

**BEFORE THE
PUBLIC UTILITIES COMMISSION
OF THE STATE OF SOUTH DAKOTA**

IN THE MATTER OF THE APPLICATION)	
BY BASIN ELECTRIC POWER)	
COOPERATIVE, INC. FOR AN ENERGY)	
CONVERSION FACILITY SITING PERMIT)	STIPULATION
FOR THE DEER CREEK STATION)	
PROJECT COMBINED-CYCLE NATURAL)	EL09-015
GAS ENERGY CONVERSION FACILITY)	
AND ASSOCIATED INFRASTRUCTURE,)	
INCLUDING A WATER SUPPLY SYSTEM)	
AND ELECTRIC TRANSMISSION SYSTEM)	

It is hereby stipulated and agreed by and between the Applicant, Basin Electric Power Cooperative (Applicant or Basin Electric), and Staff of the South Dakota Public Utilities Commission (Staff), that the following Findings of Fact and Conclusions of Law, and an appropriate Order consistent with said Findings of Fact and Conclusions of Law may be adopted by the South Dakota Public Utilities Commission (Commission) in the above-captioned matter. On September 15, 2009, the Commission granted Iberdrola Renewables' Petition to Intervene. On November 3, 2009, the Commission granted Party Status to Brookings County.

In support of its Application, the Applicant hereby offers this Stipulation, the Deer Creek Station Application filed July 21, 2009, testimony and exhibits from the Public Input Hearing held on September 30, 2009, the Amendment to the Deer Creek Station Application filed January 19, 2010, and all responses submitted by the Applicant to Staff's data requests. Staff and Intervenors offer no testimony or exhibits conditioned upon the Commission accepting the following Stipulation.

FINDINGS OF FACT

1. INTRODUCTION

Applicant, a consumer-owned electric cooperative corporation headquartered in Bismarck, North Dakota, has applied for a permit to construct certain electric generation and

associated infrastructure including a groundwater supply system, water pipeline, and electric transmission facilities collectively (referred to hereinafter as the Deer Creek Station Project or Project), the components of which will be located in Brookings County, South Dakota. The Deer Creek Station Project will be comprised of the following principal components:

- 1.1 A combined-cycle natural gas energy conversion facility (maximum capacity of approximately 300 megawatts energy conversion facility);
- 1.2 A 345 kV overhead transmission line approximately 0.59 miles in length; and
- 1.3 A water pipeline approximately 1.25 miles long connecting to two wells.

The Deer Creek Station Project does not constitute or include any activities relating to or located upon abandoned railroad rights-of-way.

2. PURPOSE OF PROJECT

Construction of the Deer Creek Station Project is required to meet growing demand by Applicant's membership for electric power, energy and capacity. Specifically, the purpose of the Deer Creek Station Project is to provide a generation resource sufficient to assure the Applicant's ability to serve its projected member loads on a reliable basis during periods of intermediate generation demand on the most cost effective basis.

3. DESCRIPTION OF THE PROJECT

The Deer Creek Station Project will be comprised of three primary components: (a) combined-cycle natural gas energy conversion facility (maximum capacity of approximately 300 megawatts); (b) a 345 kV overhead transmission line approximately 0.59 miles in length; and (c) a water pipeline approximately 1.25 miles long connecting to two groundwater supply wells.

4. ESTIMATED COST OF THE PROJECT

The estimated total cost of the Deer Creek Station Project is \$393 million, with the cost of the major Project components separately estimated as follows:

Combined-cycle energy conversion facility	\$388 million
345-kilovolt transmission line	\$4 million
Water pipeline and wells	\$1 million

5. DEMAND FOR THE FACILITIES

Using reasonable and customary forecasting and analysis techniques, Applicant has concluded that by 2014, it is projected to need 800-900 MW of additional generation capacity to meet its obligations and an additional 450–500 MW by 2019 for a total of 1,350 MW by 2021. Further, those studies also demonstrate that an intermediate facility is the type of energy resource needed immediately to address some of this deficit, and that the Deer Creek Station Project is the lowest cost, most reliable option available to Applicant. The Deer Creek Station Project also has been identified as the option most compatible with long-term plans to satisfy Applicant’s projected membership load growth.

6. SITE DESCRIPTION

The Deer Creek Station Project site is located approximately 12 miles east of Brookings and 60 miles northeast of Sioux Falls in east-central South Dakota near the Minnesota border. The Deer Creek Station Project site is accessible via 484th Avenue and located on property owned by Basin Electric that is currently used for crop cultivation. The town of White is located approximately six miles west and two miles north of the Project. The Deer Creek Station Project site consists of an area of approximately 160 acres. The energy conversion facility, water wells, water pipeline, and transmission line will be located in Brookings County. The energy conversion facility site will occupy approximately 100 acres within the Deer Creek Station Project site with facility components occupying approximately 40 of the acres. A temporary construction laydown and staging area to support construction of the energy conversion facility, transmission line, water pipeline and groundwater supply wells will be located within the Deer Creek Station Project site. A chain link fence with lock and gate and posted warning signs will

be constructed around the energy conversion facility site, which is approximately 100 acres, to minimize any possible hazards. The terrain is relatively flat and slopes from the northwest to the southeast; the site elevation is approximately 1,850 feet above mean sea level (msl). The Deer Creek Station Project site is well drained and consists primarily of farmland. A diagram showing the general layout of the Deer Creek Station Project and associated components is attached hereto for reference as Exhibit A.

6.1 Transmission Line. The transmission corridor is situated within the NE, SE and SW Quarters of Section 25, T111N, R48W. The corridor parallels the western edge of the energy facility conversion site in the NE Quarter Section. Upon entering the SE 1/4 section the transmission route extends west into the SW 1/4 section. There the transmission corridor travels southerly into the existing White Substation. The corridor is approximately 0.59 mile long and ends at the existing White Substation. The corridor will have 150 - 175-foot permanent right-of-way (**ROW**); additional temporary construction ROW is not anticipated. White Substation is a 345/115-kilovolt (kV) substation owned by Western Area Power Administration (WAPA). Land in the corridor is currently used for crop cultivation, although herbaceous grassland communities and wetlands are present. Once construction and re-vegetation has been completed, the transmission corridor can continue to be used for crop cultivation. Existing transmission lines in the vicinity of Deer Creek Station include a WAPA 345-kV transmission line just west of the site. There are currently two 115-kV transmission lines (one owned by WAPA and one owned by East River Electric Power Cooperative) tied into White Substation. A 345/115-kV substation owned by Northern States Power Company dba Xcel Energy is located about 0.3 miles south of the Deer Creek Station site. A portion of the transmission line corridor is owned by Basin Electric and an easement has been acquired for the remainder of the ROW. The terrain is relatively flat, well-drained agricultural land on a topographic incline.

6.2 Water Pipeline. The well siting area is located in the NE 1/4 of Section 36, T111N, R48W. A 6-inch-diameter water pipeline will be approximately 1.2 miles long from the

groundwater supply wells to the energy conversion facility's site tie-in point. An initial groundwater supply well will be installed; the second groundwater supply well location will be determined following installation and a hydrogeologic performance evaluation of the first groundwater supply well. Design drawings of the water pipeline centerline and the initial well were provided in Appendix B of the Addendum to the Application.

The two groundwater supply wells will be tied-together at the well site by a valve arrangement to deliver the groundwater to the plant site. From the groundwater supply wells, the water pipeline parallels 484th Avenue on the western side on private lands crossing 207th Street via horizontal directional drilling. On the northern side of 207th Street, the water pipeline continues north for approximately $\frac{3}{4}$ mile, paralleling 484th Avenue within properties currently owned by either Basin Electric or private landowners. The water pipeline reaches the tie-in point along the established utility corridor paralleling the energy conversion facility's access road off of 484th Avenue.

7. ALTERNATIVE SITES

Applicant conducted a systematic evaluation of alternative routing and location for the Deer Creek Station Project, which included consideration of such significant items as access to the high-voltage transmission system; availability of adequate supplies of natural gas and water; and low cost and minimum impact to the environment and to the public. Other major considerations were minimization of need for construction of additional transmission lines and minimization of costs of transporting the energy generated to Applicant member loads. Initially, five potential project locations in eastern South Dakota were studied, three of which were eliminated based upon various environmental concerns, lack of fuel supply and transmission services. Of the two remaining locations, the location of the current Deer Creek Station Project was selected based on economics of transmission infrastructure required, and site suitability. The site described in this Stipulation is superior to other alternatives in that it is compatible with existing land uses in the region; minimizes impacts to the environment; and avoids impact to

existing public features (e.g. schools, residential communities, commercial development) to the maximum extent reasonably possible.

8. ENVIRONMENTAL FACTORS AND PHYSICAL ENVIRONMENT

Applicant has completed numerous environmental studies for the Deer Creek Station Project which are located in the Deer Creek Station Project SD PUC Siting Application. The affected environment is described in detail in Sections 3.6 of the Application. Estimates of the changes and impacts to the existing environment from activities associated with construction, operation and maintenance of the Deer Creek Station Project facilities are discussed in detail in Section 3.6.3 of the Application.

The location of the Deer Creek Station Project facilities minimizes changes and impacts to the existing environment by siting in areas with compatible land use and minimizes the need to disturb environmentally sensitive or significant features. The Application demonstrates that the Deer Creek Station Project will have no significant environmental impact on all factors evaluated. Project impacts are predominately short-term and are associated with the construction phase of the Project. Marginal visual, air quality, and noise impacts will occur during the operational phase of the Project. It is anticipated that the Deer Creek Station Project will not create any significant direct, cumulative or synergistic hazards to the health and welfare of human, plant or animal communities.

8.1 Regional Land Forms. The Deer Creek Station Project is generally located on level to nearly level terrain for the major energy conversion facility components and associated facilities. The grading and earthmoving required will not be significant. No direct, indirect or cumulative impacts to regional landforms are anticipated.

8.2 Topography. Modifications to approximately 100 acres of cultivated farm fields will result from the location of the Deer Creek Station Project. Construction of the groundwater supply wells, water pipeline and transmission line would temporarily disturb approximately 54

acres of land. It is anticipated that there will be no direct, indirect or cumulative impacts to topography relating to construction and operation of the Deer Creek Station Project.

8.3 Geologic Features. The Deer Creek Station Project will be located in the Coteau des Prairies, a plateau approximately 200 miles in length and 100 miles in width. Construction, operation and maintenance of the Deer Creek Station Project is highly unlikely to cause or to encounter any significant problems or issues relating to geologic features in the Deer Creek Station Project area.

8.4 Economic Deposits. No substantial economic mineral deposits are identified in the Deer Creek Station Project area. There are no oil or gas wells in the Project area. The Deer Creek Station Project does not occupy or cross any active quarries or mines. The Deer Creek Station Project site is located in an area of poor probability of sand and gravel occurrence.

8.5 Soil Type. Soils at the Deer Creek Station Project site are described as Mollisols. The soils in the area have a frigid soil temperature regime, an aquic or udic soil moisture regime, and mixed mineralogy. They generally are very deep, well drained to very poorly drained, and loamy. These silty clay loam and silt loam soils have moderate organic matter and their available water capacity is moderately high. These soils are easily eroded by wind and water-related forces.

8.6 Potential for Erosion and Sedimentation. Impacts to soils from the Deer Creek Station Project will be insignificant. Areas that are cleared or disturbed by construction of the Deer Creek Station could be susceptible to erosion. Significant increases in the potential for erosion are anticipated by virtue of construction, operation or maintenance of the Project facilities. Areas that are disturbed by construction are expected to recover naturally with vegetative re-establishment or reseeded if and as necessary. Soil protection measures included in the best management practices (BMPs) in Section 3.6.5 of the Application will provide mitigation.

8.7 Seismic Risks, Subsidence Potential and Slope Instability. Seismic hazards in the study area are rated as very low. Slump or landslide occurrence during construction of the facility should be relatively low as long as the mitigative measures outlined in the permit application are followed. No significant direct, indirect or cumulative impacts to geomorphic landforms are anticipated to occur as a result of activities relating to the Deer Creek Station Project with the implementation of the measures in Section 3.6.4.6 of the Application.

The Deer Creek Station Project will be designed and constructed in accordance with all applicable codes. In general, soils in the Deer Creek Station Project area are expected to provide adequate foundation for the facilities without concern of subsidence. The Deer Creek Station Project area is relatively flat, and slope instability should not be a significant issue.

8.8 Geological Constraints. There do not appear to be any geological characteristics that present unusual constraints to the design, construction or operation of the Deer Creek Station Project.

8.9 Hydrology. Impacts to surface water attributable to the Deer Creek Station Project are anticipated to be insignificant with the implementation of a Stormwater Pollution Prevention Plan (SWPPP). Impacts to the quality of water in small, ephemeral or unmapped water are likewise anticipated to be insignificant. After construction is completed, it is anticipated that there will be no direct, indirect or cumulative impacts to surface water quality relating to the Deer Creek Station Project. No impacts to the flood handling capability of the 100-year flood plain in the Deer Creek Station Project area are anticipated because the energy generation facility is not located within a 100-year flood plain. However, the groundwater supply wells will be located within the 100-year flood plain. Approximately two 200 ft by 200 ft areas will be raised to ensure the top of wells are above the 100-year flood elevation. The area of disturbance of the water supply area will not significantly impact the flood handling capacity of the Deer Creek flood plain. No direct, indirect or cumulative short-term to mid-term impacts to groundwater quality are anticipated relative to the construction or operation of the Deer Creek

Station Project. Long term impacts have been evaluated in the Environmental Impact Statement (EIS).

8.10 Effect on Current Planned Water Uses. Potable water will be delivered to the Deer Creek Station Project by the Brookings-Deuel Rural Water Supply from an existing adjacent water pipeline. Potable water use is estimated at 1 gallon per minute (gpm) on an annual average basis. Accordingly, the Deer Creek Station Project will have no impacts on planned water uses by communities, agricultural, recreation, fish or wildlife.

8.11 Groundwater. Groundwater will be used for process water supply to the Deer Creek Station Project. The Project is designed to incorporate an air-cooled condenser that dramatically reduces the water required by the facility as compared to more traditional heat rejection methods. The estimated annual average use is anticipated to be 6 million gallons or 18 acre-feet. The Project has acquired water rights under Water Appropriation Permit No. 7167-3 issued by the State of South Dakota for the rates required by the Deer Creek Station Project. Water supply wells will be constructed and completed to prevent any contamination of groundwater.

8.12 Water Storage, Reprocessing and Cooling by Facility. Process water generated by the energy conversion facility will be reused when possible or will be piped to the on-site aboveground tank for later re-use or transferred off-site to an approved disposal site. The annual average flow rate to the treated water tank will be 15 gpm.

Sanitary sewage generated by the approximately 30 employees during operation will be collected and treated with an on-site septic system and drainfield. The septic system will be constructed and operated according to good engineering practices and will follow South Dakota Design Criteria. Sanitary sewage generated during construction will be collected in portable toilets and will be hauled off-site for proper disposal. Once construction is complete, stormwater that falls within the energy conversion facility will be collected and conveyed to the on-site stormwater retention pond, where it will be discharged after all applicable permit conditions have

been met. This energy conversion facility is currently planned as a zero process water discharge facility. There will be minimal impacts to surface water or groundwater from the energy conversion facility, transmission line, wells, and operation of the water pipeline.

8.13 Deep Well Injection Use by Facility. No deep well injection would be required for the construction or operation of any of the components of the Deer Creek Station Project.

8.14 Effect on Terrestrial Ecosystems. Detailed information resulting from biological field surveys conducted to identify and quantify the terrestrial fauna and flora potentially affected by the Deer Creek Station Project are contained in Section 3.6.6 of the Application. It is anticipated that construction and operation of the Deer Creek Station Project will have no significant adverse impact on the terrestrial biotic environment.

8.15 Wildlife. Habitats observed on the Deer Creek Station site and transmission corridor are dominated by agricultural cropland, but also include mixed to tall-grass prairie communities, wetlands, and forested habitats associated with hedgerows. These communities provide habitat for various wildlife species including big game, small mammals, reptiles and amphibians, and bat and avian species. Eastern South Dakota is located in a major migratory path for avian species known as the Central Flyway. Migratory and resident avian species are found in great numbers during spring and fall migration in eastern South Dakota because there are numerous and extensive wetlands in the area. Several small mammal burrows were also observed during field investigations. Smaller mammals provide a prey base for foraging raptors. Vegetation communities that provide habitat for wildlife within the well siting area and water pipeline include cropland, native and non-native tall and mixed-grass prairie, wetland communities, and a small forested shelterbelt. The northern portion of the groundwater supply well siting area is in agricultural production for corn and soybeans. The groundwater supply well siting area contains palustrine emergent wetlands, located primarily on the southern half of the siting area, that total approximately 20 acres. Wetlands are associated with Deer Creek, an unnamed ephemeral tributary to Deer Creek, and topographic depressions adjacent to the

creek. These surface waters provide aquatic habitat for fish, amphibians, and other aquatic organisms. Surface waters in the well siting area provide foraging habitat for bats. Within the groundwater well siting area, the Deer Creek tributaries have been heavily disturbed by livestock grazing, which has likely reduced the habitat suitability for some fish species. Deer Creek appears to have the highest quality aquatic habitat, but it also has been impacted by livestock grazing. The groundwater well siting area provides habitat for a variety of wildlife including fox, raccoon, white-tailed deer, shorebirds, waterfowl, and other avian species. No raptor nests were observed within the groundwater well siting area or water pipeline ROW. Habitat is present for ground-nesting songbirds within the grassland and wetland communities. Killdeer were observed in the prairie potholes found in the corn and soybean fields.

8.16 Effect on Wildlife. The Deer Creek Station Project construction is not anticipated to have any significant adverse impact upon wildlife in the Deer Creek Station Project area. The following federally listed animal species were identified that could potentially occur within the Project area based on preliminary data collected from the Threatened and Endangered Species List for Brookings County (USFWS 2008a) and South Dakota's Wildlife Diversity Program (SDGFP b): the whooping crane (*Grus americana*); American burying beetle (*Nicrophorus americanus*); Dakota skipper (*Hesperia dacotae*, a candidate species). US Fish and Wildlife Service (USFWS) provided guidance regarding survey requirements for the Project. A habitat survey for the candidate species Dakota skipper occurred in the June 2009. No suitable habitat was present for the Dakota skipper within the energy conversion facility site, transmission corridor, or well siting area. The State listed terrestrial species that have the potential to occur in the Project area include two reptilian species, the eastern hognose snake (*Heterodon platirhinos*) and the lined snake (*Tropidoclonion lineatum*), and two avian species, the osprey (*Pandion haliaetus*), and the bald eagle (*Haliaeetus leucocephalus*). There are no known documented occurrences of the eastern hognose snake, lined snake, or osprey within the Project area, although a bald eagle was observed during field surveys in October 2008 near

the Lac Qui Parle River. Details of the endangered species were provided in the Project's detailed biological resources report (EDAW 2009) included in the Application. If any federally listed or candidate species is found within the construction areas, USFWS will be notified and consulted on the appropriate avoidance or mitigation measures to minimize impacts to special status species. A Biological Assessment was prepared for the Project and thoroughly addresses impacts and mitigation measures for federally listed species and was submitted to the USFWS on December 8, 2009. Through implementation of the mitigation measures identified in the Biological Assessment process and through standard design measures, WAPA has determined that the Project may affect, but is not likely to adversely affect the Dakota skipper and Topeka shiner due to the implemented mitigation measures. WAPA has determined that the Project will not affect the American burying beetle as no suitable habitat exists on site. WAPA received concurrence from the USFWS through their Section 7 consultation process of their "may affect/not likely to adversely affect" assessment.

8.17 Effect on Terrestrial Flora. Impacts to vegetation in the Deer Creek Station Project area are anticipated to be insignificant since most vegetation in the area already has been altered from its original state. The Western prairie fringed orchid (*Platanthera praeclara*) is the federally listed plant species identified that could potentially occur within the Project area based on preliminary data collected from the Threatened and Endangered Species List for Brookings County (USFWS 2008a) and South Dakota's Wildlife Diversity Program (SDGFP b). No suitable habitat was present for the Western prairie fringed orchid within the energy conversion facility site, transmission corridor, or well siting area during field surveys. WAPA has determined that the action may affect, but is not likely to adversely affect the Western prairie fringed orchid due to the implemented mitigation measures described in their Biological Assessment submitted on December 8, 2009, to the USFWS. WAPA received concurrence from the USFWS of their determination. The majority of the acreage that will be disturbed in connection with the Deer Creek Station Project presently is devoted to agricultural uses. Short-

term impacts (that affect vegetation for one year or less) could include disturbance, removal and soil compaction caused by: (a) performing geotechnical investigations; (b) preparing equipment yards and construction trailer sites; and (c) clearing, grubbing, grading and constructing Deer Creek Station Project components. These short-term impacts will be mitigated by reclamation soon after construction is completed. Trees are common in the grasslands of eastern South Dakota and thus, there are trees within the Deer Creek Station site that will be removed during the energy conversion facility and water pipeline construction.

Construction associated with the Deer Creek Station Project may have minor indirect effects on vegetation in the Project area by increasing the potential for establishment of noxious weeds. Disturbed soil creates a hospitable environment for invasion of weeds and Project-related traffic may provide a transport mechanism for seeds of noxious weeds to the area. Removal of vegetation may increase erosion and sedimentation. Increased runoff on bare and compacted soils could create gullies and change the overall landscape. Cumulative impacts to vegetation are anticipated to be insignificant and include the effects from existing farming and ranching. This Project should have an insignificant impact on vegetation with the use of the resource protection measures in Section 3.6.6.2.1 of the Application, as well as any measures suggested by the USFWS in their review of WAPA's Biological Assessment.

8.18 Effect on Aquatic Species. Based on preliminary data collected from the Threatened and Endangered Species List for Brookings County (USFWS 2008a) and South Dakota's Wildlife Diversity Program (SDGFPb) the Topeka shiner (*Notropis Topeka*) was identified in the Project area. USFWS provided guidance regarding survey requirements for the Project. Habitat surveys for the Topeka shiner occurred in September 2009. Three locations were determined to be suitable to support Topeka shiners near the Water Well Supply Sites; however, none of the three areas will be impacted by the Project as currently designed. The remaining areas assessed were not suitable locations to support the Topeka shiner because they did not contain appropriate habitat conditions, or they were isolated from known Topeka

shiner populations. BMPs will be implemented during construction and operation of the facilities to avoid sedimentation and contamination of Deer Creek and its tributaries. Additionally, monitoring wells will assess groundwater levels at the well site in order to prevent impacts to Deer Creek.

Before the start of construction, a National Pollutant Discharge Elimination System (NPDES) permit application will be submitted to the South Dakota Department of Environment and Natural Resources (SDDENR) for a General Permit for Stormwater Discharges from Construction Activities. Prior to application submittal a SWPPP will be developed and implemented; this SWPPP will include site-specific BMPs to minimize the potential for stormwater contamination. BMPs will be maintained until final stabilization of the disturbed construction areas has been achieved. Construction of the energy conversion facility site, transmission, and water pipeline will comply with all applicable federal, state, and local permits required for alteration of wetlands, streams, or rivers as a result of the Project. Construction of the stormwater retention pond will not be initiated until agency approval is received

Construction of the facility, transmission line, and water pipeline will comply with all applicable federal, state, and local permits and requirements for protection of water quality. If required, the Project will obtain coverage under the General Permit for Stormwater Discharges from Industrial Activities from the SDDENR once construction is complete. The application will require submittal of engineering drawings and specifications along with operating parameters.

Possible impacts to surface waters, wetlands, and riparian communities from surface water contamination will be mitigated through energy conversion facility design, mitigation measures, and in accordance with the South Dakota NPDES General Permit for Stormwater Discharges from Industrial Activities, the Clean Water Act (CWA), and Section 404.

8.19 Water Quality. Construction of the Deer Creek Station Project will comply with all applicable federal, state and local permits required for alteration of wetlands, streams or

rivers relating to the Project. The following are specific measures that would be taken to protect water quality in the Project Area:

- (a) BMPs would be implemented to minimize erosion and sedimentation, runoff and surface instability during construction;
- (b) Current drainage patterns in areas affected by construction would be maintained to the extent possible;
- (c) Staging areas for Project-related construction equipment will be located in areas that are not environmentally sensitive to control erosion;
- (d) Staging and lay down yards for Project-related construction will be established at least 50 feet from waterways or wetlands, if permitted by topography;
- (e) Construction equipment will not be serviced within 25 feet of waterways or wetlands;
- (f) Equipment will not be fueled within 100 feet of the waterways or wetlands;
- (g) Any spills of fuels or other hazardous materials during construction or system maintenance will be promptly contained and cleaned up; and
- (h) Any herbicides used in ROW maintenance will be approved by the U.S. Environmental Protection Agency and applied by licensed professionals. Application of herbicides would be limited to the extent necessary for regular maintenance of the Deer Creek Station Project site.

8.20 Air Quality. Construction of the Deer Creek Station Project will comply with all applicable federal, state and local permits required. Air pollution impacts from the Deer Creek Station Project emissions will be below National Ambient Air Quality Standards (NAAQS) and South Dakota Ambient Air Quality Standards in accordance with South Dakota Air Regulation § 74:36:05:06 – Standard for Issuance of Operating Permit. The predicted maximum impacts from the Project demonstrate that operation of the Project will not cause or contribute to violations of applicable air quality standards. Predicted maximum modeled concentrations of NO_x and CO

are well below the applicable Prevention of Significant Deterioration (PSD) significance levels, and are below the South Dakota ambient air quality standards and NAAQS. The Project will obtain and comply with all SDDENR air quality permit requirements.

9. LAND USE

9.1 Land Use. The Deer Creek Station will occupy land solely owned by the Applicant, the use of which is subject to regulation and oversight by Brookings County, South Dakota. The Project will not alter any transportation corridors. The Deer Creek Station does not include any land that is formally classified or administered by federal or South Dakota state governmental entities. According to the Brookings County Comprehensive Land Use Plan, and Sherman and Richland Township development maps, the Deer Creek Station Project is located within an Area of Development Stability. Although the primary focus of the Area of Development Stability is intended as agriculture, the use allows industrial site construction. Thus, operation of the Deer Creek Station Project will be a compatible land use.

9.2 Homes and Persons Displaced. There will be no homes or persons displaced as a result of the construction, operation or maintenance of the Deer Creek Station Project.

9.3 Land Use Compatibility. The Deer Creek Station Project facilities are compatible with the present land uses of the surrounding area. The Deer Creek Station will be constructed on private land owned by the Applicant and will be adjacent to two existing electric substations. The addition of the Deer Creek Station to the area would have minimal direct or indirect impacts on the already linear features of the landscape, as existing roads, fencing and power lines transect the area. According to the Brookings County Comprehensive Land Use Plan, and Sherman and Richland Township development maps, the Deer Creek Station Project is located within an Area of Development Stability. Although the primary focus of the Area of Development Stability is intended as agriculture, the use allows industrial site construction. Thus, the Deer Creek Station Project will be a compatible land use.

9.4 Effect on Land Use. The Deer Creek Station Project will have minimal impact on land use. The majority of the Deer Creek Station Project facilities will occupy private land that is regulated with respect to land use by Brookings County land use plans and ordinances. The short-term impacts could include disruption of vegetation and farming caused by: (a) Preparing equipment yards and construction trailer sites; (b) Clearing, grubbing and grading for installation of the Deer Creek Station; and (c) Clearing, grubbing, grading and drilling hole foundations for installation of transmission poles.

The long-term impacts could include disruption of vegetation and farming caused by loss of crops, hay or livestock forage as the result of construction of the Deer Creek Station and any future expansion thereof. In Brookings County, 51 soils are classified as prime farmland, 18 soils are prime farmland if drained, five soils are prime farmland if irrigated and 18 soils are classified as farmland of statewide importance. In the Deer Creek Station Project, 44 of the soils found in this area are listed as prime or statewide important farmland. According to the Natural Resources Conservation Service (NRCS), the Project Area contains 52 acres of prime and unique farmland and 104 acres of important farmland. However, this is a small percentage of the total 441,708 acres of farmland in Brookings County. Based upon the small amount of acreage involved, the cumulative impact of the Deer Creek Station Project upon land use is anticipated to be insignificant.

9.5 Local Land Use Controls. The Deer Creek Station Project facilities will be located predominantly on private land the use of which is subject to Brookings County land use plans and ordinances. The Deer Creek Station Project will comply with all applicable local land use, zoning and building rules, regulations and ordinances. Basin Electric obtained a Conditional Use Permit with Brookings County Planning and Zoning Board on December 1, 2009, for the energy conversion facility.

10. TIME SCHEDULE

The Deer Creek Station Project construction is anticipated to start in July 2010 and continue for approximately 1.5 years. Startup and commissioning is expected to take nine months and commercial operation of the energy conversion facility is anticipated in June 2012. Section 3.7 of the Application sets out the planned schedule in more detail.

11. COMMUNITY IMPACT

11.1 Forecast of Socioeconomic Impact. No significant adverse socioeconomic impacts to the local communities and governmental facilities or services are anticipated as a result of the construction, maintenance and operation of the Deer Creek Station Project. It is expected that the Project will provide socioeconomic benefit by creating construction employment opportunities, increased demand for locally supplied construction equipment, and increased reliability and availability of electrical power. The Project will have no significant negative impacts on housing supplies.

11.2 Forecast of Taxation Impacts. No significant adverse impacts to taxes are anticipated as a result of the construction, maintenance and operation of the Deer Creek Station Project. Taxes will be of greater economic significance to state and local revenues. Based on current tax rates and prior to the application of the discretionary formula, the energy conversion facility is estimated to generate approximately \$3.2 million in property tax in the first taxable year after operation. State sales/use tax will also apply to the materials and services used in the operations of the facility.

11.3 Forecast of Agricultural Impacts. Long-term impacts to agriculture within the Deer Creek Station facility are expected for the 100-acre energy conversion facility site. Agricultural activities will be continued during the operation phase of the Project on the remaining 60 acres of the site. Agriculture land use along the water pipeline ROW will be disrupted during construction, but will return to agriculture use following construction completion. Minimal permanent impacts will occur to farmland within the transmission corridor. During

construction, temporary impacts such as soil compaction and crop damages within the ROW are likely to occur. The permanent impacts to agricultural lands will result in areas where poles are placed.

11.4 Forecast of Noise and EMF Impacts. Impacts related to ambient noise and television interference attributable to the Deer Creek Station Project are expected to be insignificant. Existing background (ambient) noise levels at the Deer Creek Station Project site were collected by a noise survey in May 2009. The Deer Creek Station site is located in a predominately rural area. The closest occupied residence to the Deer Creek Station site is approximately one mile away. Eighteen residential structures, both occupied and unoccupied, are located within two miles of the site. There are no schools, campgrounds, or commercial buildings within two miles of the site. There are several farm buildings and out buildings within two miles of the site, as well as one mining site. With the Deer Creek Station operating at full load, modeling indicates that the maximum increase in noise levels at the sensitive noise receivers is projected to increase by no more than 6 dBA over background noise levels. This noise level is considered noticeable, but is not perceived as a doubling of the sound level at the receiver. Since the greatest contribution to noise levels in the area at any residence is modeled to be 45 dBA, the Deer Creek Station Project will be within acceptable noise levels. Construction and operation of the Deer Creek Station Project will comply with all applicable National Electric Safety Code (NESC) standards. Although there has from time-to-time been considerable public concern about potential adverse impacts to human health attributable to so-called electric and magnetic fields (EMFs) associated with electric generation and transmission facilities, the Deer Creek Station Project facilities will be located in a rural area. The nearest occupied dwelling will be greater than ½ mile from the Deer Creek Station electrical components. The Deer Creek Station Project is expected to have no significant threat to the health or safety of humans, livestock or wildlife.

11.5 Forecast of Transportation Impacts. No significant direct, indirect or cumulative impacts are expected to the transportation systems of cities, counties or the state. No airports are located in the immediate vicinity of the Deer Creek Station Project facilities. The Applicant conducted a Traffic and Transportation Technical Study. The study made recommendations for traffic signing during the construction phase of the Project. The study also recommended improvements to intersections and measures for dust control. The Study results are further discussed in Section 3.8.3.4 of the Application.

11.6 Forecast of Cultural Resource Impacts. Applicant has conducted a records search and an on-site cultural resource inventories were conducted in 2008 and 2009. The Deer Creek Station Project is expected to have no significant direct, indirect or cumulative impact on the cultural resources.

11.7 Effect on Commercial and Industrial Sectors. The local economy could benefit from temporary hiring of local and non-local workforce. Economic benefits to nearby businesses (in White and Brookings) will likely be increased through the sales of food, goods, services, and lodging that will be generated by the temporary non-local workforce. Some Project materials and supplies will be purchased from local businesses. Local purchases could include consumables, fuel, and equipment rental. The increase in consumer demand could boost the local economy. No impacts to the industrial sector are anticipated.

11.8 Effect on Land Values. The Project will be constructed entirely within rural, agricultural areas. Existing land uses will be converted to long-term utility use for the duration of the Project's operation. Land values are not expected to be impacted by the Project.

11.9 Visual Impacts. The landscape around the Deer Creek Station site is characterized by gently rolling agricultural fields broken up by deciduous windbreaks. The dominant features on the landscape are associated with electrical utilities, including two electrical substations, a 345-kV transmission line, and other smaller 115-kV transmission lines. The 345-kV line forms the western border of the site. A large, utility scale wind farm consisting

of more than 200 wind turbines approximately five miles southeast of the site can be clearly seen on the horizon. Each wind turbine is estimated to be more than 300 feet tall from the ground to the tip of the blade. Within one mile of the site, an additional 15 turbines are approved for construction in association with the White Wind Farm. Once constructed, they will be the most visible objects on the landscape in views towards the north and west.

Given the overall landscape characteristics, the Deer Creek Station site does not qualify as being especially scenic. The site is dominated by agriculture and has existing utility infrastructure associated with it. The future White Wind Farm, which will be constructed in close proximity to the site, also takes away from the area's natural scenic quality.

While the presence of rolling hills and several creek drainages near the site may create a more aesthetically interesting physical landscape, the dominating presence of the two substations and a large transmission line detract from the scenic quality. Given these sets of circumstances, the scenic quality at the site can be classified as low.

Impacts to the visual resources from the facility will include increased off-site vehicular traffic from maintenance and employee vehicles along major roads in and around the Project site during the construction phase. Site clearing and associated dust, borrow pit excavation, commissioning (steam blowout), and well drilling will also contribute to the visual impacts on the existing landscape. The presence of one or more large cranes will represent the most visible equipment or facilities used during the construction phase. In general, construction activities will create high visual contrasts during a short period of time in areas within four miles of the site, depending on the phase of construction and the location of the viewer.

Mitigation includes:

- Basin Electric will exercise care to preserve the natural landscape and will conduct construction operations to prevent any unnecessary damage to or destruction of natural features.

- Project components will be painted to blend into the environment or be constructed of non-reflective materials.
- Lighting will be minimized to areas required for safety and security.
- Facilities will be located to preserve trees, shrubs and other natural vegetation.
- The width of new access roads will be kept to a minimum need for safety.
- To the extent practicable, vegetative screening and fencing will be used for visual shielding.

12. EMPLOYMENT ESTIMATES

It is anticipated that after completion of the Deer Creek Station Project, the site will utilize approximately thirty full-time permanent employees for operating and maintaining the facilities. It is expected that a portion of the construction work force will be hired locally from Brookings and Deuel County as well as the greater Brookings area. The construction workforce relating to all phases of construction of the Deer Creek Station Project will be as set forth on Exhibit C attached hereto. It is anticipated that there will not be significant impact upon demand for local services (e.g. police, medical facilities, fire, educational services); that there will be no detrimental impact on local communities and that there will be no significant cumulative impacts on existing local infrastructure relating or attributable to construction and/or operation of the Deer Creek Station Project.

13. FUTURE ADDITIONS AND MODIFICATIONS

Applicant does not request approval of any future additions or modifications under this Permit Application. The general arrangement and water supply designs take into account additional capacity to accommodate additional generation units at the Deer Creek Station Site. It is possible that Applicant will identify a need and seek approval to add additional generation capacity at the Deer Creek Station Site at some point in the future; however, the timing, cost and other details of such additions are unknown at this time.

14. NATURE OF ENERGY CONVERSION FACILITY

14.1 Estimated On-line Life and Operating Capacity. The life of the Deer Creek Station Project is estimated at 42 or more years. Its intended use is as an intermediate electrical generation facility.

14.2 General Description. The energy conversion facility will be a natural gas-fired combined cycle electric generating facility. Major components of the facility include the combustion turbine (CT) generator, a heat recovery steam generator (HRSG) and a steam turbine (ST) generator. The CT is designed to produce a nominal 166 MW of gross electrical power at full load and an average annual ambient temperature of 43 degree Fahrenheit (F). The HRSG will generate enough steam to drive a single steam turbine generator with a nominal power output of 143 MW with duct firing and 84 MW without duct firing at the average annual ambient temperature of 43 degree F. Electric power generated by the energy conversion facility steam and combustion turbine generators will require the construction of an associated electric transmission line so that power generated can be transmitted to WAPA's existing White Substation. The transmission line is described in detail in Section 4.2 of the Application. Construction of the groundwater supply wells and water pipeline will be necessary to provide water to the energy conversion facility for process water and safety needs. The water wells and water pipeline are described in detail in Section 4.3 of the Application. A potable water delivery system will be installed to deliver potable water from the existing Brookings-Deuel Rural Water System.

14.3 Materials Flowing into the CTG Facility. Materials flowing into the energy conversion facility will be natural gas, water, anhydrous ammonia and air. The facility will consume a maximum of 49 gpm of process water and an estimated 1 gpm of potable water on an annual average. The gas turbine will have fast-start capability and will be fueled by locally available natural gas. The natural gas delivery capacity will be 94.8 million standard cubic feet per day. The minimum required gas flow for the initial facility is 47.4 million standard cubic feet

per day. Basin Electric currently has in place firm contracts for gas supply and transportation required for MAPP accreditation. Anhydrous ammonia is utilized as a reagent in the selective catalytic reduction (SCR) system for the control of the emission of oxides of Nitrogen.

Anhydrous ammonia will be stored in two 1000 gallon metal tanks that will allow 1,700 gallons usable space. The use rate is anticipated to be approximately 40 pounds per hour, within an annual usage of 15,000 gallons. Table 1 provides a list of potentially hazardous chemicals to be used at Deer Creek Station that will be brought into the facility for operational use.

**Table 1
Potentially Hazardous Chemicals to Be Used at Deer Creek Station**

Equipment	Purpose	Product	Storage Vessel	Storage Volume	Use Rate	Estimated Annual Use Rate
SCR	NOx Control (Main Stack)	Anhydrous Ammonia	Metal Tank	2000 gallon, 1700 of useable space	40 pound/hour	15,000 gallon
Emergency Diesel Generator	Emergency Electrical Generation	Low Sulfur Diesel	Metal Tank	3000 gallon, 2500 useable gallon	105 gallon/hour	52,500 gallon
Emergency Diesel Fire Pump	Emergency Fire Protection	Low Sulfur Diesel	Metal Tank	700 gallon	29 gallon/hour	14,500 gallon
Condensate & Boiler Feedwater Treatment	pH Adjustment	Aqueous Ammonia	Totes	300 gallon	1.25 gallon/hour	3700 gallon
Condensate & Boiler Feedwater Treatment	Oxygen Scavenging	Carbohydrazide	Drums	55 gallon	0.15 gallon/hour	450 gallon
Condensate & Boiler Feedwater Treatment	Boiler pH Control & Buffering	Phosphate	Pails	25 pound	0.05 pound/hour	150 gallon
HRSB	HRSB blanketing	Nitrogen	330 cubic foot cylinder(s) or 40,000 cubic foot tube trailer	11,880 cubic feet (three 12-packs of cylinders) to 40,000 cubic feet	Normal is zero.	10,000 cubic feet (one complete HRSB fill)
Gas Turbine	Gas Turbine Generator Purge	CO ₂	330 cubic foot cylinder(s)	11,880 cubic feet (three 12-packs of cylinders)	Normal is zero	8,000 cubic feet (one complete generator purge)
Gas Turbine	Gas Turbine Fire Protection	CO ₂	Metal tank	104,000 cubic feet	Normal is zero	Normal is zero
Gas Turbine	Gas Turbine Generator Cooling	Hydrogen	330 cubic foot cylinder(s) or 40,000 cubic foot tube trailer	11,880 cubic feet (three 12-packs of cylinders) to 40,000 cubic feet	300 cubic feet/day	118000 cubic feet (one complete generator fill plus daily use)

14.4 Materials Flowing out of the CTG Facility. Stormwater will be collected on-site and routed to a stormwater runoff pond. The collected water will be discharged to an existing

on-site drainage channel once it meets the requirements of the stormwater discharge permit that will be obtained prior to operations. The groundwater will require water treatment to remove the mineral and dissolved solids prior to being utilized as process water at the Deer Creek Station. The water treatment will consist of filtration, cation-anion exchange and de-gasification as provided by a contractor supplied trailer mounted water treatment system. Any solid materials and or hydrocarbon based fluids that are found to be within the sumps will be removed and will then be hauled off site and disposed of at an appropriate facility permitted to receive that type of waste. Wastewater generated from potable water use including water from the lunchroom sinks, showers, and lavatories will be directed to an on-site septic tank and drainfield.

14.5 Procedures to Avoid Discharges and Emissions. All air emissions from the Deer Creek Station Project will strictly comply with the terms and conditions of the operation permit issued for this Project by the SDDENR. All solid wastes will be properly disposed of using a qualified, licensed disposal firm. Contaminated wastewater will be collected in vessels and removed from the site by a qualified, licensed disposal firm. No recreational facilities are located near the Deer Creek Station Project site. The facility will be lighted, fenced and locked. Thus operated, the Deer Creek Station Project should not constitute a public or private nuisance.

15. PRODUCTS TO BE PRODUCED

The Deer Creek Station will use natural gas to produce electric power and energy.

16. FUEL TYPES AND TRANSPORTATION

The primary fuel type is natural gas. Firm contracts for gas supply and transportation are in place to satisfy MAPP accreditation requirements. The natural gas to be used for the combined-cycle electricity generation will be sourced from the Northern Border Pipeline via a 10-inch nominal pipeline. The operating pressure for the pipeline will range between 1,435 psig (NBPL maximum operating pressure) and 795 psig (minimum operating pressure). The

anticipated yield is anticipated to be 1,006 British thermal units (Btu) per cubic foot for natural gas.

An underground natural gas pipeline will be constructed for the Project (South Dakota Public Utilities Commission Docket HP09-002) and surface reclamation will occur concurrently with construction and site development. Although diesel fuel will be utilized for emergency use as described in Section 3.6.9.1 of the Application, secondary fuel sources are not applicable.

Two off-site groundwater supply wells will pump water through an underground water pipeline to the on-site raw water storage tank. The raw water storage tank will hold approximately 635,000 gallons. The wells will supply adequate capacity to the energy conversion facility with treatment equipment, surge tanks, and storage tanks as required to implement the water balance strategy.

Expected water usage for the energy conversion facility, operating at full load under average ambient conditions is approximately 15 gpm on an annual average. The usage can increase to 49 gpm at the maximum ambient conditions during the summer. Water treatment necessary for energy conversion facility processes will likely consist of pressure filters, followed by a multiple pass reverse osmosis system and a mixed bed reactor for generation of ultra pure water. Fire protection and service water supply from the process water well will be stored on-site in a 840,000-gallon tank. There will be a pressure booster pump to provide adequate water supply pressure in the boiler area. A large diesel-driven pump will be provided to supply emergency fire water in the event of a power failure. Potable water for drinking fountains, washrooms, showers, and toilet facilities will be supplied from Brookings-Deuel Rural Water System and stored on-site inside a 2,500-gallon storage tank. The Brookings-Deuel Rural Water System tie-in is available immediately adjacent to the Deer Creek Station Site along 484th Avenue.

17. ALTERNATIVE ENERGY RESOURCES

Various alternative energy sources were examined in the 2007 Power Supply Analysis (PSA). This study compared energy fuel sources and technologies to determine the best solution to meet the requirements of the anticipated generation needs. Renewable energy sources (wind, solar, hydropower, geothermal, and biomass), fossil fuel generation (natural gas and coal), and nuclear generation were all evaluated. These energy sources did not meet the need for reliable and cost-effective intermediate generation to meet the timely need for generation. Use of coal and nuclear generation were eliminated since these are considered baseload energy sources. Wind energy similarly was eliminated from further consideration because this resource has an availability of less than 50 percent, which does not meet the reliable power supply needs of the Applicant's members. Geothermal energy was eliminated from further consideration because there are no significant geothermal resources available in the service area. Similarly, small hydroelectric resources were considered and rejected because they depend on stream flows and are thus unreliable resources. Construction of the Deer Creek Station Project is required to meet the growing need for power of the Applicant's membership in its service territory and is the source that best meets the needs of the Applicant's members.

18. WASTE

Waste management associated with Deer Creek Station will be minimal. No hazardous wastes will be generated by process operations. Industrial wastes will consist of waste fluids and detergents from turbine maintenance and miscellaneous other materials. All industrial wastes will be removed from the energy conversion facility site and held for disposal in a licensed and permitted commercial waste disposal facility. Office and lunchroom-type waste will be disposed of on-site in dumpsters and then hauled away by local waste management services for placement in permitted facilities. Construction debris will be removed and taken to the nearest permitted landfill in South Dakota. Brookings Landfill is the closest facility to the affected area and Watertown Landfill is also nearby.

19. ESTIMATE OF EXPECTED EFFICIENCY

Expected efficiency is based on and in agreement with the manufacturer’s specifications for the Deer Creek Station Project equipment. Data used to calculate efficiency and heat consumption included the lower heating value (LHV) for the natural gas supply that will be used to fuel the CT/HRSG, the power output capability of the generator set, and the fuel feed rate. Based on these calculations, the facility will meet the parameters presented below:

	Calculated Average
% Heat Recovery (Power/output/Heat input)	54.14%
Net Plant Heat Rate Consumption (Btu/hr per kWh)	6,337

20. DECOMMISSIONING

At decommissioning, all equipment and buildings will be removed from the Deer Creek Station Project site and disposed of appropriately. Concrete will be buried on the site and the ground surface will be returned to its pre-Project contour quality and usage. The facility will not produce any hazardous material that will be stored or disposed of on-site, requiring no hazardous removal at decommissioning. The underground gas and water pipelines will be capped below grade and abandoned in place. At the time of decommissioning, the energy conversion facility will be evaluated for other site compatible beneficial uses. In absence of such uses for portions or all of the facility, the site will be decommissioned based on the applicable regulatory requirements or public policy that is in effect at that time. The following decommissioning measures assume that there is no alternative use for the energy conversion facility and that the facility will be rendered unusable for any future purpose:

20.1 Equipment and Buildings. All equipment and buildings will be removed from the site and either offered for recycling or disposed of in accordance with applicable regulations. All structures will be cleared to 4 feet below the finished intended ground level on the site.

Concrete elements will be buried on-site as appropriate, and the ground surface will be returned to its original contour quality.

20.2 Fuel Tanks/Fuel Pipelines. An environmental site assessment will be conducted prior to the demolition of fuel delivery pipes and storage tanks to determine whether any fuel-related spills or leakage has occurred on-site. If required, soil sampling may occur to determine whether any soil contamination occurred and, if so, determine whether the contamination exceeds the action level for cleanup in accordance with South Dakota regulations at the time of decommissioning.

20.3 Other Miscellaneous Materials. As appropriate, buildings will be inventoried and hazardous materials will be removed to other operating facilities for use or disposed in a landfill that is permitted to accept such waste. Other non-hazardous materials located on-site will also be identified for use at other operating facilities or disposed in permitted facilities as required. The estimated cost of decommissioning is \$10.0 million.

21. INFORMATION CONCERNING TRANSMISSION FACILITIES

21.1 Configuration of Poles. The transmission line will be a 345-kV single circuit transmission line, approximately 0.59 mile in length. The temporary construction easement and permanent easement will be 150 -175 feet wide. The 345-kV single-circuit transmission line structures will be constructed in an H-Frame steel configuration and will be approximately 85 feet tall as shown in Appendix A Exhibit A of the Addendum. The structure pole spacing will be 27.5 feet with a phased spacing of 27.5 feet. The structures will have either direct-embed foundations or concrete foundations that will range from 3 to 6 feet in diameter. The typical span between structures would be approximately 400 to 500 feet. The energy conversion facility will have a 345-kV switchyard that has metering transformers, switching equipment and a station Generator Step-up Transformer. At the existing WAPA White Substation, the Project's 345-kV transmission line will tie into a bay that will be installed to facilitate this interconnection. The transmission line ROW terrain is relatively flat, well-drained, and located on a topographic

incline. The area is agricultural, consisting primarily of farmland and the site elevation is approximately 1,850 feet above msl.

21.2 Reliability and Safety. Risks to reliability or safety are minimal, given the limited distance of the transmission line; however, some risks are inherent with transmission line operation. Ground fires near transmission lines present a potential electrical hazard. The hot gases and smoke can create a conductive path to the ground. If a flashover occurs along this path, individuals near the fire could experience dangerous shocks. Flashover also causes outages and jeopardizes the reliability of the transmission system. Because of the hazards associated with fires, storing flammables, constructing flammable structures, or performing other activities that have the potential to cause or provide fuel for fires on ROWs will be prohibited. In the event that a fire was ignited from transmission lines, the closest fire department would respond. Transmission line structures, wires, and other tall objects are the most likely points to be struck by lightning. The system will be designed to be protected from lightning. If an overhead ground wire or structure were hit, the lightning strike would be conducted to the ground at the structure. The potential for resident-related adverse health and safety-related effects from fire, shock, or lightning to occur is low because no residences are located within the transmission corridor.

21.3 Necessary Clearing Activities. Tree removal will not be required because the transmission corridor only contains cropland and herbaceous vegetation.

21.4 Configuration of Underground Facilities. There are no underground transmission facilities.

22. ADDITIONAL INFORMATION

The Application contains all information necessary for the local review committee to assess the effects of the facilities pursuant to SDCL 49-41B-7 and 49-41B-11. The Application as amended with the Addendum also contains all information necessary to meet the burden of

proof specified in SDCL 49-41B-22. Attached hereto as Exhibit D is the report from the Local Review Committee chairman summarizing the committee's Findings and Recommendations.

CONCLUSIONS OF LAW

1.

The Commission has jurisdiction over the subject matter and parties to this proceeding pursuant to SDCL Chapter 49-41B and ARSD 20:10:22. Subject to the findings made on the four elements of proof under SDCL 49-41B-22, the Commission has authority to grant, deny, or grant upon reasonable terms, conditions or modifications, a permit for the construction, operation, and maintenance of the Deer Creek Station Project.

2.

Administrative rules have the force of law and are presumed valid. *Feltrop v. Department of Social Svcs.*, 559 N.W.2d 883, 884 (S.D. 1997). An administrative agency is bound by its own rules. *Mulder v. Department of Social Svcs.*, 675 N.W.2d 212, 216 (S.D. 2004).

3.

The standard of proof is by the preponderance of evidence. The Applicant has met its burden of proof pursuant to SDCL 49-41B-22 and is entitled to a permit as provided in SDCL 49-41B-24.

4.

The Commission concludes that it needs no other information to assess the impact of the facility or to determine if Applicant has met its burden of proof.

5.

The Commission concludes that the Application and all required filings have been filed with the Commission in conformity with South Dakota law and that all procedural requirements under South Dakota law, including public hearing requirements, have been met or exceeded.

6.

The Commission concludes that it possesses the authority under SDCL 49-41B-24 to impose conditions on the construction, operation and maintenance of the Project, that the Conditions set forth below are supported by the record, are reasonable and will help ensure that the Project will meet the standards established for approval of a construction permit for the Project set forth in SDCL 49-41B-22 and that the Conditions are hereby adopted.

7.

The Applicant's Permit Application, as amended and supplemented by responses to Staff's data requests, complies with the applicable requirement of SDCL Chapter 49-41B and ARSD 20:10:22.

8.

The Deer Creek Station Project constitutes an energy conversion facility as defined in SDCL 49-41B-2(6).

9.

Because a federal EIS is required for the Project and because the federal EIS complies with the requirements of SDCL Chapter 34A-9, the Commission appropriately exercised its discretion under SDCL 49-41B-21 in determining not to prepare or require the preparation of a second EIS.

10.

The Deer Creek Station Project, if constructed and operated in accordance with the terms and conditions of this permit, will comply with all applicable laws and rules, including all requirements of SDCL Chapter 49-41B and ARSD 20:10:22.

11.

The Deer Creek Station Project, if constructed and operated in accordance with the terms and conditions of this permit, will not pose an unacceptable threat of serious injury to the

environment nor to the social and economic conditions of inhabitants or expected inhabitants in the siting area.

12.

The Deer Creek Station Project, if constructed and operated in accordance with the terms and conditions of this permit, will not substantially impair the health, safety or welfare of the inhabitants of the siting area.

13.

The Deer Creek Station Project, if constructed and operated in accordance with the terms and conditions of this permit, will not unduly interfere with the orderly development of the region with due consideration having been given the views of governing bodies of affected local units of government.

14.

The Commission has the authority to revoke or suspend any permit granted under the South Dakota Energy Facility Permit Act for failure to comply with the terms and conditions of the permit pursuant to SDCL 49-41B-33 and must, pursuant to SDCL 49-41B-29, approve any transfer of the permit that is granted.

15.

The Applicant has met its burden of proof pursuant to SDCL 49-41B-22 and is entitled to a permit as provided in SDCL 49-41B-24, subject to the following:

STIPULATE TO THE FOLLOWING TERMS AND CONDITIONS:

1.

The Applicant will obtain all governmental permits which reasonably may be required by any township, county, state or federal agency or any other governmental unit for construction activity prior to engaging in the particular activity covered by that permit. Copies of any permits obtained by the Applicant shall be sent to the Commission.

2.

The Applicant shall comply with all other terms and conditions as set forth in the Findings of Fact and Conclusions of Law.

3.

The terms and conditions of the permit shall be made a uniform condition of construction, subject only to an affirmative written request for an exemption addressed to the Commission. A request for an exemption shall clearly state which particular condition should not be applied to the property in question and the reason for the requested exemption. The Commission shall evaluate such requests on a case-by-case basis.

4.

If construction of any portion of the Project commences more than four years after the date the permit is granted, Applicant must certify to the Commission before the construction commences that such facilities will meet the permit conditions.

5.

Basin Electric shall comply with and implement the Commitments set forth in the Final Environmental Impact Statement.

6.

The permit granted by the Order in this matter shall not be transferable without the approval of the Commission pursuant to SDCL 49-41B-29.

7.

Basin Electric shall construct, operate and maintain the Project in a manner consistent with: 1) descriptions in the Application, 2) Application supplements, 3) responses to data requests, and 4) the conditions of the Permit to Construct, Operate and Maintain the Project.

8.

The Applicant shall ensure that its employees, contractors and agents involved in ROW negotiations and acquisitions, ROW clearing, construction and ROW maintenance understand fully and comply with the terms and conditions of this permit.

9.

Basin Electric shall inform the Commission of its intent to start construction on the Deer Creek Station Project not later than 30 days prior to the commencement of construction.

10.

Prior to the start of each phase of construction, Basin Electric shall file maps with the Commission depicting the final pre-construction general arrangement of the energy conversion facility, wells and plan and profile drawings of the water pipeline and transmission line. Thirty days upon conclusion of construction, Basin Electric shall file detailed maps with the Commission depicting the final as-built Project.

11.

Basin Electric agrees that the Commission's complaint process as set forth in ARSD 20:10:01 shall be available to landowners, other persons sustaining or threatened with damage as the result of Basin Electric's failure to abide by the conditions of the Permit or otherwise having standing to seek enforcement of the conditions of the Permit.

12.

Not later than one month prior to commencement of construction, Basin Electric shall commence contacts with state, county and municipal emergency response, law enforcement and highway, road and other infrastructure management agencies serving the Project area in order to educate such agencies concerning the planned construction schedule and the measures that such agencies should begin taking to prepare for construction impacts and the commencement of Project operations.

13.

Basin Electric shall conduct a pre-construction conference prior to commencement of any construction, which shall include a Basin Electric representative, its construction supervisor and a representative of the Commission Staff to ensure that Basin Electric fully understands the conditions set forth in the Order.

14.

The Applicant shall provide each landowner on whose property the Project is to be constructed with the following information:

- (a) A copy of the Commission Order;
- (b) Detailed safety information describing:
 - (1) reasonable safety precautions for existing activities on or near Project facilities;
 - (2) known activities or uses that are presently prohibited near Project facilities;
and
 - (3) other potential dangers or limitations near Project facilities;
- (c) Construction/maintenance damage compensation policies and procedures;
- (d) The Commission's address, web site and phone number;
- (e) Contact person within Basin Electric including name and phone number; and
- (f) An explanation regarding trenching and topsoil and subsoil/rock removal, segregation and restoration methods.

15.

The Applicant shall seek local input to properly and effectively coordinate an emergency response plan consistent with local resources and response abilities. Upon completion the emergency response plan shall be filed with the Commission for public availability.

16.

Basin Electric shall notify the Commission and all affected landowners, utilities and local governmental units as soon as practicable if material deviations are proposed to the Project. Basin Electric shall advise the Commission and all affected landowners, utilities and local governmental units prior to implementing such changes and afford the Commission the opportunity to review and approve such modifications to the Project.

17.

Except as otherwise provided in the conditions of this Stipulation, Basin Electric shall comply with all mitigation measures set forth in the Application. If material modifications to the mitigation measures are made by Basin Electric, such modifications shall be filed with the Commission and shall be complied with by Basin Electric.

18.

Numerous conditions in this Stipulation relate to construction and its effects upon affected landowners and their property. Basin Electric may encounter physical conditions during construction which make compliance with certain conditions impracticable. If, after providing a copy of the permit, including the conditions, to the landowner and advising Commission Staff, Basin Electric and landowner agree in writing to modifications of one or more requirements specified in this Stipulation, Basin Electric may follow the alternative procedures and specifications agreed to between it and the landowner.

19.

The number of operations employees, broken out by class shall be filed for public information within thirty days upon completion of the Project.

20.

If radio or television interference is caused by the presence or operation of the Deer Creek Station and/or its associated facilities, the Applicant shall take all appropriate action to restore or provide reception equivalent to reception levels in the immediate areas just prior to

construction of the facility. This mitigation requirement shall apply to homes or other structures in place at the time of construction but shall not apply to any dwellings or other structures built after construction of the Project approved in this permit has been completed.

21.

The noise levels associated with Deer Creek Station Project facilities will not exceed the following standards at the nearest occupied, existing residence (determined on the date the permit is issued) not owned by Basin Electric: Daytime: $L_{10}=60$ dbA; Nighttime: $L_{10}=55$ dbA. The point of measurement will be within 100 feet of the nearest occupied residence existing at the beginning of construction, which is not owned by Basin Electric. A post-construction operational noise assessment will be completed by an independent third-party noise consultant, approved by Commission Staff, to show compliance with the noise level. The noise assessment will be performed in accordance with American National Standards Institute (ANSI) B133.8 – Gas Turbine Installation Sound Emissions.

22.

The Applicant shall take appropriate action to mitigate wind-blown particles created throughout the construction process, including but not limited to implementation of dust control measures such as road watering, covering of open haul trucks when transporting material subject to being wind-blown, the use of paved roads wherever possible to access the construction site, and the removal of any soils or mud deposits by construction equipment when necessary.

23.

Basin Electric shall endeavor not to locate fuel storage facilities within 200 feet of private wells and 400 feet of municipal wells and shall minimize and exercise vigilance in refueling activities in areas within 200 feet of private wells and 400 feet of municipal wells.

24.

Applicant shall implement the following sediment control practices:

- (a) Basin Electric shall use floating sediment curtains to maintain sediments within the construction ROW in lieu of straw bales when the depth of non-flowing water exceeds the height of straw bales or silt fence installation.
- (b) Basin Electric shall install sediment barriers in the vicinity of delineated wetlands and water bodies at locations as needed to prevent silt or soil from entering the delineated wetland or water body regardless of the presence of flowing or standing water at the time of construction.
- (c) Basin Electric shall consult with South Dakota Game, Fish and Parks (SDGFP) to avoid construction near water bodies during fish spawning periods, if any, and in which in-stream construction activities should be avoided to limit impacts on specific fisheries with commercial or recreational importance.

25.

Basin Electric shall comply with the following conditions regarding construction across or near wetlands, water bodies and riparian areas:

- (a) Water body crossing spoil, including upland spoil from crossings of streams greater than 30 feet in width, shall be stored in the construction ROW at least 10 feet from the water's edge or in additional extra work areas and only on a temporary basis.
- (b) In-stream spoil from streams greater than 30 feet in width may be temporarily stored in-stream. This storage shall only be conducted in conformity with any required federal permit(s) and any applicable federal or state statutes, rules and standards.

- (c) Wetland and water body boundaries and buffers shall be marked and maintained until ground disturbing activities are complete. Basin Electric shall maintain 25-foot buffers where practicable, which for stream crossings shall be maintained except during the period of trenching, pipe laying and backfilling the crossing point.
- (d) BMPs shall be implemented to prevent heavily silt-laden trench water from reaching any wetland or water body directly or indirectly.
- (e) Erosion control fabric should be used on water body banks immediately following final stream bank restoration unless riprap or other bank stabilization methods are utilized in accordance with federal or state permits.
- (f) Low ground-weight construction equipment will be used or normal equipment will be operated on timber riprap, prefabricated equipment mats, or geotextile fabric overlain with gravel. Geotextile fabric used for this purpose will be strong enough to allow removal of all gravel and fabric from the wetland.
- (g) Vegetation restoration and maintenance adjacent to water bodies shall be conducted in such manner to allow a riparian strip at least 25 feet wide as measured from the water body's mean high water mark to permanently re-vegetate with native plant species across the entire construction ROW.

26.

Basin Electric shall comply with the following conditions regarding road protection:

- (a) Basin Electric shall coordinate road closures with state and local governments and emergency responders and shall acquire all necessary permits authorizing crossing of county and township roads.
- (b) Basin Electric shall implement a regular program of road maintenance and repair through the active construction period to keep paved and gravel roads in an acceptable condition for residents and the general public.

- (c) After construction Basin Electric shall repair and restore, or compensate governmental entities for their repair and restoration of any deterioration caused by construction traffic such that the roads are returned to at least their preconstruction condition.

27.

Basin Electric shall use appropriate preventative measures to prevent damage to paved roads and to remove excess soil or mud from such roadways. Before commencing construction, the Applicant shall furnish an indemnity bond in the amount of \$800,000 to comply with the requirements of SDCL 49-41B-38. Such bond shall be issued in favor of, and for the benefit of, all such townships, counties, and other governmental entities whose property is crossed by the transmission facilities. The bond shall remain in effect until released by the Commission, which release shall not be unreasonably denied following completion of the construction and repair period. Basin Electric shall give notice of the existence and amount of these bonds to all counties, townships and other governmental entities whose property is crossed by the transmission facilities.

28.

All pre-existing public roads and lanes used during construction must be restored to at least their pre-construction condition, and privately owned areas used as temporary roads during construction must be restored to their original condition, except as otherwise requested or agreed to by the landowner or any governmental authority having jurisdiction over such roadway.

29.

Basin Electric shall, prior to any construction, file with the Commission a list identifying private and new access roads that will be used during construction and a description of methods to be used by Basin Electric to reclaim those roads.

30.

Basin Electric shall promptly report to the Commission the presence of any critical habitat of threatened or endangered species in the siting area that Basin Electric becomes aware of and that was not previously reported to the Commission.

31.

If during construction, Basin Electric or its agents discover what may be an archaeological resource, cultural resource, historical resource or gravesite, Basin Electric or its contractors or agents shall immediately cease work at that portion of the site and notify the affected landowner(s) and the State Historical Preservation Office (SHPO). If the SHPO determines that a protectable resource is present, Basin Electric shall develop a plan that is acceptable to the SHPO to salvage, avoid or protect the archaeological resource.

32.

The Applicant shall take appropriate precautions to protect livestock and crops during construction of the water pipeline and transmission line.

33.

The Applicant shall take all necessary steps to mitigate construction related damages to rangeland and pastureland. Such actions shall include but not be limited to re-vegetation and weed control of the ROW.

34.

Basin Electric shall separate and segregate topsoil from subsoil in agricultural areas of the ROW, including grasslands and shelter belts.

35.

Basin Electric shall repair any damage to private property that results from construction activities.

36.

Basin Electric shall restore all areas disturbed by construction of the water pipeline and transmission line to their preconstruction condition, including their original preconstruction topsoil, vegetation, elevation, and contour, or as close thereto as is feasible, except as otherwise agreed to by the landowner.

37.

Except where unfeasible, final grading and topsoil replacement and installation of permanent erosion control structures shall be completed in non-residential areas within 30 days after backfilling the trench. In the event that seasonal or other weather conditions, extenuating circumstances, or unforeseen developments beyond Basin Electric's control prevent compliance with this time frame, temporary erosion controls shall be maintained until conditions allow completion of cleanup and reclamation.

38.

In the event the winter season delays successful completion of de-compaction, topsoil replacement or seeding of disturbed lands until the following spring, Basin shall prepare and execute a winterization plan. The Commission and affected landowners shall be notified.

39.

Basin Electric's obligation with respect to reclamation and maintenance of the ROW shall continue throughout the life of the water pipeline and transmission line for disturbances caused by Basin Electric's or its agent's actions.

40.

Basin Electric shall work closely with landowners or land management agencies to determine a plan to control noxious weeds in and along the ROW. Landowner permission shall be obtained before the application of herbicides.

41.

The size, density and distribution of rock within the water pipeline and transmission ROW shall be restored as nearly as reasonably possible to the conditions existing prior to disturbance. Basin Electric shall treat rock that cannot be backfilled within or below the level of the natural rock profile as construction debris and remove it for disposal off-site except when the landowner agrees to the placement of the rock on his property. In such case, the rock shall be placed in accordance with the landowner's directions.

42.

Basin Electric shall utilize the trench line for its pipe stringing trucks where conditions allow and shall employ adequate measures to decompact subsoil. Topsoil shall be decompacted if requested by the landowner.

43.

Basin Electric shall install trench and slope breakers where necessary.

44.

If reasonably requested by landowners, Basin Electric shall apply mulch when following seeding in the ROW to stabilize the soil surface and to reduce wind and water erosion.

45.

Upon reasonable request, and in a manner consistent with local zoning regulations, and the National Electric Safety Code, Basin Electric shall coordinate with landowners regarding protection of cattle on the water pipeline and transmission ROW areas. Basin Electric shall compensate landowner for any loss of livestock attributable to a failure by Basin Electric or its agents to implement and to follow prudent protective practices.

46.

Basin Electric shall develop frac-out plans specific to areas in South Dakota where horizontal directional drilling will occur. The plan shall be followed in the event of a frac-out. If a frac-out event occurs, Basin Electric shall promptly file a report of the incident with the

Commission. Basin Electric shall also, after execution of the plan, provide a follow-up report to the Commission regarding the results of the occurrence and any remaining questions or concerns on the part of Basin Electric.

47.

Reclamation and clean-up along the ROW must be continuous and coordinated with ongoing construction.

48.

Basin Electric shall keep a record of drain tile system information in the ROW throughout planning and construction, including pre-construction location of drain tiles. Location information shall be collected using a sub-meter accuracy global positioning system where available or, where not available by accurately documenting the pipeline station numbers of each exposed drain tile. If drain tile is present, Basin Electric shall maintain the drain tile location information and tile specifications and incorporate it into its Water Pipeline Operational Plan where drains might be expected to serve as conduits in the event of a release. If drain tile relocation is necessary, the Applicant shall work directly with landowner to determine a proper location. The location of permanent drain tiles shall be noted on as-built maps. Qualified drain tile contractors shall be employed to repair drain tiles.

49.

Basin Electric shall repair or replace all private property removed or damaged during all phases of construction, including but not limited to, all fences, gates and utility, water supply, irrigation or drainage systems. Basin Electric shall compensate the owners for damages or losses that cannot be fully remedied by repair or replacement, such as lost productivity and crop and livestock losses.

50.

Any damage that occurs as a result of soil disturbance from Project's activities on a persons' property shall be paid for by Basin Electric.

51.

If trees are to be removed that have commercial or other value to affected landowners, Basin Electric shall compensate the landowner for the fair market value of the trees to be cleared and/or allow the landowner the right to retain ownership of the felled trees.

52.

Basin Electric agrees not to pursue a legal claim against a landowner for a pipeline leak that occurs as a result of his/her normal farming practices over the top of or near the pipeline; provided, however, that this covenant shall not apply in situations involving negligence or willful misconduct on the part of the landowner, his employees, agents contractors or other representatives.

53.

Basin Electric shall, in a manner consistent with its easement agreement with a landowner, indemnify and hold the landowner harmless for loss, damage, claim or actions resulting from Basin Electric's use of the easement, including any damage resulting from any release, except to the extent such loss, damage claim or action results from the negligence or willful misconduct of the landowner or his employees, agents, contractors or other representatives.

54.

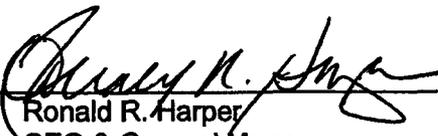
The Commission shall be notified prior to any decommissioning action.

55.

At decommissioning, all equipment and buildings will be removed from the Project site and disposed of appropriately. Concrete will be buried on the site and the ground surface will be returned to its pre-Project contour, quality and usage. The Deer Creek Station Project will not produce any hazardous material that will be stored or disposed of on-site, thus it is anticipated that removal of produced hazardous materials will not be required at decommissioning. The undergroundwater pipeline will be capped below grade and abandoned in place.

Dated this 10th day of May, 2010.

BASIN ELECTRIC POWER COOPERATIVE

By: 

Ronald R. Harper
CEO & General Manager
Basin Electric Power Cooperative

SOUTH DAKOTA PUBLIC UTILITIES COMMISSION

By: 

Karen E. Cremer
Staff Attorney