

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

**In the Matter of the Application by PrairieWinds SD1, Inc., a subsidiary of Basin Electric Power Cooperative, for a Wind Energy Facility Permit for the PrairieWinds SD1 Wind Farm and Associated Facilities.**

**DOCKET EL09-028**

## **STAFF'S FIRST DATA REQUEST**

**January 15, 2010**

- 1-1. Please update Figure 1 to clearly show and name cities, lakes, rivers, major roads, places of historical significance, and other public facilities adjacent to or abutting the plant and associated facilities per 20:10:22:11. Clearly mark on Figure 1 facilities not present such as cemeteries and railroads.
- 1-2. Please provide information on subsidence potential and slope instability potential in the siting area per 20:10:22:14 (7).
- 1-3. Since the local aquifers may be used as a source of process or potable water, please provide the specifications of the aquifers to be used and definition of their characteristics, including the capacity of the aquifers to yield water, the estimated recharge rate and the quality of the ground water per 20:10:22:15 (4).
- 1-4. Please provide an analysis of the impact of construction and operation of the proposed facility on the breeding times and places of the terrestrial biotic environment per 20:10:22:16.
- 1-5. Please update Figure 10 to include the following required categories of land use per 20:10:22:18 or clearly mark on Figure 10 that each of the below categories that does not exist in the siting area:
  - a. Haylands
  - b. Undisturbed native grasslands
  - c. Residential
  - d. Municipal water supply and water sources for organized rural water systems
  - e. Noise sensitive lands
- 1-6. Please provide by county the estimated property tax revenue from the project for the first full year of operation per 20:10:22:23 (2).

- 1-7. Please indicate by what means ameliorating negative social impact of the facility development will be accomplished per 20:10:22:23 (7).
- 1-8. Please provide a plan for decommissioning including a breakdown of costs and the site condition after decommissioning per 20:10:22:33:01.
- 1-9. Please provide the blade color and material of construction and the distance range between adjacent turbines per 20:10:22:33:02 (1).
- 1-10. Please provide an estimate of when in each of the next five years the ten additional turbines may be installed per 20:10:22:33:02 (2).
- 1-11. Please provide an overhead photograph and land use map for the major alternative site in Winner per 20:10:22:33:02 (7).
- 1-12. Please provide best management practices that will be used for route clearing and a copy of company policy statements regarding such activities per 20:10:22:33:02 (10).
- 1-13. Please provide the width of the transmission towers and poles per 20:10:22:33:02 (11).
- 1-14. Please provide, for the underground facilities, the distance between access points, conductor configuration and size, and number of circuits per 20:10:22:33:02 (13).
- 1-15. Has Basin complied with SDCL 49-32-3.1? If so, please provide the written notification that was provided to the telecommunications company.

## **Staff's First Data Request**

### **Response for Item 1-2:**

Conditions for subsidence are not present in the Project Area. As depicted on Figures 8a and 8b of the application, the surficial geology of the Project Area is characterized by glacial sediments up to 500 feet thick that overly the Cretaceous Pierre Shale Formation. No carbonate formations are present near-surface; karst topography is not present in the project area. Further, there is no evidence of underground mining in the project area that could lead to subsidence or sinkhole formation. Geotechnical borings would be completed at each turbine location to verify and validate foundation conditions. No subsidence is anticipated.

Slope instability does not appear to be an issue in the Project Area. No landslide areas were identified on county geologic maps or on air photos within the Project Area. Slope stability issues are not pointed out as a concern in any of the county geologic studies (prepared by the South Dakota Geological Survey). Areas with steep slopes (greater than approximately 20% slope) would be avoided for large project structures such as turbine foundations; as such, slope instability problems are not anticipated.

### **Response for item 1-3:**

As indicated in the application, it is most likely that a connection will be made to the rural water system to supply the O&M building with potable water. No "process water" is needed for the operation of the wind facility; water usage at the O&M building is expected to be less than 5 gallons per minute. If a connection to rural water is for some reason impractical, a well would be drilled at the site. There is no surficial (glacial) aquifer mapped in the vicinity of the O&M building. Glacial till and discontinuous glacial outwash have been encountered in soil borings in the project area; groundwater was observed at 16 to 51 feet below ground surface but varied greatly across the project area. Until a well is installed at the site, there is no way to determine aquifer characteristics, recharge rate, and groundwater quality. The nearest farmstead is approximately 0.75 miles from the proposed O&M building location; no groundwater impact is anticipated.

### **Response for item 1-4: Below is a summary of pertinent information from the Draft EIS.**

#### *Mammals*

Most impacts to mammal species would be temporary and associated with the construction phases. Development of the Proposed Project would temporarily and permanently remove habitat. The Crow Lake Alternative would result in the temporary disturbance of 1,405 acres of habitat, while 133 acres would become permanently unavailable. The areas of temporary disturbance would be reclaimed and reseeded with an approved native seed mix. It would likely take two growing seasons before these areas would be restored to the pre-construction

condition. The area of habitat permanently lost represents a relatively small amount of habitat available regionally (less than 1 percent), and the overall habitat quality has been reduced by grazing and agricultural practices. This small loss (less than 0.4 percent) of moderate quality habitat (grasslands are currently grazed) would not disrupt breeding, rearing or wintering behavior and would not influence the viability of local populations.

### *Bats*

Construction of the Proposed Project could affect bats through direct mortality, habitat loss and fragmentation and disturbance effects. Bat surveys for the Crow Lake Alternative are ongoing. There are no known roosts within or adjacent to the area. The probability of construction-related bat mortality is extremely low given their mobility and the absence of any roosts. Habitat loss and fragmentation effects to bats are also expected to be minimal. The permanent loss of approximately 97 acres of mixed-grass prairie foraging habitat would not represent an adverse effect to bats given the large adjacent tracts of similar habitat. No shrub or forested riparian habitats or other areas of concentrated bat use would be affected. A total of 0.6 acres of shelterbelt representing less than 0.2 percent of potential daytime roosting habitat may be permanently removed. Construction would generally occur during daylight hours and would not disturb these nocturnal animals.

Operation and maintenance impacts to bats include disturbance and displacement, habitat fragmentation and direct mortality. As noted above, general disturbance and displacement effects would be minimal given the small percentage of potential daytime roost tree removal within or adjacent to the Crow Lake Alternative. Maintenance activities would be conducted during daylight hours when bats are not active, and noise and movement associated with operating turbines are not likely to affect bats.

### *Reptiles/Amphibians*

Impacts to reptiles and amphibians would be similar to those described for mammals. Activities associated with construction, operation and decommissioning could result in the direct mortality of reptiles and amphibians if they are not able to move away from equipment and other vehicles. These impacts would be less than significant based on the small amount of habitat that would be temporarily and permanently removed and the low likelihood for direct mortality of individuals.

### *Birds*

Construction would not last longer than one nesting season, but would occur during the nesting period for many bird species. Ground nesting species such as Ferruginous Hawk, Northern Harrier, Greater Prairie Chicken, and Sharp-tailed Grouse along with low vegetation nesting songbirds would be at higher risk for impacts from disturbance. Although construction activities may result in some level of egg loss and nest abandonment, measures would be implemented to minimize these impacts. Basin Electric would attempt to do as much grading and other ground disturbance as possible before the start of the breeding season. If construction is to take place during the migratory bird breeding or nesting season, avian nest surveys, including grouse

lek surveys, would be conducted within all non-cropland areas subject to temporary or permanent disturbance immediately prior to construction in that area. All active nests and leks would be marked as avoidance areas. Ongoing consultation with SDGFP is in progress to evaluate potential impacts to leks.

The Proposed Project would result in the permanent loss of approximately 97 acres of mixed-grass prairie habitat, which represents a small proportion of this habitat (0.4 percent). The spacing of turbines and access roads could contribute to habitat fragmentation in the Crow Lake Alternative. Construction noise and associated human activity could temporarily disturb or displace individual birds and may interfere with migration, foraging, breeding and nesting. Disturbance would be limited to the duration of construction activities. Construction-related disturbance would be limited to a single migratory (both spring and fall) and breeding-nesting season; however, survival and reproductive success would be temporally reduced.

Noise and human activities associated with operation and maintenance of the Proposed Project would result in temporary disturbance similar to those discussed for construction, but at reduced intensity. Regional roads may experience increased traffic due to interest in seeing the operational turbines, although traffic would generally be restricted to public roads, thereby minimizing potential impacts. New roads would be constructed for access to the turbines, but the majority of these roads would be gated and located on private land, minimizing or eliminating increased public access.

The presence of turbines and operation and maintenance activities could result in longer-term effects, including avoidance and abandonment of habitats in proximity to the Proposed Project. Research has indicated that displacement effects associated with wind turbines are specific to the project location and individual bird species. Displacement could result in reduced breeding success, productivity and survival. Baseline surveys have been initiated to assess pre-construction avian abundance and habitat use in the Crow Lake Alternative. Reference sites have been established outside of potential impact areas within the Crow Lake Alternative boundary for comparison. Post-construction monitoring would continue surveys for a minimum of three years to evaluate species-specific changes in abundance, habitat use and displacement effects associated with operation of the Proposed Project compared to general avian communities.

#### **Response for item 1-6:**

The Proposed Project will be subject to the wind conversion tax. The following assumptions were made in the determination of the property tax.

- 1- The proposed wind farm will be in service by January 1, 2011.
- 2- All turbines will operate for the full 2011 calendar year.
- 3- The operating factor is 39%.
- 4- Aurora County = 53 turbines; Brule County = 28 turbines; Jerauld County = 20 turbines

SDCL provides for a 90% credit of the production factor portion of the tax for the five years of operation and a 50% credit of the production factor portion for the second years of operation.

Based upon the above, the property taxes paid in tax year 2012 will be as follows: Aurora County - \$266,312, Brule County - \$140,693 and Jerauld County - \$100,495.

All sales/use taxes paid in South Dakota during operations should only be at the state level of 4% since none of the turbines will be located within a city jurisdiction.

#### **Response for Item 1-9:**

- Blade Color – White
- Blade Material – Fiberglass epoxy resin with a smooth layer of gel coat on the outer surface
- Distance Range – closest turbine to adjacent turbine is 200 meters or 656' the farthest turbine from adjacent turbine is 1,273 meters or 4,176'

#### **Response for Item 1-10:**

At present, Basin Electric does not have adequate information to respond to this data request; we respectfully request a 30-day extension for this query.

#### **Response for Item 1-12:**

##### **(Route Clearing Best Management Practices)**

##### **ROW Access and Construction Preparation**

Tree and brush removal in the ROW would be minimal because the Project area consists largely of cultivated cropland and rangeland, and because woodlands and shelterbelts were avoided during the routing process. The ROW would only be cleared if trees and/or shrubs that are present would interfere with project construction activities or the safe, reliable operation of the transmission line. Trees would be cut at ground level to provide access within the ROW and to allow vehicle access. Stumps and roots would remain in the ROW unless the landowner requests otherwise.

##### **Site Preparation**

Site clearing would be kept to minimum. It is anticipated that at some project structure locations, BEPC may need to blade small areas to level the ground surface to allow the safe operation of the equipment. Blading would be confined to the ROW and accomplished using bulldozers or front-end loaders. Soil removed during leveling would be stockpiled and replaced following construction; special emphasis would be placed on salvaging topsoil to be used for

reclamation. The ground would be re-graded to the approximate original contour and revegetated (rangeland) or tilled (cropland) when the work is completed.

### **Reclamation**

Following construction, BEPC would grade and/or re-slope disturbed areas to their approximate original contours where needed to minimize erosion and visual alteration. If grading is needed to ensure the safe movement and operation of heavy equipment, such areas would be restored following construction. In grassland or pasture areas, disturbed areas would be reseeded with native species. Cultivated land would be tilled and returned to production. Fences and gates damaged as a result of the Proposed Project would be repaired.

Rangeland from which vegetation has been removed, destroyed, or damaged would be reclaimed by BEPC and revegetated. Reclamation activities, weather permitting, would be ongoing throughout construction and would be undertaken as soon as construction activities are completed in a particular area. The area would be revegetated using a native seed mixture, as recommended by the County Agricultural Extension Service or the Natural Resources Conservation Service (NRCS).

The optimal timing for revegetation success would be spring or fall to coincide with seasonal rains. BEPC may need to employ mulching or netting to protect seeded areas from erosion. Other erosion control measures would be applied, where needed. BEPC would conduct follow-up inspections during the next growing season. Areas that did not become revegetated would be reseeded again, as necessary. The reclamation procedures described above would be applied to disturbed areas including temporary access trails, and other areas disturbed by Proposed Project activities.

### **(Company Environmental Policy Statement)**

## **POLICIES AND COMMITMENTS TO LIMIT ENVIRONMENTAL IMPACT STATEMENT OF IDEALS AND OBJECTIVES**

Initially adopted by the Membership at the 1967 Annual Meeting.

Reviewed and readopted by the Membership at each subsequent Annual Meeting through 2009.

Basin Electric Power Cooperative was organized by its member systems in the Missouri Basin to provide an adequate wholesale supply of dependable, low-cost electric power under democratic member control, consistent with the public interest.

## **We Believe**

1. That a healthy agricultural economy, based on the family-owned and operated concept of farming and the greater development of rural areas, is essential to the nation's general welfare.
2. That an adequate, universally available and safe supply of low cost electricity is a vital ingredient for maintaining and improving the economy and the people's standard of living.
3. That a clean and healthy environment, which we all need and enjoy, must be maintained and that the energy industry must do all that is feasible to minimize the negative impacts on the environment.
4. That the development of commercial and industrial type enterprises is very important to the Cooperative and efforts should be made to support this type of consumer-member.
5. That the Rural Utilities Service program of providing long-term, low interest loan funds and loan guarantees to the rural electric cooperatives is a vital element in providing lowest possible cost electricity for the social and economic benefit of people ever undertaken by our federal government, and that this program should be continued as an important device to foster the economic development of rural areas and to help improve the standard of living of its consumer-owners.
6. That water and power development in the Missouri Basin should go hand-in-hand and that the Missouri River as well as coal are our region's foundation resource, for both water and power development. Further power development, therefore, should be planned and carried out in unity with optimum development of the River on a Basin-wide basis, make optimum use of our water and fuel resources, protect the integrity of the regional high voltage transmission system and contribute equitably to further irrigation and other water development.
7. That the benefits of the development of our national resources should accrue to the people and the federal government has a principal responsibility for establishing and maintaining programs and policies to protect the public interest in the maximum multipurpose development conservation and utilization of our water and power resources.
8. That our Cooperative was established for all its members and the benefits of its operation should accrue to them on a consistent and uniform basis.
9. That people have the right to organize themselves to provide needed goods and services; that cooperatives and their associated entities can provide a yardstick of costs which benefits all consumers; and that they are consistent and help preserve our private enterprise system.

## **To These Ends, We Pledge Ourselves To The Following Objectives:**

1. To provide for our members an adequate supply of wholesale electric power and high quality of service at the lowest possible cost to our membership as a whole by:
  - a) Making optimum use of the federal hydroelectric generating plants and the integrated system so that these facilities continue to serve as the backbone of a region-wide power supply system.
  - b) Planning jointly to meet the combined needs of all members of the integrated system in order to take full advantage of the economics of modern



power technology by building feasible generating units at the most advantageous location and planning transmission lines on a coordinated, regional and national basis.

- c) Fully coordinating the operations of thermal generating plants with the federal hydro system to optimize the region's water and energy resources while maintaining an economic and adequate power supply.
- d) Developing mutually beneficial power pooling and interchange arrangements with other power supply systems.
- e) Encouraging prudent development of clean and efficient power technologies, and legislation and research in the fuels and energy fields as it affects our lives and our environment.
- f) Operating the Cooperative energy production facilities in the most efficient and productive manner possible consistent with moral and legal obligations to protect civilization and the environment.

#### **Resolution 6 - Environment**

WHEREAS, Basin Electric's policy concerning conservation and protection of the environment is outlined in the statement of ideals and objectives initially adopted by the membership at the 1967 annual meeting and renewed and readopted at each subsequent annual meeting, and

WHEREAS, on the basis of those policies Basin Electric has provided leadership, resources and effort in research, and test planting to advance the science of re-vegetating strip-mined land, and

WHEREAS, the Cooperative is constantly involved in activities with potential impact on land, air, water, flora, and fauna and continues to expend substantial amounts of time and resources to minimize potential negative aspects, and

WHEREAS, the Basin Electric membership is highly committed to maintenance of a clean and healthy environment and is also mindful that a satisfactory balance between protecting the environment and sustaining the economy must be attained;

**NOW, THEREFORE, BE IT RESOLVED, that Basin Electric supports research, legislation, and environmental mitigation efforts at the state and federal level which will minimize environmental degradation while minimizing economic and social dislocations to the population and encouraging economic development; and**

**BE IT FURTHER RESOLVED, that Basin Electric encourages the membership to take an active part in maintaining the environment at home, work, and in their community and**

**to study the increasingly complex environmental issues in their global context in view of the social, economic, and political ramifications for all peoples.**

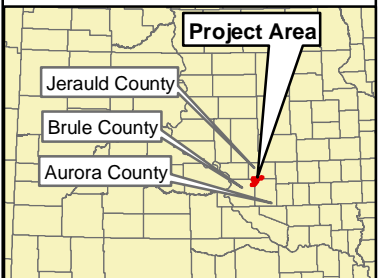
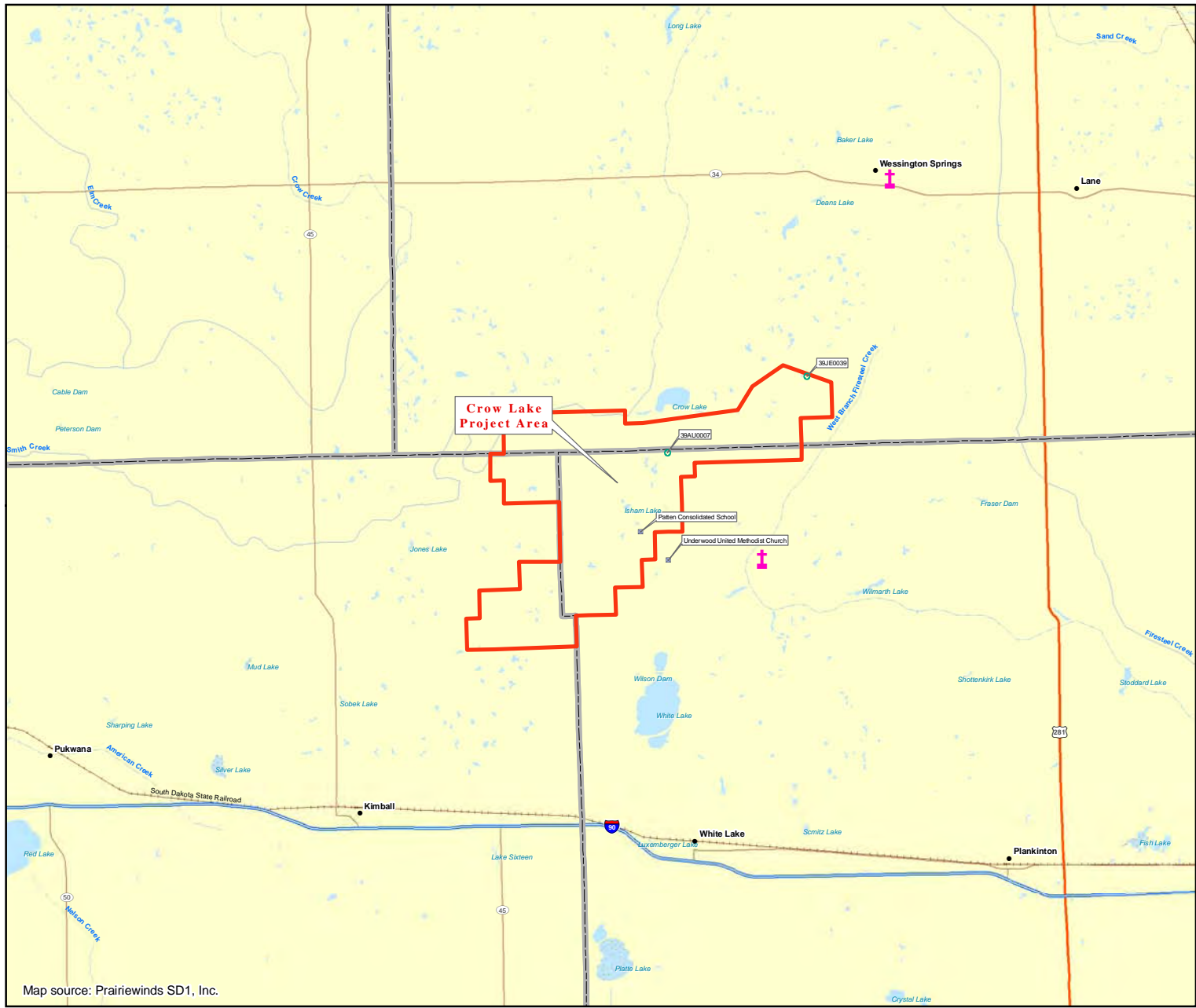
**Response for item 1-13:**

Transmission line poles range from approximately 30 to 72 inches in diameter; however, the poles are typically 36 to 42 inches in diameter.

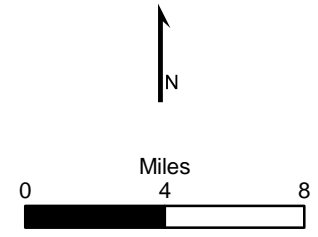
**Response for item 1-14:**

- Distance between access points – Varies, will depend on final design (generally distance between turbines)
- Conductor configuration – 34.5 kilovolt, three-phase
- Conductor sizes range – from 1/0 to 1000MCM
- Number of Circuits – 8 6 collector circuits Updated: 6/8/2010

# Figure 1 - Facility Location

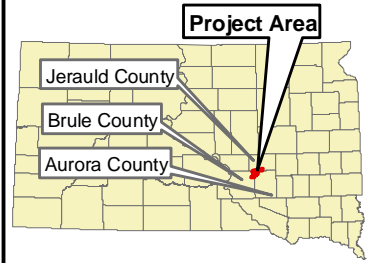
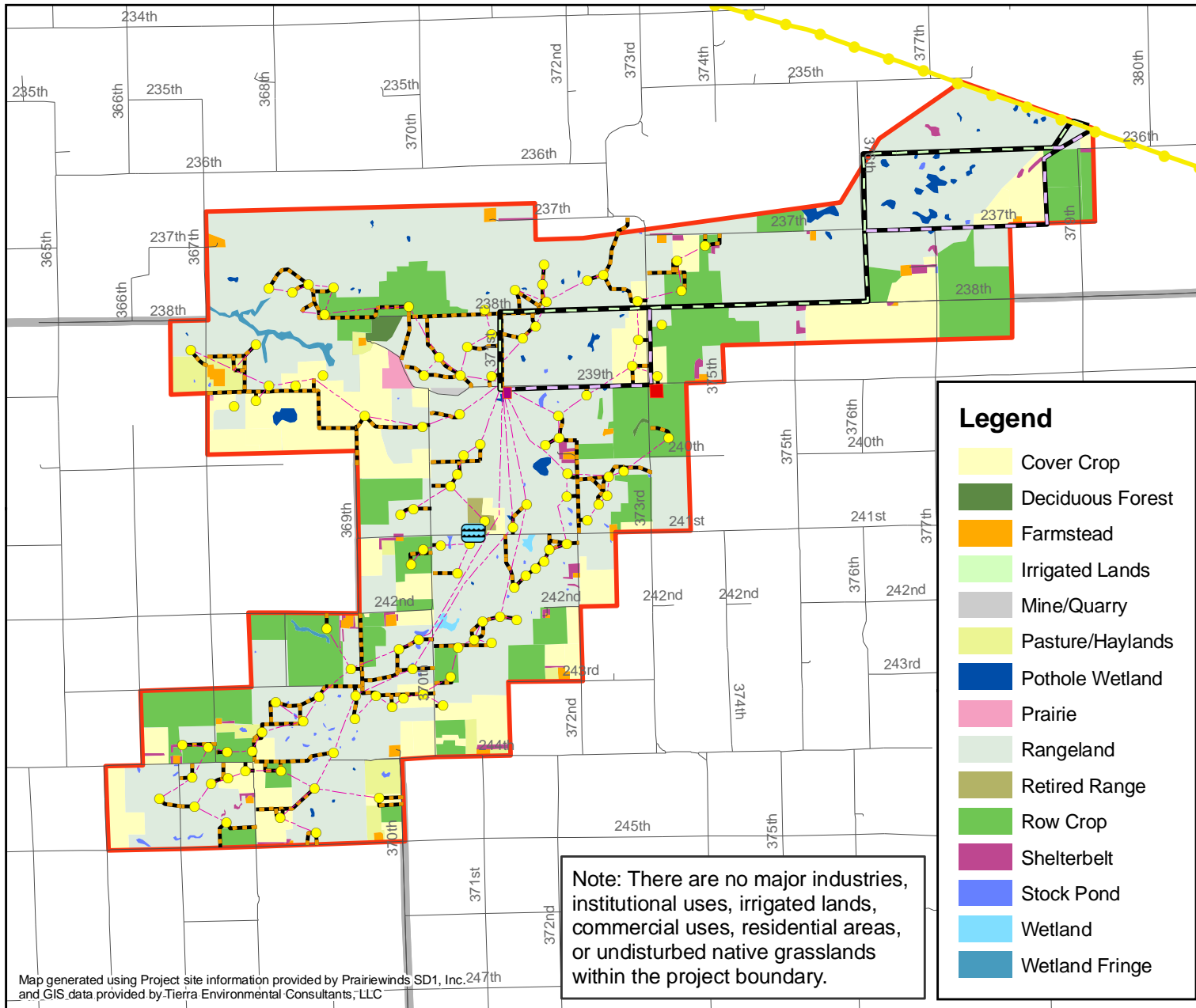


- Historic Structures
- Cultural Resource Sites
- Cities
- † Cemeteries
- ++++ Railroads
- Project Boundary
- County Boundaries



Map source: Prairiewinds SD1, Inc.

# Figure 10 - Land Cover Types

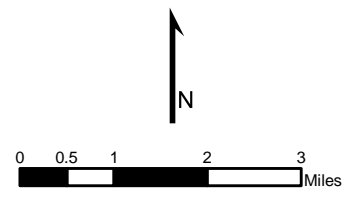


- WaterTank
- Proposed Turbines
- Western Utility Line
- Proposed Substation
- Proposed O & M Facility
- 230 kV Transmission Routes**
- Proposed Route
- Alternate Route
- Collector System
- Proposed Access Roads
- Existing Roads
- Project Boundary
- County Boundaries

- ### Legend
- Cover Crop
  - Deciduous Forest
  - Farmstead
  - Irrigated Lands
  - Mine/Quarry
  - Pasture/Haylands
  - Pothole Wetland
  - Prairie
  - Rangeland
  - Retired Range
  - Row Crop
  - Shelterbelt
  - Stock Pond
  - Wetland
  - Wetland Fringe

Note: There are no major industries, institutional uses, irrigated lands, commercial uses, residential areas, or undisturbed native grasslands within the project boundary.

Map generated using Project site information provided by Prairiewinds SD1, Inc. 247th and GIS data provided by Tierra Environmental Consultants, LLC



## **Staff's First Data Request--PrairieWinds SD, Inc. (EL09-028)**

### **Response for Item 1-7: Below is an excerpt of pertinent information from the Draft EIS.**

Given the short-term duration of construction activities, no significant increase in permanent population to local communities would be expected as a result of construction and operation of the Proposed Project. It would not result in significant increased needs for public services, including fire protection. In addition, there would be no discernible impact on local utilities, government, or community services from the construction workforce under the Proposed Project. Any impacts to social and economic resources would be primarily short-term effects to the local economy. Revenue would likely increase for some local businesses such as hotels, restaurants, gas stations and grocery stores, due to workers associated with construction. Other impacts to community services would be unlikely because of the short-term nature of construction.

The relatively short-term nature of construction and the limited number of workers who would be hired from outside of the local counties would result in limited positive economic impacts to the area in the form of increased spending on lodging, meals and other consumer goods and services. It is anticipated that local workers from the counties would fill the majority of the open construction jobs. The Applicants have estimated the Proposed Project would create an average of 225 to 250 temporary jobs and 10 to 12 permanent jobs.

Minor employment or population changes are anticipated as a direct result of development of the Proposed Project. Any increase in population would be for the duration of the construction period, and would be small relative to the total population. Most of the non-local construction workforce would likely reside within a 60-mile commuting distance of the area, so there would be very little demand for additional temporary or permanent housing near the site. There would be no impact to the available supply of housing in Aurora, Brule or Jerauld counties. In the event that construction workers hired from outside the 60-mile radius of the standard commuting distance from the Proposed Project area, there would likely be sufficient capacity in the existing motel rooms in the local counties. Therefore, less than significant impacts are likely to occur from the influx of the construction workforce.

Benefits would also result from wages paid to the construction workforce. There would be beneficial long-term impacts to the counties' tax base for the life of the Proposed Project as a result of the construction and operation of the facilities. Aurora, Brule and Jerauld counties would receive revenues from property taxes, fees and permits. Additional personal income would be generated for residents in the counties and the State of South Dakota by circulation and recirculation of dollars paid out as business expenditures, and as State and local taxes. The most direct beneficial impact would be the net economic benefit to participating landowners from lease payments, which would provide a supplementary source of income. An increase in Aurora, Brule and Jerauld county tax bases would also provide benefits to all county residents. Indirect economic benefits would accrue to businesses in the area from construction workers purchasing goods and services. There would also be economic benefits for the counties from added taxes paid on real property. Increased tax revenues collected as a result of the Proposed

Project operation could be utilized to benefit or improve local government or community services.

**As described in the application and in the excerpt above, social impacts would generally be positive. Since no negative impacts are anticipated, no mitigation is proposed to ameliorate negative social impact of facility development.**

**Response for Item 1-8:**

Decommissioning would involve removal of wind facilities including towers, turbine generators, transformers, overhead and underground cables, foundations, buildings and ancillary equipment to a depth of four feet below grade. Estimated costs for decommissioning are depicted in the following table. Underground cable buried a minimum of four feet below the surface is assumed to be left undisturbed. Roughly 425 tons of salvage steel per turbine are available; the value of salvage steel is estimated to be \$40,000 to \$80,000 per turbine, based on the historical prices. Accordingly, it is anticipated that the total decommissioning costs of the Project will be covered by the salvage value of recovered Project components. Access roads will be removed unless the affected landowner provides written notice requesting the road or portions of the road be retained. Additionally, disturbed surfaces will be graded, reseeded and restored as nearly as possible to its preconstruction condition within eighteen months of Project decommissioning.

				<b>Per Turbine Cost</b>
Crane Mobilization (Rubber-tired crane)		\$ 25,000		\$ 250
Crane Demobilization		\$ 25,000		\$ 250
Crane Rental per week		\$ 25,000	1/2 week per turbine	\$ 12,500
Demolition of Turbine Pedestal	3 days each site			
Backhoe Jackhammer		\$ 150	per hour	\$ 3,600
Operator		\$ 70	per hour	\$ 1,680
Truck		\$ 50	per hour	\$ 1,200
2 laborers		\$ 50	per hour	\$ 1,200
Welder to cut rebar		\$ 70	per hour	\$ 1,680
Trucks to remove Turbine Components				\$ 10,000
Surface Reclamation	Days Required		2 days each site	
Grader		\$ 150	per hour	\$ 2,400
Operator		\$ 70	per hour	\$ 1,120
Wheel loader		\$ 120	per hour	\$ 1,920
Truck to remove gravel		\$ 50	per hour	\$ 800
2 Laborers		\$ 50	per hour	\$ 800
Surface Area to be Seeded		Sq. Ft	per turbine	
Disturbed area around turbine		2,000		
Road Reclamation	Assume 400 feet per turbine	16,000	0.41 Acres	\$ 1,000
				<b>\$ 40,400 Total</b>

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

In the Matter of the Application by Prairie Winds, SD1 Inc., a subsidiary of Basin Electric Power Cooperative for a Wind Energy Facility Permit for the Prairie Winds SD1 Wind Farm and Associated Facilities

DOCKET EL09-028

## STAFF'S SECOND DATA REQUEST

February 17, 2010

- 2-1. Section 8.10 of the permit application discusses concrete batch plants and their possible use for this project. The South Dakota Department of Environment and Natural Resources requires concrete batch plants to obtain an Air Quality Permit prior to operation. Table 24 does not list this as a possible permit. Is Basin aware of this permit requirement?
- 2-2. Appendix E contains the cultural resources records review. In Figure 1 of the report there is an outline of the project boundary area. This project boundary in Figure 1 of Appendix E does not match the project boundary in the permit application maps. Please explain the difference and provide information to ensure that a cultural resource record review was done for the correct project boundary.
- 2-3. Section 18.2.1 states, "Potential complaints regarding fugitive dust emissions would be addressed in an efficient and effective manner." Please submit an explanation of the dust control measures that will be used during the construction phase of the project.
- 2-4. Per ARSD 20:10:22:23(6) please submit plans to coordinate with the local and state office of disaster services in the event of accidental release of contaminants from the proposed facility.
- 2-5. Employment estimates are included in section 20.2.1. Please submit a more detailed explanation of employment estimates, as required by ARSD 20:10:22:24, that include the following:
  - a. an estimate of annual employment expenditure during construction for your company (as the applicant), for the contractors, and for the subcontractors that will be used;
  - b. an estimate of annual employment expenditure during operation for your company (as the applicant), for the contractors, and for the subcontractors that will be used;



- c. estimated number of jobs for operation for the first 10 years broken down into separate years;
  - d. description of job classifications for operation for the first 10 years broken down into separate years;
  - e. a more detailed explanation of the company's plans for utilization/training of available labor force in South Dakota by categories of special skills required;
  - f. a more detailed explanation of the adequacy of local manpower to meet temporary and permanent labor requirements for both construction and operation; and
  - g. estimated percentage of the work force that will remain within county/township after construction is complete.
- 2-6. The permit application discusses the setback distances that will be utilized for occupied residences and roads. However, 20:10:22:33.02(4) requires information for setback distances be submitted for off-site buildings (which should include unoccupied buildings if present), the distance from the right-of-way of public roads, and the distance from property lines. Please submit a more detailed explanation of the permit application's setback distances that include unoccupied buildings, the right-of-way of public roads, and property lines. In this explanation include information on setback distances required by local ordinances for the project area.
- 2-7. Would it be possible for Basin to submit a map showing the anticipated noise levels during operation on a map of the project area? Also, please include a chart modeling sound levels at ground level in relation to distance from the proposed wind turbine.
- 2-8. Please provide a map showing the company's easement and lease agreements for both wind and transmission in the area.
- 2-9. Please provide a more detailed explanation of the mitigation measures that will be used during operation to reduce impacts on avian wildlife, specifically whooping cranes and bats.
- 2-10. Please provide documentation on consultation that has been done with the South Dakota State Historic Preservation Office for this project.
- 2-11. Question 1-14 from the first data request asked for a range for the distance between access points for the underground facilities. We understand the distance will vary depending on the final layout, however, please provide the estimated range between these points.

## **Staff's Second Data Request--PrairieWinds SD, Inc. (EL09-028)**

### **Response for Item 2-1:**

Concrete batch plant(s) would not be owned or operated by Basin Electric or PrairieWinds SD1, Inc. The batch plant owner/operator would be expected to obtain necessary permits before operation.

### **Response for Item 2-2:**

The Appendix E Cultural Resources Records Review was completed as part of an opportunities and constraints analysis conducted by Terracon early in project development. Metcalf Archaeological Consultants (MAC) is working on an updated cultural resources report for the project area, which includes an updated historical records search, Class III (pedestrian survey) results, and a visual impact study for historic structure (architectural) sites.

### **Response for Item 2-3:**

The construction contractor would have a minimum of one water truck used for dust control onsite at all times. Additional water trucks would be added as needed to control road dust.

### **Response for Item 2-9:**

Since the PrairieWinds SD1 Project is considered a Federal Action, Western Area Power Administration (Western) and the Rural Utilities Service (RUS) are preparing an Environmental Impact Statement (EIS) for the Project. Section 7 of the Endangered Species Act (embedded within the EIS process) requires the Federal Action Agency (in this case RUS) to consult with the US Fish and Wildlife Service (Service) regarding endangered species.

**Below is an excerpt of pertinent information from the Biological Assessment recently submitted by RUS to the Service that details mitigation measures proposed to avoid, minimize and monitor impacts to birds and bats.**

#### **Monitoring components:**

##### **1) Facility operation (curtailment), training, monitoring, and reporting:**

- Trained personnel acceptable to the USFWS would be on site during spring and fall migration seasons to observe whooping cranes and sandhill cranes post-construction. Migration seasons are generally: April 1 to May 15 (spring) and September 10 to October 31 (fall); however, the Applicants will rely on real time migration tracking data provided by the USFWS. If whooping cranes are observed, WTGs located within two miles of the observation would be shut down until such time as the cranes are no longer observed in the area;

- Monitoring procedures for whooping crane/sandhill crane mortality would be developed in coordination with the Service, and any crane mortality would be reported immediately to the

USFWS, Ecological Services, South Dakota Field Office Supervisor. In the event of whooping crane mortality, all WTGs would be shut down and the Agencies would request re-initiation of consultation with the USFWS. WTG operations will not be resumed until completion of the re-initiated section 7 consultation;

- Basin Electric would provide annual reports to the SDGFP and USFWS until such time as further reports are deemed unnecessary, in coordination with SDGFP and USFWS. Reports would address compliance with the whooping crane monitoring and any other avian protection measures developed as part of the operating plan;

- Basin Electric commits to develop training and management practices for all SDPW Project staff. The training would focus on sandhill and whooping crane identification as well as background biology on habitat, foraging, and other relevant ecological characteristics as recommended by an experienced biologist; The whooping crane contingency plan will be provided to anyone trained to observe cranes.

- At the end of the three year post-construction whooping crane monitoring period, the USFWS and the Agencies will consult to determine whether additional monitoring is needed and any modifications deemed necessary in the monitoring or operational protocols, such as extending the post-construction whooping crane monitoring period.

The USFWS published *Whooping Cranes and Wind Development – An Issue Paper* in April, 2009 (USFWS 2009b). This document provides recommendations to avoid and minimize the “take” of whooping cranes and mitigate unavoidable impacts. The Applicants considered these recommendations during project siting and development and will follow the recommendations as described below:

- Build in areas away from traditional stopover sites. Project site selection for this wind farm took into account numerous factors. The wind resource in this part of South Dakota is best within the whooping crane migration corridor and project economics dictated its placement within the corridor.

- Build as far away from the corridor centerline as possible. The project area is located within the 75 percent to 80 percent bands of the corridor and is approximately 60 miles east of the centerline.

- Avoid wetland mosaic areas. The project area includes wetland mosaics, however, wetland density in the project area is relatively low compared to the wetland density in the region.

- Place turbines as far away from wetlands as possible. The wind resource largely determines turbine placement and micro-siting. The Applicants have designed the project to avoid as many wetlands as possible.

- Shut down turbines and/or construction activities within 2 miles of whooping crane sightings and leave cranes undisturbed. The Applicants have agreed to implement this protocol as described in the monitoring components section above.

- Report any whooping crane sightings to the USFWS. The Applicants have agreed to implement this protocol as described in the monitoring components section above.

- Monitor whooping cranes in the area during daylight hours.
- Bury all powerlines, if possible. The Applicants have agreed to bury all collector lines.
- Mark new overhead lines that are located in the migration corridor. The transmission line connecting the project to the grid will be above ground but will be marked.

### ***Bird and Bat Fatality Monitoring***

Bird and bat fatality monitoring would continue for three years post-construction. The fatality monitoring has three main **purposes**:

- 1) To document bird and bat fatalities by species.
- 2) To estimate annual bird and bat fatalities attributable to the wind farm.
- 3) To evaluate spatial and temporal patterns of fatalities.

Monitoring **components**:

1) Standardized Carcass Searches – A set schedule of search effort will be established for sampling all WTGs systematically during the year. This effort will be quantifiable such that estimates of total bird and bat fatality can be determined.

2) Removal Trials – Removal trials will be conducted as one means to correct total number of carcasses found to total number of fatalities. Carcasses will be planted in the wind farm and checked on a regular schedule to determine how long carcasses remain available for searchers to find.

3) Searcher Efficiency Trials – Efficiency trials, in conjunction with removal trials, also are used to estimate total fatalities attributable to the wind farm. This effort will test field biologists by conducting blind trials on how many carcasses of varying size classes are found and how many are missed.

### ***Avian Use Monitoring***

This portion of the post-construction monitoring effort would continue for three years post-construction, and would consist of:

- 1) Fixed Point Bird Use Surveys - This effort would estimate the seasonal, spatial, and temporal use of the study area by birds, in particular raptors.
- 2) Breeding Bird Use Surveys – This effort would investigate the displacement impacts of WTGs on breeding grassland birds using line transects to measure bird use at varying distances from WTGs.

### ***Line Marking***

Basin Electric will mark the new transmission line with line marking devices to reduce the risk to whooping cranes and piping plovers. Line marking would benefit all avian species, including the whooping crane and piping plover, by increasing the visibility of the transmission line and thereby reducing the risk of collisions. Marking would occur before or during construction, but no later than one year after construction is commenced. Line marking efforts and locations will be

reported to the USFWS, and the Applicants will ensure long-term maintenance of the marking devices.

**Response for Item 2-10:**

Since the PrairieWinds SD1 Project is considered a Federal Action, Western Area Power Administration (Western) and the Rural Utilities Service (RUS) are preparing an Environmental Impact Statement (EIS) for the Project. Section 106 of the National Historic Preservation Act (embedded within the EIS process) requires the Federal Action Agency (in this case Western) to consult with the South Dakota State Historic Preservation Officer. This consultation is currently in progress and must be completed before Project construction may begin.

**Response for Item 2-11:**

The shortest distance between access points is estimated to be approximately 200 meters or about 656 feet. The farthest distance between access points is estimated to be approximately 4,400 meters or about 15,550 feet.

## **Accidental Release Coordination Plan**

Spills are cleaned up promptly and disposed of according to applicable regulations. Table 1 is the contact list including phone numbers for the Operations and Maintenance Supervisor, National Response Center, and all appropriate federal, state and local agencies who must be contacted in case of a discharge.

Once a spill has been identified, facility workers are trained to follow these steps:

1. Identify applicable safety and security measures and ensure that they are followed;
2. Notify Operations and Maintenance Supervisor and warn the other employees that a spill has occurred;
3. Find the MSDS for the material spilled;
4. Initiate containment procedures if the spill starts to overflow the secondary containment by placing absorbent material; and,
5. If necessary, call the outside spill cleanup contractor identified on the emergency telephone posting (Table 1) to provide cleanup assistance.

The person who identifies a spill at the facility will notify the Operations and Maintenance Supervisor or alternate immediately (during the evening hours, they will contact them at their home). The Operations and Maintenance Supervisor is responsible for directing the cleanup operations, calling for additional help and, if appropriate, notifying the regulatory agencies listed in Table 1.

The facility stocks several empty drums and containers that can be used for cleanup in case of oil spills. The facility has readily available absorbent pads, floor dri, and absorbent booms and one or more empty open-topped drums to contain oil spills at the site. The four service vehicles will have oil spill cleanup kits in them as well. Recovered oil and used sorbent products will be placed in a drum, properly labeled with the date and content and disposed in accordance with applicable regulations.

The emergency telephone numbers are boldly displayed on the bulletin board where all shift employees have access. A copy of the posting is attached in Table 1.

**Table 1**  
**Basin Electric Power Cooperative**  
**PrairieWind SD 1 Wind Farm**  
**Spill Response Notification Posting**

**Facility Name:** Basin Electric Power Cooperative – PrairieWinds SD 1 Wind Farm  
**Facility Address:** White Lake, SD 57686  
**Facility Telephone:** TBD

	<u>OFFICE PHONE</u>	<u>CELL PHONE</u>
<b>Primary Spill Response Coordinator Operations and Maintenance Supervisor –</b>	TBD	TBD
<b>Secondary Spill Response Coordinator Lead Wind Technician –</b>	TBD	TBD
<b>Secondary Spill Response Coordinator Operator Technician –</b>	TBD	TBD
<b>National Response Center (NRC) (if oil spill reaches river, call this number immediately)</b>	(800) 424-8802	
<b>U.S. EPA On-Scene Coordinator</b>	(303) 293-1788	
<b>Basin Electric Power Cooperative Corporate Notification Distributed Generation Manager – Kevin Tschosik</b>	(701) 557-5674	(701) 426-9392
<b>SD Dept. of Public Safety – Office of Emergency Management</b>	(605) 773-3231	
<b>Jerauld County Emergency Manager– Martin Christopherson</b>	(605) 539-0243	
<b>Aurora County Emergency Manager – David Baker</b>	(605) 942-7751	
<b>Brule County Emergency Manager – Kathryn Benton</b>	(605) 234-3433	
<b>Jerauld County Sheriff</b>	(605) 539-9301	
<b>Aurora County Sheriff</b>	(605) 942-7752	
<b>Brule County Sheriff</b>	(605) 234-4430	
<b>Fire/Ambulance/Sheriff</b>	911	
<b>Wessington Springs Fire Department</b>	(605) 458-2424	
<b>Kimball Fire Department</b>	(605) 778-6269	
<b>White Lake Fire Department</b>	(605) 249-9900	

## Staff's Second Data Request--PrairieWinds SD, Inc. (EL09-028)

### Item 2-6:

The permit application discusses the setback distances that will be utilized for occupied residences and roads. However, 20:10:22:33.02(4) requires information for setback distances be submitted for off-site buildings (which should include unoccupied buildings if present), the distance from the right-of-way of public roads, and the distance from property lines. Please submit a more detailed explanation of the permit application's setback distances that include unoccupied buildings, the right-of-way of public roads, and property lines. In this explanation include information on setback distances required by local ordinances for the project area.

### Response for Item 2-6:

**Aurora County minimum turbine setbacks:** Distance from currently occupied off-site residences, business and public buildings shall be not less than one thousand (1,000) feet. Distance from the residence of the landowner on whose property the tower(s) are erected shall be not less than five hundred (500) feet or one point one (1.1) times the system height, whichever is greater. For the purposes of this section only, the term "business" does not include agricultural uses.

**Brule County minimum setbacks:** None.

**Jerauld County minimum setbacks:** There shall be no obstruction, such as a building...that may cause view obstruction, snow build-ups or safety hazards within seventy five (75) feet of the road right-of-way line.

**PrairieWinds SD, Inc. setbacks:** As demonstrated in the list below, PrairieWinds SD, Inc. setback distances are in compliance with all County requirements.

- Nine hundred (900) feet from unoccupied buildings. **(No similar county requirement).**
- One thousand four hundred (1,400) feet from occupied residences. **(Greater than 1,000 feet required by Aurora County).**
- Four hundred (400) feet from road right-of-way. **(Greater than 75 feet required by Jerauld County).**
- Generally four hundred (400) feet from Section lines with no roads; turbine #32 is at 300 feet. **(Greater than 75 feet required by Jerauld County).**
- Property lines: Generally one hundred fifteen (115) feet (blade overhang) from property lines of participating landowners and four hundred (400) feet from nonparticipating landowners property lines. Turbine #20 is at one hundred fifty-seven (157) feet and Turbine #10 is at two hundred thirty (230) feet from the property lines of nonparticipating landowners. **(No similar county requirement).**