

BEFORE THE MINNESOTA PUBLIC UTILITIES COMMISSION

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Chair
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SERVICE DATE: **JAN 15 2008**

DOCKET NO. IP-6631/WS-07-388

In the Matter of the Application of Elm Creek Wind, LLC for a Large Wind Energy Conversion System Site Permit for the Elm Creek Wind Project in Martin County

The above entitled matter has been considered by the Commission and the following disposition made:

The Commission:

Adopts the attached Findings of Fact, Conclusions and Order.

Issues the attached Site Permit to Elm Creek Wind, LLC, for up to a 100 MW Large Wind Energy Conversion system in Jackson and Martin counties

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)

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Energy Facility Permitting
85 7th Place East, Ste 500
Saint Paul, MN 55155-2198
Minnesota Department of Commerce

**In the Matter of the Application of Elm Creek Wind, LLC,
for a Large Wind Energy Conversion System Site Permit
for the Elm Creek Wind Project in Jackson and Martin
counties.**

EXHIBIT LIST
PUC Docket No.: IP-6631/WS-07-388

EXHIBIT NO.	DATE	DESCRIPTION	e-DOCKET LOCATION
1.	6/15/2007	Elm Creek Wind, LLC, Application for a LWECS Site Permit	https://www.edockets.state.mn.us/EFiling/ShowFile.do?DocNumber=4162952 and https://www.edockets.state.mn.us/EFiling/ShowFile.do?DocNumber=4162951
2.	7/18/2007	DOC EFP Comments & Recommendations to the PUC on acceptance of the Site Permit Application and issuing a draft site permit for the Elm Creek Wind, LLC, Project	https://www.edockets.state.mn.us/EFiling/ShowFile.do?DocNumber=4730583
3.	8/1/2007	PUC Order accepting the Elm Creek Wind, LLC, LWECS Site Permit Application and Issuing Draft Site Permit for public review	https://www.edockets.state.mn.us/EFiling/ShowFile.do?DocNumber=4739450
4.	8/6/2007	Notice of Public Information Meeting and Affidavit of Service	https://www.edockets.state.mn.us/EFiling/ShowFile.do?DocNumber=4744091
5.	8/10/2007	Notice of Public Information Meeting and Affidavit of Service to EQB Technical Representatives	https://www.edockets.state.mn.us/EFiling/ShowFile.do?DocNumber=4749169

6.	8/13/2007	Notice of Public Information Meeting published in <i>EQB Monitor</i>	https://www.edockets.state.mn.us/EFiling/ShowFile.do?DocNumber=4847793
7.	8/21/2007	Affidavits of Publication: Notice of PUC's acceptance of the LWECs application, draft site permit, and public information meeting appearing in <i>The Sentential</i> and the <i>Jackson County Pilot</i> Affidavit of Service: Notice of the PUC's acceptance of the LWECs application to all affected landowners	https://www.edockets.state.mn.us/EFiling/ShowFile.do?DocNumber=4804244
8.	9/12/2007	Comments of PPM Energy on behalf of Elm Creek Wind, LLC	https://www.edockets.state.mn.us/EFiling/ShowFile.do?DocNumber=4772781
9.	9/12/2007	Comments of the Minnesota Department of Natural Resources	https://www.edockets.state.mn.us/EFiling/ShowFile.do?DocNumber=4879024
10.	12/7/2007	Letter from Elm Creek Wind, LLC, announcing Power Purchase Agreement for the Project	https://www.edockets.state.mn.us/EFiling/ShowFile.do?DocNumber=4862345

**In the Matter of the Application of
Elm Creek Wind, LLC, for a Large Wind
Energy Conversion System Site Permit for
the Elm Creek Wind Project in Jackson and
Martin counties**

**FINDINGS OF FACT AND
CONCLUSIONS AND ORDER
PUC DOCKET NO. IP6631/WS-07-388**

The above-entitled matter came before the Minnesota Public Utilities Commission (PUC or Commission), pursuant to the Application by Elm Creek Wind, LLC, for a Large Wind Energy Conversion Site (LWECS) permit to construct, operate, maintain and manage up to a 100 Megawatt (MW) combined nameplate capacity wind farm and associated facilities Jackson and Martin counties, Minnesota. The LWECS site permit is to be issued to Elm Creek Wind, LLC.

STATEMENT OF ISSUE

Should Elm Creek Wind, LLC, be granted a site permit under Minnesota Statutes Chapter 216F to construct and operate up to a 100 MW LWECS in Jackson and Martin counties?

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

FINDINGS OF FACT

Background and Procedure

1. On June 15, 2007, Elm Creek Wind, LLC, filed an application with the PUC for a LWECS site permit to construct, operate, maintain and manage a 100 MW combined nameplate capacity wind facility and associated facilities in Jackson and Martin counties, Minnesota. (Exhibit 1).
2. Comments and Recommendations to the PUC, dated July 26, 2007, the Department of Commerce (DOC) Energy Facilities Permitting (EFP) staff recommended that the PUC accept the application as complete under Minnesota Rule 7836.500, appoint a public advisor, and make a preliminary determination to issue a draft site permit and approve a draft site permit for the Project. (Exhibit 2).
3. On August 1, 2007, the PUC issued its Order accepting the application as complete and issuing a draft site permit for the Project. (Exhibit 3).
4. On August 3, 2007, HDR Engineering, on behalf of Elm Creek Wind, LLC, distributed copies of the site permit application and Notice of Public Information Meeting by U.S. Mail to each landowner within the Project boundary, as well as, township, county and other required governmental officials. Minnesota Rule 7836.0600. (Exhibit 7).

5. DOC EFP staff published on the PUC Energy Facilities Permitting web page the Notice of Public Information Meeting and the availability of the draft site permit on August 3, 2007.
6. On August 6, 2007, pursuant to Minnesota Rule 7836.0900, the DOC EFP staff mailed the Notice of Public Information Meeting and Public Comment Period to persons on the power plant siting act general list and the project mailing list to solicit comments on the site permit application, draft site permit and to review the permitting process for the Elm Creek Wind Project. (Exhibit 4).
7. On August 6, 2007, *The Sentinal* published the Notice of Public Information Meeting as required by Minnesota Rule 7836.0900. On August 9, 2007, the *Jackson County Pilot* published the Notice of Public Information Meeting as required by Minnesota Rule 7836.0900. (Exhibit 7).
8. On August 13, 2007, Notice of Public Information Meeting and Public Comment Period was published in the *EQB Monitor*, Volume 31, No. 17. The published notice contained all of the information required by Minnesota Rule 7836.0900, subp. 1. (Exhibit 6).
9. The DOC EFP staff held a public information meeting on August 21, 2007, in Jackson, Minn., as required by Minnesota Rule 7836.0900 to describe the Project, the permitting process and to take public comments. Approximately 40 people attended the meeting. DOC EFP staff provided an overview of the permitting process, the draft site permit and responded to questions about the permitting process. Representatives from PPM Energy reviewed the proposed Elm Creek Wind Project and responded to questions.
10. The public comment period closed on September 12, 2007. Two written comments were received and are discussed in Findings 29 – 31.

The Permittee

11. Elm Creek Wind, LLC, an affiliate of PPM Energy, is the Permittee and will be responsible for development, management, procurement, construction, commissioning, operation, and long-term ownership of the Project. Elm Creek Wind, LLC, will own the Project including all equipment up its interconnection to the existing Trimont Substation in Cedar Township, Martin County. (Exhibit 1).

Project Description

12. The application provides a preliminary layout and site plan, which is subject to change. (Exhibit 1).
13. The proposed Project will use up to 66 utility scale wind turbine generators between 1.5 MW and 3.0 MW in nameplate capacity for a combined nameplate capacity of up to 100 MW. The wind turbines will be between 80 – 105 meters (m) in hub height and will use rotors between 78 – 100 m in diameter. (Exhibit 1).

14. Most of the land within the Project site is actively farmed. Cultivated lands make up nearly all of the Project area. (Exhibit 1).
15. The Project boundary as proposed includes approximately 14,000 acres in Cedar Township in Martin County and in Enterprise, Belmont, Kimball and Christiana townships in Jackson County, of which Elm Creek Wind, LLC, controls approximately 10,000 acres of wind and land rights. Elm Creek Wind estimates that the proposed facilities will result in the permanent, direct disturbance of up to 60 acres of land depending on turbine model, size and final site layout. (Exhibit 1).
16. All wind turbines, towers and blades under consideration will be in a neutral, off-white color. (Exhibit 1).
17. The Project will include an underground-automated supervisory control and data acquisition system (SCADA) for communication purposes. Temporary meteorological towers will be removed from the site no longer than one year after the Project in-service date. One permanent meteorological tower is permitted and will be used as part of the SCADA system. Other associated facilities will include a concrete and steel foundation for each tower, pad-mounted step-up transformers, electrical junction boxes, all weather class 5 roads of gravel or similar material, an expansion of the Trimont substation, and an underground and overhead 34.5 kilovolt (kV) electric energy feeder and collection system. (Exhibit 1).
18. 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 and overhead cables. (Exhibit 1).
19. Each turbine will be interconnected through an underground electrical collection and feeder system at 34.5 kV. The Permittee will place the 34.5 kV collection and feeder lines primarily within or adjacent to 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 an expansion of the existing Trimont Substation. Electricity collected from the Project will be stepped up to 345 kV at the Trimont Substation and delivered via existing connections to the existing Martin County Substation. (Exhibit 1).
20. Each wind turbine will be interconnected with fiber optic communication cables that will be installed underground. The communication cables will run to a central host computer which will be located either at the Project substation or at the operations and maintenance facility where a 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. The SCADA system will provide detailed operating and performance information for each wind turbine. The Permittee will maintain a computer program and database for tracking each wind turbine's maintenance history and energy production. The PUC will have viewer access to the SCADA system. (Exhibit 1).

Wind Resource Considerations

21. The Elm Creek Wind, LLC, Project will be located in Jackson and Martin counties between approximately 1,280 – 1,430 feet above sea level. Land use in the area is agricultural with intensive farming activities and, as a result, there are few trees or structures in the proposed site to inhibit the wind as it passes over the site. (Exhibit 1).
22. The wind resource in the Project area is well documented by the Applicant and the Department of Commerce. Elm Creek Wind indicates that the wind resource in the vicinity of the project area at 80 meters (263 feet) is approximately 7.7 meters per second (17.2 miles per hour). (Exhibit 1).
23. For the Elm Creek Wind Project, wind turbines are to be 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, will maximize use of the available wind and minimize 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 northwesterly winds, the spacing is widest in the north-south direction. Greater 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 each turbine is utilized to minimize wake losses when the winds are blowing parallel to the turbine rows. (Exhibit 1)
24. Elm Creek Wind estimates that the Elm Creek Wind Project average annual output will be approximately 306,000 – 393,500 megawatt hours (MWh) per year. Final Project output is subject to final layout, design, equipment selected and wind resources. (Exhibit 1).

Land Rights and Easement Agreements

25. 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 project. These lease or easement agreements generally also prohibit landowners from undertaking any activities that might interfere with execution of a proposed project.

26. Elm Creek Wind, LLC, and PPM Energy have obtained lease and easement option agreements with landowners for approximately 10,000 acres of land and wind rights within portions of the Project site boundary necessary for installation of the components of the wind farm. Elm Creek Wind, LLC, may develop its facilities on lands within the Project boundary where it holds or acquires development rights, subject to permit conditions. (Exhibit 1).
27. The wind access buffer set-back of 3 RD in the non-prevailing wind direction (east-west axis) and set-back of 5 RD in the prevailing wind direction (north-south axis) have been established to protect the wind rights of adjacent landowners or others not participating in the Elm Creek Wind, LLC, Project.
28. The Permittee 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 inside the boundary for which PPM Energy or Elm Creek Wind, LLC, do not hold wind development easements or rights. (Exhibit 1).

Public Comments and Letters Received

29. Verbal comments at the August 21, 2007, public meeting were supportive of the Elm Creek Wind Project. Questions about the Project and permitting process included noise, archeological and cultural resource surveys, drain tile, wind easement payments, and locations of turbines proposed.
30. On September 12, 2007, PPM Energy and Elm Creek Wind, LLC, submitted comments suggesting several clarifications and two substantive changes to the draft site permit. First, PPM Energy requested that permit condition III.B.12 be amended to allow the Permittee up to eight months after completing construction of the entire Project rather than eight months after completion of construction of each individual turbine to restore any disturbed lands to their original preconstruction conditions. Second, PPM Energy indicated that while it plans on avoiding wetlands, it requests the flexibility to place some 34.5 kV collection line poles in wetlands if unavoidable. (Exhibit 8).
31. On September 12, 2007, the Minnesota Department of Natural Resources (DNR) comments indicated that the agency had conducted a site visit and had no natural resource concerns or comments about the Project. (Exhibit 9).

Site Criteria

32. Minnesota Statutes Chapter 216F and Minnesota Rules Chapter 7836 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 7836.0500 – 7836.1000. The following analysis addresses the relevant criteria that are to be applied to a LWECs project.

Human Settlement, Public Health and Safety

33. Nearly the entire Project area is zoned for agricultural use by Jackson and Martin counties. The Project area is low in population density, with little residential, commercial or industrial development on or near the site. As a result, the impact of the proposed LW ECS on human settlement, public health and safety can be avoided. Permit condition III.C. specifies conditions for setbacks from residences and roads.
34. In winter months ice may accumulate on the wind turbine blades when the turbines are stopped or operating very slowly. Furthermore, the anemometer may ice up at the same time, causing the turbine to shut down during any icing event. As weather conditions change, any ice will normally drop off the blades in relatively small pieces before the turbines resume operation. This is due to flexing of the blades and the blades' smooth surface. Although turbine icing is an infrequent event and has not been identified as a safety hazard to date in Minnesota, it remains important that the turbines are not sited in areas where regular human activity is expected below the turbines or in the immediate proximity during the winter months. See site permit condition III.C. requires a 500 foot minimum setback from residences and a 250 foot setback from public road rights-of-way.
35. There will be no displacement of existing residences or structures in siting the wind turbines and associated facilities. (Exhibit 1).
36. The Permittee is required to comply with the Federal Aviation Administration (FAA) requirements with respect to turbine lighting, marking and aviation safety. See site permit condition III.E.4 and Exhibit 1.
37. Elm Creek Wind, LLC, is required to provide security during construction and operation of the Project, including fencing, warning signs, and locks on equipment and facilities. Elm Creek Wind, LLC, will also provide landowners and interested persons with safety information about the Project prior to construction. See site permit conditions III.B.15-16.
38. Each wind turbine will be clearly marked to identify each unit and a map of the site shall be provided to local public safety authorities. The site permit requires the Permittee to prepare a fire protection and medical emergency plan in consultation with the local fire department prior to construction and register the LW ECS with the local emergency 911 system. See site permit conditions III.B.15 - 17.

Noise

39. Wind turbines generate noise. The Permittee is required to meet the Minnesota Noise Standards applicable to residential receivers. The Minnesota Noise Standards are enforced by the Minnesota Pollution Control Agency (MPCA) and are found in Minnesota Rule 7030.0040. See site permit condition III.E.3.

40. The site permit requires that wind turbine generators are sited at least 500 feet from occupied dwellings and at a sufficient distance from residential receivers to ensure the Project meets the requirements of the Noise Standards in Minnesota Rules Chapter 7030. See site permit condition III.E.3.
41. In its Application, Elm Creek Wind, LLC, provides sound power levels and estimated distances needed from residential receivers to meet the Minnesota Noise Standards for each wind turbine model under consideration for the Project. Final wind turbine placement will take into account the locations of residential receivers during the micrositing process to ensure compliance with Minnesota Noise Standards. (Exhibit 1). See site permit condition III.E.3.

Visual Values

42. Wind turbines, towers and rotor blades have visual impacts. The visual impacts of wind facilities are highly subjective. Some people like the view of wind turbines, others do not. The Elm Creek Wind Project will be visible to area residents and passing motorists on local, county and state highways. (Exhibit 1).
43. Wind turbines, towers and rotor blades are currently prominent features on the landscape adjacent to the proposed Project site and on the Buffalo Ridge generally. There are currently expansive views of turbines to passing motorists on local, county and state highways, to rural residents and persons in Trimont. (Exhibit 1).
44. The visual impact of the proposed Elm Creek Wind, LLC, wind turbines will be reduced by the use of a neutral paint color. The only lights permitted will be those required by the FAA. See permit condition III.E.4. 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 site will retain its rural character. The turbines and associated facilities necessary to convert the wind for energy are consistent with existing land use, wind energy production, and agricultural practices. (Exhibit 1).
45. The numerous wind farms on the Buffalo Ridge have altered the landscape from agricultural to wind plant/agricultural. The Project will incrementally 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 Jackson and Martin counties, this visual impact will continue to increase the size of the wind plant/farm footprint as the turbines harvest the wind resources of the area 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.

Recreational Resources

46. Recreational opportunities in Jackson and Martin counties 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 parks or conservation lands located within the Project boundary. There are three WMAs, two SNAs and no federal waterfowl production areas (WPAs) within five miles of the Project boundary. The proposed Project will not impact public access to public waters in the area. (Exhibit 1).
47. 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. Wind turbine operations are not expected to affect the natural areas in any material way and no adverse impact on wildlife areas is expected. (Exhibit 1).

Facilities

48. The Elm Creek Wind Project is expected to have a minimal effect on the existing facilities. The Project will use underground or overhead cables for the collector lines primarily 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 typical of wind project feeder lines used in other wind projects in Minnesota. The feeder lines will deliver the energy from the wind farm to the Project substation on a route on or adjacent to public road rights-of way, on private land easements or a combination thereof. (Exhibit 1). See site permit at III.E.7. and 8.
49. The Project will require the use of public roads to deliver construction supplies and materials to the work site. Construction of turbine access roads will be located primarily 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. See site permit at III.B. 8 (b). 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. (Exhibit 1).
50. The Elm Creek Wind Project is not expected to affect 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. The Permittee is required to initiate a study to assess the strength of communications and television reception in the Project area before project construction to document and mitigate any impacts that might occur. The Permittee shall be responsible for alleviating any disruption or interference to communications systems caused by the turbines or associated facilities. See site permit at III.D.3.

51. Construction, operation, and maintenance of the proposed wind plant shall comply with all of the required federal and state permit requirements. See site permit at III.J.2-3 and III.K.7.
52. 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 permits from the Minnesota Department of Natural Resources, as well as, consultation with the U.S. Fish and Wildlife Service. See site permit at III.B.8., III.C.5., III.J.3 and III.K.7.

Community Benefits

53. The Elm Creek Wind Project will provide local tax revenues from a production tax on the wind energy produced by the turbines. Minnesota Statute 272.028 - 272.029. 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, and the Permittee is responsible for any necessary repairs. See site permit at III.B.8. Landowners with turbine(s) or associated facilities on their property will receive payments from Elm Creek Wind, LLC, for wind rights and land easements. (Exhibit 1).
54. To the extent that local workers and local contractors are capable, qualified, and available, Elm Creek Wind, LLC, may hire them to construct the 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 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. (Exhibit 1).

Effects on Land-Based Economies

55. The Project will permanently displace up to approximately 60 acres of agricultural land. Site permit conditions III.B. 2., 3., 4., 5., 6., 7., 8(c), 9., and 10 address mitigation measures for agricultural lands. The Project does not affect any sand or gravel operations. (Exhibit 1).

Archaeological and Historical Resources

56. The Elm Creek Wind, LLC, site permit Application indicate that the Applicant has consulted with and reviewed the Minnesota State Historic Preservation Office (SHPO) computer database and previous cultural resources investigations for the Project area, which indicate that numerous historic structures and archaeological resources have been documented inside the boundaries of or within 1 mile of the Project. Elm Creek Wind, LLC, will conduct a cultural resources field survey of all the proposed turbine locations, access roads, and other construction elements to document any previously unrecorded archaeological sites within the site. The site permit at III.D.2. requires Elm Creek Wind, LLC, to consult with the SHPO upon completion of cultural resources surveys. (Exhibit 1).
57. If any archaeological sites are found during surveys or construction, their integrity and significance would 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 be developed in consultation with 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. (Exhibit 1).

Air and Water Emissions

58. No harmful air or water emissions are expected from the construction and operation of the LWECS. (Exhibit 1).

Animals and Wildlife

59. Elm Creek Wind, LLC, has consulted with the Minnesota Department of Natural Resources (DNR) and the U.S. Fish and Wildlife Service (FWS) about the Project's design and mitigation measures on natural communities, fish and wildlife. The DNR Natural History Database was reviewed to determine if any rare plant or animal species are known to occur within the Project boundary. The DNR indicated that no known occurrences of rare or protected species within 1 mile of the project boundary. The DNR indicated that the Elm Creek Wind Project will not affect these rare natural resources. (Exhibit1).
60. Based upon the review of the Minnesota Natural Heritage Database, and the comments provided in the DNR comment letter of September 12, 2007, the location of the project in a cultivated agricultural area, and previously permitted LWECS projects, neither construction nor operation of the proposed project is expected to significantly impact wildlife. (Exhibit 1 and Exhibit 9).
61. 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 will be taken. This also applies to any work in proximity to watercourses.

Vegetation

62. Landowner approval will be negotiated prior to any removal of trees during construction. Removal of groves of trees or shelterbelts will be minimized. Disturbance of native prairie will be avoided. If native prairie cannot be avoided, the Permit at III.C.6 provides for preparation of a prairie protection and management plan.

Soils

63. 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 NPDES/SDS Permit from the MPCA. (Exhibit 1).

Wetlands

64. No turbines, towers or associated facilities, shall be placed in public waters wetlands, as defined in Minnesota Statutes section 103G.005, subp. 15a. Access roads may be constructed across public waters and electric collector or feeder lines may cross or be placed in public waters or public waters wetlands subject to DNR, United States Fish and Wildlife Service (FWS) and/or United States Army Corps of Engineers (USACE) permits and approvals. See permit conditions III.B.8(b) and III.C.5.
65. The Permittee will work with landowners and drain tile contractors to determine or predict the location of drain tile lines. Impacts to drain tile will be avoided. Any impacts to drain tile will be promptly repaired by the Permittee, unless otherwise negotiated with the landowner. See site permit at III.A.6.

Future Development and Expansion

66. While large-scale wind energy projects have occurred elsewhere, 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.
67. The PUC and DOC anticipate more LWECS site permit applications under Minnesota Statutes Chapter 216F. 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 Statute 216F.03.

68. Minnesota Statute 216E.03, subd. 7, requires consideration of design options that might minimize adverse environmental impacts. Turbines must also be sited 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 energy projects to protect production potential. See site permit at III.C.1.
69. 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 a project occupies. (Exhibit 1).
70. One efficiency issue is the loss of wind in the wake of turbines. When wind is converted to rotational energy by the blades of a wind turbine, energy is extracted from the wind. Consequently, the 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.
71. For this Project, turbine spacing will maximize use of the available wind resources and minimize wake and array losses within the topographical context of the site. The objective is to capture the most net energy possible from the best available wind resource. Given the predominant southerly and northwesterly winds at this site, the spacing between turbines will be greatest in the north-south direction for the Elm Creek Wind Project. (Exhibit 1).

Maintenance

72. 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 Elm Creek Wind Project will be staffed with site technicians and a wind plant supervisor. Elm Creek Wind, LLC, may build or expand an existing a facility to house the operation and maintenance efforts for the Project. (Exhibit 1).

Site Restoration and Decommissioning

73. 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 four (4) 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. (Exhibit 1). See site permit at III.G.1-3.

74. Elm Creek Wind, LLC, will be responsible for all costs to decommission the Project and associated facilities. Decommissioning will be completed within 18 months from the time this site permit expires or the facility ceases to operate whichever is earlier. (Exhibit 1). See site permit at III.G.
75. The site permit requires Elm Creek Wind, LLC, to submit a decommissioning plan to the PUC prior to construction describing how the Permittee will ensure that the resources are available to pay for decommissioning the Project at the appropriate time. The PUC may request the Permittee file a report at anytime describing how it is fulfilling this obligation. See site permit at III.G and Exhibit 1.

Site Permit Conditions

76. Nearly all of the conditions contained in the 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.
77. The proposed Elm Creek Wind, LLC, Project shall meet the site permit setback requirements from existing wind turbines and lands to which it does not hold wind development rights.
78. 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 Minnesota Public Utilities Commission has jurisdiction under Minnesota Statutes section 216F.04 over the site permit applied for by Elm Creek Wind, LLC.
3. The Elm Creek Wind, LLC, Application for a site permit was properly filed and noticed as required by Minnesota Statute 216F.04 and Minnesota Rule 7836.0600 and 7836.0800.
4. 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 Chapter 216F and Minnesota Rules Chapter 7836.

5. The Commission concludes that the 3 RD east-west and 5 RD north-south wind access buffer 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 Elm Creek Wind, LLC, Project.
6. The Elm Creek Wind, LLC, Project will not create significant human or environmental impacts and is compatible with environmental preservation, sustainable development, and the efficient use of resources.
7. The Minnesota Public Utilities Commission has the authority under Minnesota Statutes Chapter 216F and Minnesota Rules Chapter 7836 to establish conditions in site permits relating to site layout, construction, operation and maintenance of an LWECS. The conditions contained in the site permit issued to Elm Creek Wind, LLC, are appropriate, necessary and within the Minnesota Public Utilities Commission's authority.

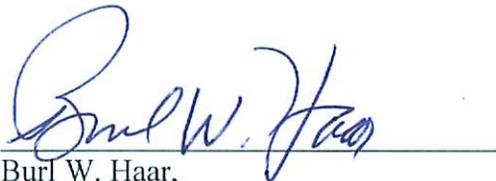
Based on the foregoing Findings of Fact and Conclusions of Law, the Minnesota Public Utilities Commission issues the following:

ORDER

The attached site permit is hereby issued to Elm Creek Wind, LLC, for up to a 100 MW Large Wind Energy Conversion System in Jackson and Martin counties, Minnesota. The site permit issued by the PUC authorizes Elm Creek Wind, LLC, to construct and operate the proposed LWECS and associated facilities in accordance with the conditions contained in the site permit and in compliance with Minnesota Statutes Chapter 216F and with Minnesota Rules Chapter 7836.

Approved and adopted this 15th day of January, 2008.

BY ORDER OF THE COMMISSION



Burl W. Haar,
Executive Secretary

**LARGE WIND ENERGY CONVERSION SYSTEM
SITE PERMIT
FOR
ELM CREEK WIND PROJECT
IN
JACKSON AND MARTIN COUNTIES
ISSUED TO
ELM CREEK WIND, LLC
PUC DOCKET NO. IP6631/WS-07-388**

In accordance with Minnesota Statutes Section 216F.04 this Site Permit is hereby issued to:

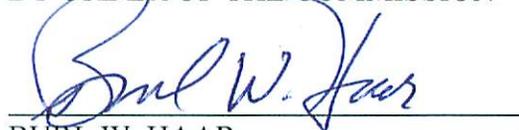
ELM CREEK WIND, LLC

Elm Creek Wind, LLC, is authorized 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 January 31, 2038

Dated: January 15, 2008

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).

www.puc.state.mn.us

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I. SITE PERMIT

This Site Permit for a Large Wind Energy Conversion System (LWECS) authorizes Elm Creek Wind, LLC, (hereinafter "Permittee") to construct up to a 100-Megawatt LWECS and associated facilities in Jackson and Martin counties, on a site of approximately 14,000 acres in accordance with the conditions contained in this Permit. The site boundary is shown on the map that is attached hereto as Attachment 1.

II. PROJECT DESCRIPTION

The up to 100 -Megawatt LWECS authorized to be constructed in this Permit will be owned and operated by Elm Creek Wind, LLC. The Project will consist of up to 67 wind turbine generators each 1.5 – 3.0 MW in capacity with a combined nominal nameplate capacity of no more than 100 MW. Turbines are interconnected by communication and overhead and underground electrical power collection facilities within the wind farm. These facilities will include transformers, overhead and underground collector and feeder lines that will deliver wind-generated power to the Trimont Substation located in, Cedar Township, Martin County. Associated facilities will include one permanent meteorological tower, one temporary meteorological tower, a Sonic Detection and Ranging (SODAR) unit, electrical junction boxes, wind turbine access roads and an operations and maintenance facility.

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 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 a plan for 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. In the event that previously unidentified environmental conditions are discovered during construction which by law or pursuant to conditions outlined in this Permit would preclude the use of that site as a turbine site, the Permittee shall have the right to move or relocate turbine sites. 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 field representative by notification 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. Soil COMPACTION

The Permittee shall implement measures to minimize soil 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 TILES

The Permittee shall take into account the location of drainage tiles during project layout and construction. 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 on lands under its control unless negotiated with 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. Access roads shall not be constructed across streams and drainage ways without required permits and approvals from DNR,

FWS and/or USACOE. 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. Access roads shall also be constructed in accordance with all necessary township, county or state road requirements and permits.

(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 as the Storm Water Pollution Prevention Plan (SWPP) submitted to the Minnesota Pollution Control Agency (MPCA) as part of the National Pollutant Discharge Elimination System (NPDES) 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, unless otherwise negotiated with the landowner. 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. The Permittee shall submit the location of all "underground facilities," as defined in Minnesota Statute 216D.01, Subdivision 11, to Gopher State One Call.

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. The Permittee shall also register the LWECS with the local governments' emergency 911 services.

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 (RD) on the prevailing wind directions and 3 RD on the non-prevailing wind directions from the perimeter of the lands where the Permittee does not hold the wind rights, without the approval of the PUC.

2. RESIDENCES

Wind turbine towers shall not be located closer than 500 feet from the nearest occupied dwelling, or the distance required to comply with the noise standards established by the MPCA at paragraph III.E.3, whichever is greater.

3. ROADS

Wind turbine and meteorological 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.

5. WETLANDS

Wind turbines and 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. However, electric collector or feeder lines may cross or be placed in public waters or public waters wetlands subject to DNR, United States Fish and Wildlife Service (FWS) and/or United States Army Corps of Engineers (USACE) permits and approvals.

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, measure 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. SAND AND GRAVEL OPERATIONS

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 landowner with notice given to 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

Prior to beginning construction, 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 installation 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 may be between 80 meters (262 feet) and 105 meters (344 feet) above grade measured at the hub.

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 no more than one year after the Project in-service date, 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.

One temporary and one permanent meteorological tower are authorized to be constructed for the Project by this Permit. New temporary and permanent meteorological towers shall not be placed less than 250 feet from the edge of the nearest public road right-of-way and from the boundary of the Permittee's site control, or in compliance with the county ordinance regulating meteorological towers in the county the tower is built, whichever is more restrictive. Meteorological towers shall be placed on lands the Permittee holds the wind or other development rights.

Meteorological towers shall be marked as required by the Federal Aviation Administration (FAA). There shall be no lights on the meteorological 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.

3. NOISE

The wind turbine towers shall be placed such that the Permittee shall comply with noise standards established as of the date of this Permit by the Minnesota Pollution Control Agency at all times at all appropriate locations. The noise standards are found in Minnesota Rules Chapter 7030. 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 noise standards. The Permittee shall be required to comply with this condition with respect to all homes or other receptors in place as of the time of construction, but not with respect to such receptors built after construction of the towers.

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 boundaries as shown in Attachment 1. The turbine towers shall be spaced no closer than 3 RD in the non-prevailing wind directions and 5 RD on the prevailing wind directions. If required during final micro siting of the turbine towers to account for topographic conditions, up to 20 percent of the 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 or underground 34.5 kV electric lines, known as feeders within public rights-of-way or on private land immediately adjacent to public rights-of-way if a public right-of-way exists, except as necessary to avoid or minimize human, agricultural, or environmental impacts. 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 easements negotiated with the affected landowner. In all cases, the Permittee shall avoid routing feeder lines in locations which may interfere with agricultural operations. 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 to 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 Minnesota Rules part 7836.0500, 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 Independent System Operator (MISO), 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

Beginning the first full quarter following the commercial operation of the wind farm, the Permittee shall file a quarterly report (due January 15, April 15, July 15, and October 15) with the PUC with 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. That data entails:

- (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.

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 an occurrence, the Permittee shall notify the PUC of any extraordinary event. Extraordinary events include but shall not be limited to: fires, tower collapse, thrown blade, collector or feeder line failure, injured LWECS worker or private person, kills of migratory, threatened or endangered species, or discovery of a large number dead birds or bats of any variety on site. In the event of avian mortality the DNR shall also be notified within 24 hours. The Permittee shall, within 30 days of the occurrence, submit a report to the PUC 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 Attachment 2 of 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 specifications. 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 shall determine the 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 Minnesota Statute 216F.07, 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.

4. POWER PURCHASE AGREEMENT

This Permit does not authorize construction of the Project until the Permittee has obtained a power purchase agreement or some other enforceable mechanism for sale of the electricity to be generated by the Project. In the event the Permittee does not obtain a power purchase agreement or some other enforceable mechanism for sale of the electricity to be generated by the Project within three years of the issuance of this Permit, the Permittee must advise the PUC of the reason for not having such power purchase agreement or enforceable mechanism. In such event, the PUC may determine whether this Permit should be amended or revoked. No amendment or revocation of this Permit may be undertaken except in accordance with applicable statutes and rules, including Minnesota Statute 216F.05 and Minnesota Rule 7836.1300.

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 amended or revoked. No revocation of this Permit may be undertaken except in accordance with applicable statutes and rules, including Minnesota Statute 216F.05 and Minnesota Rule 7836.1300.

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 Permittee, 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, 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 Minnesota Statute 216F.05 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.

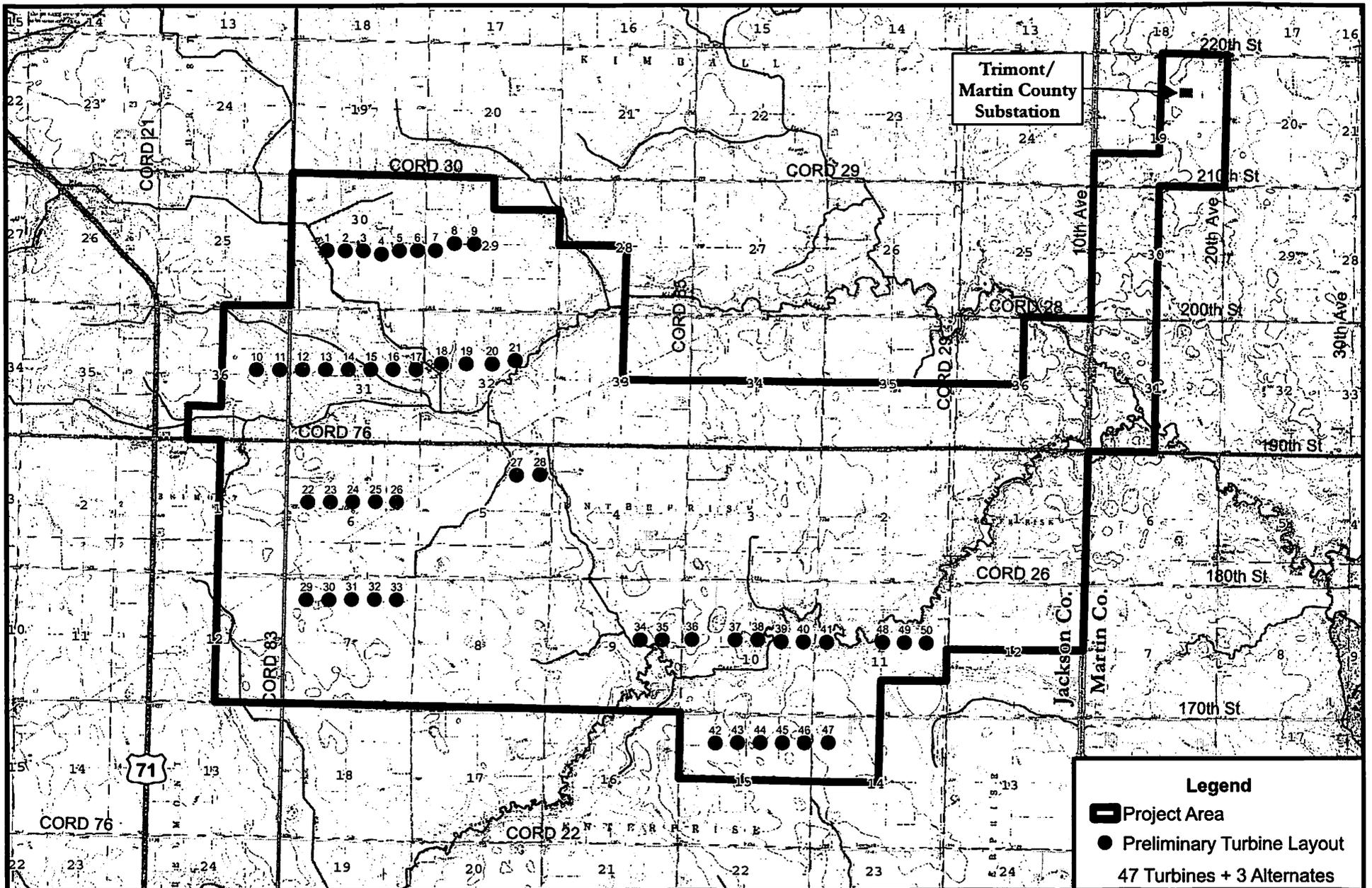
8. SITE MANAGER

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 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.

Map Document: (N:\GIS\Proj\PPM\4325\map_docs\mapdoc\WECS\PermitApplication\ElmCreek_ProjectLocation.mxd)
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Legend

- Project Area
- Preliminary Turbine Layout

47 Turbines + 3 Alternates

Figure 1-3
Preliminary Turbine Layout
Elm Creek Wind Project
PPM Energy
Jackson & Martin Counties, MN

Preliminary Turbine Layout
Subject to Change



10. RIGHT OF ENTRY

The Permittee shall allow representatives of the PUC to perform the following, upon reasonable notice, upon presentation of credentials and at all times in compliance with the Permittee's site safety standards:

(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 January 31, 2038.

M. SPECIAL CONDITIONS

Special conditions shall take precedence over any of the other conditions of this Permit if there should be a conflict between the two. No special conditions have been identified.

ATTACHMENT 2: COMPLAINT REPORT AND HANDLING PROCEDURES

MINNESOTA PUBLIC UTILITIES COMMISSION COMPLAINT REPORT AND HANDLING 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 - Written complaints alleging a violation of a specific Site Permit condition 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 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: DOC.energypermitcompliance@state.mn.us, or 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 preceding month, shall be sent to Dr. Burl W. Haar, Executive Secretary, Minnesota Public Utilities Commission, 121 7th Place East, Suite 350, St. Paul, MN, 55101-2147. 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.

Unresolved Complaints: - The Permittee shall submit all unresolved complaints to the PUC for resolution by the PUC, where appropriate, no later than 45 days after the date of the submission.

Initial Screening: - Commission Staff shall perform an initial evaluation of unresolved Complaints submitted to the Commission. Complaints raising substantial LWECS Site Permit issues shall be processed and resolved by the Commission. Staff shall notify Permittee and the Complainant if it determines that the Complaint is a Substantial Complaint. With respect to such Complaints, each party shall submit a written summary of its position to the Commission no later than ten days after receipt of the Staff notification. Staff shall present Briefing Papers to the Commission, which shall resolve the Complaint within twenty days of submission of the Briefing Papers.