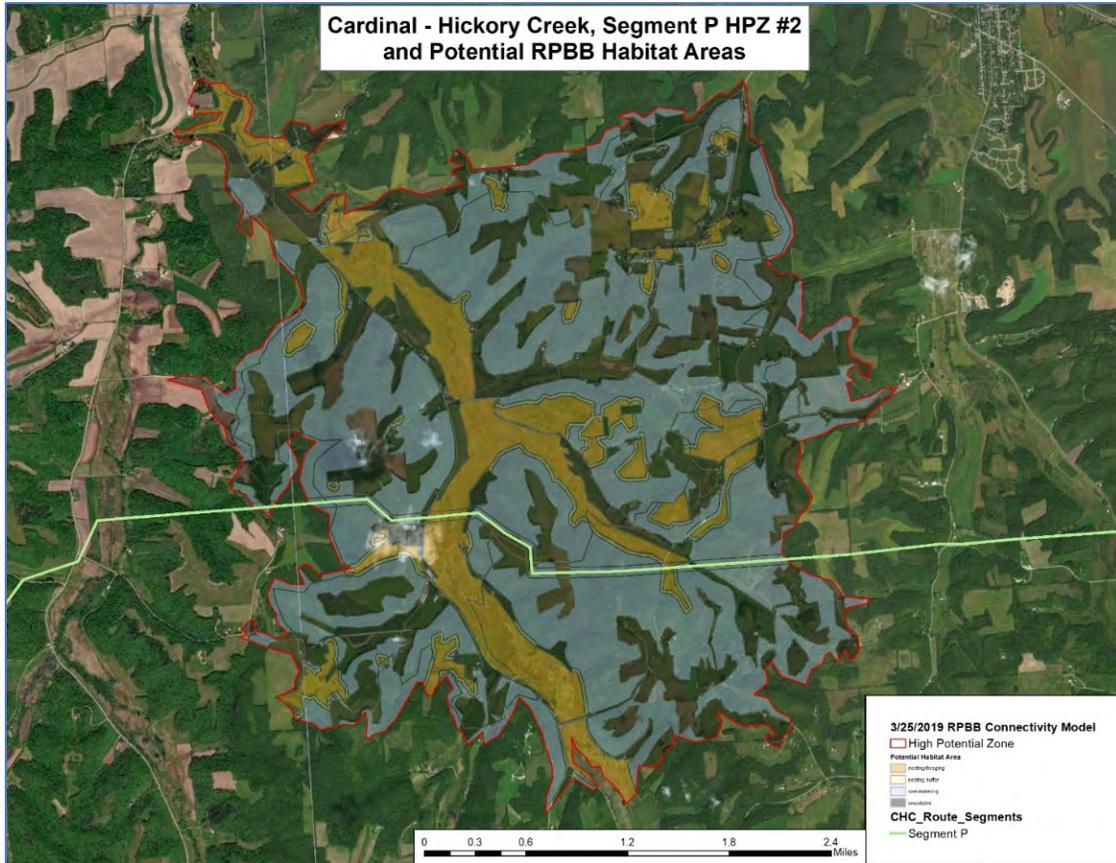


Figure 3. C-HC Segment P ROW and 2019 RPBB High Potential Zone.

Table 2. Habitat summary within Segment P HPZ #2 and the proposed action area.

Habitat Type	Segment P HPZ #2			Action Area (C-HC ROW)		
	Hectares	km2	% composition	Hectares	km2	% impacted
nesting/foraging	434	4.34	15	5	0.05	
nesting buffer	75	0.75	3	1	0.01	
TOTAL NESTING	509	5.09	18	6	0.06	1.11
overwintering	1,388	13.88	48	35	0.35	
nesting buffer	75	0.75	3	1	0.01	
TOTAL OVERWINTERING	1,463	14.63	50	36	0.36	2.44
unsuitable	1,004	10.04	35	8	0.08	
TOTAL AREA	2,901	29.01	100	49	0.49	

Segment Y/Z HPZ

These two proposed routes are summarized collectively given their proximity to each other where they intersect the large HPZ that extends into the greater Madison area. The same level of analysis was not feasible for this HPZ as was done for Segment P HPZ #2, given the size of the Segment Y/Z HPZ (roughly 8 times the size of Segment P HPZ #2 and much more complex due to the proximity of urban development). However, based on the Biological Assessment and desktop review of the land classification along the proposed ROW, we anticipate no more than 3.42 ha of low quality foraging habitat and no more than 10.22 ha of low to moderate quality overwintering habitat will be impacted by the proposed Project (Figure 4). Furthermore, we find it unlikely that nesting habitat would be present along the proposed ROW intersecting the Segment Y/Z HPZ.

The boundary for this HPZ has changed since the Biological Assessment was submitted, and were updated as recently as March 25th, 2019 when new 2018 RPBB observations were incorporated into the model that were not available in previous versions. At the closest point to the proposed action area, RPBB were observed within 0.75 miles as recently as 2017.

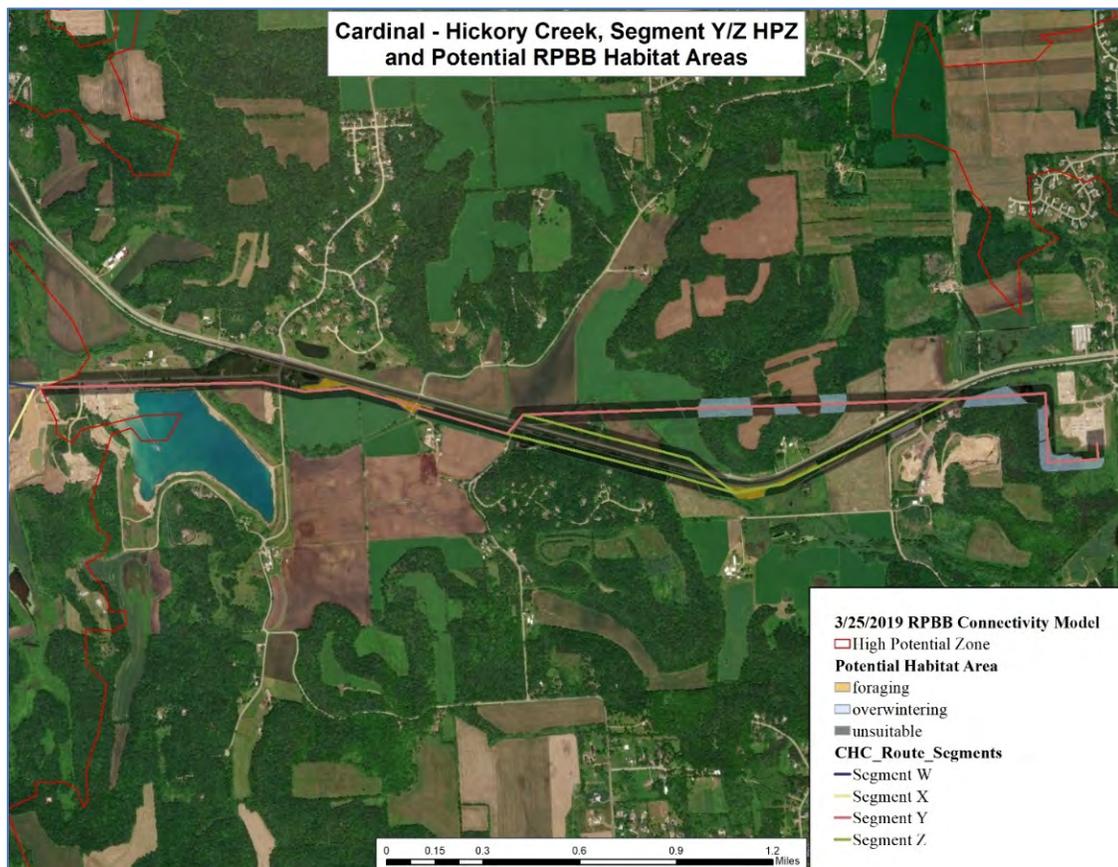


Figure 4. C-HC Segments Y/ Z ROW and 2019 RPBB High Potential Zone.

Due to uncertainty associated with some RPBB life history requirements, there is uncertainty regarding habitat use and distribution of the species during certain life stages and time periods. As a result, we make the following assumptions, based on the best available information, regarding RPBB distribution and habitat use:

- The amount of habitat in the 2,901-ha of Segment P HPZ #2 was estimated based on a

desktop calculation of aerial imagery. A 30 m wide edge was added to forested areas adjacent to suitable nesting because the 30 m wide edge can function as nesting, spring foraging and overwintering habitat (Service 2019a). The 2,901-ha HPZ consists of:

- 1,463.06 ha of overwintering habitat (1,388.22 ha of forested habitat + 74.8 ha of forest edge habitat);
 - 434.18 ha of nesting/foraging habitat (68.57 ha of open grassland/shrubland habitat + 74.8 ha of forest edge habitat); and
 - 1,003.85 ha of unsuitable habitat. When summed, the total area of the habitat categories exceeds 2,901 ha because the habitat categories are not mutually exclusive. Specifically, the 30 m wide edges of forested habitat function as both nesting and overwintering habitat, and summer/fall foraging habitat also functions as nesting habitat.
- The 48.67 ha action area of the Segment P HPZ #2 consists of:
 - 35.68 ha of overwintering habitat (34.80 ha of forested habitat + 0.88 ha of forest edge habitat); and
 - 5.65 ha of nesting/foraging habitat (4.77 ha of open grassland/shrubland habitat + 0.88 ha forest edge habitat); and
 - 8.22 ha of unsuitable habitat. When summed, the total area of the habitat categories exceeds 48.67 ha because the habitat categories are not mutually exclusive. Specifically, the 30 m wide edges of forested habitat function as both nesting and overwintering habitat, and summer/fall foraging habitat also functions as nesting habitat.
 - Average foraging distance for an individual RPBB is 0.8 km from a nest site. Worker foraging distances may extend 3 km from a nest in some species and circumstances (Lepais et al. 2010); however, foraging distances of less than 1 km from nests are typical (Knight et al. 2005, Wolf and Moritz 2008, Dramstad 1996, Osborne et al. 1999, Rao and Strange 2012).
 - Status of colonies and the population in the HPZs are unknown at this time. However, we can assume that each 0.8km area surrounding RPBB observations signifies the existence of at least one colony.
 - The RPBB observed within the HPZ which intersects with Segment P HPZ # 2 represent at least one colony, which is part of at least one population (multiple, interacting colonies). The RPBB observed within the HPZ which intersects with Segment Y and Segment Z represent at least 26 colonies, which is part of at least one population (multiple, interacting colonies) and at least 3 of those colonies are within 0.75 miles of the proposed action area.
 - Overwintering queens are likely to be in proximity to spring ephemerals and may be found near woodland edges or in wooded areas with canopy openings that provide light to the forest floor in the spring.
 - There are no studies that estimate RPBB nest density. Due to the uncertainty with applying estimates derived for another species that is relatively common, we are using a range of assumed nest densities as opposed to a single estimate. The nest density most appropriate for evaluating a project may depend on the nature of the effects that a project is likely to cause. When assumptions of this nature are made within the context of section 7 consultation due to a lack of empirical information, we must give the benefit of the doubt to the species and therefore, provide a density range of low, moderate or high. Using this method, we anticipate a density of RPBB colonies in nesting habitat is estimated to be between 0.14 and 4.50 nests/ha for the following reasons:

- Multiple studies have been completed to estimate nest density for the buff-tailed bumblebee (*Bombus terrestris*), a close relative of the RPBB (Chapman et al. 2003 [as cited in Charman et al. 2010], Darvill et al. 2004, Knight et al. 2005, Kraus et al. 2009, Wolf et al. 2012, Dreier et al. 2014, Wood et al. 2015). Using the quartiles for ten density estimates for the buff-tailed bumblebee, we can better assume that RPBB nests may occur in nesting habitat at three densities; 14 nests/km² (low), 34 nests/km² (moderate), and 45 nests/km² (high).
- The estimated nest density found for one rare bumble bee species – the precipitously declining great yellow bumblebee (*B. distinguendus*) – was 19/km² in coastal grasslands and may indicate that our proposed assumptions for the rusty patched bumble bee are reasonable for an endangered species.
- To develop estimates of queen production for an HPZ we will use queen production data available from the yellow-banded bumble bee (*B. terricola*), another declining bumble bee species that is also closely related to the rusty patched bumble bee. These data include four lab-raised nests (Benjamin Sadd, Illinois State University, personal communication, 2018) and 32 field-reared nests studied by Owen et al. (1980). We estimate Low, Medium, and High levels of queen production based on the 25th, 50th, and 75th percentiles from their studies – these are 1, 4, and 10 queens per nest, respectively. The Low, Medium, and High assumptions are used for both nest density and queen production to structure an analysis to arrive at a range of estimates of queen production in an HPZ.
- The RPBB density used to calculate potential RPBB presence within the impacted suitable habitat areas for Segment P HPZ #1 and Segment Y/Z HPZ were carried over from the detailed analysis from the available habitat in Segment P HPZ #2.

EFFECTS OF THE ACTION

Direct effects are the direct or immediate effects of the project on the species, its habitat, or designated/proposed critical habitat. Indirect effects are defined as those that are caused by the proposed action and are later in time, but still are reasonably certain to occur (50 CFR 402.02). An interrelated activity is an activity that is part of the proposed action and depends on the proposed action for its justification. An interdependent activity is an activity that has no independent utility apart from the action under consultation. Direct and indirect effects of the proposed action along with the effects of interrelated/interdependent activities are all considered together as the “effects of the action.”

The potential effects of the proposed action are described in Appendix A. The project subactivities unlikely to result in any impacts to RPBB or those that may affect, but are not likely to adversely affect are not discussed further in this Opinion. For some components of the proposed action that may adversely affect RPBB, AMMs have been incorporated to ameliorate those effects.

Considering the environmental baseline and the additional effects that may be caused by the Project, we believe that alteration of suitable habitat where the species is anticipated to be (Segments P HPZ #1, Segments P HPZ #2 and Segment Y/Z HPZ) will have some beneficial effects, but also may represent an adverse effect to rusty patched bumble bee.

In the three HPZs where suitable RPBB habitat is anticipated to be impacted, the proposed action is expected to include permanent loss of 49.95 ha of overwintering habitat, as well as temporary loss of 3.42 ha of foraging habitat and 5.65 ha of nesting habitat. The total amount of habitat available to RPBB is not

anticipated to change since the applicant is proposing to revegetate any cleared natural ROW with a seed mix that would benefit RPBB. Therefore, overwintering habitat no longer available to RPBB is anticipated to provide foraging and possibly nesting opportunities for the species after restoration is complete. Soil compaction during ROW clearing and transmission line construction may affect the ability of queens to excavate an overwintering site and may reduce the ability of rodents to excavate burrows, which reduces the ability of colonies to find appropriate nest locations, resulting in reduced reproduction if this occurs in areas already suitable for nesting. Available habitat will be temporarily removed from approximately 50 ha of the action area for at least one growing season, and will remain unsuitable for approximately 93 ha.

Table 3. Habitat summary within ROWs where suitable RPBB habitat occur.

Habitat in Action Area	Segment P HPZ #1 (Hectares)	Segment P HPZ #2 (Hectares)	Segment Y/Z HPZ (Hectares)	Total Impacted (Hectares)
RPBB foraging only	0	0	3.42	3.42
RPBB nesting/foraging	0	5.65	0	5.65
RPBB overwintering	4.05	35.68	10.22	49.95
Unsuitable habitat	7.85	8.22	76.5	92.57

Beneficial Effects

Beneficial effects have been identified or are expected to occur for RPBB as a result of this project. The maintained ROW within impacted HPZs will be revegetated with a pollinator seed mix that will increase the forage and possibly, the nesting potential for each impacted HPZ. These beneficial effects may be more apparent in Segment P HPZ #2 where 36 ha of forested habitat will be cleared for the construction and ongoing maintenance of the transmission line. Nesting and foraging RPBB habitat is more limiting in this HPZ when compared with available overwintering habitat. It is reasonable to assume that the increase of nesting and foraging habitat along the transmission line corridor will result in greater accessibility of RPBB to other suitable overwintering ground cover. In addition, this action is anticipated to increase sunlight on the forest floor that will temporarily promote spring ephemeral plant growth if the seed bank is sufficient, and facilitate dispersal to other suitable habitat areas within the HPZ.

Direct Effects

Within the HPZs, the subactivities described in Appendix A may crush RPBBs, expose RPBBs to noise/vibration, and render habitat temporarily and permanently unsuitable. Seasonal timing of proposed actions have not yet been determined. For the purposes of this analysis, we will assume that all forested habitat suitable for RPBB overwintering will be removed at a time when queens will be present in the soil. In addition, we will assume that all suitable RPBB nesting and foraging habitat will be removed during the RPBB active season, at a time when colonies would be located underground or when worker bees would be foraging in the surrounding landscape. In reality, some construction activities will occur at a time where RPBB is not likely to present, and individuals would not be directly impacted by that portion of the proposed project. Therefore, the following analysis assumes a reasonable worst-case scenario, and actual impacts are expected to be less than estimated.

Foraging bees: Construction ROW activities (i.e. vegetation clearing) may occur in spring and summer foraging habitat where RPBB are present, but are not currently nesting in the ROW. Foraging bees are mobile, and are expected to be able to avoid direct impacts from construction activities. While construction activities are expected to temporarily reduce the quality of foraging habitat, it is expected that RPBB will be able to find other nearby foraging habitat. Once disturbed areas are restored, per the conservation measures, available foraging habitat is anticipated to increase in the affected HPZs. Individual RPBB may be exposed to noise/vibration, causing individuals to expend additional energy to seek out alternate foraging and nesting areas, which may reduce survival. A significant reduction in workers may affect the ability of the colony to obtain sufficient resources, resulting reduced reproductive capacity of the queen.

Nesting queens: Queens build a nest 1-3 feet underground in natural and semi-natural upland shrublands and grasslands with uncompacted soils, and along upland forest edges. Machinery used for vegetation removal and the placement of timber matting is expected to crush any colonies present within suitable nesting habitat in the action area of the HPZ and this would result in the loss of all individuals including the potential for new foundress queens that would establish new future colonies. This would result in lower reproductive success of the population.

In order to estimate the number of nests potentially affected by the proposed action, we follow the process described in the Service's Rusty Patched Bumble Bee (*Bombus affinis*) Endangered Species Act Section 7 Guidance document (Service, 2019a). The method provides a range of total RPBB queen production within the HPZ by calculating the amount of suitable nesting habitat (509 ha or 5.09 km²) and evaluating with low, medium or high nest density estimates (nests/km²). This results in a total queen production range between 71 and 2, 290 in the available habitat of the HPZ. Approximately 5.65 ha (0.06 km²) of suitable nesting habitat will be impacted which will result in impacts to 0.84, 2.04 or 2.7 nests based on the low, medium and high scenarios. Therefore, the reasonable worst-case scenario is anticipated to result in the loss of no more than 3 RPBB nest if vegetation removal and timber mat placement occurs during the active season when RPBB colonies could be present in the affected area. This estimate, however, is conservatively high and the overall reduction in numbers is not anticipated to significantly affect the species within the action area.

Overwintering queens: Individual queens overwinter in leaf litter or a few centimeters underground in upland forests and woodlands. Timber harvest involves heavy machinery that can result in some rutting, scraping or compaction of soils. If forested areas are cleared during the RPBB inactive (overwintering) season between October 15th and March 15th, RPBB queens present in the soil are expected to be crushed during vegetation removal. Loss of any overwintering queen present within the affected forested area would result in the loss of a future colony and a reduced reproductive capacity for the population within the HPZ.

Since we can estimate the assumed total queen production within HPZs, we can use the range of values to calculate the density of RPBB queens within the available overwintering habitat. Based on our calculations, RPBB queens may be present in forested habitat of Segment P HPZ #2 at a density ranging from 5 to 157 km². Since we were unable to calculate the total available habitat within Segment P HPZ #1 and Segment Y/Z HPZ, we will use the same range for our calculations of overwintering queen density as a reasonable worst-case scenario.

Using this assumption and the methods described in the Service's RPBB Section 7 Guidance document, we can approximate the number of overwintering queens that may be present within the impacted overwintering habitat. Approximately 36 ha (0.36 km²) suitable overwintering habitat will be impacted in

Segment P HPZ # 2 and an additional 14.27 ha (0.36 km²) of suitable overwintering habitat will be impacted in Segment P HPZ #1 and Segment Y/Z HPZ (Table 3). Using these values, we estimate the number of overwintering queens present in the affected area to be up to 56 individuals in Segment P HPZ # 2 and up to 22 individuals in the remaining HPZs, which will result in impacts to 0.84, 2.04 or 2.7 nests based on the low, medium and high scenarios. However, based on our desktop review and the habitat conditions described in the BA, we believe that is unlikely that the impacted overwintering habitat within Segment P HPZ #1 and Segment Y/Z HPZ can support queen densities at the highest range. The forested habitat described is anticipated to be of low to moderate quality, therefore we estimate that the realistic worst-case scenario for these HPZs would be that the project might impact up to 7 additional queens if construction activities occur at time when RPBB may be present in the affected area.

Based on our calculations and assumptions described above, we anticipate that approximately 63 (56 + 7) overwintering queens may be impacted within the project area during construction activities. These estimates utilize the best information we have about RPBB and information from related species. While this is the best information available, it is incomplete and uncertain. Furthermore, these calculations assume the “reasonable worst case scenario” in relation to season of harvest, and assume that all ground within ROW will have ground disturbance from construction activities, and are therefore likely to be an overestimate of effects. Taking this into account, the overall reduction in numbers is not anticipated to significantly affect the species within the action area.

Table 4. Estimated range of individual RPBB present within proposed action areas.

Overwintering Queens in action area	Calculated RPBB queen estimate in Segment P HPZ #2			Assumed RPBB queen estimate within Segment P HPZ # 1 and Segment Y/Z HPZ		
	Low Density (1/nest)	Medium Density (4/nest)	High Density (10/nest)	Low Density (1/nest)	Medium Density (4/nest)	High Density (10/nest)
Low (14 nests/km ²)	2	7	18	1	3	7
Medium (34 nests/km ²)	4	17	43	2	7	17
High 45 nests/km ²)	6	23	56	2	9	22

Indirect Effects

Construction activities within the proposed ROW corridors may facilitate the spread of invasive plant species and allow them to become more established within RPBB HPZ. Suitable overwintering, nesting or foraging habitat adjacent to the action area may indirectly be affected if invasive species become established and encroach into other natural habitat types. However, this will be minimized by the use of BMPs to limit the spread of invasive plant species as well as by reseeding the affected areas with a suitable seed mix.

Soil compaction during site access and transmission line placement may also reduce the ability of rodents to excavate burrows, which reduces the ability of colonies to find appropriate nest locations, resulting in reduced reproduction.

CUMULATIVE EFFECTS

Cumulative effects include the effects of future State, tribal, local or private actions that are reasonably certain to occur in the action area considered in this biological opinion. Future Federal actions that are unrelated to the proposed action are not considered in this section because they require separate consultation pursuant to section 7 of the Act. At this time, we are unaware of any new private or state actions anticipated to occur within the Action Areas, so no significant cumulative effects are anticipated.

Analysis for Jeopardy

Section 7(a)(2) of the ESA requires that federal agencies ensure that any action they authorize, fund, or carry out is not likely to jeopardize the continued existence of any endangered or threatened species or result in the destruction or adverse modification of designated critical habitat.

“Jeopardize the continued existence of” means to engage in an action that reasonably would be expected, directly or indirectly, to reduce appreciably the likelihood of both the survival and recovery of a listed species in the wild by reducing the reproduction, numbers, or distribution of that species (50 CFR 402.02). The following analysis relies on four components: (1) Status of the Species, (2) Environmental Baseline, (3) Effects of the Action, and (4) Cumulative Effects. The jeopardy analysis in this Opinion emphasizes the rangewide survival and recovery needs of the listed species and the role of the action area in providing for those needs. It is within this context that we evaluate the significance of the proposed federal action, taken together with cumulative effects, for purposes of making the jeopardy determination.

Impacts to Individuals – As discussed in the Effects of the Action, anticipated effects of the action include effects to individual RPBBs present within the HPZ year-round. Effects will include reduced reproductive success of some queens because of removal of spring ephemerals and other floral resources, and injury or death of individual workers or queens during the active and overwintering season related to crushing by machinery during construction in the proposed ROW.

In response to removal of floral resources, the following season RPBB workers and early foraging queens will have less foraging habitat available to them, are likely to expend more energy to forage elsewhere within the foraging range of nests, and may experience reduced health as a result of the decrease in food availability. Consequently, there will be impacts to health of those individual RPBB workers that would have utilized previously available foraging habitat.

Individual worker bees are responsible for supporting the reproductive success of the colony by providing food resources to the queen. The health of the colony is dependent on the number of workers foraging and providing resources and on the abundance of foraging habitat. Reduced health of RPBB workers will reduce the reproductive success of some queens (i.e., not as many males and foundress queens produced) as a result of loss of foraging resources provided by workers. Furthermore, the loss of reproductive individuals may reduce the success of future matings and the success of future colonies. When related individuals mate, there is a higher likelihood of colony collapse associated with haplodiploidy, when 50 percent of the workers are replaced by diploid males that do not contribute food resources to the colony (82 FR 3186-3209).

Overwintering queens may be found within the action area of the proposed project. Vegetation removal and construction activities will occur on approximately 50 ha of potentially suitable overwintering habitat. Within the available overwintering habitat of Segment P HPZ #2 (1,463 ha), the proposed action will

impact 35.68 ha (2.4%) of potentially suitable overwintering habitat and we consider this to be a small percentage of the total available habitat to the species. Although the total available habitat was not calculated for Segment P HPZ #1 and Segment Y/Z HPZ, the percentage of habitat lost for these areas are expected to be less than 2.4%. Therefore, a 2.14% reduction of the available suitable overwintering habitat may effect approximately 2% total overwintering queens in the HPZ if construction occur at a time they are present.

Impacts to Populations – As we have concluded that some individual RPBBs are likely to be killed or experience some reductions in health, and colonies may experience some reductions in their reproductive success, we need to assess the aggregated consequences of the anticipated losses and reductions in fitness (i.e., reproductive success and long-term viability) of the exposed individuals and colonies on the population to which these belong.

A population of RPBB is represented by the number of successful nests or colonies in a given geographical area, rather than a number of individuals, because a colony is founded by a single queen and represents one reproductive unit (Chapman and Burke 2001, Zayed 2009, Service 2016). As a result of their genetic structure, a RPBB population can only persist on the landscape in a metapopulation structure (a group of spatially separated populations, which in this case are colonies, of the same species that interact at some level). A healthy population typically contains many colonies, and loss of a colony or overwintering queen could reduce the overall viability of any metapopulation associated with those colonies due to lost opportunities to interbreed and small population dynamics. Impacts to populations may result from loss of a colony nest through crushing, crushing overwintering foundress queens, or loss of a percentage of colony workers.

The presence of RPBB colonies within the action area of the proposed project is anticipated in Segment P HPZ #2. Vegetation removal and construction activities will occur on approximately 5.6 ha of potentially suitable nesting habitat out of approximately 509 ha of total available nesting habitat. At this time, no other RPBB nesting habitat is anticipated to be impacted in other portions of the project action area. Based on this, approximately 1.1% of the available nesting habitat in Segment P HPZ #2 will be temporarily impacted for at least one growing season. Suitable nesting habitat is anticipated to return to the affected area after restoration activities are complete. If construction activities occur at a time when RPBB colonies are present, approximately 3 nests may be crushed or disturbed. This would also equate to the loss of approximately 1.1% of the total colonies anticipated to be present within the HPZ. However, due to the potential presence of additional colonies throughout the available habitat and the metapopulation dynamics of RPBB, loss of 1% of the available colonies is not likely to negatively impact the fitness or survival of the population.

Reduced foraging of workers may decrease the reproductive success of colonies as a result of loss of foraging resources provided by workers to the queen (i.e., not as many foundress queens produced to start new colonies). The proposed action will remove foraging habitat that has already been described above, as it is also suitable for nesting. For RPBBs not nesting in the impacted ROW there may be less floral resources available to them in this area. In addition, approximately 3.42 ha of low to moderate quality foraging habitat occurs within the other two impacted HPZs. Although total available habitat has not been calculated, we believe the temporary loss of this floral habitat in these areas represent a small percentage and significance to the total available habitat for the species. After project and restoration activities are complete, an increase of approximately 50 ha in the floral resources are anticipated within the established ROW.

Impacts to Species – The species is made up of many populations - Since 2007, RPBB has been reported from 10 states and 1 Canadian province and more recently has been reported from 6 states (in the past five years). While RPBB has experience a reduction rangewide, the number of known sites in the two states associated with this action have increased and are distributed across a larger area. As we have concluded that populations of RPBB are unlikely to experience reductions in their fitness, there will be no harmful effects (i.e., there will be no reduction in RND) on the species as a whole.

CONCLUSION

We considered the current overall declining status of the RPBB and the inferred condition of the species within the action area (environmental baseline). We then assessed the effects of the proposed action and the potential for cumulative effects in the action area on individuals, the affected population, and the species as a whole. As stated in the Jeopardy Analysis, we do not anticipate any reductions in the overall RND of the RPBB. It is the Service's Opinion that the authorization to construct and operate the Cardinal – Hickory Creek 345-kV Transmission Line, as proposed, is not likely to jeopardize the continued existence of the rusty patched bumble bee. No critical habitat has been designated for this species; therefore, none will be affected.

INCIDENTAL TAKE STATEMENT

Section 9 of the ESA and federal regulation pursuant to Section 4(d) of the ESA prohibit the take of endangered and threatened species, respectively, without a special exemption. Take is defined as to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or to attempt to engage in any such conduct. Harm is further defined by the Service to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing essential behavioral patterns including breeding, feeding, or sheltering (50 CFR § 17.3). Harass is defined by the Service as intentional or negligent actions that create the likelihood of injury to listed species to such an extent as to significantly disrupt normal behavior patterns, which include, but are not limited to, breeding, feeding, or sheltering (50 CFR § 17.3). Incidental take is defined as take that is incidental to, and not the purpose of, the carrying out of an otherwise lawful activity. Under the terms of Section 7(b)(4) and Section 7(o)(2), taking that is incidental to and not intended as part of the agency action is not considered to be prohibited taking under the ESA provided that such taking is in compliance with the terms and conditions of this incidental take statement.

The measures described below are nondiscretionary, and must be undertaken by RUS so that they become binding conditions of any grant or permit issued to the applicant, as appropriate, for the exemption in Section 7(o)(2) to apply. The RUS has a continuing duty to regulate the activity covered by this incidental take statement. If the RUS: (1) fails to assume and implement the terms and conditions or (2) fails to require the applicant to adhere to the terms and conditions of the incidental take statement through enforceable terms that are added to the permit or grant document, the protective coverage of Section 7(o)(2) may lapse. To monitor the impact of incidental take, the RUS, or the applicant must report the progress of the action and its impact on the species to the Service as specified in the incidental take statement [50 CFR 402.14(i)(3)].

AMOUNT OR EXTENT OF TAKE ANTICIPATED

It is appropriate to use surrogates to describe the anticipated extent of incidental in incidental take statements (ITS) as long as 1) the ITS describes the causal link between the surrogate and the take of the listed species; 2) the ITS describes why it is not practical to express the amount or extent of anticipated take or to monitor take-related impacts in terms of individuals of the listed species; and, 3) the ITS sets a clear standard for determining when the level of anticipated take of the listed species has been exceeded.

Causal Link Between Surrogate and Take of Species – This ITS uses hectares of RPBB habitat as a surrogate to express the extent of authorized take for the RPBB because it is not practical to monitor take related impacts in terms of individuals of the species. Since it will be difficult to measure the effects of habitat loss on individuals, take will be expressed in terms of the area of habitat removed.

Numeric Estimate of Anticipated Incidental Take/Monitoring of Take-Related Impacts – It is not practical to estimate or monitor the total number of workers and queen RPBBs that may be killed or harmed as a result of the proposed action. While well informed worst cases scenarios are helpful in conducting jeopardy analysis (see above), no method exists to accurately determine the specific number of individual bees anticipated to be taken by this project. In addition, the Service anticipates incidental take of RPBB will be difficult to detect for the following reasons: species has small body size, losses may be masked by seasonal fluctuations in numbers and other environmental factors, and species occurs in habitat (i.e., underground) that makes detection difficult.

Clear Standard for Determining the Exceedance of Anticipated Take – Since the detection of individuals taken by the proposed action is not feasible, measure the quantity of habitat impacted provides a clear standard that does not change substantially over time for this species.

Summarized in the table below, the level of take of this species is not anticipated to exceed 5.65 ha of nesting habitat, 3.42 ha of additional foraging habitat and 49.95 ha of forested overwintering habitat within the project action area of the currently mapped HPZs. The total area encompasses where ground disturbance, including vegetation clearing, along the construction ROW and access roads will occur within RPBB occupied suitable habitat.

Table 5. Amount and type of anticipated incidental take.

Species	Amount of Take Anticipated	Life Stage when Take is Anticipated	Type of Take	Take is Anticipated as a Result of
RPBB	Small percent of individuals present within 5.65 ha of nesting habitat	Adult workers, males, or queen	Kill	Crushing due to vegetation clearing and construction activities. Reduced reproduction associated with loss or alteration of foraging habitat.
RPBB	Small percent of individuals present within 3.42 ha of foraging habitat	Adult workers, males, or queen	Harm or Harass	Temporary reduced reproduction associated with loss or alteration of foraging habitat.
RPBB	Small percent of individuals present within 49.95 ha of overwintering habitat	Overwintering and foraging queens	Kill	Crushing due to vegetation clearing and construction activities.

REASONABLE AND PRUDENT MEASURES

The Service believes the following reasonable and prudent measure(s) are necessary and appropriate to minimize take of RPBB:

- Minimize pre-construction vegetation clearing and ground disturbance.
- Use native species in restoration activities
- Maintain suitable habitat within the permanent ROW
- Document and report to the Service the timing and extent of disturbances within suitable habitat for RPBB to help inform future consultations.

TERMS AND CONDITIONS

In order to be exempt from the prohibitions of Section 9 of the ESA, the RUS or the applicant must

comply with the following terms and conditions, which implement the reasonable and prudent measures described above and outline required reporting/monitoring requirements. These terms and conditions are non-discretionary.

1. Minimize clearing, grading, and vegetation removal within suitable habitat areas of HPZs.
2. Re-seed all construction ROW areas (temporary and permanent) within the existing suitable habitat areas of the HPZs with pollinator friendly native seed mixes consistent with recommendations provided by the Service. When possible, include species preferred by RPBB and ensure that some plants are in boom throughout the season when RPBB may be present. Preferred list is available at: <https://www.fws.gov/midwest/Endangered/insects/rpbb/plants.html>
3. Provide a written summary of the suitable habitat impacted, the timing of impact as it pertains to the RPBB active and inactive season, and the estimated percentage of disturbed ground at the completion of transmission line construction and other associated activities.

The reasonable and prudent measures, with implementing terms and conditions, are designed to minimize incidental take that might otherwise result from the proposed action. With implementation of these reasonable and prudent measures, the Service believes that no more than 5.65 ha of nesting habitat, 3.42 ha of additional foraging habitat and 49.95 ha of overwintering habitat suitable for RPBB will be modified as a result of the proposed actions. If, during the course of the action, this minimized level of incidental take is exceeded, such incidental take represents new information requiring review of the reasonable and prudent measures provided. The Federal agency must immediately provide an explanation of the causes of the taking and review with the Service the need for possible modification of the reasonable and prudent measures.

MONITORING AND REPORTING REQUIREMENTS

Federal agencies have a continuing duty to monitor the impacts of incidental take resulting from their activities [50 CFR 402.14(i)(3)]. In doing so, the Federal agency must report the progress of the action and its impact on the species to the Service as specified below.

1. Prior to initiation of vegetation clearing in the HPZs provide to the Minnesota-Wisconsin Field Office, at the email address below, the limits of equipment, vehicle traffic and staging, and the methods used to ensure that construction activities will not exceed these limits.
2. RUS or applicant shall notify the Service regarding the projected and actual start dates, progress, and completion of the project and verify that the 5.65 ha of nesting habitat, 3.42 ha of additional foraging habitat and 49.95 ha of clearing was not exceeded and all conservation measures were followed. Provide a report that includes the total acreage of RPBB habitat removed within mapped HPZs as it relates to the species' life history (i.e. active season, March 15 to October 15 or inactive season, October 15 to March 15) by December 31 of each year until construction is complete to the Minnesota-Wisconsin Field Office at the address listed below.

CONSERVATION RECOMMENDATIONS

Section 7(a)(1) of the ESA directs federal agencies to utilize their authorities to further the purposes of the ESA by carrying out conservation programs for the benefit of endangered and threatened species. Conservation recommendations are discretionary agency activities to minimize or avoid adverse effects of a proposed action on listed species or critical habitat, to help implement recovery plans, or to develop

information.

- Improve pollinator habitat by planting within unsuitable habitat areas of the ROW within mapped HPZs. Providing additional habitat adjacent to currently suitable habitat areas will benefit the local RPBB colonies and facilitate dispersal.
- Improve pollinator habitat by planting outside of the currently mapped HPZs, specifically in the eastern portion of the proposed route between Segment P HPZ #2 and Segment Y/Z HPZ. Providing additional habitat between HPZs will benefit the species and will help reach recovery goals.
- Improve pollinator habitat throughout the project area by using pollinator friendly native seed mixes. Include species preferred by RPBB, list available at:
<https://www.fws.gov/midwest/endangered/insects/rpbb/plants.html>.

For the Service to be kept informed of actions minimizing or avoiding adverse effects or benefitting listed species or their habitats, the Service requests notification of the implementation of any conservation recommendations.

REINITIATION NOTICE

This concludes formal consultation on the action(s) outlined in the request. As provided in 50 CFR 402.16, reinitiation of formal consultation is required where discretionary federal agency involvement or control over the action has been retained (or is authorized by law) and if: (1) the amount or extent of incidental take is exceeded; (2) new information reveals effects of the agency action that may affect listed species or critical habitat in a manner or to an extent not considered in this Opinion; (3) the agency action is subsequently modified in a manner that causes an effect to the listed species or critical habitat not considered in this Opinion; or (4) a new species is listed or critical habitat designated that may be affected by the action. In instances where the amount or extent of incidental take is exceeded, any operations causing such take must cease pending reinitiation.

If you have any questions regarding this Opinion or our shared responsibilities under the ESA, please contact Andrew Horton at 952-252-0092 ext. 208 or andrew_horton@fws.gov.

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Appendix A. RPBB Effects Table

Table is color coded as follows:

- NE rows are light green
- NLAA rows are light yellow
- LAA are light red

Table 1. Analysis of effects on RPBB.

Transmission Line Activity	Subactivity	Environmental Impact or Threat	Stressor	Stressor Pathway (optional)	Exposure (Resource Affected)	Range of Response	Conservation Need Affected	Demographic Consequences	NE, NLA, or LAA	Comments
New Disturbance - Construction	Vehicle Operation and Foot Traffic	human activity & disturbance	decreased foraging; crushing colonies or overwintering queens	human presence	all life stages	Kill, harm, harass	breeding, feeding, sheltering	numbers, reproduction	LAA	Vehicle operation off established roads may crush RPBB individuals. There is no evidence that vehicle operation at low speeds on established roads would impact individual RPBB. Foot traffic is not expected to crush RPBB.
New Disturbance - Construction	Clearing - herbaceous vegetation and ground cover	clearing of floral habitat; human activity & disturbance	alteration of summer foraging habitat, & colony habitat; decreased foraging efficiency; crushing individuals, colonies or overwintering queens	vegetation removal; human presence	all life stages	kill, harm, harass	breeding, feeding, sheltering	numbers, reproduction	LAA	Clearing of herbaceous vegetation while RPBB are present in habitat is expected to have a direct effect on the quality, quantity, and timing of floral resources, thereby reducing survivability and reproductive success of queens; equipment used could crush individuals, queens or colonies. AMMs are anticipated to minimize or avoid direct RPBB impacts for portions of the proposed project.
New Disturbance - Construction	Clearing - trees and shrubs	clearing of foraging habitat; human activity & disturbance	alteration of summer foraging habitat, & colony habitat; decreased foraging efficiency; crushing individuals, colonies or overwintering queens	vegetation removal; human presence	all life stages	kill, harm, harass	breeding, sheltering	numbers, reproduction	LAA	Clearing of trees and shrubs while RPBB are present in habitat is expected to have a direct effect on the quality, quantity, and timing of floral resources, thereby reducing survivability and reproductive success of queens; equipment used could crush individuals, queens or colonies. AMMs are anticipated to minimize or avoid direct RPBB impacts for portions of the proposed project.
New Disturbance - Construction	Vegetation Disposal (upland) - dragging, chipping, hauling, piling, stacking	human activity & disturbance	alteration of summer foraging habitat, & colony habitat; decreased foraging & travel efficiency; crushing individuals in colonies or overwintering	vegetation removal; human presence	all life stages	kill, harm, harass	breeding, feeding, sheltering	numbers, reproduction	LAA	Vegetation disposal may crush foraging individuals.
New Disturbance - Construction	Vegetation Disposal (upland) - brush pile burning	human activity & disturbance; smoke	decreased foraging	smoke; human presence & noise	all life stages	none expected	NA	NA	NLAA	Smoke inhalation may agitate bees but response is not expected to be detrimental.
New Disturbance - Construction	Vegetation Clearing - tree side trimming by bucket truck or helicopter	No side trimming occurs for new construction.	NA	NA	NA	NA	NA	NA	NE	NA
New Disturbance - Construction	Grading, erosion control devices	alteration of water flow; vegetation removal; human activity	alteration of foraging habitat	vegetation removal; human presence	all life stages	kill, harm, harass	breeding, feeding, sheltering	numbers, reproduction	LAA	Construction associated with grading and erosion control devices could crush foraging individuals if conducted in HPZ.
New Disturbance - Construction	Regrading and Stabilization - restoration of corridor	human activity & disturbance	Removal of foraging vegetation and nesting habitat; crushing of individuals	habitat disturbance, human presence & noise	all life stages	kill, harm, harass	breeding, feeding, sheltering	numbers, reproduction	LAA	Construction associated with this activity could crush foraging individuals if conducted in HPZ.
New Disturbance - Construction	Access Roads - upgrading existing roads, new roads temp and permanent -grading, graveling	alteration of surface water flow; vegetation removal; human activity	Removal of foraging vegetation and nesting habitat; crushing of individuals in colonies or overwintering	removal of foraging habitat	all life stages	kill, harm, harass	breeding, feeding, sheltering	numbers, reproduction	LAA	Construction associated with this activity could crush foraging individuals if conducted in HPZ.
New Disturbance - Construction	Access Roads - upgrading existing roads, new roads temp and permanent -culvert installation	tree removal; loss or alteration of forested habitat; human disturbance	Removal of foraging vegetation and nesting habitat; crushing of individuals in colonies or overwintering	vegetation removal; human presence	all life stages	kill, harm, harass	breeding, feeding, sheltering	numbers, reproduction	LAA	Construction associated with this activity could crush foraging individuals if conducted in HPZ.
New Disturbance - Construction	Access Roads - upgrading existing roads, new roads temp and permanent - tree trimming and tree removal	tree removal; loss or alteration of forested habitat; human disturbance	Removal of foraging vegetation and nesting habitat; crushing of individuals in colonies or overwintering	vegetation removal; human presence	all life stages	kill, harm, harass	breeding, feeding, sheltering	numbers, reproduction	LAA	Tree removal could crush foraging individuals.
New Disturbance - Construction	Access Roads - place timber matting in ROW	human activity & disturbance	alteration of colony and overwintering habitat; decreased foraging & travel efficiency; crushing individuals in colonies or overwintering	vegetation removal; human presence	all life stages	kill, harm, harass	breeding, feeding, sheltering	numbers, reproduction	LAA	Placement of timber matting will compact soils could crush foraging individuals if conducted in HPZ. AMMs are anticipated to minimize or avoid direct RPBB impacts for portions of the proposed project.
New Disturbance - Construction	Install footings and support posts	loss or alteration of habitat; increased human activity/disturbance	alteration of summer foraging habitat, & colony habitat; decreased foraging & travel efficiency; crushing individuals in colonies or overwintering	vegetation removal; human presence	all life stages	kill, harm, harass	breeding, feeding, sheltering	numbers, reproduction	LAA	Construction associated with this activity could crush foraging individuals if conducted in HPZ.
New Disturbance - Construction	Crossings, wetlands and other water bodies (non-riparian) - clearing	RPBB not present	NA	NA	NA	NA	NA	NA	NE	NA
New Disturbance - Construction	Crossings, wetlands and other water bodies (non-riparian) - tree side trimming	No side trimming occurs for new construction.	NA	NA	NA	NA	NA	NA	NE	NA
New Disturbance - Construction	Crossings, wetlands and other water bodies (non-riparian) - grading	RPBB not present	NA	NA	NA	NA	NA	NA	NE	NA
Operation & Maintenance	Facilities - vehicles, foot traffic, noise, transmission facilities	increased human activity/disturbance	decreased foraging efficiency; crushing individuals	human presence; vehicle traffic	all life stages	Kill, harm, harass	breeding, feeding	numbers, reproduction	LAA	Vehicle traffic may crush RPBB foraging along roadsides. Traffic may disrupt foraging behavior and displace individual RPBBs.
Operation & Maintenance	Vegetation Management - mowing	loss or alteration of forested habitat; increased human activity/disturbance;	decreased foraging efficiency;	vegetation removal	all life stages	none expected	NA	NA	NLAA	Mowing may reduce RPBB foraging resources, alteration of habitat, mowing blades may crush RPBB. Conservation measure to maintain a minimum blade height of 10 inches during maintenance of the ROW should significantly reduce the likelihood of impacts from crushing.
Operation & Maintenance	Vegetation Management - chainsaw and tree clearing	loss or alteration of foraging habitat; increased human activity/disturbance	alteration of summer foraging habitat, & nesting habitat; kill or injure overwintering queens	vegetation removal; human disturbance	all life stages	Kill, harm, harass	breeding, feeding, sheltering	numbers, reproduction	LAA	Vegetation alterations to foraging habitat should be small. Tree felling and heavy equipment may crush foraging individuals.
Operation & Maintenance	Vegetation Management - herbicides - hand, vehicle mounted, aerial applications	chemical contamination; vegetation loss; loss of floral habitat	lethal or sublethal exposure to toxins; alteration of travel corridors, summer foraging habitat	contamination of water & vegetation; loss of foraging vegetation (e.g. rhododendrons and woody flowering shrubs)	all life stages	none expected	NA	NA	NLAA	AMMs to avoid aerial or broadcast pesticide and herbicide application. Use of targeted spot-spraying or wiping, or mechanical pulling to target invasive and noxious weeds.
Operation & Maintenance	Vegetation Disposal (upland) - dragging, chipping, hauling, piling, stacking	human activity & disturbance; obstructed nest entrances	loss or alteration of nesting, overwintering habitat	vegetation removal; human disturbance	all life stages	kill, harm, harass	breeding, sheltering	numbers, reproduction	LAA	Vegetation disposal may crush individuals.

Transmission Line Activity	Subactivity	Environmental Impact or Threat	Stressor	Stressor Pathway (optional)	Exposure (Resource Affected)	Range of Response	Conservation Need Affected	Demographic Consequences	NE, NLAA, of LAA	Comments
Operation & Maintenance	Vegetation Disposal (upland) - brush pile burning	human activity & disturbance; smoke disturbance	smoke inhalation	smoke in foraging or nesting habitat	all life stages	none expected	NA	NA	NLAA	Response of RPBBs to smoke is not expected to be detrimental.
Operation & Maintenance	Vegetation Management - tree side trimming by bucket truck or helicopter	loss or alteration of foraging habitat; human disturbance; compaction of soil	alteration of foraging habitat; alteration of nesting and overwintering habitat	vegetation removal; human disturbance	unlikely	none expected	NA	NA	NLAA	AMMs minimize potential effects; vegetation alterations to foraging habitat should be small. Noise and activity levels are anticipated to be low with no disturbance to colonies. Although some foraging habitat may be altered, we do not expect indirect effects to occur because the majority of habitat will not be altered. Trimming may result in increased light to the forest floor, creating opportunity for increased floral resources. Effects are expected to be insignificant.
Operation & Maintenance	ROW repair, regrading, revegetation (upland) - hand, mechanical	tree removal; loss or alteration of floral resources and forested habitat; human disturbance	alteration of summer foraging habitat, & colony habitat; crushing of colonies & overwintering queens	vegetation removal; human disturbance	all life stages	Kill, harm, harass	breeding, feeding, sheltering	numbers, reproduction	LAA	ROW repairs occur in areas of soil erosion where floral resources may be of higher quality. ROW repairs may remove nesting habitat, or crush individuals.
Operation & Maintenance	ROW repair, regrading, revegetation (wetland) - hand, mechanical	tree removal; loss or alteration of forested habitat; human disturbance	alteration of summer foraging habitat	vegetation removal; human disturbance	all life stages	none expected	NA	NA	NLAA	The small area and level of impact from these activities is not expected to have noticeable or measurable impacts on RPBB or their foraging habitat.
Operation & Maintenance	ROW repair, regrading, revegetation - in stream stabilization and/or fill	tree removal; loss or alteration of forested habitat; human disturbance	alteration of summer foraging habitat	vegetation removal; human disturbance	unlikely	none expected	NA	NA	NLAA	The small area and level of impact from these activities is not expected to have noticeable or measurable impacts on RPBB or their habitat.
Operation & Maintenance	Access Road Maintenance - grading, graveling	removal; loss or alteration of floral habitat; human disturbance	alteration of summer foraging habitat, & colony habitat; crushing of colonies & overwintering queens	vegetation removal; human disturbance	all life stages	kill, harm, harass	feeding, breeding, sheltering	numbers, reproduction	LAA	Vegetation alterations will remove high quality foraging habitat, impacting survival and reproduction. Activities could crush individuals.
Operation & Maintenance	Access Road Maintenance - culvert replacement	tree removal; loss or alteration of floral habitat; human disturbance	alteration of summer foraging habitat, & colony habitat; crushing of colonies & overwintering queens	vegetation removal; human presence	all life stages	none expected	NA	NA	NLAA	The small area and level of impact from these activities is not expected to have noticeable or measurable impacts on RPBB or their habitat.

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APPENDIX H

Programmatic Agreement

**FINAL PROGRAMMATIC AGREEMENT
FOR THE CARDINAL-HICKORY CREEK
345-kV TRANSMISSION LINE PROJECT**

PROGRAMMATIC AGREEMENT AMONG

The U.S. Department of Agriculture–Rural Utilities Service,
Iowa State Historic Preservation Office,
Wisconsin Historical Society,
and
Advisory Council on Historic Preservation

REGARDING

The Cardinal-Hickory Creek (C-HC) 345-kV Transmission Line Project in Clayton and Dubuque Counties, Iowa, and Dane, Grant, Iowa, and Lafayette Counties, Wisconsin

WHEREAS, the Rural Utilities Service (RUS) is authorized to provide assistance in the development of infrastructure in rural America under its Electric Program in accordance with the Rural Electrification Act of 1936 (7 United States Code [USC] § 901–950b); and

WHEREAS, under this program RUS receives applications for financial assistance to improve the transmission of electricity to rural areas; and

WHEREAS, Dairyland Power Cooperative (Dairyland), American Transmission Company, LLC, and ITC Midwest LLC (the Utilities) propose to construct approximately 100 to 125 miles of new 345-kilovolt (kV) transmission line between Dane County, Wisconsin, and Dubuque County, Iowa, with associated aboveground facilities, such as transmission facilities and substations, and ancillary facilities, such as temporary work areas and contractor yards (the Project); and

WHEREAS, Dairyland has initiated the application process for RUS financial assistance for its part of the construction of the Project, requiring consultation under Section 106 of the National Historic Preservation Act (NHPA; 54 USC § 306108); and

WHEREAS, RUS is considering funding the Project, thereby making it an undertaking subject to review by RUS under Section 106 of the NHPA, and the implementing regulations 36 Code of Federal Regulations (CFR) Part 800, *Protection of Historic Properties*; and

WHEREAS, the Rock Island District, U.S. Army Corps of Engineers (USACE) is evaluating a permit application for a right-of-way (ROW) easement for the Project on USACE-fee lands in the Upper Mississippi River National Wildlife and Fish Refuge (Refuge), which is a federal action related to the Project that requires the USACE to comply with Section 106 of the NHPA and 36 CFR Part 800; and

WHEREAS, the Rock Island and St. Paul Districts, USACE are evaluating a permit application(s) requesting Department of the Army authorization under Section 404 of the Clean Water Act (33 USC § 1344) and Section 10 of the Rivers and Harbors Act of 1899 (33 USC § 403), for work in Waters of the United States in connection with the Project, which are federal actions related to the Project that require the USACE to comply with Section 106 of the NHPA and 36 CFR Part 800; and

WHEREAS, the U.S. Fish and Wildlife Service (USFWS) is evaluating a request for a ROW easement and a permit application for the Project to cross the Refuge, which is a federal action related to the Project that requires the USFWS to comply with Section 106 of the NHPA and 36 CFR Part 800; and

WHEREAS, the Public Service Commission of Wisconsin (PSCW) requested to participate in the development of this Programmatic Agreement (PA) and RUS has invited PSCW to join as an Invited Signatory, pursuant to 36 CFR Part 800.2(c)(3); and

WHEREAS, RUS and other consulting federal agencies, USACE, and USFWS (hereafter referenced as Federal Agencies), have agreed that RUS will be the lead federal agency for purposes of Section 106 of the NHPA in accordance with 36 CFR Part 800.2(a)(2); and

WHEREAS, RUS has invited the Federal Agencies, the PSCW, and the Utilities to sign this PA as Invited Signatories; and

WHEREAS, RUS has determined that the area of potential effect (APE) for the undertaking includes 1) the potential for physical impacts within a minimum buffer of 300 feet in total width around the ROW and aboveground facilities for each of the action alternatives, 2) potential non-physical impacts extending to a minimum 2,000-foot-wide buffer around the potential ROW and aboveground facilities for each of the action alternatives, 3) temporary access roads, 4) temporary work areas, and 5) contractor laydown yards where direct or indirect effects may occur. Direct effects from the undertaking may include physical, visual, auditory, or olfactory effects to historic properties. Indirect effects may be of the same range of effects; however, indirect effects are those caused by the undertaking that occur later in time or farther removed in distance (but remain still reasonably foreseeable); and

WHEREAS, the Project will be constructed primarily within a 150-foot-wide ROW in Wisconsin, a 260-foot-wide ROW in the Refuge, and a 200-foot-wide ROW in Iowa outside of the Refuge along the final, RUS-approved Project route; and

WHEREAS, RUS is phasing identification and evaluation of historic properties and application of the criteria of adverse effects in accordance with 36 CFR Part 800.4(b)(2) and 36 CFR Part 800.5(a)(3), respectively, because the Project alternatives consist of corridors covering a large land area; and

WHEREAS, cultural resource identification efforts will be conducted along the final, RUS-approved Project route within the defined ROW and along any off-ROW access routes in Wisconsin and Iowa, where determined necessary by RUS and the Consulting Parties; and

WHEREAS, the Consulting Parties are defined herein to be the Signatories, Invited Signatories, and Concurring Parties who have signed the Signatory Pages of this PA; and

WHEREAS, in accordance with 36 CFR Part 800.14(b)(1)(ii), execution of a PA is appropriate because the identification and evaluation of historic properties have not been fully completed and the undertaking's effects on historic properties cannot be fully determined prior to RUS issuance of the Record of Decision for the Project due to time constraints required by Fixing America's Surface Transportation Act (also referred to as FAST-41) and subsequent federal permitting actions by USFWS and USACE; and

WHEREAS, RUS has determined that the undertaking may have an adverse effect on historic properties which are properties that are listed in or found to be eligible for listing in the National Register of Historic Places (NRHP); and

WHEREAS, RUS has consulted with the Iowa State Historic Preservation Office (IA SHPO) and the Wisconsin State Historic Preservation Office (WI SHPO) (hereafter SHPOs) pursuant to 36 CFR Part 800; and

WHEREAS, RUS identified and invited into the consultation 77 tribes (listed in Appendix A) that may ascribe religious and cultural significance to historic properties that may be affected by the undertaking; and

WHEREAS, of the 16 tribes that responded to RUS verifying their interest in the Project, only the Ho-Chunk Nation, Rosebud Sioux Tribe, and Upper Sioux Community of Minnesota Tribes (hereafter Consulting Tribes) have indicated an interest in participating in the development of this PA, and RUS has invited these tribes to be Consulting Parties in the development of this PA for the Project; and

WHEREAS, of the 17 tribes that responded to RUS verifying their interest in the Project, RUS has also invited the 14 tribes that have not indicated their interest in participating in the development of the PA to sign this PA as Consulting Parties; and

WHEREAS, on July 15, 2019, RUS notified the Advisory Council on Historic Preservation (ACHP), in accordance with 36 CFR Part 800.6(a)(1)(i)(C), and ACHP decided on July 18, 2019, to participate in the consultation pursuant to 36 CFR Part 800.6(a)(1)(iii); and

WHEREAS, the terms used in this PA are defined in 36 CFR Part 800.16; and

NOW, THEREFORE, RUS, ACHP, IA SHPO, and WI SHPO agree that the undertaking shall be implemented in accordance with the following stipulations in order to take into account the effect of the undertaking on historic properties and complete the Section 106 review process.

STIPULATIONS

RUS shall ensure that the following stipulations are carried out.

I. CONDITIONS

- A. As lead federal agency, RUS will administer this PA.
- B. RUS shall ensure that the terms of this PA are met and implemented prior to issuing notice to proceed for construction along any given phase or area of the Project. Notice to proceed may be given for a construction segment, or area of the Project, while the implementation and meeting of terms on other construction segments remain on-going.¹ RUS will not issue the notice to proceed until after consultation with the appropriate parties.

II. PROFESSIONAL STANDARDS

- A. The archaeological and historical studies and work required under the terms of this PA shall be carried out by, or under the supervision of, a professional who, at a minimum, meets the Secretary of the Interior's Professional Qualifications Standards (i.e., SOI qualified; 48 Federal Register [FR] 44716, September 29, 1983) in archeology, history, cultural anthropology, architectural history, or historic landscape architecture, as appropriate.
- B. RUS acknowledges that Indian tribes have special expertise in evaluating the eligibility of historic properties that may possess religious and cultural significance for them (36 CFR Part 800.4[c][1]). Thus, tribal representatives who may comment on or participate in the identification and evaluation of historic properties of religious and cultural significance to a tribe will be determined by the tribes.
- C. Any archaeologist proposing to excavate on USFWS lands must obtain a Special Use Permit and Archaeological Resources Protection Act (ARPA) permit from the USFWS.
- D. Any archaeologist proposing to excavate on USACE lands must obtain an ARPA permit from the USACE.

¹ The term "construction segment" can be used interchangeably with the term "phase" as defined in 36 CFR Part 800.4.

- E. Any archaeologist proposing to conduct archaeological investigations on non-federal, publicly owned land in Wisconsin must obtain a Public Lands Field Archaeological Permit prior to initiation of investigations (Wisconsin Statute § 44.47).
- F. Any archaeologist proposing to conduct archaeological investigations on non-federal, publicly owned land in Iowa will use the best practices, recommendations, and guidance provided in the *Association of Iowa Archaeologists Guidelines* (September 23, 2017; revised November 12, 2018).

III. IDENTIFICATION AND EVALUATION

- A. Identification: In accordance with 36 CFR Part 800.4(a) and (b)(1), RUS will consult with the Consulting Parties to identify the appropriate scope and level of effort needed to identify historic properties, including those to which Indian tribes attach traditional religious and cultural significance. The scope and level of effort for the identification effort shall meet the reasonable and good faith regulatory standard (36 CFR Part 800.4[b][1]) and be guided by the findings of the reports listed in Appendix B.
 - 1. In determining the level of effort for additional identification studies, RUS shall be guided by:
 - a) The ACHP's guidance on conducting archaeology under Section 106 (January 1, 2009);
 - b) Applicable guidance from the Consulting Parties including state-specific cultural resource guidelines of the Wisconsin Historical Society and IA SHPO cited at Stipulation III.A.3(b);
 - c) The Secretary of the Interior's Standard and Guidelines for Archeology and Historic Preservation (48 FR 44716–44742, September 29, 1983); and
 - d) Applicable professional, state, tribal, and local laws, standards, and guidelines as recommended in ACHP's *Meeting the "Reasonable and Good Faith" Identification Standard in Section 106 Review* (2018).
 - 2. RUS shall seek agreement with the Consulting Parties on the scope and level of effort of any proposed identification studies for phased identification and evaluation (36 CFR Part 800.4[b][2]). When RUS determines that a proposed identification study meets the reasonable and good faith regulatory standard, it shall advise the Utilities in writing to implement the approved study.
 - 3. Upon completion of identification studies and analyses, the Utilities shall submit a series of draft survey reports to RUS for review and approval. These reports shall pertain to previously identified and RUS-approved phases or construction segments of the Project (per Stipulation I.B) pursuant to 36 CFR Part 800.4(b)(2), 36 CFR Part 800.5(a)(3), and 36 CFR Part 800.14. Reports shall describe the findings of each identification study. RUS may aggregate multiple reviews within one funding package and independently review each for Section 106 as information becomes available prior to construction.
 - a) The draft survey reports shall include a summary of investigations conducted as well as a map or maps showing the APE, the ROW along with the location of cultural resources, and investigations conducted. The draft reports shall also summarize identified cultural resources and contain evaluations and recommendations of eligibility for the NRHP for identified cultural resources; identify those resources for which additional study may be needed; evaluate the potential effects of the Project on historic properties (per Stipulation III.B.2–4); and make resource management recommendations, including measures for avoidance, mitigation, or treatment of potential adverse effects from the Project on historic properties (per Stipulation IV).

- i) Evaluations of NRHP eligibility shall include a description of the resource being evaluated, a description of the applicable historic context(s) and measures of significance within each context, an explanation of why the NRHP criteria are or are not met, and a map or maps to show the geographic relationship between the resource and the APE.
 - b) In Iowa, reports will be consistent with best practices outlined in the Association of Iowa Archaeologists' *Guidelines for Archaeological Investigation in Iowa (2018)* and in Wisconsin, reports will be consistent with *The Guide for Public Archeology in Wisconsin (2012)* and the *Survey Manual (n.d.)* for historic and architectural studies.
 - c) If RUS finds the draft survey reports acceptable, RUS shall submit the identification report to the Consulting Parties, who shall have thirty (30) days from receipt to provide written comments to RUS on the draft report. RUS shall ensure that written comments submitted in a timely manner are considered by the Utilities in preparation of the final identification report.
4. Identification on state and private lands must be conducted by an SOI-qualified professional or a qualified tribal professional through a literature review, records search, or cultural resources report of the Project APE to identify NRHP-listed or eligible properties.
 5. Identification on federal land shall follow the processes required by the federal entity.

B. Evaluation:

1. Determination of Eligibility:
 - a) RUS and the Consulting Parties may agree to treat a property as eligible for the NRHP pursuant to 36 CFR Part 800.4(c)(2). Should a Consulting Party disagree, RUS shall:
 - i) Elect to consult further with the objecting party until the objection is resolved;
 - ii) If there is a dispute, RUS will request a determination of eligibility from the Keeper of the NRHP in accordance with 36 CFR Part 63.2(d) and (e) and 36 CFR Part 800.4(c)(2). The Keeper's determination of eligibility shall be final.
2. Finding of No Historic Properties Affected:
 - a) RUS shall make a finding of "no historic properties affected" under the following circumstances:
 - i) If no historic properties are present in the APE; or
 - ii) The Project is designed to avoid effects to historic properties.
 - b) RUS shall notify the Consulting Parties of its finding and provide supporting documentation in accordance with 36 CFR Part 800.11(d). Unless a Consulting Party objects to the finding within thirty (30) calendar days, Section 106 review of the undertaking will have concluded.
 - c) If a Consulting Party objects to a finding of no historic properties affected, RUS shall work with that Consulting Party to resolve the disagreement.
 - d) If the objection is resolved, RUS either may proceed with the Project in accordance with the resolution, or reconsider effects on the historic property by applying the criteria of adverse effect.

- e) If RUS is unable to resolve the disagreement, it will forward the finding and supporting documentation to the ACHP and request that the ACHP review RUS's finding in accordance with 36 CFR Part 800.4(d)(1)(iv)(A) through 36 CFR Part 800.4(d)(1)(iv)(C). RUS shall consider the ACHP's recommendation in making its final determination. If RUS's final determination is to reaffirm its no historic properties affected finding, Section 106 review of the Project will have concluded with written notification to the Signatories. Otherwise, RUS will proceed to application of the criteria of adverse effect.

3. Application of the Criteria of Adverse Effect(s)

- a) If RUS finds the Project may affect historic properties in the APE, RUS shall apply the criteria of adverse effect(s) to these properties, considering the views of the Consulting Parties concerning effects in accordance with 36 CFR Part 800.5(a).
- b) If RUS determines that the Project does not meet the adverse effect criteria, RUS shall propose a finding of "no adverse effect(s)" in accordance with 36 CFR Part 800.5(b).
- c) RUS shall notify the Consulting Parties of its finding and provide supporting documentation pursuant to 36 CFR Part 800.11(e).
- d) Unless a Consulting Party disputes within thirty (30) days, RUS will proceed with its no adverse effect(s) determination and conclude the Section 106 review.
 - i) If a Consulting Party objects to a finding of no adverse effect(s), RUS will consult with the objecting party to resolve the disagreement.
 - a. If the dispute is resolved, RUS shall proceed with the Project in accordance with the resolution; or
 - b. If the dispute cannot be resolved, RUS shall request that the ACHP review the findings in accordance with 36 CFR Part 800.5(c)(3)(i)–(ii) and submit the required supporting documentation. RUS shall consider the ACHP's comments in making its final determination.
- e) If RUS finds the Project may adversely affect historic properties, RUS shall encourage the Utilities to revise the scope of work to avoid or minimize adverse effects for NRHP-listed or eligible properties.
 - i) If the Utilities modify the scope of work to avoid the adverse effect(s), RUS shall notify the Consulting Parties and provide supporting documentation. Unless a Consulting Party objects in thirty (30) calendar days, RUS shall proceed with its "no adverse effect(s)" determination, including any conditions, and conclude the Section 106 review.
- f) RUS and the Consulting Parties may agree to using a monitor to avoid the adverse effect(s). RUS shall then proceed with its "no adverse effect(s)" determination, concluding the Section 106 review once a Monitoring Plan (MP) has been approved by the Consulting Parties.
 - i) An MP would be developed for each applicable construction segment of the Project, as identification and evaluation occurs, as appropriate, and as needed.
- g) If the Project is not or cannot be modified to avoid the adverse effect(s), RUS shall initiate consultation to resolve the adverse effect(s).

4. Resolution of Adverse Effect(s)

- a) If RUS determines that the Project may adversely affect a historic property, it shall resolve the effect(s) of the Project in consultation with the Consulting Parties.
 - i) RUS shall propose in writing the implementation of a specific or combination of treatment measures with the intent of expediting the resolution of adverse effect(s), and provide documentation as required by 36 CFR Part 800.11(e), and subject to the confidentiality provisions of 36 CFR Part 800.11(c). Unless a Consulting Party or the ACHP objects within thirty (30) calendar days of receipt of RUS's proposal, RUS shall proceed with the implementation of the treatment measure(s) and will conclude the Section 106 review.
 - ii) If any of the Consulting Parties or the ACHP objects within thirty (30) calendar days, RUS shall resolve the adverse effect(s) using a Memorandum of Agreement (MOA).
 - a. RUS shall provide the ACHP with an adverse effect(s) notice in accordance with 36 CFR Part 800.6(a)(1) if it has not already provided such.
 - b. For construction segments of the Project on federal land, the federal entity(ies) will be signatories or invited signatories to the MOA unless they decline to do so.
 - c. RUS, the Consulting Parties, and the ACHP (if participating) shall develop a MOA in accordance with 36 CFR Part 800.6(c) to agree upon treatment measures to avoid, minimize, and/or mitigate adverse effect(s) on NRHP-listed or eligible properties.

IV. MITIGATION

- A. Mitigation: RUS shall consult with the Consulting Parties in accordance with 36 CFR Part 800.6(a) to identify the appropriate measures that are in the public interest to avoid, minimize, or mitigate adverse effects to historic properties.
 - 1. Avoidance: RUS, in working with the Consulting Parties, shall use the information contained in identification studies to identify measures that would avoid adverse effects to historic properties. Whenever deemed feasible by RUS, avoidance of adverse effects to historic properties shall be the preferred treatment. RUS will seek agreement with the Consulting Parties on avoidance measures. The Utilities shall incorporate those avoidance measures deemed prudent and feasible by RUS into the Project plans and specifications for, and implementation of, Project construction and development.
 - 2. Monitoring: SOI-qualified monitors may be employed where undisturbed intact archaeological deposits are believed to be located as indicated by tribal expertise, an inventory or records search, and natural topography. An MP must be developed for review and comment by RUS and the Consulting Parties prior to the implementation of monitoring. The MP will be developed, as appropriate, for each applicable construction segment as identification and evaluation occurs at that segment and as needed per Stipulation III.B.3(f). The MP must include steps for reinitiating the Section 106 process in the event of inadvertent discoveries.
 - a) As the Project proponents, the Utilities would be responsible for costs associated with monitoring.
 - 3. Treatment: When agreement between RUS and the Consulting Parties can be reached on how to resolve a finding of adverse effect, the Utilities shall prepare a Treatment Plan describing the measures to be carried out, the manner in which they will be carried out, and a schedule for their implementation.

- a) Resolutions of adverse effect do not have to be limited to data recovery. However, when mitigation will consist of or include data recovery, the Treatment Plan will identify the specific research questions to be addressed by data recovery with an explanation of their relevance, the archaeological or other research methods to be used, and any provisions for public interpretation and education subject to restrictions established by 36 CFR Part 800.6(a)(5).
- b) The Utilities shall submit the Treatment Plan to RUS and the Federal Agencies, as appropriate, for review and approval.
- c) Prior to granting approval, RUS and the Federal Agencies, as appropriate, shall submit the Treatment Plan to SHPOs and tribes for review. The reviewing parties shall have thirty (30) days from their receipt of the Treatment Plan to submit written comments. RUS shall ensure that timely comments and recommendations submitted by the reviewing parties are considered in the Treatment Plan.
- d) Considering timely comments and recommendations by reviewing parties, the Utilities will revise and submit a finalized Treatment Plan to RUS and the Federal Agencies, as appropriate, for approval. When approvable without further request for revision is reached by RUS and the Federal Agencies, as appropriate, RUS or the appropriate Federal Agencies shall distribute the final Treatment Plan to all Consulting Parties for concurrence. Consulting Parties are to provide comments to the final Treatment Plan within thirty (30) calendar days, after which point the Treatment Plan development process will be concluded.
- e) RUS shall ensure that the Utilities implement the approved Treatment Plan prior to beginning any construction activities in areas with the potential to adversely affect NRHP-eligible properties.

V. CURATION

- A. The Utilities will provide private landowners with the opportunity to donate material resulting from identification and data recovery efforts to facilities that comply with the standards in 36 CFR Part 79. If private landowners decline to donate materials, the Utilities shall return all artifacts and materials recovered through implementation of the terms of this PA to the respective landowner.
 - 1. In Iowa, material remains recovered from privately owned land and which will not be curated per the landowner's request will only be returned to the private landowner(s) following documentation and analysis and once RUS and the IA SHPO have completed their review of the related Project report(s) and the Project is complete, in accordance with the *Association of Iowa Archaeologists Guidelines*, Chapter 4, Part 3: Curation, and with Part
- B. In accordance with USACE policy, collections removed from Rock Island District fee title land will be housed at the Mississippi Valley Division's Central Regional Center. Illinois State Museum's Research and Collections Center was awarded the Central Regional Center Contract in 2017 and continues to maintain this contract. Intake of new collections at the Illinois State Museum should be coordinated through the Mandatory Center of Expertise for the Curation and Management of Archaeological collections in the St. Louis District.
- C. Any material remains (36 CFR Part 79.4[a][1]) removed from federal land that are not subject to the Native American Graves Protection and Repatriation Act (NAGPRA) and their associated records (36 CFR Part 79.4[a][2]) will be curated in accordance with 36 CFR Part 79, *Curation of Federally Owned and Administered Archaeological Collections*.

- D. Any material remains removed from non-federal, publicly owned land in Wisconsin will be curated in accordance with Wisconsin Statute § 44.47 (Field Archaeology). In addition,

- E. Any material remains removed from non-federal, publicly owned land in Iowa and their associated records will be curated in accordance with the best practices and guidelines stipulated in the *Association of Iowa Archaeologists Guidelines*, Chapter 4, Part 3: Curation, and with

Office of the State Archaeologist (

VI. CONSTRUCTION MONITORING

The Utilities will use resource specialists approved by the Consulting Parties to monitor construction activities within immediate proximity to properties of traditional religious and cultural importance to Indian tribes identified in accordance with the terms of this PA, where such properties are in the APE and activities are of types that might result in adverse effect from the Project. Historic properties or inadvertent discoveries identified during construction or construction monitoring shall be treated in accordance with Stipulation VIII.

VII. CONFIDENTIALITY

RUS and the Consulting Parties shall protect information about historic properties to the extent allowed by Section 304 of the NHPA (54 USC § 307103), 36 CFR Part 800.11(c), and other applicable state and local laws. This will include specifically protecting information on properties of traditional religious and cultural significance to Indian tribes to which the Consulting Parties may become privy, including protecting location information or information provided by Indian tribes to assist in the identification of such properties.

VIII. POST-REVIEW UNANTICIPATED DISCOVERIES

- A. Inadvertent discoveries on state and private land shall comply with applicable state notification standards, federal laws, 36 CFR Part 800.13, and the ACHP's *Policy Statement Regarding Treatment of Burial Sites, Human Remains, or Funerary Objects* (February 23, 2007). The Utilities shall ensure that their contractors maintain a copy of the inadvertent discoveries plan onsite for review.
 - 1. If cultural materials are discovered by construction crew members or environmental monitors that might indicate the presence of a past human activity or a cultural site that is of historic or ancient age (or 50 years old or older), all work, including vehicular traffic, must immediately stop within a 50-foot radius of the discovery.
 - 2. If discoveries are made that contain burial sites or human remains, all work, including vehicular traffic, must immediately stop within a 100-foot radius of the discovery.
 - 3. For all discoveries, work must also stop in the surrounding area where further historic properties, subsurface burial sites, or human remains can reasonably be expected to occur.
 - 4. Stoppage of work for discoveries will be the responsibility of the Project-affiliated personnel making the discovery in coordination with other Project workers at the discovery site and supervisors overseeing the on-site work, and in communication with the appropriate representative(s) of the Utilities. During Project construction and development, personnel working on site will be directed, informed, and authorized by the Utilities to protect discoveries following the procedures of this PA.

5. Within 24 hours of receiving notification of an inadvertent discovery, the Utilities shall notify appropriate local authorities and RUS, and RUS will have the work site inspected to ensure that all work, including vehicular traffic, has ceased, and to protect the area of discovery from looting and vandalism.
6. All archaeologists or other specialists, as appropriate, employed in response to inadvertent discoveries will be SOI-qualified, meet the state requirements for treatment of burials (as appropriate), and have the knowledge to assess the resources within the Project's APE. RUS and the Utilities will determine the NRHP eligibility of the archaeological resource in consultation with SHPOs, and other stakeholders as necessary.
7. Work may continue in other areas of the undertaking where no historic properties, burial sites, or human remains are present. If the inadvertent discovery appears to be a consequence of illegal activity such as looting, the onsite personnel will contact the appropriate legal authorities immediately if the landowner has not already done so.
8. Work may not resume in the area of the discovery until a notice to proceed has been issued by RUS. RUS will not issue the notice to proceed until it has determined that the appropriate state and local protocols have been satisfied and Consulting Parties have been consulted.

B. Treatment of Human Remains

1. RUS and the Utilities are committed and will make every effort to protect and preserve all human remains, including cemeteries, prehistoric graves, and isolated elements, during construction and maintenance activities associated with the Project (supported by the sources in Appendix C). A curation and preservation plan, including the opportunity for preservation in place, will be developed with RUS and Consulting Parties.
2. If a discovery containing human remains is located, treatment of human remains (and related grave goods or burial materials) will comply with NAGPRA (25 USC § 3001 et. seq.) and its implementing regulations (43 CFR Part 10). NAGPRA specifically applies to human remains and related items located on federal and tribal lands or in the possession or control of any institution or state or local government receiving federal funds (NAGPRA 43 CFR Part 10.1[b][ii]).
 - a) If Native American human remains or funerary objects are discovered during the Project on land owned by a federal agency, the Utilities will notify RUS, and RUS has the responsibility for complying with applicable federal laws.
 - b) RUS must notify the SHPOs and, in Iowa, the OSA, of all discoveries of Native American human remains or funerary objects.
 - c) RUS must also notify consulting tribes and may notify tribes that have indicated interest in the Project Section 106 Process (Appendix D) and tribes that have been invited to consult on the Project (see Appendix A) of all discoveries of Native American human remains or funerary objects. Notifications of such discoveries may not be limited to consulting tribes.
3. In Wisconsin, the Utilities will implement the procedures below immediately upon receipt of notification of the inadvertent discoveries of human remains and objects associated with the burial.
 - a) If human remains are discovered at any point during the course of the Project, all work must immediately stop within a 100-foot radius of the remains. Onsite personnel will immediately notify the WI SHPO via a toll-free telephone number (1-800-342-7834) and the relevant law enforcement authorities (county coroner or medical examiner; Appendix

E), in accordance with tribal, state, or local laws. If the WI SHPO and law enforcement determines the remains to not be part of a criminal investigation or a crime scene, the Utilities will notify RUS.

- b) Per 36 CFR Part 800.13(b)(3), RUS, as the lead federal agency, will notify the appropriate Consulting Parties and

ACHP,

Consulting Parties

Consulting Parties

- c) The evaluation of human remains will be conducted at the site of discovery by a WI SHPO-qualified archaeologist (Appendix F). Remains that have been removed from their primary context and where that context may be in question may be retained in a secure location, pending further decisions on treatment and disposition.
- d) Suspected human remains shall not be further disturbed or removed until analysis and cataloging can take place. If the remains are removed, disposition will be determined by the WI SHPO and transferred to the
consistent with the requirements put forth in Wisconsin Statute Chapter 157.70, Subchapter III (Appendix G). No remains in a non-forensic situation (not a crime scene) will be removed prior to the WI SHPO issuing a contract to a WI SHPO-qualified archaeologist (see Appendix F) and signed by the landowner that establishes a timeline and procedures for removal of the remains, analysis of the remains (Appendix H), and submittal of a final report to the WI SHPO. As the Project proponents, the Utilities would be responsible for costs associated with analysis, cataloging, and removal, as appropriate, of human remains and the associated reporting required by WI SHPO.
- e) Construction may not resume in the area of discovery until authorization from the WI SHPO has been received.
- f) In Wisconsin, if discovery of human remains, or disturbance of a burial site or the catalogued land contiguous to a catalogued burial site are not reported, then penalties stated in Wisconsin Statute Chapter 157.70, Subchapter III Section 10 would apply.
4. In Iowa, upon discovery of human remains during construction, including bone or other remains suspected to be human, work shall immediately cease in the area. If there is uncertainty as to whether remains are human, the OSA Bioarchaeology Program should be contacted to make the determination. The following steps are to be taken any time human remains are unearthed, or other artifacts associated with mortuary features are found during Project construction or maintenance activities in Iowa.
- a) Appropriate steps shall be taken to secure the site. No additional ground disturbance shall occur within a 100-foot buffer zone around the remains. All elements exposed must be left in place. Officials with RUS, the OSA Bioarchaeology Program (if not already notified), SHPO, and appropriate tribes will be notified within 24 hours via email, fax, or telephone. Law enforcement officials and the State Medical Examiner (SME) (see Appendix E) must also be notified in accordance with Section 523I.316 of the Iowa Code (Appendix I). The SME will coordinate with OSA to conduct osteological and archaeological documentation and establish the antiquity, ancestry, and cultural affiliation as possible of the human

remains. If ancestry or cultural affiliation cannot be determined, the remains would be considered culturally unidentifiable under NAGPRA (43 CFR Part 10.11) and therefore subject to reburial in consultation with the OSA Indian Advisory Council and the 26 tribes signing on to the SOI-approved *Process for Reburial of Culturally Unidentifiable Native American Human Remains and Associated Funerary Objects Originating from Iowa*.

- b) If the human remains are determined or appear to be ancient (i.e., older than 150 years) the OSA Bioarchaeology Program shall have jurisdiction to ensure that the appropriate procedures in accordance with Chapters 263B and 716.5 of Iowa Code are observed (see Appendix I). The Iowa Department of Public Health has authority over human remains less than 150 years old per Iowa Code Chapters 113.34, 144.34, 523I.316, and 716.5.
 - c) If determined to be ancient and of Native American ancestry, representatives of RUS, OSA, SHPO, and the appropriate tribes and tribal nations will confer at the site, as is necessary, to examine the discovery, determine the likely Project impacts if left in place, and determine the most appropriate avoidance, minimization, or mitigation measure(s) for dealing with the discovery.
 - d) If determined to be ancient and of European American ancestry, representatives of RUS, OSA, SHPO, and identifiable descendant community(ies) will confer and determine appropriate measures for avoidance, minimization, or mitigation.
 - e) If determined to be less than 150 years in age and of Native American ancestry but not of medico-legal significance, the SME will be requested to confer with RUS, OSA, SHPO, and appropriate tribes concerning compliance with NAGPRA and other applicable state and federal laws.
5. At all times, human remains must be treated with the utmost dignity and respect, and in a manner consistent with the ACHP's *Policy Statement on the Treatment of Human Remains, Burial Sites and Funerary Objects* (February 23, 2007).
- C. The Utilities shall ensure that the requirements of Stipulation VIII are incorporated into all construction contracts and are in keeping with confidentiality restrictions imposed by Stipulation VII.

IX. REPORTING

- A. At end of each calendar year, following the execution of this PA and until construction is complete, the Utilities shall submit a written report to RUS and the other Consulting Parties describing progress on implementation of the terms of this PA, the development of construction plans and specifications, construction completed during the period covered by the report, mitigation measures that have been implemented, the schedule for completion of mitigation, the treatment of any post-review discoveries pursuant to Stipulation VIII, scheduling changes proposed, problems encountered and of relevance to this PA, and disputes addressed pursuant to Stipulation X. This report may be submitted electronically to RUS and the Consulting Parties. The report will be submitted to the WI and IA SHPOs in both hard copy (two copies) and digitally (PDF).

X. DISPUTE RESOLUTION

- A. Should any signatory to this PA object in writing at any time to any actions proposed or the manner in which the terms of this PA are implemented, RUS will consult with such party to resolve the objection. If RUS determines that the objection cannot be resolved, RUS will:
 - 1. Forward all documentation relevant to the dispute, including the resolution proposed by RUS, to the ACHP. The ACHP shall provide RUS with its advice on the resolution of the objection

within thirty (30) days of receiving adequate documentation. Prior to reaching a final decision on the dispute, RUS shall prepare a written response that considers any timely advice or comments regarding the dispute from the signatories and provide ACHP with a copy of this written response. RUS will then proceed according to its final decision.

2. If the ACHP does not provide its advice regarding the dispute within thirty (30) days, RUS may make a final decision on the dispute and proceed accordingly. Prior to reaching such a final decision RUS shall prepare a written response that considers any timely comments regarding the dispute from the signatories to the PA and provide these parties and the ACHP with a copy of such written response.
- B. The responsibility of RUS to carry out all other actions subject to the terms of this PA that are not the subject of the dispute remain unchanged.
- C. If at any time during the implementation of the measures stipulated in this PA an objection should be raised by the public, RUS will notify the signatories to this PA and consult with the objecting party to seek resolution. If RUS determines that the objection cannot be resolved, RUS will seek the advice or comment of ACHP in accordance with Stipulation X.A.

XI. DURATION

- A. The term of this PA shall be ten (10) years from the date of execution by the signatories unless the signatories agree to extend its term.
- B. Six (6) months prior to the date on which the PA will expire, the Utilities shall notify RUS and the other Consulting Parties of the impending expiration. RUS may consult with all Consulting Parties to reconsider the terms of the PA and amend it in accordance with Stipulation XII. RUS shall notify these parties as to the course to be pursued.

XII. AMENDMENT

This PA may be amended when such an amendment is agreed to in writing by all signatories. The amendment will be effective on the date it is executed by the signatories and filed with ACHP.

XIII. TERMINATION

- A. If any signatory to this PA determines that its terms will not or cannot be carried out, that party shall immediately consult with the other parties to attempt to develop an amendment per Stipulation XII. If, within thirty (30) days, an amendment cannot be reached, any signatory may terminate the PA upon written notification to the other signatories.
- B. Once the PA is terminated, and prior to work continuing on the Project, RUS must either a) execute an agreement pursuant to 36 CFR Part 800.6, or b) request, consider, and respond to the comments of ACHP under 36 CFR Part 800.7. RUS shall notify the signatories as to the course of action it will pursue.

XIV COORDINATION WITH OTHER FEDERAL REVIEWS

In the event that another federal agency not initially a party to or subject to this PA receives an application for funding/license/permit for the undertaking as described in this PA, that agency may fulfill its Section 106 responsibilities by stating in writing it concurs with the terms of this PA and notifying RUS, IA SHPO, WI SHPO, and the ACHP that it intends to do so. Such agreement shall be evidenced by implementation of the terms of this PA and attachments.

XV EXECUTION IN COUNTERPART

This PA may be executed in counterparts, with a separate page for each signatory. RUS will ensure that each party is provided with a copy of the fully executed PA.

EXECUTION of this PA and implementation of its terms is evidence that RUS and the Federal Agencies have considered the effects of the Project on historic properties and have afforded ACHP a reasonable opportunity to comment.

Signatory Pages Follow

SIGNATORY PAGE

PROGRAMMATIC AGREEMENT BETWEEN THE U.S. DEPARTMENT OF AGRICULTURE-
RURAL UTILITIES SERVICE, IOWA STATE HISTORIC PRESERVATION OFFICE, WISCONSIN
HISTORICAL SOCIETY, AND ADVISORY COUNCIL ON HISTORIC PRESERVATION
REGARDING THE CARDINAL-HICKORY CREEK 345-KV TRANSMISSION LINE PROJECT IN
CLAYTON AND DUBUQUE COUNTIES, IOWA, AND DANE, GRANT, IOWA, AND LAFAYETTE
COUNTIES, WISCONSIN

SIGNATORY(IES):

U.S. Department of Agriculture, Rural Utilities Service

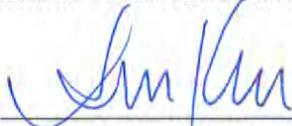
Signature:  Date: 10-01-2019
Director, Engineering and Environmental Staff, Water and Environmental Programs

SIGNATORY

PROGRAMMATIC AGREEMENT BETWEEN THE U.S. DEPARTMENT OF AGRICULTURE-
RURAL UTILITIES SERVICE, IOWA STATE HISTORIC PRESERVATION OFFICE, WISCONSIN
HISTORICAL SOCIETY, AND ADVISORY COUNCIL ON HISTORIC PRESERVATION
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CLAYTON AND DUBUQUE COUNTIES, IOWA, AND DANE, GRANT, IOWA, AND LAFAYETTE
COUNTIES, WISCONSIN

SIGNATORY(IES):

Iowa State Historic Preservation Office

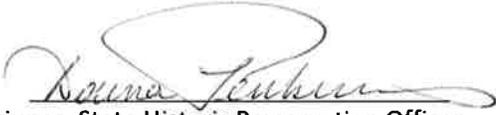
Signature:  Date: 10/9/2019
Susan Kloewer, Administrator, State Historical Society of Iowa / State Historic Preservation Officer

SIGNATORY

**PROGRAMMATIC AGREEMENT BETWEEN THE U.S. DEPARTMENT OF AGRICULTURE-
RURAL UTILITIES SERVICE, IOWA STATE HISTORIC PRESERVATION OFFICE, WISCONSIN
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CLAYTON AND DUBUQUE COUNTIES, IOWA, AND DANE, GRANT, IOWA, AND LAFAYETTE
COUNTIES, WISCONSIN**

SIGNATORY(IES):

Wisconsin State Historic Preservation Office

Signature:  Date: 10/8/2019
Daina Penkiunas, State Historic Preservation Officer

SIGNATORY

PROGRAMMATIC AGREEMENT BETWEEN THE U.S. DEPARTMENT OF AGRICULTURE-
RURAL UTILITIES SERVICE, IOWA STATE HISTORIC PRESERVATION OFFICE, WISCONSIN
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CLAYTON AND DUBUQUE COUNTIES, IOWA, AND DANE, GRANT, IOWA, AND LAFAYETTE
COUNTIES, WISCONSIN

SIGNATORY(IES):

Advisory Council on Historic Preservation

Signature: 
for John M. Fowler, Executive Director, ACHP

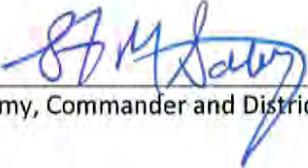
Date: 10-9-2019

INVITED SIGNATORY

PROGRAMMATIC AGREEMENT BETWEEN THE U.S. DEPARTMENT OF AGRICULTURE–
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CLAYTON AND DUBUQUE COUNTIES, IOWA, AND DANE, GRANT, IOWA, AND LAFAYETTE
COUNTIES, WISCONSIN

INVITED SIGNATORIES:

U.S. Army Corps of Engineers

Signature: 
Colonel, U.S. Army, Commander and District Engineer

Date: 10 October 2019

INVITED SIGNATORY

PROGRAMMATIC AGREEMENT BETWEEN THE U.S. DEPARTMENT OF AGRICULTURE–
RURAL UTILITIES SERVICE, IOWA STATE HISTORIC PRESERVATION OFFICE, WISCONSIN
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CLAYTON AND DUBUQUE COUNTIES, IOWA, AND DANE, GRANT, IOWA, AND LAFAYETTE
COUNTIES, WISCONSIN

INVITED SIGNATORIES:

U.S. Fish and Wildlife Service

Signature:  Date: 10/8/2019
Suzanne Baird, Acting Regional Chief, National Wildlife Refuge System

INVITED SIGNATORY

**PROGRAMMATIC AGREEMENT BETWEEN THE U.S. DEPARTMENT OF AGRICULTURE-
RURAL UTILITIES SERVICE, IOWA STATE HISTORIC PRESERVATION OFFICE, WISCONSIN
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CLAYTON AND DUBUQUE COUNTIES, IOWA, AND DANE, GRANT, IOWA, AND LAFAYETTE
COUNTIES, WISCONSIN**

INVITED SIGNATORIES:

University of Iowa Office of the State Archaeologist

Signature: 
John Doershuk, State Archaeologist / Director

Date: 10-3-2019

INVITED SIGNATORY

PROGRAMMATIC AGREEMENT BETWEEN THE U.S. DEPARTMENT OF AGRICULTURE–
RURAL UTILITIES SERVICE, IOWA STATE HISTORIC PRESERVATION OFFICE, WISCONSIN
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CLAYTON AND DUBUQUE COUNTIES, IOWA, AND DANE, GRANT, IOWA, AND LAFAYETTE
COUNTIES, WISCONSIN

INVITED SIGNATORIES:

Public Service Commission of Wisconsin

Signature:

Cynthia Smith, Chief Legal Counsel



Date:

10/9/2019

INVITED SIGNATORY

**PROGRAMMATIC AGREEMENT BETWEEN THE U.S. DEPARTMENT OF AGRICULTURE–
RURAL UTILITIES SERVICE, IOWA STATE HISTORIC PRESERVATION OFFICE, WISCONSIN
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CLAYTON AND DUBUQUE COUNTIES, IOWA, AND DANE, GRANT, IOWA, AND LAFAYETTE
COUNTIES, WISCONSIN**

INVITED SIGNATORY(IES):

Dairyland Power Cooperative

Signature: Chuck Thompson Date: Oct 1, 2019
Chuck Thompson, Manager, Siting and Regulatory Affairs

INVITED SIGNATORY

**PROGRAMMATIC AGREEMENT BETWEEN THE U.S. DEPARTMENT OF AGRICULTURE–
RURAL UTILITIES SERVICE, IOWA STATE HISTORIC PRESERVATION OFFICE, WISCONSIN
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CLAYTON AND DUBUQUE COUNTIES, IOWA, AND DANE, GRANT, IOWA, AND LAFAYETTE
COUNTIES, WISCONSIN**

INVITED SIGNATORY(IES):

ATC Management Inc., Corporate Manager for American Transmission Company LLC

Signature: 
Amy Lee, Environmental Project Manager

Date: 10/3/19

INVITED SIGNATORY

**PROGRAMMATIC AGREEMENT BETWEEN THE U.S. DEPARTMENT OF AGRICULTURE–
RURAL UTILITIES SERVICE, IOWA STATE HISTORIC PRESERVATION OFFICE, WISCONSIN
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CLAYTON AND DUBUQUE COUNTIES, IOWA, AND DANE, GRANT, IOWA, AND LAFAYETTE
COUNTIES, WISCONSIN**

INVITED SIGNATORY(IES):

ITC Midwest LLC, a Michigan limited liability company

By: ITC Holdings Corp., its sole member

Signature: _____ Date: _____
Dusky Terry, Vice President ITC Holdings Corp. & President ITC Midwest LLC

CONCURRING PARTY

**PROGRAMMATIC AGREEMENT BETWEEN THE U.S. DEPARTMENT OF AGRICULTURE–
RURAL UTILITIES SERVICE, IOWA STATE HISTORIC PRESERVATION OFFICE, WISCONSIN
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CLAYTON AND DUBUQUE COUNTIES, IOWA, AND DANE, GRANT, IOWA, AND LAFAYETTE
COUNTIES, WISCONSIN**

CONCURRING PARTY(IES):

Flandreau Santee Sioux

Signature: _____
[Insert name and title]

Date: _____

CONCURRING PARTY

PROGRAMMATIC AGREEMENT BETWEEN THE U.S. DEPARTMENT OF AGRICULTURE-
RURAL UTILITIES SERVICE, IOWA STATE HISTORIC PRESERVATION OFFICE, WISCONSIN
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CLAYTON AND DUBUQUE COUNTIES, IOWA, AND DANE, GRANT, IOWA, AND LAFAYETTE
COUNTIES, WISCONSIN

CONCURRING PARTY(IES):

Ho-Chunk Nation

William Quackenbush

Signature:  Date: 10 09 2019
[Insert name and title] *Tribal Historic Preservation Officer*

CONCURRING PARTY

**PROGRAMMATIC AGREEMENT BETWEEN THE U.S. DEPARTMENT OF AGRICULTURE–
RURAL UTILITIES SERVICE, IOWA STATE HISTORIC PRESERVATION OFFICE, WISCONSIN
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CLAYTON AND DUBUQUE COUNTIES, IOWA, AND DANE, GRANT, IOWA, AND LAFAYETTE
COUNTIES, WISCONSIN**

CONCURRING PARTY(IES):

Iowa Tribe of Kansas and Nebraska

Signature: _____
[Insert name and title]

Date: _____

CONCURRING PARTY

**PROGRAMMATIC AGREEMENT BETWEEN THE U.S. DEPARTMENT OF AGRICULTURE–
RURAL UTILITIES SERVICE, IOWA STATE HISTORIC PRESERVATION OFFICE, WISCONSIN
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CLAYTON AND DUBUQUE COUNTIES, IOWA, AND DANE, GRANT, IOWA, AND LAFAYETTE
COUNTIES, WISCONSIN**

CONCURRING PARTY(IES):

Leech Lake Band of Ojibwe

Signature: _____
[Insert name and title]

Date: _____

CONCURRING PARTY

**PROGRAMMATIC AGREEMENT BETWEEN THE U.S. DEPARTMENT OF AGRICULTURE–
RURAL UTILITIES SERVICE, IOWA STATE HISTORIC PRESERVATION OFFICE, WISCONSIN
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CLAYTON AND DUBUQUE COUNTIES, IOWA, AND DANE, GRANT, IOWA, AND LAFAYETTE
COUNTIES, WISCONSIN**

CONCURRING PARTY(IES):

Menominee Indian Tribe of Wisconsin

Signature: _____
[Insert name and title]

Date: _____

CONCURRING PARTY

**PROGRAMMATIC AGREEMENT BETWEEN THE U.S. DEPARTMENT OF AGRICULTURE–
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CLAYTON AND DUBUQUE COUNTIES, IOWA, AND DANE, GRANT, IOWA, AND LAFAYETTE
COUNTIES, WISCONSIN**

CONCURRING PARTY(IES):

Mille Lacs Band of Ojibwe Indians

Signature: _____
[Insert name and title]

Date: _____

CONCURRING PARTY

PROGRAMMATIC AGREEMENT BETWEEN THE U.S. DEPARTMENT OF AGRICULTURE–
RURAL UTILITIES SERVICE, IOWA STATE HISTORIC PRESERVATION OFFICE, WISCONSIN
HISTORICAL SOCIETY, AND ADVISORY COUNCIL ON HISTORIC PRESERVATION
REGARDING THE CARDINAL-HICKORY CREEK 345-KV TRANSMISSION LINE PROJECT IN
CLAYTON AND DUBUQUE COUNTIES, IOWA, AND DANE, GRANT, IOWA, AND LAFAYETTE
COUNTIES, WISCONSIN

CONCURRING PARTY(IES):

Otoe-Missouria Tribe

Signature: Elsie Whitehorn
Elsie Whitehorn, Tribal Historic Preservation Officer

Date: 10-1-2019

CONCURRING PARTY

**PROGRAMMATIC AGREEMENT BETWEEN THE U.S. DEPARTMENT OF AGRICULTURE–
RURAL UTILITIES SERVICE, IOWA STATE HISTORIC PRESERVATION OFFICE, WISCONSIN
HISTORICAL SOCIETY, AND ADVISORY COUNCIL ON HISTORIC PRESERVATION
REGARDING THE CARDINAL-HICKORY CREEK 345-KV TRANSMISSION LINE PROJECT IN
CLAYTON AND DUBUQUE COUNTIES, IOWA, AND DANE, GRANT, IOWA, AND LAFAYETTE
COUNTIES, WISCONSIN**

CONCURRING PARTY(IES):

Prairie Island Indian Community

Signature: _____
[Insert name and title]

Date: _____

CONCURRING PARTY

**PROGRAMMATIC AGREEMENT BETWEEN THE U.S. DEPARTMENT OF AGRICULTURE–
RURAL UTILITIES SERVICE, IOWA STATE HISTORIC PRESERVATION OFFICE, WISCONSIN
HISTORICAL SOCIETY, AND ADVISORY COUNCIL ON HISTORIC PRESERVATION
REGARDING THE CARDINAL-HICKORY CREEK 345-KV TRANSMISSION LINE PROJECT IN
CLAYTON AND DUBUQUE COUNTIES, IOWA, AND DANE, GRANT, IOWA, AND LAFAYETTE
COUNTIES, WISCONSIN**

CONCURRING PARTY(IES):

Rosebud Sioux Tribe

Signature: _____
[Insert name and title]

Date: _____

CONCURRING PARTY

**PROGRAMMATIC AGREEMENT BETWEEN THE U.S. DEPARTMENT OF AGRICULTURE–
RURAL UTILITIES SERVICE, IOWA STATE HISTORIC PRESERVATION OFFICE, WISCONSIN
HISTORICAL SOCIETY, AND ADVISORY COUNCIL ON HISTORIC PRESERVATION
REGARDING THE CARDINAL-HICKORY CREEK 345-KV TRANSMISSION LINE PROJECT IN
CLAYTON AND DUBUQUE COUNTIES, IOWA, AND DANE, GRANT, IOWA, AND LAFAYETTE
COUNTIES, WISCONSIN**

CONCURRING PARTY(IES):

Sac and Fox Tribe of the Mississippi in Iowa

Signature: _____
[Insert name and title]

Date: _____

CONCURRING PARTY

**PROGRAMMATIC AGREEMENT BETWEEN THE U.S. DEPARTMENT OF AGRICULTURE–
RURAL UTILITIES SERVICE, IOWA STATE HISTORIC PRESERVATION OFFICE, WISCONSIN
HISTORICAL SOCIETY, AND ADVISORY COUNCIL ON HISTORIC PRESERVATION
REGARDING THE CARDINAL-HICKORY CREEK 345-KV TRANSMISSION LINE PROJECT IN
CLAYTON AND DUBUQUE COUNTIES, IOWA, AND DANE, GRANT, IOWA, AND LAFAYETTE
COUNTIES, WISCONSIN**

CONCURRING PARTY(IES):

Saginaw Chippewa Indian Tribe of Michigan

Signature: _____
[Insert name and title]

Date: _____

CONCURRING PARTY

**PROGRAMMATIC AGREEMENT BETWEEN THE U.S. DEPARTMENT OF AGRICULTURE–
RURAL UTILITIES SERVICE, IOWA STATE HISTORIC PRESERVATION OFFICE, WISCONSIN
HISTORICAL SOCIETY, AND ADVISORY COUNCIL ON HISTORIC PRESERVATION
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CLAYTON AND DUBUQUE COUNTIES, IOWA, AND DANE, GRANT, IOWA, AND LAFAYETTE
COUNTIES, WISCONSIN**

CONCURRING PARTY(IES):

Shakopee Mdewakanton Sioux Community of Minnesota

Signature: _____ Date: _____
[Insert name and title]

CONCURRING PARTY

**PROGRAMMATIC AGREEMENT BETWEEN THE U.S. DEPARTMENT OF AGRICULTURE–
RURAL UTILITIES SERVICE, IOWA STATE HISTORIC PRESERVATION OFFICE, WISCONSIN
HISTORICAL SOCIETY, AND ADVISORY COUNCIL ON HISTORIC PRESERVATION
REGARDING THE CARDINAL-HICKORY CREEK 345-KV TRANSMISSION LINE PROJECT IN
CLAYTON AND DUBUQUE COUNTIES, IOWA, AND DANE, GRANT, IOWA, AND LAFAYETTE
COUNTIES, WISCONSIN**

CONCURRING PARTY(IES):

Spirit Lake Tribe

Signature: _____
[Insert name and title]

Date: _____

CONCURRING PARTY

**PROGRAMMATIC AGREEMENT BETWEEN THE U.S. DEPARTMENT OF AGRICULTURE–
RURAL UTILITIES SERVICE, IOWA STATE HISTORIC PRESERVATION OFFICE, WISCONSIN
HISTORICAL SOCIETY, AND ADVISORY COUNCIL ON HISTORIC PRESERVATION
REGARDING THE CARDINAL-HICKORY CREEK 345-KV TRANSMISSION LINE PROJECT IN
CLAYTON AND DUBUQUE COUNTIES, IOWA, AND DANE, GRANT, IOWA, AND LAFAYETTE
COUNTIES, WISCONSIN**

CONCURRING PARTY(IES):

Turtle Mountain Band of Chippewa Indians

Signature: _____
[Insert name and title]

Date: _____

CONCURRING PARTY

**PROGRAMMATIC AGREEMENT BETWEEN THE U.S. DEPARTMENT OF AGRICULTURE–
RURAL UTILITIES SERVICE, IOWA STATE HISTORIC PRESERVATION OFFICE, WISCONSIN
HISTORICAL SOCIETY, AND ADVISORY COUNCIL ON HISTORIC PRESERVATION
REGARDING THE CARDINAL-HICKORY CREEK 345-KV TRANSMISSION LINE PROJECT IN
CLAYTON AND DUBUQUE COUNTIES, IOWA, AND DANE, GRANT, IOWA, AND LAFAYETTE
COUNTIES, WISCONSIN**

CONCURRING PARTY(IES):

Upper Sioux Community of Minnesota

Signature: _____
[Insert name and title]

Date: _____

CONCURRING PARTY

**PROGRAMMATIC AGREEMENT BETWEEN THE U.S. DEPARTMENT OF AGRICULTURE–
RURAL UTILITIES SERVICE, IOWA STATE HISTORIC PRESERVATION OFFICE, WISCONSIN
HISTORICAL SOCIETY, AND ADVISORY COUNCIL ON HISTORIC PRESERVATION
REGARDING THE CARDINAL-HICKORY CREEK 345-KV TRANSMISSION LINE PROJECT IN
CLAYTON AND DUBUQUE COUNTIES, IOWA, AND DANE, GRANT, IOWA, AND LAFAYETTE
COUNTIES, WISCONSIN**

CONCURRING PARTY(IES):

Winnebago Tribe of Nebraska

Signature: _____
[Insert name and title]

Date: _____

CONCURRING PARTY

**PROGRAMMATIC AGREEMENT BETWEEN THE U.S. DEPARTMENT OF AGRICULTURE–
RURAL UTILITIES SERVICE, IOWA STATE HISTORIC PRESERVATION OFFICE, WISCONSIN
HISTORICAL SOCIETY, AND ADVISORY COUNCIL ON HISTORIC PRESERVATION
REGARDING THE CARDINAL-HICKORY CREEK 345-KV TRANSMISSION LINE PROJECT IN
CLAYTON AND DUBUQUE COUNTIES, IOWA, AND DANE, GRANT, IOWA, AND LAFAYETTE
COUNTIES, WISCONSIN**

CONCURRING PARTY(IES):

Yankton Sioux Tribe

Signature: _____
[Insert name and title]

Date: _____

Appendix A: Native American Tribes Invited to Consult

Absentee-Shawnee Tribe of Indians of Oklahoma	Kickapoo Traditional Tribe of Texas	Ponca Tribe of Oklahoma
Alabama-Quassarte Tribal Town	Kickapoo Tribe in Kansas	Prairie Band Potawatomi Nation
Apache Tribe of Oklahoma	Kickapoo Tribe of Oklahoma	Prairie Island Indian Community*
Bad River Band of Lake Superior Chippewa Indians of Wisconsin	Lac Courte Oreilles Band of Lake Superior Chippewa Indians of Wisconsin	Red Cliff Band of Lake Superior Chippewa Indians of Wisconsin
Bah Kho-je - Iowas of Oklahoma	Lac du Flambeau Band of Lake Superior Chippewa Indians of Wisconsin	Red Lake Band of Chippewa Indians
Bay Mills Indian Community	Lac Vieux Desert Band of Lake Superior Chippewa Indians of Michigan	Rosebud Sioux Tribe*
Bois Forte Band of Chippewa	Leech Lake Band of Ojibwe*	Sac and Fox Nation of Missouri in Kansas and Nebraska
Caddo Nation of Oklahoma	Little Traverse Bay Bands of Odawa Indians	Sac and Fox Nation of Oklahoma
Cayuga Nation of New York	Lower Brule Sioux Tribe	Sac and Fox Tribe of the Mississippi in Iowa*
Cherokee Nation	Lower Sioux Indian Community	Saginaw Chippewa Indian Tribe of Michigan*
Cheyenne and Arapaho Tribes of Oklahoma	Mendota Mdewakanton Dakota Community	Santee Sioux Tribe of Nebraska
Cheyenne River Sioux Tribe	Menominee Indian Tribe of Wisconsin*	Sault Ste. Marie Tribe of Chippewa Indians
Chippewa Cree Tribe of the Rocky Boy's Reservation of Montana	Miami Nation of Indians in Indiana	Shakopee Mdewakanton Sioux Community of Minnesota*
Citizen Potawatomi Nation	Miami Tribe of Oklahoma	Sisseton-Wahpeton Oyate
Crow Creek Sioux Tribe	Mille Lacs Band of Ojibwe Indians*	Sokaogon Chippewa Community of Wisconsin
Flandreau Santee Sioux Tribe*	Minnesota Chippewa Tribe	Spirit Lake Tribe*
Fond du Lac Band of Lake Superior Chippewa	Oglala Sioux Tribe	St. Croix Chippewa Indians of Wisconsin
Forest County Potawatomi Community	Omaha Tribe of Nebraska	Standing Rock Sioux Tribe
Fort Belknap Indian Community	Oneida Nation of Wisconsin	Stockbridge-Munsee Band Community Band of Mohican Indians
Fort Peck Assiniboine and Sioux Tribes	Osage Nation	Three Affiliated Tribes Mandan, Hidatsa and Arikara Nation
Grand Portage Band of Lake Superior Chippewa	Otoe-Missouria Tribe*	Turtle Mountain Band of Chippewa Indians*
Grand Traverse Band of Ottawa and Chippewa Indians	Ottawa Tribe of Oklahoma	Upper Sioux Community, Minnesota*
Hannahville Indian Community	Pawnee Nation of Oklahoma	White Earth Reservation
Ho-Chunk Nation*	Peoria Tribe of Indians of Oklahoma	Winnebago Tribe of Nebraska*
Iowa Tribe of Kansas and Nebraska*	Pokagon Band of Potawatomi Indians	Yankton Sioux Tribe*
Iowa Tribe of Oklahoma	Ponca Tribe of Nebraska	

Note: Tribes joining the Consulting Parties to this PA are in bold text within the table. Additionally, the 17 tribes that originally expressed interest in the Project (see the Draft Environmental Impact Statement) are denoted in the table with an asterisk (*).

Appendix B: Cultural Resource Reports Completed to Date for the Project

- *Cultural Resources within 1,000 Feet of Hickory Creek to Iowa State Line 345 kV Transmission Line Project Centerline* (Javers 2018)
- *Archaeological Investigation of the Cardinal to Hickory Creek 345 kV Transmission Line Project within the Upper Mississippi River National Wildlife and Fish Refuge, Clayton County, Iowa, and Grant County, Wisconsin* (Kullen 2017)
- *Archaeological Investigation of the Cardinal to Hickory Creek 345 kV Transmission Line Project within the Upper Mississippi River National Wildlife and Fish Refuge, Clayton County, Iowa: Addendum I* (Kullen 2018)
- *Desktop Review of the Hickory Creek to Iowa State Line 345kV Transmission Line Project, Clayton and Dubuque Counties, Iowa* (Kullen and House 2018)
- *Architecture/History Survey of the Cardinal-Hickory Creek Transmission Line Project, Dane, Iowa, Grant, and Lafayette Counties, Wisconsin* (Rainka et al. 2018)
- *Cemetery/Burial Site Review of Proposed Route Segments American Transmission Company Cardinal Hickory Creek Project, Dane, Iowa, Lafayette, and Grant Counties* (Watson 2018)
- *Archaeological Survey of the Cardinal-Hickory Creek Transmission Line Alignment: Dane, Iowa, Grant, and Lafayette Counties, Wisconsin* (Watson and Kullen 2018)

Appendix C: Additional Information Regarding Treatment of Human Remains in Iowa and Wisconsin

IOWA

1. Iowa Office of the State Archaeologist Bioarchaeology Program Overview
<https://archaeology.uiowa.edu/bioarchaeology-program>
2. State Statutes on Protecting Ancient Human Remains
<https://archaeology.uiowa.edu/state-statutes-protecting-ancient-human-remains>
3. Field Procedures for Projects Where Mounds or Ancient Human Remains Are Present
<https://archaeology.uiowa.edu/sites/archaeology.uiowa.edu/files/Field%20Procedures--Archaeologists--Human%20Remains.pdf>
4. Iowa Office of the State Archaeologist Curation Services
<https://archaeology.uiowa.edu/curation-services>

WISCONSIN

1. Human Burials, Mounds, and Cemeteries Overview
<https://www.wisconsinhistory.org/Records/Article/CS15239>
2. Human Burials, Mounds and Cemeteries and State Law
<https://www.wisconsinhistory.org/Records/Article/CS3122>
3. Current Guidelines for Archaeologists Working Within Burial Sites
<https://www.wisconsinhistory.org/Records/Article/CS3254>
4. Archaeological Literature Review: A Guide to Dealing with Burial Sites
<https://www.wisconsinhistory.org/Records/Article/CS3255>
5. Conducting Archaeological Survey or Testing Within the Boundaries of a Burial Site
<https://www.wisconsinhistory.org/Records/Article/CS3257>
6. What is the Wisconsin Burial Sites Catalog?
<https://www.wisconsinhistory.org/Records/Article/CS3130>
<https://www.wisconsinhistory.org/Records/Article/CS3202>
7. Documenting Burial Sites: A Guide for Archaeologists
<https://www.wisconsinhistory.org/Records/Article/CS3256>
8. Public Lands Field Archaeological Permit
<https://www.wisconsinhistory.org/Records/Article/CS4123>

Appendix D: Discovery of Human Remains—Indian Tribe Contacts

Name / Title	Tribe	Phone	E-Mail
Garrie KillsAHundred, Tribal Historic Preservation Officer	Flandreau Santee Sioux	605.997.3891	Garrie.killsahundred@fsst.org
Bill Quackenbush, Tribal Historic Preservation Officer	Ho-Chunk Nation	715.284.7181	Bill.Quackenbush@ho-chunk.com
Lance Foster, Tribal Historic Preservation Officer	Iowa Tribe of Kansas and Nebraska	785.595.3258	lfoster@iowas.org
Amy Burnette, Tribal Historic Preservation Officer	Leech Lake Band of Ojibwe	218.335.2940	Amy.burnette@llojibwe.org
David J. Grignon, Tribal Historic Preservation Officer	Menominee Indian Tribe of Wisconsin	715.799.5258	dgrignon@mitw.org
Natalie Weyaus, Tribal Historic Preservation Officer	Mille Lacs Band of Ojibwe Indians	320.532.7450	natalie.weyaus@millelacsband.com
Elsie Whitehorn, Tribal Historic Preservation Officer	Otoe-Missouria Tribe of Oklahoma	580.723.4466 x202	ewhitehorn@omtribe.org
Noah White, Tribal Historic Preservation Officer	Prairie Island Indian Community	651.385.4175	noah.white@piic.org
Ben Rhodd, Tribal Historic Preservation Officer	Rosebud Sioux Tribe	605.747.4255	Rst.thpo@rst-nsn.gov ; brhodd1@yahoo.com
Jonathan Buffalo, Director of Historic Preservation	Sac and Fox of the Mississippi in Iowa	641.484.3185	Director.historic@meskwaki-nsn.gov
Sarah Jones, Tribal Historic Preservation Officer	Saginaw Chippewa of Michigan	989.775.4751	sjones@sagchip.org
Leonard Wabasha, Director Cultural Resources	Shakopee Mdewakanton Sioux Community	952.445.8900	culturalresources@shakopeedakota.org
Erich Longie, Tribal Historic Preservation Officer	Spirit Lake Tribe	701.766.4032	thpo@gondtc.com
Elaine Nadeau, Tribal Historic Preservation Officer	Turtle Mountain Band of Chippewa Indians	701.477.2640	emnadeau76@gmail.com
Samantha Odegard, Tribal Historic Preservation Officer	Upper Sioux Community	320.564.6334	SamanthaO@uppersiouxcommunity-nsn.gov
Randy Teboe, Tribal Historic Preservation Officer	Winnebago Tribe of Nebraska	402.878.3313	randy.teboe@winnebagotribe.com
Kip Spotted Eagle	Yankton Sioux Tribe	605.384.3641 x1033	yst.thpo@gmail.com ; Kipspottedeagle247@gmail.com

Note: This tribal contact list is not exhaustive and does not include contact information for all Indian tribes that have been invited to consult on the Project. Minimally, the 17 tribes listed in Appendix D will be notified in the event of an unanticipated discovery of human remains; additional tribes may also be contacted as required by state protocols.

Appendix E: Discovery of Human Remains—SHPO and Law Enforcement Contacts

IOWA

Name	Title/Agency	Phone	Address	E-Mail
John Doershuk, Ph.D.	Iowa State Archaeologist	319.384.0732 (o) 319.530.9148 (c)	The University of Iowa 700 S. Clinton Street Iowa City, Iowa 52242	john-doershuk@uiowa.edu
Lara Noldner, Ph.D.	OSA Bioarchaeology Director	319.384.0740	The University of Iowa 700 S. Clinton Street Iowa City, Iowa 52242	lara-noldner@uiowa.edu
Steve King	Deputy SHPO	515.281.4013	600 E. Locust Street Des Moines, Iowa 50319	steve.king@iowa.gov
Mike Tschirgi	Clayton County Sheriff	563.245.2422	22680 230 th Street Saint Olaf, Iowa 52072	mtschirgi@claytoncountya.gov
Craig B. Thompson, D.O.	Clayton County Chief Medical Examiner	563.933.6277	111 E. Mission Point Strawberry Point, Iowa 52076	—
Joseph Kennedy	Dubuque County Sheriff	563.589.4400	770 Iowa Street P.O. Box 1004 Dubuque, Iowa 52004	—
Mark and Staci McKeon	Dubuque County Medical Examiners	563.556.5160	Dubuque County Courthouse 720 Central Avenue P.O. Box 5001 Dubuque, Iowa 52004	—

WISCONSIN

Name	Title/Agency	Phone	Address	E-Mail
Daina Penkiunas, Ph.D.	WI SHPO	608.264.6511	816 State Street Madison, Wisconsin 53706	daina.penkiunas@wisconsinhistory.org
Leslie Eisenberg	WI SHPO, Compliance Archaeologist	608.264.6507	816 State Street Madison, Wisconsin 53706	leslie.eisenberg@wisconsinhistory.org
John Broihahn	State Archaeologist	608.264.6496	816 State Street Madison, Wisconsin 53706	John.broihahn@wisconsinhistory.org
David Mahoney	Dane County Sheriff	608.266.4948	115 W. Doty Street Madison, Wisconsin 53703	—
Vincent Tranchida	Dane County Chief Medical Examiner	608.284.6000	3111 Luds Lane McFarland, Wisconsin 53558	—
Nate Dreckman	Grant County Sheriff	608.723.2157	1000 N. Adams Street Lancaster, Wisconsin 53813	ndreckman@co.grant.wi.gov
Phyllis Fuerstenberg	Grant County Coroner	608.723.2157	130 W. Maple Street Lancaster, Wisconsin 53813	—
Steve Michek	Iowa County Sheriff	608.935.3314	1205 North Bequette Street Dodgeville, Wisconsin 53533	—
Wendell Hamlin	Iowa County Coroner	608.341.0116	222 N. Iowa Street Dodgeville, Wisconsin 53533	—
Reg Gill	Lafayette County Sheriff	608.776.4870	138 W. Catherine Street Darlington, Wisconsin 53530	sheriff.gill@lafayettecountywi.org
Linda Gebhardt	Lafayette County Coroner	608.776.4870	12993 North Road Argyle, Wisconsin 53504	—

Appendix F: WI SHPO List of Archaeologists Approved to Excavate Burial Sites

Note: This list is consistently updated by the Wisconsin Historical Society. For the most current list of qualified archaeologists, please see: <https://www.wisconsinhistory.org/Records/Article/CS2835>.



WISCONSIN
HISTORICAL
SOCIETY

**ARCHAEOLOGISTS QUALIFIED TO WORK WITHIN THE BOUNDARIES OF A HUMAN
BURIAL SITE AND QUALIFIED TO EXCAVATE HUMAN BURIALS
April 2019**

As required by Wis. Stats. § 157.70(1) (i) and HS 2.04(6), the following list contains archaeologists approved by the Director of the Wisconsin Historical Society to excavate human burial sites. **These archaeologists have agreed to provide consulting services to prospective clients.** Other professional archaeologists in Wisconsin meet the qualifications set out in Wis. Stats. § 157.70(1) (i) and HS 2.04(6) but are not currently providing consulting services.

Robert E. Ahlrichs, M.S.

7707 14th Avenue
Kenosha, WI 53143
262-909-9318
ahlrichs@uwm.edu

David A. Anderson, Ph.D.

Department of Sociology & Archaeology
University of Wisconsin – La Crosse
435 Carl Wimberly Hall
1725 State Street
La Crosse, WI 54601
608-785-6778
anderson.dav4@uwlax.edu

Erik C. Anderson

5 South Loomis Street
Naperville, Illinois 60540
630-689-6245
Erik.anderson.14@ucl.ac.uk

Connie Arzigian, Ph.D.

Mississippi Valley Archaeology Center, Inc.
UW-La Crosse
1725 State Street
La Crosse, WI 54601
608-785-8452
arzigian.cons@uwlax.edu

William M. Balco, Jr., M.A.

Department of Anthropology
University of Wisconsin-Milwaukee
290 Sabin Hall, PO Box 413
3413 N. Downer Avenue
Milwaukee, WI 53211
815-739-7968
wmbalco@uwm.edu

Danelle Bemis, M.F.S.

727 SW 4th Street, Apt. 103
Brainerd, MN 56401
218-537-3573
danellebemis@gmail.com

Kathleen Bindley

Cardno
6140 Cottonwood Drive
Suite A
Fitchburg, WI 53719
608-661-2955 (O) /608-620-0749©
Kathleen.bindley@cardno.com

Robert A. Birmingham

1864 Rutledge
Madison, WI 53704
608-241-4958
birmi@sbcglobal.net

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816 State Street Madison, Wisconsin 53706

wisconsinhistory.org

Steven J. Blondo
Blondo Consulting, LLC
3939 Sand Hill Road
Kettle River, MN 55757
218-273-0074
steven@blondoconsulting.com

Robert F. Boszhardt
411 Sauk Street
Lodi, WI 53555
rboszhardt@gmail.com

John R. Bozell
408½ South Western Avenue
Sioux Falls, SD 57104
402-617-7651
rob.bozell@augie.edu

Steven Brann
Archaeologist
CARDNO
145 Limekiln Road, Suite 100
New Cumberland, PA 17070
717-265-0414
steven.brann@cardno-gs.com

David Breetzke, M.A.
SEARCH - SEARCH₂O
Project Manager
Covington, KY 41011
859-307-2797 (cell)
352-333-0049
dbreetzke@searchinc.com
www.searchinc.com

Ashley Brennaman, M.S.
Department of Anthropology
PO Box 413
University of Wisconsin-Milwaukee
Milwaukee, WI 53201 USA
Abrenn31@gmail.com

Ms. Lisa N. Bright
GEI Consultants, Inc.
2868 Prospect Park Drive

Suite 400
Rancho Cordova, CA 95670
916-631-4500
brightlisa@gmail.com

S. A. Brown
916 White Springs Dr.
Chattanooga TN 37415
423-313-7828
Brownsa202@gmail.com

Mark E. Bruhy, M.S.
W62N822 Arbor Drive
Cedarburg, WI 53012
262-339-2202
markbruhy@gmail.com

K. Christensen
18 Sinclair Street
Janesville WI 53545
608-515-8261
Kchris729@gmail.com

George W. Christiansen, M.S.
6018 Old Middleton Rd
Madison, WI 53705
608-231-0322

Carrie Christman, M.S.
Commonwealth Heritage Group
8669 N. Deerwood Drive
Milwaukee, WI 53209
414-446-4121 Ext. 106
cchristman@chg-inc.com

Michelle Davenport, M.A.
259 Prospect Plains Road, Building D
Cranbury, NJ 08512
609-655-0692 ext. 343
mdavenport@rgaincorporated.com

Valerie Davis, M.A., R.P.A.
New South Associates
6150 East Ponce de Leon Avenue
Stone Mountain, GA 30083
770-498-4155 x 115
vdavis@newsouthassoc.com

R Dickson, M.S.
Midwest Archaeological Consultants, LLC
1108 Rhode Island Street
Sturgeon Bay WI 54235

Sean P. Dougherty, Ph.D.
Department of Natural Sciences
Milwaukee Area Technical College
700 W. State Street
Milwaukee, WI 53233
414-297-7377
doughsp1@matc.edu

Mark J. Dudzik, MS
5158 N Ardmore Avenue
Whitefish Bay, WI 53217
608-216-3146
mjdudzik@uwalumni.com

Richard W. Edwards IV, PhD, RPA
Commonwealth Heritage Group
8669 N Deerwood Dr.
Milwaukee WI, 53209
414-446-4121 x108
redwards@chg-inc.com

Kathryn C. Egan-Bruhy, Ph.D.
Commonwealth Heritage Group
8669 N. Deerwood Drive
Milwaukee, WI 53209
414-446-4121
eganbruhy@chg-inc.com

William J. Eichmann, M.S.
912 Jenifer Street
Madison, WI 53703
262-422-2260
wjeichmann@wisc.edu

Leslie E. Eisenberg, Ph.D. R.P.A.
6228 Trail Ridge Court
Oregon, WI 53575
608-835-8282
nnnnsic@aol.com

Emily Mueller Epstein, Ph.D, R.P.A
Commonwealth Heritage Group
3225 Central Street
Dexter, MI 48130
517-262-4157
emily.epstein@chg-inc.com

Amy C. Favret, M.A., RPA
CH2M
400 E Business Way, Suite 400
Cincinnati, Ohio 45241
513-587-7107
Amy.Favret@ch2m.com

Frank Florin, M.A, R.P.A.
Florin Cultural Resource Services, LLC
N12902 273rd Street
Boyceville, WI 54725
715-643-2918
florincrs11@gmail.com

Shannon K. Freire M.S., R.P.A.
Department of Anthropology
University of Wisconsin-Milwaukee
Sabin Hall, Rm 290
PO Box 413
3413 N. Downer Avenue
Milwaukee, WI 53201
414-229-4175
skfreire@uwm.edu

Ms. Karen Gardner, M.A.
GEI Consultants, Inc.
2868 Prospect Park Drive
Suite 400
Rancho Cordova, CA 95670
916-596-1796 O, 925-895-5491 C
kgardner@geiconsultants.com

William G. Gartner, PhD.

910 O'Sheridan Street
Madison, WI 53715
608-251-6840

Jenee Gesler

69 S. Walkup Ave.
Crystal Lake, IL 60014

Lynne G. Goldstein, Ph.D.

Consortium for Archaeological Research
Michigan State University
McDonel Hall
817 E. Shaw Lane, Room E-29
East Lansing, MI 48825
517-353-2950
lynneg@msu.edu

Walker Good, M.S.

1108 East Johnson Street
Madison, WI 53703
walkerwgood@gmail.com

Amanda Gronhovd, M.S.

220 9th Avenue South
South St. Paul, MN 55075
651-457-1856
gronhovd@10000lakesarchaeology.com

Suzanne Harris, M.S.

Research Associate
Mississippi Valley Archaeology Center
UW – La Crosse
1725 State St
La Crosse, WI 54601
608-785-8463
sharris2@uwlax.edu

Jennifer R. Haas, M.A.

Principal Investigator
Cultural Resource Management Services
Sabin Hall, Room 290
PO BOX 413
414-229-3078
haasjr@uwm.edu

Kate Hunt

106 Group
1295 Bandana Blvd #335
St Paul MN 55108
651-403-8733
katehunt@106group.com

Chrisie L. Hunter

1818 N. 56th Street
Milwaukee, WI 53208
414-607-8807
clhunter@uwm.edu

John G. Hodgson, M.S.

5618 Hempstead Road
Madison, WI 53711
608-334-1828

B. Hoffman, M.S.

158 Union Street
Sun Prairie, WI 53590
608-215-9675
hoffmanuw@gmail.com

Ryan Howell, M.S.

CARDNO
6140 Cottonwood Drive
Suite A
Fitchburg, Wisconsin 53719
608-661 2955 (cell)
608-347-9160
ryan.howell@cardno.com

Elissa Hulit

Commonwealth Heritage Group, Inc.
8669 N. Deerwood Drive
Milwaukee, WI 53209
414-446-4121
ehulit@chg-inc.com

Gregg Jamison, M.S.
719 5th Street
New Glarus, WI 53711
608-354-9589
gregg.jamison@gmail.com

Robert J. Jeske, Ph.D.
Associate Professor
Department of Anthropology
University of Wisconsin—Milwaukee
Milwaukee, WI 53201
414-229-4175
jeske@uwm.edu

James A. Johnson, Ph.D.
Department of Anthropology
University of Chicago
1126 E. 59th Street
Chicago, IL 60637
773-702-7701
Jaj1@uchicago.edu

Amanda C. Jones, M.S.
2020 Meadowsweet Dr.
Green Bay, WI 54313
920-639-3606
aman.jones66@gmail.com

Catherine R. Jones, M.S.
3030 N. Downer Avenue
Milwaukee, WI 53211
317-507-2655
catherinerjones@yahoo.com

Rhiannon Jones, M.A.
Commonwealth Heritage Group, Inc.
3222 South Illinois Avenue
Milwaukee, WI 53207
414-238-5745
rhiannon.mahealani.jones@gmail.com

Alexis M. Jordan
Department of Anthropology
PO Box 413
University of Wisconsin-Milwaukee

Milwaukee, WI 53201 USA
amjordan@uwm.edu

Steven A. Katz
Midwest Archaeological Research Services,
Inc.
Box 2533
Crystal Lake, IL
815-568-0680
skatz@globalarchaeology.com

Kira E. Kaufmann, Ph.D., RPA 10982
Cultural Resources Program Manager
USAG Fort McCoy
DPW - Natural Resources Branch
2171 South 8th Ave
Fort McCoy, WI 54656-5136
DESK: 608-388-8214
kira.e.kaufmann.civ@mail.mil

David Keene, Ph.D.
Archaeological Research, Inc.
4147 N. Ravenswood Ave.
Chicago, IL 60613
773-975-1753
dkeene@arch-res.com

Peter E. Killoran, M.A.
Coordinator of Forensic Science
Dept. of Sociology, Anthropology and
Criminal Justice
2134 Laurentide Hall
University of Wisconsin Whitewater
Whitewater, WI 53190-1790
262-472-1422
Killorap@uww.edu
peter.killoran@gmail.com

Marc Kissel, M.A.
Department of Anthropology
Notre Dame
648 Flanner Hall
Notre Dame, IN 46556
574-631-1633
mkissel@nd.edu

S Kooiman, Ph.D.
1426 Vine Street
Lansing MI 48912

Steven R. Kuehn, M.S.
ITARP
University of Illinois at Urbana-Champaign
209 Nuclear Physics Lab
23 Stadium Drive
Champaign, IL 61820
217-244-4244

Dr. Douglas Kullen
Burns & McDonnell
Senior Cultural Resources
Specialist/Environmental Services
1431 Opus Place
Suite 400
Downers Grove, IL 60515
630-515-4626
630-408-2385 (cell)
dkullen@burnsmcd.com

James Lanning M.A.
713 McCormick Avenue
Madison, WI 53704
616-648-1702
jamlanning@yahoo.com

Jeffrey Larson
Quality Services, Inc.
1621 Sheridan Lake Road, Suite A
Rapid City, SD 57702-3432
605-388-5309
jlarson@qualityservices.us.com

Luther Leith, Ph.D.
7426 Tetiva Road
Sauk City, WI 53583
608-370-2873
luther.leith@gmail.com

Katy Littrell, M.A.
Department of Anthropology
University of Wisconsin-Milwaukee

Sabin Hall, Rm 290
PO Box 413
3413 N. Downer Avenue
Milwaukee, WI 53201
414-229-3078
littrelk@uwm.edu

Lindsay J. Lentz, M.A.
521 Jefferson Street, Apt. 106
Mauston, WI 53948
414-559-8525
lindsayjlentz@gmail.com

J. David McMahan, M.A., R.P.A.
446 E. 23rd Avenue
Anchorage, AK 99503
907-230-8880
jdmcmahan55@gmail.com

Rachel C. McTavish, M.S.
4625 S. Lake Drive, Apt. 6
Cudahy, WI 53110
raccmct@gmail.com
mctavis2@uwm.edu

Hugh B. Matternes, Ph.D.
New South Associates
6150 East Ponce de Leon Avenue
Stone Mountain, GA 30083
770-498-4155 x 114
mmatternes@newsouthassoc.com

Rosanne M. Meer
BioArchaeological Services
1234 Sweeney Dr., Apt 5
Middleton, WI 53562
715-499-1136
bioarch.meer@gmail.com

Philip Millhouse, Ph.D.
Red Gates Archaeology LLC
316 W. Prospect Street
Stoughton, WI 53589-1659
608-718-9324
redgatesarchaeology@gmail.com

Susan Mulholland, Ph.D.
Duluth Archaeology Center
5910 Fremont St., Suite 1
Duluth, Minnesota 55807
218-624-5489
archcenter@aol.com

Brian D. Nicholls
1818 North 56th Street
Milwaukee, WI 53208
414-258-5763

Lara K. Noldner, Ph.D.
Bioarchaeology Director
Office of the State Archaeologist
700 South Clinton Street Building
University of Iowa
Iowa City, IA 52242
319-384-0740
lara-noldner@uiowa.edu

Christopher O'Brien, Ph.D.
Lassen National Forest
2550 Riverside Drive
Susanville, CA 96130
530-257-2151
cobrien1@frontiernet.net

Jodie A. O'Gorman, Ph.D.
Dept of Anthropology
Michigan State University
E27 West McDonnell Hall
East Lansing, MI 48824
517-353-7861

David F. Overstreet, Ph.D.
1961 N. Summit Avenue, # 612
Milwaukee, WI 53202
414-559-0609
doverstreet@Menominee.edu

Ryan Peterson, M.A.
Senior Consultant-Archaeologist
Eng. & Envir. Services Division
CARDNO

Address 3901 Industrial Boulevard
Indianapolis, IN 46254
317-388-1982
317-945-6309 (cell)
ryan.peterson@cardno.com

Jennifer L. Picard, M.S.
2663A N. Pierce Street
Milwaukee, WI 53212
281-636-1238
jlpicard@uwm.edu

Marie E. Pokrant, M.A., R.P.A.
GAI Consultants
625 Eden Park Drive, Suite 1000
Cincinnati, OH 45202
513-721-3800 x 4245
m.pokrant@gaiconsultants.com

S. L. Posin
Commonwealth Heritage Group
3225 Central Street
Dexter, MI, 48130
614-715-6717
sposin@chg-inc.com

Elizabeth C. Reetz
Office of the State Archaeologist
700 South Clinton Street Building
University of Iowa
Iowa City, IA 52242
319-384-0561
elizabeth-reetz@uiowa.edu

Marcia H. Regan, Ph.D.
13330 Cranford Circle
Rosemount, MN 55068
651-204-3456
mhregan@lightblast.net

John D. Richards, Ph.D.
University of Wisconsin-Milwaukee
Department of Anthropology
Historic Resource Management Services
Sabin Hall 221
Milwaukee, WI 53201-0413
414-229-2440
jdr@uwm.edu

Patricia B. Richards, Ph.D.
University of Wisconsin-Milwaukee
Department of Anthropology
Historic Resource Management Services
Sabin Hall 204
Milwaukee, WI 53201-0413
414-229-2416
pbrownr@uwm.edu

Katie Z. Rudolph, Ph.D.
613 Auwai Street
Kailua, HI 96734
419-202-0542
katrudol@umail.iu.edu

Philip Salkin, M.S.
Archaeological Consulting and Services
111 East Verona Avenue
Verona, WI 53593
608-845-5585
psalkin.acs@gmail.com

Seth A. Schneider, Ph.D.
Department of Anthropology
Historic Resource Management Services
Sabin Hall 221, PO Box 413
University of Wisconsin-Milwaukee
Milwaukee, WI 53201-0413
414-229-2440
414-630-0768/ sethas@uwm.edu

R. W. Schmidt
8326 County Road D
Almond, WI 54909
1-504-508-9342

Sissel Schroder, Ph.D.

Department of Anthropology
University of Wisconsin
5240 Social Science Building
1180 Observatory Drive
Madison, WI 53706-1393
608-262-0317 or 2866
sschroeder2@wisc.edu

Marcus Schulenburg, M.S.
1940 N. Prospect Avenue, Apt. 51
Milwaukee, WI 53202
414-931-9899
schulen2@uwm.edu

Jessica Skinner
Department of Anthropology
University of Wisconsin-Milwaukee
3413 N Downer Avenue
Milwaukee WI 53211
262-215-1825
Skinner4@uwm.edu

Zachary Stencil
6803 Sunset Drive
Verona, WI 53593
608-636-4213
zrstencil@gmail.com

Katherine M. Sterner
3711 E. Layton Avenue
Cudahy, WI 53110
216-502-0550
ksterner@uwm.edu

Katherine P. Stevenson, Ph.D.
Mississippi Valley Archaeology Center
University of Wisconsin-La Crosse
UW-La Crosse
1725 State Street
La Crosse, WI 54601
608-788-8451
stevens.kath@uw.lax.edu

Cynthia Stiles, M.S., RPA

126 South Oneida Avenue
Rhineland, WI 54501
715-369-3248
715-449-0481 (cell)
cydstil@newnorth.net

Ann L. Stodder, Ph.D.

5346 North Diversey Boulevard
Whitefish Bay, WI 53217
414-964-7260
414-916-7260

David Strange, M.S.

9405 West Bluemound Rd.
Milwaukee, WI 53226
414-881-7708
Dstrange414@gmail.com

James Theler, Ph.D.

Department of Sociology and Archaeology
UW-La Crosse
1725 State Street
La Crosse, WI 54601
Office: 608-785-8463
Lab: 608-785-6464
theler.jame@uwlax.edu

Christopher Tinti

Golder Associates Inc.
2247 Fox Heights Lane, Suite A
Green Bay, WI 54304
920-370-4966
920-458-0541
Christopher_tinti@golder.com

Vicki Twinde-Javner, M.S.

Mississippi Valley Archaeology Center, Inc.
UW- La Crosse
1725 State Street
La Crosse, WI 54601
608-785-6475
twinde.vick@uwlax.edu

Allen P. Van Dyke, M.S.

AVD Archaeological Services, Inc.
305 South Britton Road
Union Grove, WI 53182
262-878-0510

Robert W. Vander Heiden Jr.

UWM Cultural Resource Management
University of Wisconsin-Milwaukee
Sabin Hall, Rm. 290
3413 N Downer Ave
Milwaukee, WI 53211
414-229-3078

Matthew C. Warwick, Ph.D.

warwickmatt@gmail.com

Robert J. Watson, Ph.D.

Commonwealth Heritage Group, Inc.
8669 N. Deerwood Drive
Milwaukee, WI 53209
414-446-4121
rwatson@chg-inc.com

Helen M. Werner, M.S. RPA

Department of Anthropology
University of Wisconsin-Milwaukee
3413 N Downer Avenue
Milwaukee WI 53211
hmholden@uwm.edu

William E. Whittaker, Ph.D.

Interim Research Director
Office of the State Archaeologist
700 South Clinton Street Building
University of Iowa
Iowa City, IA 52242
319-384-0937
william-whittaker@uiowa.edu

Randall M. Withrow, RPA

The Louis Berger Group, Inc.
950 50th Street
Marion, Iowa 53202-3853
319-373-3043

Christina L. Zweig, M.S
9628 W. Oklahoma Avenue
Milwaukee, WI 53227
920-427-3986
clzweig@uwm.edu

Thomas Zych, M.S.
3540 Clawson Avenue
Toledo, Ohio 43623
630-247-5594
tjzych@umn.edu

Appendix G: Wisconsin Burial Law

CHAPTER 157

DISPOSITION OF HUMAN REMAINS

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Cross-reference: See s. 69.18 for 1) registration of deaths; 2) medical certification; 3) disposition of corpse or stillbirth; and 4) disinterment and reinterment.

SUBCHAPTER I

CORPSES

157.01 Rules for preparation, transportation and disposition. The department of health services shall make, and delegate to the funeral directors examining board the enforcement of, rules not inconsistent with ch. 445 covering the control of communicable diseases and sanitary and health regulations in the preparation, transportation and disposition of dead human bodies.

History: 1975 c. 39; 1979 c. 175 s. 53; 1979 c. 221 ss. 658, 2202 (45); 1983 a. 485; 1985 a. 315; 1985 a. 316 s. 14; Stats. 1985 s. 157.01; 1995 a. 27 s. 9126 (19); 2007 a. 20 s. 9121 (6) (a).

Cross-reference: See also chs. DHS 135 and 136, Wis. adm. code.

157.02 Disposal of unclaimed corpses. (1g) DEFINITION. In this section, “burial” has the meaning given in s. 157.061 (1).

Note: Sub. (1g) was created as sub. (1) (a) by 2017 Wis. Act 246 and renumbered to sub. (1g) by the legislative reference bureau under s. 13.92 (1) (bm) 2. Sub. (1g) (title) is inserted by the legislative reference bureau under s. 35.17.

(1r) NOTICE TO RELATIVES. (am) When an inmate of any state, county or municipal institution dies, the superintendent or other person in charge of the institution shall immediately notify a relative of the decedent. A public officer having the possession or the disposition of a corpse shall immediately notify a relative of the decedent. If no relative is known, or discoverable by use of ordinary diligence, notice may be dispensed with.

(b) If the deceased had been an inmate of a state correctional institution, the department of corrections shall provide written notification to the relative informing him or her that the department of corrections, upon request, will do any or all of the following:

1. Provide a copy of any autopsy report or other report or information pertaining to the death.

2. Allow the relative to claim the cremated remains of the inmate before burial of the remains.

(c) The department of corrections shall describe how requests under par. (b) may be made and shall promptly comply with any such request.

Note: Sub. (1r) (title), (am), (b), and (c) were renumbered from sub. (1) (title), (am), (b), and (c), as affected by 2017 Wis. Act 246, to sub. (1r) (title), (am), (b), and (c) by the legislative reference bureau under s. 13.92 (1) (bm) 2.

(2) TIME ALLOWED RELATIVE TO ACT. If a relative or friend fails to arrange for taking charge of the corpse within a reasonable time after death, the superintendent or other officer may proceed as provided in this section, but relatives or friends may claim the corpse at any time before it has been delivered pursuant to sub. (3) or, if a request is made under sub. (1r) (b) 2., after it has been cremated but before burial of the cremated remains under sub. (5).

Note: The cross-reference to sub. (1r) (b) 2. was changed from sub. (1) (b) 2. by the legislative reference bureau under s. 13.92 (1) (bm) 2. to reflect the renumbering under s. 13.92 (1) (bm) 2. of sub. (1), as affected by 2017 Wis. Act 246.

(3) NOTICE TO UNIVERSITY OR SCHOOL. If the corpse is in the Mendota Mental Health Institute district, the University of Wisconsin shall be notified that it may have the corpse. If the corpse is in the Winnebago Mental Health Institute district, the Medical College of Wisconsin, Inc., or any accredited school of mortuary science at Milwaukee shall be notified that it may have the corpse. The university or school so notified shall immediately inform the superintendent or public officer whether it desires to have the corpse. If it does, the corpse shall be delivered accordingly, properly encased, to the most available facility for transportation to the consignee, the consignee to pay the cost of transportation.

(4) STANDING APPLICATIONS. If there are advance applications for such bodies, by the Medical College of Wisconsin, Inc., or any accredited school of mortuary science, the superintendent or public officer shall make an equitable distribution between them.

(5) OTHER DISPOSITION. If the corpse is not disposed of under subs. (1r) to (4), the superintendent or public officer shall properly bury it, or cremate it, subject to s. 979.10, and bury the cremated remains.

Note: The cross-reference to sub. (1r) was changed from sub. (1) by the legislative reference bureau under s. 13.92 (1) (bm) 2. to reflect the renumbering under s. 13.92 (1) (bm) 2. of sub. (1), as affected by 2017 Wis. Act 246.

History: 1971 c. 211; 1973 c. 90 s. 560 (3); 1985 a. 316 s. 14; Stats. 1985 s. 157.02; 1987 a. 27; 1989 a. 31; 2001 a. 103; 2017 a. 246; s. 13.92 (1) (bm) 2; s. 35.17 correction in (1g) (title).

157.03 Restrictions on use of bodies for anatomical purposes; embalming such bodies; delivery of bodies to relatives. (1) The corpse of a person who died with smallpox, diphtheria or scarlet fever, or who in his or her last sickness shall request to be buried or cremated, and of a stranger or traveler who suddenly died, shall not be disposed of under s. 157.02 (3), and no person having charge of a corpse authorized to be so disposed of shall sell or deliver it to be used outside the state.

(2) Upon receipt of the corpse by a university or school pursuant to s. 157.02 (3) it shall be properly embalmed and retained for 3 months before being used or dismembered and shall be delivered to any relative claiming it upon satisfactory proof of relationship.

History: 1985 a. 316 ss. 14, 25; Stats. 1985 s. 157.03; 1993 a. 482.

157.04 Penalty. Any officer or person having a corpse in charge, and refusing to report and deliver it, when required by this subchapter, or violating the provisions forbidding sale or delivery thereof, to be used outside the state, shall be liable to the person, university or medical school aggrieved, in the sum of \$50.

History: 1985 a. 316 s. 14; Stats. 1985 s. 157.04.

157.05 Autopsy. Consent for a licensed physician to conduct an autopsy on the body of a deceased person shall be deemed sufficient when given by whichever one of the following assumes custody of the body for purposes of burial: Father, mother, husband, wife, child, guardian, next of kin, domestic partner under ch. 770, or in the absence of any of the foregoing, a friend, or a person charged by law with the responsibility for burial. If 2 or more such persons assume custody of the body, the consent of one of them shall be deemed sufficient.

History: 1979 c. 110; 1985 a. 316 s. 14; Stats. 1985 s. 157.05; 2009 a. 28.

157.055 Disposal of human remains during state of emergency relating to public health. (1) In this section:

(a) “Funeral establishment” has the meaning given in s. 445.01 (6).

(b) “Public health authority” has the meaning given in s. 250.01 (6g).

(2) Notwithstanding ss. 69.18 (4), 445.04 (2), 445.14, 979.01 (3), (3m), and (4), 979.02, and 979.10, and subch. VII of ch. 440, during a period of a state of emergency related to public health declared by the governor under s. 323.10, a public health authority may do all of the following:

(a) Issue and enforce orders that are reasonable and necessary to provide for the safe disposal of human remains, including by embalming, burial, cremation, interment, disinterment, transportation, and other disposal.

(b) Take possession and control of any human remains.

(c) Order the disposal, through burial or cremation, of any human remains of an individual who has died of a communicable disease, within 24 hours after the individual’s death and consider, to the extent feasible, the religious, cultural, or individual beliefs of the deceased individual or his or her family in disposing of the remains.

(d) If reasonable and necessary for emergency response, require a funeral establishment, as a condition of its permit under s. 445.105 (1), to accept human remains or provide the use of its business or facility, including by transferring the management and supervision of the funeral establishment to the public health authority, for a period of time not to exceed the period of the state of emergency.

(e) Require the labeling of all human remains before disposal with all available identifying information and information concerning the circumstances of death and, in addition, require that the human remains of an individual with a communicable disease be clearly tagged to indicate that remains contain a communicable disease and, if known, the specific communicable disease.

(f) Maintain or require the maintenance of a written or electronic record of all human remains that are disposed of, including

all available identifying information and information concerning the circumstances of death and disposal. If it is impossible to identify human remains prior to disposal, the public health authority may require that a qualified person obtain any fingerprints, photographs, or identifying dental information, and collect a specimen of deoxyribonucleic acid from the human remains and transmit this information to the public health authority.

(g) Notwithstanding s. 59.34 (1) or 59.35 (1), authorize a county medical examiner or a county coroner to appoint emergency assistant medical examiners or emergency deputy coroners, whichever is applicable, if necessary to perform the duties of the office of medical examiner or coroner, and to prescribe the duties of the emergency assistant medical examiners or emergency deputy coroners. The term of any emergency appointment authorized under this paragraph may not exceed the period of the state emergency. A county medical examiner or county coroner may terminate an emergency appointment before the end of the period of the state emergency, if termination of the appointment will not impede the performance of the duties of his or her office.

History: 2001 a. 109; 2005 a. 31; 2009 a. 42, 282.

157.06 Anatomical gifts. (2) **DEFINITIONS.** In this section:

(a) “Agent” means a health care agent, as defined in s. 155.01 (4), or an individual who is expressly authorized in a record that is signed by a principal to make an anatomical gift of the principal’s body or part.

(b) “Anatomical gift” means a donation of all or part of a human body to take effect after the donor’s death, as determined in accordance with s. 146.71, for the purpose of transplantation, therapy, research, or education.

(c) “Decedent” means a deceased individual.

(d) “Disinterested witness” means a witness who is not any of the following:

1. The spouse, child, parent, sibling, grandchild, grandparent, or guardian of the individual who makes, amends, revokes, or refuses to make an anatomical gift.

2. A person who exhibits special care and concern, except as a compensated health care provider, for the individual who makes, amends, revokes, or refuses to make an anatomical gift.

3. Any other person to whom the anatomical gift could pass under sub. (11).

(e) “Donor” means an individual whose body or part is the subject of an anatomical gift.

(f) “Donor registry” means a database that contains records of anatomical gifts and amendments to or revocations of anatomical gifts.

(g) “Driver’s license” means a license or permit to operate a vehicle, whether or not conditions are attached to the license or permit, that is issued by the department of transportation under ch. 343.

(h) “Eye bank” means a person that is licensed, accredited, or regulated under federal or state law to engage in the recovery, screening, testing, processing, storage, or distribution of human eyes or portions of human eyes.

(i) “Guardian” means a person appointed by a court to make decisions regarding the support, care, education, health, or welfare of an individual, and does not include a guardian ad litem.

(j) “Hospital” means a facility approved as a hospital under s. 50.35 or a facility operated as a hospital by the federal government, a state, or a political subdivision of a state.

(k) “Identification card” means an identification card issued by the department of transportation under s. 343.50.

(L) “Organ procurement organization” means a person designated by the Secretary of the U.S. Department of Health and Human Services as an organ procurement organization.

(m) “Parent” has the meaning given under s. 48.02 (13).

(n) “Part” means a vascularized organ, eye, or tissue of a human being. “Part” does not mean a whole human body.

3 Updated 17–18 Wis. Stats.

(o) “Physician” means an individual authorized to practice medicine or osteopathy under the laws of any state.

(p) “Procurement organization” means an eye bank, organ procurement organization, or tissue bank.

(q) “Prospective donor” means an individual who is dead or near death and has been determined by a procurement organization to have a part that could be medically suitable for transplantation, therapy, research, or education. An individual who has refused to make an anatomical gift as provided under sub. (7) is not a prospective donor.

(r) “Reasonably available” means able to be contacted by a procurement organization without undue effort and willing and able to act in a timely manner consistent with existing medical criteria necessary for the making of an anatomical gift.

(s) “Record” means information that is inscribed on a tangible medium or that is stored in an electronic or other medium and is retrievable in a perceivable form.

(t) “Record of gift” means a donor card or other record used to make an anatomical gift, including a statement or symbol on a driver’s license or identification card or in a donor registry.

(u) “Record of refusal” means a record created under sub. (7) that expressly states an intent to bar other persons from making an anatomical gift of an individual’s body or part.

(v) “Sign” means to do any of the following with present intent to authenticate or adopt a record:

1. Execute or adopt a signature or tangible symbol.
2. Attach to or logically associate with the record an electronic symbol, sound, or process.

(w) “Technician” means an individual determined to be qualified to remove or process parts by an appropriate organization that is licensed, accredited, or regulated under federal or state law and includes an enucleator.

(x) “Tissue” means a portion of the human body other than a vascularized organ or eye and does not include blood unless the blood is donated for the purpose of research or education.

(y) “Tissue bank” means a person that is licensed, accredited, or regulated under federal or state law to engage in the recovery, screening, testing, processing, storage, or distribution of tissue.

(z) “Transplant hospital” means a hospital that furnishes organ transplants and other medical and surgical specialty services required for the care of transplant patients.

(zm) “Vascularized organ” means a heart, lung, liver, pancreas, kidney, intestine, or other organ that requires the continuous circulation of blood to remain useful for purposes of transplantation.

(2m) SIGNING FOR A PERSON WHO IS PHYSICALLY UNABLE. If an individual who is physically unable to sign a record under sub. (5) (a) 4. or (b) 1., (6) (a) 1., (b) 1., (c) 1., or (d) 1., or (7) (a) 1. or (b) 1. directs another to sign the record on his or her behalf, the signature of the other individual authenticates the record as long as all of the following conditions are satisfied:

(a) The signature of the other individual is witnessed by at least two adults, at least one of whom is a disinterested witness.

(b) The witnesses sign the record at the request of the individual who is physically unable to sign.

(c) The record includes a statement that it was signed and witnessed at the request of the individual who is physically unable to sign.

(4) WHO MAY MAKE AN ANATOMICAL GIFT BEFORE DONOR’S DEATH. Except as provided in subs. (7) and (8), any of the following may during the life of a donor make an anatomical gift of the donor’s body or part in the manner provided in sub. (5):

(a) The donor, if he or she is at least 15 and one-half years of age or is an emancipated minor.

(b) An agent of the donor, unless the donor’s power of attorney for health care instrument under ch. 155 or some other record prohibits the agent from making an anatomical gift.

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(c) A parent of the donor, if the donor is an unemancipated minor and does not object to the making of the anatomical gift.

(d) A guardian of the donor unless a health care agent under ch. 155 has authority to make an anatomical gift of the donor’s body or part.

(5) MANNER OF MAKING AN ANATOMICAL GIFT BEFORE DONOR’S DEATH. (a) A donor under sub. (4) (a) may make an anatomical gift by doing any of the following:

1. Affixing to, or authorizing a person to imprint on, the donor’s driver’s license or identification card a statement or symbol that indicates that the donor has made an anatomical gift.

2. Including an anatomical gift in his or her will.

3. If the donor has a terminal illness or injury, communicating the anatomical gift by any means to at least two adults, at least one of whom is a disinterested witness.

4. Signing a donor card or other record that includes an anatomical gift or, if physically unable to sign a record, by directing another individual to sign the record as provided in sub. (2m).

5. Authorizing a person to include in a donor registry a statement or symbol that indicates that the donor has made an anatomical gift.

(b) A person under sub. (4) (b) to (d) may make an anatomical gift of a donor’s body or part during the donor’s life by doing any of the following:

1. Signing a donor card or other record that includes an anatomical gift or, if physically unable to sign a record, by directing another to sign the record as provided in sub. (2m).

2. Authorizing another to include in a donor registry a statement or symbol that indicates that the person has made an anatomical gift of the donor’s body or part.

(c) The revocation, suspension, expiration, or cancellation of a driver’s license or identification card on which an anatomical gift has been made does not invalidate the anatomical gift.

(d) An anatomical gift made by will takes effect upon the donor’s death whether or not the will is probated. Invalidation of the will after the donor’s death does not invalidate the anatomical gift.

(6) AMENDING OR REVOKING ANATOMICAL GIFT BEFORE DONOR’S DEATH. (a) Subject to sub. (8), a donor may amend an anatomical gift of his or her body or part by doing any of the following:

1. Signing a record that amends the anatomical gift or, if physically unable to sign, directing another to sign the record as provided in sub. (2m).

2. Subsequently executing a record of gift that amends a previously executed anatomical gift or a portion of a previously executed anatomical gift either expressly or by inconsistency.

3. If the anatomical gift was not made in a will and the donor has a terminal illness or injury, communicating in any manner an amendment of the anatomical gift to at least two adults, at least one of whom is a disinterested witness.

4. If the anatomical gift was made in a will, amending the will.

(b) Subject to sub. (8), a donor may revoke an anatomical gift of his or her body or part by doing any of the following:

1. Signing a record that revokes the anatomical gift or, if physically unable to sign, directing another to sign the record as provided in sub. (2m).

2. Subsequently executing a record of gift that revokes a previously executed anatomical gift or a portion of a previously executed anatomical gift either expressly or by inconsistency.

3. If the anatomical gift was not made in a will and if the donor has a terminal illness or injury, communicating in any manner the revocation of the anatomical gift to at least two adults, at least one of whom is a disinterested witness.

4. If the anatomical gift was made in a will, amending or revoking the will.

5. If the anatomical gift was made in a record of gift, destroying or cancelling the record of gift, or the portion of the record of gift used to make the anatomical gift, with intent to revoke the anatomical gift.

(c) Subject to sub. (8), a person who is authorized to make an anatomical gift under sub. (4) (b) to (d) may amend an anatomical gift of a donor's body or part before the donor's death by doing any of the following:

1. Signing a record that amends the anatomical gift or, if physically unable to sign, directing another to sign the record as provided in sub. (2m).

2. Subsequently executing a record of gift that amends a previously executed anatomical gift or a portion of a previously executed anatomical gift either expressly or by inconsistency.

(d) Subject to sub. (8), a person who is authorized to make an anatomical gift under sub. (4) (b) to (d) may revoke an anatomical gift of a donor's body or part before the donor's death by doing any of the following:

1. Signing a record that revokes the anatomical gift or, if physically unable to sign, directing another to sign the record as provided in sub. (2m).

2. Subsequently executing a record of gift that revokes a previously executed anatomical gift or a portion of a previously executed anatomical gift either expressly or by inconsistency.

3. If the anatomical gift was made in a record of gift, destroying or cancelling the record of gift, or the portion of the record of gift used to make the anatomical gift, with intent to revoke the anatomical gift.

(7) REFUSAL TO MAKE AN ANATOMICAL GIFT; EFFECT OF REFUSAL. (a) An individual may refuse to make an anatomical gift of the individual's body or part by doing any of the following:

1. Signing a record refusing to make an anatomical gift or, if physically unable to sign, directing another to sign the record as provided in sub. (2m).

2. Including a refusal to make an anatomical gift in the individual's will, whether or not the will is admitted to probate or invalidated after the individual's death.

3. If the individual has a terminal illness or injury, communicating in any manner a refusal to make an anatomical gift to at least two adults, at least one of whom is a disinterested witness.

(b) An individual who has made a refusal to make an anatomical gift under this subsection may amend or revoke the refusal to make an anatomical gift by doing any of the following:

1. Signing a record amending or revoking the refusal to make an anatomical gift or, if physically unable to sign, directing another to sign the record as provided in sub. (2m).

2. If the refusal to make an anatomical gift was made in the individual's will, amending or revoking the will, whether or not the will is admitted to probate or invalidated after the individual's death.

3. If the individual has a terminal illness or injury, communicating in any manner an amendment to or revocation of the refusal to make an anatomical gift to at least two adults, at least one of whom is a disinterested witness.

4. Subsequently making an anatomical gift as provided under sub. (5) (a) that is inconsistent with the refusal to make an anatomical gift.

5. If the refusal to make an anatomical gift was made in a record of refusal, destroying or canceling the record of refusal, or the portion of the record of refusal, that evidenced the refusal to make an anatomical gift, with intent to revoke the refusal to make an anatomical gift.

(c) Except as provided in sub. (8) (h), in the absence of an express, contrary indication by an individual set forth in a refusal to make an anatomical gift under this subsection, the individual's unrevoked refusal to make an anatomical gift under this subsection of his or her body or part bars all other persons from making an anatomical gift of the individual's body or part.

(8) PRECLUSIVE EFFECT OF ANATOMICAL GIFT, AMENDMENT, OR REVOCATION. (a) Except as provided in par. (g) and subject to par. (f), in the absence of an express, contrary indication by the donor, a person other than the donor may not make, amend, or revoke an anatomical gift of the donor's body or part if the donor has made an unrevoked anatomical gift of his or her body or that part under sub. (5) (a) or an amendment to an anatomical gift of the donor's body or that part under sub. (6) (a).

(b) A donor's revocation of an anatomical gift of the donor's body or part under sub. (6) (b) is not a refusal to make an anatomical gift and does not bar another person authorized to make an anatomical gift under sub. (4) from making an anatomical gift of the donor's body or part under sub. (5) and does not bar a person who is authorized to make an anatomical gift under sub. (9) from making an anatomical gift under sub. (10).

(c) If a person other than the donor makes an unrevoked anatomical gift of the donor's body or part under sub. (5) (b) or an amendment to an anatomical gift of the donor's body or part under sub. (6) (c), another person may not amend or revoke the anatomical gift under sub. (10) or otherwise make an anatomical gift of the body or part under sub. (10).

(d) If a person other than the donor revokes an anatomical gift of the donor's body or part under sub. (6) (d), the revocation does not bar another person from making an anatomical gift of the donor's body or part under sub. (5) or (10).

(e) An anatomical gift of a part of a donor's body that is made under sub. (5) or in an amendment under sub. (6), absent an express, contrary indication by the donor or other person who made the anatomical gift, is not a refusal by the donor to make an anatomical gift of another part of the donor's body or a limitation on a later anatomical gift of another part of the donor's body.

(f) An anatomical gift of a part that is made under sub. (5) or in an amendment under sub. (6) for a specified purpose for which an anatomical gift may be made, absent an express, contrary indication by the person who made the anatomical gift, does not limit a person from making an anatomical gift of the part under sub. (5), (6), or (10) for any of the other purposes for which an anatomical gift may be made.

(g) If a donor who is an unemancipated minor dies, a parent of the donor who is reasonably available may revoke or amend an anatomical gift of the donor's body or part.

(h) If an unemancipated minor who has made a refusal to make an anatomical gift under sub. (7) dies, a reasonably available parent of the minor may revoke the minor's refusal to make an anatomical gift.

(9) WHO MAY MAKE AN ANATOMICAL GIFT NEAR OR UPON THE DONOR'S DEATH. (a) Except as provided in subs. (7) and (8) and subject to pars. (b) and (c), any member of the following classes of persons, in the order of priority listed, who is reasonably available, in the manner provided in sub. (10), make an anatomical gift of the body or part of an individual who is near death or has died:

1. A person who is the individual's agent near or at the time of the individual's death and has authority under sub. (4) (b) to make an anatomical gift of the decedent's body or part.

2. The spouse or domestic partner under ch. 770 of the individual.

3. The adult children of the individual.

4. The parents of the individual.

5. The adult siblings of the individual.

6. The adult grandchildren of the individual.

7. The grandparents of the individual.

8. Adults who exhibited special care and concern, except as a compensated health care provider, for the individual.

9. Persons who were guardians of the individual near or at the time of the individual's death.

10. Any other persons who have authority to dispose of the individual's body.

(b) If the members of a class of persons under par. (a) 1., 3., 4., 5., 6., 7., or 9. have priority to make an anatomical gift of an individual's body or part under par. (a) and the class consists of more than one member, any member of the class may make an anatomical gift unless that member or the person to whom the anatomical gift will pass under sub. (11) has actual knowledge of an objection by another member of the class, in which case the anatomical gift may be made only by a majority of members of the class who are reasonably available.

(c) A person may not make an anatomical gift of an individual's body or part under this subsection if a person who is a member of a class with higher priority under par. (a) is reasonably available.

(10) MANNER OF MAKING, AMENDING, OR REVOKING AN ANATOMICAL GIFT NEAR OR UPON DONOR'S DEATH. (a) A person authorized under sub. (9) to make an anatomical gift of an individual's body or part may do so by doing any of the following:

1. Signing a record of gift.
2. Subject to sub. (25m) (c), making an oral communication of an anatomical gift that is electronically recorded.
3. Subject to sub. (25m) (c), making an oral communication of an anatomical gift that is contemporaneously reduced to a record and that is signed by the individual receiving the oral communication.

(b) A member of a class of persons that has higher priority to make an anatomical gift under sub. (9) than the person who made an anatomical gift under par. (a) and who is reasonably available may amend the anatomical gift in the manner provided in par. (d), except that if more than one member of the class with higher priority is reasonably available, the agreement of a majority of the reasonably available members is required to amend the anatomical gift.

(c) 1. Subject to subd. 2., a member of a class of persons that has higher priority to make an anatomical gift under sub. (9) than the person who made an anatomical gift under par. (a) may revoke the anatomical gift in the manner provided in par. (d), except that if more than one member of the class with higher priority is reasonably available, the agreement of at least one-half of the reasonably available members is required to revoke the anatomical gift.

2. A revocation of an anatomical gift under subd. 1. is effective only if before an incision is made to remove a part from the donor's body or before invasive procedures have been begun to prepare the recipient, the procurement organization, transplant hospital, or physician or technician has actual knowledge of the revocation.

(d) A person who is authorized to amend or revoke an anatomical gift under par. (b) or (c) may do so orally or by including the amendment or revocation in a record.

(11) PERSONS THAT MAY RECEIVE ANATOMICAL GIFTS; PURPOSE OF GIFTS. (a) An anatomical gift may be made to any of the following persons:

1. For the purpose of research or education, a hospital, accredited medical school, dental school, college, university, organ procurement organization, or other appropriate person.
2. Subject to par. (b) 1., an individual designated by the person making the anatomical gift into which individual's body a part is intended to be transplanted.
3. An eye bank or tissue bank.
4. An organ procurement organization, as custodian of a part for transplant or therapy.

(b) 1. If a part that is the subject of an anatomical gift made to an individual under par. (a) 2. cannot be transplanted into the individual, the part passes as provided in par. (f) absent an express, contrary indication by the person making the anatomical gift.

2. If tissue that is the subject of an anatomical gift made to an organ procurement organization is unsuitable for transplantation or therapy, the organ procurement organization may give the tis-

sue to an appropriate person for research or education if authorized to do so by the person who made the anatomical gift.

(c) If an anatomical gift of one or more parts does not name a person under par. (a) 1. to 4. as the person to whom the anatomical gift is made, but identifies the purpose of the anatomical gift, all of the following apply:

1. If the purpose of the anatomical gift is transplantation or therapy, the part passes as provided in par. (f).
2. If the purpose of the anatomical gift is research or education, the part passes to the appropriate procurement organization.
3. If an anatomical gift is for more than one purpose, but the purposes are not set forth in any priority, the part shall be used for transplantation or therapy, if suitable, and if the part cannot be used for transplantation or therapy, may be used for research or education.

(d) If an anatomical gift of one or more parts does not name a person under par. (a) 1. to 4. as the person to whom the anatomical gift is made and does not identify the purpose of the anatomical gift, the parts may be used only for transplantation or therapy, and the parts pass as provided in par. (f).

(e) If an anatomical gift specifies only a general intent to make an anatomical gift by words such as "donor," "organ donor," or "body donor," or by a symbol or statement of similar meaning, the anatomical gift may be used only for the purpose of transplantation or therapy, and the parts pass as provided in par. (f).

(f) If par. (b) 1., (c) 1., (d), or (e) applies, all of the following apply:

1. If the part is an eye, the part passes to the appropriate eye bank.
2. If the part is tissue, the part passes to the appropriate tissue bank.
3. If the part is an organ, the part passes to the appropriate organ procurement organization as custodian of the organ.

(g) If a body or part that is the subject of an anatomical gift does not pass pursuant to pars. (a) to (e) or is not used for transplantation, therapy, research, or education, custody of the body or part passes to the person who is obligated to dispose of the body or part.

(h) A person may not accept an anatomical gift of a decedent's body or part if the person has actual knowledge that the anatomical gift was not made as provided in sub. (5), (6), or (10) or if the person has actual knowledge that the decedent made a refusal to make an anatomical gift under sub. (7) that was not revoked.

(i) Except as provided under par. (a) 2., nothing in this section affects the allocation of organs for transplantation or therapy.

(12) SEARCH AND NOTIFICATION. (a) If any of the following persons reasonably believes an individual to be dead or near death, the person shall make a reasonable search of the individual for a record of gift or a record of refusal or other information identifying the individual as a donor or as an individual who has refused to make an anatomical gift:

1. A law enforcement officer, fire fighter, emergency medical services practitioner, emergency medical responder, or ambulance service provider.
2. If no other source of information is immediately available, a hospital, as soon as practical after the individual's arrival at the hospital.

(b) If a record of gift or record of refusal is located by a search under par. (a) 1., and the individual or deceased individual to whom the record or gift or record of refusal relates is taken to a hospital, the person responsible for conducting the search shall send the record of gift or record of refusal to the hospital.

(c) A person is immune from any criminal or civil liability for failure to discharge the duties imposed under this subsection but may be subject to an administrative sanction for such failure.

(13) DELIVERY OF RECORD OF GIFT NOT REQUIRED; RIGHT TO EXAMINE. (a) A record of gift need not be delivered during the donor's lifetime to be effective.

(b) Upon or after an individual's death, a person who has possession of a record of gift or a record of refusal relating to the individual's body or part shall allow any person who is authorized to revoke, make, or object to the making of an anatomical gift of the individual's body or part, and any person to whom the body or part could pass under sub. (11), to examine and copy the record of gift or record of refusal.

(14) RIGHTS AND DUTIES OF PROCUREMENT ORGANIZATION AND OTHERS. (a) A procurement organization shall do all of the following when a hospital refers an individual who is near death or who is deceased to the procurement organization:

1. If the individual is a prospective donor, make a reasonable search for any person under sub. (9) having priority to make an anatomical gift of the individual's body or part.

2. If the individual referred to is a minor who is a donor or who made an unrevoked refusal to make an anatomical gift, unless the procurement organization has actual knowledge that the minor was emancipated, conduct a reasonable search for the parents of the minor and provide the parents an opportunity to revoke or amend the anatomical gift or refusal relating to the minor.

3. If the procurement organization receives information about an anatomical gift of the individual's body or part that under sub. (11) passes to a person other than the procurement organization, promptly advise the other person of relevant information regarding the anatomical gift.

4. If procurement organization personnel make a request of a family member of a potential donor to make an anatomical gift of organs, tissues, or eyes, ensure that the personnel make the request with discretion and sensibility with respect to the circumstances, views, and beliefs of the family of the potential donor.

(b) When a hospital refers an individual at or near death to a procurement organization, the procurement organization may conduct any reasonable examination to determine whether a part of the individual that is or could be the subject of an anatomical gift is medically suitable for transplantation, therapy, research, or education. Unless otherwise prohibited by law, an examination under this paragraph may include an examination of all of the individual's medical or dental records. During the examination period, measures necessary to ensure the medical suitability of the part may not be withdrawn unless the hospital or procurement organization has actual knowledge that the individual expressed a contrary intent.

(c) Unless otherwise prohibited by law, at any time after a donor's death, the person to whom the donor's body or part passes under sub. (11) may conduct any reasonable examination, including an examination of all of the donor's medical or dental records, to determine the medical suitability of the donor's body or part for its intended purpose.

(d) Subject to subs. (11) (g), (22m), and (23m), the rights of the person to whom an anatomical gift of a part passes under sub. (11) are superior to the rights of all others with respect to a part. The person may accept or reject an anatomical gift in whole or in part. A person who accepts an anatomical gift of a part shall cause the part to be removed from the donor's body after the death of the donor and before embalming, burial, or cremation and without unnecessary mutilation.

(e) A person who accepts an anatomical gift of an entire body may, subject to the terms of an anatomical gift and this section, allow embalming, burial, cremation, or use of the remains of the body in a funeral service.

(f) A physician who attends a decedent at death or determines the time of death may not participate in the procedures for removing or transplanting a part from the decedent.

(g) A physician or technician may remove from the body of a donor a donated part that the physician or technician is qualified to remove.

(14m) COORDINATION OF PROCUREMENT AND USE; DUTIES OF HOSPITALS. Each hospital shall do all of the following:

(a) Enter into agreements or affiliations with procurement organizations for coordination of procurement and use of bodies and parts that are the subject of anatomical gifts, including the following:

1. An agreement with an organ procurement organization to notify the organ procurement organization or its designee in a timely manner of individuals whose death is imminent or who have died in the hospital.

2. Agreements with at least one tissue bank and at least one eye bank to cooperate in the retrieval, processing, preservation, storage, and distribution of tissues and eyes to assure that all usable tissues and eyes are obtained from potential donors, as long as such agreements do not interfere with the procurement of organs.

(b) Ensure, in collaboration with the organ procurement organization with which the hospital has an agreement under par. (a) 1. that the family of each potential donor is informed of its options to donate organs, tissues, or eyes or to refuse to donate organs, tissues, or eyes.

(c) Ensure that the individual who requests family members of potential donors to make anatomical gifts of organs, tissues, or eyes is either an organ procurement representative or has completed a course on the methodology for approaching persons to request that they make anatomical gifts, which course is designed in conjunction with the tissue and eye bank community and offered or approved by the organ procurement organization with which the hospital has an agreement under par. (a) 1.

(d) Ensure that hospital personnel who make requests of family members of potential donors to make anatomical gifts of organs, tissues, or eyes make the requests with discretion and sensibility with respect to the circumstances, views, and beliefs of the families of potential donors.

(e) Ensure that the hospital works cooperatively with the procurement organizations with which it has agreements under par. (a) in educating staff on donation issues, reviewing death records to improve identification of potential donors, and maintaining potential donors while necessary testing and placement of potential donated organs, tissues, and eyes takes place.

(17) PROHIBITED ACTS RELATED TO RECORDS. Any person who intentionally falsifies, forges, conceals, defaces, or obliterates a record of gift, an amendment or revocation of a record of gift, or a record of refusal for pecuniary gain is guilty of a Class H felony, except that notwithstanding the maximum fine specified in s. 939.50 (3) (h), the person may be fined not more than \$50,000.

(18) IMMUNITY. (a) A person who acts, or in good faith attempts to act, in accordance with this section or with the applicable anatomical gift law of another state is not liable for the act in a civil action, criminal prosecution, or administrative proceeding.

(b) A person who makes an anatomical gift and the person's estate are not liable for any injury or damage that results from the making of the anatomical gift or the use of the body or any part that is the subject of the anatomical gift.

(c) A person may rely on a representation made by an individual purporting to be an individual listed under sub. (9) (a) 2., 3., 4., 5., 6., 7., or 8. as to the individual's relation to a donor or prospective donor in determining whether an anatomical gift of the donor's or prospective donor's body or part has been made, amended, or revoked.

(19) LAW GOVERNING VALIDITY; CHOICE OF LAW AS TO MAKING OF ANATOMICAL GIFT; PRESUMPTION OF VALIDITY. (a) An anatomical gift is valid if made in accordance with any of the following:

1. This section.

2. The laws of the state or country where it was made.

3. The laws of the state or country where the individual making the anatomical gift was domiciled, had a place of residence, or was a national at the time the anatomical gift was made.

(b) If an anatomical gift is valid under this subsection, the law of this state governs the interpretation of the anatomical gift.

(c) A person may presume that an anatomical gift or an amendment of an anatomical gift is valid unless the person has actual knowledge that it was not validly made or was revoked.

(20) DONOR REGISTRY. The department of health services may establish a donor registry. If the department of health services establishes a donor registry under this subsection, the department of transportation shall cooperate with the department of health services in establishing the donor registry. The department of health services shall promulgate administrative rules governing any donor registry established under this subsection.

(21) EFFECT OF ANATOMICAL GIFT ON ADVANCE HEALTH CARE DIRECTIVE. If a prospective donor executed a declaration, as defined in s. 154.02 (1), or a power of attorney for health care instrument under ch. 155, measures necessary to ensure the medical suitability of an organ for transplantation or therapy may not be withheld or withdrawn from the prospective donor unless the declaration or power of attorney for health care instrument expressly provides to the contrary.

(22m) AUTHORIZATION BY CORONER OR MEDICAL EXAMINER; NO EVIDENCE OF ANATOMICAL GIFT. (ag) If a decedent is within the custody of a coroner or medical examiner and if there is no evidence that an anatomical gift of the decedent's body or part has been made or that the decedent has refused to make an anatomical gift, the coroner or medical examiner shall contact by telephone the organ procurement organization designated for the region in which the death occurs. The coroner or medical examiner shall provide the organ procurement organization with information, if known to the coroner or medical examiner, concerning the decedent's age, the cause of the decedent's death and, if available, the decedent's medical history.

(am) The coroner or medical examiner may release and permit the removal of a part from a decedent specified in par. (ag) within that official's custody, for transplantation or therapy, including to a tissue bank under the requirements of sub. (24m), if all of the following apply:

1. The official has received a request for the part from a hospital, physician, or organ procurement organization.

2. The official has made a reasonable effort, taking into account the useful life of the part, to locate and examine the decedent's medical records and, subject to sub. (25m), inform persons listed in sub. (9) of their option to make, or object to making, an anatomical gift.

3. The official does not have actual knowledge of a refusal to make an anatomical gift or contrary indication by the decedent or of an objection by a person having priority to act as listed in sub. (9).

4. The removal will be by a physician, except for the following:

a. In the case of eyes, the removal may be by a physician or by an enucleator.

b. In the case of tissue or bone, the removal may be by a physician or by a technician.

5. The removal will not interfere with any autopsy or investigation.

6. The removal will be in accordance with accepted medical standards.

7. Cosmetic restoration will be done to the decedent's body, if appropriate.

(b) A coroner or medical examiner who releases, and permits the removal of a part under this subsection shall maintain a permanent record of the name of the decedent, the name of the person making the request, the date and purpose of the request, the part requested, and the name of the person to whom it was released.

(23m) AUTHORIZATION BY CORONER OR MEDICAL EXAMINER; POTENTIAL DONATIONS OF ORGANS AND TISSUE. (a) Subject to par. (b), for a decedent who meets the criteria for a determination of

death under s. 146.71, who is a donor, and who is within the jurisdiction of a coroner or medical examiner under ch. 979, any vascularized organ that is the subject of an anatomical gift may be removed by a physician, within a time period compatible with preservation of the organ for purposes of transplantation or therapy, if all of the following take place:

1. Immediately after the hospital in which the donor or potential donor is located contacts the organ procurement organization designated for the region of which the hospital is a part concerning the potential donation, the organ procurement organization shall, by oral conversation, provide notice to the coroner or medical examiner or his or her designee of the referral of the donor or potential donor and shall provide notice of the referral to the district attorney or his or her designee.

2. The coroner or medical examiner or his or her designee has the opportunity to be present during the scheduled removal of the vascularized organ if, in the judgment of the coroner, medical examiner, or designee, the organ may be necessary in determining the cause of death.

(b) If, in the judgment of the coroner, medical examiner, or designee specified in par. (a) the vascularized organ may be necessary in determining the cause of death, the coroner, medical examiner, or designee may order a biopsy of the vascularized organ or, if the coroner, medical examiner, or designee is present during the scheduled removal, he or she may deny removal of the vascularized organ. If denial of removal is a possibility, the organ procurement organization shall make a good faith effort to consult with a forensic pathologist designated by the coroner, medical examiner, or designee as to the pathologist's opinion concerning the necessity of the vascularized organ in determining the cause of death. If the biopsy is ordered or the removal is denied, the coroner, medical examiner, or designee shall specify, in writing as part of any death report required under ch. 979, any reasons for determining that the vascularized organ may be involved in the cause of death.

(c) For a decedent specified under par. (a), as authorized under the requirements of this section by the coroner, medical examiner, or designee with jurisdiction over the decedent, any part other than a vascularized organ that is a subject of an anatomical gift may be removed by a physician and any part that is tissue or bone may be removed by a technician or tissue bank employee, within a time period compatible with preservation of the part for purposes of transplantation or therapy.

(d) A physician, technician, or tissue bank employee who removes cardiovascular tissue from a decedent under this subsection shall, upon request of the coroner or medical examiner, file with the coroner or medical examiner with jurisdiction over the decedent a report detailing the condition of the cardiovascular tissue and its relationship to the cause of death. The report may include a biopsy or medically approved sample, if available, from the part.

(e) 1. A physician who removes an organ from a decedent under this subsection shall complete a form, as specified in sub. (26m) (a).

2. A physician, technician, or tissue bank employee who removes tissue, other than cardiovascular tissue, from a decedent under this subsection shall complete a form, as specified in sub. (26m) (b).

3. After completing a form under this paragraph, the physician, technician, or tissue bank employee shall transmit the form to the coroner or medical examiner with jurisdiction over the decedent.

(24m) AUTHORIZATION BY CORONER OR MEDICAL EXAMINER; TISSUE BANKS. (a) 1. If a decedent is within the custody of a coroner or medical examiner, and the death occurred in a hospital, any release of the decedent for potential donation of tissue shall be to the tissue bank with which the hospital has an agreement under sub. (14m) (a) 2. However, if such a tissue bank is unwilling to

receive the tissue donation, the tissue bank shall so notify the coroner or medical examiner.

2. Upon receipt of a notification under subd. 1., the coroner or medical examiner may notify any other tissue bank with which the coroner or medical examiner has an agreement under par. (b) of the availability of the decedent as a potential tissue donor.

3. Upon receipt of a notification under subd. 2., the tissue bank so notified, if willing to receive the tissue donation, shall contact a reasonably available person, under the priority established in sub. (9), to request that the person make an anatomical gift of all or a part of the decedent's tissue.

4. If the coroner or medical examiner informs the hospital that subds. 2. and 3. apply and that consent has been given for an anatomical gift, the hospital shall transfer the decedent to the coroner or medical examiner.

(b) When a decedent is within the custody of a coroner or medical examiner, the death occurred outside a hospital or the decedent was transferred to the coroner or medical examiner under par. (a) 4., and the coroner or medical examiner refers the decedent as a potential tissue donor, any such referral shall be made under the following conditions:

1. Subject to subds. 2., 3., and 4., the coroner or medical examiner, after considering a tissue bank's history, services, traditional referral patterns, geographic service area, and tissue distribution record and any other criteria required for consideration by the corporation counsel of the applicable county, enters into a written, general referral agreement with one or more tissue banks to which the coroner or medical examiner shall refer decedents for potential donation of tissue.

2. Any agreement under subd. 1. is subject to review and approval by all of the following:

a. The corporation counsel of the applicable county.

b. The county board of the applicable county. Within 60 days after any approval by the corporation counsel and transmittal of the agreement to the county board, the county board may approve or disapprove the agreement. If the county board takes no action, the agreement is approved.

3. A tissue bank under this paragraph is accredited by the American Association of Tissue Banks or audited at least once every 2 years by an organization that is accredited by the American Association of Tissue Banks.

4. All of the following applies to an agreement by a coroner or medical examiner with one or more tissue banks to which the coroner or medical examiner refers decedents for potential donation of tissue:

a. Any such agreement that is entered into after April 13, 2006, shall conform to the requirements of subds. 1. to 3.

b. Any such agreement that exists on April 13, 2006, shall conform to the requirements of subds. 1. to 3. by October 1, 2007, unless the agreement expires before that date and is not renegotiated or renewed under subd. 4. a.

(25m) CONSENT FOR OR LIMITATION ON CERTAIN USES OF BONES OR TISSUE; REQUIREMENTS. (a) A hospital, organ procurement organization, tissue bank, coroner, or medical examiner that provides a record of gift to a person who may make an anatomical gift under sub. (4) or (9) shall include in the record of gift the following sentences: "I understand that donated bones or tissues, including skin, may have numerous uses, including for reconstructive and cosmetic purposes, and that multiple organizations, including nonprofit and for-profit organizations, may recover, process, or distribute the donations. I further understand that I may, by this record, limit the use of the bones or tissues, including skin, that are donated or types of organizations that recover, process, or distribute the donation."

(b) The record of gift under par. (a) shall include, following the 2nd sentence required in par. (a), all of the following:

1. A line or space for the person who may make an anatomical gift to sign to acknowledge that he or she has read the sentences specified in par. (a) or that the sentences have been read aloud to him or her. Except in cases in which an anatomical gift is executed by means that do not require the person making the anatomical gift to sign a record of gift, failure of the person making the anatomical gift to sign in the line or space is a refusal to make or an objection to making an anatomical gift of bones or tissues.

2. A line or space for the person making the anatomical gift to sign and specify a limitation, if any, on the use of bones or tissues or on the types of organizations that recover, process, or distribute the donation.

(c) If a person makes an anatomical gift in the manner provided in sub. (10) (a) 2. or 3., the individual receiving the oral communication shall read aloud to the person the sentences required under par. (a). If the anatomical gift is made in the manner provided in sub. (10) (a) 3., the individual who reduces the anatomical gift to a record shall note on the record that the person making the anatomical gift has been read the sentences required under par. (a) and note any limitations that the person making the anatomical gift imposes on the use of any bones or tissues that are the subject of the anatomical gift or any limitations on the types of organizations that recover, process, or distribute such bones or tissues.

(d) If a person who may make an anatomical gift under sub. (4) or (9) makes an anatomical gift under this subsection, the hospital, organ procurement organization, tissue bank, coroner, or medical examiner that provides to the person a record of gift under par. (a) shall also provide the person with the telephone number and address of the agency or organization that recovers the anatomical gift.

(e) The requester under par. (a) shall provide the person who may make an anatomical gift under sub. (4) or (9) with a copy of any record of gift executed under the requirements of this subsection.

(26m) FORMS FOR REMOVAL OF ORGANS AND CERTAIN TISSUES; RULES. The department of health services shall promulgate rules prescribing all of the following:

(a) A form for removal of organs for use under sub. (23m) (e) 1. and 3.

(b) A form for removal of tissue, other than cardiovascular tissue, for use under sub. (23m) (e) 2. and 3.

(27m) PENALTY. Whoever fails to comply with the requirement to provide sentences under sub. (25m) (a) or (c) may be subject to a forfeiture of not less than \$500 nor more than \$1,000 for each violation.

(28m) EFFECT OF PRIOR DOCUMENT OF GIFT. Notwithstanding the requirements of this section, a document of gift that was made under the requirements of s. 157.06, 1987 stats., or s. 157.06, 2005 stats., is deemed to comply with the requirements of this section.

History: 1971 c. 40 s. 93; 1971 c. 213 s. 5; 1977 c. 46, 124; 1979 c. 175 s. 53; 1979 c. 221 s. 2202 (45); 1981 c. 20, 290; 1983 a. 485; 1985 a. 286, 315; 1985 a. 316 s. 14; Stats. 1985 s. 157.06; 1989 a. 105; 1989 a. 298 ss. 3, 10m, 11m; 1991 a. 32; 1995 a. 27 s. 9126 (19); 1997 a. 52, 206, 305; 1999 a. 83; 2001 a. 103; 2005 a. 229, 230; 2007 a. 20 s. 9121 (6) (a); 2007 a. 106; 2009 a. 28, 177, 180; 2011 a. 258; 2011 a. 260 s. 81; 2013 a. 151 s. 28; 2015 a. 195 s. 83; 2017 a. 12.

Cross-reference: See also ch. DHS 137, Wis. adm. code.

Chapters 69 and 157 are not alternatives to the requirement in s. 979.10 that anyone cremating a corpse must first obtain a cremation permit from the coroner. University medical schools or anyone else qualified to receive a corpse can receive a corpse for research without first obtaining a permit. 77 Atty. Gen. 218.

SUBCHAPTER II

CEMETERIES

157.061 Definitions. Except as otherwise provided, in this subchapter:

(1) "Burial" means entombment, inurnment or interment.

(1g) "Business day" has the meaning given in s. 421.301 (6).

(1m) “Care fund” means one or more accounts or other investments established for the care of a cemetery.

(1p) “Cemetery” means any land, including any mausoleum on the land, that is used or intended to be used, exclusively for the burial of human remains.

(1r) “Cemetery association” means an association formed under s. 157.062.

(2) “Cemetery authority” means any person who owns or operates a cemetery specified in s. 157.065 (1).

(2g) “Cemetery board” means the board created in s. 15.405 (3m).

(2m) “Cemetery lot” means a grave or 2 or more contiguous graves and, when used in reference to the sale, purchase or ownership of a cemetery lot, includes the right to bury human remains in that cemetery lot.

(3) “Cemetery services and merchandise” means goods associated with the burial of human remains, including monuments, markers, nameplates, vases, and urns, and any services that are associated with supplying or delivering those goods or with the burial of human remains, including the burial or entombment, and that may be lawfully provided by a cemetery authority. The term does not include caskets or outer burial containers.

(4) “Dedicated” means platted as a cemetery.

(7m) “Grave” means a piece of land that is used or intended to be used for an underground burial of human remains, other than a burial in an underground mausoleum space.

(8) “Human remains” means the body of a deceased individual that is in any stage of decomposition or has been cremated.

(9) “Mausoleum” means a building, structure or part of a building or structure that is used or intended to be used for the burial of human remains.

(10) “Mausoleum space” means a niche, crypt or specific place in a mausoleum that contains or is intended to contain human remains.

(11) “Municipality” means town, village or city.

(11g) “Outer burial container” means any container that is placed or intended to be placed into the burial excavation of a grave and into which a casket is placed or intended to be placed at the time of burial.

(11r) “Payment of principal” means the portion of a payment for the purchase of a cemetery lot, cemetery services and merchandise, or a mausoleum space that represents the principal amount owed by the purchaser for the cemetery lot, cemetery services and merchandise, or mausoleum space, and does not include any portion of the payment that represents any taxes, finance or interest charges, administrative fees, or insurance premiums.

(12) “Preneed sales contract” means an agreement for the sale of cemetery services and merchandise that is to be delivered after the date of the initial payment for the cemetery services and merchandise, or for the sale of an undeveloped space.

(13) “Preneed trust fund” means an account or other investment in which a portion of the cemetery services and merchandise received under a preneed sales contract is deposited.

(13m) “Professional land surveyor” means a professional land surveyor licensed under ch. 443.

(14) “Public mausoleum” means a mausoleum in which at least one mausoleum space is offered for sale to the general public.

(15) “Religious association” means any church, synagogue, or mosque; any religious society organized under ch. 187; and any corporation whose articles of organization provide, subject to s. 182.030, that it shall be under the supervision and control of a church, synagogue, mosque, or religious society.

(16) “Sale” means a transfer for consideration of any interest in ownership, title or right to use.

(17) “Undeveloped space” means a mausoleum space that is not ready for the burial of human remains on the date of the sale of the mausoleum space.

History: 1983 a. 189; 1985 a. 316 s. 18; Stats. 1985 s. 157.061; 1989 a. 307; 1991 a. 269; 1997 a. 188; 1999 a. 32; 2005 a. 25; 2011 a. 32; 2013 a. 358; 2015 a. 237; 2017 a. 365 s. 110.

157.062 Cemetery associations; creation; powers and duties.

(1) ORGANIZATION. Seven or more residents of the same county may form a cemetery association. They shall meet, select a chairperson and secretary, choose a name, fix the annual meeting date, and elect by ballot not less than 3 nor more than 9 trustees whom the chairperson and secretary shall immediately divide by lot into 3 classes, who shall hold their offices for 1, 2, and 3 years, respectively. Within 3 days, the chairperson and secretary shall certify the corporate name, the names, home addresses, and business addresses of the organizers and of the trustees, and their classification, and the annual meeting date acknowledged by them, and, except as provided in sub. (9), deliver the certification to the cemetery board. The association then has the powers of a corporation.

(2) AMENDMENTS. The association may change its name, the number of trustees, or the annual meeting date by resolution at an annual meeting, or special meeting called for such purpose, by a majority vote of the members present, and, except as provided in sub. (9), by delivering to the cemetery board a copy of the resolution, with the date of adoption, certified by the president and secretary or corresponding officers.

(3) VALIDATION. When there shall have been a bona fide attempt to organize a cemetery association, but a failure to record a properly drawn and executed certificate of organization, and it has in good faith bought and platted grounds and conveyed cemetery lots and carried on business for over 25 years, the same shall be a body corporate from the date of conveyance to it of real estate, and its transfers and other transactions are validated.

(4) MEETINGS; ELECTIONS. (a) An annual election shall be held during the annual meeting. The annual meeting, and any special meeting described in sub. (2), shall be held at a place in the county chosen by the trustees upon public notice as required by the bylaws. Trustees chosen after the first election shall be proprietors of cemetery lots in the cemetery, residents of the state, and hold office for 3 years. Election shall be by ballot and a plurality shall elect. Each owner of one or more cemetery lots is entitled to one vote, and one of several owners of a cemetery lot, designated by the majority of them, shall cast the vote.

(b) If the annual election is not held on the day fixed for the annual meeting, the trustees may appoint another day, not more than 60 days after the annual meeting, and give public notice of time and place, and if an election is not so held 5 members may apply to the judge of a court of record in the county for an order granting power to hold an election, by publishing in the county a class 2 notice, under ch. 985, of the application and the judge shall grant the application, and election shall then be held upon like notice. The terms of trustees expire on the date of the annual meeting in the year in which they are scheduled to expire, except that if no election is held at the annual meeting the terms expire on the date of the next election held under this paragraph.

(5) TRUSTEES; DUTIES, REPORT. The trustees may fill vacancies for the unexpired term. One shall be chosen president, and they shall appoint a secretary and treasurer, and may require security of the treasurer. The trustees shall manage the affairs and property of the association and control and beautify the cemetery, and may establish regulations for those purposes. The trustees shall make and file written reports as required in s. 157.62 (1) and (2).

(6) DISSOLUTION; REORGANIZATION. (a) The association is dissolved by failure to hold an annual election for 3 successive years.

(b) If an association that has been dissolved under par. (a), or any group that was never properly organized as a cemetery association, has cemetery grounds and human remains are buried in the cemetery grounds, 5 or more members, or persons interested as determined by order of the circuit judge under par. (c), may publish a class 3 notice, under ch. 985, in the municipality in which the cemetery is located, of the time, place, and object of the meeting, assemble and reorganize by the election of trustees and divide them into classes as provided in sub. (1), the commencement of the terms to be computed from the next annual meeting date. The secretary shall enter the proceedings of the meeting on the records. The association is reorganized upon delivery of a copy of the proceedings to the cemetery board, except as provided in sub. (9). Upon reorganization, the title to the cemetery grounds, trust funds, and all other property of the association or group vests in the reorganized association, under the control of the trustees. The reorganized association may continue the name of the dissolved association or may adopt a new name.

(c) If an association is dissolved under par. (a) or any group has never been properly organized as cemetery association, and there are fewer than 5 members living or residing in the county where the cemetery is located, the circuit judge for the county shall upon the petition of any person interested, make an order determining who are persons interested in the cemetery. Any adult person who owns an interest in any cemetery lot in the cemetery, who is related to any person buried in the cemetery, or who is a descendant, brother, sister, nephew, niece or surviving spouse of a member of the dissolved association, is an interested person. The circuit judge may make the order upon evidence he or she deems sufficient, with or without hearing. The order need not contain the names of all persons interested, but shall contain the names of at least 5 such persons.

(6m) FORMS. The cemetery board may prescribe and furnish forms for providing the information required under subs. (1) to (6).

(7) TAX FOR MAINTENANCE. When a cemetery association having control of a cemetery in a town, village or city of the third or fourth class has insufficient maintenance funds it may certify in writing to the clerk of such town, city or village the amount deemed necessary during the next ensuing year, the amount the association has therefor, and the deficiency, and the governing body of such town, city or village may levy and collect a tax therefor and pay the same to the association. If the cemetery is in more than one such municipality the deficiency shall be equitably distributed. If a cemetery located wholly within a town, village or city of the third or fourth class has also buried therein decedents from an adjoining municipality, the association having insufficient funds, the association may certify in writing to its municipal clerk and to the clerk of such other municipality, the amount deemed necessary for the ensuing year, the amount the association has therefor, the amount of the deficiency and the equitable amount that each municipality should contribute; whereupon the governing body of each such municipality may levy and collect a tax therefor and pay the same to the association.

(8) LIMITED LIABILITY OF TRUSTEES AND OFFICERS. (a) Except as provided in pars. (b) to (d), a trustee or officer of a cemetery association organized under this section is not liable to the association, its members or creditors, or any person asserting rights on behalf of the association, its members or creditors, or any other person, for damages, settlements, fees, fines, penalties or other monetary liabilities arising from a breach of, or failure to perform, any duty resulting solely from his or her status as a trustee or officer, unless the person asserting liability proves that the breach or failure to perform constitutes any of the following:

1. A willful failure to deal fairly with the association or its members in connection with a matter in which the trustee or officer has a material conflict of interest.
2. A violation of criminal law, unless the trustee or officer had reasonable cause to believe his or her conduct was lawful or no reasonable cause to believe his or her conduct was unlawful.

3. A transaction from which the trustee or officer derived an improper personal profit.

4. Willful misconduct.

(b) Except as provided in par. (c), this subsection does not apply to any of the following:

1. A civil or criminal proceeding brought by or on behalf of any governmental unit, authority or agency.

2. A proceeding brought by any person for a violation of state or federal law where the proceeding is brought pursuant to an express private right of action created by state or federal statute.

3. The liability of a trustee or officer arising from a breach of, or failure to perform, any duty relating to the receipt, handling, investment or other use of care funds or any other funds made in trust.

4. The liability of a trustee or officer for violating s. 157.12.

(c) Paragraph (b) 1. and 2. does not apply to a proceeding brought by a governmental unit, authority or agency in its capacity as a private party or contractor.

(d) This subsection does not apply to a cemetery association organized under this section if any part of the association's income is distributable among its members, trustees or officers.

(9) EXEMPTIONS FOR CERTAIN CEMETERIES. In lieu of delivering a certification, resolution, or copy of proceedings to the cemetery board under sub. (1), (2), or (6) (b), a cemetery association that is not required to be licensed under s. 440.91 (1) or registered under s. 440.91 (1m) shall deliver the certification, resolution, or copy of proceedings to the office of the register of deeds of the county in which the cemetery is located.

History: 1977 c. 449 ss. 233, 497; 1983 a. 192; 1985 a. 316 s. 18; Stats. 1985 s. 157.062; 1989 a. 31, 307; 1991 a. 269; 1995 a. 27; 1997 a. 254; 2007 a. 174; 2015 a. 237.

Under sub. (4), cemetery association voters must be lot owners. Heirs of deceased lot owners are entitled to vote in cemetery association elections. 69 Atty. Gen. 132.

157.064 Cemetery associations and religious associations; holding property; change of ownership.

(1) A cemetery or religious association authorized to hold lands for cemetery purposes may take and hold not more than 80 acres of land, to be used exclusively for burial of the dead, and personal property not exceeding \$250,000 in value, to promote the objects of the association; and if the cemetery is near to or within a 3rd class city the association may so take and hold not more than 160 acres of land; and if near to or within a 1st or 2nd class city, not more than 240 acres.

(2) A cemetery or religious association incorporated in this state and having a cemetery in or near a 1st or 2nd class city and any cemetery described under s. 157.065 (3m) (d) may acquire by gift or purchase up to 30 acres of adjoining lands for cemetery purposes, and may pay for it wholly or partly from its cemetery lot sales.

(3) When it is necessary to enlarge a cemetery owned by a cemetery or religious association, and adjoining lands cannot be acquired or can be acquired only at an exorbitant price, application may be made in writing to the circuit judge by 12 or more resident freeholders of the municipality in which the cemetery is located describing the land and setting forth the facts and the price asked, whereupon the judge shall appoint 3 resident freeholders of the county, but not of the municipality, to appraise the damages of each owner, not to exceed the price asked, but, except in cities or incorporated villages, no lands may be taken within 330 feet of a residence owned by the occupant without the occupant's written consent. The appraisers shall hear all parties upon 10 days' notice and file a report in writing with the judge within 10 days after determination. Upon payment into court of the amount appraised, the lands shall be taken. Either party may appeal as provided in s. 32.06 (10). The commissioners shall be paid, by the party seeking to take the land, \$3 for each day actually employed and 6 cents for each mile necessarily traveled.

(5) Whenever a cemetery association votes to convey cemetery property and all trust funds pertaining to the cemetery prop-

11 Updated 17–18 Wis. Stats.

erty to a city, village or town, the trustees of the association shall have the power to transfer the property upon the acceptance of the transfer by resolution of the governing body of the city, village or town. A conveyance under this subsection is subject to s. 157.08 (2).

(6) Whenever the majority of the members of a cemetery association, or of a religious association authorized to hold lands for cemetery purposes, present at an annual meeting or special meeting called for such purpose vote to convey all of the cemetery association's or religious association's cemetery property, trust funds and other property used for cemetery purposes to another cemetery association or religious association, the trustees of the association shall transfer the property upon the acceptance of the transfer by the other association by affirmative vote of a majority of its members present at an annual meeting or special meeting called for that purpose. Upon such acceptance, the title to the cemetery property, trust funds and other property of the transferring association vests in the accepting association under the control of the trustees of the accepting association. A conveyance under this subsection is subject to s. 157.08 (2).

(7) Not more than 30 days after a transfer under sub. (6), the transferring association shall notify the cemetery board in writing of the transfer, including the name and address of the accepting association or its treasurer. The cemetery board may prescribe and furnish forms for providing the information required under this subsection.

History: 1977 c. 449 s. 497; 1985 a. 316 s. 18; Stats. 1985 s. 157.064; 1987 a. 190; 1989 a. 307 ss. 19, 21 to 24; 1995 a. 27; 2015 a. 237.

157.065 Location and ownership of cemeteries.

(1) No cemetery may be used for burials except any of the following:

- (a) A cemetery in use on April 4, 1864.
- (b) A cemetery organized and operated by any of the following:
 1. A municipality.
 2. A religious association.
 3. A fraternal or benevolent society.
 4. An incorporated college of a religious order.
 5. A cemetery association created under s. 157.062.
 6. A corporation organized under ch. 180 or 181.
 7. A limited liability company organized under ch. 183.

(2) (a) Except as provided in sub. (3), no cemetery may be established:

1. Within a recorded plat or recorded addition to a plat of any city or village, if the cemetery is within one mile of a building in the plat;
2. Outside a recorded plat or recorded addition to a plat of any city or village if the cemetery is within 3,300 feet of an inhabited dwelling that is located within a recorded plat or addition, unless the city or village consents;
3. Within 250 feet of any habitable dwelling, publicly owned building or school, unless the cemetery is establishing an extension on property it has owned continually since June 18, 1929; or
4. Within 3,300 feet of any of the following state facilities, without the consent of the state:
 - a. Any institution for the deaf or the blind;
 - b. Any mental health institute, as defined in s. 51.01;
 - c. A Type 1 juvenile correctional facility, as defined in s. 938.02 (19);
 - d. Any center for the developmentally disabled; or
 - e. Any state reformatory.

(b) Paragraph (a) does not apply to enlargements under sub. (3m) or s. 157.064 (2) or (3).

(3) (a) Any incorporated college of a religious order in a 4th class city may establish a private cemetery within the city on land the college owns to bury members of the religious order, if the

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common council consents and if each person owning a private building within 825 feet of the proposed cemetery consents.

(b) Any private military academy that provides an educational program for grades 7 to 12 in a 4th class city may establish a private cemetery within the city on land that the military academy owns, if the common council consents. No mausoleum within a cemetery established under this paragraph may exceed 3,500 square feet in area.

(3m) Any of the following cemeteries may enlarge only in the following manner:

(a) Any cemetery in a village may enlarge with the consent of the village board and of the owners of each building within 250 feet of the addition.

(b) Any cemetery in a 3rd or 4th class city may enlarge with the consent of the common council.

(c) Notwithstanding pars. (a) and (d), any cemetery established before April 30, 1887, in a village and located within 100 feet of the village limits may extend to the village limits with the consent of the village board.

(d) Notwithstanding pars. (a) to (c), any cemetery established before April 30, 1887, may expand as provided in s. 157.064.

(5) Any violation of this section is a public nuisance.

History: 1975 c. 39, 106; 1975 c. 189 s. 99 (2); 1975 c. 200, 422, 430; 1977 c. 83; 1977 c. 449 s. 497; 1979 c. 221; 1981 c. 20; 1985 a. 316 ss. 18, 25; Stats. 1985 s. 157.065; 1987 a. 190; 1989 a. 43, 307; 1993 a. 98, 112; 1995 a. 77; 1999 a. 9; 2001 a. 103, 107; 2005 a. 344.

157.067 Connection with funeral establishment prohibited.

(1) In this section, "funeral establishment" has the meaning given in s. 445.01 (6), except that "funeral establishment" does not include a building or part of a building that is erected under s. 157.11 (1) for holding or conducting funeral services if dead human bodies are not embalmed, cared for, or prepared for burial or transportation, in the building.

(2) No cemetery authority may permit a funeral establishment to be located in the cemetery. No cemetery authority may have or permit an employee or agent of the cemetery to have any ownership, operation or other financial interest in a funeral establishment. Except as provided in sub. (2m), no cemetery authority or employee or agent of a cemetery may, directly or indirectly, receive or accept any commission, fee, remuneration or benefit of any kind from a funeral establishment or from an owner, employee or agent of a funeral establishment.

(2m) A cemetery authority may accept a fee or remuneration from a funeral establishment or from an owner, employee or agent of a funeral establishment if all of the following requirements are satisfied:

(a) The fee or remuneration is a payment to the cemetery authority for a burial in the cemetery authority's cemetery.

(b) The fee or remuneration payment is made on behalf of the person who is responsible for paying for the funeral establishment's services.

(c) The funeral establishment will be reimbursed for the fee or remuneration by charging the person who is responsible for paying the funeral expenses an amount that is identical to the amount of the fee or remuneration paid by the funeral establishment to the cemetery authority.

History: 1993 a. 100, 386; 2005 a. 266.

If subsidiary corporations have prohibited financial connections, their corporate structure will not save them from the prohibitions of ss. 157.067 (2) and 445.12 (6). Those statutes are not unconstitutionally vague. Cemetery Services, Inc. v. Department of Regulation and Licensing, 221 Wis. 2d 817, 586 N.W.2d 191 (Ct. App. 1998), 97-2115.

Sub. (2) and s. 445.12 (6), which prohibit the joint ownership or operation of a cemetery and a funeral home, do not violate the equal protection or due process clauses of the Wisconsin and U.S. constitutions. Porter v. State, 2018 WI 79, 382 Wis. 2d 697, 913 N.W.2d 842, 16-1599.

157.07 Platting. (1) A cemetery authority shall cause to be surveyed and platted by a professional land surveyor those portions of the lands that are from time to time required for burial, into

cemetery lots, drives, and walks, and record a plat or map of the land in the office of the register of deeds.

(2) The location of the lands shall be indicated on the plat or map by bearing and distance from a boundary line of a government lot, quarter section, recorded private claim, or federal reservation in which the subdivision is located. The monumentation at the ends of the boundary line shall be described and the bearing and distance between them shown, and the plat or map shall show a small scale drawing of the section or government subdivision of the section in which the cemetery plat is situated, with the cemetery plat indicated. The plat or map shall include the certificate of the professional land surveyor containing the name of the cemetery authority, the date of the survey, the professional land surveyor's stamp or seal and signature, and the professional land surveyor's statement that the survey is true and correct to the professional land surveyor's best knowledge and belief.

(3) The plat or map shall be made on a durable white media that is 22 inches wide by 30 inches long, or on any other media that is acceptable to the register of deeds, with a permanent nonfading black image. Seals or signatures that are reproduced on images that comply with this subsection have the force and effect of original seals and signatures. When more than one sheet is used for any one plat or map, they shall be numbered consecutively and each sheet shall contain a notation showing the whole number of sheets in the plat, and its relation to the other sheets. The sheets may be provided by the county through the register of deeds on terms determined by the county board. The professional land surveyor shall leave a binding margin of one inch on all sides.

(4) The cemetery authority shall cause the plat or map to be recorded. For failure to do so, the plat shall be void, and no sale of a cemetery lot or mausoleum space may be made before the plat is recorded.

(5) The cemetery authority may vacate or replat any portion of its cemetery upon the filing of a petition with the circuit court describing the portion and setting forth the facts and reasons therefor. The court shall fix a time for hearing and direct publication of a class 3 notice, under ch. 985, and the court shall order a copy of the notice to be mailed to at least one interested person, as to each separate parcel involved, whose post-office address is known or can be ascertained with reasonable diligence, at least 20 days before such hearing. If the court finds that the proposed vacating or replatting is for the best interest of the cemetery authority and that the rights of none to whom cemetery lots have been conveyed will be injured, it shall enter an order reciting the jurisdictional facts and its findings and authorizing the vacating or replatting of the lands of the cemetery. The order shall be effective when recorded by the register of deeds.

(6) This section does not apply to a religious association or a cemetery authority of a cemetery that is affiliated with a religious association.

History: 1983 a. 473; 1989 a. 307 ss. 29, 30, 34; 1993 a. 490; 1995 a. 110; 2005 a. 41; 2013 a. 358; 2015 a. 237.

157.08 Conveyances. (1) After the plat or map is recorded under s. 157.07, the cemetery authority may sell and convey cemetery lots. Conveyances shall be signed by the chief officer of the cemetery authority, and by the secretary or clerk of the cemetery authority, if any. Before delivering the conveyance to the grantee, the cemetery authority shall enter on records kept for that purpose, the date and consideration and the name and residence of the grantee. The conveyances may be recorded with the register of deeds.

(2) (a) If a cemetery lot or mausoleum space is sold by a cemetery authority and used or intended to be used for the burial of the human remains of the purchaser or the purchaser's family members, the purchaser's interests in the ownership of, title to or right to use the cemetery lot or mausoleum space are not affected or limited by any claims or liens of other persons against the cemetery authority.

(b) Before a cemetery authority sells or encumbers any cemetery land, except for a sale described in par. (a), the cemetery authority shall notify the cemetery board in writing of the proposed sale or encumbrance. If within 90 days after the cemetery board is notified of the proposed sale or encumbrance the cemetery board notifies the cemetery authority in writing that the cemetery board objects to the sale or encumbrance the cemetery authority may not sell or encumber the cemetery land unless the cemetery board subsequently notifies the cemetery authority in writing that the objection is withdrawn. The cemetery board may object to a sale or encumbrance only if it determines that the cemetery authority will not be financially solvent or that the rights and interests of owners of cemetery lots and mausoleum spaces will not be adequately protected if the sale or encumbrance occurs. The cemetery board may, before the expiration of the 90-day period, notify the cemetery authority in writing that the cemetery board approves of the sale or encumbrance. Upon receipt of the cemetery board's written approval, the cemetery authority may sell or encumber the cemetery land and is released of any liability under this paragraph. The cemetery board shall make every effort to make determinations under this paragraph in an expeditious manner.

(c) A preneed sales contract is enforceable against the successor in interest of the cemetery authority that made the sale.

(3) A cemetery authority may sell its personal property at its discretion.

(5) Subsections (1) and (2) (b) do not apply to a religious association or a cemetery authority of a cemetery that is affiliated with a religious association, and sub. (2) (b) does not apply to a cemetery authority that is not required to be licensed under s. 440.91 (1) or registered under s. 440.91 (1m).

History: 1977 c. 449 s. 497; 1989 a. 307; 1991 a. 269; 2005 a. 25; 2007 a. 174; 2015 a. 237.

157.10 Alienation, disposition, and use of cemetery lots and mausoleum spaces. (1) In this section, "owner" means a person named in the records of the cemetery authority who has an ownership interest in a cemetery lot or mausoleum space and a right to bury human remains in the cemetery lot or mausoleum space.

(2) (a) While any person is buried in a cemetery lot or mausoleum space, the cemetery lot or mausoleum space shall be inalienable, without the consent of the cemetery authority, and on the death of the last owner, full ownership of the cemetery lot or mausoleum space shall descend as follows:

1. To the owner's surviving spouse or domestic partner under ch. 770.

2. If there is no living member of the class designated in subd. 1., to that owner's children, including by adoption.

3. If there is no living member of the class designated in subd. 1. or 2., to the owner's grandchildren, including by adoption.

4. If there is no living member of the class designated in subd. 1., 2., or 3., to the cemetery authority for the cemetery in which the cemetery lot or mausoleum space is located.

(b) A cemetery lot or mausoleum space is not part of a decedent's net estate for purposes of s. 852.01.

(3) If ownership of a cemetery lot or mausoleum space descends to the cemetery authority under sub. (2) (a), the cemetery authority shall comply with s. 157.115 (2) (c) to (h) for any grave in the cemetery lot or mausoleum space in which human remains are not buried.

(4) Any one or more persons under sub. (2) (a) 1. to 3. may, only with the consent of the cemetery authority, convey to any other person under sub. (2) (a) 1. to 3. his or her interest in the cemetery lot or mausoleum space.

(5) No human remains may be buried in a cemetery lot or mausoleum space except the human remains of an owner of the cemetery lot or mausoleum space, or a relative, or the spouse of an

owner, or his or her relative, except by the consent of a majority of the owners of the cemetery lot or mausoleum space.

(6) The cemetery authority shall be held harmless for any decision made by a majority of the owners of a cemetery lot or mausoleum space.

(7) A cemetery authority that is a religious association or that is the cemetery authority of a cemetery affiliated with a religious association may adopt a written policy for the disposition of cemetery lots and mausoleum spaces in a cemetery organized and operated by, or affiliated with, the religious association that is different from sub. (2) (a).

History: 1989 a. 307; 2015 a. 237.

157.11 Improvement and care of cemetery lots and grounds. (1) **FENCE; FUNERAL BUILDING.** A cemetery authority may enclose the grounds of its cemetery with a suitable fence, and may erect thereon a building for funeral services.

(2) **REGULATIONS.** The cemetery authority may make regulations for management and care of the cemetery. No person may plant, in the cemetery, trees or shrubs, nor erect wooden fences or structures or offensive or dangerous structures or monuments, nor maintain them if planted or erected in violation of the regulations. The cemetery authority may require any person owning or controlling a cemetery lot to do anything necessary to comply with the regulations by giving reasonable personal notice in writing if the person is a resident of the state, otherwise by publishing a class 1 notice, under ch. 985, in the county. If the person fails to comply within 20 days thereafter, the cemetery authority may cause it to be done and recover from the person the expense. The cemetery authority may also impose a forfeiture not exceeding \$100 for violation of the regulations posted in 3 conspicuous places in the cemetery, recoverable under ch. 778. Each employee and agent of the cemetery authority shall have constable powers in enforcing the regulations.

(3) **CONTRACTS.** The cemetery authority may contract with persons who own or are interested in a cemetery lot for its care. The contract shall be in writing, may provide that the cemetery lot shall be forever exempt from taxes, assessments or charges for its care and the care and preservation of the grounds, shall express the duty of the cemetery authority, be recorded in a book kept for that purpose, and be effective when the consideration is paid or secured.

(4) **ASSOCIATIONS OF RELATIVES.** Persons owning a cemetery lot or having relatives buried in a cemetery may incorporate an association to hold and occupy a previously constituted cemetery, and to preserve and care for the same. Section 157.062 shall apply to the association. Nothing in this subsection shall give rights of burial. A municipality may lease a municipal cemetery to a cemetery association for preservation and may contract to permit the association to use cemetery funds therefor. Such leases and contracts may be revoked at will by the municipal board.

(5) **SUM REQUIRED.** The cemetery authority shall annually fix the sum necessary for the care of cemetery lots and care and improvement of the cemetery, or to produce a sufficient income for those purposes.

(7) **ASSESSMENTS.** (a) The cemetery authority may annually assess upon the cemetery lots amounts not to exceed the amounts reasonably required for actual and necessary costs for cleaning and care of cemetery lots and care and improvement of the cemetery. Notice of the assessment, along with a copy of this section, shall be mailed to each owner or person having charge of a cemetery lot, at the owner's or person's last-known post-office address, directing payment to the cemetery authority within 30 days and specifying that such assessments are a personal liability of the owner or person.

(b) The cemetery authority may fix and determine the sum reasonably necessary for the care of the grave or cemetery lot in reasonable and uniform amounts, which amounts shall be subject to

the approval of the court, and may collect those amounts as part of the funeral expenses.

(c) Before ordering distribution of the estate of a deceased person, the court shall order paid any assessment under this section, or the sum so fixed for the care of the cemetery lot or grave of the deceased.

(d) When uniform care of a cemetery lot has been given for 2 consecutive years or more, for which assessments are unpaid, after notice as provided in sub. (2), right to burial is forfeited until delinquent assessments are paid. When uniform care has been given for 5 consecutive years or more and the assessments are unpaid, upon like notice, title to all unoccupied parts of the cemetery lot shall pass to the cemetery authority and may be sold, the payment of principal to be deposited into the care fund. Before depositing the payment of principal into the care fund, the cemetery authority may retain an amount necessary to cover the cemetery authority's administrative and other expenses related to the sale, but the amount retained may not exceed 50 percent of the proceeds.

(8) **GIFTS.** The cemetery authority shall take, hold and use any gifts, or the income and proceeds of any gifts, as may be made in trust or otherwise, for the improvement, maintenance, repair, preservation or ornamentation of any cemetery lot or structure in the cemetery, according to the terms of the gift and regulations by the cemetery authority.

(9) **HANDLING OF PROPERTY RECEIVED AS GIFT.** Before a cemetery authority receives a gift, the surety bonds of the cemetery authority shall be increased to cover such amount if it does not then do so. If the bonds are not filed, or the cemetery authority fails to do anything required by this subsection, the judge may appoint a trustee, and all property and money so given and evidences of title and securities shall be delivered to the trustee.

Note: Sub. (9) is shown as renumbered from sub. (9) (a) by the legislative reference bureau under s. 13.92 (1) (bm) 2.

(9g) **CARE FUND FOR CEMETERY LOTS.** (a) 1. Except as provided in ss. 66.0603 (1m) (c) and 157.19 (5) (b), funds that are received by a cemetery authority for the care of a cemetery lot shall be invested in one or more of the following manners:

a. Deposited and invested as provided in s. 157.19.

c. If not invested as provided in subd. 1. a., otherwise deposited by the cemetery authority in an investment approved by the cemetery board if the care funds are segregated and invested separately from all other moneys held by the cemetery authority.

2. The manner in which the care funds are invested may not permit the cemetery authority to withdraw the care fund's principal amount. The income from the investment of a care fund for the care of cemetery lots may be used only to maintain the cemetery lots and grounds, except that if the amount of income exceeds the amount necessary to maintain the cemetery lots or grounds properly, the excess amount may be used to maintain any other portion of the cemetery, including mausoleums.

(b) Anyone having in custody or control any cemetery care trust fund received other than by testament shall, upon demand, deliver it to the cemetery authority to be handled as provided in this subsection.

(c) Except as provided in sub. (11), any cemetery authority that sells a cemetery lot on or after November 1, 1991, shall deposit 15 percent of each payment of principal into a care fund under par. (a) within 30 business days after the last day of the month in which the payment is received, except as provided in sub. (7) (d) and s. 157.115 (2) (f). The total amount deposited must equal 15 percent of the total amount of all payments of principal that have been received, but not less than \$25.

(9m) **ACTION BY DISTRICT ATTORNEY.** If any money or property is not turned over when required by this section, or default occurs under a bond, the district attorney, upon the request of the cemetery board, shall bring action to recover.

(9r) TAX AND OTHER EXEMPTIONS. Gifts and trusts under this section shall be exempt from taxation and the law against perpetuities, accumulations and mortmain.

(10) EXEMPTION FOR RELIGIOUS ASSOCIATIONS. Subsections (1) to (9), (9g) (a) and (b), (9m) and (9r) do not apply, but sub. (9g) (c) does apply, to a religious association or a cemetery authority of a cemetery that is affiliated with a religious association, for that cemetery.

(11) EXEMPTION FOR CERTAIN NONPROFIT CEMETERIES. Subsection (9g) does not apply to a cemetery authority that is not required to be licensed under s. 440.91 (1) and that is not organized or conducted for pecuniary profit.

History: 1971 c. 41 s. 12; 1977 c. 449 ss. 234, 497; 1979 c. 32 s. 92 (8); 1979 c. 110 s. 60 (13); 1985 a. 200; 1985 a. 316 s. 25; 1987 a. 190; 1989 a. 307; 1991 a. 269; 1999 a. 150 s. 672; 2001 a. 30; 2005 a. 25; 2007 a. 174; 2011 a. 32; 2015 a. 237; s. 13.92 (1) (bm) 2.

Cross-reference: See s. 863.09 (2) for court order concerning care of graves.

Cross-reference: See also chs. CB 4 and 5, Wis. adm. code.

Sub. (9) (e) [now sub. (9g) (b)] neither requires nor authorizes payment to entities other than ch. 157 cemetery associations. *Krawczyk v. Bank of Sun Prairie*, 161 Wis. 2d 792, 468 N.W.2d 773 (Ct. App. 1991).

157.111 Opening and closing of burial places. If a grave, mausoleum space or other place used or intended to be used for the burial of human remains is located in a cemetery owned or operated by a cemetery authority, only the cemetery authority or a person designated by the cemetery authority may open or close the grave, mausoleum space or other place used or intended to be used for the burial of human remains.

History: 1993 a. 386.

157.112 Reburial of human remains by a cemetery authority. (1) In this section, “rebury” means to disentomb, disinter or disinter human remains that are buried in a cemetery and reentomb, reinurn or reinter the human remains in another grave, mausoleum space or other place used or intended to be used for the burial of human remains that is located in the same cemetery.

(2) A cemetery authority may rebury human remains that are buried in a cemetery owned or operated by the cemetery authority for the purpose of correcting an error made by the cemetery authority in the burial of those human remains.

(3) A cemetery authority may rebury human remains under sub. (2) without first obtaining an authorization under s. 69.18 (4), but the cemetery authority shall do all of the following:

(a) No later than 30 days after reburying human remains under sub. (2), provide written notice of the reburial to the coroner or medical examiner of the county in which the reburial occurs.

(b) Notify one of the following by registered mail of the reburial:

1. The decedent’s spouse.
2. If the person specified in subd. 1. is not available, an adult son or daughter of the decedent.
3. If the persons specified in subds. 1. and 2. are not available, either parent of the decedent.
4. If the persons specified in subds. 1., 2. and 3. are not available, an adult brother or sister of the decedent.

(3m) If none of the persons specified in sub. (3) (b) 1. to 4. are available for notification under sub. (3) (b), the cemetery authority shall maintain a record of its attempt to provide notification under sub. (3) (b) as a part of the cemetery authority’s permanent records.

(4) (a) A cemetery authority is immune from civil liability for an error that is corrected by a reburial of human remains under sub. (2).

(b) The immunity under par. (a) does not apply if the error was the result of reckless, wanton or intentional misconduct.

History: 1995 a. 357; 2015 a. 237.

157.113 Permission to place cremated human remains in a cemetery. No person may deposit any cremated human

remains in a cemetery, including in the casket of another person, without the permission of the cemetery authority.

History: 2015 a. 237 s. 125; 2015 Stats. s. 157.113.

157.114 Duty to provide for burials. (1) In this section, “cemetery authority” does not include a municipality that takes control of a cemetery under s. 157.115 (1) (b).

(2) A cemetery authority shall, insofar as practicable, provide for burials during each season, including winter. Nothing in this subsection may be construed to prohibit a cemetery authority from charging a reasonable fee to recover the costs related to providing for a burial during difficult weather conditions.

History: 2001 a. 16.

157.115 Abandonment of cemeteries and cemetery lots. (1) ABANDONMENT OF CEMETERIES. (a) If any cemetery located on property not subject to condemnation under ch. 32 is abandoned, the circuit court for the county in which the cemetery is located may authorize the removal of bodies from the cemetery to another cemetery upon the petition of 6 or more residents of the municipality in which the cemetery is located. Prior to authorizing the removal, the court shall publish a notice to all interested parties as provided in s. 879.05 (4). The court may not authorize the removal unless suitable arrangements have been made to reinter the bodies.

(b) 1. When a cemetery authority fails to care for the cemetery for a period of one or more years, the municipality in which the cemetery is located may take control of the cemetery, manage and care for the cemetery and collect and manage all trust funds connected with the cemetery other than trust funds received by a will.

2. When a cemetery authority abandons or fails to manage or care for the cemetery for a period of 5 or more years, the municipality in which the cemetery is located shall take control of the cemetery, manage and care for the cemetery and collect and manage all trust funds connected with the cemetery other than trust funds received by a will.

(c) Whenever any cemetery in a town is falling into disuse, or is abandoned or neglected, and by reason of the removal or death of the persons interested in its upkeep there exists no association or group with authority to transfer ownership and operation of the cemetery to the town, the town board, at the expense of the town, shall take charge of the cemetery and manage and care for it, and if the town board fails to take charge of the cemetery, the circuit judge may upon petition by 6 or more persons interested in the upkeep of the cemetery order its transfer to the town, including the transfer of all assets. Cemeteries so transferred shall be managed as provided for other town cemeteries.

(2) ABANDONMENT OF CEMETERY LOTS. (a) In this subsection:

1. “Abandoned lot” means any grave or mausoleum space of a cemetery lot that is not owned by the cemetery authority of the cemetery in which the cemetery lot is located if that grave or that mausoleum space has not been used for the burial of human remains and if, according to the records of the cemetery authority, all of the following apply during the 50-year period immediately preceding the date on which the notice requirement under par. (c) is satisfied:

- a. No owner has transferred any ownership interest in the cemetery lot to any other person.
- b. No owner has purchased or sold another cemetery lot or a mausoleum space in the cemetery.
- c. No other grave in that cemetery lot or adjoining cemetery lot or adjoining mausoleum space that is owned or partially owned by an owner has been used for the burial of human remains.
- d. No grave marker, monument or other memorial has been installed on the cemetery lot.
- e. No grave marker, monument or other memorial has been installed on any other cemetery lot, in the same cemetery, that is owned or partially owned by an owner.

a. No owner has transferred any ownership interest in the cemetery lot to any other person.

b. No owner has purchased or sold another cemetery lot or a mausoleum space in the cemetery.

c. No other grave in that cemetery lot or adjoining cemetery lot or adjoining mausoleum space that is owned or partially owned by an owner has been used for the burial of human remains.

d. No grave marker, monument or other memorial has been installed on the cemetery lot.

e. No grave marker, monument or other memorial has been installed on any other cemetery lot, in the same cemetery, that is owned or partially owned by an owner.

f. No nameplate, monument or other memorial has been installed to identify the human remains that are buried within a mausoleum space, in the same cemetery, that is owned or partially owned by an owner.

g. The cemetery authority has not been contacted by an owner or assignee or received any other notice or evidence to suggest that an owner or assignee intends to use the cemetery lot for a future burial of human remains.

2. “Assignee” means a person who has been assigned in the deceased owner’s will or in any other legally binding written agreement, or who is entitled to receive under ch. 852, an owner’s interest in the abandoned cemetery lot.

3. “Owner” has the meaning given in s. 157.10 (1).

(b) No cemetery authority may resell an abandoned lot unless the cemetery authority complies with the requirements in this subsection.

(c) The cemetery authority shall mail to each owner, at each owner’s last-known address, a notice of the cemetery authority’s intent to resell the abandoned lot as provided in this subsection. If an owner is buried in the cemetery in which the abandoned lot is located or if the cemetery authority has any other evidence that reasonably supports a determination by the cemetery authority that the owner is deceased, no notice is required under this paragraph.

(d) If no notice is required under par. (c) or if, within 60 days after notice is mailed under par. (c), no owner or assignee contacts the cemetery authority to express an intent to use the abandoned lot for a future burial of human remains, the cemetery authority shall publish in a newspaper of general circulation in the county in which the abandoned lot is located, a class 3 notice under ch. 985 that includes all of the following:

1. The location of the abandoned lot.
2. The name and last-known address of each owner.
3. A statement that, unless an owner or assignee contacts the cemetery authority within the period specified in par. (e), the cemetery authority intends to resell the abandoned lot as provided in this subsection.

(e) If within 60 days after notice is published under par. (d) no owner or assignee contacts the cemetery authority to express an intent to use the abandoned lot for a future burial of human remains, the cemetery authority shall bring an action in the circuit court of the county in which the abandoned lot is located for a judgment that the cemetery lot is an abandoned lot and an order transferring ownership of the abandoned lot to the cemetery authority.

(f) If within one year after the circuit court enters a judgment and order under par. (e) no owner or assignee contacts the cemetery authority to express an intent to use the abandoned lot for a future burial of human remains, the cemetery authority may resell the abandoned lot, except as provided in par. (g). The payment of principal shall be deposited into the care fund. Before depositing the payment of principal into the care fund, the cemetery authority may retain an amount necessary to cover the cemetery authority’s administrative and other expenses related to the sale, but the amount retained may not exceed 50 percent of the proceeds.

(g) If at any time before an abandoned lot is resold under par. (f) an owner or assignee contacts the cemetery authority to express an intent to use the abandoned lot for a future burial of human remains, the authority may not resell the abandoned lot, and ownership of the abandoned lot shall be transferred to the owner or assignee. The cemetery authority shall pay all costs of transferring ownership under this paragraph.

(h) Nothing in this subsection prohibits a cemetery authority from seeking the authority to resell more than one abandoned lot by publishing a single class 3 notice under par. (d) or bringing a single action under par. (e) that applies to all of the abandoned lots for which such authority is sought.

History: 1989 a. 307 ss. 18m, 20, 28, 45; 2013 a. 151; 2015 a. 237.

Some formality beyond the interment of bodies is and has long been required to establish a cemetery. *DeWitt v. Ferries*, 2018 WI 117, 385 Wis. 2d 1, 921 N.W.2d 188, 16–1765.

157.12 Mausoleums. (2) CONSTRUCTION OF MAUSOLEUMS.

(a) Any person who constructs a mausoleum or converts a building or other structure to a mausoleum shall comply with the rules of the cemetery board and shall receive the cemetery board’s approval in writing of the plans and specifications prior to construction or conversion. No person may modify plans or specifications that have been approved under this paragraph without approval in writing from the cemetery board, unless such modifications are cosmetic in nature. The cemetery board shall promulgate rules providing reasonable requirements governing the location, material, and construction of a mausoleum, in accordance with the requirements in par. (d). Any municipality may enact ordinances governing mausoleums at least as stringent as this section.

(b) The cemetery board shall supervise construction of any public mausoleum and conversion of any building to a public mausoleum. Within 30 days after receiving written notice from the cemetery authority that the construction or conversion has been completed, the cemetery board shall inspect the public mausoleum and provide the cemetery authority with a written certification as to whether the construction or conversion complies with approved plans. If the cemetery board determines that, except for certain minor defects, the construction or conversion complies with the approved plans, the cemetery board may provide the cemetery authority with a written temporary certification of compliance that is contingent on the correction of those minor defects. A temporary certification is valid for a period designated by the cemetery board, not to exceed 6 months. No person may sell a mausoleum space, except an undeveloped space that is sold in accordance with s. 440.92, or bury human remains in a public mausoleum unless a care fund has been established for the mausoleum under sub. (3) and the cemetery board has provided the cemetery authority with a certification or a temporary certification under this paragraph. If a cemetery authority that has been provided with a temporary certification notifies the cemetery board in writing before the date on which the temporary certification expires that the defects in the construction or conversion of the public mausoleum have been corrected, the cemetery board shall, within 30 days after receiving the notice, reinspect the public mausoleum and provide the cemetery authority with a written certification as to whether the construction or conversion complies with the approved plans. If a cemetery authority that has been provided with a temporary certification does not receive a written certification from the cemetery board before the date on which the temporary certification expires that the construction or conversion complies with the approved plans, then, beginning on the date on which the certification expires, no person may sell a mausoleum space, except an undeveloped space that is sold in accordance with s. 440.92, or bury human remains in the public mausoleum until the defects are corrected and the cemetery board subsequently inspects the public mausoleum and provides the cemetery authority with a certification that the construction or conversion complies with the approved plans. The cemetery board may charge a reasonable fee to the cemetery authority for each inspection and certification provided under this paragraph if the inspection and certification are provided within the applicable 30-day period prescribed under this paragraph.

(bm) If a municipality in which a mausoleum is located requires the owner or operator of the mausoleum to obtain from the municipality a permit for the use or occupancy of the mausoleum, the municipality shall issue that permit to the owner or operator if the owner or operator has been provided with a certification or temporary certification for the mausoleum under par. (b). The permit shall be valid for a period equal to or longer than the period for which the certification or temporary certification under par. (b) is valid.

(c) 1. Except as provided in subd. 2., no person may establish or use a public mausoleum unless the mausoleum is located inside a cemetery of 20 acres or more that has been in existence for 10 years or more.

2. A person may establish or use a public mausoleum in a cemetery consisting of less than 20 acres in a municipality that has enacted an ordinance under s. 157.129 (2) if the cemetery meets the minimum acreage requirement specified in that ordinance.

(d) A mausoleum shall be constructed to last as long as possible, taking into consideration the technology and economics applicable to mausoleum construction at the time of construction.

(3) CARE FUND FOR MAUSOLEUMS. (a) Any person who operates a public mausoleum shall establish a care fund as follows:

1. If the mausoleum has been in existence since June 15, 1933, and is covered by the care fund of the cemetery in which the mausoleum is located, the cemetery shall deposit at least 15 percent of each payment of principal received from the sale of a mausoleum space into the care fund, until the care fund equals 10 percent of the cost of constructing the mausoleum.

2. Except as provided in subd. 1., the operator of the mausoleum shall deposit at least 25 percent of each payment of principal received from the sale of a mausoleum space into the care fund, until the care fund equals 25 percent of the cost of constructing the mausoleum.

3. The operator shall make deposits required under subsd. 1. and 2. within 30 days after the last day of the month in which the payment is received. The municipality in which the mausoleum is located may, by ordinance, require a larger fund, but only if the cemetery board notifies the municipality in writing that the cemetery board approves of the requirement. The cemetery board may promulgate rules establishing uniform standards for approvals under this subdivision.

(b) The cemetery's treasurer is the custodian of the fund. The treasurer shall file with the cemetery, at the cemetery's expense, a bond with sureties approved by the cemetery board to indemnify the cemetery against loss if the treasurer fails to maintain the fund. No indemnity is required if the terms of sale of a mausoleum space require the purchaser to pay directly to a trust company in the state, designated by the cemetery as custodian of the fund. The fund shall be invested as provided in s. 157.19. Income from investment may be used only to maintain the mausoleum, except that if the amount of income exceeds the amount necessary to properly maintain the mausoleum the excess amount may be used to maintain any portion of the cemetery.

History: 1971 c. 41 s. 12; 1971 c. 164; 1977 c. 449; 1979 c. 221; 1981 c. 20; 1989 a. 307; 1991 a. 269; 1995 a. 27 ss. 4402, 9116 (5); 1999 a. 150 s. 672; 2011 a. 32, 146; 2015 a. 237.

157.123 Columbaria maintained by religious associations. (1) **DEFINITION.** In this section, "columbarium" has the meaning given in s. 440.70 (4).

(2) **EXEMPTION.** A columbarium that is established and used by a religious association is not subject to any requirement under this subchapter applicable to a mausoleum or cemetery if all of the following requirements are satisfied:

(a) The columbarium shall be located on property owned by the religious association and on which is located the religious association's church building or other place of worship.

(b) The religious association shall ensure that the columbarium is perpetually kept and maintained in a manner consistent with the intent of this chapter.

(c) If the religious association ceases to use or occupy the church building or other place of worship where the columbarium is located, the religious association shall relocate all of the urns in the columbarium containing cremated remains.

(d) The religious association shall deposit, within 30 days after receipt of the payment, at least 25 percent of each payment of principal received from the sale of a niche in the columbarium into a care fund, until the care fund equals 25 percent of the cost of constructing the columbarium. The care fund and any income from

investment of the care fund may be used only to maintain the columbarium.

(e) 1. Annually, the religious association shall file a certification with the department on a form prescribed and furnished by the department that includes all of the following:

a. The name and address of the religious association and the address where the columbarium is located.

b. A notarized statement of an authorized agent of the religious association that the religious association is in full compliance with par. (d).

2. A certification under this paragraph is effective for a 12-month period, beginning on the date the certification is filed with the department.

3. During the effective period specified under subd. 2., the department may not audit the care fund or any records or accounts of the religious association relating to the care fund for the columbarium to which the certification applies.

4. The religious association is liable for the damages of any person resulting from the failure of the religious association to fully comply with par. (d) during the effective period specified under subd. 2.

(3) APPLICATION. (a) Except as provided under par. (b), this section applies to all columbaria, including columbaria for which initial construction was commenced prior to November 13, 2015.

(b) This section does not apply to a columbarium for which initial construction was commenced during the period beginning on November 13, 2015, and ending on November 30, 2016.

History: 2015 a. 95.

157.125 Trustees for the care of cemeteries or cemetery lots. (1) If a trust is created for the care of a burial place or grave but no trustee is named in the will to administer the trust, the circuit court having jurisdiction may name the county treasurer of the county in which the burial place or grave is situated as trustee, except as provided in sub. (2). If not contrary to the terms of the trust, the county treasurer may contract with the person in charge of the burial place or grave for its care and pay to that person the income from the trust property or the part of the income that may be necessary for that purpose. If there is no person in charge of the burial place or grave, then the income shall be paid to the city, village, or town, in which the burial place or grave is situated, and for the purposes of this subsection, the governing body of that municipality has the duty of caring for the burial place or grave to the extent of money received for that purpose. The county treasurer shall annually render an account to the circuit court as provided in ch. 701 and the person or municipality receiving money for such care shall also render an annual accounting to the circuit court and the cemetery board as provided in s. 157.62 (2) (b) 3. to 7.

(2) If the burial place or grave is located in a cemetery owned and operated by, or affiliated with, a religious association, the court shall name the religious association as the trustee unless the religious association petitions the court to name the county treasurer as the trustee.

History: 1971 c. 41 s. 11; 1979 c. 175 s. 50; 1989 a. 307; 2015 a. 237.

157.128 Minimum acreage requirement for cemetery established on or after November 1, 1991. (1) Except as provided in subs. (2) and (3), no cemetery may be dedicated on or after November 1, 1991, unless the cemetery consists of at least 20 contiguous acres.

(2) A cemetery consisting of less than 20 contiguous acres may be dedicated on or after November 1, 1991, if all of the following apply:

(2) A cemetery consisting of less than 20 contiguous acres may be dedicated on or after November 1, 1991, if all of the following apply:

(a) The cemetery is owned by a religious association.

(b) The religious association is responsible for all liabilities of the cemetery.

(c) The total acreage of all other cemeteries owned by the religious association exceeds 20 acres.

(3) (a) A cemetery consisting of less than 20 contiguous acres may be dedicated in a municipality that has enacted an ordinance under s. 157.129 if the cemetery meets the minimum acreage requirement specified in that ordinance.

(b) A cemetery consisting of less than 20 contiguous acres may be dedicated by a cemetery authority that is not required to be licensed under s. 440.91 (1) and that is not organized or conducted for pecuniary profit.

History: 1989 a. 307; 1991 a. 269; 1999 a. 150 s. 672; 2005 a. 25.

157.129 Minimum acreage of cemeteries; local ordinance. A city, village or town may enact and enforce an ordinance that does any of the following:

(1) Allows a cemetery consisting of less than the minimum acreage specified in s. 157.128 (1) to be dedicated, as defined in s. 157.061 (4), in that city, village or town.

(2) Allows a person to establish and use a public mausoleum in a cemetery consisting of less than the minimum acreage specified in s. 157.12 (2) (c).

History: 1991 a. 269; 1999 a. 150 s. 157; Stats. s. 157.129.

157.19 Deposit and investment of care funds and preneed trust funds. (1) In this section, “financial institution” has the meaning given in s. 705.01 (3), but, except with respect to the deposit of preneed trust funds, also includes a broker–dealer registered under s. 551.401 (1) or exempt from registration under s. 551.401 (2).

(2) (a) Except as provided in sub. (5) and the rules promulgated under sub. (4), the cemetery authority may deposit care funds under s. 157.11 (9g), and shall deposit care funds under s. 157.12 (3) and preneed trust funds under s. 440.92, with a financial institution located in this state. The financial institution shall be the trustee of the care funds and preneed trust funds. A bank need not comply with s. 221.0316 (1) or (2) or ch. 223 to accept or disburse deposits under this section. The trustee shall invest the care funds and preneed trust funds as provided under s. 881.01, except as provided in sub. (5) and the rules promulgated under sub. (4).

(b) The cemetery authority may not change the trustee of a care fund under s. 157.11 (9g) that is deposited under this section or of a care fund under s. 157.12 (3), and the financial institution may not release any portion of the principal amount of the care fund, without the cemetery board’s written approval.

(c) Upon request of the financial institution, the preneed seller, as defined in s. 440.90 (8), shall furnish the financial institution with a copy of the preneed sales contract. Except as provided in s. 440.92 (2) (c), (f) and (j) and (5), preneed trust funds, and any interest or dividends that have accumulated on the preneed trust funds, may not be withdrawn until all obligations under the preneed sales contract have been fulfilled. The financial institution is not responsible for the fulfillment of any part of the preneed sales contract, except that the financial institution shall release the preneed trust funds, and any interest or dividends that have accumulated on the preneed trust funds, as provided by the terms of the preneed sales contract. The trustee of a preneed trust fund may not be changed without the cemetery board’s written approval. If the trustee or account number of a preneed trust fund is changed, the cemetery authority shall notify the cemetery board in writing within 30 days after the change.

(d) The cemetery board shall promulgate rules establishing reasonable requirements and standards for the approval of changes under pars. (b) and (c). For approval of changes under par. (b), the rules shall require the cemetery authority to submit evidence that the rights and interests of the beneficiary of the care fund will be adequately protected if the change is approved. For approval of changes under par. (c), the rules shall require the trustee to submit evidence that the rights and interests of the purchaser under the preneed sales contract will be adequately protected if the change is approved.

(4) The cemetery board may promulgate rules allowing funds invested under this section to be deposited with a financial institution located outside this state.

(5) (a) This section does not apply to care funds of a cemetery for which a certification under s. 157.63 is effective, to preneed trust funds of a cemetery for which a certification under s. 440.92 (9) is effective, or to care funds or preneed trust funds of a cemetery authority that is not required to be licensed under s. 440.91 (1) or registered under s. 440.91 (1m).

(b) If the cemetery board determines that care funds under s. 157.11 (9g) are not being properly segregated from other moneys held by the cemetery authority or that those care funds are not being properly invested as required in s. 157.11 (9g) (a), the cemetery board may require the cemetery authority to deposit those care funds with a financial institution for investment under this section.

(6) Nothing in this section prevents a cemetery authority from combining its care funds and preneed trust funds for investment under this section if the cemetery authority maintains separate accountings for each fund.

(7) Except as provided in sub. (5) (a), this section applies to every care fund and every preneed trust fund of a cemetery authority, regardless of when the care fund or preneed trust fund was established.

History: 1989 a. 307; 1991 a. 74, 269; 1995 a. 336; 2005 a. 25; 2007 a. 174; 2015 a. 110, 237.

Cross-reference: See also ch. CB 4, Wis. adm. code.

157.50 Municipal cemeteries. (1) Municipalities may acquire by gift, purchase or condemnation land for cemeteries within or without their boundaries. In the case of towns acquisition and price must be authorized by the town meeting.

(2) The governing body of every municipality acquiring a cemetery shall by ordinance determine the system of management and operation. Any municipality may proceed under s. 157.07, 157.08 or 157.11 (7), or otherwise as provided by ordinance.

(3) Upon organization of a cemetery association to take over a municipal cemetery, the municipality may convey real property and all funds and other personal property to the association. In towns the conveyance must be authorized by the town meeting.

(4) When a town cemetery becomes embraced within a city or village, it shall be managed as though acquired thereby.

(5) The town meeting may authorize the town board to appropriate up to \$500 in any year for the improvement of the town cemetery, under supervision of the town board.

(6) Any municipality that creates a care fund shall invest the money received for care as provided by ch. 881. The municipality may terminate the care fund, transferring the money to its general fund, if the municipality owns the cemetery and provides all maintenance expenses in perpetuity for those graves in the cemetery at the time of termination.

History: 1971 c. 41 s. 12; 1979 c. 254; 1983 a. 532; 1989 a. 307.

157.60 Public easement in cemetery. Any person who opens or makes any highway, town way, or private way or constructs any railroad, turnpike, or canal or anything in the nature of a public easement over, through, in, or upon such part of any enclosure, being the property of any municipality, religious association, or private proprietor, as may be used for burial, unless an authority for that purpose is specially granted by law or unless the consent of such municipality, religious association, or private proprietor is first obtained by the person, shall be punished by imprisonment in the county jail not more than one year and by fine not exceeding \$3,000.

History: 2015 a. 237.

157.62 Reporting; record keeping; audits. (1) CEMETERY ASSOCIATIONS. (a) Except as provided in par. (b) and s. 157.625, every cemetery association shall file an annual report with the cemetery board. The report shall be made on a calendar–

year basis unless the cemetery board, by rule, provides for other reporting periods. The report is due on the 60th day after the last day of the reporting period. The annual report shall include all of the following:

1. The name of the cemetery association and the address of its principal office.
2. The name, residence address and business address of each officer, director and trustee of the cemetery association.
3. The name, residence address and business address of each shareholder who beneficially owns, holds or has the power to vote 5 percent or more of any class of securities issued by the cemetery association.
4. The dates and places of all meetings and elections.
5. A statement of whether the cemetery association engaged in the operation of a cemetery during the previous calendar year.

(b) Paragraph (a) does not apply to any person required to file a report under s. 180.1622 or 181.1622.

(c) The cemetery board may prescribe and furnish forms for reports required under this subsection. If the cemetery board prescribes forms under this paragraph, the cemetery board shall mail the forms to cemetery associations required to file under par. (a) no later than 60 days before the reports are due.

(2) CEMETERY AUTHORITIES. (a) Except as provided in ss. 157.625 and 157.63 (1), every cemetery authority shall file an annual report with the cemetery board. The report shall be made on a form prescribed and furnished by the cemetery board. The report shall be made on a calendar-year basis unless the cemetery board, by rule, provides for other reporting periods. The report is due on the 60th day after the last day of the reporting period.

(b) The cemetery authority shall include all of the following in the annual report required under par. (a):

1. A copy of any report required under sub. (1) (a) or s. 180.1622 or 181.1622.
2. If the cemetery authority is required to file a report under s. 180.1622 or 181.1622, the information specified in sub. (1) (a) 3.
3. An accounting of amounts deposited in, amounts withdrawn from, income accruing to and the balance at the close of the reporting period of any preneed trust funds of the cemetery.
4. An accounting of amounts deposited in, amounts withdrawn from, other income accruing to and the balance at the end of the reporting period of care funds of the cemetery, including the funds in ss. 157.11 (9g) (a), 157.12 (3) and 157.125.
5. An accounting of all gifts received, income from gifts deposited in accounts not accounted for under subd. 4., amounts expended from those accounts and the balance of those accounts at the end of the reporting period.

6. The name and address of each trustee for the funds under subds. 3. to 5. and of the financial institution holding those accounts at the close of the reporting period.

6m. The names of the officers of the cemetery authority.

7. The information specified in sub. (1) (a), to the extent applicable, if the cemetery is not required to file a report under sub. (1) (a) or s. 180.1622 or 181.1622.

(c) All records relating to accountings of trust funds described under par. (b) 3. to 7. and maintained by the department and by the cemetery board are confidential and are not available for inspection or copying under s. 19.35 (1).

(d) The board shall review each report filed under par. (a) to determine whether the cemetery authority is complying with this subchapter.

(3) RECORDS; INSPECTION. (a) Every cemetery authority shall keep a copy of the report required under sub. (2) (a) at its principal place of business and, except for those records relating to accountings of trust funds described under sub. (2) (b) 3. to 7., shall make the report available for inspection, upon reasonable notice, by any

person with an interest in a cemetery lot or a mausoleum space in a cemetery owned or operated by the cemetery authority.

(b) Every cemetery authority shall maintain all of the following:

1. The records needed to prepare the reports required under sub. (2) (a).

2g. All records supporting the accounting under sub. (2) (b) 3., including records that show, for each deposit, the name of the purchaser or beneficiary of the contract relating to the deposit and the item purchased.

2r. All records supporting the accounting under sub. (2) (b) 4., including records that show, for each deposit, the name of the purchaser or beneficiary of the contract relating to the deposit and the item purchased.

3. A copy of each contract for the sale of a cemetery lot, mausoleum space or cemetery merchandise.

(4) RECORDS MAINTENANCE. The records under sub. (3) (b) 1. shall be permanently maintained by the cemetery authority or licensee. Each record under sub. (3) (b) 2g. shall be maintained for not less than 15 years after the date of the deposit. Each record under sub. (3) (b) 2r. shall be permanently maintained by the cemetery authority or licensee. Each copy of a contract under sub. (3) (b) 3. shall be maintained for not less than 3 years after all of the obligations of the contract have been fulfilled. The cemetery board may promulgate rules to establish longer time periods for maintaining records under sub. (3) (b) 2g. and 3.

(5) RULES; RECORDS. The cemetery board shall promulgate rules requiring cemetery authorities and licensees to maintain other records and establishing minimum time periods for the maintenance of those records. The records shall include detailed information for each deceased person buried in a cemetery, including all of the following:

- (a) The name of the deceased.
- (b) The last-known address of the deceased.
- (c) The date of birth of the deceased.
- (d) The date of death.
- (e) The date of burial.
- (f) The exact location in the cemetery where the deceased is buried.
- (g) The name of the person authorizing the burial and his or her relationship to the deceased.
- (h) The name of the funeral establishment, as defined in s. 445.01 (6).

(i) The type of burial vault used, if any.

(j) The type and style of the grave marker, monument, or other memorial used.

(6) AUDIT. Except as provided in ss. 157.625, 157.63 (5), and 440.92 (9) (e), the cemetery board may audit, at reasonable times and frequency, the records, trust funds, and accounts of any cemetery authority, including records, trust funds, and accounts pertaining to services provided by a cemetery authority that are not otherwise subject to the requirements under this chapter. The cemetery board may conduct audits under this subsection on a random basis, and shall conduct all audits under this subsection without providing prior notice to the cemetery authority.

(7) RULES; FILING FEE. The cemetery board may promulgate rules establishing a filing fee to accompany the report required under sub. (2) (a). The filing fee shall be based on the approximate cost of regulating cemetery authorities.

History: 1989 a. 307; 1991 a. 16, 32, 269; 1995 a. 27; 1997 a. 79; 2007 a. 174; 2015 a. 237.

Cross-reference: See also ch. CB 2, Wis. adm. code.

157.625 Reporting exemption for certain cemeteries.

(1) A cemetery authority that is not required under this chapter or under s. 440.92 to maintain any care funds or preneed trust funds is not required to file an annual report under s. 157.62 (2).

(3) Section 157.62 does not apply to a cemetery authority that is not required to be licensed under s. 440.91 (1) or registered under s. 440.91 (1m).

History: 1991 a. 269; 2005 a. 25; 2007 a. 174; 2015 a. 237.

157.63 Reporting and auditing exemptions; certification of compliance of cemetery organized and operated by, or affiliated with, a religious association. (1) In lieu of filing an annual report under s. 157.62 (2), a religious association or a cemetery authority of a cemetery that is affiliated with a religious association, or that religious association, may file an annual certification with the cemetery board as provided in this section.

(2) A certification under this section shall be made on a form prescribed and furnished by the cemetery board and include all of the following:

(a) The name and address of each cemetery to which the certification applies.

(b) A statement of a person who is legally authorized to act on behalf of the religious association under this section that, during the reporting period under s. 157.62, each cemetery and the cemetery authority of each cemetery specified under par. (a) have either fully complied or have substantially complied with ss. 157.11 (9g) (c) and 157.12 (3).

(3) If the statement under sub. (2) (b) includes a statement of substantial compliance, the statement under sub. (2) (b) must also specify those instances when the cemetery or cemetery authority did not fully comply with s. 157.11 (9g) or 157.12 (3).

(4) A certification under this section is effective for the 12-month period immediately following the reporting period under s. 157.62 (2) for which the cemetery authority is certified under this section to have fully or substantially complied with ss. 157.11 (9g) and 157.12 (3).

(5) During the effective period specified under sub. (4), the cemetery board may not audit the care funds or any records or accounts relating to the care funds of a cemetery to which a certification under this section applies.

(6) The religious society that is affiliated with a cemetery to which a certification under this section applies is liable for the damages of any person that result from the failure of the cemetery or cemetery authority to fully comply with s. 157.11 (9g) or 157.12 (3) during the reporting period under s. 157.62 (2) for which such compliance has been certified under this section.

History: 1989 a. 307; 1991 a. 269; 2015 a. 237; 2017 a. 329.

Cross-reference: See also ch. CB 2, Wis. adm. code.

157.635 Regulations of cemetery organized and operated by, or affiliated with, a religious association. Nothing in this subchapter prohibits a religious association or a cemetery authority of a cemetery that is affiliated with a religious association from prohibiting the burial of the human remains of an individual in the cemetery if the individual was in a class of individuals who are prohibited under regulations adopted by the cemetery authority or religious association from being buried in the cemetery.

History: 1989 a. 307; 2015 a. 237.

157.637 Veteran burials. A cemetery authority of a cemetery, other than a cemetery that is organized and operated by, or affiliated with, a religious association, may not prohibit the burial of the human remains of a person specified in s. 45.61 (2) at the cemetery if the cemetery authority is paid in its usual and customary manner for the burial.

History: 2003 a. 70; 2005 a. 22; 2015 a. 237.

157.64 Penalties. (1) In addition to or in lieu of other remedies provided by law, any person who violates this subchapter or any rule promulgated under this subchapter may be required to forfeit not more than \$200 for each separate offense. Each day of continued violation constitutes a separate offense.

(2) Any person who intentionally does any of the following may be fined not more than \$5,000 or imprisoned for not more than 90 days, or both, for the first offense and may be fined not more than \$10,000 or imprisoned for not more than 9 months, or both, for each subsequent offense:

(a) Violates s. 157.08 (2) (b), 157.11 (9g), or 157.12 (2) (b), (c), or (d).

(b) Fails to handle funds for the improvement and care of a cemetery as required in s. 157.11 or 157.125.

(c) Fails to deposit or invest care funds or preneed trust funds as required in s. 157.19.

(d) Fails to file a report or files an incomplete, false or misleading report under s. 157.62 (1) or (2).

(e) Fails to maintain records as required in s. 157.62 (3) and (4).

(f) Files a false or misleading certification under s. 157.63.

(g) Violates s. 157.111.

(3) Any person who intentionally commits an act specified under sub. (2) (a) to (f) with intent to defraud may be punished for theft under s. 943.20.

History: 1989 a. 307; 1991 a. 269; 1993 a. 386; 2015 a. 237.

157.65 Enforcement. (1) (a) If the cemetery board has reason to believe that any person is violating or has violated this subchapter or any rule promulgated under this subchapter and that the continuation of that activity might cause injury to the public interest, the cemetery board may investigate.

(b) If the cemetery board has reason to believe that any person is violating s. 157.12 or any rule promulgated under s. 157.12 and that the continuation of that activity might cause injury to the public interest, the cemetery board may investigate.

(2) The department of justice or any district attorney, upon informing the department of justice, may commence an action in circuit court in the name of the state to restrain by temporary or permanent injunction any violation of this subchapter. The court may, prior to entry of final judgment, make such orders or judgments as may be necessary to restore to any person any pecuniary loss suffered because of the acts or practices involved in the action, if proof of such loss is submitted to the satisfaction of the court. The department of justice may subpoena persons and require the production of books and other documents, and may request the cemetery board to exercise its authority under sub. (1) to aid in the investigation of alleged violations of this subchapter.

(3) In lieu of instituting or continuing an action under this section, the department of justice may accept a written assurance of discontinuance of any act or practice alleged to be a violation of this subchapter from the person who has engaged in the act or practice. An assurance entered into under this subsection shall not be considered evidence of a violation of this subchapter, but a violation of the assurance shall be treated as a violation of this subchapter.

History: 1989 a. 307; 1995 a. 27 ss. 4405, 4406, 9116 (5); 2005 a. 25; 2011 a. 32; 2015 a. 237.

SUBCHAPTER III

BURIAL SITES PRESERVATION

157.70 Burial sites preservation. (1) **DEFINITIONS.** In this section:

(a) “Board” means the burial sites preservation board.

(b) “Burial site” means any place where human remains are buried.

(c) “Cataloged” means recorded under sub. (2) (a), (4) (e) or (6) (c) or s. 157.70 (2) (a), 2015 stats., or s. 157.70 (2) (b), 2015 stats.

(cm) “Dedicated” has the meaning given in s. 157.061 (4).

(d) “Director” means the director of the historical society or his or her formally appointed designee.

(e) “Disturb” includes defacing, mutilating, injuring, exposing, removing, destroying, desecrating or molesting in any way.

(em) “Division” means the division of hearings and appeals in the department of administration.

(f) “Human remains” means any part of the body of a deceased person in any stage of decomposition.

(g) “Interest” means an interest based on any of the following:

1. Direct kinship.
2. A cultural, tribal or religious affiliation.
3. A scientific, environmental or educational purpose.
4. Land use.
5. A commercial purpose not related to land use which is consistent with the purposes of this section.
6. Any other interest which the board deems to be in the public interest.

(gm) “Notify” means to communicate by letter or by electronic mail or other electronic means approved by the director.

(h) “Owner” means a person who owns or leases land on which a burial site is located.

(hm) “Person” includes the state.

(i) “Qualified archaeologist” means an individual who has a graduate degree in archaeology, anthropology or a closely related field and at least one year of full-time professional experience or equivalent specialized training in archaeological or physical anthropological research, administration or management, at least 4 months of supervised field and analytic experience in general North American archaeology or physical anthropology and a demonstrated ability to carry research to completion.

(1m) APPLICABILITY. This section does not apply to the disturbance of cataloged land contiguous to a cataloged burial site if the cataloged burial site was recorded under sub. (2) (i) before August 9, 1989.

(2) DIRECTOR’S DUTIES. The director shall:

(a) Identify burial sites in this state and, for burial sites that are not dedicated, sufficient contiguous land necessary to protect the burial site from disturbance. For any such burial site for which the director determines there is sufficient evidence under sub. (2c), the director shall notify every owner of the burial site and contiguous land so identified that the site or land will be recorded in a catalog unless the owner requests a hearing under sub. (2g) (a). The director shall include in the notice the date by which the director intends to record the site or land in the catalog, which shall be no less than 30 days after the date of the notice. If the director’s determination is not contested under sub. (2g) (a), the director shall record the site and land so identified in a catalog. If the director’s determination is contested under sub. (2g) (a), the director shall record the site and land in the catalog only as subsequently permitted by a final decision of the board, the division, or a court. Whenever a burial site and land are recorded in the catalog under this paragraph, the director shall notify every owner and any county or local historical society in the county where the burial site or the land is located. Any information in the catalog related to the location of any burial site, the disclosure of which would be likely to result in the disturbance of the burial site or the cataloged land contiguous to the burial site, is not subject to s. 19.35 (1). A notice of a recording in the catalog shall include information about the permit required under sub. (5) and the toll free number the owner may call for more information. The director may, in order to carry out his or her duties under this paragraph, obtain a special inspection warrant as provided in s. 66.0119 if entry to the site has been refused. In this paragraph, “sufficient contiguous land” means land that is within at least 10 feet from any part of a burial site, unless the director determines based on the unique characteristics of the land that a shorter distance is sufficient to protect the burial site from disturbance.

(c) Make recommendations concerning burial sites on private property for acquisition by the state or other public agencies to preserve the burial sites.

(d) Provide for and publicize a telephone service which allows any person in this state to call, without charge, the director to report a discovery or disturbance of a burial site.

(e) Establish a registry for any person whom the board determines to have an interest in a burial site or class of burial sites under sub. (2m) (b) or (c). The registry shall include the name of every person whom the board determines to have an interest in the preservation of a burial site or in providing for the reinterment of the human remains and objects related to burial in the burial site if the burial site is disturbed and identify the burial site in which the person is determined to have an interest. Any information in the registry related to the location of any burial site, the disclosure of which would be likely to result in disturbance of the burial site, is not subject to disclosure under s. 19.35 (1).

(g) Assist Indian tribes, state agencies and other persons in any negotiation with any federal agency for the preservation of burial sites and human remains.

(h) Mediate, upon application of any owner or person in the registry under par. (e), any dispute related to the disturbance or proposed disturbance of a burial site.

(i) Cause a cataloged burial site to be recorded by the register of deeds of the county in which the burial site is located. The historical society shall reimburse the county for the cost of recording under this paragraph from the appropriation under s. 20.245 (1) (a).

(j) Submit an annual report to the legislature under s. 13.172 (2) containing all of the following:

1. The director’s current recommendations under par. (c).
2. The number of burial sites recorded in the catalog at the time the report is prepared.
3. A summary of disturbance activities authorized under sub. (4), including a summary of information submitted to the board in written reports under sub. (4) (f), since the previous report was issued.
4. A summary of applications received under sub. (5) since the previous report was issued, and information regarding the approval or denial of those applications by the director or the division.
5. A summary of appeals to the board under sub. (5) (c) 5. made since the previous report was issued.
6. A summary of any other activities of the board since the previous report was issued.
7. A summary of all violations of this section and all penalties imposed as a result of those violations.

(2c) RELEVANT EVIDENCE FOR RECORDING IN THE CATALOG. (a) In this subsection:

1. “Grave marker” means any surface indication of a burial, including monuments, spirit houses, wooden crosses, or Indian mounds.
2. “Historical documentation” means information from any of the following types of independent sources:
 - a. Church records.
 - b. Deeds.
 - c. Maps.
 - d. Other written and oral sources.

(b) In determining whether to record burial sites in the catalog under sub. (2) (a), the director shall consider the following types of evidence from any person:

1. Physical evidence, as demonstrated by archaeological or written historical reports showing the presence of human remains or grave markers.
2. Historical documentation.
3. Oral depositions or affidavits.
4. Oral histories.

(2g) PROCEEDINGS TO CONTEST RECORDING IN THE CATALOG. (a) If an owner wishes to contest a determination by the director under sub. (2) (a), the owner may, prior to the date stated in the

notice under sub. (2) (a) that the director will record the burial site and land in the catalog, request a hearing before the board to review the director's determination. If such a request is made, the board shall hold a hearing within 90 days after the date of the request. At the hearing, the director has the burden of proving, using the types of evidence described under sub. (2c) (b), that a burial site is present on the land. If a hearing is requested under this paragraph and the director has not yet physically inspected the land in question as permitted under sub. (2) (a), the director shall do so prior to the hearing. Following the hearing, the board shall issue a decision regarding whether to record the burial site or land in the catalog and, no later than 60 days after the hearing, shall send a copy of its decision to the director and the owner. A hearing held under this paragraph is not a contested case hearing under ch. 227.

(b) Within 30 days after the date of the board's decision under par. (a), the owner shall have the right to a contested case hearing regarding whether the director should record the burial site or land in the catalog. A hearing under this paragraph shall be conducted by the division.

(c) From the time of the notice under sub. (2) (a) that the site or land will be recorded in the catalog unless the owner requests a hearing under par. (a) until all proceedings under this subsection are concluded, notwithstanding sub. (4), no person may conduct any soil disturbance activity on the site or land, except that the proposed activity may be conducted if the director determines that the proposed activity will not disturb the burial site.

(2j) REMOVAL FROM CATALOG. (a) The director shall, on his or her own initiative or in response to a request from the owner or another interested person, propose that land be removed from the catalog if the director determines that no burial site is present on the land because of any of the following:

1. Naturally occurring changes to the landscape.
2. Removal of human remains from the burial site under sub. (4) (c) 3. a. or (5) (c) 3.
3. Newly discovered evidence that, if known at the time of the determination to record in the catalog, and taking into account the types of evidence required to be considered under sub. (2c), would have resulted in a determination not to record the burial site or land in the catalog.

(b) 1. If the director proposes to remove land from the catalog under par. (a), the director shall notify the owner, interested persons listed on the registry under sub. (2) (e), county or local historical societies, the relevant municipality, and, if applicable, the person who submitted an application to have the site recorded in the catalog of the director's proposal to remove the land from the catalog, and invite those persons to submit comments on the proposal. The director shall allow comments for a period of no less than 60 days.

2. Following the expiration of the comment period under subd. 1., the director shall review any comments submitted, make any appropriate modifications in response to those comments, and issue a decision regarding removal of the land from the catalog. The director shall provide notice of his or her decision to the persons notified under subd. 1.

3. Within 30 days after the date of the notice described in subd. 2., a person notified under subd. 1. may appeal the director's decision to the board. The board shall review the director's decision and issue a decision as to whether the land should be removed from the catalog.

4. Within 30 days after the date of the board's decision under subd. 3., a person notified under subd. 1. shall have the right to a contested case hearing regarding whether the land should be removed from the catalog. A hearing under this subdivision shall be conducted by the division.

5. If no appeal of a decision to remove land from the catalog is filed within the period specified under subd. 3., if a decision to remove land from the catalog is upheld by the board following an appeal to the board under subd. 3. and no hearing is requested

under subd. 4., or if a decision to remove land from the catalog is upheld by the division following a hearing requested under subd. 4., the director shall immediately do all of the following:

- a. Remove the land from the catalog.
- b. Submit a request to the register of deeds for the county in which the land is located to record a notice that the land has been removed from the catalog.

(2m) BOARD DUTIES. The board shall:

- (a) Meet at least every 3 months.
- (b) Determine which Indian tribes have an interest in any burial site or class of burial sites and notify the director for entry in the registry under sub. (2) (e).
- (c) Determine which applicants for entry in the registry under sub. (2p) have an interest in a burial site or class of burial sites.
- (d) As it deems necessary, review determinations of the director and the division under sub. (5).
- (e) As it deems necessary, review disposition actions taken by the director under sub. (6).
- (f) As it deems appropriate, approve transfers of burial sites under sub. (6m) (b) 2.
- (g) Hold hearings and issue decisions under sub. (2g) (a).
- (h) Review decisions of the director and issue decisions regarding removal of land from the catalog under sub. (2j) (b) 3.

(2p) APPLICATION FOR REGISTRY. Any person may apply to the board for entry in the registry and shall indicate in which burial site she or he is claiming an interest.

(2r) SITE DISTURBANCE PROHIBITED. Except as provided under subs. (4) and (5) and ss. 157.111 and 157.112, no person may intentionally cause or permit the disturbance of a burial site or cataloged land contiguous to a cataloged burial site. This subsection does not prohibit normal agricultural or silvicultural practices which do not disturb the human remains in a burial site or the surface characteristics of a burial site.

(3) REPORT OF DISTURBED BURIAL SITES. (a) Except as provided under s. 979.01, a person shall immediately notify the director if the person knows or has reasonable grounds to believe that a burial site or the cataloged land contiguous to a cataloged burial site is being disturbed or may be disturbed contrary to the requirements of subs. (4) and (5).

(b) Upon receipt of any notice under par. (a), the director shall determine if the burial site which is the subject of the notice has been cataloged.

(4) PROCEDURE FOR UNCATALOGED BURIAL SITES. (a) If the director determines that a burial site reported under sub. (3) (a) is not cataloged, he or she shall immediately provide the person who made the report under sub. (3) (a) with confirmation that the report has been received and shall also immediately notify the owner of the burial site of the procedure under this subsection and of the liabilities and penalties which apply for failure to comply with the procedure. If the director deems it appropriate, he or she may notify the board, and any person who has or may have an interest in the burial site, that a burial site has been reported under sub. (3).

(b) No owner who has received notice under par. (a) may in any way intentionally cause or permit any activity which would disturb the burial site which is the subject of the notice unless authorized by the director under par. (c) 2. or (d).

(c) 1. Using information available concerning the burial site and the proposed activity, the director shall determine whether the proposed activity will disturb the burial site and whether the registry under sub. (2) (e) shows that any person has an interest in the burial site.

2. If the director determines that the proposed activity will not disturb the burial site or will disturb a burial site in which no person is shown on the registry under sub. (2) (e) to have an interest, he or she shall notify the owner of the owner's right to cause or permit the activity.

3. If the director determines that the proposed activity will disturb a burial site in which any other person who is not the owner

is shown on the registry under sub. (2) (e) to have an interest and that the interest is substantial, the director shall notify the owner that the owner may not cause or permit the activity unless the owner does one of the following:

a. Subject to s. 157.111, authorizes the director or a qualified archaeologist approved by the director to excavate the burial site to remove and analyze any human remains and objects related to the burial in the burial site from the burial site within a reasonable time, beginning within 30 days of when ground conditions permit, for disposition under sub. (6).

b. Changes the proposed activity so as not to disturb any burial site.

(cm) The director shall notify an owner under par. (c) 2. or 3., whichever is applicable, within 30 days after confirming receipt of a notification of a disturbance or possible disturbance under sub. (3) (a), except that if the director cannot make a determination under par. (c) 2. or 3. within that period, he or she shall notify the owner that additional time, which may not exceed 30 days, is necessary to make the determination, and include in that notification the reasons he or she needs additional time to make the determination.

(d) If the director determines that an owner has satisfied the requirements under par. (c) 3., he or she shall, within 30 days after making that determination, notify the owner of the owner's right to cause or permit any activity which is in keeping with the owner's action under par. (c) 3.

(e) If under par. (c) 3. a. all human remains and objects related to the burial in a burial site reported under sub. (3) (a) are not removed from the burial site, the director shall enter the burial site into the record prepared under sub. (2) (a).

(f) The director shall submit a written report to the board of any determination which he or she makes under this subsection.

(5) PROCEDURE FOR CATALOGED BURIAL SITES. (a) No person may intentionally cause or permit the disturbance of a cataloged burial site or the cataloged land contiguous to a cataloged burial site without a permit from the director issued under this subsection.

(b) 1. Any person who intends to cause or permit any activity on a cataloged burial site or on cataloged land contiguous to a cataloged burial site which in any way might disturb the burial site or the land shall apply to the director for a permit to disturb the burial site or the land. The application shall include the purpose of the disturbance.

2. The director shall notify any person shown on the registry under sub. (2) (e) to have an interest in the burial site of the proposed disturbance. The notice to any person under this subdivision shall include information on the notified person's right to a hearing on whether the director should grant a permit to disturb the burial site or the land.

(c) 1. Upon request of the applicant or any person notified under par. (b), or if the director determines that a hearing is necessary, the director shall request the division to conduct a hearing on whether a permit should be issued to disturb the burial site or the land which is the subject of the request. If in any part of the hearing the location of a burial site is the subject of the testimony, such part of the hearing shall be conducted in a session closed to the public and the record of such part of the hearing shall be exempt from disclosure under s. 19.35 (1).

1m. If a hearing is not requested or determined to be necessary under subd. 1., the director shall determine whether a permit should be issued to disturb the burial site or the land which is the subject of the application under par. (b) 1. If the director determines that the benefits to the permit applicant in disturbing the burial site or the land outweigh the benefits to all other persons shown on the registry under sub. (2) (e) to have an interest in not disturbing the burial site or the land, the director shall grant a permit to disturb the burial site or the land. In making the determination, the director shall consider the interest of the public in addition to any other interests. If the director determines that any of

the following classes of interest are represented, the director shall weight the interests in the following order of priority:

- a. Direct kinship.
- b. A cultural, tribal or religious affiliation.
- c. A scientific, environmental or educational purpose.
- cm. Historical and aesthetic significance of the burial site.
- d. Land use.
- e. A commercial purpose not related to land use which is consistent with the purposes of this section.

f. Any other interest which the director deems to be in the public interest.

2. If a hearing is requested or determined to be necessary under subd. 1., the division shall conduct a hearing to determine whether the benefits to the permit applicant in disturbing the burial site or the land outweigh the benefits to all other persons shown on the registry under sub. (2) (e) to have an interest in not disturbing the burial site or the land. If the division finds in favor of the applicant, the division shall issue a determination in favor of granting a permit to disturb a burial site or the land which is the subject of the hearing under this paragraph. In making the determination, the division shall consider the interest of the public in addition to the interests of the parties. If any of the following classes of interest are represented in the hearing, the division shall weight the interests in the following order of priority:

- a. Direct kinship.
- b. A cultural, tribal or religious affiliation.
- c. A scientific, environmental or educational purpose.
- cm. Historical and aesthetic significance of the burial site.
- d. Land use.

e. A commercial purpose not related to land use which is consistent with the purposes of this section.

f. Any other interest which the board deems to be in the public interest.

2m. If the division makes a determination for granting a permit to disturb a burial site that is the subject of the hearing under this paragraph, the division may, except as provided in subd. 2o., determine the person to whom the human remains and objects related to the burial in the burial site should be transferred for analysis and reinterment or other appropriate disposition when the burial site is disturbed. In making such a determination, the division shall follow the order of priority prescribed in sub. (6) (a).

2o. If human remains and objects related to the burial in the burial site are determined by a qualified archaeologist approved by the director to be of tribal descent, the division shall request that the Wisconsin Inter-Tribal Repatriations Committee or its designee determine the appropriate disposition of the remains or objects. If the Wisconsin Inter-Tribal Repatriations Committee or its designee declines the director's request, the division shall determine the person to whom the remains and objects should be transferred as otherwise provided in subd. 2m. The Wisconsin Inter-Tribal Repatriations Committee or its designee shall submit to the director a written report of any disposition action taken under this subdivision.

3. If the determination under subd. 1m. or 2. is for granting a permit to disturb a burial site, the director shall grant the permit if the owner authorizes the director or a qualified archaeologist approved by the director to excavate the burial site to remove, within a reasonable time, beginning within 30 days of when ground conditions permit, for disposition under sub. (6), any human remains and objects related to the burial in the burial site to be disturbed under the permit.

4. A permit issued under this subsection shall be subject to s. 157.111 and may be subject to any other condition or exemption deemed necessary to limit the disturbance of a burial site or the land or to minimize any other burden on any person affected by granting the permit.

5. Any determination made by the director or the division under subd. 1m. or 2. may be appealed to the board.

(d) 1. The director may charge a fee to recover the cost of excavation of a cataloged burial site under par. (c) 3. on the basis of the historical society's assessment of the costs associated with excavation of the cataloged site.

2. The director may charge a fee to recover costs incurred by the historical society to analyze and reinter or otherwise dispose of human remains and other material under par. (c) 2m.

(6) DISPOSITION OF HUMAN REMAINS REMOVED FROM BURIAL SITES. (a) Except as provided in par. (bm), if human remains and objects related to the burial in the site are removed from a burial site under sub. (4) (c) 3. a. or (5) (c) 3. and the division has not determined under sub. (5) (c) 2m. the person to whom such remains and objects should be transferred for analysis and reinterment or other appropriate disposition, the director shall notify any person in the registry under sub. (2) (e) with an interest in the analysis and reinterment or appropriate disposition of such human remains and objects. The director shall transfer the remains and objects to such person for appropriate reinterment or other appropriate disposition upon receipt of a written application by any person with an interest in the analysis and reinterment or other appropriate disposition based on the following, in the order of priority stated, when persons in prior classes are not available at the time of application and in the absence of actual notice of opposition by a member of the same or a prior class:

1. Direct kinship.
2. A cultural, tribal or religious affiliation.
3. A scientific, environmental or educational purpose.
4. Any other interest which the board deems to be in the public interest.

(b) If the director cannot identify any person with an interest in reintering the human remains and objects received under par. (a), the director shall provide for reinterment or other disposition of the human remains and objects in an appropriate manner.

(bm) If human remains and objects related to the burial are removed from a burial site under sub. (4) (c) 3. a. or (5) (c) 3., the remains or objects are determined by a qualified archaeologist approved by the director to be of tribal descent, and the division has not determined under sub. (5) (c) 2m. the person to whom such remains and objects should be transferred for reinterment or other appropriate disposition, the director shall request that the Wisconsin Inter-Tribal Repatriations Committee or its designee determine the appropriate disposition of any tribal human remains or objects related to the burial. The director shall transfer the remains and objects for appropriate reinterment or other appropriate disposition as directed by the Wisconsin Inter-Tribal Repatriations Committee or its designee, unless the Wisconsin Inter-Tribal Repatriations Committee or its designee declines the director's request, in which case the director shall proceed with disposition of the remains and objects as otherwise provided in par. (a). The Wisconsin Inter-Tribal Repatriations Committee or its designee shall submit to the director a written report of any disposition action taken under this paragraph.

(c) The director shall record in the catalog prepared under sub. (2) (a) the site of any reinterment under par. (a), (b), or (bm).

(d) The director shall submit to the board a written report of any disposition action taken under this subsection.

(e) The board may review and modify any disposition action taken by the director under this subsection.

(6m) BURIAL SITES ON PUBLIC LANDS. (a) In this subsection, "municipality" has the meaning given under s. 66.0621 (1) (a) and includes the state.

(b) Notwithstanding any other provision of this section, a municipality:

2. May not transfer any burial site to any person who is not a municipality unless the transfer provides for preservation of the burial site from any disturbance by any person and unless the transfer is approved by the board.

3. Shall endeavor to take positive action to preserve any burial site on land it owns through appropriate land use management including but not limited to appropriate multiuse purposes such as nature preserves.

(7) ACTION BY ATTORNEY GENERAL. Upon request of the board, the attorney general or the district attorney of the proper county shall aid in any investigation, inspection, hearing or trial had under the provisions of this section and shall institute and prosecute all necessary actions or proceedings for the enforcement of such provisions and for the punishment of violations of the same. The attorney general or district attorney so requested shall report to or confer with the board regarding the request within 30 days after receipt of the request.

(8) REMEDIES. Any person who intentionally disturbs, without the authorization of the director under sub. (4) (c) 2. or (d), a burial site which is not cataloged or who intentionally disturbs, without a permit issued under sub. (5), a cataloged burial site or the cataloged land contiguous to a cataloged burial site is liable for attorney fees and damages or other appropriate relief to any person with an interest in preserving the burial site or in reintering the human remains and objects related to the burial in the burial site. Any person with an interest in preserving a burial site or in reintering the human remains in the burial site may bring an action for an injunction to prevent disturbance to the burial site or the cataloged land contiguous to a cataloged burial site or to obtain the human remains and objects related to the burial in the burial site for appropriate reinterment, in the order of priority specified in sub. (6) (a).

(9) PRESERVATION OF RIGHTS. The transfer of title to any property shall not change the rights and duties of any person under this section.

(9m) ELECTRONIC SUBMISSION OF DOCUMENTS. The historical society and the board shall accept transmittal by any electronic means approved by the director of any application or other document required to be submitted under this subchapter.

(10) PENALTIES. (a) Any person who fails to report the disturbance of a burial site or the cataloged land contiguous to a cataloged burial site as required under sub. (3) shall forfeit not less than \$100 nor more than \$1,000.

(b) Any person who intentionally disturbs a burial site which is not cataloged without the authorization of the director under sub. (4) (c) 2. or (d) shall forfeit not less than \$500 nor more than \$2,000 if the burial site is not dedicated or shall forfeit not less than \$1,000 nor more than \$10,000 if the burial site is dedicated.

(c) Any owner who intentionally causes or permits any activity which disturbs a burial site after receiving notice from the director under sub. (4) (a) without the authorization required under sub. (4) (c) 2. or (d) shall forfeit not less than \$1,000 nor more than \$10,000.

(d) Any person who intentionally causes or permits any activity which disturbs a cataloged burial site or the cataloged land contiguous to a cataloged burial site without a permit issued under sub. (5) shall forfeit not less than \$1,000 nor more than \$10,000.

(e) Any person who disturbs a burial site for commercial gain not related to use of the land where a burial site is located or who disturbs a cataloged burial site for commercial gain related to use of the land where a burial site is located in violation of this section may be fined not to exceed 2 times the gross value gained or 2 times the gross loss caused by the disturbance, whichever is the greater, plus court costs and the costs of investigation and prosecution, reasonably incurred, or imprisoned for not more than one year in the county jail or both. In calculating the amount of the fine based on personal injury, any measurement of pain and suffering shall be excluded.

History: 1985 a. 316; 1987 a. 27; 1989 a. 3, 31, 359; 1991 a. 39; 1993 a. 386; 1995 a. 357; 1999 a. 83; 1999 a. 150 s. 672; 2001 a. 16; 2017 a. 222; 2017 a. 365 s. 111.

Cross-reference: See also ch. HS 1, Wis. adm. code.

Note: 1985 Wis. Act 316, which created this section, contains extensive notes. Section 1 of 1985 Act 316 is entitled "Legislative findings and purpose."

Appendix H: WI SHPO List of Qualified Skeletal Analysts

Note: This list is consistently updated by the Wisconsin Historical Society. For the most current list of qualified archaeologists, please see: <https://www.wisconsinhistory.org/Records/Article/CS2835>



QUALIFIED SKELETAL ANALYSTS

August 2018

As required by Wis. Stats. and HS 2.02(12) and 2.04(6) (b) the following list of individuals have been approved by the Director of the Wisconsin Historical Society to analyze human remains.

Dr. Fred Anapol

University of Wisconsin-Milwaukee
Department of Anthropology
Sabin Hall Rm 140
PO Box 413
Milwaukee, WI 53201
414-229-4231
fred@uwm.edu

Erik C. Anderson

5 South Loomis Street
Naperville, IL 60540
630-689-6245
Erik.anderson.14@ucl.ac.uk

Ashley Brenneman

Department of Anthropology
PO Box 413
University of Wisconsin-Milwaukee
Milwaukee, WI 53201
Abrenn31@gmail.com

Lisa N. Bright

GEI Consultants, Inc.
2868 Prospect Park Drive Suite 400
Rancho Cordova, CA 95670
916-631-4500
brightlisa@gmail.com

S. A. Brown

916 White Springs Dr.
Chattanooga, TN 37415
423-313-7828
Brownsa202@gmail.com

Brianne Charles

Department of Anthropology
University of Wisconsin – Milwaukee
Sabin Hall
3413 N. Downer
PO Box 413
Milwaukee, WI 53201
414-229-3078
bcharles@uwm.edu

K. Christensen

18 Sinclair Street
Janesville, WI 53545
608-515-8261
Kchris729@gmail.com

Dr. Meghan Cotter

Madison, WI
608-469-2451

Michelle Davenport, M.A.

2837 Barlow Street
Madison, WI 53705
817-729-1390
Davenport.mishi@gmail.com

Valerie Davis, M.A.

New South Associates
6150 East Ponce de Leon Avenue
Stone Mountain, GA 30083
770-498-4155 x 115
vdavis@newsouthassoc.com

Victoria Dirst, Ph.D.

952 Tacoma Beach Road
Sturgeon Bay, WI 54235
414-743-2083
vdirst@charter.net

Jenna Dittmar, MSc.

T16576 County Road WW
Wausau, WI 54403
715-536-6133
jjdd2@cam.ac.uk

Sean P. Dougherty, Ph.D.

Department of Natural Sciences
Milwaukee Area Technical College
700 W. State Street
Milwaukee, WI 53233
414-297-7377
doughsp1@matc.edu

Dr. Leslie E. Eisenberg, D-ABFA

6228 Trail Ridge Court
Oregon, WI 53575
608-835-8282

Emily Mueller Epstein, M.S.

Department of Anthropology
University of Wisconsin-Milwaukee
PO Box 413
Milwaukee, WI 53201
541-589-2382
414-229-4273 - lab
em@uwm.edu

Amy C. Favret, M.A.

Senior Archaeologist
URS
525 Vine Street, Suite 1800
Cincinnati, OH 45202
513-419-3445
amy.favret@urs.com

Robert P. Fay

Old Northwest Research
2312 Jefferson Street
Two Rivers, WI 54241-2208
920-793-1338
bobfayonwr@hotmail.com

Shannon K. Freire M.S.

Department of Anthropology
University of Wisconsin-Milwaukee
Sabin Hall, Rm 290
PO Box 413
3413 N. Downer Avenue
Milwaukee, WI 53201
414-229-4175
skfreire@uwm.edu

Karen Gardner, M.A.

GEI Consultants, Inc.
2868 Prospect Park Drive
Suite 400
Rancho Cordova, CA 95670
916-596-1796 O, 925-895-5491 C
kgardner@geiconsultants.com

Dr. Lynne G. Goldstein

Consortium for Archaeological Research
Michigan State University
McDonel Hall
817 E. Shaw Lane, Room E-29
East Lansing, MI 48825
517-353-4704
lynneg@msu.edu

Dr. Anne L. Grauer

Department of Sociology and Anthropology
Loyola University of Chicago
Damen Hall
6525 North Sheridan Road
Chicago, IL 60626
Mobile: 773-343-9333
Lab: 773-508-3480
agrauer@luc.edu

Jennifer R. Haas, M.A.

Principal Investigator
Cultural Resource Management Services
Sabin Hall, Room 290
PO Box 413
414-229-3078
haasjr@uwm.edu

Suzanne Harris
Research Associate
Mississippi Valley Archaeology Center
University of Wisconsin-La Crosse
1725 State St
La Crosse, WI 54601
608-785-8463
sharris2@uwlax.edu

Dr. Robert J. Jeske
Professor
Department of Anthropology
University of Wisconsin-Milwaukee
Sabin 275B
Milwaukee, WI 53201
414-229-4175
jeske@uwm.edu

Amanda C. Jones, M.S.
2020 Meadowsweet Dr.
Green Bay, WI 54313
920-639-3606
aman.jones66@gmail.com

Catherine R. Jones, M.S.
3030 N. Downer Avenue
Milwaukee, WI 53211
317-507-2655
catherinerjones@yahoo.com

Alexis Jordan, M.S.
Anthropology Department
University of Wisconsin-Milwaukee
PO Box 413
Milwaukee, WI 53201
414-229-4273
amjordan@uwm.edu

Jason M. Kennedy, M. A.
1048 East Dayton Street
Madison, WI 53703
608-467-6317
jay21ken@hotmail.com

Peter E. Killoran
Coordinator of Forensic Science
Dept. of Sociology, Anthropology and Criminal
Justice
2134 Laurentide Hall
University of Wisconsin-Whitewater
Whitewater, WI 53190-1790
(262) 472 1422
Killorap@uww.edu
peter.killoran@gmail.com

Lindsay J. Lentz, M.A.
521 Jefferson Street, Apt. 106
Mauston, WI 53948
414-559-8525
lindsayjlentz@gmail.com

J. David McMahan, M.A., R.P.A.
446 E. 23rd Avenue
Anchorage, AK 99503
907-230-8880
jdmcmahan55@gmail.com

Hugh B. Matternes, Ph.D., R.P.A.
New South Associates
6150 East Ponce de Leon Avenue
Stone Mountain, GA 30083
770-498-4155 x 114
mmatternes@newsouthassoc.com

Rosanne M. Meer
BioArchaeological Services
1234 Sweeney Dr, Apt 5
Middleton, WI 53562
715-499-1136
bioarch.meer@gmail.com

Dr. Lara K. Noldner
Bioarchaeology Director
Office of the State Archaeologist
700 South Clinton Street Building
University of Iowa
Iowa City, IA 52242
319-384-0740
lara-noldner@uiowa.edu

S. L. Posin

Commonwealth Heritage Group
2530 Spring Arbor Road
Jackson, MI 49203
517-788-3550
sposin@chg-inc.com

Dr. Marcia H. Regan

13330 Cranford Circle
Rosemount, MN 55068
651-204-3456
mhregan@lightblast.net

Dr. Patricia B. Richards

Department of Anthropology
University of Wisconsin – Milwaukee
Sabin Hall
3413 N. Downer
PO Box 413
Milwaukee, WI 53201
414-229-2416
pbrownr@uwm.edu

Dr. Katie Z. Rudolph

613 Auwai Street
Kailua, HI 96734
419-202-0542
katrudol@uemail.iu.edu

Dr. Norman J. Sauer

80 E. Newman Road
Williamston, MI 48895
517-655-6704
nsauer@msu.edu

Jessica Skinner

Department of Anthropology
University of Wisconsin-Milwaukee
3413 N Downer Avenue
Milwaukee WI 53211
262-215-1825
Skinner4@uwm.edu

Janet Speth, M.A.

7190 Belle Fontaine Boulevard
Middleton, WI 53562
608-826-0649
janet.speth@gmail.com

Dr. Ann L. Stodder

5346 North Diversey Boulevard
Whitefish Bay, WI 53217
414-964-7260
stodder@fieldmuseum.org

Dr. Norman Craig Sullivan

Department Social & Cultural Sciences
Lalumiere Hall, Room 376
Marquette University
P. O. Box 1881
Milwaukee, WI 53201-1881
414-288-3443
norman.sullivan@marquette.edu

Dr. Neil C. Tappen

2709 East Shorewood Boulevard
Shorewood, WI 53211
414-962-9312

Dr. James Theler

Department of Sociology and Archaeology
UW-La Crosse
437G Carl Wimberly Hall
1725 State Street
La Crosse, WI 54601
Office: 608-785-6780
Lab: 608-785-6464
theler.jame@uwlax.edu

Helen M. Werner, M.S. RPA

Department of Anthropology
University of Wisconsin-Milwaukee
3413 N Downer Avenue
Milwaukee WI 53211
hmholden@uwm.edu

Appendix I: Iowa Burial Law

CHAPTER 263B

STATE ARCHAEOLOGIST

Referred to in [§216A.167](#)

263B.1	Appointment.	263B.6	Federal funds.
263B.2	Duties.	263B.7	Ancient remains.
263B.3	Agreements with federal departments.	263B.8	Cemetery for ancient remains.
263B.4	Definitions.	263B.9	Authority to deny permission to disinter human remains.
263B.5	State department of transportation contracts.	263B.10	Confidentiality of archaeological locations and information.

263B.1 Appointment.

The state board of regents shall appoint a state archaeologist, who shall be a member of the faculty of the department of anthropology of the state university of Iowa.

[C62, 66, 71, 73, 75, 77, 79, 81, §305A.1]

C93, §263B.1

Referred to in [§457A.1](#)

263B.2 Duties.

The state archaeologist shall have the primary responsibility for the discovery, location and excavation of archaeological sites and for the recovery, restoration and preservation of archaeological remains in and for the state of Iowa, and shall coordinate all such activities through cooperation with the state department of transportation, the department of natural resources, and other state agencies concerned with archaeological salvage or the products thereof. The state archaeologist may publish educational and scientific reports relating to the responsibilities and duties of the office.

[C62, 66, 71, 73, 75, 77, 79, 81, §305A.2]

C93, §263B.2

263B.3 Agreements with federal departments.

The state archaeologist is authorized to enter into agreements and cooperative efforts with the federal highway administrator; the United States departments of commerce, interior, agriculture, and defense; and any other federal or state agencies concerned with archaeological salvage or the preservation of antiquities.

[C62, 66, 71, 73, 75, 77, 79, 81, §305A.3]

C93, §263B.3

[2012 Acts, ch 1023, §157](#); [2013 Acts, ch 30, §63](#); [2013 Acts, ch 140, §61](#)

263B.4 Definitions.

As used in [sections 263B.5](#) and [263B.6](#):

1. “*Historical objects*” means archaeological and paleontological objects, including all ruins, sites, buildings, artifacts, fossils, or other objects of antiquity that have state and national significance from an historical or scientific standpoint for the inspiration and benefit of the people of the United States.

2. “*Salvage*” means the salvage of historical objects.

3. “*Appropriate authority*” means the federal or state authorities concerned with the preservation and study of historical objects.

[C66, 71, 73, 75, 77, 79, 81, §305A.4]

C93, §263B.4

263B.5 State department of transportation contracts.

1. The state department of transportation in letting contracts for road construction shall take action to see that historical objects will not be needlessly destroyed or if such destruction cannot be avoided reasonable action shall be taken to obtain all information concerning such objects prior to destruction. If it should appear that the proposed construction will result in

the destruction of historical objects and it is determined by the appropriate authority that such objects cannot be reasonably removed or otherwise preserved, consideration shall be given to possible alternate locations of the highway.

2. If during the course of construction, historical objects are encountered, the appropriate authority shall be notified immediately and steps taken to excavate and preserve the objects if practicable or if preservation is impracticable, to permit the appropriate authority to obtain and record data relative thereto.

3. Agreements may be entered into with the appropriate authority to pay from federal highway funds the reasonable cost of salvage work. Extra work orders may be issued to the contractor where necessary and extra work orders may be issued in cases within the meaning of “subsurface or lateral conditions” or “unknown physical conditions” where such terms are used in the standard contract forms. Payment for salvage work shall be limited to that performed within the roadway prism and any location designated as a source of material. If the contractor’s operations are delayed because of salvage work such contractor shall be entitled to an appropriate extension of the contract time. If practicable, the operations shall be rescheduled to avoid the section where the historical material is, until the removal of it.

4. The cost of exploratory work prior to construction shall be borne by the appropriate authority. Costs of excavation of historical objects or recordation of data may be paid by the federal highway funds. Excavation costs may include costs of protecting and preservation during removal from the site but shall not include the expense of shipping historical objects from the site.

[C66, 71, 73, 75, 77, 79, 81, §305A.5]

C93, §263B.5

Referred to in [§263B.4](#)

263B.6 Federal funds.

Where federal funds are available to the state under federal statutes providing for archaeological and paleontological salvage, they shall be collected and credited as provided in [section 307.44](#).

[C66, 71, 73, 75, 77, 79, 81, §305A.6]

C93, §263B.6

Referred to in [§263B.4](#)

263B.7 Ancient remains.

The state archaeologist has the primary responsibility for investigating, preserving, and reintering discoveries of ancient human remains. For the purposes of [this section](#), ancient human remains are those remains found within the state which are more than one hundred fifty years old. The state archaeologist shall make arrangements for the services of a forensic osteologist in studying and interpreting ancient burials and may designate other qualified archaeologists to assist the state archaeologist in recovering physical and cultural information about the ancient burials. The state archaeologist shall file with the Iowa department of public health a written report containing both physical and cultural information regarding the remains at the conclusion of each investigation.

[C77, 79, 81, §305A.7]

[91 Acts, ch 97, §41](#)

C93, §263B.7

263B.8 Cemetery for ancient remains.

The state archaeologist shall establish, with the approval of the executive council, a cemetery on existing state lands for the reburial of ancient human remains found in the state. The cemetery shall not be open to the public. The state archaeologist in cooperation with the department of natural resources shall be responsible for coordinating interment in the cemetery.

[C77, 79, 81, §305A.8]

C93, §263B.8

263B.9 Authority to deny permission to disinter human remains.

The state archaeologist shall have the authority to deny permission to disinter human remains that the state archaeologist determines have state and national significance from an historical or scientific standpoint for the inspiration and benefit of the people of the United States.

[C79, 81, §305A.9]
C93, §263B.9

263B.10 Confidentiality of archaeological locations and information.

The state archaeologist shall comply with the requirements of [section 22.7, subsection 20](#), regarding information pertaining to the nature and location of archaeological resources or sites. The state archaeologist shall consult with other public officers serving as lawful custodians of archaeological information to determine whether the information should be confidential or be released.

[86 Acts, ch 1228, §2](#)
C87, §305A.10
C93, §263B.10

716.5 Criminal mischief in the third degree.

1. Criminal mischief is criminal mischief in the third degree if any of the following apply:

a. The cost of replacing, repairing, or restoring the property that is damaged, defaced, altered, or destroyed exceeds five hundred dollars, but does not exceed one thousand dollars.

b. The property is a deed, will, commercial paper or any civil or criminal process or other instrument having legal effect.

c. The act consists of rendering substantially less effective than before any light, signal, obstruction, barricade, or guard which has been placed or erected for the purpose of enclosing any unsafe or dangerous place or of alerting persons to an unsafe or dangerous condition.

d. The person intentionally disinters human remains from a burial site without lawful authority.

e. The person intentionally disinters human remains that have state and national significance from an historical or scientific standpoint for the inspiration and benefit of the United States without the permission of the state archaeologist.

f. The act is committed upon property that consists of a device that has the ability to process a payment card as defined in [section 715A.10](#).

2. Criminal mischief in the third degree is an aggravated misdemeanor.

[C51, §2638, 2714, 2746; R60, §4265, 4356, 4396; C73, §3929, 4017, 4075; C97, §4865, 4945, 5043; C24, 27, 31, 35, 39, §**13050, 13100, 13148**; C46, 50, 54, 58, 62, 66, 71, 73, 75, 77, §713.5, 714.21, 718.10; C79, 81, §716.5]

[83 Acts, ch 99, §1](#); [92 Acts, ch 1060, §10](#); [2009 Acts, ch 41, §169](#); [2018 Acts, ch 1011, §2](#)

Referred to in [§523L.316](#), [716.6A](#), [717A.3](#)

Subsection 1, NEW paragraph f

523I.316 Protection of cemeteries and burial sites.

1. *Existence of cemetery or burial site — notification.* If a governmental subdivision is notified of the existence of a cemetery, or a marked burial site that is not located in a dedicated cemetery, within its jurisdiction and the cemetery or burial site is not otherwise provided for under [this chapter](#), the governmental subdivision shall, as soon as is practicable, notify the owner of the land upon which the cemetery or burial site is located of the cemetery's or burial site's existence and location. The notification shall include an explanation of the provisions of [this section](#). If there is a basis to believe that interment may have occurred more than one hundred fifty years earlier, the governmental subdivision shall also notify the state archaeologist.

2. *Disturbance of interment spaces — penalty.* A person who knowingly and without authorization damages, defaces, destroys, or otherwise disturbs an interment space commits criminal mischief in the third degree under [section 716.5](#). Criminal mischief in the third degree is an aggravated misdemeanor.

3. *Duty to preserve and protect.*

a. A governmental subdivision having a cemetery, or a burial site that is not located within a dedicated cemetery, within its jurisdiction, for which preservation is not otherwise provided, shall preserve and protect the cemetery or burial site as necessary to restore or maintain its physical integrity as a cemetery or burial site. The governmental subdivision may enter into a written agreement to delegate the responsibility for the preservation and protection of the cemetery or burial site to the owner of the property on which the cemetery or burial site is located or to a public or private organization interested in historical preservation. The governmental subdivision shall not enter into an agreement with a public or private organization to preserve and protect the cemetery or burial site unless the property owner has been offered the opportunity to enter into such an agreement and has declined to do so.

b. A governmental subdivision is authorized to expend public funds, in any manner authorized by law, in connection with such a cemetery or burial site.

c. If a governmental subdivision proposes to enter into an agreement with a public or private organization pursuant to [this subsection](#) to preserve and protect a cemetery or burial site that is located on property owned by another person within the jurisdiction of the governmental subdivision, the proposed agreement shall be written, and the governmental subdivision shall provide written notice by ordinary mail of the proposed agreement to the property owner at least fourteen days prior to the date of the meeting at which such proposed agreement will be authorized. The notice shall include the location of the cemetery or burial site and a copy of the proposed agreement, and explain that the property owner is required to permit members of the public or private organization reasonable ingress and egress for the purposes of preserving and protecting the cemetery or burial site pursuant to the proposed agreement. The notice shall also include the date, time, and place of the meeting and a statement that the property owner has a right to attend the meeting and to comment regarding the proposed agreement.

d. (1) Subject to [chapter 670](#), a governmental subdivision that enters into an agreement with a public or private organization pursuant to [this subsection](#) is liable for any personal injury or property damage that occurs in connection with the preservation or protection of the cemetery or burial site or access to the cemetery or burial site by the governmental subdivision or the public or private organization.

(2) For the purposes of this paragraph, "liable" means liability for every civil wrong which results in wrongful death or injury to a person or injury to property or injury to personal or property rights and includes but is not restricted to actions based upon negligence; error or omission; nuisance; breach of duty, whether statutory or other duty; or denial or impairment of any right under any constitutional provision, statute, or rule of law.

e. A property owner who is required to permit members of a public or private organization reasonable ingress and egress for the purpose of preserving or protecting a cemetery or burial site on that owner's property and who acts in good faith and in a reasonable manner pursuant to [this subsection](#) is not liable for any personal injury or property damage that occurs in connection with the preservation or protection of the cemetery or burial site or access to the cemetery or burial site.

f. For the purposes of [this subsection](#), reasonable ingress and egress to a cemetery or burial site shall include the following:

(1) A member of a public or private organization that has entered into a written agreement with the governmental subdivision who desires to visit such a cemetery or burial site shall give the property owner at least ten days' written notice of the intended visit.

(2) If the property owner cannot provide reasonable access to the cemetery or burial site on the desired date, the property owner shall provide reasonable alternative dates when the property owner can provide access to the member.

(3) A property owner is not required to make any improvements to that person's property to satisfy the requirement to provide reasonable access to a cemetery or burial site pursuant to [this subsection](#).

4. *Confiscation and return of memorials.* A law enforcement officer having reason to believe that a memorial or memorialization is in the possession of a person without authorization or right to possess the memorial or memorialization may take possession of the memorial or memorialization from that person and turn it over to the officer's law enforcement agency. If a law enforcement agency determines that a memorial or memorialization the agency has taken possession of rightfully belongs on an interment space, the agency shall return the memorial or memorialization to the interment space, or make arrangements with the person having jurisdiction over the interment space for its return.

5. *Burial sites located on private property.* If a person notifies a governmental subdivision that a burial site of the person's relative is located on property owned by another person within the jurisdiction of the governmental subdivision, the governmental subdivision shall notify the property owner of the location of the burial site and that the property owner is required to permit the person reasonable ingress and egress for the purposes of visiting the burial site of the person's relative.

6. *Discovery of human remains.* Any person discovering human remains shall notify the county or state medical examiner or a city, county, or state law enforcement agency as soon as is reasonably possible unless the person knows or has good reason to believe that such notice has already been given or the discovery occurs in a cemetery. If there is reason to believe that interment may have occurred more than one hundred fifty years earlier, the governmental subdivision notified shall also notify the state archaeologist. A person who does not provide notice required pursuant to [this subsection](#) commits a serious misdemeanor.

7. *Adverse possession.* A cemetery or a pioneer cemetery is exempt from seizure, appropriation, or acquisition of title under any claim of adverse possession, unless it is shown that all remains in the cemetery or pioneer cemetery have been disinterred and removed to another location.

[2005 Acts, ch 128, §38; 2006 Acts, ch 1117, §123; 2009 Acts, ch 179, §144; 2012 Acts, ch 1023, §157; 2017 Acts, ch 54, §63](#)

Referred to in [§523I.212](#)

APPENDIX I

C-HC Project Federal Mitigation Plan

INTRODUCTION

Dairyland Power Cooperative (Dairyland), American Transmission Company LLC (ATC), and ITC Midwest LLC (ITC Midwest) (herein called the Utilities) propose to construct the Cardinal-Hickory Creek Project (C-HC Project), a new 345-kilovolt (kV) transmission line through Dubuque and Clayton Counties in Iowa, extending across the Mississippi River and the Upper Mississippi River National Wildlife and Fish Refuge (Refuge) and into Grant, Iowa, and Dane Counties in Wisconsin. The C-HC Project would include approximately 100 to 125 miles of 345-kV transmission line and interconnecting 345-kV network facilities, depending on the route selected. This C-HC Project Federal Mitigation Plan provides an overview of the different types of mitigation proposed for the C-HC Project, including actions specifically related to the Refuge. The mitigation efforts proposed are based on previous transmission line projects through U.S. Fish and Wildlife Service (USFWS)- and U.S. Army Corps of Engineers (USACE)-managed lands and resources, as well as common mitigation measures associated with new transmission line projects in Iowa and Wisconsin. This Federal mitigation plan supplements the list of environmental commitments presented in this final environmental impact statement (FEIS) in Table 3.1-4. Once a final route is selected for the C-HC Project through the Refuge, the Utilities would continue to consult with the USFWS and USACE on the specific mitigation measures for the project, based on the specific route selected. Additional mitigation may be required as a result of the state regulatory processes in Wisconsin and Iowa and are not the subject of this plan.

Federal Agency Actions

The Rural Utilities Service (RUS), USFWS, and USACE have jurisdiction over the C-HC Project and are required to make decisions regarding funding, authorizing, or permitting various components of the proposed C-HC Project.

- RUS will determine whether or not to provide financial assistance for Dairyland's portion of the project.
- The USFWS will evaluate the Utilities' request for a right-of-way (ROW) easement and a Special Use Permit to cross the Refuge.
- The USACE will review a ROW request as well as permit applications and requests for permission by the Utilities, as required by Section 10 and Section 408 of the Rivers and Harbors Act and Section 404 under the Clean Water Act.

For more information about the agencies' decisions or decision-making process, please see FEIS Section 1.5.

Types of Mitigation Addressed in this Plan

The idea of mitigation is a hierarchical approach to project development and implementation that first strives to avoid negative impacts of a project on resources, and, when it is impossible to avoid impacts, then implements measures to minimize the level or intensity of negative impacts. Lastly, if avoidance and minimization measures do not lessen the negative impact to negligible or tolerable levels, then mitigation measures are used to ensure that resources are protected.

The types of mitigation provided in this document pertain to the C-HC Project ROW crossing of the Refuge and impacts to jurisdictional waters. These measures will be required as part of USFWS and USACE permitting processes. One primary mitigation measure is compensatory mitigation, where restoration, establishment, enhancement, or preservations of parcels or habitats are implemented to

replace parcels or habitats that are impacted by a project. Another mitigation measure is the development and implementation of protection plans where a program is developed, documented, and implemented to reduce identified risks to resources.

RURAL UTILITIES SERVICE

There are no formal mitigation requirements related to RUS at this time. RUS will require the borrower, Dairyland, to follow through with mitigation identified below by other Federal agencies.

U.S. FISH AND WILDLIFE SERVICE

The USFWS would need to issue a Special Use Permit for construction of project features on Refuge-managed lands and may need to authorize additional or new ROW for crossing the Refuge. Mitigation for the USFWS lands within the Refuge is discussed below under the section titled “Mitigation Required for Right-of-Way Easements.”

ITC Midwest and Dairyland submitted the Application for Transportation and Utility Systems and Facilities on Federal Lands to USFWS on September 13, 2019. The application is currently under review by the USFWS. Additionally, under Section 7 of the Endangered Species Act, all Federal agencies must consult with the USFWS when any action authorized by the Federal agency may affect a listed endangered or threatened species. RUS consulted with the USFWS with a submission of the C-HC Project Biological Assessment in November 2018, and the USFWS prepared a Biological Opinion in March 2019. The Biological Opinion is found in Appendix G.

U.S. ARMY CORPS OF ENGINEERS

Mitigation Required for USACE Non-recreation Real Estate Outgrant

Per Engineer Regulations (ER) 1130-2-550, where required, a mitigation plan must be prepared and approved by the District Engineer prior to issuance of the outgrant instrument. An approved mitigation plan must become a condition of and added as an addendum to the applicable real estate instrument.

Non-statutory mitigation—all measures necessary to make the USACE whole. While specific statutes may not address these measures, when project damages are incurred, appropriate mitigation actions should be provided to address those damages/impacts. Non-statutory mitigation actions may take the form of actions to restore project value, such as land acquisition, replacing trees, soil/bank stabilization, and providing new, relocated, or replacement facilities (ER 1130-2-550). Non-statutory mitigation for the USACE lands within the Refuge is discussed below under the section titled “Mitigation Required for Right-of-Way Easements.”

Statutory mitigation—Statutory mitigation is driven by statutes, executive orders, and regulations that require mitigation to correct negative impacts to the environment based on a proposed action. For example, 33 CFR 320.4(r) and 33 CFR 332 detail the required mitigative actions when wetlands or navigable waterways (e.g., discharge of dredged or fill material into the water) are impacted (ER 1130-2-550). Statutory mitigation for impacts to Waters of the U.S. under Clean Water Act Section 404 is described in the following sections.

ITC Midwest and Dairyland submitted the Real Estate Application to the USACE Rock Island District on September 13, 2019. The application is currently under review by the USACE.

Mitigation Required by Clean Water Act Section 404 Permitting

St. Paul District

Compensatory Wetland Mitigation, if required, will be fulfilled by mitigation bank credits purchased in accordance with the 2013 USACE document entitled *Guidelines for Wetland Compensatory Mitigation in Wisconsin, Version 1*. Preliminary impact calculations indicate that the portions of the project in Wisconsin will qualify for the Utility Regional General Permit; USACE will evaluate each Single and Complete Linear Project to determine whether wetland conversion will require mitigation.

ATC submitted the Pre-Construction Notification (PCN) for Clean Water Act Section 404 permitting to the USACE St. Paul District on September 4, 2019. The PCN covers the portion of the C-HC Project between Hill Valley and Cardinal Substations in Wisconsin. The PCN is currently under review by the St. Paul District.

ITC Midwest submitted the PCN for Clean Water Act Section 404 permitting to the USACE St. Paul District on September 19, 2019. The PCN covers the portion of the C-HC Project between the Hill Valley Substation and the Mississippi River crossing in Wisconsin. The PCN is currently under review by the St. Paul District.

Rock Island District

Preliminary impact calculations indicate that the portions of the project in Iowa may qualify for the Nationwide Permit #12; USACE will evaluate each Single and Complete Linear Project to determine whether wetland conversion will require mitigation. Compensatory Wetland Mitigation, if necessary, would be coordinated with the Rock Island District Regulatory Division.

ITC Midwest submitted the PCN for Clean Water Act Section 404 permitting to the USACE Rock Island District on September 19, 2019. The PCN covers the portion of the C-HC Project in Iowa. The PCN is currently under review by the Rock Island District.

ITC Midwest submitted the Rivers and Harbors Act Section 10 Permit application to the USACE Rock Island District on September 19, 2019. The Section 10 authorization would permit the portion of the proposed C-HC Project that would span the Mississippi River. The Section 10 Permit application is under review by the Rock Island District.

MITIGATION REQUIRED FOR RIGHT-OF-WAY EASEMENTS

The USFWS has the statutory authority on USFWS fee title lands to “permit the use of, or grant easement in” Refuge lands or multiple uses, including “power lines” for a fee, provided the Secretary of the Interior first determines the proposed use is “compatible with the purposes for which these areas are established” (16 United States Code [U.S.C.] 668dd(d)(1)(B) and (d)(2)). Compatible uses are defined as “a wildlife-dependent recreational use or any other use of the refuge that, in the sound professional judgment of the Director, will not materially interfere with or detract from the fulfillment of the mission of the System or the purposes of the refuge” (16 U.S.C. 668ee(1); 50 Code of Federal Regulations [CFR] 29.21).

The Code of Federal Regulations at 50 CFR 26.41 describes the process for determining if a new or expanded use of a national wildlife refuge is a compatible use. When the proposed use involves maintenance of electrical facilities, which includes a minor expansion or minor realignment of an existing ROW to meet safety standards, the USFWS rules require that the design adopt appropriate measures to avoid resource impacts to USFWS lands and include provisions to ensure no net loss of habitat quantity and quality. Additionally, restored or replacement areas identified in the C-HC Project's proposed design must be afforded permanent protection as part of the national wildlife refuge affected by the use; and, all restoration work is completed by the applicant prior to any title transfer or recording of the easement, if applicable (50 CFR 26.41). The C-HC Project will comply with these requirements as set forth below.

USACE has statutory authority on USACE fee title lands to lease non-excess property of military departments and Defense Agencies (10 U.S.C. §2667). The USFWS Cooperative Agreement with USACE for management of the USACE lands in the area provides the ability for the USACE to issue outgrants on those lands. Any additional specifications necessary to achieve the broadly identified mitigation plans will be requested, formulated, and referenced as needed for the ROW agreements. Any in-kind or monetary consideration paid for the lease will not be considered part of the mitigation.

No Net Loss of Habitat and Quality through Compensatory Mitigation

ITC Midwest and Dairyland are conducting ongoing discussions with the USFWS Refuge staff and USACE staff at the Mississippi River Project Office about compensatory mitigation, or potential ways to provide appropriate replacement lands if a ROW is issued for the C-HC Project. The USFWS and USACE have agreed that the total acres of any new ROW on the proposed routes through the Refuge would have to be replaced with like or better-quality habitat, preferably in a nearby area, to ensure no net loss.

According to USFWS and USACE staff, the footprint of any new ROW in the Refuge would require compensatory mitigation regardless if that additional area is due to expansion of the width of the ROW or establishment of a new ROW. The USFWS and USACE have indicated that a 1:1 land-area ratio would be appropriate, provided the replacement land is of equal or better habitat quality. Abandonment of any existing ROW on USACE fee title land would involve restoration as required by the USACE and USFWS and current lease provisions. This restoration would not be associated with mitigation for new ROW areas.

For the Nelson Dewey river crossing option (B-IA2), the proposed ROW has been calculated as 39 acres, as described in the Application for Transportation and Utility Systems and Facilities on Federal Lands submitted to USFWS and the Real Estate Application submitted to the USACE Rock Island District.

ITC Midwest has secured an option to purchase land adjacent to the Refuge up to or exceeding the amount of newly proposed ROW within the Refuge, which could be used for mitigation for either the Nelson Dewey or Stoneman route. ITC Midwest believes this land includes comparable or better habitat quality than the land underlying the new ROW of the route alternatives extending through the Refuge. A habitat survey, similar to what was completed for the proposed rights-of-way in the Refuge, has been conducted on the proposed replacement lands. The results of this habitat survey will be compiled and reviewed with USFWS and USACE staff to confirm that no net loss in habitat quality would occur as a result of the C-HC Project. Consultation with USFWS and USACE may result in the need for forestry and/or habitat improvements on the proposed mitigation lands. If required, ITC Midwest and Dairyland will develop and implement, in consultation with USFWS and USACE, a habitat improvement and management plan for proposed mitigation lands. All surveying and real estate costs, including title, deeds, and environmental surveys, including surveys necessary to complete any forestry/habitat improvements, will be paid for by ITC Midwest and Dairyland.

Other Compensatory Mitigation Required

The proposed routes in the Refuge include both USFWS- and USACE-owned lands. Depending on the route selected, there may be more underlying lands owned by the USFWS or the USACE. The following additional compensatory mitigation is provided for the Utilities' preferred Nelson Dewey river crossing option (B-IA2).

- Merchantable timber replacement—ITC Midwest and Dairyland will notify the USFWS and/or USACE staff in charge of the amount of merchantable timber in the Refuge that would be cut, removed, or destroyed in the construction and maintenance of the C-HC Project, and will pay the United States in advance of construction such sum of money as USFWS and/or USACE staff may determine to be the full stumpage value of the timber to be so cut, removed, or destroyed.

Current values for merchantable timber determined by ITC Midwest and Dairyland in conjunction with information from the USACE is \$1,600.38.

- USACE Clean Water Act Section 404 mitigation for wetland conversion impacts will be determined in coordination with the USACE Rock Island District.

Efforts Proposed to Avoid Impacts in the Refuge

In addition to the proposed mitigation for no net loss of habitat quality and quantity, the Utilities are committed to minimizing potential resource impacts on USFWS- and USACE-managed lands and resources underlying proposed project rights-of-way. The Utilities have identified specific actions to avoid resource impacts; the actions listed below are consistent with past projects that have undergone USFWS and/or USACE review. These actions are not considered as a specific mitigation effort for the C-HC Project, but rather as conditions of the permit that would be granted by the USFWS and/or USACE as part of the C-HC Project. However, the overall intent of the restoration of existing ROW in the Refuge is to reduce potential impacts to Refuge lands and is therefore noted here for reference.

- ITC Midwest and Dairyland will develop and implement an erosion control plan, coordinated with the Iowa Department of Natural Resources (IDNR), for lands underlying the C-HC Project in Iowa, including the Refuge. Once a route is selected and approved, the plan will identify best management practices to be employed near aquatic features (wetlands, streams, waterbodies).
- For the portion of the C-HC Project within the Refuge, preliminary low-profile structures are proposed with a design height to match the existing tree cover within the Refuge (approximately 75 feet) to reduce the potential of avian collisions. All conductors on these low-profile and river-crossing structures would be placed on one horizontal plane and the shield wires would be marked with bird diverters along the entire length of the Refuge.
- The structures directly adjacent to the river must be taller to allow for the line clearance required by the U.S. Coast Guard across the Mississippi River channel. These structures are also designed to allow a horizontal configuration so all conductors spanning the river would be on one plane, rather than the three planes on the existing crossing today, to help reduce the potential for avian collisions. The shield wires for these structures will also be marked with bird diverters for the river crossing.
- Due to known bald eagle territories and potentially active nests in the vicinity of the C-HC Project ROW through the Refuge, all work planned or conducted within the ROW between the months January 15 and June 15 must be approved through a Special Use Permit issued by the USFWS staff prior to the work being undertaken.

- As noted in the FEIS, the Nelson Dewey route alternatives would cross the Turkey River Restoration Area in the Refuge. As noted in the FEIS, Section 3.14.2.2, the Turkey River Restoration Area's vegetation could best be characterized as young forest, as most of the trees present are less than 15 years old. The USFWS intends to manage this restoration area so that natural forest regeneration and succession results in much of the Turkey River floodplain growing into bottomland forest within 100 years. ITC Midwest and Dairyland have had discussions with the agencies about the revegetation of this bottomland forest in areas where the preferred Nelson Dewey ROW would cross the Turkey River Restoration Area. Once a final route is selected, ITC Midwest and Dairyland will work with USFWS staff to identify the appropriate type, size, and quantity of plantings in this area, outside of the ROW and consistent with Federal Energy Regulatory Commission (FERC) and North American Electric Reliability Corporation (NERC) requirements, to assist with the development of bottomland forest in this portion of the Refuge.
- ITC Midwest and Dairyland will develop, in conjunction with the USFWS and USACE, a vegetation management plan for the lands within the permitted use area, to the extent and in the manner directed by USFWS and/or USACE staff in charge; and will dispose of all vegetative and other material cut, uprooted, or otherwise accumulated during the construction and maintenance of the C-HC Project in accordance with such instructions as USFWS and/or USACE staff may specify.
- ITC Midwest and Dairyland will take soil and resource conservation protection measures, including the development of a pest management plan in conjunction with the Refuge, and will address invasive species control on the land covered by the permit as USFWS and/or USACE staff in charge may request. All pesticides applied within the permit area must be approved by USFWS and/or USACE staff prior to their application.
- ITC Midwest and Dairyland will rebuild and repair such roads, fences, property/boundary/survey monuments, structures, and trails in the Refuge as may be destroyed or damaged as a result of the construction work and, upon request by the USFWS Regional Director, build and maintain necessary and suitable crossings for all roads and trails that intersect the C-HC Project or that are constructed, maintained, or operated under the project ROW. Additionally, depending on the route that is selected for the C-HC Project, ITC Midwest and Dairyland will work with the USFWS and USACE to determine the appropriate restoration efforts for the existing ROW currently located across Refuge lands.
- Although no cultural or paleontological resources were identified during the cultural resources survey on either the Nelson Dewey or Stoneman routes, the Utilities will develop an unanticipated discoveries plan prior to construction and immediately report to the Refuge Manager any cultural resources (historic or prehistoric sites or objects including burials or skeletal material) and/or paleontological resources discovered on public or Federal land within the Refuge. The Utilities will suspend all construction operations in the immediate area of the discovery until written authorization to proceed is issued by the authorized officer. Upon any such discovery, the Utilities will take appropriate actions pursuant to the provisions of law including 36 CFR 800.7 (resources discovered during construction) to prevent the loss of any significant cultural or scientific values. The Utilities will be responsible for the cost of any evaluation, and the decisions as to proper mitigation measures will be made by the authorized officer after consulting with the Utilities.
- Vegetation management terms and conditions will be developed in conjunction with and at the satisfaction of USFWS and USACE for provision and inclusion in ROW agreements. Best management practices will be pursued to minimize impacts to habitats while providing appropriate access and conditions for utility line use.

AVIAN PROTECTION PLAN

During the final design and prior to construction of the C-HC Project, the Utilities will work cooperatively to develop an avian mitigation strategy that will reduce impacts to birds during construction of the line, as well as its long-term operation and maintenance. The mitigation strategy will build on existing plans, industry best practices, and project-specific planning that has been completed to date. The mitigation strategy will be organized and summarized in two project-specific Avian Mitigation Plans; one prepared by ITC Midwest as construction manager for the Hickory Creek–Hill Valley portion of the project, and the other prepared by ATC as construction manager for the Hill Valley–Cardinal portion of the project. Each plan will include similar information including regulatory framework, potential impacts evaluated (e.g., habitat, disturbance, and collision), and planned mitigation measures. The Utilities will work cooperatively, as necessary, with the state and Federal regulatory agencies during development of the plans.

Existing corporate plans and guidance, as well as previous work completed for the project that will provide the foundation for the project-specific Avian Mitigation Plans, are summarized below.

- **ATC’s Corporate Avian Protection Procedure** (ATC 2018). ATC’s avian procedure outlines their commitment to avian protection and the measures they take to mitigate impacts to birds.
- **Dairyland’s Corporate Avian Protection Plan** (Dairyland 2013). Dairyland’s avian plan outlines their commitment to avian protection.
- **ITC Midwest’s Alternative Crossing Analysis (ACA)** (Burns and McDonnell 2016). The ACA describes proposed avian mitigation measures specific to the Refuge and the Mississippi River crossing. These measures were developed in consultation with USFWS staff and include limiting structure heights through the Refuge, use of horizontal structure configurations, and installation of bird flight diverters.
- **C-HC Project Avian Risk Review** (Stantec 2018). The Avian Risk Review was completed for the Wisconsin state proceedings. The purpose of the review was to identify areas along the C-HC Project’s proposed route segments where avian electrocutions or collisions have a higher likelihood to occur relative to other portions of the C-HC Project. This review drew upon current knowledge of avian and transmission line interactions, as well as an analysis of the biological and environmental features within and adjacent to the C-HC Project’s proposed route segments that may influence avian risk. The review was a desktop assessment and relied primarily on publicly available data sources. The results of the review are intended to be used for project planning and considerations for risk mitigation strategies.

The Utilities have previously committed to the following avian mitigation strategies, which will be included in the ATC and ITC Midwest project-specific Avian Mitigation Plans described above:

- Design standards will meet avian-safe guidelines as outlined by the Avian Power Line Interaction Committee (APLIC) for minimizing potential avian electrocution risk.
- The Utilities will review and revise, in consultation with IDNR, Wisconsin Department of Natural Resources (WDNR), and USFWS, the information contained in the Avian Risk Review in order to refine the locations where specific avian mitigation measures should be implemented. The Utilities will evaluate these areas during the final design process and identify the specific mitigation measures to be implemented.
- The Utilities will identify specific locations where the installation of bird flight diverters will be recommended to minimize the potential for avian collisions. Areas where the use of bird flight

diverters will be evaluated include designated Important Bird Areas, wetland complexes with an abundance of open water, and large waterway crossings.

- Bird flight diverters will be installed on shield wires when overhead transmission lines are built in areas regularly used by rare birds or large concentrations of birds. If an eagle nest occurs near the ROW, the Utilities will coordinate with the USFWS to determine if and where bird flight diverters are needed to minimize collision risk.
- The Utilities will attempt to more precisely identify the locations of bald eagle nest records summarized in the Avian Risk Review. Nest records within 0.5 mile of a route will be investigated further for planning purposes using aerial photography, and where necessary, supplemented with field surveys, as well as consultation with IDNR, WDNR, and USFWS.
- The Utilities will coordinate with the USFWS if an eagle nest occurs within 660 feet of the edge of the ROW. No construction activities will occur within 660 feet of an active eagle nest between January 15 and June 15 unless authorized by USFWS.
- The Utilities will coordinate with the USFWS if an eagle nest occurs within 660 feet of the edge of the ROW to determine if and which permits are recommended or if mitigation measures are appropriate to minimize impacts.
- The Utilities will work with the IDNR and the WDNR to determine locations where state-listed bird species habitat is present and implement appropriate measures to avoid and/or minimize impacts to those species.
- Vegetation clearing within threatened and endangered avian species habitat will be avoided during migratory bird nesting season.
- Prior to tree clearing during migratory bird nesting season, the Utilities will complete a field review of the final ROW to identify existing stick nests.
- Tree-clearing crews will be trained to stop work and notify environmental staff if they encounter an unanticipated nest.

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APPENDIX J

**U.S. Fish and Wildlife Service Compatibility Determination for the
Upper Mississippi River National Wildlife and Fish Refuge**

Draft COMPATIBILITY DETERMINATION

Use: Realignment of a utility right-of-way (ITC Midwest LLC and Dairyland Power Cooperative, Cardinal to Hickory Creek transmission line, Clayton County, Iowa).

Refuge Name: Upper Mississippi River National Wildlife and Fish Refuge.

Establishing and Acquisition Authorities: The Upper Mississippi River National Wildlife and Fish Refuge (Refuge) was established by Public Law No. 268, 68th Congress on June 7, 1924. This act authorized acquisition of lands for Refuge purposes. Additional lands acquired in fee title by the U.S. Army Corps of Engineers (Corps) are managed as part of the Refuge under a 1963 Cooperative Agreement between the Department of the Army and the Department of the Interior.

Refuge Purpose(s): The Refuge shall be established and maintained (a) as a refuge and breeding place for migratory birds included in the terms of the convention between the United States and Great Britain for the protection of migratory birds, concluded August 16, 1916, and (b) to such extent as the Secretary of the Interior by regulations, prescribes, as a refuge and breeding place for other wild birds, game animals, fur-bearing animals, and for the conservation of wild flowers and aquatic plants, and (c) to such extent as the Secretary of the Interior may, by regulations, prescribe a refuge and breeding place for fish and other aquatic animal life.

National Wildlife Refuge System Mission: The mission of the National Wildlife Refuge System (System) is to administer a national network of lands and waters for the conservation, management, and where appropriate, restoration of the fish, wildlife, and plant resources and their habitats within the United States for the benefit of present and future generations of Americans.

Description of Use:

What is the use? ITC Midwest and Dairyland Power Cooperative, jointly referred to as “the Applicants” have submitted a joint Application for Transportation and Utility Systems and Facilities on Federal Lands. The Applicants propose to construct an above-ground double-circuit 345 kilovolt transmission line with one circuit initially being operated at 161 kilovolt between Iowa and Wisconsin. The project is called the Cardinal-Hickory Creek Transmission Line Project (Project). The Project would also include two optical ground wire shield wires for lightning protection and protective relay communications. The Project must cross the Mississippi River. The route proposed by the Applicants would cross Refuge lands owned by the Corps and the United States Fish and Wildlife Service (Service). Corps lands involved with this proposal are cooperatively managed as part of the Refuge through a cooperative agreement between Service and Corps. While the Corps retains the underlying real estate and realty responsibilities for their fee-owned lands, Refuge regulations, including compatibility are applicable.

Where is the use conducted? The proposed 345 kilovolt line would cross the Refuge on the floodplains of the Turkey and Mississippi Rivers in Clayton County, Iowa. The Applicants provided an overview map of the proposed route which is attached as Figure 1. The Service and Corps owned parcels within the proposed right-of-way in the Refuge are identified in Figure 1.

The Applicants propose to realign, abandon and restore existing 161 kilovolt and 69 kilovolt transmission line rights-of-way which currently cross the Refuge on the Turkey River bottoms. The existing rights-of-way cross the Mississippi River and enter a substation, known as the Stoneman substation in the town of Cassville, Wisconsin. The Applicants propose to realign the existing transmission line rights-of-way to a location north of the existing rights-of-way and cross the Mississippi River north of the town of Cassville. The proposed realigned right-of-way is called the Nelson Dewey crossing in reference to an abandoned power generation facility which previously existed, but has been demolished, north of Cassville. The realigned 345 kilovolt/161 kilovolt transmission line would join an existing substation near the footprint of the demolished Nelson Dewey power generating plant. The Nelson Dewey crossing would parallel railroad tracks and an existing gravel road (Oak Road) before crossing the Mississippi River.

When is the use conducted? The issuance of rights-of-way across units of the System is governed by the provisions of 50 Code of Federal Regulations §29.21. Right-of-way permits of this nature are issued for terms of 50 years, or so long as it is used for the purpose granted, or for a lesser term when considered appropriate.

This use would be conducted continually under specific terms and conditions referenced in **50 Code of Federal Regulations §29.21-4(b)**:

(a) Any right-of-way easement or permit granted will be subject to outstanding rights, if any, in third parties.

(b) An applicant, by accepting an easement or permit agrees to such terms and conditions as may be prescribed by the Regional Director in the granting document. Such terms and conditions shall include the following, unless waived in part by the Regional Director, and may include additional special stipulations at his discretion. See §29.21-8 for special requirements for electric transmission lines and §29.21-9 for special requirements for oil and gas pipelines:

(1) To comply with State and Federal laws applicable to the project within which the easement or permit is granted, and to the lands which are included in the right-of-way and lawful existing regulations there under.

(2) To clear and keep clear the lands within the easement or permit area to the extent and in the manner directed by the project manager in charge; and to dispose of all vegetative and other material cut, uprooted, or otherwise accumulated during the construction and maintenance of the project in such a manner as to

decrease the fire hazard and also in accordance with such instructions as the project manager may specify.

(3) To prevent the disturbance or removal of any public land survey monument or project boundary monument unless and until the applicant has requested and received from the Regional Director approval of measures the applicant will take to perpetuate the location of aforesaid monument.

(4) To take such soil and resource conservation and protection measures, including weed control on the land covered by the easement or permit as the project manager in charge may request.

(5) To do everything reasonably within his power, both independently and on request of any duly authorized representative of the United States, to prevent and suppress fires on or near, lands to be occupied under the easement or permit area, including making available such construction and maintenance forces as may be reasonably obtainable for the suppression of such fires.

(6) To rebuild and repair such roads, fences, structures, and trails as may be destroyed or injured by construction work and upon request by the Regional Director, to build and maintain necessary and suitable crossings for all roads and trails that intersect the works constructed, maintained, or operated under the right-of-way.

(7) To pay the United States the full value for all damages to the lands or other property of the United States caused by him or by his employees, contractors, or employees of the contractors, and to indemnify the United States against any liability for damages to life, person or property arising from the occupancy or use of the lands under the easement or permit, except where the easement or permit is granted hereunder to a State or other governmental agency which has no legal power to assume such a liability with respect to damages caused by it to lands or property, such agency in lieu thereof agrees to repair all such damages. Where the easement or permit involves lands which are under the exclusive jurisdiction of the United States, the holder or his employees, contractors, or agents of the contractors, shall be liable to third parties for injuries incurred in connection with the easement or permit area. Grants of easements or permits involving special hazards will impose liability without fault for injury and damage to the land and property of the United States up to a specified maximum limit commensurate with the foreseeable risks or hazards presented. The amount of no-fault liability for each occurrence is hereby limited to no more than \$1,000,000.

(8) To notify promptly the project manager in charge of the amount of merchantable timber, if any, which will be cut, removed, or destroyed in the construction and maintenance of the project, and to pay the United States in advance of construction such sum of money as the project manager may

determine to be the full stumpage value of the timber to be so cut, removed, or destroyed.

(9) That all or any part of the easement or permit granted may be terminated by the Regional Director, for failure to comply with any or all of the terms or conditions of the grant, or for abandonment. A rebuttable presumption of abandonment is raised by deliberate failure of the holder to use for any continuous 2-year period the easement or permit for which it was granted or renewed. In the event of noncompliance or abandonment, the Regional Director will notify in writing the holder of the easement or permit of his intention to suspend or terminate such grant 60 days from the date of the notice, stating the reasons therefore, unless prior to that time the holder completes such corrective actions as are specified in the notice. The Regional Director may grant an extension of time within which to complete corrective actions when, in his judgment, extenuating circumstances not within the holder's control such as adverse weather conditions, disturbance to wildlife during breeding periods or periods of peak concentration, or other compelling reasons warrant. Should the holder of a right-of-way issued under authority of the Mineral Leasing Act, as amended, fail to take corrective action within the 60-day period, the Regional Director will provide for an administrative proceeding pursuant to 5 U.S.C. 554, prior to a final Departmental decision to suspend or terminate the easement or permit. In the case of all other right-of-way holders, failure to take corrective action within the 60-day period will result in a determination by the Regional Director to suspend or terminate the easement or permit. No administrative proceeding shall be required where the easement or permit terminates under its terms.

(10) To restore the land to its original condition to the satisfaction of the Regional Director so far as it is reasonably possible to do so upon revocation and/or termination of the easement or permit, unless this requirement is waived in writing by the Regional Director. Termination also includes permits or easements that terminate under the terms of the grant.

(11) To keep the project manager informed at all times of his address, and, in case of corporations, of the address of its principal place of business and the names and addresses of its principal officers.

(12) That in the construction, operation, and maintenance of the project, he shall not discriminate against any employee or applicant for employment because of race, creed, color, or national origin and shall require an identical provision to be included in all subcontracts.

(13) That the grant of the easement or permit shall be subject to the express condition that the exercise thereof will not unduly interfere with the management, administration, or disposal by the United States of the land affected thereby. The applicant agrees and consents to the occupancy and use by the United States, its grantees, permittees, or lessees of any part of the easement or permit area not

actually occupied for the purpose of the granted rights to the extent that it does not interfere with the full and safe utilization thereof by the holder. The holder of an easement or permit also agrees that authorized representatives of the United States shall have the right of access to the easement or permit area for the purpose of making inspections and monitoring the construction, operation and maintenance of facilities.

(14) That the easement or permit herein granted shall be subject to the express covenant that any facility constructed thereon will be modified or adapted, if such is found by the Regional Director to be necessary, without liability or expense to the United States, so that such facility will not conflict with the use and occupancy of the land for any authorized works which may hereafter be constructed thereon under the authority of the United States. Any such modification will be planned and scheduled so as not to interfere unduly with or to have minimal effect upon continuity of energy and delivery requirements.

(15) That the easement or permit herein granted shall be for the specific use described and may not be construed to include the further right to authorize any other use within the easement or permit area unless approved in writing by the Regional Director.

Additionally, per 50 Code of Federal Regulations § 29.21-8 electric power transmission line rights-of-way, the following terms and conditions apply:

By accepting a right-of-way for a power transmission line, the applicant thereby agrees and consents to comply with and be bound by the following terms and conditions, except those which the Secretary may waive in a particular case, in addition to those specified in § 29.21-4(b) (items 1-15 above):

(a) To protect in a workman like manner, at crossings and at places in proximity to his transmission lines on the right-of-way authorized, in accordance with the rules prescribed in the National Electric Safety Code, all Government and other telephone, telegraph and power transmission lines from contact and all highways and railroads from obstruction and to maintain his transmission lines in such manner as not to menace life or property.

(b) Neither the privilege nor the right to occupy or use the lands for the purpose authorized shall relieve him of any legal liability for causing inductive or conductive interference between any project transmission line or other project works constructed, operated, or maintained by him on the servient lands, and any radio installation, telephone line, or other communication facilities now or hereafter constructed and operated by the United States or any agency thereof.

Special terms and conditions:

Any cultural and/or paleontological resources (historic or prehistoric sites or objects including burials or skeletal material) discovered by the easement holder, or any person working on its behalf, on public or Federal land shall be immediately reported to the authorized officer, District Manager, McGregor District, Upper Mississippi River National Wildlife and Fish Refuge (608-326-0515). Permit holder, or its representative shall suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the authorized officer. An evaluation of the discovery will be made by the authorized officer or a Service approved archeologist to determine the appropriate actions to take pursuant to the provisions of law and 36 Code of Federal Regulations 800.7 (resources discovered during construction) to prevent the loss of significant cultural or scientific values. The holder will be responsible for the cost of the evaluation. Any decision as to proper mitigation measures will be made by the authorized officer after consulting the holder.

The Applicants provided a tentative schedule for construction activities with their right-of-way application (see below).

Activity	Start Date	End Date
Pre-construction activities (soil borings)	9/1/2020	4/2/2021
Construction (Hickory Creek-Turkey River 345kilovolt)	4/5/2021	11/5/2021
Construction in Refuge (Turkey River-Nelson Dewey 345/161kilovolt) <i>Start with right-of-way clearing, lay construction mats along right-of-way centerline and access routes, excavate and install foundations, set structures, and then string in new conductor.</i>	11/8/2021	2/4/2022
Restoration for Refuge portion of the project <i>Includes restoration of construction related impacts, restoration/revegetation of Stoneman right-of-way and restoration/transfer of habitat replacement property (currently in private ownership)</i>	2/7/2022	8/1/2023

How is the use conducted? The use of this right-of-way for a power transmission line is not a wildlife-dependent public use.

Specific Project activities include the construction, operation and maintenance of two aerial transmission lines constructed to be capable of operation at 345 kilovolt and with initial operating voltages of 161 kilovolt and 345 kilovolt, respectively, utilizing optical ground wire shield wires that will also be used for communications on each circuit.

Applicants propose a right-of-way width of 260 feet within the Refuge. A right-of-way width of 260 feet is required due to the low-profile design of the Project in the

Refuge. A lower (but wider) pole/line arrangement would place the lines in a horizontal alignment which is less detrimental to birds than a vertical arrangement as recommended by the Avian Power Line Interaction Committee. Pole heights through the Refuge would be 75 feet except at the Mississippi River crossing where pole heights would increase to 195 feet to span the channel with adequate clearance for navigational traffic. Design height approximately matches the existing tree cover within the Refuge to reduce the potential of avian collisions. Maintaining poles at a height of less than 200 feet is preferred to preclude Federal Aviation Administration lighting requirements for objects over 200 feet. The exclusion of lighting has been shown to reduce the probability of bird/tower strikes and is therefore a desirable option on the Refuge.

The Applicants propose to replace and realign existing 161 kilovolt and 69 kilovolt lines with a new 345 kilovolt/161 kilovolt line on a single set of structures at the proposed location. The existing 69 kilovolt line would be removed from service. Applicants will, with Service and Corps approval, remove the existing 161 kilovolt and 69 kilovolt transmission line structures at the Stoneman crossing after the new lines are in service. The Applicants will work under the direction of the Service and Corps staff to restore native vegetation on the abandoned right-of-way through supplemental plantings of species approved by the Service and Corps and vegetation management practices agreed upon by these agencies.

Per Title 50 Code of Federal Regulations 26.41, the Applicants will provide for no net loss of habitat quantity and quality by replacing the acreage required for the realigned right-of-way with an acreage of equal value which will be afforded permanent protection as part of the Refuge. If the replacement property requires restoration, this shall be completed by the Applicants prior to transfer to the Refuge. The replacement property and, if needed, restoration plan for this property must be approved by the refuge manager.

Ten power poles or structures would be located on Service lands. Four power poles or structures would be located on Corps lands managed as part of the Refuge. A total of fourteen structures would be located on Refuge managed lands. Each structure would have two steel poles with foundations at each structure location. Foundations would be poured concrete requiring excavation at each foundation location. Specific foundation dimensions would be determined when soil conditions are studied and design engineering is completed. The estimated total permanent ground disturbance (steel pole foundations) on Service land is 2,523 square feet (0.06 acres). The estimated total permanent ground disturbance (steel pole foundations) on Corps land managed as Refuge is 1,414 square feet (0.03 acres). The estimated total permanent ground disturbance on Refuge managed lands is 0.09 acres.

The total linear centerline length (feet) on Service lands would be approximately 4,990 feet. The total linear centerline length (feet) on Corp lands would be approximately 1,744 feet. At the request of the Refuge, the Applicants completed an analysis of the acreages affected by the project (see Figure 2). The total acreage of land within the proposed realigned right-of-way on lands managed by the Refuge would be approximately 39.0 acres. However, 2.9 acres of the total acreage affected (39.0 acres)

are acres which are currently included in the Stoneman right-of-way. These acres would also be included in the proposed Nelson Dewey right-of-way. Additionally, approximately 5.5 acres of the proposed Nelson Dewey right-of-way would overlap Oak Road. The habitat conditions on these 2.9 acres and 5.5 acres, respectively would not change as a result of the project. Habitat conditions on the remaining 30.6 acres of the proposed Nelson Dewey right-of-way would be affected by the project.

The Applicants would use temporary construction matting along the entire centerline length and for temporary access roads. The width of the construction and access matting would be approximately 30 feet. As shown in Figure 1, two temporary access roads are also planned within the Refuge. A temporary access road on Service fee-title owned lands is proposed to be approximately 554 feet in length. A temporary access road on Corps fee-title owned lands is proposed to be 650 feet in length. The estimated total temporary ground disturbance (construction matting and access matting) on Service land within the Refuge is 376,700 square feet (8.65 acres). The estimated total temporary ground disturbance (construction and access matting) on Corps land within the Refuge is 151,820 square feet (3.49 acres). A total acreage of 12.14 acres would be temporarily disturbed by construction and access matting on Refuge managed lands.

Why is this use being proposed? In their application, the Applicants state that the Project is needed to achieve the following benefits: 1) Address reliability issues on the regional bulk transmission system; 2) Cost-effectively increase transfer capacity to enable additional renewable generation needed to meet state renewable portfolio standards and support the nation's changing energy mix; 3) Alleviate congestion on the transmission grid to reduce the overall cost of delivering energy; and 4) Respond to public policy objectives aimed at enhancing the nation's transmission system and reducing carbon dioxide emissions.

At the request of the Refuge, the Applicants completed an Alternatives Crossing Analysis (Analysis) of potential Mississippi River crossings, including crossings which did not involve Refuge managed lands. A copy of the Analysis can be obtained at: <https://www.cardinal-hickorycreek.com/>. Seven potential crossings of the Mississippi River were evaluated in the Analysis, four outside the Refuge and three within the Refuge. The Applicants gathered data and information to assess the technical and economic feasibility and potential engineering, environmental, and social impacts of all seven Analysis routes. This evaluation included consultation with, and assessments by, federal, state, and local authorities with permitting authority for the Project.

The Applicants concluded that none of the non-Refuge crossings were feasible and one of the Refuge options was not feasible, leaving two remaining options, both within the Refuge. The Analysis demonstrates that the non-Refuge alternatives would have greater overall environmental and human impacts compared to the two feasible Refuge crossing locations. The Applicants also provided information to and sought analyses from, federal, state, and local entities with permitting authority over the relevant crossing locations. The non-Refuge Analysis routes (as well as the Lock and Dam 10 crossing location within the Refuge) presented human and environmental impacts and technical engineering conflicts

with existing infrastructure. None of the non-Refuge crossings analyzed in the Analysis were feasible. The remaining crossing locations, Stoneman and Nelson Dewey, cross Refuge lands owned by the Service and Corps. The Nelson Dewey crossing was modified from the route presented in the Analysis to parallel an existing active rail line and Oak Road. An application for a right-of-way using the modified Nelson Dewey crossing was received from the Applicants on September 13, 2019 and is the subject of this compatibility determination.

Two existing high voltage electric transmission lines cross the Refuge on the Turkey River bottoms. The Stoneman crossing currently has 161 kilovolt transmission capacity. A second, slightly longer line has 69 kilovolt capacity. The rights-of-way for both these existing lines would be in part abandoned and an upgraded line capable of carrying both 161 kilovolt and 345 kilovolt would be constructed/realigned to the proposed right-of-way. The upgraded transmission line would be capable of carrying 345 kilovolts on both sets of conductors and would provide additional transmission capacity. Realignment of the existing transmission lines would move these lines to a location which parallels active railroad tracks and an existing gravel road, Oak Road, which pass adjacent to and through the Refuge, respectively. The Applicants are proposing to realign and upgrade the Stoneman transmission line as part of the larger Project.

The Project is estimated to cost approximately \$492 million along the proposed route. Annual operations and maintenance costs are estimated to be approximately \$150,000.

Availability of Resources: Current administrative costs incurred by the Refuge are minimal, and generally limited to a site visit to monitor for pole/line maintenance activities annually. An increase in administrative costs are expected to oversee the clearing of the realigned right-of-way, removal of existing poles, installation of new poles and restoration activities of abandoned rights-of-way and at any parcels proposed for restoration of lost habitat quantity and quality resulting from project impacts. There would also be costs associated with preparation and issuance of the realigned right-of-way permit. It is determined that adequate resources exist to properly manage this Refuge use.

Anticipated Impacts of the Use: Congressional intent in applying compatibility reviews to existing rights-of-way (at the time of the National Wildlife Refuge System Administration Act 1997 amendments) dictates that no new interpretation of compatibility requirements established by the Act should be interpreted as finding existing long-term permitted uses of refuges not compatible, presuming no significant changes have occurred to when they were initially permitted (and determined to be compatible). Regulations (50 Code of Federal Regulations §25.21 (h)) prescribe that when evaluating compatibility in the re-authorization of these historic rights-of-way, that the analysis of impacts will be based on existing conditions with the use in place, not from a pre-use perspective. In other words, only modifications from the historic permitted use are to be analyzed for impacts. In this case, acres of habitat previously unaffected by a right-of-way would be impacted by realignment of the right-of-way from

the existing Stoneman right-of-way to the proposed Nelson Dewey right-of-way through the Refuge. Approximately 31.0 acres of habitat have been previously affected within the Stoneman right-of-way (see Figure 2). However, 2.9 acres of this total would continue to be impacted as part of the proposed Nelson Dewey right-of-way. The Applicant has committed to revegetating/restoring habitat on 28.1 acres of the existing Stoneman right-of-way. These acres would be revegetated by the Applicants to a condition deemed acceptable by the Refuge.

Approximately 39.0 acres of habitat would be, or continue to be (2.9 acres of this total is currently affected as part of the existing Stoneman right-of-way and 5.5 acres would overlap with Oak Road), affected in the proposed Nelson Dewey right-of-way. Over the long term, 28.1 acres of habitat would be restored in the former Stoneman right-of-way, while 30.6 acres of previously unaffected habitat would be affected in the proposed Nelson Dewey right-of-way. A larger acreage (2.5 acres) of habitat would be affected in the Nelson Dewey right-of-way than would have been affected in the Stoneman right-of-way. The Applicants have committed to replacing an equal or greater quantity (in this case 30.6 acres) and quality of habitat on a parcel currently in private ownership. At the direction of the Refuge, the Applicants will complete any required habitat restoration or enhancement work on this privately owned parcel and then transfer ownership of that parcel to the Service resulting in no net loss of habitat quantity or quality.

A draft Environmental Impact Statement for the overall Project was completed in December 2018. Project impacts, including those to biological resources are evaluated in the draft Environmental Impact State and summarized here. The draft Environmental Impact Statement can be viewed at <https://www.cardinal-hickorycreek.com/>.

Short and Long-term Impacts:

a) **Air quality** - The Project's construction emissions would be temporary and transient in nature. Minor negative impacts on Refuge air quality are anticipated during project construction. Greenhouse gas emissions from the construction, operation, and maintenance of the project would result in a minor (relative to local, national, and/or global greenhouse gas emissions) long-term increase in greenhouse gases. Overall, net carbon dioxide emissions in the region are projected to decrease as a result of the Project. The Project will facilitate additional renewable energy generation, with corresponding reductions in greenhouse gas emissions.

b) **Visual impact** - Impacts to visual quality and aesthetics on the Refuge would result from construction of transmission line structures and conductors, and the realignment of the right-of-way from the Stoneman crossing to the Nelson Dewey crossing location. Within the Refuge, low-profile (75-foot) H-frame structures with a typical span length of 500 feet would be constructed within the main part of the Refuge with taller (approximately 195 feet), tubular steel, H-frame support structures at the Mississippi River crossings to allow the transmission line to span the channel and still provide adequate clearance for river-going vessels. These structures would create additional lines and forms within the viewshed and would be readily noticeable from Oak Road, the

primary road which connects the Cassville Ferry to Iowa. When compared to the existing Stoneman right-of-way, transmission line infrastructure within the Nelson Dewey right-of-way will be significantly more visible to Refuge visitors. Negative impacts to the visual qualities of the Refuge, when viewed from Oak Road would occur as a result of realigning the existing right-of-way.

c) ***Surface and ground water quality and quantity*** - No work would be conducted in areas below the ordinary high water mark of the Mississippi River. The lines will span the Mississippi River. No structures would be located on the banks of the river. Applicants will separately apply for permits under the Clean Water Act, Sections 401/404 with appropriate federal and state authorities. A majority of the Refuge in the proposed Nelson Dewey right-of-way is wetland or floodplain. The current construction schedule for the proposed Nelson Dewey right-of-way is to conduct construction activities when wetland soils and water are frozen or stable and vegetation is dormant. Construction matting would be used off-road in the Refuge wherever vehicles/equipment may travel. Helicopters may be used depending on depth of flooding during construction. There may be minor discharges into wetlands and/or the Mississippi River from dewatering during drilling of the structure holes. Dewatering would be conducted using a filtered screening or removal by container prior to discharge. The Iowa Department of Natural Resources water division will be consulted prior to any discharge into the Mississippi River.

d) ***Existing noise levels*** - Increased noise associated with construction of the transmission line would be temporary. Total construction duration for the overall Project would occur over a 2-year period. During this time, construction activities would occur along discrete portions of the transmission line; therefore, noise impacts would occur over a short time frame at any given location. Construction activities would comply with all applicable local noise ordinances. Noise impacts during operation and maintenance activities within the proposed Nelson Dewey right-of-way are expected to be negligible. Maintenance activities for the proposed right-of-way would include driving the length of the right-of-way, inspecting the transmission line within the right-of-way aurally via helicopter, and making any necessary repairs which may involve construction equipment. The noise impacts due to maintenance activities would be temporary and would have less of an impact than construction of the transmission line.

The operation of the proposed transmission line would result primarily in corona generated noise, occurring in the atmosphere near the conductor. Changes to local atmospheric pressure may result in a hissing or cracking sound that may be heard directly under the transmission line or within a few feet of the right-of-way depending on weather, altitude, and system voltage, with the level of corona noise receding with distance. Maximum noise levels associated with corona noise typically do not exceed 50 decibels, as heard from the edge of the right-of-way, during extreme weather events. Noise levels typically do not exceed 25 decibels during fair weather events.

Noise levels are not expected to be above normal or average decibel levels found within urban settings. However, the type of noise is very different from the natural sounds (birds, rustling leaves, etc.) typically heard and associated with a national wildlife refuge.

Realignment of the existing right-of-way from the Stoneman crossing to the Nelson Dewey crossing would move the right-of-way closer to a railroad line and Oak Road, both of which are frequented by train and vehicle traffic, respectively. The noise created by train and vehicle traffic is also not typically associated with natural sounds. In this location, the “new” noise associated with the transmission line would likely be indistinguishable from the ambient noise associated with the railroad and Oak Road.

e) ***Surface of the land, including vegetation, soil, and soil stability*** - The Applicants propose to clear all woody vegetation from within the 260-foot Nelson Dewey right-of-way through the Refuge. The Applicants provided an analysis of the land cover types in the Nelson Dewey right-of-way. That analysis identified the following land cover types: <0.01 acre of cropland; 1.4 acres of developed/urban; 36.4 acres of non-forested wetlands; and 0.1 acre of forested wetlands.

With a goal of reducing habitat fragmentation, the Refuge completed reforestation and habitat management activities on the floodplain of the Turkey River beginning in 2008. Sites which were previously farmed as part of the Refuge’s cooperative farming program were aggressively planted with a variety of advanced native tree seedlings well adapted to floodplain conditions. An early successional forest community and/or "young" forest has developed on the Turkey River floodplain where Refuge restoration actions have occurred. The proposed Nelson Dewey right-of-way passes through the area where reforestation efforts have been conducted. Natural succession of trees planted by the Refuge in the proposed right-of-way would cease. Clearing and maintenance suppression of woody vegetation by the Applicants within the right-of-way footprint would alter the forest succession patterns permanently. Natural forest successional processes would occur in areas adjacent to the proposed right-of-way over the next 30 to 50 years, resulting in habitat gaps and forest fragmentation. However, both the railroad line and Oak Road fragment the forest and wetland/floodplain habitats on the Turkey River bottoms. Because of this pre-existing habitat fragmentation, additional habitat fragmentation created by the proposed Nelson Dewey right-of-way would have minor additional impacts.

Revegetation of the existing Stoneman right-of-way (approximately 28.1 acres) within the Refuge would be conducted in cooperation with the Service and Corps. The Applicants would work closely with the Service and Corps to identify the location, type, and overall revegetation plan that would be appropriate. Areas adjacent to the Stoneman right-of-way consist of mature floodplain forest with scattered wet meadow openings. Restoration of the Stoneman right-of-way would likely include tree plantings to fill in the habitat gap between adjacent mature forest and invasive species control to reduce the extent and coverage of reed canarygrass in wet meadow openings. Habitat fragmentation caused by maintenance of the right-of-way to suppress woody vegetation would be reduced over the next 30 to 50 years as vegetation is reestablished and natural successional patterns are allowed to proceed.

f) ***Populations of fish, plant life, wildlife, including threatened and endangered species*** - Potential construction-related impacts from the project would include the loss,

degradation, and/or fragmentation of breeding, rearing, foraging, and dispersal habitats; and increased noise/vibration levels. These construction related impacts would be moderate and short-term. Although some wildlife species would be temporarily displaced during construction of the transmission line, permanent displacement of these species is not anticipated, except potentially in cleared forest areas that may provide habitat for forest-obligate species. Forest habitat would be available in other areas near or adjacent to the right-of-way with adjacent forested areas still available during construction and as habitat during project operation.

Potential impacts from maintenance activities would be similar in nature to those discussed for construction activities. However, the scope of maintenance impacts would be lower in magnitude than those for construction as there would be less equipment and fewer people working. Maintenance impacts would be temporary and would occur sporadically over the 50-year life of the project. After construction, a mid-year cycle application of herbicide in the right-of-way within the Refuge will be conducted in two to three years. Thereafter, the vegetation management cycle would occur every five years.

Eastern Whooping Cranes have infrequently visited the Turkey River floodplain during migration. The use of the floodplain by Whooping Cranes is transient in nature and would likely continue despite the location of the transmission lines. Moving the transmission lines from the Stoneman right-of-way to the proposed Nelson Dewey right-of-way would place the lines closer to an active rail line and Oak Road, both of which are sources of disturbance to wildlife. During construction, the presence of equipment, people and noise could also disturb wildlife, including transient Whooping Cranes, however the impacts would be of short duration and cranes and other wildlife would move to adjacent habitats where disturbance would be minimal. While moving the right-of-way from Stoneman to Nelson Dewey could affect Whooping Cranes, the impacts are unlikely to adversely affect this species. No other threatened or endangered species is known to inhabit or utilize the proposed Nelson Dewey right-of-way or adjacent areas.

g) Measures to avoid, minimize and mitigate impacts - The Project would be constructed using best management practices. Refuge specific best management practices are described here. For the portion of the Project within the Refuge, low profile structures are proposed with a design height to match the existing tree canopy within the Refuge (approximately 75 feet) to reduce the potential of avian collisions. The structures would be horizontal-symmetrical H-frame structures on concrete foundations with a typical span length of approximately 500 feet and would consist primarily of tubular steel H frame structures. All conductors on these low-profile structures would be placed on one horizontal plane and the shield wire would be marked with avian flight diverters. Construction on the Refuge would occur outside the eagle nesting season (typically January 15 to June 15) or outside a 660-foot exclusion zone to avoid disturbance to nesting adult, chick, and fledgling eagles. The Applicants propose to mitigate adverse impacts to forest resources in the Refuge through restoration and enhancement of forest resources both within and off Refuge lands. A restoration plan would be developed in consultation with the Service and Corps. The restoration plan would supplement existing Service efforts to restore bottomland hardwood forest within the Refuge, specifically on

the floodplain of the Turkey River. Measures to reduce or mitigate the impacts to forest resources may also include the reestablishment and/or expansion of mature woodlands near the Nelson Dewey substation and/or other non-Refuge locations adjacent to Refuge lands. These restoration efforts would mitigate adverse impacts on public lands. Revegetation of the Nelson Dewey right-of-way within the Refuge would be conducted in cooperation with the Service and Corps and in compliance with applicable North American Electric Reliability Corporation regulated vegetation standards. The Applicants would work closely with the Service and Corps to identify the location, type, and overall revegetation plan that would be appropriate at this specific location of the Refuge. In addition to the environmental commitments outlined above and other mitigation to be developed with the Service and Corps, as part of the Service and Corps permit application processes, the Applicants would develop vegetation management terms and conditions for the Refuge. This plan would need to be deemed acceptable by Service and Corps prior to the issuance of easements.

The Applicants will use industry best practices in constructing the new transmission line facilities and will coordinate with the Service, Corps, and state agencies to identify means to avoid impacts where practicable and minimize unavoidable impacts.

Indirect and Cumulative Impacts:

Realignment of the existing right-of-way from the Stoneman crossing to the proposed Nelson Dewey crossing would have an indirect positive effects on the town of Cassville, Wisconsin. Moving the Mississippi River crossing to the proposed Nelson Dewey right-of-way would avoid construction and transmission line related impacts through the town of Cassville. Safety concerns associated with a transmission line running near schools, churches and other public gathering places would be reduced.

A long-term tradeoff of the location of habitat fragmentation would occur as a result of realigning the right-of-way from Stoneman to Nelson Dewey. Restoration of the Stoneman right-of-way would result in reduced habitat fragmentation and restoration of larger contiguous blocks of habitat. Both forested and non-forested wetlands would benefit. Clearing and suppression of woody vegetation in the proposed Nelson Dewey right-of-way would fragment habitats which have been restored or are in the process of being restored and are in early successional stages of development. However, the proposed Nelson Dewey right-of-way parallels an active railroad and Oak Road, both of which are existing sources of habitat fragmentation. Realigning the right-of-way to the proposed Nelson Dewey corridor would result in a minor increase in habitat fragmentation in that location. Over the long-term (30 to 50 years), a net reduction in habitat fragmentation would occur on the floodplain of the Turkey River. A more contiguous array of habitats would exist on the floodplain as a result of realigning the right-of-way.

Public Review and Comment: This draft compatibility determination is included as an appendix to the Final Federal Environmental Impact Statement prepared for the Project. The draft determination is also available for review by contacting the Refuge office in

Prairie du Chien, Wisconsin or the Refuge Headquarters in Winona, Minnesota. The draft compatibility determination is posted on the Refuge's website. Comments on the draft compatibility determination will be accepted until November 26, 2019. Comments may be e-mailed or sent via regular mail at the following addresses.

E-mail comments to: comments@CardinalHickoryCreekEIS.us.

Mail comments to: SWCA Environmental Consultants
Attn: Cardinal-Hickory Creek EIS
80 Emerson Lane, Suite 1306
Bridgeville, PA 15017

Determination:

Use is Not Compatible

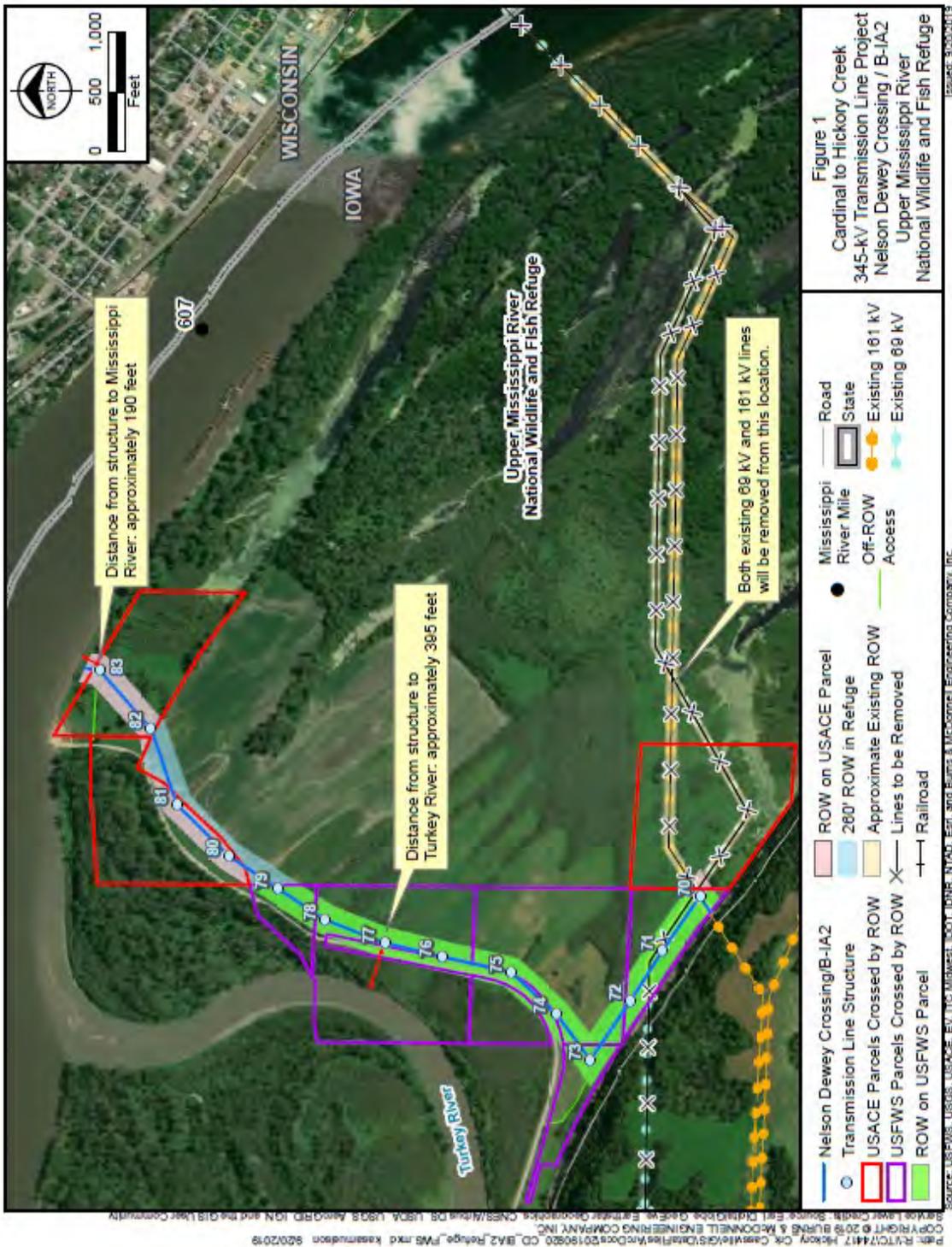
Use is Compatible with Following Stipulations

Stipulations Necessary to Ensure Compatibility: All vegetation removal and/or future vegetation maintenance along the proposed right-of-way will be performed as required by a vegetation management plan approved by the refuge manager, Upper Mississippi River National Wildlife and Fish Refuge.

The Applicants will restore the abandoned Stoneman right-of-way in accordance with a vegetation restoration plan approved by the refuge manager. The Applicants will consult with the Service and Corps staff on best management practices to facilitate revegetation of the abandoned right of way and will supplement with additional plantings and vegetation management practices agreed upon with these agencies.

Per 50 Code of Federal Regulations §26.41 (c), the Applicants will provide for no net loss of habitat quantity and quality by replacing the acreage affected by the realigned right-of-way with a property of equal value which will be afforded permanent protection as part of the Refuge. The acreage of the replacement property shall be determined upon completion of a survey following installation of the 345 kilovolt poles/lines. The survey is necessary to determine the right-of-way boundaries and the final acreage of the realigned right-of-way. If the replacement property requires restoration, this shall be completed by the Applicants prior to fee-title transfer to the Refuge. The replacement property, restoration plan, and subsequent restoration must meet the satisfaction of the refuge manager. All restoration work will be completed by the applicant to the specifications of the refuge manager prior to title transfer and recording of the right-of-way.

The Applicants will install line marking devices (bird diverters) to minimize bird collision risk following a project specific Avian Protection Plan.



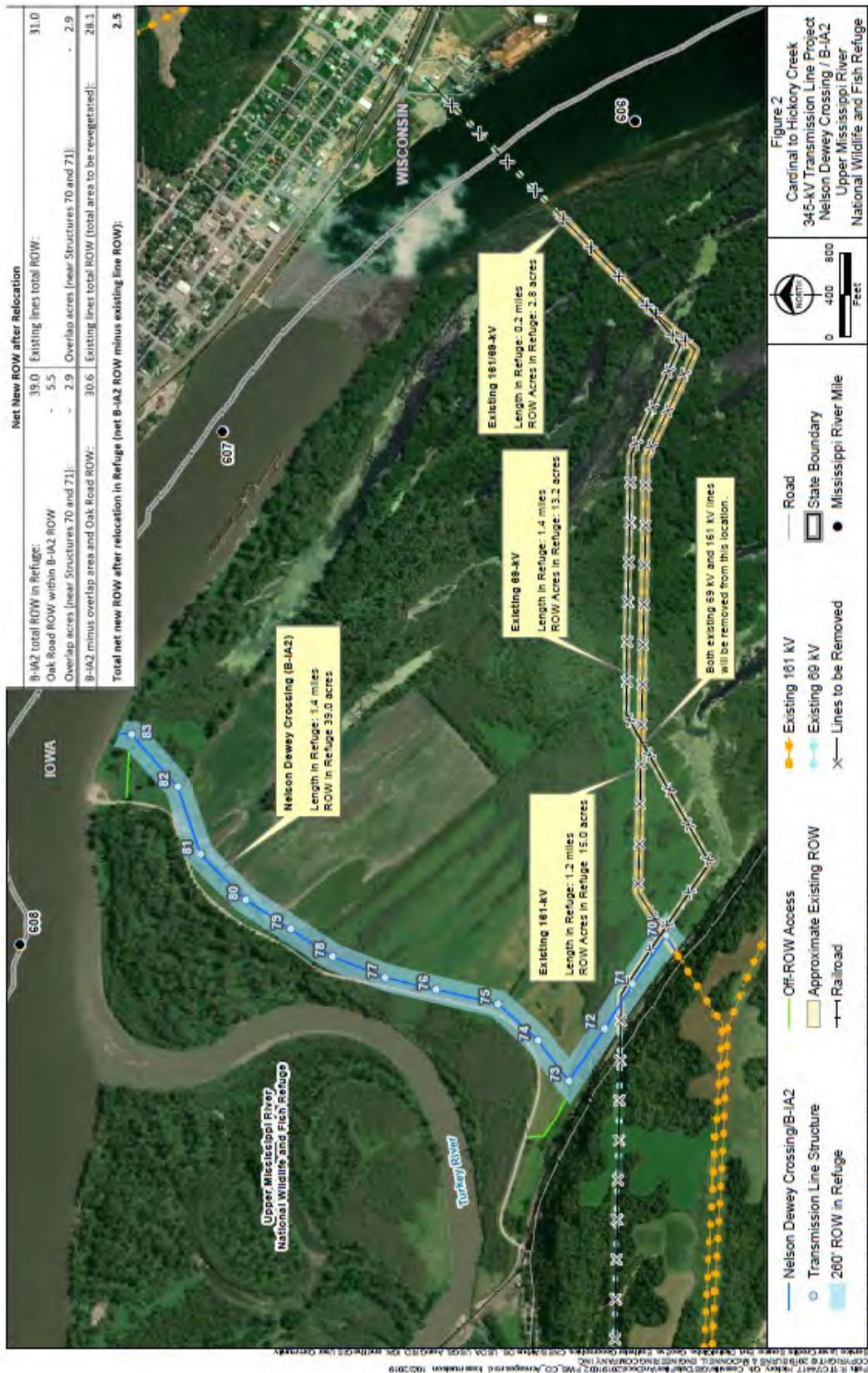


Figure 2
 Cardinal to Hickory Creek
 345-kV Transmission Line Project
 Nelson Dewey Crossing / B-IA2
 Upper Mississippi River
 National Wildlife and Fish Refuge
 MAPDATE: 10/2/2019



- Existing 181 kV
- Existing 69 kV
- Lines to be Removed
- Road
- State Boundary
- Mississippi River Mile

- Nelson Dewey Crossing (B-IA2)
- Transmission Line Structure
- 200' ROW in Refuge
- Off-ROW Access
- Approximate Existing ROW
- Road

- Both existing 69 kV and 161 kV lines will be removed from this location.