FINAL ENVIRONMENTAL IMPACT STATEMENT

Deer Creek Station Energy Facility Project
Brookings County, South Dakota

U.S. Department of Energy
Western Area Power Administration
Upper Great Plains Region
Billings, Montana

DOE/EIS-0415
April 2010

Western
AREA POWER
ADMINISTRATION

COVER SHEET

Lead Federal Agency: U.S. Department of Energy, Western Area Power Administration
Cooperating Agency: U.S. Department of Agriculture, Rural Utilities Service

Title: Deer Creek Station Project, Brookings and Deuel Counties, South Dakota

For additional information on this Final Environmental Impact Statement contact:

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Abstract: In response to a request from Basin Electric Power Cooperative (Basin Electric), Western Area Power Administration (Western) proposes to provide interconnection services, and Rural Utilities Service (RUS) proposes to provide financial assistance, for the Deer Creek Station Project, a proposed 300-megawatt (MW) natural gas-fired generation facility. The facility is being proposed to meet projected intermediate demands for electricity in the eastern portion of Basin Electric's service territory, as determined from a power supply analysis. Basin Electric's alternatives analysis included alternative power generation technologies and alternative sites. Basin Electric proposes to construct a proposed natural gas-fired combined-cycle facility near White, South Dakota (SD). The alternative sites are convenient to a natural gas supply pipeline and to a transmission line owned and operated by Western. If the proposed Project were not constructed, there would be no environmental effects in the immediate vicinity; however, the underlying power demand would still need to be met and power supply infrastructure would likely be constructed somewhere. If the generation facility were to be constructed a 13.2-mile natural gas pipeline, a 0.75-mile transmission line, two water production wells, and a 1.25-mile water supply line would be constructed, and one mile of local roads would be improved. Most of the impacts associated with the facility site would be on cultivated cropland and pastureland; however, the natural gas pipeline would temporarily impact two small areas of native prairie and several areas of wetlands, and the water supply wells would require pumping from a Well Head Protection Area along Deer Creek. Most of the impacts would be on cultivated cropland and pastureland; however, some permanent wetland impacts could be expected. Adverse effects would be minimized by use of best management practices for erosion control and dust suppression, by pipeline construction in the fall, and by avoiding the breeding season for Dakota skipper in native prairie. Monitoring wells would be used to ensure that groundwater pumping does not adversely affect hydrological conditions in Deer Creek.

Since few comments were received during the public review of the draft environmental impact statement (EIS), Western has prepared this abbreviated final EIS to address the comments received. The complete final EIS is comprised of the previously published draft EIS and this volume. Western anticipates issuing a Record of Decision no sooner than 30 days following public distribution of the final EIS.

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BACKGROUND

Background, EIS Distribution, and How to Use this Document

Background: This document addresses changes to the draft environmental impact statement (EIS) resulting from the public comment period (February 5 – March 22, 2010) on the draft Deer Creek Station Energy Facility Project EIS.

Because public and agency comments did not substantially modify any of the alternatives or the environmental analysis in the draft EIS, the full text of the draft has not been reprinted. Rather, the materials in this document, combined with the draft EIS, serve as the final EIS. Federal regulations allow for an abbreviated final EIS when few changes result from those comments. The relevant sections of these regulations (40 CFR 1500.4(m) and 1503.4(c)) encourage reducing paperwork and state that if changes in response to public comments are minor and confined to factual corrections or explanations of why comments do not warrant fuller agency response, they may be written on errata sheets instead of rewriting, printing, and distributing the entire, revised EIS. This document contains the following parts:

- Cover Sheet - Includes the responsible agency, points of contact, and abstract.
- Background - Describes the elements of the abbreviated final EIS.
- Comment and Response - Western's responses to comments are incorporated into each letter or comment received, and shows corrections and revisions to the draft EIS for the Deer Creek Station Energy Facility Project as appropriate.
- Appendix A – Wetlands Figures and Table of Impacts
- Appendix B - List of EIS Recipients
- Appendix C – Public Hearing Summary
- Appendix D – Organizational Conflict of Interest Representation Statement

EIS Distribution: The officials, agencies, tribes, and organizations listed in the consultation and coordination section of the draft EIS have received a printed or electronic copy of this document. All individuals who commented on the draft EIS and those who requested the final EIS were also provided a copy of this document. To obtain a printed or electronic copy of the EIS or find the location of agencies or libraries that have copies, contact the Western Area Power Administration office as noted on the Cover Sheet.

How to Use this Document: This document is meant to be used in conjunction with the draft EIS for the Deer Creek Station Energy Facility Project. The two documents, together, make up the final EIS for the Proposed Action. Because of the limited number of comments, the responses have been inserted into the comment letter in order to have the response directly follow the comment.

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MAR 11 2010

Ref: EPR-N

Mr. Matt Marsh
NEPA Project Manager
Western Area Power Administration
P.O. Box 35800
Billings, MT 59107-5800

Re: Deer Creek Station Energy Facility Project
Draft Environmental Impact Statement
CEQ #20100030

Dear Mr. Marsh:

In accordance with our responsibilities under Section 102(2)(C) of the National Environmental Policy Act (NEPA), 42 U.S.C. Section 4332(2)(C), and Section 309 of the Clean Air Act, 42 U.S.C. Section 7609, the U.S. Environmental Protection Agency Region 8 (EPA) has reviewed the Draft Environmental Impact Statement (Draft EIS) prepared by Western Area Power Administration (WAPA) for the Deer Creek Station Energy Facility Project (Deer Creek) in Brookings County, South Dakota.

Project Description

The Draft EIS analyzes the potential environmental impacts from Basin Electric Power Cooperative's (Basin Electric) proposed construction and operation of a 300-MW natural gas-fired combined-cycle electric generation facility. The Draft EIS considers two alternative sites for construction of the Deer Creek Station near White, South Dakota. Under the proposed action, the electric generation facility would be constructed at "White Site I" and would include a 13.2 mile natural gas pipeline, a 0.75 mile 345-kV transmission line, two water wells, and a 1.25 mile pipeline to provide cooling water. If the facility were to be constructed at "White Site 2", a 10 mile natural gas pipeline, a one-mile rural water pipeline extension, a one-half mile transmission line, and an on-site substation would also be constructed. In addition to the two action alternatives, the Draft EIS includes analysis of a no action alternative.

EPA's Comments and Recommendations

In completing our review, EPA has identified several recommendations for additional consideration and disclosure in the Final EIS. None of EPA's recommendations involve a significant modification to the proposed project; rather we hope to assist WAPA with the identification and implementation of important monitoring and mitigation tools.

1. Groundwater and Surface Water. The Draft EIS includes a number of mitigation measures to reduce the potential impacts to groundwater and water quality. In particular, EPA applauds the inclusion of monitoring wells to detect any potential hydrology issues which may influence the stream or wetlands adjacent to the groundwater well installation site. Monitoring can be an important tool in minimizing impacts to the environment. However for these tools to be effective, it is important that a monitoring strategy and framework be clearly identified at the outset. EPA recommends the Final EIS include more detailed information on the monitoring time frame, including when the monitoring will occur, how often, and by whom. In addition, EPA specifically recommends the Final EIS include more detailed information on the threshold or action trigger that may initiate the need to seek alternative water sources for the project.

Response to EPA's Comment *Item 1*:

Basin Electric has completed a site-specific initial hydrogeologic analysis as presented in the Test Well Report (August 2009). The analysis included test drilling to determine aquifer thickness and depth, performing test pumping to determine drawdown characteristics, and collecting water samples to determine the need for water treatment for the plant water. The Test Well Report indicated that a cone of influence for an operating well would be approximately 112 feet. As a result of this analysis, to avoid any impacts to surface flows, Basin Electric would place the first production well at least 150 feet away from Deer Creek.

Two production water wells would be installed, each with a maximum withdrawal rate of 125 gallons per minute (gpm) to meet the maximum demand for the proposed facility. Only one production well would be operated at one time, with the second well providing redundancy. Should groundwater become unavailable, the alternative would be to purchase water from the local rural water service district whose distribution line is located near the proposed Project.

The sequence of construction would be to: (1) install the first production well and the monitoring wells; (2) perform additional pumping tests for refining site characterization and determine the well spacing for the second back-up production well; and (3) install the second back-up well.

Two temporary and three permanent groundwater monitoring wells would be installed to provide initial monitoring and final refined site characterization and evaluation. Three monitoring wells would be left in place in case groundwater conditions change and additional monitoring is required in the future. A final refined site characterization study would be prepared, and is expected to verify the lack of impact to Deer Creek. In the unlikely event that impacts were noted at Deer Creek, Basin Electric would develop a mitigation plan in coordination with the U.S. Fish and Wildlife Service (USFWS) for any hydrologic and biological impacts to Deer Creek.

2. Wetlands. As noted in the Draft EIS, the proposed project area for both alternative sites and associated facilities contains a high density of small prairie potholes or wetlands. White Site 1, White Site 2, and associated facilities each have the potential to impact wetlands, including wetlands that are likely jurisdictional waters. EPA commends the commitment to mitigation measures including: directional drilling of pipelines underneath larger wetlands; best management practices (BMPs) to avoid sedimentation; trenching during dry periods in the fall; buffers around surface waters and wetlands; and a commitment to wetland restoration. We recommend the Final EIS include more detailed and specific information on where directional drilling will be employed (i.e. what acreage of wetlands) along the pipeline route. The Final EIS should also include additional details on how wetland impacts will be monitored and mitigated, where necessary. EPA further recommends a 100 foot buffer be established around surface waters and wetlands to minimize sedimentation and potential impacts rather than the proposed 25 foot buffer.

Response to EPA's Comment *Item 2*:

Potential Wetland Impacts

Table 1 in appendix A provides a summary of detailed and specific information on where horizontal directional drilling (i.e. boring) or open-cut trenching would be employed in relation to the wetlands. The table identifies acreage of wetlands along the pipeline route and at White Site 1 that have the potential to be impacted. The wetlands on the White Site 1 plant site were avoided to the extent possible. Wetland maps 1 through 11 are provided in appendix A and identify the physical location for the wetlands listed on table 1.0 in appendix A. Table 1.0 identifies temporary impacts to wetlands in the amount of 8.76 acres, permanent impacts to wetlands of 0.02 acres and identifies those wetlands to be avoided.

Wetland Crossing Procedures

Construction through wetlands would be conducted in accordance with conditions specified by the U.S. Army Corp of Engineers (USACE). The proposed Project would comply with general conditions from Nationwide Permits found at 33 CFR part 330.6 [also see part 330.5(a)(12)]. Basin Electric has submitted a Section 404 application to the South Dakota Regulatory Office of the Omaha District USACE in Pierre, South Dakota. Mitigation conditions specified by the Section 404 permit would be followed during construction in or near wetlands. As part of the early coordination with the USACE, the following construction procedures and mitigation measures have been developed. Construction in wetlands would be performed so that the disturbance to wetlands is avoided and, if not avoided, that any impacts are minimized.

General Water Body Crossing Procedures

- **Hazardous materials, chemicals, fuels, and lubricating oils would not be stored and concrete coating activities would not be performed within 100 feet of any intermittent creek or other water body.**
- **All construction equipment would be refueled at least 100 feet from any water body.**
- **All spoil from creek crossings would be placed in the construction right-of-way (ROW) at least 10 feet from the water's edge, if present. Sediment barriers would be used to prevent the flow of spoil material into the water body.**

Horizontal Directional Drilling. **Where possible and practical, any large wetlands and perennial streams would be horizontally directional drilled as noted in table 1 in appendix A, which would avoid impacts. Horizontal directional drilling occurs by having the directional drill set up in-line with the pipeline route. Drilling would extend under the wetland or waterway from bell hole (entrance pit) to bell hole (exit pit). Drilling equipment and bell holes would be placed at least 25 feet away from the edge of any waterways and wetlands. Soil excavated from the bell holes would be backfilled and stabilized.**

Trenching. **The alternative to horizontal directional drilling would be trenching. This involves excavating a trench for the pipe and is typically accomplished using a crawler-mounted, wheel-type or rubber-tired wheel-type ditch-digging machine or track-type excavators. Areas that show signs of unstable soil conditions or require larger excavations, typically at tie-ins and line crossings, would be excavated using a backhoe. The trench would be a minimum of approximately 60 inches deep to provide a minimum of 48-inch cover over the pipeline once backfilling has been completed. However, where trenching is conducted, typical conventional upland cross-country construction procedures would be implemented, with several modifications where necessary to reduce the potential that the pipeline construction would affect wetland hydrology and soil structure. Construction methods would minimize the extent of construction equipment usage in wetland areas and would limit equipment travel and use to the existing ROW. The crossing technique for wetlands would depend on the length of the crossing and on the depth of any standing water. Equipment crossing of wetlands would be completed through use of timber mats if rutting in excess of four inches occurs. Timber mats would facilitate construction and minimize impacts to wetlands. Impermeable material such as clay rich soils or sand bag trench blocks would be placed as soil block within the ditch at the entry and exit points of each individual wetland complex as to minimize the potential of inadvertent drainage of the wetland area.**

The following is a general list of procedures to be utilized to reduce wetland impact in areas where open-cut trench crossings in wetland areas would occur.

- **The duration of construction-related disturbance within wetlands would be minimized by means of timely construction during the historically dry periods of the year, typically in the fall.**
- **If standing water or saturated soils are present, low ground-weight construction equipment would be used or normal equipment would be operated on timber riprap, prefabricated equipment mats, or geotextile fabric overlain with gravel. Geotextile fabric used for this purpose would be strong enough to allow removal of all gravel and fabric from the wetland.**
- **The top 12 inches of topsoil would be segregated from the area disturbed by trenching, except in areas where standing water or saturated soils are present. Once the trench has been backfilled, the segregated topsoil would be used to cover the trench.**
- **Impermeable material such as clay rich soils or sandbags would be placed as trench blocks at the entry and exit points of each individual wetland complex to minimize the potential of inadvertent drainage of the wetland area.**

Sediment Barriers

Temporary sediment barriers would be used to stop or reduce the flow of sediment coming into wetland locations. These barriers would be constructed of materials such as silt fence, staked hay or straw bales, or sand bags depending on conditions present and the most effective barrier for the conditions. Temporary sediment barriers would be installed as necessary at the base of slopes until vegetation that has been disturbed is reestablished.

Water body and wetland sediment barriers would be installed prior to disturbing the water body or adjacent upland. Sediment barriers would be installed across the entire construction ROW at all water body and wetland crossings as needed to prevent silt or soil from entering the water body or wetland. They would also be installed along the edge of the construction ROW as necessary to contain spoil and sediment within the ROW. These sediment barriers would be removed during ROW cleanup.

During pipeline installation, the welding of a pipe string would be done at the edge of the wetland and the completed section would be pulled or pushed across the wetland and tied into the rest of the pipeline. During wetland disturbance, erosion control structures would be placed as necessary to prevent flow of soil piles into undisturbed wetland areas. If the wetland has a vegetative mat that can be saved in large segments, the mat would be saved for replacement over the backfilled trench to help re-establish vegetation more rapidly. Once construction has been completed, wetland areas would be restored by grading, which would return the area's drainage patterns to pre-construction contours. Excess backfill would be disposed of on dry land in the ROW rather than on wetland areas. Excess backfill would not be placed on any wetland or floodplain area. The ROW would be graded as close as practicable to its pre-construction contours.

Restoration

Restoration would be undertaken for temporary impacts to jurisdictional wetlands. Mitigation measures for temporary impacts may include placement of a horizontal marker (e.g., fabric, certified weed-free straw, etc.) to delineate the existing ground elevation of wetlands that would be temporarily filled during construction. Following construction, mitigation measures would include removal of temporary fill, recontouring to the original site elevations, and then reseeding using native plant species to reestablish a prevalence of hydrophytic vegetation. Revegetation protocols typically would make use of plant species currently growing in the affected wetlands. The revegetation of the wetland areas would be performed in accordance with the USACE Section 404 permit.

Mitigation Monitoring

Basin Electric would perform field survey activities for monitoring as directed by the USACE or if required by conditions of the Section 404 permit for the proposed Project. If required following the restoration effort in the temporarily impacted wetland areas, a monitoring program would be initiated to document the recovery of these areas to the desired final condition. A monitoring report would then be submitted to USACE for review following the end of each growing season. Monitoring would continue until the temporarily impacted wetland areas are returned to USACE-prescribed conditions.

3. Mitigation and Monitoring. EPA recommends the Final EIS and Record of Decision include the project-specific mitigation and monitoring measures. While Appendix F identifies the standard mitigation measures to be used by Basin Electric for the Proposed Deer Creek Station, a number of additional important, project-specific mitigation measures were identified in the Draft EIS and are not included in this list of standard measures. The project-specific mitigation and monitoring measures should also be detailed and summarized in a similar table in the Final EIS and the Record of Decision. EPA recommends this table include any additional air quality mitigation or Best Available Control Technology (BACT) that has been identified through the air quality permitting process.

Response to EPA's Comment *Item 3*:

Project-specific mitigation measures, to be considered for implementation in the Record of Decision, are listed below:

Air Quality Mitigation

The draft PSD air permit is on public notice until April 26, 2010, and a final permit will be issued mid-year 2010. The draft permit, draft statement of basis and final air permit (when available) may be viewed at the SDDENR website (http://denr.sd.got/BasinDeerCreek.axpx).

The responses below are based on conditions proposed by the SDDENR, which could change based on the public review.

The draft permit states the following emission limits for Nitrogen Oxides (NO_x):

1) **3.0 parts per million by volume on a dry basis corrected to 15% oxygen; compliance is based on a 3-hour average using the continuous emission monitoring system; and**
2) **25.8 pounds per hour; compliance based on a 3-hour average using the continuous emission monitoring system; this limit is based on 3.0 parts per million by volume on a dry basis corrected to 15% oxygen (~ 0.0111 pounds per million Btu) at maximum capacity.**

The draft permit states the following emissions limits for Carbon Monoxide (CO):

1) **2.0 parts per million by volume on a dry basis corrected to 15% oxygen; compliance based on a 3-hour average using the continuous emission monitoring system; and**
2) **10.5 pounds per hour; compliance based on a 3-hour average using the continuous emission monitoring system; this limit is based on 2.0 parts per million by volume on a dry basis corrected to 15% oxygen (~ 0.0045 pounds per million Btu) at maximum capacity.**

The draft permit states the following emission limits for Particulate Matter 10 microns in diameter or less (PM_{10}):

1) **0.01 pounds per million Btu; compliance based on a 3-hour average using a performance test;**
2) **18.6 pounds per hour for the combustion turbine only; compliance based on a 3-hour average using a performance test;**

3) **23.2 pounds per hour for the combustion turbine and duct burner; compliance based on a 3-hour average using a performance test; and**
4) **Fuel usage limited to pipeline natural gas with the sulfur content of the natural gas defined.**

The limits during startup and shutdown proposed in the draft permit are as follows:

Pollutant	lb/SU(SD)	Maximum Hours of Operation for SU/SD (Hours per Year)	Total Annual Emissions (normal operation + SU/SD) (Tons per Year)
NO_x	220	708	117
CO	840	708	143
PM_{10}	18.6 lb/hr CT only 23.2 lb/hr CT +DB	708	80

Basin Electric will comply with all conditions in the final PSD air permit and will meet all limits described above.

Groundwater Mitigation
As a precaution, three monitoring wells would be left in place between the two production wells and Deer Creek. The final site characterization study would be expected to verify the lack of impact to Deer Creek. If impacts were noted at Deer Creek, Basin Electric would develop a mitigation plan in conjunction with the USFWS for any hydrologic and biological impacts to Deer Creek.

Biological Mitigation
South Dakota Game, Fish and Parks (SDGFP) would be consulted if any active raptor nests were discovered within 0.25 miles of any of the proposed Project facilities during construction.

To ensure that impacts to the Dakota skipper are avoided, pipeline construction would not take place in the two locations of Dakota skipper suitable habitat during the growth and blooming period for the nectar source of the adult butterfly (May-July), which includes the summer breeding period of the butterfly.

The seed mix and specifications for native plantings in disturbed area would be developed by Basin Electric based on the NRCS-recommended seed mixes.

Traffic and Roadway Mitigation
At the intersection of 484th Avenue and 207th Street, the following sign changes would be made during the construction period:

- **Remove the stop sign on northbound 484th Avenue at the 207th Street intersection**
- **Install a yield sign for westbound 207th Street traffic at 484th Avenue**
- **Install a changeable message board on westbound 207th Street approximately 100 yards prior to 484th Avenue intersection for a period of 60 days to advise motorists of the new intersection traffic controls**

- **Install a changeable message board on westbound 207th Street approximately 100 yards prior to 484th Avenue intersection for a period of 60 days to advise motorists of the new intersection traffic controls**
- **Install a new construction traffic warning sign along westbound 207th at the intersection with 484th Street**

Gravel surfaces at approaches to intersections along the designated primary access routes would be improved and maintained to eliminate wash boarding and rutting that occur from deceleration, acceleration, turning movements, and increased use during construction. The intersection segments would be improved and maintained to the extent necessary to provide the adequate tapers and radii for semi-trailer movements, which may require local ditch grading and location adjustment. Any additional grading outside of areas not previously surveyed or outside of existing ditches would require biological and cultural surveys.

Noise Mitigation
Basin Electric would conduct a post-construction operational noise assessment to be completed by an independent third-party noise consultant, approved by the South Dakota Public Utilities Commission, to show compliance with the noise levels according to the predictive model used in the noise analysis. The noise assessment would be performed in accordance with American National Standards Institute (ANSI) B133.8 – Gas Turbine Installation Sound Emissions. The results of that analysis would be evaluated by Basin Electric to determine if any modifications to the proposed facilities or operations are needed.

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4. Air Quality. Basin Electric has initiated efforts to obtain an air quality permit and the Draft EIS includes some of the analysis that has been conducted for the permit. EPA recommends the Final EIS include additional information regarding the modeling efforts, potential emissions and potential impacts to air quality from the proposed facility. Much of this information is already available in Basin Electric's air quality permit application. Specifically, EPA recommends the Final EIS: (1) present the background ambient air conditions used for modeling purposes; (2) present the detailed project emissions as specified in Tables 3-11 through 3-13 of Basin Electric's Prevention of Significant Deterioration (PSD) permit application; (3) disclose the visibility modeling results conducted for the PSD permit application; and (4) describe and disclose the Best Available Control Technology (BACT) decision for this project. EPA has also recently lowered the one-hour National Ambient Air Quality Standard for nitrogen dioxide (NO_2). The new one-hour NO_2 standard is effective on April 12, 2010 and EPA recommends the Final EIS model disclose potential impacts from the proposed project to this standard.

Response to EPA's Comment *Item 4*:

The responses below are identified according to the numbering used in the comment above.

1) Background ambient air conditions:

Background ambient air conditions are generally good, as indicated in section 3.1 of the EIS. No background ambient air monitored values were required for the air dispersion modeling analysis. No averaging period for a given pollutant resulted in impacts above the PSD

significance levels which would require refined modeling with a background value added in for comparison to the NAAQS.

2) <u>Detailed project emissions for the proposed Project:</u>

The draft PSD air permit is on public notice until April 26, 2010, and a final permit will be issued mid-year 2010. The draft permit, draft statement of basis and final air permit (when available) may be viewed at the SDDENR website (http://denr.sd.gov/BasinDeerCreek.aspx). The responses below are based on conditions proposed by the SDDENR, which could change based on the public review.

The Deer Creek project would have several air emissions units including combined-cycle combustion turbines (with duct burners), an emergency diesel fire pump, an emergency diesel generator, and an inlet air heater. Expected maximum potential emissions from the proposed emission units are presented in tables 1 - 3, below.

Table 1
Deer Creek Combined Cycle Combustion Turbine
Annual Emissions Summary (tons per year)

Operating Mode	NO_x	CO	VOC	PM_{10} (filterable)	PM_{10} (total)	SO_2	H_2SO_4
Full Load Operation without Duct Firing	63.8	83.4	8.0	26.6	54.8	8	1.5
Full Load Operation with Duct Firing	32.1	62.9	15.5	12.0	25.2	3.6	0.7
Startup Emissions	20.7	108.0	6.1	-	-	-	-
Total Annual Emissions	116.6	254.3	29.6	38.6	80	11.6	2.2

Table 2
Deer Creek Emergency Diesel Generator Controlled Emissions Summary

Pollutant	Emission Factor	Hourly Emissions lb/hr	Annual Emissions @ 150 hr/yr tpy
NMHC* + NO_x	4.77 g/hp-hr (output)	30.7	2.3
NO_x	4.48 g/hp-hr (output)	28.9	2.2
CO	2.61 g/hp-hr (output)	16.8	1.3
VOC	0.0819 lb/mmBtu (heat input)	1.85	0.14
PM(filterable)	0.15 g/hp-hr	0.97	0.07
SO_2	0.051 lb/mmBtu (heat input)	1.15	0.09
H_2SO_4	0.004 lb/mmBtu (heat input)	0.088	0.007

*** NMHC –non-methane hydrocarbons**

Table 3
Deer Creek Emergency Fire Pump Controlled Emissions Summary

Pollutant	Emission Factor	Hourly Emissions lb/hr	Annual Emissions @ 150 hr/yr tpy
NMHC* + NO_x	3.0 g/hp-hr (output)	3.82	0.29
NO_x	1.9 g/hp-hr (output)	2.39	0.18
CO	2.6 g/hp-hr	3.31	0.25
VOC	2.47 x 10-3 lb/hp-hr (output)	1.43	0.11
PM/PM_{10}	0.15 g/hp-hr	0.19	0.014
SO_2	0.052 lb/mmBtu (heat input)	0.23	0.02
H_2SO_4	0.004 lb/mmBtu (heat input)	0.018	0.001

*** NMHC –non-methane hydrocarbons**

Basin Electric will comply with the conditions and emission limitations set in the final permit.

3) <u>Visibility modeling results:</u>

A Level-1 visibility impact screening analysis was conducted for the Pipestone National Monument (PNM) which is located in southwestern Minnesota (45 km south-southeast of the facility) as part of the PSD permit application. Visibility screening analyses were also performed for three State parks that were within 50 km of the proposed Project site, at the request of the SDDENR: Lake Cochrane, SD (35 km north of the proposed Project); Lake Poinsett, SD (47 km northwest of the proposed Project); and Oakwood Lakes, SD (34 km west of the proposed Project). The screening analyses resulted in no predicted visibility impacts for the PNM or any of the three State parks from the operation of the Deer Creek Station.

The screening analysis used the U.S. EPA VISCREEN model (version 88341). VISCREEN describes views in terms of the scattering angle (theta), azimuth and distance from the observer to receptor. There are currently no color difference parameter (delta-E) and no contrast thresholds for Class II areas and State parks. However, for Class I areas, the predicted delta-E threshold is 2.0 and the predicted contrast threshold is 0.05.

Results from the VISCREEN model for PNM, Lake Cochrane, Lake Poinsett and Oakwood Lakes are listed in tables 4 through 8 respectively. Results for PNM in table 4 show that the maximum predicted delta-E (1.036 inside view; 1.073 outside view) and the maximum contrast thresholds at PNM (0.005 inside; 0.006 outside) do not exceed Class I thresholds. VISCREEN results for Lake Cochrane, Lake Poinsett and Oakwood Lakes (tables 5 through 8) also show that the maximum delta-E and contrast do not exceed Class I thresholds at any of the analyzed State parks, even though these are Class II areas. Therefore, no visibility impacts are predicted for any of these four locations.

Table 4
VISCREEN Results for Pipestone National Monument

Maximum Visual Impacts Inside Pipestone National Monument					
Background	Theta (deg.)	Azimuth (deg.)	Distance (km)	Predicted Delta-E	Predicted Contrast
Sky	10	84	44.0	1.036	0.003
Sky	140	84	44.0	0.369	-0.007
Terrain	10	84	44.0	0.363	0.005
Terrain	140	84	44.0	0.082	0.003
Maximum Visual Impacts Outside Pipestone National Monument					
Background	Theta (deg.)	Azimuth (deg.)	Distance (km)	Predicted Delta-E	Predicted Contrast
Sky	10	55	39.4	1.073	0.003
Sky	140	55	39.4	0.374	-0.007
Terrain	10	0	1.0	0.613	0.006
Terrain	140	0	1.0	0.182	0.006

Table 5
VISCREEN Results for Lake Cochrane

Maximum Visual Impacts Inside Lake Cochrane					
Background	Theta (deg.)	Azimuth (deg.)	Distance (km)	Predicted Delta-E	Predicted Contrast
Sky	10	84	34.0	1.442	0.003
Sky	140	84	34.0	0.538	-0.009
Terrain	10	84	34.0	0.633	0.008
Terrain	140	84	34.0	0.141	0.005
Maximum Visual Impacts Outside Lake Cochrane					
Background	Theta (deg.)	Azimuth (deg.)	Distance (km)	Predicted Delta-E	Predicted Contrast
Sky	10	35	27.0	1.538	0.004
Sky	140	35	27.0	0.538	-0.011
Terrain	10	0	1.0	1.473	0.015
Terrain	140	0	1.0	0.428	0.015

Table 6
VISCREEN Results for Lake Poinsett

Maximum Visual Impacts Inside Lake Poinsett					
Background	Theta (deg.)	Azimuth (deg.)	Distance (km)	Predicted Delta-E	Predicted Contrast
Sky	10	84	45.0	0.983	0.002
Sky	140	84	45.0	0.348	-0.007
Terrain	10	84	45.0	0.338	0.005
Terrain	140	84	45.0	0.077	0.003

Maximum Visual Impacts Outside Lake Poinsett					
Background	Theta (deg.)	Azimuth (deg.)	Distance (km)	Predicted Delta-E	Predicted Contrast
Sky	10	60	41.2	1.04	0.003
Sky	140	60	41.2	0.364	-0.007
Terrain	10	0	1.0	0.562	0.005
Terrain	140	0	1.0	0.167	0.005

Table 7
VISCREEN Results for Oakwood Lakes

Maximum Visual Impacts Inside Oakwood Lakes					
Background	Theta (deg.)	Azimuth (deg.)	Distance (km)	Predicted Delta-E	Predicted Contrast
Sky	10	84	34.0	1.442	0.003
Sky	140	84	34.0	0.538	-0.009
Terrain	10	84	34.0	0.633	0.008
Terrain	140	84	34.0	0.141	0.005
Maximum Visual Impacts Outside Oakwood Lakes					
Background	Theta (deg.)	Azimuth (deg.)	Distance (km)	Predicted Delta-E	Predicted Contrast
Sky	10	35	27.0	1.538	0.004
Sky	140	35	27.0	0.538	-0.011
Terrain	10	0	1.0	1.473	0.015
Terrain	140	0	1.0	0.428	0.015

4) Best Available Control Technology (BACT) Analysis

The draft PSD air permit is on public notice until April 26, 2010, and a final permit will be issued mid-year 2010. The draft permit, draft statement of basis and final air permit (when available) may be viewed at the SDDENR website (http://denr.sd.gov/BasinDeerCreek.aspx). The responses below are based on conditions proposed by the SDDENR, which could change based on the public review.

A top-down BACT analysis was performed for all pollutants that were subject to PSD in the air permit. These pollutants include NO_x, CO, and PM_{10}. BACT determinations were made for the combined-cycle combustion turbine and all auxiliary equipment. The BACT determinations, as listed in the draft air permit and statement of basis, for all air emissions equipment are discussed below.

NO_x BACT Analysis – Combined-Cycle Combustion Turbine
The SDDENR determined the following emission limits for NO_x as BACT in the draft permit:

1) **3.0 parts per million by volume on a dry basis corrected to 15% oxygen; compliance based on a 3-hour average using the continuous emission monitoring system; and**
2) **25.8 pounds per hour; compliance based on a 3-hour average using the continuous emission monitoring system; this limit is based on 3.0 parts per million by volume on a**

dry basis corrected to 15% oxygen (~ 0.0111 pounds per million Btu) at maximum capacity.

Basin Electric will comply with the NO_x BACT emission limits for the combustion turbines as listed in the final issued permit.

CO BACT Analysis– Combined-Cycle Combustion Turbine
The SDDENR, recommended that an oxidation catalyst should be BACT with the following limits, as listed in the draft air permit:

1) **2.0 parts per million by volume on a dry basis corrected to 15% oxygen; compliance based on a 3-hour average using the continuous emission monitoring system; and**
2) **10.5 pounds per hour; compliance based on a 3-hour average using the continuous emission monitoring system; this limit is based on 2.0 parts per million by volume on a dry basis corrected to 15% oxygen (~ 0.0045 pounds per million Btu) at maximum capacity.**

Basin Electric will comply with the CO BACT emission limits for the combustion turbine as listed in the final issued permit.

PM_{10} BACT Analysis– Combined Cycle Combustion Turbine
The SDDENR determined that combustion controls and natural gas firing were BACT for the combustion turbines, with the following limits listed in the draft permit for PM_{10}:

1) **0.01 pounds per million Btu; compliance based on a 3-hour average using a performance test;**
2) **18.6 pounds per hour for the combustion turbine only; compliance based on a 3-hour average using a performance test;**
3) **23.2 pounds per hour for the combustion turbine and duct burner; compliance based on a 3-hour average using a performance test; and**
4) **Fuel usage limited to pipeline natural gas with the sulfur content of the natural gas defined.**

Basin Electric will comply with the PM_{10} BACT emissions limits for the combustion turbine as listed in the final issued permit.

Startup and Shutdown BACT Analysis– Combined Cycle Combustion Turbine
The draft permit has also defined startup and shutdown (SU and SD) BACT emission rates for NO_x, CO and PM_{10}. The limits during startup and shutdown are as follows, in table 8.

Table 8
Startup and Shutdown BACT Limitations for Each Pollutant for the Combined Cycle Combustion Turbine

Pollutant	lb/SU(SD)	Maximum Hours of Operation for SU/SD (Hours per Year)	Total Annual Emissions (normal operation + SU/SD) (Tons per Year)
NO_x	220	708	117
CO	840	708	143
PM_{10}	18.6 lb/hr CT only 23.2 lb/hr CT +DB	708	80

Basin Electric will comply with the startup and shutdown BACT emissions limits for the combustion turbines as listed in the final issued permit.

Emergency Diesel Fire Water Pump and Emergency Generator BACT Analysis

BACT for the emergency diesel fire pump and the emergency generator was determined by the SDDENR to be ultra-low sulfur diesel fuel and combustion controls. Basin Electric is also required to meet the applicable compression ignition internal combustion engines New Source Performance Standards (NSPS) emission standards as shown in tables 9 and 10, as listed in the draft permit.

Table 9
BACT Emissions Standards for Emergency Generator*

	Grams/kilowatt-hour (grams/hp-hr)				
>560 kW	NO_x	HC	NMHC**+NO_x	CO	PM(filterable)
Tier 1	9.2 (6.86)	1.3 (0.97)	--	11.4 (8.50)	0.54(0.40)
Tier 2	--	--	6.4 (4.77)	3.5 (2.61)	0.20 (0.15)

*Standards are based on New Source Performance Standard for Stationary Compression Ignition Internal Combustion Engines
** NMHC = non-methane hydrocarbons

Table 10
BACT Emissions Standards for Fire Water Pump*

Max. Engine Power	Model Year	Grams/kilowatt-hour (grams/hp-hr)		
		NMHC**+NO_x	CO	PM(filterable)
225≤kW<450 (300≤HP<600)	2009+	4.0 (3.0)	3.5 (2.6)	0.2(0.15)

*Standards are based on New Source Performance Standard for Stationary Compression Ignition Internal Combustion Engines
** NMHC = non-methane hydrocarbons

Basin Electric will comply with the BACT emission limits for the emergency diesel fire pump and the emergency diesel generator as listed in the final issued permit.

Inlet Air Heater BACT Analysis

The SDDENR determined that BACT for the air heater was ultra-low sulfur diesel fuel and combustion controls was BACT along with the following limitations:

1) **NO_x: 50 pounds per million standard cubic foot or 0.048 pounds per million Btu; and**
2) **CO: 84 pounds per million standard cubic foot or 0.08 pounds per million Btu.**
3) **Operational limit: 150 hours per 12-months rolling period**

Basin Electric will comply with the BACT emission limits for the inlet air heater as listed in the final issued permit.

5) One-hour NO_2 NAAQS Standard

On January 22, 2010, EPA finalized a new short-term (1-hour) nitrogen dioxide (NO_2) ambient standard of 100 parts per billion or 188 micrograms per cubic meter. To attain this standard, the 3-year average of the 98th percentile of the daily maximum 1-hour average (8th highest) at

each monitor within an area must not exceed the standard. EPA has not yet established significant impact level or *de minimis* monitoring concentrations for this NAAQS.
The SDDENR modeled the NO_x using the maximum hourly emission rates for all emissions units. The emission rates used in the analysis are for all oxides of nitrogen emitted (NO_x) while the standard is for NO_2. SDDENR modeled each unit separately to illustrate the impacts of each source. They also modeled the combustion turbine and inlet air heater together to illustrate the impacts of the normal operations, and the impacts of the turbine, inlet air heater, and fire water pump operating simultaneously. The results from this modeling are shown in table 11.

Table 11
SDDENR Modeled 1-hr NO_x Impacts

Modeled Source	Highest 3-year Average Modeled Result
Normal Operations*	84
Fire Water Pump	85
Emergency Generator	617
Normal Operations* with Fire Pump	114

***Normal operations include the combustion turbine and the inlet air heater.**

The standard allows for seven days where the hourly averages may exceed the standard. Normal operation (with the fire pump) would show the results for typical operation and the standard applies to this operation, which is below the standard (even with the SDDENR chosen background of 27 ug/cu.m). The emergency generator was limited to operation for seven days per year for non-emergency operation by the SDDENR since the standard may be exceeded for seven days. The modeling shows that the 1-hr NO_2 standard will not be exceeded by operation of this facility.

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5. Greenhouse Gases. EPA applauds the inclusion of greenhouse gas emission estimates from the proposed facility. EPA recommends the Final EIS identify and include analysis of any mitigation measures which may reduce the 1.02 million tons of annual greenhouse gas (CQ_{2eq}) emissions from the proposed facility. In addition, EPA notes that while the combustion of natural gas may generate lower greenhouse gases compared to coal, the production of natural gas is a contributor to greenhouse gas emissions in the United States. While methane represents only eight percent of the U.S. greenhouse gas emissions, it is 23 times more effective as a greenhouse gas than carbon dioxide. Oil and natural gas systems are the biggest contributor to methane emissions in the U.S., accounting for 26 percent of the total (EPA's Natural Gas Star Program and the U.S. Emissions Inventory 2007: Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2005). The Final EIS should consider the indirect greenhouse gas emissions from the proposed action.

Response to EPA's Comment *Item 5*:

There are no rigorous estimates of the indirect emissions of greenhouse gases during development, processing, and transport of natural gas, or the emissions during the manufacture and construction of natural gas power plant building materials. The pipeline serving the Deer Creek facility would be constructed to comply with all standards and regulations for natural gas pipelines and no leakage would be expected.

The Deer Creek facility is being constructed to complement wind generation in the area. Electricity from this source would normally be generated on an intermittent basis. The Deer Creek facility is available to operate when the wind is not blowing or generation is not available at the capacity necessary to fulfill demand. Wind-generated electricity has no direct emissions. The indirect carbon dioxide emissions from wind turbine manufacture and transport are offset over the life cycle of the wind facility by the energy generated. Wind generation would be the mitigation for greenhouse gases that would otherwise be produced by other power sources. The proposed Deer Creek combined cycle combustion turbine (300 MW) would have the potential to emit approximately 919,000 metric tons of CO_2 equivalents. CO_2 equivalents include emissions of CO_2 plus emissions of methane and nitrous oxide multiplied by their respective global warming potentials. If the 300 MW of energy were to be produced using a traditional subcritical pulverized coal boiler, the emissions of CO_2 equivalents would increase almost 4-fold, up to a projected 3,800,000 metric tons, based on emissions determined from EPA's AP 42, Fifth Edition, *Compilation of Air Pollutant Emission Factors.*

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6. Demand Side Management. While demand side management may not meet all of the intermediate power needs, EPA recommends the Final EIS include conservation and management measures that may be implemented to help reduce the need for power.

Response to EPA's Comment *Item 6*:

Basin Electric has implemented Demand Side Management practices as discussed in section 2.3.1 of the draft EIS. In addition, Basin Electric and its members are engaged in a variety of conservation and energy efficiency programs. Such programs include: low interest loans to consumers for energy efficiency improvements; incentives to utilize heat pumps as a primary or secondary source of heating/cooling; using storage heat systems that use off-peak power to store heat in high-density bricks; low interest loans for high efficiency water heaters; direct assistance for energy audits either on-site or through online calculators; offering compact fluorescent lighting for sale to consumers; and providing assistance for a program for photovoltaic panels to operate remote livestock watering systems. The combination of the above programs lessens the overall electrical demand for future additional generation facilities, but these energy savings have already been realized, and would not provide an offset for the loads to which the proposed Project is responding.

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7. Noise. Noise modeling conducted for the Draft EIS predicts increased noise levels from operation of the proposed facility at several sensitive receptors in the vicinity (Table 4-14). The increased noise levels, while below the guidelines recommended by the Department of Housing and Urban Development (HUD), will be noticeable nonetheless. EPA recommends WAPA explore and disclose mitigation measures in the Final EIS that may be applied to reduce the noise and potential impacts to neighboring residents and wildlife.

Response to EPA's Comment *Item 7*:

Table 4-14 in the draft EIS identifies noise levels of specific equipment associated with the proposed facility. Table 4-15 in the draft EIS indicates predicted noise levels at receptors in the vicinity.

As part of its commitment to ensure noise from the proposed facility does not adversely impact nearby receptors, Basin Electric would commission a post-construction operational noise assessment to be completed by an independent third-party noise consultant, approved by the South Dakota Public Utilities Commission, to show compliance with the noise levels according to the predictive model used in the noise analysis. The noise assessment would be performed in accordance with American National Standards Institute (ANSI) B133.8 – Gas Turbine Installation Sound Emissions. The results of that analysis would be evaluated by Basin Electric to determine if any modifications to the proposed facilities or operations are needed.

EPA's Rating

Consistent with Section 309 of the Clean Air Act, it is EPA's responsibility to provide an independent review and evaluation of the potential environmental impacts of this project. As WAPA did not identify a preferred alternative in the Draft EIS, EPA's rating is based on both the action alternatives, White Site I and White Site 2. Based on the procedures EPA uses to evaluate the adequacy of the information and the potential environmental impacts of the proposed action, EPA is rating this Draft EIS as Environmental Concerns –Adequate Information "EC-l". The EC-I rating means EPA identified environmental impacts that should be avoided or reduced with the application of mitigation measures. EPA believes the Draft EIS adequately discloses the environmental impacts of the alternatives and no further data collection is necessary. However, EPA did identify opportunities for additional information disclosure and mitigation. A full description of EPA's EIS rating system is enclosed.

Response to EPA: Additional information has been included in the responses to EPA comments.

If you have any questions regarding our comments or this rating, please contact me at 303-312-6004 or Joyel Dhieux of my staff at 303-312-6647.

Sincerely,

Larry Svoboda
Director, NEPA Program
Office of Ecosystems Protection and Remediation

Enclosure

DEPARTMENT OF THE ARMY
CORPS OF ENGINEERS, OMAHA DISTRICT
1616 CAPITOL AVENUE
OMAHA NE 68102-4901

REPLY TO
ATTENTION OF

February 22, 2010

Planning, Programs, and Project Management Division

Mr. Matt Marsh
NEPA Project Manager
Western Area Power Administration
Upper Great Plains Customer Service Region
P.O. Box 35800
Billings, Montana 59107-5800

Dear Mr. Marsh:

The U.S. Army Corps of Engineers, Omaha District (Corps) has reviewed your letter dated February 12, 2010 regarding the Draft Environmental Impact Statement, Deer Creek Station Energy Facility Project, in Brookings County, South Dakota. The Corps offers the following comments:

Your plans should be coordinated with the U.S. Environmental Protection Agency, which is currently involved in a program to protect groundwater resources. If you have not already done so, it is recommended you consult with the U.S. Fish and Wildlife Service and the South Dakota Department of Game, Fish and Parks, regarding fish and wildlife resources. In addition, the South Dakota State Historic Preservation Office should be contacted for information and recommendations on potential cultural resources in the project area.

Response to Corps of Engineers:

Coordination with all the agencies noted above occurred prior to and during preparation of the draft EIS. See comment letters from the U.S. Department of Interior and South Dakota Game, Fish and Parks included in this response document.

If the proposed waterline construction crosses the flood plains of small drainageways and streams, flood-related problems should not occur if the lines are buried far enough below the beds of drainageways and streams to prevent exposure due to streambed erosion during periods of high floodflows. Any aboveground construction subject to flood damage, such as pump houses, should either be placed above, or flood proofed to, a level above the 100-year flood elevation.

Response to Corps of Engineers:

Comment noted. The water lines would be buried at sufficient depth and not be exposed as a result of streambed degradation. All above ground structures would be located above the 100-year flood elevation.

If the proposed powerline construction crosses the flood plains of small drainageways and streams, flood-related problems should not occur if the supporting structures for overhead powerlines are located as far from the banks of the drainageways and streams as possible. This will minimize the potential for erosion hazards and floodflow obstruction. Similarly, flood-related problems should not occur with underground power lines, if the lines are buried far enough below the beds of drainageways and streams to prevent exposure due to streambed erosion during periods of high floodflows. If any aboveground construction is subject to flood damage, such as electrical boxes, they should either be placed above, or flood proofed to, a level above the 100-year flood elevation.

Response to Corps of Engineers:

The final design of the transmission line connection to the nearby substation will be designed to avoid drainageways and streams. All above ground construction would be outside of 100-year flood elevations.

Since the proposed project does not appear to be located within Corps owned or operated lands, we are providing no floodplain or flood risk information. To determine if the proposed project may impact areas designated as a Federal Emergency Management Agency special flood hazard area, please consult the following floodplain management office.

Response to Corps of Engineers:

No FEMA FIRM maps have been prepared for the proposed Project area. Hydraulic analyses were used to determine the 100-year event limits near the site of the proposed water wells.

South Dakota, Division of Emergency Management
Nicole Prince
118 West Capitol Avenue
Pierre, South Dakota 57501-5070
Nicole.prince@state.sd.us
T-605-773-3238
F-605-773-3580

Any proposed placement of dredged or fill material into waters of the United States(including jurisdictional wetlands) requires Department of the Army authorization under Section 404 of the Clean Water Act. You can visit the Omaha District's Regulatory website for permit applications and related information. Please review the information on the provided web site (https://www.nwo.usace.army.mi1/html/od-r/district.htm) to determine if this project requires a 404 permit. For a detailed review of permit requirements, preliminary and final project plans should be sent to:

U.S. Army Corps of Engineers
Pierre Regulatory Office
Attention: CENWO-OD-R-SD/Naylor
28563 Powerhouse Road, Room 120
Pierre, South Dakota 57501

In addition, please update your records with our current mailing address:

U.S. Army Corps of Engineers, Omaha District
Planning Branch
Attention: CENWO-PM-AC
1616 Capitol Avenue
Omaha, Nebraska 68102-4901

Response to Corps of Engineers:

Basin Electric has submitted a Section 404 application for approval. As part of the approval process, the U.S. Army Corps of Engineers has made jurisdictional determination for most of the wetlands identified for the proposed Project, as noted in the wetlands table in appendix A.

If you have any questions, please contact Ms. Theresa Martin of my staff at (402) 995-2704.

Sincerely,

Brad Thompson
Chief, Environmental Resources and Missouri Recovery
Program and Plan Formulation, Planning Branch
Planning, Programs and Project Management Division

United States Department of the Interior

OFFICE OF THE SECRETARY
Office of Environmental Policy and Compliance
Denver Federal Center, Building 67, Room 118
Post Office Box 25007 (D-108)
Denver, Colorado 80225-0007

March 11, 2010

9043.1
ER 10/139

Matt Marsh
NEPA Project Manager
Western Area Power Administration
Upper Great Plains Customer Service Region
P.O. Box 35800 Billings, MT 59107-5800

Dear Mr. Marsh:

The Department of the Interior has reviewed the Draft Environmental Impact Statement for the Proposed Deer Creek Station Energy Facility Project; Brookings County, South Dakota and has no comments on the document.

Response to Department of Interior: Comment noted.

Sincerely,

Robert F. Stewart
Regional Environmental Officer

DEPARTMENT OF GAME, FISH AND PARKS
Foss Building
523 East Capitol
Pierre, South Dakota 57501-3182

March 18, 2010

Mr. Matt Marsh
NEPA Document Manager
Western Area Power Administration
Upper Great Plains Customer Service Region
P.O. Box 35800
Billings, MT 59107-5800

RE: Draft Environmental Impact Statement for the Proposed Deer Creek Station Energy Facility Project, Brookings County, South Dakota

Dear Mr. Marsh:

This letter is in response to your request for comments on the Draft Environmental Impact Statement (DEIS) on the construction and operation of a natural gas-fired power plant being proposed by Basin Electric Power Cooperative. Basin Electric is proposing to construct a 300-megawatt (MW) natural gas combustion turbine generation facility and associated infrastructure in eastern Brookings County, South Dakota.

The following comments are organized by DEIS page number, section, table number or Appendix.

Table 3-4. The Dakota skipper (*Hesperia dacota*) is not listed as a state-threatened species in South Dakota under SDCL 34A-8. It is considered a species at risk and is monitored by our Natural Heritage Program. Species at risk are those that are threatened or endangered (legally protected) or in this instance, rare. Rare species are those that are declining and restricted to limited habitat, peripheral to a jurisdiction, isolated or disjunct due to geographic or climatic factors or that are classified as such due to lack of survey data. Species at risk could be considered the same as a species of special concern as is described for the Northern red-bellied snake (*Storeria occipitomaculata*).

Note that the proposed project area is within the known current distribution of the river otter (*Lontra canadensis*). This is a state-threatened species in South Dakota.

In Brookings County, the majority of the known locations for this species occur within the Big Sioux River drainage.

Response to South Dakota Department of Game, Fish and Parks *Table 3-4* Comment:

Revisions to table 3-4 and appendix E of the draft EIS have been made to correctly specify the State listed species the Dakota skipper and the river otter. The correct table and the description for river otter habitat added to appendix E are noted below.

Table 3-4: Threatened, Endangered, and Candidate Species

Name	Scientific Name	Federal Status	State Status
Invertebrates			
American burying beetle	*Nicrophorus americanus*	Endangered	
Dakota skipper	*Hesperia dacotae*	Candidate	Special Concern
Fish			
Northern redbelly dace	*Phoxinus eos*		Threatened
Topeka shiner	*Notropis topeka*	Endangered	
Banded killifish	*Fundulus diaphanus*		Endangered
Blacknose shiner	*Notropis herolepis*		Endangered
Sturgeon chub	*Macrhybopsis gelida*		Threatened
Mammals			
River otter	*Lontra canadensis*		Threatened
Birds			
Bald eagle	*Haliaeetus leucocephalus*	*	Threatened
Osprey	*Pandion haliaetus*		Threatened
Whooping crane	*Grus americana*	Endangered	Endangered
Amphibians and Reptiles			
Eastern hognose snake	*Heterodon platirhinos*		Threatened
Lined snake	*Tropidoclonion lineatum*		Endangered
Northern red-bellied snake	*Storeria occipitomaculata*		Special Concern
Plants			
Western prairie fringed orchid	*Platanthera praeclara*	Threatened	

*Federally protected by the Bald and Golden Eagle Protection Act

Federally-listed species that may occur in the area of the proposed Project are the American burying beetle, river otter, Topeka shiner, and western prairie fringed orchid. State-listed species that may occur in the proposed Project area are Dakota skipper,

northern redbelly dace, banded killifish, blacknose shiner, and northern redbellied snake. Habitat descriptions for these protected species are found in appendix E.

APPENDIX E (ADDITION FOR RIVER OTTER)
Endangered Species Habitat Descriptions

River Otter

The river otter (*Lontra canadensis*) may be found in streams, lakes, ponds, or other areas with perennial water. They may move long distances between suitable habitat locations for foraging and reproduction. The species feeds primarily on fish, but is an opportunisitic feeder (NatureServer 2009). The river otter is listed within the Big Sioux River drainage and the proposed Project area is in the known current distribution of the species.

Page 4-47, Section 4.5.3.2.2. Note that the Bald Eagle (*Haliaeetus leucocephalus*) is also a state-threatened species.

Response to South Dakota Department of Game, Fish and Parks *Page 4-47, Section 4.5.3.2.2* Comment: Comment noted.

Page 4-47, section 4.5.3.2.2
Revision of first sentence in section 4.5.3.2.2:
State-listed species with the potential to occur in the Project area include the bald eagle, river otter, northern redbelly dace, banded killifish, blacknose shiner, sturgeon chub, osprey, eastern hognose snake, lined snake, and northern red-bellied snake.

Additional sentence:
Bald eagles have been addressed previously. River otters are not known to occur in the vicinity of the proposed Project. The flowing waterbodies in the proposed Project area would not support river otter due to the stream size, intermittent nature of flow, and lack of a large fish forage base necessary for the river otter.

Appendix C-. The black-footed ferret (*Mustela nigripes*) is not known to occur in Brookings, County.

The Baird's Sparrow (*Ammodramus bairdii*) would not likely be found in Brookings, County.

Response to South Dakota Department of Game, Fish and Parks *Appendix C* Comment:

Appendix C of the draft EIS has been revised to eliminate the two species noted and the corrected copy is reproduced below.

APPENDIX C
Partial Listing of Wildlife Observed or Known to Occur near the Project Area

Scientific Name*	Common Name*
Mammals	
Odocoileus virginianus	White-tailed deer
Odocoileus hemiounus	Mule deer
Procyon lotor	Raccoon
Mustela nivalis	Least weasel
Mustela frenata	Long-tailed weasel
Mephitis mephitis	Striped skunk
Spilogale putorius	Spotted skunk
Taxidea taxus	American badger
Vulpes vulpes	Red fox
Vulpes velox	Swift fox
Urocyon cinereoargenteus	Common gray fox
Canis latrans	Coyote
Marmota monax	Woodchuck
Geomys bursarius	Plains pocket gopher
Spermophilus tridecemlineatus	Thirteen-lined ground squirrel
Spermophilus richardsonii	Richardson's ground squirrel
Sciurus niger	Eastern fox squirrel
Perognathus flavescens	Plains pocket mouse
Peromyscus leucopus	White-footed mouse
Onychomys leucogaster	Northern grasshopper mouse
Microtus pennsylvanicus	Meadow vole
Microtus ochrogaster	Prairie vole
Zapus hudsonius	Meadow jumping mouse
Sorex hoyi	Pygmy shrew
Cryptotis parva	Least shrew
Castor canadensis	Beaver
Lontra canadensis	River otter
Ondatra zibethicus	Muskrat
Sylvilagus floridanus	Eastern cottontail
Lepus townsendii	White-tailed jackrabbit
Lepus californicus	Black-tailed jackrabbit
Myotis septentrionalis	Northern myotis
Lasionycteris noctivagans	Silver-haired bat
Myotis lucifugus	Little brown myotis
Lasiurus borealis	Eastern red bat
Galleria mellonella	Big brown bat
Lasiurus cinereus	Hoary bat

Scientific Name*	Common Name*
Reptiles and Amphibians	
Anaxyrus americanus	American toad
Hyla chrysoscelis	Cope's gray tree frog
Hyla versicolor	Gray tree frog
Spea bombifrons	Plains spadefoot
Lithobates sylvaticus	Plains leopard frog
Lithobates catesbeiana	Bullfrog
Ambystoma tigrinum	Tiger salamander
Eumeces septentrionalis	Prairie skink
Chelydra serpentine	Snapping turtle
Chrysemys picta	Painted turtle
Apalone spinifera	Spiny softshell
Diadophis punctatus	Ring-necked snake
Heterodon platirhinos	Eastern hognose snake
Elaphe vulpina	Western fox snake
Storeria occipitomaculata	Northern redbelly snake
Storeria dekayi	Brown snake
Thamnophis radix	Plains garter snake
Upland Game Birds	
Perdix perdix	Gray partridge
Tympanuchus phasianellus	Sharp-tailed grouse
Phasianus colchicus	Ring-necked pheasant
Meleagris gallopavo	Wild turkey
Zenaida macroura	Mourning dove
Avian Species	
Haliaeetus leucocephalus	Bald eagle
Aquila chrysaetos	Golden eagle
Pandion haliaetus	Osprey
Accipiter cooperii	Cooper's hawk
Buteo jamaicensis	Red-tailed hawk
Pandion haliaetus	Osprey
Falco sparverius	American kestrel
Strix varia	Barred owl
Megascops asio	Eastern screech-owl
Bubo virginianus	Great horned owl
Bubo scandiacus	Snowy owl
Pelecanus erythrorhynchos	American white pelican
Botaurus lentiginosus	American bittern
Ixobrychus exilis	Least bittern
Ardea herodias	Great blue heron
Anas acuta	Northern pintail
Gallinago delicata	Wilson's snipe
Anas platyrhynchos	Mallard
Podilymbus podiceps	Pie-billed grebe
Phalacrocorax auritus	Double-breasted comorant

Scientific Name*	Common Name*
Casmerodius albus	Great egret
Plegadis chihi	White-faced ibis
Chen caerulescens	Snow goose
Branta canadensis	Canada goose
Aix sponsa	Wood duck
Anas crecca	Green-winged teal
Anas americana	American widgeon
Aythya valisineria	Canvasback
Aythya americana	Redhead
Mergus merganser	Common merganser
Oxyura jamaicensis	Ruddy duck
Grus americana	Whooping crane
Charadrius melodus	Piping plover
Larus pipixcan	Franklin's gull
Chlidonias niger	Black tern
Melanerpes erythrocephalus	Red-headed woodpecker
Calamospiza melanocorys	Lark bunting
Spizella passerina	Chipping sparrow
Calcarius ornatus	Chestnut-collared longspur
Spiza americana	Dickcissel
Bartramia longicauda	Upland sandpiper
Numenius americanus	Long-billed curlew
Capella gallinago	Common snipe
Coccyzus erythropthalmus	Black-billed cuckoo
Chordeiles minor	Common nighthawk
Ceryle alcyon	Belted kingfisher
Picoides pubescens	Downy woodpecker
Contopus virens	Eastern wood peewee
Icterus spurious	Orchard oriole
Agelaius phoeniceus	Red-winged blackbird
Sturnella neglecta	Western meadowlark
Xanthocephalus xanthocephalus	Yellow-headed blackbird
Lanius ludovicianus	Loggerhead shrike
Tyrannus verticalis	Western kingbird
Hirundo rustica	Barn swallow
Sturnus vulgaris	European starling
Tachycineta bicolor	Tree swallow
Turdus migratorius	American robin
Toxostoma rufum	Brown thrasher
Quiscalus quiscula	Common grackle

*This summary of occurrence information is based on a collection of data from SD-GAP Program (2001), data collected in the field in October 2008 by EDAW, Inc., and information provided by the SDGFP-Natural Heritage Program (SDNHP 2008)

Appendix F, Biological Resources section-. Disturbed areas should be revegetated using native seed sources. The Natural Resources Conservation Service Plant Materials Center in Bismarck, ND is a good source of information on native plantings (http://plant-materials.nrcs.usda.gov/ndpmc/):

- Five Reasons to Choose Native Grasses
  - http://www.plant-materials.nrcs.usda.gov/pubs/ndpmctn7875.pdf
- Five Myths Concerning Native Grass Varieties
  - http://www.plant-materials.nrcs.usda.gov/pubs/ndpmcsy5406.pdf
- Origins of Native Grass and Forb Releases
  - http://www.plant-materials.nrcs.usda.gov/pubs/ndpmctn6786.pdf
- Conservation Seed/Plant Vendors List
  - http://www.plant-materials.nrcs.usda.gov/pubs/ndpmcmt8152.pdf
- Prairie Landscaping Seed/Plant Vendors List
  - http://www.plant-materials.nrcs.usda.gov/pubs/ndpmcmt8151.pdf

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Response to South Dakota Department of Game, Fish and Parks *Appendix F, Biological Resources section* Comment:

The seed mix and specifications for native plantings would be developed by Basin Electric, based on NRCS seed mixes.

The SDGFP appreciates the opportunity to provide comments. If you have any questions on the above comments, please feel free to contact Silka Kempema at 605-773-2742 or Silka.Kempema@state.sd.us

Sincerely,

Silka Kempema
Terrestrial Wildlife Biologist

Telephone Comment from John Miller, South Dakota Department of Environment and Natural Resources

In Section 4.3.2.1.1, Surface Water, the reference to NPDES should be replaced with Surface Water Discharge permit. The section should also note that Basin would need a stormwater construction permit, a dewatering permit, and a hydrostatic testing dewatering permit from SDDENR.

Response:

Section 4.3.2.1.1, Surface Water, first paragraph, is amended to read as follows:

The excavation and exposure of soil on White Site 1 could cause sediment runoff during rain events. In all disturbance areas, BMPs would be used to prevent sediment from leaving the construction site. The operating area of the proposed Project would be graded so that stormwater would be directed to drainage ditches and swales and then to an on-site stormwater detention pond. Basin Electric would comply with the South Dakota General Permit for Storm Water Discharge associated with Construction Activities and would obtain a Permit to Appropriate Water from the SDDENR for use in dewatering and hydrostatic testing. The plant site would consist of paved areas, aggregate covered areas, and mowed grass. The water would meet the water quality discharge criteria established in the Surface Water Discharge permit issued by SDDENR. The pond would only be discharged after the collection water met the water quality limits imposed by SDDENR. The water treatment reject water would flow off site in the same system of drainages as the stormwater pond discharge.

Section 4.3.2.1.1, Surface Water, third paragraph, is amended to read as follows:

Other impacts to surface water are possible if spills of chemicals were to occur during construction activities. In order to mitigate the impact of possible chemical spills, spill prevention and control would be required, and specific measures described in the Stormwater Pollution Prevention Plan (SWPPP). Spill plan measures would include spill containment materials at all construction sites and site crews trained in spill response and clean-up. The proposed Project would adhere to regulations and permits governing storm-water pollution prevention for sediment control, including those governed by the Storm Water Discharge permit.

In addition, table 1-1, section 1.4, is amended to include the following:

Table 1-1: Authorizations and Agencies

Law/Regulation	Agency
Federal	
NEPA	Western / RUS
Clean Water Act (CWA), section 404 Nationwide Permit (NWP)	U.S. Army Corps of Engineers (USACE)
CWA, section 401 (Water Quality Certification)	South Dakota Department of Environment and Natural Resources (SDDENR)

Law/Regulation	Agency
Surface Water Discharge Permit and Storm Water Discharge Permit for Construction Activities under the CWA	SDDENR
Migratory Bird Treaty Act (MBTA)	United States Fish and Wildlife Service (USFWS), Western/RUS
Endangered Species Act (ESA)	USFWS, RUS
Bald and Golden Eagle Protection Act (BGEPA)	USFWS, Western
Interconnection/Transmission Service Agreement	Western
NHPA	Western/RUS, South Dakota State Historic Preservation Office (SHPO), Federally Recognized Tribes
Native American Grave Protection and Repatriation Act	Western/RUS, SHPO
American Indian Religious Freedom Act	Western
Oil Pollution Prevention and Spill Prevention Control and Countermeasure Plans	EPA
State	
Temporary Water Rights Permit (if dewatering is required)	SDDENR
Easement Grants and Road Crossing Permits	South Dakota Department of Transportation (SDDOT)
Highway Access Permit/Utility Permit	SDDOT
Stormwater Discharge Permit and Stormwater Construction Discharge Permit	SDDENR
Facilities Permit (for Project)/Siting Authorization	SDPUC
State Threatened and Endangered Species	South Dakota Department of Game, Fish and Parks (SDGFP)
South Dakota State Historical Society, State Historical Preservation Officer	Cultural and Historic Resources Review
South Dakota Department of Environment and Natural Resources	Title V Operating Air Permit
South Dakota Department of Environment and Natural Resources	Sewage Disposal Permit
South Dakota Department of Environment and Natural Resources	Construction Stormwater Discharge Permit
South Dakota Department of Environment and Natural Resources	No Exposure Certification (for exclusion from Stormwater Discharges associated with Industrial Activities)
South Dakota Dept of Environment and Natural Resources	Registration of Aboveground Tanks
South Dakota Department of Environment and Natural Resources	Temporary Water Use Permit for Construction Activities, Drilling or Testing Purposes
County	
Soil Erosion and Sediment Control Plan	Brookings and Deuel Counties
Zoning Ordinances	Brookings and Deuel Counties
Deuel County	Special Exception Permit

Law/Regulation	Agency
Deuel County	County building permits, County Permissions to Occupy Right-of-Way Permits, County Road Crossing Permits
Brookings County	Conditional Use Permit
Brookings County	County building permits, County Permissions to Occupy Right-of-Way Permits, County Road Crossing Permits
Sherman, Richland, and Lake Hendricks Townships in Brookings, County and Scandinavia Township in Deuel County	Board Approvals

Comment from Rural Utilities Service (RUS): RUS engineering staff reviewed the preliminary system impact study completed for this project and it shows that transmission system upgrades may be needed. This connected action needs to be addressed in the Final EIS.

Section 1.1, Western's Purpose and Need, Protecting Transmission System Reliability and Service to Existing Customers. The following paragraph is added.

The preliminary system impact studies for interconnection service request indicate that terminal upgrades to the existing White and Split Rock substations would be required. In order to alleviate negative transmission system reliability impacts, the Deer Creek Station would implement procedures such as unit tripping, unit run back mode, etc. into their operational guidelines. The implementation of these procedures would alleviate the need for other transmission system upgrades that may be required due to the operation of the Deer Creek Station. The substation upgrades and operational guidelines are not expected to incur environmental impacts. Due to the nature of the transmission system reliability assessment process, future generation interconnection studies for other projects could indicate the need for upgrades to the transmission system from the operation of the Deer Creek Station. Once identified, these future potential upgrades, which may include replacement of line equipment or re-conductoring of lines, normally would not incur significant environmental impacts. In the event that more extensive work is needed (e.g., the final system impact study shows that construction of a new transmission line is needed), an appropriate review under NEPA would be initiated by Western and RUS.

APPENDIX A

Wetlands Figures and Table

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Table 1.0 Part A -Wetlands That Will Be Impacted by the Project

ORM Waters Name	App Wetland #	WOUS	Cowardin Code	HGM Code	Wetland Area (acres)	Area of Impact (acres)	Impact Type	Local Waterway	Latitude	Longitude	Primary Construction Method	Secondary Construction Method	Topeka Shiner Habitat
	Natural Gas Pipeline												
2096-12	PEM 7	WOUS	PEM	Riverine	0.1	0.04	Temporary	Abutting tributary to Fish Lake	44.5655	-96.5205	Trench	Bore	Not Suitable Location
2096-30	PEM 12	WOUS	PEM	Riverine	0.04	0.01	Temporary	Abutting tributary to Lake Hendricks	44.5608	-96.5206	Trench	Bore	Not Suitable Location
2096-31	PEM 23	WOUS	PEM	Riverine	0.18	0.06	Temporary	Abutting tributary to Lake Hendricks	44.5477	-96.5207	Trench	Bore	Not Suitable Location
2096-27	PEM 98	WOUS	PEM	Riverine	1/58	0.44	Temporary	Abutting Oak Lake	44.5056	-96.5051	Trench	Bore	Not Suitable Location
20-96-27	PEM 100	WOUS	PEM	Riverine	0.17	0.06	Temporary	Abutting Oak Lake	44.5052	-96.5051	Trench	Bore	Not Suitable Location
2096-26	PEM 111	WOUS	PEM	Riverine	0.62	0.19	Temporary	Abutting tributary to Lake Hendricks	44.4887	-96.5052	Trench	Bore	Not Suitable Location
2096-25	PEM 112	WOUS	PEM	Riverine	1.66	0.02	Temporary	Abutting unnamed tributary to Lake Hendricks	44.4858	-96.5044	Bore	Trench	Not Suitable Location
2096-25	PEM 114	WOUS	PEM	Riverine	0.52	0.28	Temporary	Abutting unnamed tributary to Lake Hendricks	44.4853	-96.5036	Bore	Trench	Not Suitable Location
2096-25	PEM 119	WOUS	PEM	Riverine	5.97	0.90	Temporary	Abutting unnamed tributary to Lake Hendricks	44.4828	-96.5024	Trench	Bore	Not Suitable Location
2096-7	PEM 130	WOUS	PEM	Riverine	0.18	0.07	Temporary	Abutting Deer Creek	44.4777	-96.4997	Trench	Bore	Not Suitable Location
2096-19	PEM 153	WOUS	PEM	Riverine	0.15	0.08	Temporary	Abutting Deer Creek	44.4469	-96.5057	Trench	Trench	Not Suitable Location
2096-19	PEM 166	WOUS	PEM	Riverine	0.126	0.05	Temporary	Abutting Deer Creek	44.4341	-96.5061	Trench	Trench	Not Suitable Location
2096-19	PEM 173	WOUS	PEM	Riverine	0.61	0.34	Temporary	Abutting Deer Creek	44.4307	-96.5068	Trench	Trench	Not Suitable Location
2096-23	PEM 182	WOUS	PEM	Riverine	0.61	0.28	Temporary	Abutting unnamed tributary to Deer Creek	44.4100	-96.5264	Trench	Trench	Not Suitable Location
2096-24	PEM 183	WOUS	PEM	Riverine	0.3	0.06	Temporary	Abutting unnamed tributary to Deer Creek	44.4068	-96.5262	Trench	Trench	Not Suitable Location
	Plant Site												
2096-3	PEM 193	WOUS	PEM	Riverine	2.49	0.02	Permanent	Abutting tributary to Deer Creek	44.3925	-96.5272	Permanent Access Road and Culvert	Permanent Access Road and Culvert	Not Suitable Location
2096-3	PEM 193	WOUS	PEM	Riverine	2.49	0.02	Temporary	Abutting tributary to Deer Creek	44.3925	-96.5272	Trench and Temporary Construction Limits	Trench and Temporary Construction Limits	Not Suitable Location
	Water Pipeline Corridor												
2096-3	PEM 199	WOUS	PEM	Riverine	1.84	1.84	Temporary	Abutting tributary to Deer Creek	44.3900	-96.5269	Trench	Trench	Not Suitable Location
2096-3	PEM 209	WOUS	PEM	Riverine	3.84	3.84	Temporary	Abutting tributary to Deer Creek	44.3875	-96.5286	Trench	Trench	Not Suitable Location
2096-3	PEM 193	WOUS	PEM	Riverine	2.49	.18	Temporary	Abutting tributary to Deer Creek	44.3925	-96.5272	Trench	Trench	Not Suitable Location
	Water Well Site												
	*No wetlands will be impacted in the water well site.												

Table 1.0 Part B - Project Wetland Where Impacts Have Been Avoided

ORM Waters Name	App Wetland #	WOUS	Cowardin Code	HGM Code	Size of Area (acres)	Local Waterway	Latitude	Longitude	Primary Construction Method	Secondary Construction Method	Topeka Shiner Habitat
2096-4	PEM 210	WOUS	PEM	DEPRESS	0.74	Abutting Deer Creek	44.3878	-96.5367	Avoid	Avoid	Not Suitable Location
2096-40	PEM 45	WOUS	PEM	Riverine	1.28	Abutting tributary to Lake Hendricks	44.5305	-96.5113	Bore	Bore	Not Suitable Location
2096-44	PEM 62	WOUS	PEM	Riverine	0.251	Abutting trib to Oak Lake	44.5248	-96.5047	Bore	Bore	Not Suitable Location
2096-10	PFO 66	WOUS	PFO	Riverine	0.07	Trib to Oak Lake	44.5230	-96.5051	Bore	Bore	Not Suitable Location
2096-10	PEM 69	WOUS	PEM	Riverine	2.91	Trib to Oak Lake	44.5226	-96.5052	Bore	Bore	Not Suitable Location
2096-10	PUB 75	WOUS	PUB	Riverine	0.73	Trib to Oak Lake	44.5216	-96.5050	Bore	Bore	Not Suitable Location
2096-10	PEM 78	WOUS	PEM	Riverine	1.72	Trib to Oak Lake	44.5210	-96.5052	Bore	Bore	Not Suitable Location
2096-10	PEM 79	WOUS	PEM	Riverine	0.39	Trib to Oak Lake	44.5206	-96.5053	Bore – Utilize Existing Approach for Access	Bore	Not Suitable Location
2096-56	PEM 94	WOUS	PEM	Riverine	0.003	Isolated roadside swale	44.5084	-96.5052	Avoid	Avoid	Not Suitable Location
2096-8	PEM 133	WOUS	PEM	Riverine	1.43	Abutting trib to Deer Creek	44.4734	-96.4999	Bore	Bore	Not Suitable Location
2096-8	PEM 135	WOUS	PEM	Riverine	0.85	Abutting trib to Deer Creek	44.4728	-96.5002	Bore	Bore	Not Suitable Location
2096-18	PEM 147	WOUS	PEM	Riverine	0.13	Abutting trib to Lake Hendricks	44.4567	-96.5043	Bore	Bore	Not Suitable Location
2096-19	PEM 160	WOUS	PEM	Riverine	0.14	Abutting Deer Creek	44.4410	-96.5067	Bore. Avoid in Access Area.	Bore. Avoid in Access Area	Not Suitable Location
2096-19	PEM 164	WOUS	PEM	Riverine	1.88	Abutting Deer Creek	44.4372	-96.5055	Bore	Bore	Not Suitable Location
2096-5	PEM 225a	WOUS	PEM	Riverine	4.56	Abutting Deer Creek	44.3793	-96.5336	Avoid	Avoid	Not Suitable Location
2096-5	PEM 225b	WOUS	PEM	Riverine	12.21	Abutting Deer Creek	44.3779	-96.5326	Avoid	Avoid	Not Suitable Location
2096-5	PEM 226	WOUS	PEM	Riverine	0.11	Abutting Deer Creek	44.3777	-96.5364	Avoid	Avoid	Not Suitable Location
2096-5	PEM 229	WOUS	PEM	Riverine	1.58	Abutting Deer Creek	44.3770	-96.5319	Avoid	Avoid	Not Suitable Location
2096-51	RUB 231	WOUS	RUB	Riverine	1.01	Deer Creek	44.3877	-96.5198	Avoid	Avoid	Suitable Location
2096-3	PEM 194	WOUS	PEM	Riverine	0.16	Abutting tributary to Deer Creek	44.3925	-96.5360	Avoid	Avoid	Not Suitable location
2096-3	PEM 187	WOUS	PEM	Riverine	0.5	Abutting tributary to Deer Creek	44.3968	-96.5296	Avoid	Avoid	Not Suitable Location
2096-3	PEM 190	WOUS	PEM	Riverine	0.09	Abutting tributary to Deer Creek	44.3954	-96.5290	Avoid	Avoid	Not Suitable Location
2096-3	PEM 191	WOUS	PEM	Riverine	0.01	Abutting tributary to Deer Creek	44.3951	-96.5285	Avoid	Avoid	Not Suitable Location

PEM - 1
PEM - 2
PEM - 3
PEM - 7
PEM - 8
PEM - 10
PEM - 12
PEM - 13
PEM - 14
PEM - 16
PEM - 17
PEM - 19
PEM - 20
PEM - 22

Sect. 25
Sect. 30
Sect. 36
Sect. 31

T 113N R 48W
T 113N R 47W

195th St
484th Ave

Deer Creek Station Project

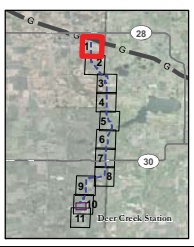
0 250 500 1,000 Feet

Project Features

- Natural Gas Pipeline Easement
- Deer Creek Station Site
- General Arrangement Plant Site
- Temporary Construction Limits (Plant Access Road and Water Pipeline)
- Access Areas
- Water Pipeline Easement
- Transmission Line Easement
- Well Site
- Well Siting Area
- Hydrologic Feature

USACE Wetland Determination

- Jurisdictional
- Non-Jurisdictional



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A Touchstone Energy® Cooperative

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Source: USDA NAIP 2006; USGS NHD 2006; ESRI 2006; Basin Electric 2008

Wetland Delineations - Sheet Map 1

MXD Path: P:\2009\09180001.01\GIS\Layout\MDU\WetJuris_75ftROW_Access_Areas.mxd

Deer Creek Station Project

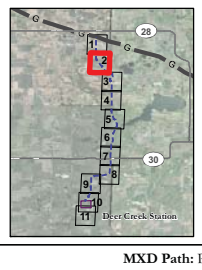
0 250 500 1,000 Feet

Project Features

- Natural Gas Pipeline Easement
- Deer Creek Station Site
- General Arrangement Plant Site
- Temporary Construction Limits (Plant Access Road and Water Pipeline)
- Access Areas
- Water Pipeline Easement
- Transmission Line Easement
- Well Site
- Well Siting Area
- Hydrologic Feature

USACE Wetland Determination

- Jurisdictional
- Non-Jurisdictional



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AECOM

Source: USDA NAIP 2006; USGS NHD 2006; ESRI 2006; Basin Electric 2008

Wetland Delineations - Sheet Map 2

MXD Path: P:\2009\09180001.01\GIS\Layout\MDU\WetJuris_75ftROW_Access_Areas.mxd

PEM - 45
Sect. 6
Sect. 5
197th St
PEM - 55
PEM - 56
PUB - 59
PEM - 57
PEM - 58
PEM - 62
PEM - 61
PEM - 60
PEM - 62
PEM - 63
PFO - 68
PFO - 64
PFO - 66
PEM - 65
PEM - 67
PEM - 70
PEM - 80
PFO - 71
PEM - 72
PEM - 69
PFO - 73
PUB - 77
PUB - 75
PSS - 74
Sect. 8
PEM - 78
PUB - 76
Sect. 7
PEM - 79
T 112N R 47W
PEM - 81
PEM - 80
485th Ave
PEM - 82
PEM - 83
PEM - 84
PEM - 85
PEM - 87
PEM - 86
198th Ave
Sect. 18
Sect. 17
PEM - 88

Deer Creek Station Project

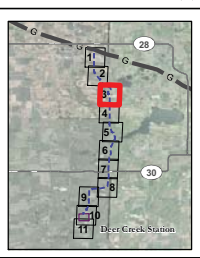
0 250 500 1,000 Feet

Project Features

- Natural Gas Pipeline Easement
- Deer Creek Station Site
- General Arrangement Plant Site
- Temporary Construction Limits (Plant Access Road and Water Pipeline)
- Access Areas
- Water Pipeline Easement
- Transmission Line Easement
- Well Site
- Well Siting Area
- Hydrologic Feature

USACE Wetland Determination

- Jurisdictional
- Non-Jurisdictional



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AECOM

Source: USDA NAIP 2006; USGS NHD 2006; ESRI 2006; Basin Electric 2008

Wetland Delineations - Sheet Map 3

MXD Path: P:\2009\09180001.01\GIS\Layout\MDU\WetJuris_75ftROW_Access_Areas.mxd

PEM - 88

Oak Lake

PEM - 91

PEM - 93

PEM - 92

PEM - 95

PEM - 94

PEM - 97

Sect. 17

PEM - 98

Sect. 18

PEM - 100

T 112N R 47W

485th Ave

199th Ave

Sect. 20

Sect. 19

PEM - 104

PEM - 105

PEM - 106

PEM - 107

PEM - 108

Deer Creek Station Project

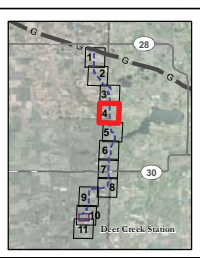
0 250 500 1,000 Feet

Project Features

- Natural Gas Pipeline Easement
- Deer Creek Station Site
- General Arrangement Plant Site
- Temporary Construction Limits (Plant Access Road and Water Pipeline)
- Access Areas
- Water Pipeline Easement
- Transmission Line Easement
- Well Site
- Well Siting Area
- Hydrologic Feature

USACE Wetland Determination

- Jurisdictional
- Non-Jurisdictional



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A Touchstone Energy® Cooperative

AECOM

Source: USDA NAIP 2006; USGS NHD 2006; ESRI 2006; Basin Electric 2008

Wetland Delineations - Sheet Map 4

MXD Path: P:\2009\09180001.01\GIS\Layout\MDU\WetJuris_75ftROW_Access_Areas.mxd

Sect. 19

Sect. 20

PEM - 110

PEM - 111

PEM - 112

PEM - 114

200th Ave

PUB - 115

PUB - 116

PEM - 119

T 112N R 47W

Sect. 30

Sect. 29

PEM - 129

PEM - 130

Hendricks, Lake

Lac qui Parle River

Deer Creek

PEM - 132

PEM - 133

PEM - 133

PUB - 135

Deer Creek Station Project

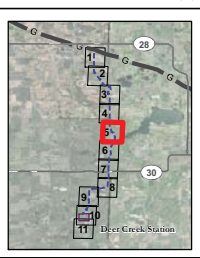
0 250 500 1,000 Feet

Project Features

- Natural Gas Pipeline Easement
- Deer Creek Station Site
- General Arrangement Plant Site
- Temporary Construction Limits (Plant Access Road and Water Pipeline)
- Access Areas
- Water Pipeline Easement
- Transmission Line Easement
- Well Site
- Well Siting Area
- Hydrologic Feature

USACE Wetland Determination

- Jurisdictional
- Non-Jurisdictional



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A Touchstone Energy® Cooperative

AECOM

Source: USDA NAIP 2006; USGS NHD 2006; ESRI 2006; Basin Electric 2008

Wetland Delineations - Sheet Map 5

MXD Path: P:\2009\09180001.01\GIS\Layout\MDU\WetJuris_75ftROW_Access_Areas.mxd

PEM - 133

PUB - 135

Sect. 30

Sect. 29

T 112N R 47W

Sect. 31

Sect. 32

PEM - 147

202nd Ave

Deer Creek

T 111N R 47W

Sect. 6

Sect. 5

Deer Creek Station Project

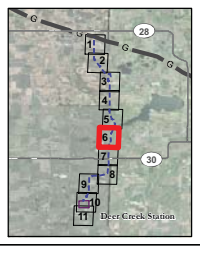
0 250 500 1,000 Feet

Project Features

- Natural Gas Pipeline Easement
- Deer Creek Station Site
- General Arrangement Plant Site
- Temporary Construction Limits (Plant Access Road and Water Pipeline)
- Access Areas
- Water Pipeline Easement
- Transmission Line Easement
- Well Site
- Well Siting Area
- Hydrologic Feature

USACE Wetland Determination

- Jurisdictional
- Non-Jurisdictional



BASIN ELECTRIC POWER COOPERATIVE
A Touchstone Energy® Cooperative

AECOM

Source: USDA NAIP 2006; USGS NHD 2006; ESRI 2006; Basin Electric 2008

Wetland Delineations - Sheet Map 6

MXD Path: P:\2009\09180001.01\GIS\Layout\MDU\WetJuris_75ftROW_Access_Areas.mxd

Deer Creek

PEM - 148

485th Ave

Sect. 6

Sect. 5

PEM - 154

PEM - 153

PEM - 155

T 111N R 47W

State Highway 30

PEM - 160

PEM - 164

Deer Creek

Sect. 8

Sect. 7

485th Ave

PEM - 165

PEM - 164

Deer Creek Station Project

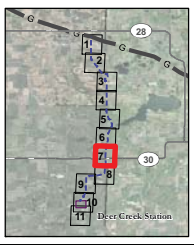
0 250 500 1,000 Feet

Project Features

- Natural Gas Pipeline Easement
- Deer Creek Station Site
- General Arrangement Plant Site
- Temporary Construction Limits (Plant Access Road and Water Pipeline)
- Access Areas
- Water Pipeline Easement
- Transmission Line Easement
- Well Site
- Well Siting Area
- Hydrologic Feature

USACE Wetland Determination

- Jurisdictional
- Non-Jurisdictional



BASIN ELECTRIC POWER COOPERATIVE
A Touchstone Energy® Cooperative

AECOM

Source: USDA NAIP 2006; USGS NHD 2006; ESRI 2006; Basin Electric 2008

Wetland Delineations - Sheet Map 7

MXD Path: P:\2009\09180001.01\GIS\Layout\MDU\WetJuris_75ftROW_Access_Areas.mxd

Deer Creek Station Project

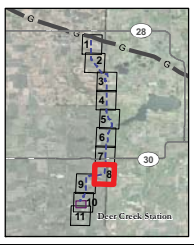
0 250 500 1,000 Feet

Project Features

- Natural Gas Pipeline Easement
- Deer Creek Station Site
- General Arrangement Plant Site
- Temporary Construction Limits (Plant Access Road and Water Pipeline)
- Access Areas
- Water Pipeline Easement
- Transmission Line Easement
- Well Site
- Well Siting Area
- Hydrologic Feature

USACE Wetland Determination

- Jurisdictional
- Non-Jurisdictional



BASIN ELECTRIC POWER COOPERATIVE
A Touchstone Energy® Cooperative

AECOM

Source: USDA NAIP 2006; USGS NHD 2006; ESRI 2006; Basin Electric 2008

Wetland Delineations - Sheet Map 8

MXD Path: P:\2009\09180001.01\GIS\Layout\MDU\WetJuris_75ftROW_Access_Areas.mxd

Sect. 13

Sect. 18

T 111N R 48W

T 111N R 47W

PEM - 180

PEM - 181

PEM - 182

Sect. 24

Sect. 19

PEM - 183

Deer Creek Station Project

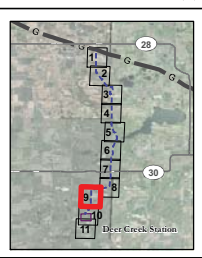
0 250 500 1,000 Feet

Project Features

- Natural Gas Pipeline Easement
- Deer Creek Station Site
- General Arrangement Plant Site
- Temporary Construction Limits (Plant Access Road and Water Pipeline)
- Access Areas
- Water Pipeline Easement
- Transmission Line Easement
- Well Site
- Well Siting Area
- Hydrologic Feature

USACE Wetland Determination

- Jurisdictional
- Non-Jurisdictional



BASIN ELECTRIC POWER COOPERATIVE
A Touchstone Energy® Cooperative

AECOM

Source: USDA NAIP 2006; USGS NHD 2006; ESRI 2006; Basin Electric 2008

Wetland Delineations - Sheet Map 9

MXD Path: P:\2009\09180001.01\GIS\Layout\MDU\WetJuris_75ftROW_Access_Areas.mxd

Sect. 24
Sect. 19
PEM - 185
T 111N R 48W
PEM - 187
T 111N R 47W
PEM - 190
PEM - 191
PEM - 193
PEM - 192
PEM - 194
Sect. 25
Sect. 30
Deer Creek
PEM - 202
PEM - 199
PSS - 203
PEM - 206
PEM - 208
PUB - 207
PEM - 210
PUB - 213
PEM - 209

Deer Creek Station Project

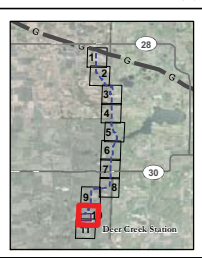
0 250 500 1,000 Feet

Project Features

- Natural Gas Pipeline Easement
- Deer Creek Station Site
- General Arrangement Plant Site
- Temporary Construction Limits (Plant Access Road and Water Pipeline)
- Access Areas
- Water Pipeline Easement
- Transmission Line Easement
- Well Site
- Well Siting Area
- Hydrologic Feature

USACE Wetland Determination

- Jurisdictional
- Non-Jurisdictional



BASIN ELECTRIC POWER COOPERATIVE
A Touchstone Energy® Cooperative

AECOM

Source: USDA NAIP 2006; USGS NHD 2006; ESRI 2006; Basin Electric 2008

Wetland Delineations - Sheet Map 10

MXD Path: P:\2009\09180001.01\GIS\Layout\MDU\WetJuris_75ftROW_Access_Areas.mxd

PEM - 194
PEM - 195
PEM - 202
PEM - 199
PSS - 203
PEM - 206
PEM - 208
Sect. 25
Sect. 30
Deer Creek
PUB - 207
PEM - 210
PUB - 213
PEM - 209
PEM - 220
PEM - 221
T 111N R 48W
T 111N R 47W
PEM - 225a
Deer Creek
Sect. 36
RUB - 231
PEM - 224
Sect. 31
PEM - 225b
PEM - 226
PUB - 227
PEM - 228
PEM - 229
484th Ave

Deer Creek Station Project

0 250 500 1,000 Feet

Project Features

- Natural Gas Pipeline Easement
- Deer Creek Station Site
- General Arrangement Plant Site
- Temporary Construction Limits (Plant Access Road and Water Pipeline)
- Access Areas
- Water Pipeline Easement
- Transmission Line Easement
- Well Site
- Well Siting Area
- Hydrologic Feature

USACE Wetland Determination

- Jurisdictional
- Non-Jurisdictional

BASIN ELECTRIC POWER COOPERATIVE
A Touchstone Energy® Cooperative

AECOM

Source: USDA NAIP 2006; USGS NHD 2006; ESRI 2006; Basin Electric 2008

Wetland Delineations - Sheet Map 11

MXD Path: P:\2009\09180001.01\GIS\Layout\MDU\WetJuris_75ftROW_Access_Areas.mxd

APPENDIX B

Distribution List

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LIST OF AGENCIES, ORGANIZATIONS, AND PERSONS TO WHOM COPIES OF THE STATEMENT HAVE BEEN SENT

Federal Agencies

U.S. Army Corps of Engineers	Jon Christensen	St. Paul	MN
U.S. Department of Agriculture Farm Service Agency	Patricia Klintberg	Washington	DC
U.S. Department of Agriculture Natural Resources Conservation Service	Diane Guidry	Washington	DC
U.S. Department of Agriculture Rural Utilities Service	Mark Plank	Washington	DC
U.S. Department of Transportation Federal Aviation Administration	Christopher Blum	Des Plaines	IL
U.S. Department of the Interior Environmental Policy and Compliance	Willie Taylor	Washington	DC
U.S. Environmental Protection Agency Region 8	Carol Rushin	Denver	CO
U.S. Environmental Protection Agency NEPA Program	Director	Denver	CO
U.S. Fish and Wildlife Service South Dakota Field Office	Pete Gober	Pierre	SD
U.S. Fish and Wildlife Service Brookings Wildlife Habitat Office	Kurt Forman	Brookings	SD
U.S. Fish and Wildlife Service Madison Wetland Management District	Manager	Madison	SD
U.S. Geological Survey Central Region	Stanley Ponce	Denver	CO
Federal Energy Regulatory Commission Office of Energy Projects	Mark Robinson	Washington	DC
Federal Highway Administration	John Rohlf	Pierre	SD

Federal Agencies

Federal Emergency Management Agency	Lanney Holmes	Denver	CO
Denver Federal Center Advisory Council on Historic Preservation	John Fowler	Washington	DC

Regional, State, and Local Government

Brookings County Board of County Commissioners	Don Larson	Brookings	SD
Deuel County Board of County Commissioners	Darold Hunt	Clear Lake	SD
Brookings County Highway Department	Larry Jensen	Brookings	SD
Brookings County Zoning and Drainage Department	Robert Hill	Brookings	SD
South Dakota Department of Agriculture	William Even	Pierre	SD
South Dakota Department of Environment and Natural Resources	Steven Pirner	Pierre	SD
South Dakota Department of Game, Fish and Parks	Doug Backlund	Pierre	SD
South Dakota Department of Transportation	Joel Jundt	Pierre	SD
South Dakota Public Utilities Commission	Patricia Van Gerpen	Pierre	SD
South Dakota State Historic Society	Paige Olson	Pierre	SD
South Dakota State Farm Service Agency	Steven Cutler	Huron	SD

Regional, State, and Local Government

1st District Association of Local Governments	Ted Haeder	Watertown	SD
Office of the Governor South Dakota	Mike Rounds	Pierre	SD
United States Senate	John Thune	Washington	DC
United States Senate	Tim Johnson	Washington	DC
United States House of Representatives	Stephanie H. Sandlin	Washington	DC
South Dakota House of Representatives	Tim Begalka	Clear Lake	SD
South Dakota House of Representatives	Sean O'Brien	Brookings	SD
South Dakota House of Representatives	Jim Peterson	Revillo	SD
South Dakota House of Representatives	Orville Smidt	Brookings	SD
South Dakota Senate	Arnold Brown	Brookings	SD
South Dakota Senate	Al Kurtenbach	Brookings	SD
City of Arlington	Amiel Redfish	Arlington	SD
City of Bruce	Jeff Anderson	Bruce	SD
City of Sinai	Brad Mitchell	Sinai	SD
City of Aurora	Fred Weeks	Aurora	SD
City of Bushnell	Josh Peterson	Bushnell	SD
City of Volga	Tom Pierce	Volga	SD
City of Brookings	Scott Munsterman	Brookings	SD
City of Elkton	David Landsman	Elkton	SD
City of White	Randy Brown	White	SD

Regional, State, and Local Government

City of Clear Lake	Jayme Gross	Clear Lake	SD
City of Astoria	Terry Lovre	Astoria	SD

Native American Tribes and Related Bodies

Flandreau Santee Sioux	Josh Weston	Flandreau	SD
Lower Sioux Indian Community of Minnesota	Jean Stacy	Morton	MN
Prairie Island Indian Community of Minnesota	Marlys Opsahl	Welch	MN
Santee Sioux Tribe of Nebraska	Roger Trudell	Niobrara	NE
Sisseton-Wahpeton Oyate	Mike Selvage	Agency	SD
Spirit Lake Tribe	Myra Pearson	Fort Totten	ND
Upper Sioux Indian Community of Minnesota	Kevin Jensvold	Granite Falls	MN
Yankton Sioux Tribe	Robert Cournoyer	Marty	SD

News Media and Libraries

Brookings Public Library	Elvita Landau	Brookings	SD
SDSU – Hilton M. Briggs Library	Susan Sutthill	Brookings	SD
Deubrook Community Library	Chris Christensen	White	SD
Siverson Public Library	c/o Govt. Documents	Hendricks	MN
Elkton Community Library	Gordon Fuhr	Elkton	SD

Organizations and Institutions

South Dakota State University	Gary Larson	Brookings	SD
The Nature Conservancy Black Hills Area Ecoregion	Bob Paulson	Rapid City	SD
Northern Prairies Land Trust	Patrick Anderson	Sioux Falls	SD
South Dakota Chapter of the Sierra Club	Jim Margadant	Rapid City	SD
South Dakota Chapter of the Sierra Club	Peter Carrels	Aberdeen	SD
Missouri Breaks Audubon Society	Dave Johnson	Pierre	SD
Ducks Unlimited	Jeffrey Nelson	Bismarck	ND
South Dakota Clean Water Action	Sioux Falls	SD	
Izaak Walton League of America South Dakota Division	Mike Williams	Watertown	SD
Pheasants Forever, Inc.	Catherine Twitero	St. Paul	MN
Northwestern University	Paul Friesema	Evanston	IL

Individuals

Anderson, Francis Beverly	Anderson, Jim & Sherry	Bergman, Paul and Beverly
Brudvig, Jeff	Drost, Gary C.	Ekera, Paul
Fleck, Joe	Folken, Dennis	Gates, Ben
Goens, Kenny & Becky	Halier, Harold	Hamer, Ernest D.
Hansen, Steven	Hemmen, Joe & Judy	Herrick, Roger K.
Hinderaker, Keith	Hornl, Greg	Jarding, Lilias
Jenke, Keith	Kerzman, LeAnn	Kidwiler, Mary

Kleiger, John

Knutsen, Duane

Kruse, Roger

Kurtz, Bob

Lagerstrom, Matt

Landman, Rein

Landmark, Larry

Larson, Russ

Lees, Robert D.

Lewno, Ken

Liester, Kari

Martens, Scott & Mary

Mataya, Jeff

Murphy, Dale

Nelson, Doug

Nelson, Toby & Ginger

Nielson, Michele

Ohlsen, Bob

Olsen, Dale

Olson, Jon

Olson, Les

Parsley, Scott

Patrick, Morris

Pest, Marv

Peterson, Alan

Prestegard, Warren

Reiser, Wayne

Rifen, Mike

Rochel, Bob

Rogers, Mark

Rogness, Bert

Schmidt, Alvin

Skadsen, Dennis

Smith, Ted

Squires, Roger H.

Stanwick, Martin E.

Strohfus, Terry

Thasing, Jan

Thasing, Nieemo

Thomssen, Will

Warnle, Keven

Wilkens, Jesse

Wilts, Gene

APPENDIX C

Public Hearing Summary

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PUBLIC HEARING SUMMARY

A public hearing was conducted for the Deer Creek Station Energy Project at White, South Dakota on February 25, 2010 from 6:00 – 8:00 pm. Representatives from Western Area Power Administration, Rural Utilities Service, and Basin Electric Power Cooperative were present. Eighteen members of the public and interested parties attended the hearing.

The meeting was informal for the first hour and the official hearing portion of the meeting was conducted by Gary Hoffman of Western's Office of General Counsel. A court reporter was present to record the hearing and public comments. Mr. Hoffman presented an opening statement that described the proposed Project and the environmental review process. When Mr. Hoffman opened the hearing to receive public comments, no oral comments were made. No written comments were received at the meeting. The meeting was closed at 8:00 pm.

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APPENDIX D

Organizational Conflict of Interest Representation Statement

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Organizational Conflict of Interest Representation Statement

I hereby certify as a representative of my organization that, to the best of my knowledge and belief, no facts exist relevant to any past, present or currently planned interest or activity (financial, contractual, personal, organizational or otherwise) that relate to the proposed work; and bear on whether I or the organization has a possible conflict of interest with respect to (1) being able to render impartial, technically sound, and objective assistance or advice; or (2) being given an unfair competitive advantage.

Signature:_____

Date: April 19, 2010

Name: Dale R. Trott

Title: Vice President

Organization: Burns & McDonnell