# 6.0 MAJOR FEDERAL, STATE, AND LOCAL PERMITS AND APPROVALS

For the Mississippi River crossing, the Project must obtain approvals from multiple federal agencies which must complete environmental reviews under NEPA. The Project must also obtain state and local siting and condemnation authorizations in Iowa, Wisconsin, and, potentially, Illinois, depending on the final route. This chapter describes the approvals and authorizations the Project requires for the Mississippi River crossing of the ACA routes, including the Refuge options.

## 6.1 NEPA

NEPA provides a general procedure for federal activities that may impact the environment (42 U.S.C. § 4331, et. seq.) Part of its underlying policy is to ensure that "presently unquantifiable environmental amenities and values be given appropriate consideration in decision making …" (42 U.S.C. § 4332(B)). If a federal action "significantly affects[s] the quality of the human environment" a "detailed statement" of such effects must be provided so that they may be considered in the decision-making process (42 U.S.C. § 4332(C)).

Each federal agency also has rules to implement NEPA's requirements. The NEPA process has three levels of environmental analysis: categorical exclusion determination; preparation of an Environmental Assessment/Finding of No Significant Impact (EA/FONSI); and preparation of an Environmental Impact Statement (EIS). The EPA describes the three levels as follows (EPA, 2016):

- Categorical Exclusion: At the first level, an undertaking may be categorically excluded from a detailed environmental analysis if it meets certain criteria which a federal agency has previously determined as having no significant environmental impact. A number of agencies have developed lists of actions which are normally categorically excluded from environmental evaluation under their NEPA regulations.
- EA/FONSI: At the second level of analysis, a federal agency prepares a written Environmental Assessment (EA) to determine whether a federal undertaking would significantly affect the environment. If the answer is no, the agency issues a Finding of No Significant Impact (FONSI). The FONSI may address measures which an agency would take to mitigate potentially significant impacts such that the federal undertaking would avoid significant environmental effects.
- EIS: If the EA determines that the environmental consequences of a proposed federal undertaking may be significant, an EIS is prepared. An EIS is a more detailed evaluation of the proposed

> action and alternatives. The public, other federal agencies, and outside parties may provide input into the preparation of an EIS and then comment on the draft EIS when it is completed.[40]

The environmental review is expected to include an evaluation of impacts on carbon dioxide emissions based on CEQ guidance. The CEQ issued its Revised Draft Guidance for Greenhouse Gas Emissions and Climate Change Impacts December 18, 2014 (GHG Guidance) that require federal agencies to consider the impacts of a proposed project on GHG (CEQ, 2014). Although not binding, the CEQ encourages all agencies to "apply this guidance to all new agency actions moving forward and, to the extent practicable, to build its concepts into currently ongoing reviews."[41]

There is typically one lead agency that would oversee the NEPA environmental review and prepare the environmental document. Based on its consultations with federal agencies, the Utilities anticipate that an EIS would be prepared for the Project.

The lead agency is responsible for establishing liaison with all federal, state, local, and tribal agencies with legal jurisdiction or special expertise relating to any environmental impact involved in a proposed action and to request their participation as cooperating agencies on an EIS, as appropriate. Other federal agencies may become cooperating agencies and provide assistance in the preparation of the environmental document.

There are two federal agencies that may become lead agency, USFWS or RUS. Potential cooperating agencies include USACE and either USFWS or RUS.

## 6.2 Primary Federal Authorizations and Approvals for the Mississippi River Crossing

Federal authorizations and approvals would be required for the Project to cross the Mississippi River.

### 6.2.1 USFWS

The USFWS manages the Refuge including USFWS-owned and USACE-owned lands. The USFWS has sole siting authority for new transmission facilities within the Refuge. The National Wildlife Refuge Improvement Act of 1997 provides that the Refuge is to be managed to "fulfill the mission of the System, as well as the specific purposes for which that refuge was established."[42] The Act also expressly

[40] http://www.epa.gov/compliance/basics/nepa.html#requirement, last retrieved May 4, 2015.
[41] *Id*. at 31.
[42] 16 U.S.C. § 688DD(a)(3)(a).

recognizes that new electric uses may be approved within the Refuge. The USFWS is authorized to grant new ROW for power line use. Specifically, the United States Department of Interior Secretary is authorized to:

> (B) permit the use of, or grant easements in, over, across, upon, through, or under any areas within the System for purposes such as but not necessarily limited to, powerlines, telephone lines, canals, ditches, pipelines, and roads, including the construction, operation, and maintenance thereof, whenever he determines that such uses are compatible with the purposes for which these areas are established.[43]

The "term 'compatible use' means a wildlife-dependent recreational use or any other use of a 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."[44] If the power line use is found to be compatible, the use would need a special use permit, archaeological/historic, and a ROW permit, which would involve surveys, studies, and mitigation. Additionally, the USFWS has jurisdiction over species and habitats designated as protected by the FWCA, ESA, BGEPA, and MBTA. Compliance or concurrence from the USFWS in regard to these regulations must be obtained for any action that requires additional federal permitting or funding.

### 6.2.2 RUS

Dairyland intends to seek financial assistance from RUS for the Project for its ownership interest in the Project. As a result, RUS must determine if the financial assistance would be a federal action (7 CFR § 1970.8(c). If so, RUS's financing would be subject to review under NEPA, including RUS Environmental Policies and Procedures, and 40 CFR Parts 1500-1508.

### 6.2.3 USACE/EPA

The USACE is responsible for issuing permits under Section 404 of the Clean Water Act. The EPA establishes policies and procedures for permitting under the Clean Water Act and reviews certain permitting decisions by USACE. USACE has authority under Section 10 of River and Harbors Act for permitting crossing of the Mississippi River. Additional permitting may be required if any structures need to be placed on a regulated levy. Permitting authority of levies can belong to the USACE, or can be delegated to a local authority, depending on the location and potential impacts.

[43] 16 U.S.C. § 688DD(d)(1)(B).
[44] 16 U.S.C. § 668EE(1) (emphasis added).

### 6.2.4 U.S. Coast Guard

The U.S. Coast Guard has permitting authority over the placement of structures in or work in or affecting the navigable waters of the United States, including the Mississippi River. The U.S. Coast Guard has standards that regulate the minimum vertical clearance heights above the Mississippi River, as well as reference points against which to measure the vertical clearance as listed in 33 CFR 322.

## 6.3 State Need, Siting, and Condemnation Approvals for the Mississippi River Crossing

Iowa, Wisconsin, and Illinois would potentially require approvals for the Mississippi River crossing.

### 6.3.1 Iowa

All alternative crossing locations would require approval from the IUB. No person may construct, operate, or maintain an electric transmission line capable of operating at a voltage of 69 kV or more and greater than a mile in length located outside of a city in Iowa without first obtaining a separate franchise for each county from the IUB (Iowa Code § 478.1.). A franchise from the IUB must be obtained for each county traversed by the proposed transmission line.

The IUB must expressly find that the proposed line is necessary to serve a public use and represents a reasonable relationship to an overall plan of transmitting electricity in the public interest. Transmission line routes must comply with Iowa Code § 478.18(2) and 199 IAC 11.1(7), which set forth the requirements for the selection of a route for an electric transmission line based on routing priorities. Routing priorities are:

- Roads.
- Active railroad ROW.
- Division lines of land, including section, quarter section, and quarter-quarter section lines.

The IUB may grant a franchise, in whole or in part, and may impose terms, conditions, restrictions, or modifications of location and route, as the IUB deems just and proper (Iowa Code § 478.4). The franchise would also provide the petitioner the right of eminent domain outside of an Iowa municipality if requested in the petition and granted by the IUB to the extent it is found necessary for public use (Iowa Code §§ 478.6 and 478.15).

### 6.3.2 Wisconsin Certificate of Public Convenience and Necessity

Every person constructing a transmission line exceeding one mile in length designed for operation at a nominal voltage of 100 kilovolts or more in the state of Wisconsin must obtain a CPCN from the PSCW

prior to commencing construction.[45] The Project must also obtain permits from the WDNR, including wetlands and storm water discharge permits.[46]

To issue a CPCN in Wisconsin, Wis. Stat. § 196.491(3)(d) requires the PSCW to make specific findings relating to need and routing. The PSCW must find that the project satisfies the reasonable needs of the public for an adequate supply of electric interest. Further, for a 345 kV transmission line, the PSCW must further find that the project costs are reasonable in relation to project benefits:

> For a high-voltage transmission line that is designed for operation at a nominal voltage of 345 kilovolts or more, the high voltage transmission line provides usage, service or increased regional reliability benefits to the wholesale and retail customers or members in this state and the benefits of the high-voltage transmission line are reasonable in relation to the cost of the high voltage transmission line.

In addition, Wis. Stat. § 196.491 (3)(d)5. requires that the facility cannot "add to the cost of service without proportionately increasing the value and available quantity of service . . . "

In determining the route, the PSCW must follow the Siting Priorities Law[47] which establishes priority transmission corridors. The Siting Priorities Law provides:

> (6) Siting of electric transmission facilities. In the siting of new electric transmission facilities, including high-voltage transmission lines, as defined in s. 196.491 (1) (f), it is the policy of this state that, to the greatest extent feasible that is consistent with economic and engineering considerations, reliability of the electric system, and protection of the environment, the following corridors should be utilized in the following order of priority:
>
> (a) Existing utility corridors.
> (b) Highway and railroad corridors.
> (c) Recreational trails, to the extent that the facilities may be constructed below ground and that the facilities do not significantly impact environmentally sensitive areas.
> (d) New corridors.[48]

### 6.3.3 Illinois

A 345 kV transmission line project must obtain a CPCN from the ICC.[49] To obtain a CPCN, the project proponent must demonstrate:

[45] Wis. Stat. §§ 196.491(1)(f) and 196.491(3).
[46] Wis. Stat. §§ 283.33(1)(a) or (am), 281.36.
[47] Wis. Stat. § 1.12(6).
[48] *Id.*
[49] 220 ILCS 5/8-406.

(1) that the proposed construction is necessary to provide adequate, reliable, and efficient service to its customers and is the least-cost means of satisfying the service needs of its customers or that the proposed construction will promote the development of an effectively competitive electricity market that operates efficiently, is equitable to all customers, and is the least cost means of satisfying those objectives;
(2) that the utility is capable of efficiently managing and supervising the construction process and has taken sufficient action to ensure adequate and efficient construction and supervision thereof; and
(3) that the utility is capable of financing the proposed construction without significant adverse financial consequences for the utility or its customers.[50]

In making its decision on a CPCN, the ICC must "attach primary weight to cost or cost savings to the customers of the utility (Illinois Code 220 ILCS 5/8-406)."

### 6.3.4 Other State-Required Permits

The Project would also be subject to other state regulatory requirements for construction of large utility infrastructure projects. While not specifically enumerated in this chapter, the requirements include but are not limited to National Pollutant Discharge Elimination System storm water permits.

Additional State permits and clearances that may be required for a river crossing include Section 401 Water Quality Certification, protected species reviews, cultural resources reviews, and floodplain permits. Section 401 permits are typically permitted concurrently with Section 404 permits through USACE and the state authority using a Joint Permit Application. In Iowa, Section 401 permitting is conducted through the IDNR. In Wisconsin, the State authority for Section 401 permitting is the WDNR. The Illinois EPA regulates Section 401 permitting in Illinois. State-protected species reviews are conducted through the IDNR, the WDNR, and the Illinois Department of Natural Resources. Cultural Resource reviews, pursuant to Section 106 of the National Historic Preservation Act of 1966 (as amended), are conducted through the State Historical Society of Iowa, the Wisconsin Historical Society, and the Illinois Historic Preservation Agency.

A sovereign lands and rivers construction permit from the Iowa Natural Resources Commission may be required for river crossings as well. The permit applies to:

[50] 220 ILCS 5/8-406(b).

> all fee title lands and waters under the jurisdiction of the commission; dedicated lands and waters under the jurisdiction of the commission and managed by the commission for public access to a meandered sovereign lake or meandered sovereign river; meandered sovereign lakes; meandered sovereign rivers; and sovereign islands, except those portions of the Iowa River and the Mississippi River where title has been conveyed to charter cities" (571 IAC 13.2).

In the ACA Study Area, there are no sovereign lakes. Sovereign rivers in the ACA Study Area include the Mississippi River, the Turkey River, the Maquoketa River, and the Little Maquoketa River[51].

Floodplain permits may be required if any fill material or structures need to be placed within regulated 100-year floodplains or floodways. The IDNR Flood Plain Permit may be required for structures located within a floodplain in Iowa. The WNDR regulates floodplains within Wisconsin; however, permitting is typically delegated to local level authority. The Illinois Department of Natural Resources Division of Water Resource Management issues floodplain permits for work in and along rivers in Illinois.

## 6.4 Local Siting and Condemnation Approvals for the Mississippi River Crossing

For portions of all alternative crossing locations in Iowa, local approvals would also be required.

### 6.4.1 City of Dubuque

All alternative crossing locations analyzed in this report would require a franchise from the IUB because they include segments in Iowa located outside of municipal boundaries. There are four alternative crossing locations (L&D 11, Galena 161 kV, Julien Dubuque Bridge, and Highway 151 Bridge) for which Dubuque approvals would also be required. Dubuque, not the IUB, must grant a permit for a new transmission line to be located within its municipal boundaries.[52]

Dubuque has a licensing ordinance that requires a public utility to obtain a license for any new proposed "electric transmission line" located within the City.[53] The Ordinance limits the siting of new transmission lines in proximity to buildings. The Ordinance specifically states: "no transmission line shall be constructed, except by agreement, within 250 feet of any dwelling house or other building, except where said line crosses or passes along a public highway or is located alongside or parallel with the ROW of any railway company."[54] The Dubuque City Code does not define public highway. However, Iowa Admin

[51] As noted the Project may require a sovereign lands and rivers construction permit from the Iowa Natural Resources Commission; this area is not shown on the figures in this ACA to aid in the identification of the Refuge.
[52] Iowa Code § 364.2(4)(a).
[53] Dubuque City Code § 11-6-1.
[54] Dubuque City Code § 11-6-7.

Code § 701-67.1(425A) defines "Public Highways" as "means and includes any way or place available to the public for purposes of vehicular travel notwithstanding temporarily."

### 6.4.2 City of Guttenberg

Guttenberg has sole siting authority for new transmission facilities within its municipal boundaries.[55] Authorization from Guttenberg would be required for the L&D 10 alternative. In contrast to Dubuque, Guttenberg does not have any existing city ordinances related to the process for obtaining approval to route a transmission line within the city limits.

[55] Iowa Code § 364.2(4)(a)

# 7.0 AGENCY OUTREACH

In 2012, the Utilities began engaging with federal, state, and local agencies interested in the Mississippi River crossing for the Project. Between 2012 and the present, the Utilities have had 11 meetings with USFWS to discuss this Project. The Utilities have also had meetings with other permitting authorities including USACE, IUB, IDNR, PSCW, WDNR, City of Dubuque, and City of Guttenberg to discuss the Mississippi River crossing. Meetings were also held with other municipalities that may potentially be impacted by the crossing location, including the Village of Cassville and the City of East Dubuque. The Utilities also met with interested stakeholders, including the Iowa Sierra Club, Iowa Environmental Council, and the Center for Rural Affairs related to the Mississippi River crossing. In these meetings, the Utilities provided Project information and discussed preliminary Mississippi River crossing options, obtained feedback regarding permitting requirements, and received comments and suggestions on routing options. The Utilities also had other informal communciations with agency representatives in the development of this ACA. Tables 7-1 to 7-11 provide a listing of agency meetings held to date related to the Mississippi River crossing, according to the agency. This list of meetings will grow as the Utilities continue to engage permitting authorities and other stakeholders as a part of Project development.

## 7.1 Federal Agencies

The following tables list meetings held with federal agencies about the Mississippi River crossing.

**Table 7-1: USFWS Meetings**

| Date | Attendees | Purpose of Meeting |
|---|---|---|
| 4/16/2012 | USFWS, USACE, ATC, Stantec | Meeting to introduce Project and identify potential locations for crossing the Mississippi River. |
| 9/18/2012 | USFWS, USACE, PSCW, WDNR, IUB, City of Dubuque, ATC, Stantec | Meeting to discuss potential crossings of Mississippi River. |
| 6/18/2013 | USFWS, ITC Midwest | Meeting to discuss potential crossings of Mississippi River. |
| 10/10/2013 | USFWS, Iowa Natural Heritage Foundation, Iowa Environmental Council, the Iowa Chapter of the Audubon Society, the Iowa Chapter of the Nature Conservancy, the Iowa Chapter of the Sierra Club, the Center for Rural Affairs, ITC Midwest | Overview of the MVP projects, including the Mississippi River crossing, with the environmental agencies in Des Moines, Iowa. |

| Date | Attendees | Purpose of Meeting |
|---|---|---|
| 10/31/2013 | USFWS, Iowa Chapter of Sierra Club, ITC Midwest, Burns & McDonnell | Onsite tour with environmental agencies and stakeholders. |
| 3/4/2014 | USFWS, ITC Midwest | Meeting to discuss potential crossings of Mississippi River. |
| 5/6/2014 | USFWS, ATC, ITC Midwest, Sparrow | Meeting to discuss potential impacts of routing 345 kV line through Dubuque. |
| 9/19/2014 | USFWS, ATC, ITC Midwest, Sparrow | Meeting to discuss potential crossings of Mississippi River. |
| 1/30/2015 | USFWS, ITC Midwest | Meeting about USFWS compatibility determination. |
| 2/4/2015 | USFWS, USACE, ATC, ITC Midwest, Burns & McDonnell | Update on Project status and review of crossing alternatives, feasibility of non-Refuge crossings, and key constraints. |
| 2/12/2015 | USFWS, USACE, ATC, ITC Midwest, Burns & McDonnell, Sparrow | Meeting to discuss analysis of Nelson Dewey and Stoneman alternatives. |
| 3/9/2015 | USFWS, ATC, ITC Midwest | Meeting to discuss updates on potential Mississippi River crossing alternatives. |
| 5/11/2015 | USFWS, ITC Midwest | Meeting to discuss comparable analysis factors in the ACA. |

**Table 7-2: USACE Meetings**

| Date | Attendees | Purpose of Meeting |
|---|---|---|
| 4/16/2012 | USACE, USFWS, ATC, Stantec | Meeting to introduce Project and identify potential locations for crossing the Mississippi River. |
| 8/13/2012 | USACE, ATC | Meeting to discuss L&D 11 crossing alternative. |
| 9/18/2012 | USACE, USFWS, PSCW, WDNR, IUB, City of Dubuque, ATC, Stantec | Meeting to discuss potential crossings of Mississippi River. |
| 10/30/2014 | USACE, ATC, ITC Midwest | Meeting about USACE permit process. |
| 1/7/2015 | USACE, ITC Midwest, Burns & McDonnell | Meeting about potential crossings at L&D 10 and L&D 11. |
| 2/4/2015 | USFWS, USACE, ATC, ITC Midwest, Burns & McDonnell | Update on Project status and review of crossing alternatives, feasibility of non-Refuge crossings, key constraints. |
| 2/12/2015 | USFWS, USACE, ATC, ITC Midwest, Burns & McDonnell, Sparrow | Meeting with more detailed analysis of Nelson Dewey and Stoneman alternatives. |
| 10/15/15 | USACE, ITC Midwest, ATC | Meeting to provide an update on Mississippi River crossing alternatives. |

## 7.2 State Agencies

The following tables outline meetings held with state agencies since the beginning of the Project about the Mississippi River crossing.

**Table 7-3: Iowa Utilities Board Meetings**

| Date | Attendees | Purpose of Meeting |
|---|---|---|
| 7/31/2012 | IUB, ATC, Davis Brown Law representing ATC | Introductory meeting with the IUB on Project. |
| 9/22/2014 | IUB, ITC Midwest, ATC | Meeting to update IUB on Project and the Mississippi River crossing; announce public outreach in Wisconsin. |
| 1/13/16 | IUB, ITC Midwest, ATC, and DPC | Meeting to update IUB on Project and the Mississippi River crossing. |

**Table 7-4: Iowa Department of Natural Resources Meetings**

| Date | Attendees | Purpose of Meeting |
|---|---|---|
| 7/31/2012 | IDNR, ATC, Davis Brown Law representing ATC | Introductory meeting with the IDNR on Project. |

**Table 7-5: Public Service Commission of Wisconsin and Wisconsin Department of Natural Resources Meetings**

| Date | Attendees | Purpose of Meeting |
|---|---|---|
| 8/15/2012 | PSCW, WDNR, ATC, Cullen, Weston, Pines & Bach representing ATC | Introductory meeting with PSCW and WDNR on Project. |
| 9/18/2012 | PSCW, WDNR, USWFS, USACE, IUB, City of Dubuque, ATC, Stantec | Meeting to discuss potential crossings of Mississippi River. |
| 9/30/2014 | PSCW, WDNR, ATC, ITC Midwest | Update on Project and announce public outreach in Wisconsin. |

## 7.3 Local Government Units

The following tables list meetings held with local government units since the beginning of the Project about the Mississippi River crossing.

**Table 7-6: City of Dubuque Meetings**

| Date | Attendees | Purpose of Meeting |
|---|---|---|
| 7/18/2012 | City of Dubuque, ATC, Davis Brown Law representing ATC | ATC's initial meeting with the City of Dubuque. |
| 9/18/2012 | City of Dubuque, USFWS, USACE, IUB, WDNR, PSCW, ATC, Stantec | Meeting to discuss Mississippi River crossing locations. |
| 5/2/2014 | City of Dubuque, ITC Midwest | Meeting to discuss potential impacts of routing 345 kV line through Dubuque. |
| 9/23/2014 | City of Dubuque, ITC Midwest | Meeting with City Manager of Dubuque regarding potential Mississippi River crossing in Dubuque. |
| 10/8/2014 | City of Dubuque, ITC Midwest | Meeting regarding potential Mississippi River crossing. |
| 11/18/2014 | City of Dubuque, ITC Midwest | Updates on three preliminary corridors for crossing alternatives in the Dubuque area and the results of cultural research. |
| 3/5/2015 | City of Dubuque, ITC Midwest, Briggs and Morgan representing ITC Midwest | Meeting about Dubuque transmission line permitting requirements. |
| 3/11/2015 | City of Dubuque, ITC Midwest | Meeting with Dubuque City Manager regarding potential preliminary corridors for alternative crossing locations in Dubuque. |
| 3/25/2015 | City of Dubuque, ITC Midwest | Meeting with City of Dubuque regarding potential preliminary corridors for alternative crossing locations in Dubuque. |
| 4/8/2015 | City of Dubuque, ITC Midwest, Briggs and Morgan representing ITC Midwest | Meeting regarding potential preliminary corridors for alternative crossing locations in Dubuque and permitting requirements. |

**Table 7-7: City of East Dubuque Meetings**

| Date | Attendees | Purpose of Meeting |
|---|---|---|
| 6/24/2015 | East Dubuque, ITC Midwest, Burns & McDonnell | Meeting to share maps of the seven alternative crossing locations. |

**Table 7-8: Village and Township of Cassville Meetings**

| Date | Attendees | Purpose of Meeting |
|---|---|---|
| 9/15/2014 | Cassville Township, ATC, ITC Midwest | Meeting to introduce Project to Cassville Township. |
| 9/18/2014 | Village of Cassville, ATC, ITC Midwest | Meeting to introduce Project to Village of Cassville. |

**Table 7-9: City of Guttenberg Meetings**

| Date | Attendees | Purpose of Meeting |
|---|---|---|
| 4/24/2015 | City of Guttenberg, ITC Midwest, Burns & McDonnell | Meeting to provide overview of proposed Project. |

## 7.4 Multi-Agency and Other Agencies

The following tables outline meetings held with other agencies since the beginning of the Project about the Mississippi River crossing.

**Table 7-10: Iowa Environmental Council Meetings**

| Date | Attendees | Purpose of Meeting |
|---|---|---|
| 6/10/2014 | Iowa Environmental Council, ITC Midwest | Meeting to discuss potential Cassville crossings. |
| 11/5/2014 | Iowa Environmental Council, ITC Midwest | Update on Mississippi River crossing alternatives. |
| 4/8/15 | Iowa Environmental Council, ITC Midwest | Update on Mississippi River crossing alternatives. |

**Table 7-11: Center for Rural Affairs in Iowa**

| Date | Attendees | Purpose of Meeting |
|---|---|---|
| 10/10/2013 | The Center for Rural Affairs, USFWS, Iowa Natural Heritage Foundation, Iowa Environmental Council, the Iowa Chapter of the Audubon Society, the Iowa Chapter of the Nature Conservancy, the Iowa Chapter of the Sierra Club, ITC Midwest | Overview of the MVP projects, including the Mississippi River crossing, with the environmental agencies in Des Moines, Iowa. |
| 6/23/2015 | Center for Rural Affairs in Iowa, ITC Midwest | Meeting to introduce Stephanie Enloe to ITC Midwest, explain the process and steps taken on the Project. |

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# 8.0 PREFERRED CROSSING LOCATION FOR THE PROJECT

This chapter presents the Utilities' preferred crossing location for the Project and discusses the differences in potential constraints associated with the Stoneman and Nelson Dewey crossing locations. An optional design through the Refuge is also briefly discussed and presented.

## 8.1 Elimination of Alternatives from Further Consideration

The Utilities assessed seven potential crossings of the Mississippi River. Four of these crossing locations are located outside of Refuge boundaries, and three are located within Refuge boundaries. Utilities analyzed the potential environmental and human impacts of all seven alternative crossing areas, as presented in Chapter 5. This analysis demonstrates that all four non-Refuge crossing alternatives and respective ACA routes would have greater overall potential impacts to environmental and human resources when compared to the remaining Refuge crossing locations and ACA routes. The Utilities also engaged federal, state, and local entities with permitting authority over the seven crossing locations. These agencies conducted an independent assessment of the crossing location under their purview and identified technical, engineering, environmental and/or social impacts that would preclude issuance of required permits for the four non-Refuge options as well as the L&D 10 location within the Refuge. Based on the overall impact assessment of the alternative crossing locations, and the permitting agencies' conclusions, the Utilities determined that the non-Refuge alternative crossing locations do not constitute feasible crossing locations for the Project.

As the Refuge could not be avoided, pursuant to the USFWS Mitigation Policy the Utilities assessed the remaining three Refuge ACA routes to determine if a potentially feasible Mississippi River crossing location within the Refuge could be identified. As a result of the impact assessment presented in Chapter 5 and the technical engineering conflicts with construction on or near the operable lock and dam facilities, the L&D 10 ACA alternative crossing location was also removed from further consideration. Additionally, the L&D 10 ACA route would potentially impact extensive historical and cultural resources within Guttenberg and would encounter additional environmental resources as a result of its additional length, which is required to reach this northernmost alternative crossing location. The L&D 10 ACA route would also require constructing a new 345 kV overhead transmission line across 1.4 miles of the Mississippi River and Refuge, where there are no existing overhead lines. Also, if a crossing location other than either Nelson Dewey or Stoneman is selected for the Project, the existing transmission lines at Stoneman would remain unchanged.

The remaining two ACA routes, Stoneman and Nelson Dewey, were both evaluated and assessed for potential impacts, as discussed in Chapter 5. Following this evaluation, the Utilities concluded that both the remaining overhead crossing alternatives to be technically and economically feasible, as well as constructible for the Project. However, these two remaining ACA routes through the Refuge must be reviewed by the USFWS to determine if they are compatible and permittable. It is anticipated that the USFWS will undertake its substantive review after receiving this ACA.

As previously noted, the Stoneman ACA route utilizes a portion of an existing 161 kV and 69 kV corridor between Millville, Iowa, and Cassville, Wisconsin. Both the Stoneman and Nelson Dewey ACA routes would eliminate the need for the existing Millville to Stoneman 69 kV transmission line through the Refuge because a new 69 kV source is proposed at the rebuilt Turkey River Substation. The number of transmission circuits in the Refuge after construction of the Project (using either location) would remain unchanged at two. Further, both locations offer the opportunity to consolidate the Project with existing transmission facilities and maintain a single transmission corridor across the Refuge. Under either the Stoneman or Nelson Dewey alternatives, the existing number of transmission corridors, and individual transmission structures, would be reduced. The Stoneman and Nelson Dewey ACA routes meet the purpose and need for the Project and avoid the likelihood of potential impacts to residences and businesses encountered at Dubuque, Iowa.

## 8.2 Selection of the Preferred Crossing Location

While the Utilities have determined that both the Nelson Dewey and Stoneman ACA routes are technically and economically feasible, as well as constructible for the Project, the analysis presented in the Chapter 5 of the ACA provided some notable differences between the two alternative crossing locations. On Refuge lands, the Nelson Dewey ACA route would extend through fewer forested and emergent wetlands, extend through fewer woodlands, and require less total ROW within Refuge lands compared to the Stoneman ACA route. In addition, the design presented for the Nelson Dewey ACA route would reduce the total structures within Refuge lands from 30 structures to 10, and the Mississippi River crossing structures would be designed under 200 feet and would not requiring FAA lighting. The structure design for a portion of the line in the Refuge would change from a vertically stacked conductor to horizontal and would use of bird diverter marking on the shield wires, which the existing transmission lines do not have. The low-profile structure height for the design presented for the Nelson Dewey ACA route would also be at or below the height of the mature woodlands on the north side of Oak Road.

Outside the Refuge, the Nelson Dewey ACA route would be located further from the Cassville Municipal Airport and would also encounter fewer routing constraints in the Village of Cassville, Wisconsin, due to

the surrounding land uses at each respective crossing location. As shown below in Table 8-1, the type and extent of routing constraints in proximity to each location, are notable.

**Table 8-1: Routing Constraints Associated with Stoneman and Nelson Dewey ACA Routes**

| Criteria | Stoneman | Nelson Dewey |
|---|---|---|
| Residences within ROW | 9 | 2 |
| Residences within 300 feet | 22 | 8 |
| Schools within 300 feet | 2 | 0 |
| Places of worship within 300 feet | 1 | 0 |
| Daycares within 300 feet | 1 | 0 |
| Business/commercial structure within 300 feet | 4 | 0 |
| Airports within 1 mile | 1 | 0 |
| Number of streams/waterways crossed | 15 | 15 |
| Length through terrain with greater than 30 percent slope (feet) | 527 | 606 |

The Nelson Dewey ACA route better responds to the purpose and need for the Project, presents fewer overall constraints to Project engineering, and would result in fewer overall impacts to the environmental and social criteria analyzed for this Project. In addition, as detailed below, the Nelson Dewey alternative would reduce the risk of avian impacts compared to existing conditions present at the current Stoneman alignment through the Refuge. Therefore, the Utilities selected the Nelson Dewey alternative crossing location as the Utilities' Preferred Crossing.

### 8.2.1 Design of the Utilities' Preferred Alternative Crossing Location

The Nelson Dewey ACA route was designed to minimize the potential impacts associated with a new transmission line through the Refuge. In addition to locating the Nelson Dewey ACA route away from extensive wetland complexes near the existing Stoneman line, the Utilities propose to construct this ACA route by using a low-profile structure design that reduces overall height through the Refuge. Also, the Nelson Dewey ACA route would be designed to minimize the distance of new transmission line ROW on the Refuge through the use of a relatively straight alignment and by utilizing portions of a private parcel. Additionally, the Nelson Dewey alignment also minimizes impacts to on-going revegetation management activities within the Refuge. The design would also reduce the likelihood of interaction with avian species as a result of the reduction in separate planes of wires. The current transmission line corridor at Stoneman has conductors on three planes and a static wire on a fourth plane. With the Nelson Dewely ACA route, the Stoneman facilities would be removed and all conductors of the new facilites would be placed within a single horizontal plane on each structure within the Refuge to minimize the number and height of

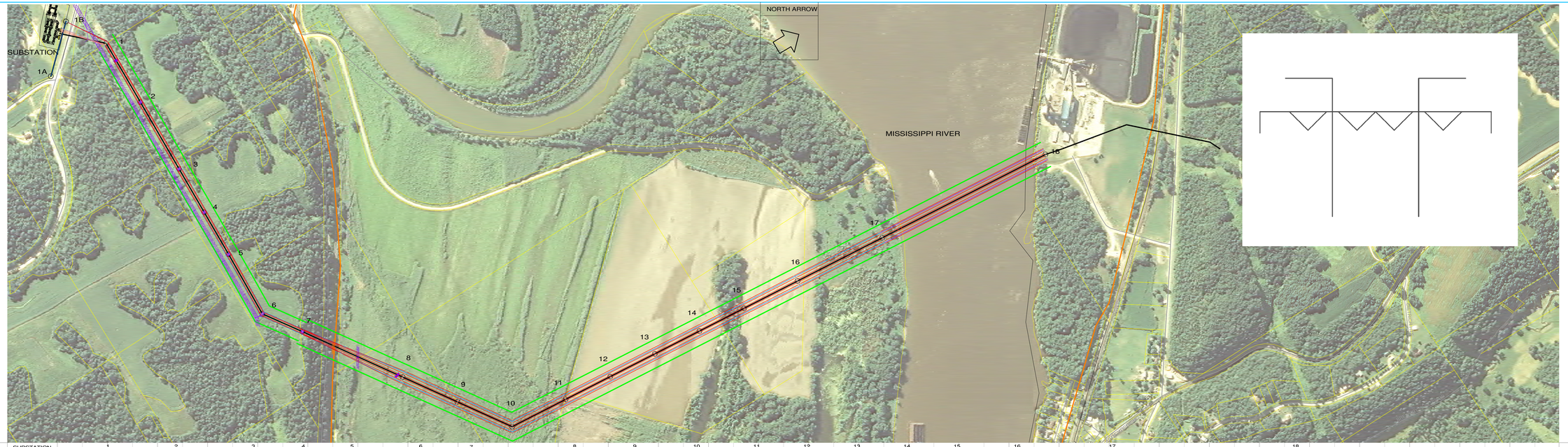
visible conductors that could potentially impact birds (Figure 8-2). Additionally, the static wires would be marked with avian flight diverters and/or marker balls in compliance with USFWS and Refuge consultation as well as guidance from the APLIC *Reducing Avian Collisions with Power Lines: The State of the Art in 2012* (APLIC, 2012).

While the Project requires both the existing 161 kV line and proposed 345 kV line, the Utilities are presenting in this ACA a design with 345 kV/345 kV specifications within the Refuge. The facilities would be operated at 345 kV/161 kV, but be capable of operating at 345 kV/345 kV in case future system conditions warrant it. Constructing the line in its ultimate configuration is a prudent and cost-effective investment to accommodate future needs in a manner that avoids future impacts to the Refuge if another 345 kV transmission line between Iowa and Wisconsin were needed. As with the other transmission features planned for the Refuge, the final design of the transmission facilities will be determined in consultation with the USFWS.

The low-profile structures would typically be 75 feet high and have 500-600 foot spans (Figure 1-4). The proposed ROW through the Refuge would be 260 feet wide in order to accommodate the reduced structure height. There would be 10 total structures on Refuge lands, reduced from the current number of 30 structures. A preliminary plan and profile design is shown in Figure 8-1.[56] The Utilities will work with USFWS to identify any necessary adjustments of the Nelson Dewey ACA route through the Refuge and to identify the most appropriate structure design to limit wildlife and aesthetic impacts to the Refuge. As a result of the potential for channel scour on the banks of the Mississippi River, the Utilities assessed the location of the crossing structure in relation to wing dams located along the navigable channel of the Mississippi River. The selected location of the crossing structure on the west bank of the Mississippi River would take advantage of upstream wing dams that adjust the flow of the navigable channel away from the riverbank near the proposed crossing structure (Figure 8-2). This structure location would assist the Project in meeting its projected lifecycle needs while reducing the likelihood of a potential scour event or washout resulting from channel migration of the Mississippi River.

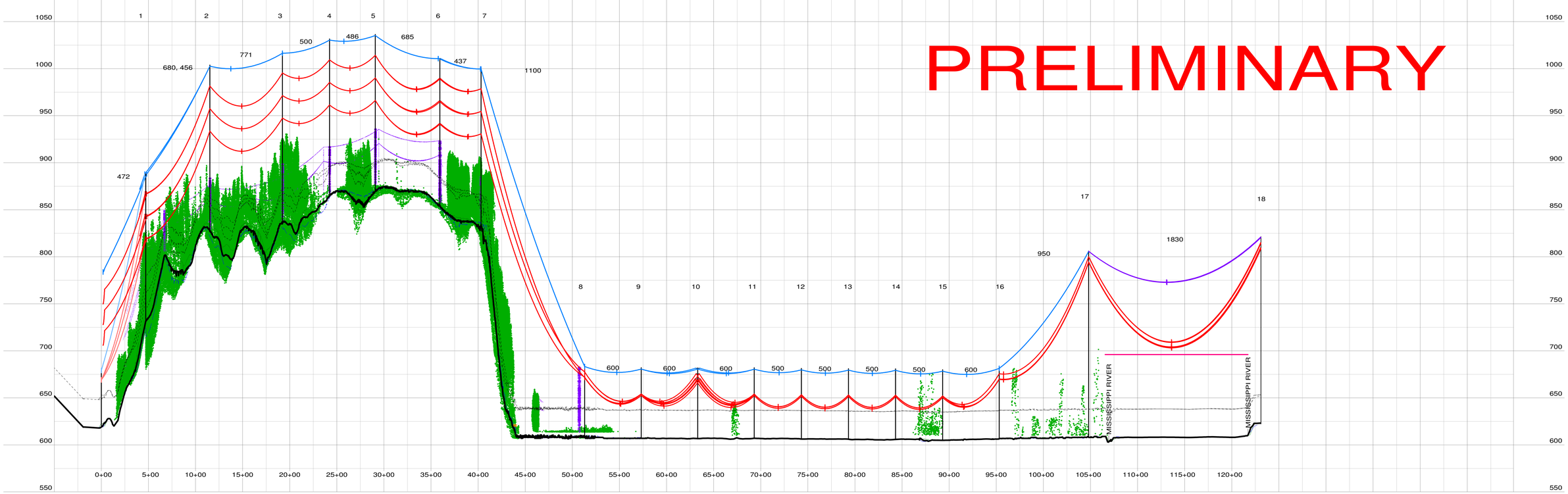
[56] The preliminary plan and profile shown in Figure 8-1 is intended to provide a general view of the Nelson Dewey ACA route alignment through the Refuge and in relation to the surrounding mature vegetation. Although Figure 8-1 shows the 260-foot ROW extending across the Mississippi River, the 260-foot ROW presented in the plan and profile would terminate at the Refuge boundary.

PLS-CADD DRAWING




| SUBSTATION | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|---|
| X=5594870.18<br>Y=3728080.94<br>HT=50.00<br>Z=619.09 | X=5585190.49<br>Y=3728427.61<br>HT=156.28<br>Z=731.75 | X=5585870.69<br>Y=3728420.13<br>HT=176.78<br>Z=827.03 | X=5586641.32<br>Y=3728410.43<br>HT=181.78<br>Z=835.82 | X=5587141.16<br>Y=3728404.71<br>HT=166.78<br>Z=864.78 | X=5587626.87<br>Y=3728398.30<br>HT=166.78<br>Z=869.63 | X=5588311.77<br>Y=3728383.09<br>HT=156.28<br>Z=854.41 | X=5588669.26<br>Y=3728635.24<br>HT=166.78<br>Z=834.04 |

| 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 |
|---|---|---|---|---|---|---|---|---|---|---|
| X=5589572.36<br>Y=3729263.11<br>HT=75.00<br>Z=608.62 | X=5590065.00<br>Y=3729605.61<br>HT=75.00<br>Z=607.14 | X=5590557.49<br>Y=3729948.01<br>HT=75.00<br>Z=606.76 | X=5590596.28<br>Y=3730546.93<br>HT=75.00<br>Z=607.02 | X=5590628.60<br>Y=3731045.89<br>HT=75.00<br>Z=606.29 | X=5590660.93<br>Y=3731544.84<br>HT=75.00<br>Z=606.03 | X=5590693.25<br>Y=3732043.80<br>HT=75.00<br>Z=605.84 | X=5590725.57<br>Y=3732542.75<br>HT=75.00<br>Z=604.92 | X=5590764.36<br>Y=3733141.50<br>HT=75.00<br>Z=606.63 | X=5590825.77<br>Y=3734089.51<br>HT=198.00<br>Z=608.07 | X=5590944.03<br>Y=3735915.24<br>HT=198.00<br>Z=623.18 |




# PRELIMINARY

500.0 FT. HORIZ. SCALE

50.0 FT. VERT. SCALE

ROW BOUNDARY (260 FT OR 200 FT)

RIVER CLEARANCE (Z=696.00)

AFL ALUMACORE AC-65/555 DNO-6071 OPGW, 18% RBS AT 0F INITIAL, DISPLAYED AT -20F INITIAL

AFL ALUMACORE AC-77-583 OPGW, 18% RBS AT 0F INITIAL, DISPLAYED AT -20F INITIAL

T2 DRAKE ACSR, 18% RBS AT 0F INITIAL, DISPLAYED AT 212F FINAL

THE MINIMUM REQUIRED ELEVATION ABOVE THE MISSISSIPPI RIVER NAVIGABLE CHANNEL ARE BASED ON THE CALCULATIONS BELOW REQUIRED BY USACE REGULATION 33CFR322 SECTION I.2 FOR A 345 KV LINE:

THE GREATEST OF THE FOLLOWING:
USCG HEIGHT ABOVE NORMAL POOL (60') + FEDERAL GUIDANCE (26') + NORMAL POOL ELEVATION (603') = 689'
NEAREST BRIDGE HEIGHT (65') + FEDERAL GUIDANCE (26') + NORMAL POOL ELEVATION (603') = 694'
USCG 52' HEIGHT ABOVE 50-YEAR FLOOD (52') + FEDERAL GUIDANCE (26') + 50-YEAR FLOOD (618') = 696' (CONTROLS)

| NO. | DATE | REVISION | BY | CHK'D | APV'D |
|---|---|---|---|---|---|
| | | | | | |



FIGURE 8-1
CARDINAL TO HICKORY CREEK 345 KV TRANSMISSION LINE PROJECT
PRELIMINARY PLAN AND PROFILE OF NELSON DEWEY ACA ROUTE
ACA ROUTES ARE FOR CONCEPTUAL PURPOSES ONLY

DWG. NO.

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BURNS McDONNELL

Grant County, WI

Clayton County, IA

River Mile 609

River Mile 608

River Mile 607

River Mile 606

Upper Mississippi River National Wildlife and Fish Refuge

Nelson Dewey State Park

Turkey River Mounds State Preserve

Nelson Dewey Substation

Turkey River Substation

Stoneman Substation

Cassville

Cassville Airport

Great River Road

RIVER TERM

ESTES PT RD

OAK RD

GREAT RIVER RD

360TH ST

RANGE AVE

DIETRICH HEIGHTS RD

BREWERY HOLLOW RD

DENNISTON ST

MULBERRY DR

WIOTA ST

WIDEWEY ST

WAMELIA ST

WATERFRONT ST

SCHOOL ST

FREDRICK ST

E BLUFF ST

E FRONT ST

PRIME ST

CLIFF ST

CRAWFORD ST

PENNSYLVANIA ST

ST CHARLES RD

WOODLAND HTS

ORLEY

A ST

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18

NORTH

0 600 1,200

Feet

ACA Study Area
Nelson Dewey ACA Route*
Wing Dam
Preliminary Structure Location
Substation
Existing 161 kV
Existing 138 kV
Existing 69 kV
Scenic Byway
FWS
INHF Land
State Land
Rail
House
Business
Cemetery
Church
School
Airport
Daycare
Park
Tower
County
Municipal Area

*ACA Routes are for conceptual purposes only

WISCONSIN

IOWA

Cassville

Locator Map

**Figure 8-2**
**Cardinal-Hickory Creek Transmission Line Project**
**Wing Dam Locations**
**Cassville, Wisconsin**

Source: IDNR, USDA Clayton County NAIP 2013, Energy Velocity, IDOT, INHF, WDNR, Clayton County, FHWA, ESRI, ITC Midwest, Burns & McDonnell

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### 8.2.2 Measures to Mitigate Potential Impacts to the Refuge

In consultation with USFWS staff, the Utilities would propose additional measures to mitigate potential impacts to Refuge lands and avian resources within the Refuge. As discussed earlier, some of the mitigation measures include using low-profile structures, placing the conductors on a single horizontal plane, and using bird diverters and/or marker balls.

Another potential measure would be to revegetate portions of the Refuge to replicate some of the natural vegetative breaks that occur at the Nelson Dewey ACA route. These measures would be developed in conjunction with existing revegetation programs that are currently in place within the Refuge near this location, as previously noted. The intent of possible re-vegetation efforts would be to expand the extent of mature woodlands on both sides of the Nelson Dewey ACA route in order to provide additional vegetative breaks to reduce visual impact of the transmission line. As an example of the type and location of the revegetation effort, the Utilities developed a simulation of a preliminary revegetation plan for both the removal of the existing Millville to Stoneman 69 kV transmission line and Turkey River to Stoneman 161 kV line and the proposed alignment at the Nelson Dewey crossing alternative (Figure 8-3). It should be noted that this simulation is for comparative purposes only; any revegetation at the Refuge would be done in concert with USFWS review and direction and in compliance with applicable NERC regulated vegetation standards. As with the design of the Project, the Utilities would work closely with USFWS to identify the location, type, and overall revegetation plan that would be appropriate for the Project and this specific location of the Refuge.

### 8.2.3 Optional Transmission Design through Refuge

As indicated previously in Section 1.1, the Utilities' are presenting a design through the Refuge that includes transmission facilities constructed to a 345 kV/345 kV specification, but plan to operate them at 345 kV/161 kV until system conditions warrant operating the facility at 345 kV/345 kV. While the current needs are for a 345 kV line and a 161 kV line, the increase in voltage capability of the second circuit (at 345 kV) is a prudent and cost-effective investment to accommodate additional transmission facilities in a manner that would avoid future impacts to the Refuge if another 345 kV transmission line between Iowa and Wisconsin were needed.

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0 425 850
Feet

NORTH

Cassville Ferry Landing

Turkey River Landing

Cassville Ferry Route

Cassville Ferry Landing

W FRONT ST

W AMELIA ST

WIOTA ST

PRAIRIE DU CHIEN ST

W BLUFF ST

W DEWEY ST

W AMELIA ST

MULBERRY DR

ST CHARLES RD

81

SCHOOL ST

DENNISTON ST

FREDERIC ST

WALL ST

E BLUFF ST

E DEWEY ST

E AMELIA ST

W FRONT ST

E FRONT ST

133

Cassville

PENNSYLVANIA ST

PRIME ST

GREAT RIVER RD

Great River Road

Stoneman

JACK OAK RD

A ST

E CRAWFORD ST

Cassville Public Access

Eagle's Roost Resort

OAK RD

360TH ST

ACA Study Area
Nelson Dewey ACA Route*
Substation
Line to be Removed
Existing 161 kV
Existing 69 kV
Scenic Byway
Cassville Ferry Route
Boat Launch or Ferry Landing
FWS
INHF Land
State Land
Rail
Road
State
Conceptual Revegetation Area

*ACA Routes are for conceptual purposes only

BURNS McDONNELL

WISCONSIN
IOWA
Cassville
Millville
Locator Map

**Figure 8-3**
**Cardinal-Hickory Creek Transmission Line Project**
**Preferred Nelson Dewey ACA Route**
**Conceptual Revegetation Area**
**(for comparison purposes only)**


Path: R:\ITC\74417_Hickory_Crk_Cassville\GIS\DataFiles\ArcDocs\ACA_Report_Figures\Figure8_3_NelsonDewey_ReVeg_20160405.mxd kasamuelson 4/5/2016

Source: USDA Clayton County NAIP 2013, Energy Velocity, IDOT, NTAD, IDNR, USGS, WDNR, USDA, ESRI, FHWA, ITC Midwest, Burns & McDonnell

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Additionally, the difference between the overall footprint of the 345 kV/345 kV facilities compared to the 345 kV/161 kV facilities is minor. Both structure designs would include a standard height through the Refuge at approximately 75 feet (with the exception of the Mississippi River crossing structures) and both would include span lengths through the Refuge at approximately 500-600 feet (although the preliminary sketch in Appendix G shows the optional structure design at 77 feet, the structure can be designed to 75 feet). This low-profile structure design would be used under both configurations with the objective of minimizing interactions with avian species that utilize this portion of the Refuge. The total number of structures within the Refuge would also remain the same regardless of which configuration is selected for the Project. The primary difference between the two configurations is the required ROW through the Refuge. As a result of the slightly wider design of the 345 kV/345 kV configuration, the required ROW would be approximately 260 feet for the low-profile structures through the Refuge. In the narrower 345 kV/161 kV configuration, the low profile structure would be asymmetrical, with the 345 kV on one side of the structure and the 161 kV on the other side; the required ROW would be reduced to 240 feet. This reduction in ROW for the Project through the Refuge would result in slightly fewer potential impacts to resources within or in proximity to the cleared ROW. The impact analysis of this reduced 240-foot ROW, as well as an example of the narrower asymmetrical structure design, is provided for the Nelson Dewey ACA route in the Alternatives Analysis table provided in Appendix G.

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