

BEFORE THE MINNESOTA PUBLIC UTILITIES COMMISSION

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Chair
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SERVICE DATE: **JUN 21 2006**

DOCKET NO. PT-6350/WS-06-157

In the Matter of a Site Permit Application and Draft Site Permit for the MinnDakota Wind Project in Lincoln County, Minnesota

The above entitled matter has been considered by the Commission. The Commission decided to

1. adopt the attached Findings of Fact and Conclusions and issue the attached Site Permit to MinnDakota Wind, LLC, with the conditions proposed by the Department of Commerce's Energy Facility Permitting Staff and incorporated into the attached Site Permit; and
2. clarify that the Site Permit authorizes MinnDakota Wind, LLC, to construct and operate an up to 100 MW Large Wind Energy Conversion System and associated facilities in Lincoln County, Minnesota, in accordance with the conditions contained in the Site Permit and in accordance with Minn. Stat. § 116C.694 and Minn.. Rules, Chapter 4401.

The Commission agrees with and adopts the recommendations of the Department of Commerce which are attached and hereby incorporated in the Order.

BY ORDER OF THE COMMISSION



Burl W. Haar
Executive Secretary

(S E A L)

Attachments: Findings of Fact and Conclusions; Site Permit for MinnDakota Wind Project; and Comments and Recommendations of the Minnesota Department of Commerce

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In the Matter of the Application of
MinnDakota Wind, LLC for
a Site Permit for a 100 Megawatt
Large Wind Energy Conversion
System in Lincoln County, Minnesota

**FINDINGS OF FACT AND
CONCLUSIONS**

PUC DOCKET NO. PT-6530/WS-06-157

The above-entitled matter came before the Minnesota Public Utilities Commission (PUC), pursuant to an application by MinnDakota Wind, LLC, for a Large Wind Energy Conversion Site (LWECS) permit to construct, operate, maintain and manage an up to 100 Megawatt (MW) nameplate capacity wind farm and associated facilities in the townships of Drammen, Verdi, and Shaokatan, in Lincoln County, Minnesota. The LWECS site permit is to be issued to MinnDakota Wind, LLC.

All of the proposed wind turbines, foundations, transformers, feeder lines and 34.5 kV collection lines, and other associated infrastructure considered in these Findings of Fact and Conclusions, and the proposed LWECS permit approved by the Minnesota Commission will be located in Lincoln County, Minnesota.

MinnDakota Wind, LLC, plans on constructing up to an additional 99 MW of wind turbine capacity immediately across the state border in Brookings County, South Dakota. MinnDakota Wind, LLC has applied for and has been issued a permit from Brookings County for those facilities. MinnDakota Wind, LLC, anticipates operating the combined wind facilities in Minnesota and South Dakota as a single facility and will deliver electricity generated by the facility via 34.5 kV electrical lines to the proposed Xcel Energy Yankee Substation.

A new project substation, located in Section 32 of Drammen Township and Section 5 of Verdi Township will be constructed to collect and deliver electricity generated from the MinnDakota Wind project to the proposed Xcel Yankee Substation in Section 5, of Verdi Township, Lincoln County.

STATEMENT OF ISSUE

Should MinnDakota Wind, LLC, be granted a site permit under Minnesota Statutes section 116C.694 to construct an up to 100 MW Large Wind Energy Conversion System in Lincoln County, Minnesota?

Based upon the record and proceedings created in this proceeding, the Minnesota Public Utilities Commission makes the following:

FINDINGS OF FACT

Background and Procedure

1. On February 21, 2006, PPM Energy filed an application on behalf of MinnDakota Wind, LLC, for a Large Wind Energy Conversion Site (LWECS) permit to construct, operate, maintain and manage a 100 Megawatt (MW) nameplate capacity wind facility and associated facilities in the townships of Drammen, Verdi, and Shaokatan, in Lincoln County, Minnesota. (Exhibit 1)
2. On March 10, 2006, MinnDakota Wind, LLC, filed an amended application to request a change in the project boundary perimeter setback for the proposed project from 5 rotor diameters (RD) on the East-West crosswind axis to a distance of 2.5 RD on the East-West axis. (Exhibit 2)
3. Department of Commerce Energy Facility Permitting staff determined that the February 21, 2006, application complied with the application requirements of Minnesota Rules, part 4401.0450. In Comments and Recommendations to the PUC, dated March 16, 2006, DOC EFP staff recommended that the PUC accept the application as complete and appoint a public advisor. (Exhibit 3)
4. On March 20, 2006, the PUC issued an order accepting the application as complete and appointing a public advisor for the MinnDakota Wind, LLC project. (Exhibit 4)
5. MinnDakota Wind, LLC, distributed a permit application by U.S. Mail to each landowner and township clerk within the site boundary, county governmental and other required officials between March 29 and April 26, 2006. (Exhibit 5)
6. MinnDakota Wind, LLC, published a Notice of Application Acceptance of a LWECS Site Permit in the Lake Benton Valley Journal and Hendricks Pioneer newspapers on March 29, 2006. (Exhibits 6-7)
7. On April 12, 2006, the DOC EFP staff presented Comments and Recommendations to the PUC recommending the Commission make a preliminary determination to issue a draft site permit and recommending approval of a draft site permit for the MinnDakota Wind, LLC, project. (Exhibit 8)
8. On April 24, 2006, the PUC issued an order approving a draft site permit for the MinnDakota Wind, LLC, project and authorized initiation of the public comment and review process. (Exhibit 9)
9. On April 24, 2006, the DOC EFP staff served notice of the Public Information Meeting and Public Comment Period scheduled on May 9, 2006, in Hendricks, Minn., to the project mailing list to solicit comments on the site permit application, draft site permit, and to review the permitting process for LWECS. (Exhibit 10)

10. On April 24, 2006. EFP staff posted on the PUC Energy Facilities Permitting web page notice of the May 9, 2006. public information meeting in Hendricks, Minnesota, and the availability of the draft site permit.
11. EFP staff published notice of the Notice of Public Information Meeting and Public Comment Period, in the *Lake Benton Valley Journal* on April 26, 2006. The published notice provided: a) location and date of the public information meeting; b) description of the proposed project; c) deadline for public comments on the site permit application and draft site permit (May 25, 2006); d) description of the PUC site permit review process; and e) identification of the public advisor. The notice published meets the requirements of Minnesota Rules part 4401.0550 subp. 2. (Exhibit 11)
12. On May 8, 2006, the EFP staff published in the *EQB Monitor* Notice of Public Information Meeting and Public Comment Period, EQB Monitor, Volume 30, No. 10, May 8, 2006. The published notice contained all of the information required by Minnesota Rules part 4401.0550 subp. 1. (Exhibit 12)
13. The DOC EFP staff held a public information meeting on May 9, 2006, in Hendricks, Minnesota, to receive comments on the site permit application and draft site permit. Approximately 20 people attended the meeting. Representatives from MinnDakota Wind, LLC, attended. DOC EFP staff provided an overview of the permitting process and draft site permit and responded to questions about the permitting process. Representatives from MinnDakota Wind, LLC, reviewed the proposed project and responded to questions.
14. During the course of the public meeting, one member of the public asked questions about the permitting process and proximity of MinnDakota Wind, LLC, proposed wind turbines to existing wind turbines located in Section 31, Drammen Township.
15. No additional issues or concerns were raised about the permitting process, the proposed project, or conditions in the draft site permit at the public meeting.
16. The public comment period on the project closed on May 25, 2006.

The Permittee

17. MinnDakota Wind, LLC is an affiliate of PPM Energy.
18. MinnDakota Wind, LLC, will be responsible for development, project management, procurement, construction, commissioning, operation, and long-term ownership of the Project.
19. MinnDakota Wind, LLC will own the Project including all equipment up the project's interconnection to the proposed Xcel Energy Yankee Substation.

Project Description

20. The proposed project will use up to 66 1.5 MW wind turbines or wind turbines of a similar nameplate capacity for an installed nameplate capacity of up to 100 MW.
21. The MinnDakota Wind, LLC, Application provides a preliminary layout and site plan utilizing the GE 1.5 MW turbine. This model has a hub height of 80 meters (262 feet) and a rotor diameter of 70.5 meters (231 feet) to 80 meters (269 feet).
22. The MinnDakota Wind, LLC, Application indicates that if a 3.0 MW turbine is used, the expected hub height will be up to 105 meters (345 feet) and would have a rotor diameter of 90 meters (295 feet).
23. All turbines, towers and blades under consideration will be uniform in color and a neutral color.
24. The project will also include an underground-automated supervisory control and data acquisition system (SCADA) for communication purposes. One permanent meteorological tower will be used as part of the communication system. Other components of the project include a concrete and steel foundation for each tower, pad-mounted step-up transformers, all weather class 5 roads of gravel or similar material, and an underground and overhead electric energy feeder and collection system.
25. Each tower will be secured by a concrete foundation that will vary in size and design depending on site soil conditions. A control panel that houses communication and electronic circuitry is placed in each tower. A step-up, pad-mounted transformer will be located adjacent to each turbine to collect the power from the turbine and transfer it to a 34.5 kV collection system via underground or overhead cables.
26. Each turbine will be interconnected through an underground electrical collection and feeder system at 34.5 kV. The Applicant will place the 34.5 kV collection and feeder lines primarily on private rights-of-way and limit use of public rights-of-way. Feeder lines may be underground or overhead depending on local conditions. All of the proposed collection and feeder lines would connect to the proposed project substation in Section 32 of Drammen Township and Section 5 of Verdi Township.
27. The project substation will connect to the Xcel Yankee Substation, where voltage from the MinnDakota Wind, LLC, 34.5 kV collection system will be stepped up to the transmission system level of 115 kV.
28. All turbines meteorological tower systems will be interconnected with fiber optic communication cables that will be installed underground. The communication cables will run back to a central host computer which will be located either at the project substation or at the operations and maintenance facility where a supervisory control and data acquisition (SCADA) system will be located. Signals from the current and potential transformers at each of the delivery points will also be fed to the central SCADA host

computer. The SCADA system will be able to give status indications of the individual wind turbines and the substation and allow for remote control of the wind turbines locally or from a remote computer. This computerized supervisory control and data acquisition network will provide detailed operating and performance information for each wind turbine. MinnDakota Wind, LLC, will maintain a computer program and database for tracking each wind turbine's maintenance history and energy production. The DOC EFP staff will have viewer access to the SCADA system.

Wind Resource Considerations

29. The MinnDakota Wind, LLC, project will be located in Lincoln County along the Buffalo Ridge approximately 1700 – 2000 feet above sea level. Land use in the project area is agricultural with intensive farming and some grazing activities and, as a result, there are few trees or structures in the proposed project site to inhibit the wind as it passes over the site. The wind resource in the project area is considered to be among the best in the nation and is well document by the Department of Commerce. The Wind Resource Analysis Program (WRAP) Report (2002), which presented wind analysis data from monitoring stations across the state of Minnesota, reported a mean annual wind speed of 15.2 to 16.4 miles per hour at an elevation of 70 meters (~230 feet) above ground level in the vicinity of the project area. More recent Wind Resource Maps produced by WindLogics for the Department of Commerce indicate that the resource in the vicinity of the project area at 80 meters (~263 feet) is between 18.1 and 19.9 miles per hour.
30. For this project wind turbines are sited so as to have good exposure to winds from all directions with emphasis on exposure to the prevailing southerly and northwesterly winds. The turbine spacing, according to site permit application, maximizes use of the available wind and minimizes wake and array losses within the topographical context of the site. Turbine placement has been designed to provide a minimum of 3 rotor diameter spacing in the east-west direction and 5 rotor diameter spacing in the north-south direction, with respect to the predominant energy production directions. Given the prevalence of southerly and northwest winds, the spacing is widest in the north-south direction. Greater or lesser spacing between the turbine strings may be used in areas where the terrain dictates the spacing. This is addressed in the permit at III.E.5. Individual, isolated turbine sites are avoided to minimize interconnection and access costs. Sufficient spacing between the turbines is utilized to minimize wake losses when the winds are blowing parallel to the turbine rows.
31. The project projected average annual output will be approximately 341,000 megawatt hours per year (MWh) assuming a 39 percent capacity factor. Final project output is subject to final layout, design, and equipment selected.
32. Most of the land within the project site is actively farmed. Cultivated lands comprise about 71 percent of the project area with corn, soybeans, and small grains as the dominant row crops. Pasture land is approximately 28 percent of the project area.

33. The project site as proposed includes approximately 31,000 acres in the townships of Verdi, Drammen and Shaokatan in Lincoln County. The land is predominately agricultural, with few scattered small woodlots and wetlands. The proposed wind turbine site layout found in Figure 1-3 of the amended site permit application shows where the proposed towers may be located. These locations are subject to change. It is estimated that the proposed facilities will result in the permanent, direct disturbance of 32 to 44 acres of land depending on turbine model, size and final site layout.

Land Rights and Easement Agreements

34. In order to build a large wind energy conversion system, a developer needs to secure wind rights, site leases and easement option agreements to ensure access to the site for construction and operation of a proposed project. These lease or easement agreements also prohibit landowners from any activities that might interfere with execution of the proposed project.
35. MinnDakota Wind, LLC, has obtained lease and easement option agreements and/or rights to such agreements with landowners for land within the project site boundary necessary for installation of the components of the wind farm. These rights and easements will be able to support the proposed project.
36. The project boundary set-back of 3 RD on the east-west (cross-wind) axis and set-back of 5 RD on the north-south (down-wind) axis have been established to protect the wind rights of adjacent landowners or owners not participating in the MinnDakota Wind, LLC, project.
37. The Applicant will be required to meet the 3 RD east-west and 5 RD north-south wind turbine set-backs from properties outside of the project boundary described in the application and from properties within the project boundary for which MinnDakota Wind, LLC, does not hold wind development easements or rights.
38. The Applicant will be required to meet a 5 RD set-back from all existing wind turbines regardless if such turbines are inside or outside of the proposed project area to protect the wind rights of owners of adjacent, existing wind turbines.

Public Comments and Letters Received by May 25, 2006

39. At the close of the comment period on May 25, 2006, the DOC had received six comment letters on the proposed MinnDakota Wind, LLC, project.
40. On May 11, 2006, the Department received comment letters from Mr. Wayne Hesse, Mr. Amos Schwarzrock, Mr. Jerry Schwarzrock, and Mr. Paul Schwarzrock, expressing concerns about the proximity of MinnDakota Wind, LLC, proposed wind turbine locations to their existing wind turbines located in Section 31, Drammen Township. The persons above indicated the concern that the proximity of two of MinnDakota Wind,

LLC, proposed turbines may affect the production of the existing wind turbines owned by the persons above. (Exhibits 13-16)

41. On May 24, 2005, the Department received a comment letter from Mr. Dennis Gimmestad of the Minnesota Historic Preservation Office. The letter indicates that the Office reviewed the permit application under its responsibility under the Minnesota Historic Sites Act and Minnesota Field Archaeology Act. The letter indicates that the Office will review MinnDakota Wind, LLC. cultural resources survey when has been completed. (Exhibit 17)
42. On May 25, the Department received a comment letter from Mr. Timothy Seck of PPM Energy on behalf of the MinnDakota Wind, LLC, project. Mr. Seck's letter made comments and suggestions on the language contained in the draft site permit. (Exhibit 18)
43. The public comment period closed on May 25, 2006.

Site Criteria

Minnesota Statutes sections 116C.691 – 116C.697 and Minnesota Rules Chapter 4401 apply to the siting of Wind Energy Conversion Systems. The rules require applicants to provide a substantial amount of information to allow the PUC to determine the potential environmental and human impacts of the proposed project and whether the project is compatible with environmental preservation, sustainable development, and the efficient use of resources. Minnesota Rules parts 4401.0450 through 4401.0600. The following analysis addresses the relevant criteria that are to be applied to a LWECS project.

Human Settlement, Public Health and Safety

44. The site is in an area of low population density, with little residential, commercial or industrial development on or near the site. As a result, the impact of the proposed LWECS on human settlement, public health and safety will be minimal. The site permit condition III. C. specifies conditions for setbacks from residences and roads. The proposed wind turbine layout meets or exceeds those requirements.
45. There will be no displacement of existing residences or structures in siting the wind turbines and associated facilities.
46. The project will comply with the Federal Aviation Administration requirements with respect to lighting. See site permit condition III.E.4.
47. MinnDakota Wind, LLC, will provide security during construction and operation of the project, including fencing, warning signs, and locks on equipment and facilities. MinnDakota Wind, LLC, will also provide landowners and interested persons with safety information about the project and its facilities. See site permit condition III.B.15.

48. Each turbine will be clearly labeled to identify each unit and a map of the site with the labeling system to local public safety authorities as part of the fire protection plan.

Noise

49. Wind turbines generate noise. According to estimates provided by MinnDakota Wind, LLC. in its application, the sound pressure level is expected to be lower than the Minnesota Pollution Control Agency noise standard of 50 dBA measured at the closest residences. The MPCA noise standard is found in Minnesota Rules part 7030.0040. The Applicant will be required to meet the Minnesota Pollution Control Agency's (MPCA) noise standard.
50. For this project, the site permit application indicates that at a distance of 623 feet, the noise measured at a residence will meet the requirements of the Nighttime L50 standard of 50 dB(A) for the 1.5 MW GE turbine, and 788 feet for a 3.0 MW turbine. These set-back distances are based on noise information and modeling provided to MinnDakota Wind, LLC, by relevant manufacturers. See site permit condition III.E.3.

Visual Values

51. Currently within and adjacent to the project boundary and on the Buffalo Ridge generally, wind turbines, towers and rotor blades are prominent features on the landscape. There are currently expansive views of the turbines to passing motorists on local, county and state highways.
52. The visual impact of the proposed MinnDakota Wind, LLC, wind turbines will be reduced by the use of a neutral paint color. The only lights will be those required by the Federal Aviation Administration. All site permits issued by the PUC require the use of tubular towers; therefore, the turbine towers will be uniform in appearance. Wind turbines are and will continue to be a dominant visual feature on the landscape on and near the Buffalo Ridge. The wind turbines in this project, while prominent on the landscape, will also blend in with the surrounding area. The project site will retain its rural character. The turbines and associated facilities necessary to harvest the wind for energy are consistent with existing land use, wind energy production, and agricultural practices.
53. The numerous wind farms on the Buffalo Ridge have altered the landscape from agricultural to wind plant/agricultural. This project will increase the visual impact to the area. The cumulative effect of the proposed project will increase both the industrial appearances of the wind plants in the area and the areas from which they will be seen. Because wind generation development is likely to continue in Lincoln County, this visual impact will continue to increase the size of the wind plant/farm footprint as the turbines harvest the wind resources of Lincoln County for energy. To date the presence of numerous wind turbines on Buffalo Ridge has been well accepted by the people who live and work in the area.

54. MinnDakota Wind, LLC, use of larger turbine rotor sizes and rotor diameters will result in greater turbine spacing to minimize wake loss. Therefore the MinnDakota Wind, LLC turbines will be spaced further from one another and existing turbines than in several older, existing projects on Buffalo Ridge which used smaller turbine rotors and rotor diameters. See site permit conditions III.C.

Recreational Resources

55. Recreational opportunities in Lincoln County include: hunting, fishing, snowmobiling, bird and wildlife watching, campgrounds and trails. Hunting, fishing and wildlife observation is permitted in designated Minnesota Department of Natural Resources Wildlife Management Areas (WMA's), Fish and Wildlife Service lands and other lands inside and outside of the project boundary, in public waters, and on private property in the area unless otherwise posted. There are no designated states or federal wildlife areas located within the project boundary; however several are present within one mile. The proposed project will not impact public access to public waters in the area.
56. The proposed turbines will be visible to persons using the lands inside and close to the project area. Turbines will not be located on public lands, WMA's, Scientific and Natural Areas or in any local parks. There are no designated WMAs, SNAs, or public parklands within the project boundary. Wind turbine operations are not expected to affect the natural areas in any material way and no adverse impact on wildlife areas is expected.

Infrastructure

57. The MinnDakota Wind, LLC project is expected to have a minimal effect on the existing infrastructure. The proposed project will use underground cables for the collector lines on private property within the wind farm. The feeder lines associated with the project may be overhead or underground, dependant on site conditions. Any above ground feeder lines, if used, would be wood or steel poles, 34.5 kV typical of wind project feeder lines in the Buffalo Ridge area. The feeder lines will deliver the energy from the wind farm to the project substation. Placement of collector and feeder lines is addressed in the site permit at III.E.7. and 8.
58. The project will require the use of public roads to deliver construction supplies and materials to the work site. Site permit condition III.B.8. addresses this topic. Construction of the project requires the construction of access roads that will be located on private property. The access roads will be routed in a manner that minimizes disturbance of agricultural activities while maintaining a short, direct route. The typical permanent access road will be 16 feet in width and covered in Class 5 gravel (or similar material). The access roads will be low profile roads to allow for the movement of agricultural equipment. The site permit at III.B. 8 (b) addresses this topic. During operation and maintenance of the wind plant, operation and maintenance crews, while inspecting and servicing the wind turbines, will use the access roads. Periodic grading or other methods are necessary to maintain road integrity. The Permittee may do this work or contract it out.

59. If access roads must be installed across waterways that are considered public waters, the Permittee in consultation with the Minnesota Department of Natural Resources will design, shape and locate the road so as not to alter the original water flow or drainage patterns. Any work required below the ordinary high water line, such as road crossings or culvert installation, will require a permit from the Minnesota Department of Natural Resources.
60. The proposed wind farm will not affect water supplies, railroads, telecommunication facilities, and radio reception. The presence or operation of the wind plant could potentially impact the quality of television reception in the area. Previous work on television reception issues indicates that in some cases new antennas or relocation of existing antennas can restore television signal strength reception. MinnDakota Wind, LLC will address the concerns of residents in the area of the project site before and after the project construction to document and mitigate any television reception impacts that might occur. This is addressed in the site permit at III.D.3.
61. Construction, operation, and maintenance of the proposed wind plant will comply with all of the required federal and state permit requirements.

Community Benefits

62. The project will provide local tax revenues from a production tax on the wind energy produced by the turbines. No significant adverse impact on public services is expected. Wear and tear on roads will occur as a result of the transport of heavy equipment and other materials. The site permit at III.B.8. addresses road damages. Landowners with turbine(s) or associated infrastructure on their property will receive payments from MinnDakota Wind, LLC, for wind rights and land easements.
63. To the extent that local workers and local contractors are capable, qualified, and available, MinnDakota Wind, LLC will seek to hire them to construct the proposed project. The hiring of local people will expand employment opportunities in this area of the state and keep money in the local economy. Once constructed, the project will be staffed with several full time site technicians and a wind plant supervisor. Short term construction spending will provide local economic benefits. Long term operations, maintenance, production taxes, and lease payments will also have positive local economic benefits.

Effects on Land-Based Economies

64. The project will permanently displace approximately 32 to 44 acres of agricultural land. The site permit at III.B. 2., 3., 4., 5., 6., 7., 8(c), 9., and 10. addresses mitigation measures for agricultural lands. The proposed project does not affect any sand or gravel operations.

Archaeological and Historical Resources

65. HDR Engineering, Inc., conducted a Cultural Resources Literature Review included in the MinnDakota Wind, LLC, Amended Application, Appendix B. The Literature Review relies on a review of the Minnesota State Historic Preservation Office (SHPO) computer database which indicates that 11 known cultural resources and 15 archaeological resources have been documented inside the boundaries of or within 1 mile of the MinnDakota Wind project. Many of these resources were discovered or reported upon conducting environmental review of previously permitted wind facilities in the area. HDR recommended a Phase I archeological resources survey for all the proposed turbine locations, access roads, and other construction elements to document any previously unrecorded archaeological sites within the project site. The site permit at III.D.2. requires MinnDakota Wind, LLC, to consult with the Minnesota Historical Society upon completion of cultural resources surveys.
66. If any archaeological sites are found during the Phase I survey, their integrity and significance should be addressed in terms of the site's potential eligibility for placement on the National Register of Historic Places (NRHP). If such sites are found to be eligible for the NRHP, appropriate mitigation measures will need to be developed in consultation with the Minnesota State Historic Preservation Officer (SHPO), the State Archaeologist, and consulting American Indian communities. The site permit also requires the Permittee to stop work and notify the Minnesota Historical Society and PUC if any unrecorded cultural resources are found during construction. See the site permit at III.D.2.

Air and Water Emissions

67. No harmful air or water emissions are expected from the construction and operation of the LWECS.

Animals and Wildlife

68. MinnDakota Wind, LLC, has consulted with the Minnesota Department of Natural Resources and the United States Fish and Wildlife Service about the project's design and mitigation measures on natural communities, fish and wildlife.
69. The Topeka Shiner, a species of endangered fish, may be present in streams within the project boundary. Best management practices shall be implemented to minimize impacts to Topeka Shiner habitat and are attached to the site permit.
70. Neither construction nor operation of the project is expected to significantly impact wildlife. Based on studies of existing wind power projects in the United States and Europe, the only impact of concern to wildlife would primarily be to avian and bat populations. The final report on avian monitoring studies at Buffalo Ridge, Minnesota "Final Report-Avian Monitoring Studies at the Buffalo Ridge, Minnesota Resource Area: Results of a 4-Year Study" (September 2000) identified the following impacts:

- a) Following construction of the wind turbines, there is a reduction in the use of the area within 100 meters of the turbines by seven of 22 species of grassland breeding birds. It was hypothesized that lower avian use may be associated with avoidance of turbine noise, maintenance activities, and less available habitat. The researchers stated "on a large scale basis, reduced use by birds associated with wind power development appears to be relatively minor and would not likely have any population consequences on a regional level."(p. 44)
 - b) Avian mortality appears to be low on Buffalo Ridge, compared to other wind facilities in the United States, and is primarily related to nocturnal migrants. Resident bird mortality is very low and involves common species. The researchers stated that "based on the estimated number of birds that migrate through Buffalo Ridge each year, the number of wind plant related avian fatalities at Buffalo Ridge is likely inconsequential from a population standpoint." (p. iv)
71. Bat mortality was also studied at Buffalo Ridge, instigated by bat collision victims found during the avian monitoring studies. The bat study was conducted in 2001 and 2002. ("Bat Interactions with Wind Turbines at the Buffalo Ridge, Minnesota Wind Resource Area," November 2003). The overall conclusion is that bat activity at turbines and the numbers of bat fatalities do not share a statistical relationship. Bat collisions were found to be very rare, given the amount of bat activity documented at the turbines. Most fatalities involved migrating bats, a wind-plant related mortality "is possibly not sufficient to cause significant, large-scale population declines." (p. 61)
72. Mitigation measures are also prescribed in the site permit and include but are not limited to: a) a pre-construction inventory of existing biological resources, native prairie, state listed and threatened species and wetlands in the project area; b) turbines and associated facilities will not be constructed in wildlife management areas, recreation and state and scientific natural areas; c) landowner approval will be negotiated prior to any removal of trees during construction; d) sound water and soil conservation practices will be implemented during construction and operation of the project to protect topsoil and adjacent resources and to minimize soil erosion. This also applies to any work in proximity to watercourses.

Vegetation

73. Removal of groves of trees or shelterbelts will be minimized. Native prairie will also be avoided. If native prairie cannot be avoided, the site permit, at III. C.6. provides for preparation of a prairie protection and management plan.

Soils

74. Construction of the wind turbines and access roads increases the potential for erosion during construction and converts prime farmland to industrial use. The site permit at III.

B. 9. requires a soil erosion and sediment control plan. The project will also require a storm water run-off permit from the Minnesota Pollution Control Agency.

Surface Water and Wetlands

75. No towers, access roads or utility lines will be located in Public Waters or wetlands, unless licensed or permitted by the DNR. See site permit at III.C.5.

Future Development and Expansion

76. While large-scale projects have occurred elsewhere (California and Iowa), little systematic study of the cumulative impact has occurred. Research on the total impact of many different projects in one area has not occurred. DOC EFP staff continues to monitor for cumulative impacts and issues related to wind energy development.
77. The PUC and DOC anticipate more site permit applications under Minnesota Statutes section 116C.694 (a). The PUC is responsible for siting of LWECS "in an orderly manner compatible with environmental preservation, sustainable development, and the efficient use of resources." Minnesota Statutes section 116C.693.
78. Minnesota Statutes section 116C.57, subd. 4 requires consideration of design options that might minimize adverse environmental impacts. By using larger turbines, fewer turbines are required, reducing siting needs for turbines and related facilities. Turbines must also be designed to minimize noise and aesthetic impacts. Buffers between strings of turbines are designed to protect the turbines' production potential. The site permit also provides for buffers between adjacent wind generation projects to protect production potential. See site permit at III.C.1.
79. The location and spacing of the turbines are critical to the issues of orderly development and the efficient use of wind resources. Turbines are likely to be located in the best winds, and the spacing dictates, among other factors, how much land area the project occupies.
80. One efficiency issue is the loss of wind in the wake of turbines. Wind flow behind the turbine is not as fast and is more turbulent than the free-flowing wind. This condition persists for some distance behind the turbine as normal wind flow is gradually restored. If a turbine is spaced too close downwind of another, it produces less energy and is less cost-effective. This is the wake loss effect. If the spacing is too far, wind resources are wasted and the projects' footprint on the land is unnecessarily large.
81. For this project, turbine spacing maximizes use of the available wind resources and minimizes wake and array losses within the topographical context of the site. Site topography and wind resources resulted in a layout involving long strips of turbines running parallel to each other and perpendicular to the prevailing wind. The objective is to capture the most net energy possible from the best available wind resource. Allowing for setback from roads and residences and avoiding sensitive areas, MinnDakota Wind,

LLC. arrived at an average turbine spacing of at least 3 rotor diameters in the east-west direction and at least 5 rotor diameter spacing in the north-south direction, with respect to the predominant energy production directions. Given the prevalence for southerly and northerly winds at this site, the spacing between turbines is greatest in the north-south direction for this project.

Maintenance

82. Maintenance of the turbines will be on a scheduled, rotating basis. Additional unscheduled maintenance will be conducted on an as needed basis. Maintenance on the interconnection points will be coordinated with Xcel Energy. The MinnDakota Wind, LLC, project will be staffed with site technicians and a wind plant supervisor. The Permittee may construct a facility to house the operation and maintenance efforts for the Project.

Site Restoration

83. Decommissioning and site restoration activities will include (1) removal of all turbines and towers; (2) removal of all pad mounted transformers; (3) removal of all above-ground distribution facilities; (4) removal of foundations to a depth of three feet below grade; and (5) removal of surface road material and restoration of the roads and turbine sites to previous conditions to the extent feasible.

Decommissioning Economics

84. MinnDakota Wind, LLC, will be responsible for all costs to decommission the Project and associated facilities and will begin decommissioning the facility within 8 months from the time the facility ceases to operate. Decommissioning will be completed within 15 months from the time the facility ceases to operate. See site permit at III.G.
85. The estimated decommissioning cost for the MinnDakota Wind, LLC, project is approximately \$10,000 to \$30,000 per turbine in current dollars. The Permit requires MinnDakota Wind, LLC, to submit a Decommissioning Plan to the PUC that describes how the Permittee will ensure that the resources are available to pay for decommissioning the project at the appropriate time. See site permit at III.G.

Site Permit Conditions

86. Nearly all of the conditions contained in this site permit were established as part of the site permit proceedings of other wind turbine projects permitted by the Environmental Quality Board and the Public Utilities Commission. Minor changes that provide for clarifications of the draft site permit conditions have been made.
87. The proposed MinnDakota Wind, LLC, project meets the site permit setback requirements from existing wind turbines and lands which MinnDakota Wind, LLC, does not hold wind rights.

88. The site permit contains conditions that apply to site preparation, construction, cleanup, restoration, operation, maintenance, abandonment, decommissioning and all other aspects of the project.

Based on the foregoing findings, the Minnesota Public Utilities Commission makes the following:

CONCLUSIONS OF LAW

1. Any of the foregoing findings, which more properly should be designated as conclusions, are hereby adopted as such.
2. The MinnDakota Wind, LLC, application for a site permit was properly filed and noticed as required by Minnesota Statutes section 116C.94 and Minnesota Rules parts 4401.0460 subp. 2 and 4401.0550 subp. 2.
3. The Minnesota Public Utilities Commission has afforded all interested persons an opportunity to participate in the development of the site permit and has complied with all applicable procedural requirements of Minnesota Statutes section 116C.694 and Minnesota Rules Chapter 4401.
4. While a siting concern was raised, no objections were filed with the Minnesota Public Utilities Commission by any governmental unit, affected landowner or any other interested person during the 30-day comment period and no contested case hearing was requested.
5. The Commission concludes that the 5 rotor diameter (RD) set back from existing wind turbines adequately protects owners of existing wind turbines in the area. The 3 RD east-west and 5 RD north-south project boundary set back adequately protects the wind and property rights of persons outside the project boundary and/or persons within the project boundary but not participating the MinnDakota Wind, LLC project.
6. The Minnesota Public Utilities Commission has jurisdiction under Minnesota Statutes section 116C.694 over the site permit applied for by MinnDakota Wind, LLC. Minnesota Public Utilities Commission is the agency directed to carry out the legislative mandate to site LWECS in an orderly manner compatible with environmental preservation, sustainable development and the efficient use of resources.
7. The MinnDakota Wind, LLC, LWECS project will not create significant human or environmental impacts and is compatible with environmental preservation, sustainable development, and the efficient use of resources.
8. The Minnesota Public Utilities Commission has the authority under Minnesota Statutes section 116C.694 to establish conditions in site permits relating to site layout and construction and operation and maintenance of an LWECS. The conditions contained in

the site permit issued to MinnDakota Wind, LLC, are appropriate and necessary and within the Minnesota Public Utilities Commission's authority.

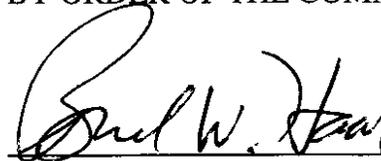
**SITE PERMIT FOR
MINNDAKOTA WIND PROJECT
LARGE WIND ENERGY CONVERSION SYSTEM
IN
LINCOLN COUNTY
ISSUED TO
MINNDAKOTA WIND, LLC
PUC DOCKET NO. PT6530/WS-06-157**

In accordance with Minnesota Rule 4401.0500, this Draft Site Permit is hereby issued to **MINNDAKOTA WIND, LLC**. A final permit would authorize MinnDakota Wind, LLC to construct and operate up to a 100-Megawatt Large Wind Energy Conversion System on the site identified in this Site Permit and in compliance with the conditions contained in this Permit.

This Permit shall expire on December 31, 2036

Dated: June _____, 2006

BY ORDER OF THE COMMISSION



BURL W. HAAR
Executive Secretary

(S E A L)

This document can be made available in alternative formats (i.e., large print or audio tape) by calling 651-201-2202 (Voice), 651-297-1200 (TTY).

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I. SITE PERMIT

This Site Permit for a Large Wind Energy Conversion System (LWECS) authorizes MinnDakota Wind, LLC, an affiliate of PPM Energy, Inc., (hereinafter "Permittee") to construct up to a 100-Megawatt (MW) LWECS and associated facilities known as the MinnDakota Wind Project in Lincoln County, on a site of approximately 31,084 acres in accordance with the conditions contained in this Permit. The site boundary is shown on the map that is attached hereto as Exhibit 1.

II. PROJECT DESCRIPTION

The 100-Megawatt LWECS authorized to be constructed in this Permit is referred to as MinnDakota Wind and will be owned and operated by MinnDakota Wind, LLC. The project will consist of up to 66 GE 1.5 MW or similar wind turbines with a nominal nameplate capacity of 99-Megawatts. Turbines are interconnected by communication and electrical power collection facilities within the wind farm. These facilities will include step-up transformers, underground collector lines, aboveground or underground feeder lines that will deliver wind-generated power to a new project substation. The project substation will deliver the electricity to the Xcel Energy Yankee Substation located in Section 5 of Verdi Township in Lincoln County. The project will also include an operation and maintenance facility and a permanent meteorological tower.

III. CONDITIONS

The following conditions shall apply to site preparation, construction, cleanup, restoration, operation, maintenance, abandonment, decommissioning and all other phases of the LWECS. The PUC preserves all available remedies for violation of any of these Permit conditions, including revocation or modification of the Permit.

A. GENERAL CONSTRUCTION CONDITIONS

1. SITE PLAN

Prior to commencing construction, the Permittee shall submit to the PUC or Commission a site plan for all turbines, roads, electrical equipment, collector and feeder lines and other associated facilities to be constructed and engineering drawings for site preparation, construction of the facilities, and restoration of the site due to construction. The Permittee may submit a site plan and engineering drawings for only a portion of the LWECS if the Permittee is prepared to commence construction on certain parts of the project before completing the site plan and engineering drawings for other parts of the LWECS. The Permittee shall have the right to move or relocate turbine sites due to the discovery of environmental conditions during construction, not previously identified, which by law or pursuant to this Permit would prevent such use. The Permittee shall notify the PUC of any turbines that are to be relocated before the turbine is constructed on the new site.

2. FIELD REPRESENTATIVE

Prior to the start of construction and continuously throughout construction and site restoration, the Permittee shall designate a field representative responsible for overseeing compliance with the conditions of this Permit. This person (or a designee) shall be accessible by telephone during normal business hours. This person's address, phone number and emergency phone number shall be provided to the PUC, who may make the number available to local residents and officials and other interested persons. The Permittee may change the representative by notice to the PUC.

3. PRECONSTRUCTION MEETING

Prior to the start of any construction, the Permittee shall conduct a preconstruction meeting with the person designated by the PUC to coordinate field monitoring of construction activities.

4. NOTICE OF PERMIT CONDITIONS

The Permittee shall inform all employees, contractors, and other persons involved in the construction and ongoing operation of the LWECS of the terms and conditions of this Permit.

B. MITIGATION MEASURES

1. SITE CLEARANCE

The Permittee shall disturb or clear the site only to the extent necessary to assure suitable access for construction, safe operation, and maintenance of the LWECS.

2. TOPSOIL PROTECTION

The Permittee shall implement measures to protect and segregate topsoil from subsoil in cultivated lands unless otherwise negotiated with the affected landowner.

3. COMPACTION

The Permittee shall implement measures to minimize compaction of all lands during all phases of the project's life and shall confine compaction to as small an area as practicable.

4. LIVESTOCK PROTECTION

The Permittee shall take precautions to protect livestock during all phases of the project's life.

5. FENCES

The Permittee shall promptly replace or repair all fences and gates removed or damaged during all phases of the project's life unless otherwise negotiated with the affected landowner. When the Permittee installs a gate where electric fences are present, the Permittee shall provide for continuity in the electric fence circuit.

6. DRAINAGE TILE

The Permittee shall promptly repair or replace all drainage tiles broken or damaged during all phases of the project's life unless otherwise negotiated with the affected landowner.

7. EQUIPMENT STORAGE

The Permittee shall not locate temporary equipment staging areas for site construction and restoration on cultivated land unless otherwise negotiated with the affected landowner. Temporary staging areas shall not be located in wetlands or native prairie.

8. ROADS

(a) Public Roads

Prior to commencement of construction, the Permittee shall identify all state, county or township roads that will be used for the LWECS project and shall notify the PUC and the state, county or township governing body having jurisdiction over the roads to determine if the governmental body needs to inspect the roads prior to use of these roads. Where practical, existing roadways shall be used for all activities associated with the LWECS. Where practical, all-weather roads shall be used to deliver cement, turbines, towers, assembled nacelles and all other heavy components to and from the turbine sites.

The Permittee shall, prior to the use of such roads, make satisfactory arrangements with the appropriate state, county or township governmental body having jurisdiction over roads to be used for construction of the LWECS for maintenance and repair of roads that will be subject to extra wear and tear due to transportation of equipment and LWECS components. The Permittee shall notify the PUC of such arrangements upon request of the PUC.

(b) Turbine Access Roads

The Permittee shall construct the smallest number of turbine access roads it can. Access roads shall be low profile roads so that farming equipment can cross them and shall be covered with Class 5 gravel or similar material. When access roads are constructed across streams and drainage ways, the access roads shall be designed in a manner so runoff from the upper portions of the watershed can readily flow to the lower portion of the watershed.

(c) Private Roads

The Permittee shall promptly repair private roads or lanes damaged when moving equipment or when obtaining access to the site, unless otherwise negotiated with the affected landowner.

9. SOIL EROSION AND SEDIMENT CONTROL

The Permittee shall develop a Soil Erosion and Sediment Control Plan prior to construction and submit the Plan to the PUC. This Plan may be the same plan submitted to the Minnesota

Pollution Control Agency as part of a storm water runoff permit application. A goal of the Soil Erosion and Sediment Control Plan is to minimize soil erosion, to revegetate non-cropland and range areas disturbed by construction with wildlife conservation species, and wherever possible, to plant appropriate native species in cooperation with landowners.

The Soil Erosion and Sediment Control Plan shall address what types of erosion control measures will be implemented during each project phase, and shall at a minimum identify plans for grading, construction and drainage of roads and turbine pads; necessary soil information; detailed design features to maintain downstream water quality; a comprehensive re-vegetation plan to maintain and ensure adequate erosion control and slope stability and to restore the site after temporary project activities; and measures to minimize the area of surface disturbance. Other practices shall include containing excavated material, protecting exposed soil, and stabilizing restored material and removal of silt fences or barriers when the area is stabilized. The plan shall identify methods for disposal or storage of excavated material. Erosion and sedimentation control measures shall be installed prior to construction and maintained throughout the project's life.

10. CLEANUP

The Permittee shall remove all waste and scrap that is the product of construction, operation, restoration and maintenance from the site and properly dispose of it upon completion of each task. Personal litter, bottles, and paper deposited by site personnel shall be removed on a daily basis.

11. TREE REMOVAL

The Permittee shall minimize the removal of trees and the Permittee shall not remove groves of trees or shelter belts without notification to the PUC and the approval of the affected landowner.

12. RESTORATION

The Permittee shall, as soon as practical following construction of each turbine, considering the weather and preferences of the landowner, restore the area affected by any LWECs activities to the condition that existed immediately before construction began, to the extent possible. The time period may be no longer than eight months after completion of construction of the turbine. Restoration shall be compatible with the safe operation, maintenance, and inspection of the LWECs.

13. HAZARDOUS WASTE

The Permittee shall be responsible for compliance with all laws applicable to the generation, storage, transportation, clean up and disposal of hazardous wastes generated during any phase of the project's life.

14. APPLICATION OF HERBICIDES

The Permittee shall restrict herbicide use to those herbicides and methods of application approved by the Minnesota Department of Agriculture and the U.S. Environmental Protection Agency. Selective foliage or basal application shall be used when practicable. The Permittee shall contact the landowner or his designee to obtain approval for the use of herbicide prior to any application on their property. The landowner may request that there be no application of herbicides on any part of the site within the landowner's property. All herbicides shall be applied in a safe and cautious manner so as to not damage crops, orchards, tree farms, or gardens. The Permittee shall also, at least ten days prior to the application, notify beekeepers with an active apiary within one mile of the proposed application site of the day the company intends to apply herbicide so that precautionary measures may be taken by the beekeeper.

15. PUBLIC SAFETY

The Permittee shall provide educational materials to landowners within the site boundaries and, upon request, to interested persons, about the project and any restrictions or dangers associated with the LWECS project. The Permittee shall also provide any necessary safety measures, such as warning signs and gates for traffic control or to restrict public access.

16. FIRE PROTECTION

The Permittee shall prepare a fire protection and medical emergency plan in consultation with the fire department having jurisdiction over the area prior to LWECS construction. The Permittee shall submit a copy of the plan to the PUC upon request.

17. TOWER IDENTIFICATION

All turbine towers shall be marked with a visible identification number.

C. SETBACKS

1. WIND ACCESS BUFFER

Wind turbine towers shall not be placed less than 5 rotor diameters from the perimeter of the site on the north-south axis and 3 rotor diameters on the east-west axis where the Permittee does not hold the wind rights, without the approval of the PUC. Wind turbine towers within the project boundaries shall not be placed less than 5 rotor diameters on the north-south axis or 3 rotor diameters on the east-west axis from the boundary of any property on which the Permittee does not hold the wind rights unless approved otherwise by the affected landowner and the PUC.

Wind turbine towers shall not be placed less than 5 RD from any existing wind turbines, regardless if such turbines are inside or outside of the proposed project area, to protect the wind rights of owners of adjacent, existing wind turbines.

2. RESIDENCES

Wind turbine towers shall not be located closer than 500 feet, or the necessary distance to conform to the MPCA standard of 50 dBA, from the nearest occupied dwelling, whichever is greater. The distance to accommodate the GE 1.5 MW turbines is calculated at 623 feet.

3. ROADS

Wind turbine towers shall not be located closer than 250 feet from the edge of the nearest public road right-of-way.

4. WILDLIFE MANAGEMENT AREAS

Wind turbines and associated facilities including foundations, access roads, underground cable, and transformers, shall not be located in Waterfowl Protection Areas, State Wildlife Management Areas or Scientific and Natural Areas or in county parks. These areas may be used in establishing the wind access buffer required by paragraph III.C.1.

5. WETLANDS

Wind turbines and all associated facilities, including foundations, access roads, underground cable, and transformers, shall not be placed in public waters wetlands, as defined in Minnesota Statutes section 103G.005, subp. 15a, unless licensed by the DNR.

6. NATIVE PRAIRIE

Upon request of the PUC, the Permittee shall, with the advice of the DNR and any others selected by the Permittee, prepare a prairie protection and management plan and submit it to the PUC and DNR Commissioner 60 days prior to the start of project construction. The plan shall address steps to be taken to identify native prairie within the project area, measures to avoid impacts to native prairie, and measures to mitigate for impacts if unavoidable. Wind turbines and all associated facilities, including foundations, access roads, underground cable and transformers, shall not be placed in native prairie unless addressed in the prairie protection and management plan. Unavoidable impacts to native prairie shall be mitigated by restoration or management of other native prairie areas that are in degraded condition, or by conveyance of conservation easements, or by other means agreed to by the Permittee and PUC.

7. OTHER

Wind turbines and all associated facilities, including foundations, access roads, underground cable, and transformers shall not be located within active sand and gravel operations, unless otherwise negotiated with the owner of the sand and gravel operation.

D. PRECONSTRUCTION SURVEYS

1. BIOLOGICAL PRESERVATION SURVEY

The Permittee, in consultation with DNR and other interested parties, shall conduct a pre-construction inventory of existing wildlife management areas, scientific and natural areas, recreation areas, native prairies and forests, wetlands, and any other biologically sensitive areas within the site and assess the presence of state- or federally-listed or threatened species. The results of the survey shall be submitted to the PUC and DNR prior to the commencement of construction.

2. ARCHAEOLOGICAL RESOURCES

The Permittee shall work with the State Historic Preservation Office (SHPO) at the Minnesota Historical Society and the State Archaeologist as early as possible in the planning process to determine whether an archaeological survey is recommended for any part of the proposed project. The Permittee will contract with a qualified archaeologist to complete such surveys, and will submit the results to the PUC, the SHPO and the State Archaeologist. The SHPO and the State Archaeologist will make recommendations for the treatment of any significant archaeological sites which are identified. Any issues in the implementation of these recommendations will be resolved by PUC in consultation with SHPO and the State Archaeologist. In addition, the Permittee shall mark and preserve any previously unrecorded archaeological sites that are found during construction and shall promptly notify the SHPO, the State Archaeologist, and the PUC of such discovery. The Permittee shall not excavate at such locations until so authorized by the PUC in consultation with the SHPO and the State Archaeologist. If human remains are encountered during construction, the Permittee shall immediately halt construction at that location and promptly notify local law enforcement authorities and the State Archaeologist. Construction at the human remains location shall not proceed until authorized by local law enforcement authorities or the State Archaeologist.

If any federal funding, permit or license is involved or required, the Permittee shall notify the MHS as soon as possible in the planning process to coordinate section 106 (36 C.F.R 800) review.

Prior to construction, construction workers shall be trained about the need to avoid cultural properties, how to identify cultural properties, and procedures to follow if undocumented cultural properties, including gravesites, are found during construction. If any archaeological sites are found during construction, the Permittee shall immediately stop work at the site and shall mark and preserve the site and notify the PUC and the MHS about the discovery. The PUC and the MHS shall have three working days from the time the agency is notified to conduct an inspection of the site if either agency shall choose to do so. On the fourth day after notification, the Permittee may begin work on the site unless the MHS has directed that work shall cease. In such event, work shall not continue until the MHS determines that construction can proceed.

3. ELECTROMAGNETIC INTERFERENCE

Within 60 days after issuance of this Permit, the Permittee shall submit a plan to the PUC for conducting an assessment of television signal reception and microwave signal patterns in the project area prior to commencement of construction of the project. The assessment shall be designed to provide data that can be used in the future to determine whether the turbines and associated facilities are the cause of disruption or interference of television reception or microwave patterns in the event residents should complain about such disruption or interference after the turbines are placed in operation. The assessment shall be completed prior to operation of the turbines. The Permittee shall be responsible for alleviating any disruption or interference of these services caused by the turbines or any associated facilities.

The Permittee shall not operate the LWECS and associated facilities so as to cause microwave, television, radio, telecommunications or navigation interference contrary to Federal Communications Commission (FCC) regulations or other law. In the event the LWECS and its associated facilities or its operations cause such interference, the Permittee shall take timely measures necessary to correct the problem.

E. SITE LAYOUT RESTRICTIONS

1. WIND TURBINE TOWERS

Structures for wind turbines shall be self-supporting tubular towers. The towers shall not be more than 262 feet (80 meters) above grade.

2. METEOROLOGICAL TOWERS

Permanent towers up to 100 feet high for meteorological equipment shall be free standing. Temporary meteorological towers, which are those that will be removed after completion of construction, and all meteorological towers over 100 feet high may be guyed if the landowner has given written permission and the guys are properly marked with safety shields.

3. NOISE

The wind turbine towers shall be placed such that the Permittee shall comply at all times and at all appropriate locations with noise standards as established by the Minnesota Pollution Control Agency at the time of construction. Turbines shall be moved or modified or removed from service if necessary to comply with this condition. The Permittee or its contractor may install and operate turbines, as close as the minimum setback required in this Permit but in all cases shall comply with PCA standards.

4. FEDERAL AVIATION ADMINISTRATION

Towers shall be marked as required by the Federal Aviation Administration (FAA). There shall be no lights on the towers other than what is required by the FAA. This restriction shall not apply to infrared heating devices used to protect the wind monitoring equipment.

5. TURBINE SPACING

The turbine towers shall be constructed within the site as submitted on the preconstruction plan, see paragraph III.A.1. The turbine towers shall be spaced no closer than rotor diameters 3 (RD) for crosswind spacing (distance between turbines) and 5 RD downwind spacing. If required during final micro siting of the turbine towers to account for topographic conditions, up to 10 percent of the towers (7 towers) may be sited closer than the above spacing but the Permittee shall minimize the need to site the turbine towers closer.

6. FOOTPRINT MINIMIZATION

The Permittee shall design and construct the LWECS so as to minimize the amount of land that is impacted by the LWECS. Associated facilities in the vicinity of turbines such as electrical/electronic boxes, transformers and monitoring systems shall, to the greatest extent feasible, be mounted on the foundations used for turbine towers or inside the towers unless otherwise negotiated with the affected landowner.

7. ELECTRICAL CABLES

The Permittee shall place electrical lines, known as collectors, and communication cables underground when located on private property. Collectors and cables shall also be placed within or adjacent to the land necessary for turbine access roads unless otherwise negotiated with the affected landowner. This paragraph does not apply to feeder lines.

8. FEEDER LINES

The Permittee shall place overhead 34.5 kV electric lines, known as feeders along public rights-of-way if a public right-of-way exists. The Permittee may place feeders on private property or on the public right-of-way. A change in feeder line locations may be made as long as feeders remain on public rights-of-way and approval has been obtained from the governmental unit responsible for the affected right-of-way. When placing feeders on private property, the Permittee shall place the feeder in accordance with the easement negotiated with the affected landowner. Notwithstanding any of the requirements in paragraph III.D. to conduct surveys before any construction can commence, the Permittee may begin immediately upon issuance of this permit to construct the 34.5 kV feeder lines that will be required as part of this project. The Permittee shall submit the site plan and engineering drawings required under paragraph III.A.1. for the feeder lines before commencing construction. Any guy wires on the structures for feeder lines shall be marked with safety shields.

The Permittee must fulfill, comply with, and satisfy all Institute of Electrical and Electronics Engineers, Inc. (IEEE) standards applicable to this project, including but not limited to IEEE 776, IEEE 519, and IEEE 367, provided the telephone service provider(s) have complied with any obligations imposed on it pursuant to these standards. Upon request by the PUC, the Permittee shall report to the PUC on compliance with these standards.

F. STUDIES

1. WAKE LOSS STUDIES

The Permittee shall provide the PUC with the site plan required by paragraph III.A.1., the preconstruction micro siting analysis leading to the final tower locations and an estimate of total project wake losses. The Permittee shall provide to the PUC any operational wake loss studies conducted on this project.

2. NOISE

On request of the PUC, the Permittee shall submit a proposal to the PUC for the conduct of a noise study. Upon the approval of the PUC the Permittee shall carryout the study. The study shall be designed to determine the noise levels at various distances from the turbines at various wind directions and speeds.

G. DECOMMISSIONING/RESTORATION/ABANDONMENT

1. DECOMMISSIONING PLAN

Prior to commencement of construction, the Permittee shall submit to the PUC a Decommissioning Plan describing the manner in which the Permittee anticipates decommissioning the project in accordance with the requirements of Minn. Rules part 4401.0450, subp.13. The Permittee shall ensure that it carries out its obligations to provide for the resources necessary to fulfill its requirements to properly decommission the project at the appropriate time. The PUC may at any time request the Permittee to file a report with the PUC describing how the Permittee is fulfilling this obligation.

2. SITE RESTORATION

Upon expiration of this Permit, or upon earlier termination of operation of the LWECs, the Permittee shall have the obligation to dismantle and remove from the site all towers, turbine generators, transformers, overhead and underground cables, foundations, buildings and ancillary equipment to a depth of four feet. To the extent possible the Permittee shall restore and reclaim the site to its pre-project topography and topsoil quality. All access roads shall be removed unless written approval is given by the affected landowner requesting that one or more roads, or portions thereof, be retained. Any agreement for removal to a lesser depth or for no removal shall be recorded with the county and shall show the locations of all such foundations. All such agreements between the Permittee and the affected landowner shall be submitted to the PUC prior to completion of restoration activities. The site shall be restored in accordance with the requirements of this condition within 18 months after expiration.

3. ABANDONED TURBINES

The Permittee shall advise the PUC of any turbines that are abandoned prior to termination of operation of the LWECS. The PUC may require the Permittee to decommission any abandoned turbine.

H. REPORTING

1. PROJECT ENERGY PRODUCTION

The Permittee shall, by July 15 of each year, report to the PUC on the monthly energy production of the project and the average monthly wind speed collected at one permanent meteorological tower selected by the PUC during the preceding year or partial year of operation. The report shall include copies of any project production reports filed with the Midwest Area Power Pool (MAPP), the Federal Energy Regulatory Commission (FERC), or any other public regulatory agency. The Permittee shall describe the operational status and availability of the Project and any major outages, major repairs, or turbine performance improvements occurring in the previous year.

2. WIND RESOURCE USE

Within three months after commercial operation begins, the Permittee shall provide the PUC with viewer access to its supervisory control and data acquisition (SCADA) system to allow the PUC convenient review of the following average hourly data for each hour of commercial operation in printed format or electronic format capable of computerized analysis as specified by the PUC:

- (a) The power output of each turbine;
- (b) The wind speed and direction measured at all monitored heights at any temporary and permanent meteorological towers, connected to the SCADA system, owned or operated by the Permittee, in or within three miles of the project site boundary; and
- (c) Temperature and any other meteorological parameters recorded at one permanent meteorological tower selected by the PUC.

Once the Permittee provides the initial access, the PUC shall be responsible for maintaining the remote viewer connection. The Permittee shall not be in violation of this Permit if remote connection is lost or the SCADA system goes down. In the event the PUC is not provided access to the SCADA system, the Permittee shall file a quarterly report (due January 15, April 15, July 15, and October 15) with the PUC with the same data specified above. After two years of commercial operation, the PUC may reduce or eliminate the requirements of this condition. The provisions of paragraph III.K.5. shall apply to the PUC's review of this data.

3. EXTRAORDINARY EVENTS

Within 24 hours of a known occurrence, the Permittee shall notify the PUC of any extraordinary event. Extraordinary events include but shall not be limited to: fires, tower collapse, turbine failure, thrown blade, collector or feeder line failure, injured LWECS worker or private person, kills of threatened or endangered species, or discovery of an unexpectedly large number of dead birds or bats of any variety on site. In the event of extraordinary avian mortality the DNR shall also be notified within 24 hours. The Permittee shall submit a report to the PUC within 30 days of the occurrence describing the cause of the occurrence and the steps taken to avoid future occurrences.

4. COMPLAINTS

Prior to the start of construction, the Permittee shall submit to the PUC the company's procedures to be used to receive and respond to complaints. The Permittee shall report to the PUC all complaints received concerning any part of the LWECS in accordance with the procedures provided in Exhibit 2 attached to this Permit.

I. FINAL CONSTRUCTION

1. AS-BUILT PLANS AND SPECIFICATIONS

Within 60 days after completion of construction, the Permittee shall submit to the PUC a copy of the as-built plans and specifics of the project as per the project description. The Permittee must also submit this data in a geographic information system (GIS) compatible format so that the PUC can place it into the Land Management Information Center's geographic data clearinghouse located in the Office of Geographic and Demographic Analysis.

2. FINAL BOUNDARIES

After completion of construction, the PUC may determine a need to adjust the final boundaries of the site required for this project. If done, this Permit may be modified, after notice and opportunity for public hearing, to represent the actual site required by the Permittee to operate the project authorized by this Permit.

3. EXPANSION OF SITE BOUNDARIES

No expansion of the site boundaries described in this Permit shall be authorized without the approval of the PUC. The Permittee may submit to the PUC a request for a change in the boundaries of the site for the LWECS. The PUC will respond to the requested change in accordance with applicable statutes and rules.

J. AUTHORITY TO CONSTRUCT LWECS

1. WIND RIGHTS.

The Permittee shall advise the PUC of the obtaining of exclusive wind rights within the boundaries of the LWECS authorized by this Permit within 30 days of receiving such wind rights. The Permittee shall submit documentation of such exclusive wind rights if requested by the PUC.

2. OTHER PERMIT APPLICATIONS.

Nothing in this Permit shall be construed to preclude any other person from seeking a site permit to construct a large wind energy conversion system in any area within the boundaries of the project covered by this Permit if the Permittee does not hold exclusive wind rights for such areas.

3. PREEMPTION OF OTHER LAWS

Pursuant to Minn. Stat. § 116C.697, this Site Permit shall be the only site approval required for the location of this project, and this Permit shall supersede and preempt all zoning, building, and land use rules, regulations, and ordinances adopted by regional, county, local, and special purpose governments. Nothing in this Permit shall release the Permittee from any obligation imposed by law that is not superseded or preempted by law.

K. MISCELLANEOUS

1. PERIODIC REVIEW

The PUC shall initiate a review of this Permit and the applicable conditions at least once every five years. The purpose of the periodic review is to allow the PUC, the Permittee, and other interested persons an opportunity to consider modifications in the conditions of the Permit. No modification may be made except in accordance with applicable statutes and rules.

2. FAILURE TO COMMENCE CONSTRUCTION

If the Permittee has not completed the pre-construction surveys required in paragraph III.D. and commenced construction of the LWECS within three years of the issuance of this Permit, the Permittee must advise the PUC of the reason construction has not commenced. In such event, the PUC may determine whether this Permit should be revoked. No revocation of this Permit may be undertaken except in accordance with applicable statutes and rules, including Minn. Stat. section 116C.645.

3. MODIFICATION OF CONDITIONS

After notice and opportunity for hearing, this Permit may be modified or amended for cause including but not limited to the following:

(a) Violation of any condition in this Permit;

(b) Endangerment of human health or the environment by operation of the facility; or

(c) Existence of other grounds established by rule.

4. REVOCATION OR SUSPENSION OF THE PERMIT

The PUC may take action to suspend or revoke this Permit upon the grounds that:

(a) A false statement was knowingly made in the application or in accompanying statements or studies required of the applicant, and a true statement would have warranted a change in the PUC's findings;

(b) There has been a failure to comply with material conditions of this Permit, or there has been a failure to maintain health and safety standards; or

(c) There has been a material violation of a provision of an applicable statute or rule or an order of the PUC.

In the event the PUC shall determine that it is appropriate to consider revocation or suspension of this Permit, the PUC shall proceed in accordance with the requirements of Minn. Stat. section 116C.645 to determine the appropriate action. Upon a finding of any of the above, the PUC may require the Permittee to undertake corrective measures in lieu of having the Permit suspended or revoked.

5. PROPRIETARY INFORMATION

Certain information required to be submitted to the PUC under this Permit, including energy production and wake loss data, may constitute trade secret information or other type of proprietary information under the Data Practices Act or other law and is not to be made available by the PUC. The Permittee must satisfy requirements of applicable law to obtain the protection afforded by the law.

6. TRANSFER OF PERMIT

The Permittee may not transfer this Permit without the approval of the PUC. If the Permittee desires to transfer this Permit, the holder shall advise the PUC in writing of such desire. The Permittee shall provide the PUC with such information about the transfer as the PUC requires to reach a decision. The PUC may impose additional conditions on any new Permittee as part of the approval of the transfer.

7. OTHER PERMITS

The Permittee shall be responsible for acquiring any other federal, state, or local permits or authorizations that may be required to construct and operate a LWECS within the authorized site. The Permittee shall submit a copy of such permits and authorizations to the PUC upon request.

8. SITE MANAGER

The Permittee shall designate a Site Manager who shall be the contact person for the PUC to contact with questions about the LWECS. The Permittee shall provide the PUC with the name, address, and phone numbers of the project site manager prior to placing any turbine into operation. This information shall be maintained current by informing the PUC of any changes, as they become effective.

9. NOTICE TO LOCAL RESIDENTS

The Permittee shall, within ten working days of receipt of this Permit, send a copy of the Permit to the office of the auditor of each county in which the site is located and to the clerk of each city and township within the site boundaries. If applicable, the Permittee shall also, within 10 working days of issuance, send a copy of this Permit to each regional development commission, local fire district, soil and water conservation district, watershed district, and watershed management district office with jurisdiction in the county where the site is located. Within 30 days of issuance of this Permit, the Permittee shall send a copy of the Permit to each affected landowner within the site. In no case shall the affected landowner receive the site permit less than five days prior to the start of construction on their property.

10. RIGHT OF ENTRY

The Permittee shall allow representatives of the PUC to perform the following, upon presentation of credentials:

- (a) To enter upon the facilities easement of the site property for the purpose of obtaining information, examining records, and conducting surveys or investigations.
- (b) To bring such equipment upon the facilities easement of the property as is necessary to conduct such surveys and investigations.
- (c) To sample and monitor upon the facilities easement of the property; and
- (d) To examine and copy any documents pertaining to compliance with the conditions of this Permit.

11. MORE STRINGENT RULES

The PUC's issuance of this Site Permit does not prevent the future adoption by the PUC of rules or orders more stringent than those now in existence and does not prevent the enforcement of these more stringent rules and orders against the Permittee.

L. EXPIRATION DATE

This Permit shall expire on December 31, 2036.

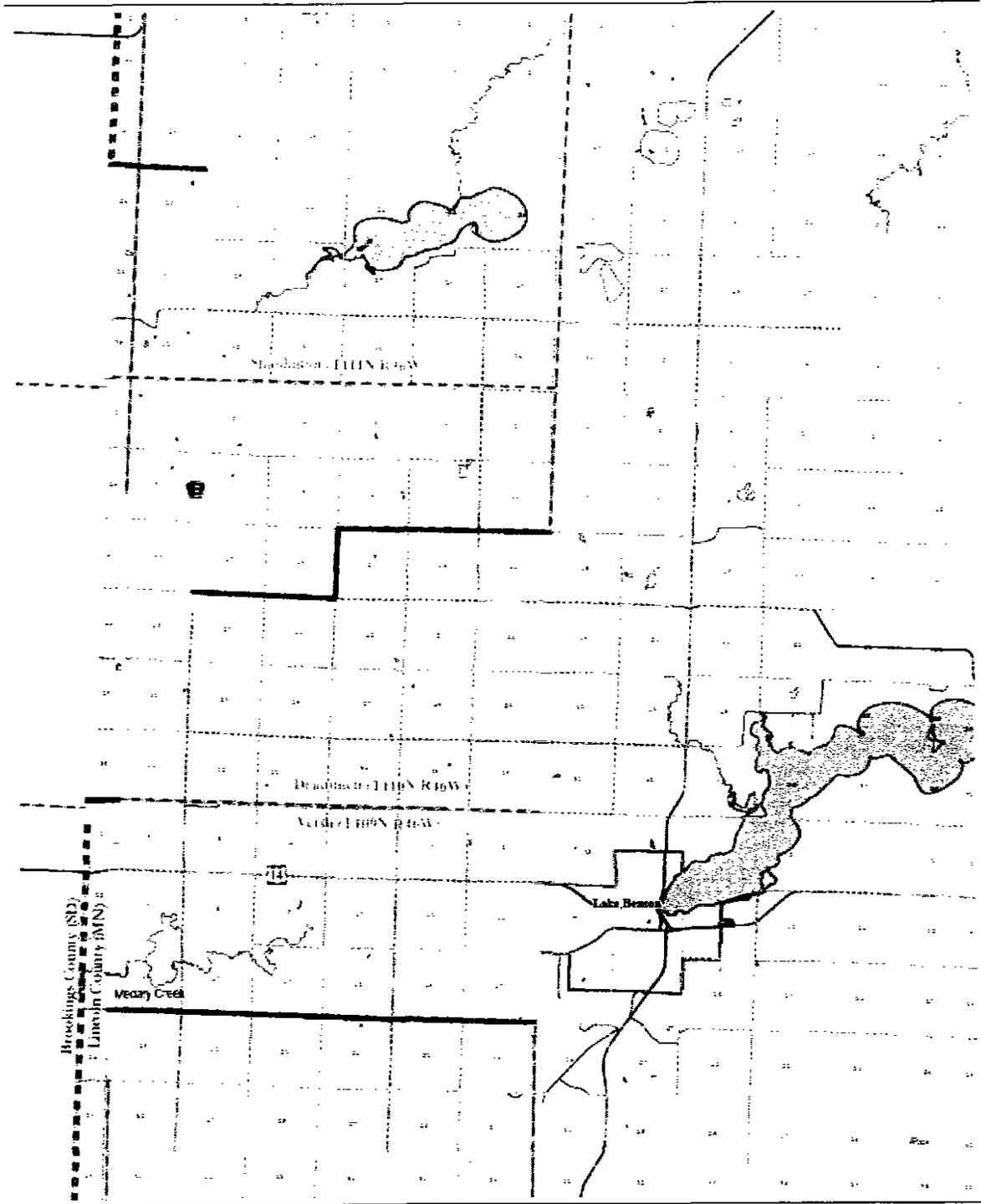
M. SPECIAL CONDITIONS

1. EFFECT

These Special Conditions shall take precedence over any of the other conditions of this Permit if there should be a conflict between the two.

2. FEDERALLY-ENDANGERED TOPEKA SHINER

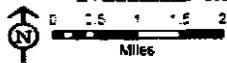
To prevent sedimentation in streams inhabited by the federally-endangered (state special concern) Topeka shiner (*Notropis topeka*), the Permittee shall employ best management practices as described in Exhibit 3, when working in project area waters.



Legend

- Proposed Site Area (Mn)
- MinnDakota Townships
- State Boundary

Figure 1-2. Project Location
MinnDakota Wind Project



**MINNESOTA PUBLIC UTILITIES COMMISSION
COMPLAINT REPORT PROCEDURES FOR
LARGE WIND ENERGY CONVERSION SYSTEMS**

1. Purpose

To establish a uniform and timely method of reporting complaints received by the Permittee concerning the Permit conditions for site preparation, construction, cleanup and restoration, and resolution of such complaints.

2. Scope

This reporting plan encompasses complaint report procedures and frequency.

3. Applicability

The procedures shall be used for all complaints received by the Permittee.

4. Definitions

Complaint - A statement presented by a person expressing dissatisfaction, resentment, or discontent as a direct result of the LWECS and associated facilities. Complaints do not include requests, inquiries, questions or general comments.

Substantial Complaint - Any complaints submitted to the Permittee in writing that, if substantiated, could result in Permit modification or suspension pursuant to the applicable regulations.

Person - An individual, partnership, joint venture, private or public corporation, association, firm, public service company, cooperative, political subdivision, municipal corporation, government agency, public utility district, or any other entity, public or private, however organized.

5. Responsibilities

Everyone involved with any phase of the LWECS is responsible to ensure expeditious and equitable resolution of all complaints. It is therefore necessary to establish a uniform method for documenting and handling complaints related to this LWECS project. The following procedures will satisfy this requirement:

- A. The Permittee shall document all complaints by maintaining a record of all applicable information concerning the complaint, including the following:
1. Name of the Permittee and project.
 2. Name of complainant, address and phone number.
 3. Precise property description or tract numbers (where applicable).
 4. Nature of complaint.
 5. Response given.
 6. Name of person receiving complaint and date of receipt.
 7. Name of person reporting complaint to the PUC and phone number.
 8. Final disposition and date.
- B. The Permittee shall assign an individual to summarize complaints for transmittal to the PUC.

6. Requirements

The Permittee shall report all complaints to the PUC according to the following schedule:

Immediate Reports - All substantial complaints shall be reported to the PUC by phone the same day received or on the following working day for complaints received after working hours. Such reports are to be directed to Wind Permit Compliance at the following: 651-296-5089 or TTY 1-800-657-3794. Voice messages are acceptable.

Monthly Reports – By the 15th of each month, a summary of all complaints, including substantial complaints received or resolved during the proceeding month, and a copy of each complaint shall be sent to Wind Permit Compliance, Minnesota Department of Commerce, 85 7th Place East, Suite 500, St. Paul, MN 55101-2198.

7. Complaints Received by the PUC

Copies of complaints received directly by the PUC from aggrieved persons regarding site preparation, construction, cleanup, restoration, operation and maintenance shall be promptly sent to the Permittee.

**Recommendations for Construction Projects Affecting Waters Inhabited by
Topeka Shiners (*Notropis topeka*) in Minnesota**

**U.S. Fish and Wildlife Service
Twin Cities Field Office
(612) 725-3548**

Background

Topeka shiner (*Notropis topeka*) occurs throughout the Big Sioux and Rock River Watersheds in five counties in southwestern Minnesota (Figure 1). The U.S. Fish and Wildlife Service (Service) listed Topeka shiner as an endangered species in 1998 and designated critical habitat¹ for it in 2004. The Endangered Species Act (ESA) prohibits the taking² of this species.

Endangered Species Act Requirements for Actions in Topeka Shiner Habitat

Federal Agency Actions

Federal agencies or their designated non-federal representatives must consult with the Service on any action that they fund, authorize, or carry out that may affect Topeka shiner or its critical habitat. If an agency proposes to implement an action that is likely to result in adverse effects to Topeka shiner, it must undergo formal consultation with the Service. If the agency determines that an action may affect Topeka shiners, but that those effects are not likely to be adverse, it may avoid formal consultation by receiving written concurrence on this determination from the Service.

Private or Local (Non-federal) Actions

Private landowners, corporations, state or local governments, and other non-federal entities or individuals who wish to conduct activities that might incidentally harm (or "take") Topeka shiners must first obtain an incidental take permit from the U.S. Fish and Wildlife Service (Service). To determine whether an action may require an incidental take permit, coordinate with the Service when planning actions that may affect streams or off-channel habitats in the Rock River or Big Sioux River watersheds in Minnesota. Contact the Service's Twin Cities Field Office (612/725-3548) for further information or see the following website for information regarding Endangered Species permits -- <http://endangered.fws.gov/permits/index.html?#forms>.

Project Recommendations

The following recommendations are provided to help design actions that would avoid or minimize adverse effects to Topeka shiner. These recommendations may not address every way in which proposed actions may affect this species and may not preclude the need for formal consultation for federal actions or for an incidental take permit for non-federal actions. Therefore, we highly recommend that you coordinate early in the planning process with the Service's Twin Cities Field Office (612/725-3548) when contemplating any action that may affect streams or associated off-channel habitats (oxbows, abandoned channels, etc.) in the Big Sioux River or Rock River watersheds in Minnesota (Fig. 1).

¹ 1 See 69 Federal Register 44,736 (July 27, 2004) or <http://www.fws.gov/midwest/endangered/fishes/index.html> for further information about Topeka shiner critical habitat. 1 Revised 5/12/2005 USFWS Ecological Services

² 2 The term "take" means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct.

EXHIBIT 3

1. Ensure that contractors and subcontractors understand all permit provisions that are necessary to avoid or minimize adverse effects to Topeka shiners.
2. Do not dewater stream reaches or temporarily divert streams for construction.
3. Do not conduct in-stream work before August 15 to avoid disrupting Topeka shiner spawning.
4. Follow all applicable requirements and best management practices for stormwater and erosion control – for example, requirements contained within stormwater permits from Minnesota Pollution Control Agency (MPCA). Useful resources for designing effective stormwater and erosion control include the MPCA Stormwater Best Management Practices Manual (see <http://www.pca.state.mn.us/water/pubs/sw-bmpmanual.html>) and the Minnesota Department of Transportation Erosion Control Handbook for Local Roads (see <http://www.lrrb.gen.mn.us/PDF/200308.pdf>). Other resources are available at <http://www.pca.state.mn.us/water/stormwater/stormwater-c.html#factsheets>. General suggestions for minimizing effects of erosion on Topeka shiners are shown below.
5. Minimize removal of riparian (streamside) vegetation; such removal should occur sequentially as needed over the length of the project.
6. Mulch areas of disturbed soils and reseed promptly.
7. Implement appropriate erosion and sediment prevention measures to the maximum extent practicable. Inspect devices frequently to ensure that they are effective and in good
8. Leave existing features, such as bridge abutments, retaining walls, and riprap, in place as much as is feasible.
9. Ensure that erosion prevention measures are in place and in adequate condition when leaving work site.
10. Design and install instream structures (e.g., box culverts) in a manner that will not impair passage of Topeka shiners and other fish species after construction is completed.
11. Do not operate motorized vehicles instream. Excavation, culvert placement, etc. should be conducted from streambanks outside of standing or flowing water.
12. Backfill placed in the stream shall consist of rock or granular material free of fines, silts, and mud. Machinery parts (i.e., backhoe buckets, etc.) shall be cleaned of all such material and free of grease, oil, etc. before their instream use.
13. Prevent materials and debris from falling into the water during construction. If materials or debris fall into the water or into riparian areas retrieve them promptly by hand or with equipment working from the banks.
14. If the project is modified, or if field conditions change, the applicant or agency representative should contact U.S. Fish and Wildlife Service before proceeding.

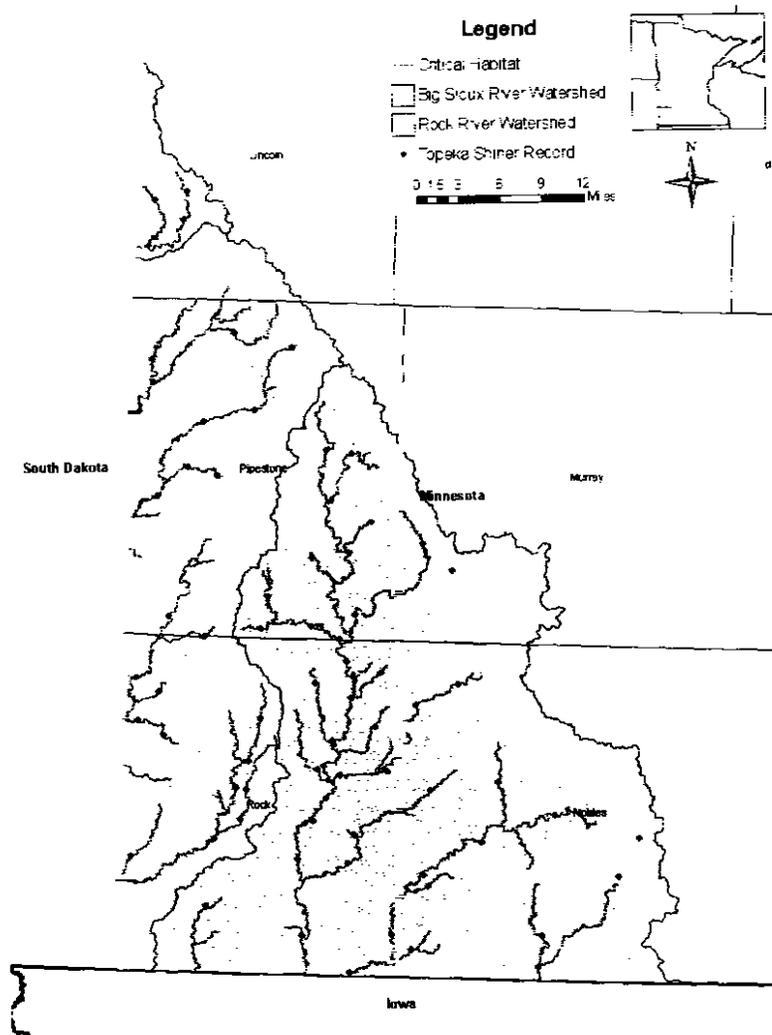


Figure 1. Recorded occurrences of Topeka shiner and officially designated critical habitat in Minnesota. [See 69 Fed. Reg. 44,736 (July 27, 2004) or <http://www.fws.gov/midwest/endangered/fishes/index.html#topeka> for further information about Topeka shiner critical habitat.] U.S. Fish and Wildlife Service (Service) designated critical habitat only in stream reaches where Topeka shiner had been recorded as of August 2002, when critical habitat was originally proposed. Surveys conducted after August 2002 have found Topeka shiners in additional locations, including some that the Service had not proposed as critical habitat. Therefore, some records shown above occur outside of officially designated critical habitat. Surveys for this species are limited and ongoing. Although Topeka shiners are likely to be found in additional sites not indicated on this map, it is unlikely that the species occurs outside of the Rock River or Big Sioux River watersheds. For information on potential Topeka shiner occurrence in a specific location, contact U.S. Fish and Wildlife Service (612/725-3548).



BEFORE THE MINNESOTA PUBLIC UTILITIES COMMISSION

COMMENTS AND RECOMMENDATIONS OF THE
MINNESOTA DEPARTMENT OF COMMERCE
ENERGY FACILITY PERMITTING STAFF

DOCKET NO. PT6530/WS-06-157

Meeting Date: June 15, 2006 Agenda Item # 1

Company: MinnDakota Wind, LLC, an affiliate of PPM Energy, Inc.

Docket No. PUC Docket Number: PT6530/WS-06-157

**In the Matter of the Application of MinnDakota Wind, LLC, for a
Large Wind Energy Conversion System Site Permit.**

Issue(s): Should the Minnesota Public Utilities Commission issue MinnDakota Wind, LLC, a site permit under Minnesota Statutes section 116C.694 to construct an up to 100-Megawatt Large Wind Energy Conversion System and Associated Facilities in Lincoln County, Minnesota?

DOC Staff: David Birkholz.....651-296-2878
Adam Sokolski651-296-2096

The enclosed materials are work papers of the Department of Commerce Energy Facility Permitting Staff. They are intended for use by the Public Utilities Commission and are based on information already in the record unless otherwise noted.

This document can be made available in alternative formats; i.e. large print or audio tape by calling (651) 201-2202 (Voice) or 1-800-627-3529 (TTY relay service).

Relevant Documents (in Commission Packet)

MinnDakota Wind, LLC, Application..... rec'd February 21, 2006 (#1)
MinnDakota Wind, LLC, Application Amendment..... rec'd March 10, 2006 (#3)
Comments of PPM Energy
on behalf of MinnDakota Wind, LLC..... rec'd May 25, 2006 (#10)

Documents Attached

- A. Proposed Findings of Fact and Conclusions
- B. Proposed Final Site Permit
- C. Exhibit List
- D. Public Comment Letters

(Note: see eDockets (06-157) or the PUC Facilities Permitting website for additional documents
<http://energyfacilities.puc.state.mn.us/Docket.html?Id=4967>)

Statement of the Issue

Should the Minnesota Public Utilities Commission (the PUC or Commission) issue or deny a site permit to MinnDakota Wind, LLC, for up to a 100 MW large wind energy conversion system and associated facilities in Lincoln County, Minnesota?

Introduction and Background

A site permit from the PUC is required to construct a Large Wind Energy Conversion System (LWECS), which is any combination of wind turbines and associated facilities with the capacity to generate five (5) megawatts or more of electricity. This requirement became law in 1995 upon enactment of Minnesota Statutes, sections 116C.691 through 116C.697. The rules to implement the permitting requirements for LWECS are found in Minnesota Rules Chapter 4401.

The Applicant

MinnDakota Wind, LLC, is a wholly owned affiliate of PPM Energy, Inc, of Portland Oregon. PPM Energy develops and owns wind projects across the United States and natural gas generation operations in the western United States. PPM owns and operates the 100 MW Trimont Wind Project in Jackson and Martin counties and the 51 MW Moraine Wind Project in Pipestone and Murray counties, in Minnesota.

MinnDakota Wind, LLC, will own the Project including all equipment and associated facilities up to its interconnection to the “low side” busbar at the proposed Xcel Energy Yankee Substation. MinnDakota Wind, LLC, will be responsible for the project development, management, procurement, construction, commissioning, long-term operation and ownership of the project.

Project Location

The MinnDakota Wind Project will be built in both Minnesota and South Dakota.

The proposed project site in Minnesota is located in Lincoln County directly west and northwest of Lake Benton. The project site is approximately 31,084 acres and overlaps with several existing wind projects (see Figures 1-3 and 5-3 in the Amended Application). MinnDakota's proposed wind turbines may be placed in the following Minnesota townships:

- Verdi (T 109 N, R 46 W Sections 1-18)
- Drammen (T 110 N, R 46 W Sections 6, 7 13-15, 18-36)
- Shaokatan (T 111 N, R 46 W Sections 19, 30, and 31)

The proposed site comprises exclusively agricultural lands.

Project Description

The project's overall size is anticipated to be up to 199 MW in total. The site permit in Minnesota before the Commission proposes up to 100 MW of nameplate capacity. The project will be composed of up to 66 GE 1.5 MW or similar turbines. The balance of the development – up to 99 MW of nameplate capacity – will be built directly across the state border in Brookings County, South Dakota, and has received the requisite permits in that state.

The Applicant has easements or options on the land necessary within the site to build the project. Land rights will encompass the proposed wind farm and all associated facilities, including but not limited to wind and buffer easements, wind turbines, access roads, electrical collection system, project substation and feeder lines. The electrical system and feeder lines will be located on private easements along public roads when possible.

The electrical system will consist of overhead or underground 34.5 kilovolt (kV) feeder and collection lines. Other project components include: all-weather class 5 access roads of gravel or similar materials, pad-mounted step-up transformers, concrete and steel tower foundations, a supervisory control and data acquisition system, a meteorological tower, a project substation and an operations and maintenance building.

Power from the project will be sold and delivered to Xcel Energy at the Yankee Substation located in Section 5 of Verdi Township. A Power Purchase Agreement (PPA) between MinnDakota Wind, LLC, and Xcel Energy was approved by the Minnesota Public Utilities Commission at its hearing on April 20, 2006.

A Certificate of Need from the Minnesota Public Utilities Commission (PUC) is not required because the project is the result of Xcel Energy's 2001 Commission approved competitive bidding process.

The MinnDakota Wind, LLC, project is expected to be in commercial operation in late 2007, coincident with the in-service date of the Xcel Energy Yankee Substation.

Regulatory Process

Procedures

The site permit application has been reviewed pursuant to the requirements of Minnesota Statutes sections 116C.691 – 116C.697 and Minnesota Rules Chapter 4401 (Wind Siting Rules).

On February 21, 2006, PPM Energy filed an application on behalf of MinnDakota Wind, LLC, for a Large Wind Energy Conversion Site (LWECS) permit to construct, operate, maintain and manage a 100 Megawatt (MW) nameplate capacity wind facility and associated facilities in Lincoln County, Minnesota. An amended application was filed on March 10, 2006.

The PUC accepted the application on March 20 2006, and issued a Draft Site Permit on April 24, 2006. Upon the PUC order issuing a draft site permit, DOC EFP staff initiated the public review and notice requirements of Minnesota Rules Chapter 4401.

The rules provide opportunities for the public to participate in deliberations on the LWECS permit application. The Applicant provided notice and copies of the application to landowners within the project area after the application was submitted.

A public meeting was held in Hendricks, Minnesota, on May 9, 2006. About 20 people attended the public meeting. DOC EFP staff reviewed the permitting process requirements and responded to questions about the draft site permit and the permitting process. Representatives of MinnDakota Wind, LLC, were available to describe the project and answer questions.

The public comment period was held open through May 25, 2006.

Public Comments

No significant issues or concerns were raised about the permitting process, the proposed project, or conditions in the draft site permit at the public meeting or during the comment period.

At the public meeting, one member of the public asked questions and expressed a concern about the proximity of MinnDakota Wind, LLC, proposed wind turbines locations to existing wind turbines located in Section 31, Drammen Township.

On May 11, 2006, the Department received comment letters from owners of four existing wind turbines expressing concerns about the proximity of MinnDakota Wind, LLC, proposed wind turbine locations to existing wind turbines located in Section 31, Drammen Township. The persons above indicated concerns that the proximity of two of MinnDakota Wind, LLC, turbines may affect the production of the existing wind turbines owned by the persons above. (Exhibits 13-16)

As proposed in the Amended Application (Figure 1-3), the MinnDakota Wind, LLC turbines in Drammen Township section 31 are set back at least 5 RD (1,263 feet) generally west from the existing turbines in question. The set back from existing turbines meets or exceeds the requirements in the draft site permit.

Comments were received on May 24, 2006, from the Minnesota State Historic Preservation Office (SHPO) indicating that the Office had reviewed the proposed project and will review the cultural resources survey conducted by MinnDakota Wind, LLC, when available. Permit condition III. D. 2. requires consultation and coordination on cultural resources matters with SHPO. (Exhibit 17)

Comments were received on May 25, 2006, from Mr. Tim Seck of PPM Energy on behalf of MinnDakota Wind, LLC. Mr. Seck's comments provided suggestions on language contained in the draft site permit. (Exhibit 18) Several of Mr. Seck's concerns have been addressed in changes to the final permit.

A final site plan including final turbine locations is required to be provided to the Commission and DOC EFP staff prior to construction of the project. (see proposed final site permit III A (1)).

No person(s) requested a contested case proceeding be held on the MinnDakota Wind, LLC, application.

DOC EFP Staff Analysis and Comments

No significant issues were identified during the course of this proceeding.

Permit Changes from Draft

The following items are changes from the draft site permit included in the final site permit:

1. "I. Site Permit and Cover Page" *PPM Energy* changed to *MinnDakota Wind, LLC* as Project Owner.
2. "II. Project description" changed to include project substation, O&M facility and meteorological tower.
3. "II. Project description" changed to GE 1.5 MW turbine or similar turbine. (Or similar would take into account changes in provider or small changes in configuration; e.g., a Suzlon 1.8 at 80 meters hub height would qualify as similar, but not a Vestas 3.0 at 105 meters hub height.)
4. "II, E.3. Noise" altered to clarify turbine construction must meet current PCA noise restrictions *at the time of permitting*.
5. "III.C.1 Wind Access buffers" adding language setting 5 RD setback from existing turbine construction inside or outside of project boundary.
6. "III.H. Extraordinary events..." clarifying language that 24 hr notice period begins when permittee becomes aware of an extraordinary event.
7. "III.I.1. As builds..." clarifying language on specifications to be reported (e.g. not internal turbine specifications).
8. "Exhibit 3" replacing DNR BMP for Topeka Shiner with USFWS BMP.

Record

A DOC EFP staff exhibit list of the written comments and other documents that are part of the record in this permit proceeding is included as “Attachment C” to these Comments and Recommendations. The DOC staff can make any of these documents available to a PUC member upon request. The Record will be available at the PUC meeting.

Findings of Fact and Conclusions

The staff has prepared proposed Findings of Fact and Conclusions for the project. See “Attachment A” in the Commissioner’s packet. The proposed Findings address the procedural aspects of the process followed, describe the project, respond to the written comment(s), and address the environmental and other considerations of the project. Many of the findings in the Findings of Fact reflect findings that were also made for other LWECS projects. The following outline identifies the categories of the Findings.

<u>Category</u>	<u>Findings</u>
Background and Procedure	(Findings Nos. 1 – 16)
The Permittee	(Findings Nos. 17 – 19)
Project Description	(Findings Nos. 20 – 28)
Wind Resource Considerations	(Findings Nos. 29 – 33)
Land Rights and Easement Agreements	(Findings Nos. 34 – 38)
Written Comments	(Findings Nos. 39 – 43)
Site Criteria	(Findings Nos. 44 – 85)
Site Permit Conditions	(Findings Nos. 86 – 88)

Standard for Permit Issuance

The statutory test the Commission must consider to issue a site permit for a Large Wind Energy Conversion System is to determine whether a proposed project is compatible with environmental preservation, sustainable development, and the efficient use of resources. Minnesota Statutes section 116C.693.

The law allows the PUC to place conditions on and/or deny, modify, suspend, or revoke a LWECS permit. Minnesota Statutes section 116C.694 (d). The conditions in this proposed Site Permit are similar to conditions included in other LWECS site permits issued by the Environmental Quality Board and the PUC (see “Attachment B”).

The wind statutes incorporate certain portions of the Power Plant Siting Act, including the environmental considerations. DOC EFP has reviewed and addressed the site criteria in the Findings of Fact (such as human settlement, noise, community benefits, and surface water), tracking the factors described in the PUC’s rules for other types of power plants that are pertinent to wind projects. (Minnesota Rules part 4400.3310).

DOC EFP Staff have incorporated site review, review of the environmental impacts, consistency with past permitting policy and local permitting ordinances, and analysis of public comments in the case to determine a recommendation to the PUC in this matter.

PUC Decision Options

- A.** Adopt the Findings of Fact and Conclusions and issue a Site Permit to MinnDakota Wind, LLC, with the conditions proposed by EFP staff. The site permit issued by the PUC authorizes MinnDakota Wind, LLC, to construct and operate an up to 100 MW Large Wind Energy Conversion System and associated facilities in Lincoln County, Minnesota, in accordance with the conditions contained in the site permit and in compliance with Minnesota Statutes section 116C.694 and in Minnesota Rules Chapter 4401.
- B.** Amend the Findings of Fact, Conclusions, or Site Permit as deemed appropriate.
- C.** Deny the site permit.
- D.** Make some other decision deemed more appropriate.

DOC EFP Staff Recommendation

The DOC EFP staff recommends option A.