

BEFORE THE MINNESOTA PUBLIC UTILITIES COMMISSION

LeRoy Koppendraye
David Boyd
Marshall Johnson
Phyllis Reha
Thomas Pugh

Chair
Commissioner
Commissioner
Commissioner
Commissioner

Peter J. Samuelson, President
Comfrey Wind Energy, LLC
58307 County Road 17
Comfrey, MN 56019

SERVICE DATE: **JAN 15 2008**

DOCKET NO. IP-6630/WS-07-318

In the Matter of the Application of Comfrey Wind Energy, LLC for a Large Wind Energy Conversion System Site Permit for the Comfrey Wind Project in Brown and Cottonwood Counties

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

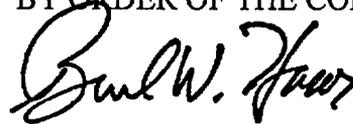
The Commission:

Adopts the attached Findings of Fact, Conclusions and Order

Issues the attached Site Permit to Comfrey Wind Energy, LLC, for up to a 31.5 MW Large Wind Energy Conversion System in Brown and Cottonwood 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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**STATE OF MINNESOTA
PUBLIC UTILITIES COMMISSION**

**In the Matter of a Large Wind Energy
Conversion System Site Permit Application
by Comfrey Wind Energy, LLC for the up
to 31.5 MW Comfrey Wind Project in
Brown and Cottonwood counties**

**FINDINGS OF FACT, CONCLUSIONS
AND ORDER**

**PUC DOCKET NO.
IP-6630/WS-07-318**

The above-entitled matter came before the Minnesota Public Utilities Commission (PUC), pursuant to an application by Comfrey Wind Energy, LLC, for a site permit to construct, operate, maintain and manage the Comfrey Wind Project, a 31.5-Megawatt (MW) nameplate capacity Large Wind Energy Conversion System (LWECS) and associated facilities located in a portion of Bashaw Township in Brown County and portions of Selma Township in Cottonwood County, Minnesota. The Site permit is to be issued to Comfrey Wind Energy, LLC.

All of the proposed wind turbines, foundations, transformers, feeder lines, collection lines and project substation will be located in Brown and Cottonwood counties in Minnesota. Associated facilities will include pad mounted step-up transformers for each wind turbine, access roads, a 34.5 kV electrical collection and feeder system, a project substation and a permanent meteorological tower. The Project will connect to the grid at a new Comfrey Wind Substation located adjacent to Alliant's Comfrey Substation.

STATEMENT OF ISSUE

Should Comfrey Wind Energy, LLC be granted a site permit under Minnesota Statutes Chapter 216F.04 to construct a 31.5-megawatt Large Wind Energy Conversion System in Brown and Cottonwood counties?

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

FINDINGS OF FACT

Background and Procedure

1. On July 20, 2007, Comfrey Wind Energy, LLC (CWE) filed a complete site permit application for the Comfrey Wind Project with the PUC for 31.5 megawatts of nameplate wind power generating capacity. (**Exhibit 1**). On August 1, 2007, CWE submitted revisions to certain information sections (Section 1, Furtherance of State Policy, and Section 11, Decommissioning) (**Exhibit 2**).
2. Department of Commerce (DOC) staff determined that the July 20, 2007, application complied with the application requirements of Minnesota Rules 4401.0450 (Renumbered at

- Minnesota Rules 7836.0500). In a briefing paper to the PUC, dated August 1, 2007, DOC Energy Facility Permitting (EFP) staff recommended that the PUC accept the application **(Exhibit 3)**.
3. On August 10, 2007, the PUC issued an order accepting CWE's application for the Comfrey Wind Project and associated facilities **(Exhibit 4)**.
 4. CWE published notice of the PUC's acceptance of the LWECS site permit application in the Cottonwood County Citizen on August 22, 2007, and in the Comfrey Times on August 23, 2007 **(Exhibit 5)**.
 5. On August 24, 2007, CWE mailed notice of the PUC's acceptance of the LWECS application and provided copies of the application to all affected landowners as required by Minnesota Rules 7836.0500 **(Exhibit 6)**.
 6. In its comments and recommendations to the PUC, dated August 30, 2007, EFP staff recommended that the PUC make a preliminary determination to issue a draft site permit and initiate the review and comment period for the draft site permit **(Exhibit 7)**.
 7. The PUC made a preliminary determination to issue a draft site permit for review and comment and issued a draft site permit in an Order dated September 7, 2007 **(Exhibit 8)**.
 8. DOC EFP staff prepared a notice for the public information meeting to receive comments on the site permit application and the draft site permit. 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 application and draft site permit; d) description of the PUC site permit review process, including procedure to request a contested case hearing; and e) identification of the public advisor. The notice published meets the requirements of Minnesota Rules 7836.0900. The notice was mailed to each landowner affected by the proposed Project, persons on the project list and local governments on October 15, 2007 **(Exhibit 9)**.
 9. Published notice of the site permit application, DOC public information meeting and opportunity to comment on the draft site permit appeared in the Cottonwood County Citizen on October 17, 2007 and Comfrey Times on October 18, 2007 **(Exhibit 10)**. The notice published meets the requirements of Minnesota Rules 7836.0900.
 10. DOC EFP staff published notice of the public information meeting and the availability of the draft site permit in the EQB Monitor, Volume 31, No. 122, October 22, 2007 **(Exhibit 11)**. The published notice contained all of the information required by Minnesota Rules 7836.0900 subp. 1. Notice also appeared on the PUC web site.
 11. The DOC EFP staff held a public information meeting on November 1, 2007, in Comfrey, Minnesota, to receive comments on the site permit application and draft site permit. Approximately 30 people attended at the meeting. Representatives from CWE were also

present at the meeting. DOC EFP staff provided an overview of the permitting process and draft site permit and responded to questions about the permitting process. The Applicant provided an overview of the Project and responded to questions about the Project. The questions at the public meeting included discussions of decommissioning, expected life of the facility, anticipated amount and dispersion of tax revenue from the facility. There were also questions about shadow flicker, noise and why the project was being permitted by the State, rather than the county government. Three comments were received by the close of the public comment period on November 21, 2007.

12. No requests for a Contested Case Hearing on the proposed Project were submitted to the PUC.

The Permittee

13. CWE, a limited-liability corporation based in Minnesota, will own the Project, including the new Comfrey Wind Substation, up to the grid interconnection.
14. The Project is a Community Based Energy (CBED) project under the Minn. Stat. 216B.1612. Project ownership will be structured so that no individual owns more than 15 percent of the Project. Neither CWE nor its principals own or have a financial interest in any other LWECS in Minnesota. CWE will sell the entire output of the Project.

Project Description

15. The proposed Project will use up to 17 wind turbines, ranging in size from 1.8 to 2.4 MW, and having a combined nominal nameplate capacity of no more than 31.5 MW. The turbines will have a hub height of approximately 262 feet (80M). The rotor consists of three blades mounted to a rotor hub. The turbine blades are approximately 145 - 150 feet long, resulting in a rotor diameter of approximately 300 feet. The hub is attached to the nacelle, which houses the gearbox, generator, brake, cooling system, and other electrical and mechanical systems. The rotor swept area is approximately 1.5 acres. The maximum overall height of the wind turbines, with a turbine blade fully extended, is approximately 400 feet above grade. The rotor speed will vary between 15.6 and 18.5 revolutions per minute corresponding to a maximum rotor tip speed of approximately 150 to 190 miles per hour.
16. Other components of the Project include a concrete and steel foundation for each tower, pad-mounted step-up transformer for each turbine, all-weather class 5 gravel roads, an underground electric energy collection system, a project substation, and one existing permanent meteorological tower.
17. Each turbine is interconnected primarily through an underground electrical collection system at 34.5 kV. The collector lines will feed into the Comfrey Wind Energy Substation (a new substation that is part of this project). The voltage will be stepped up from the 34.5 kV collection system to the transmission system level of 69 kV at the substation. The Project will not require any overhead collector lines.

18. Each tower will be secured by a concrete foundation, approximately 30 feet by 30 feet, although size may vary somewhat depending on the soil conditions.
19. A control panel that houses communication and electronic circuitry is placed in each tower. In addition, a step-up, pad-mounted transformer is necessary for each turbine to collect the power from the turbine and transfer it to a 34.5 kV collection system via underground cables.
20. All turbines and 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 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 SCADA network 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.

Wind Resource Considerations

21. The Comfrey Wind Project will be located in Brown and Cottonwood counties. The elevation at the project site varies between 1130 and 1155 feet above sea level. WindLogics modeled wind resources in the project area. That modeling showed wind speeds at an elevation of 262 feet (80 meters) to be 15.3 to 19.5 miles per hour, with an average annual wind speed of 18.07 miles per hour.
22. The wind turbines are sited so as to have good exposure to winds from all directions, with emphasis on exposure to the prevailing southern and northwesterly winds. The turbine spacing, according to the site permit application, maximizes use of the available wind and minimizes wake and array losses within the topographical context of the site. Turbines are spaced to minimize wake losses when the winds are blowing parallel to the turbine rows; the layout incorporates a spacing of 3 RD in the non-prevailing wind directions and a 5 RD spacing in the prevailing wind directions. See site permit at III.E.5.
23. The Applicant anticipates an annual energy production of approximately 102,000 – 119,000 megawatt hours, assuming a net capacity factor of 37 – 43 percent.
24. The Project Site is located in an area that is actively farmed, and the applicant anticipates that all turbines will be located in agricultural fields. The dominant crops at the Project site are corn and soybeans.
25. The Project site as proposed includes approximately 3,940 acres in Sections 3-5, 9 and 10 of Selma Township in Cottonwood County (Township 107 North, Range 34 West), and

Sections 27-29 and 32-34 in Bashaw Township in Brown County (Township 108 North, Range 34 West). The proposed wind turbine site layout in the site permit application shows where the proposed facilities, such as towers, roads and the underground electrical lines, could be located. These locations are subject to change. CWE estimates that the proposed facilities will result in the permanent disturbance of approximately 15 – 20 acres of land, primarily for roads and towers and the project substation. A total of approximately 30 acres of land will be temporarily disturbed during construction of the wind farm for contractor staging areas, foundation and road construction, underground power lines, and tower and turbine assembly. Roads are expected to be approximately 16 feet wide.

Land Rights and Easement Agreements

26. In order to build a wind plant, a developer needs to secure site leases and easement option agreements to ensure access to the site for construction and operation of a proposed project, as well as areas sufficient to address required setbacks and turbine spacing. These lease or easement agreements also prohibit landowners from engaging in any activities that might interfere with the execution of the proposed project.
27. The Applicant has obtained lease and easement option agreements and/or rights to such agreements with affected 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 Project.

Written Comments and Letters Received by November 21, 2007

28. By the close of the comment period on November 21, 2007, the PUC had received three comment letters on the proposed Comfrey Wind Energy Project.
29. On November 9, 2007 the Southwest Regional Development Commission (SRDC) sent a report that was accepted by the SRDC on November 8, 2007 (**Exhibit 12**). Their report highlighted differences between Cottonwood County setback requirements for small wind energy conversion systems (SWECS) and the setback requirements outlined in the Draft Permit issued by the Commission on September 7, 2007. The SRDC requested that the PUC consider increasing turbine setbacks to be more in line Cottonwood County's SWECS requirements. The report also identified additional local permits (oversize and overweight permits, approval or all transmission and communication cables and lines in the public right of way, and road signage requirements) that may be required by the Project, and requested that the Proposer work with road authorities to address any temporary relocation of regulatory (road) signs that may be required during the construction of the Project. SRDC's comments are addressed at Findings 33, 40, 50, and 54 and in Permit Conditions III.B.8(a) and (b), III.C.2, and III.C.3.
30. On November 21, 2007, the Minnesota Pollution Control Agency (MPCA) submitted comments on the proposed project (**Exhibit 13**). The comments clarified that a National Pollutant Discharge Elimination System/State Disposal system (NPDES/SDS) stormwater permit will be required from the MPCA for construction of the project, and would likely be required for site restoration following the decommissioning or abandonment of the project.

The comments also identified Cottonwood County Drainage Ditch 30 as a public water. The PCA comments highlighted the need to minimize the impacts from construction activities given that both the Little Cottonwood and Watonwan River are on the Impaired Waters list for turbidity. The MPCA recommended that the final restoration of disturbed areas be achieved within three to six months, instead of the eight months outlined in the Draft Permit. The MPCA also recommended that that the project shall not be placed in any Waters of the State. MPCA's comments are addressed at Findings 51, 53, 64, and 65 and in Permit Condition III.B.8(b), III.B.9, III.B.12, and III.C.5.

31. On November 21, 2007, the Minnesota Department of Natural Resources (DNR) submitted comments on the proposed project from (**Exhibit 14**). The DNR comments clarified results of the Natural History Database search and the DNR permits that will be required for the project. The DNR also requested that the results of any preconstruction biological or avian monitoring studies be provided to DNR staff for their review. DNR's comments are addressed at Findings 51, 53, 60, 61, 62, 63, and 65 and in Permit Conditions III.B.8(b), III.C.5, III.C.6, and III.D.1.

Site Criteria

32. Minnesota Rules Chapter 7836 apply to the siting of LWECS. 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. The following analysis addresses the relevant criteria that are to be applied to a LWECS project.

Human Settlement, Public Health and Safety

33. The site is located in an agricultural area, with generally low population density. The project area is zoned as agricultural in both Brown and Cottonwood counties. The site permit conditions (III. C.2 and 3) specify conditions for setbacks from residences and roads. The proposed wind turbine layout exceeds those requirements, minimizing the impact of the proposed LWECS on human settlement, public health and safety. The proposed Project is not expected to affect any water wells (used, unused or unsealed) or any rural water system that services the area.
34. There will be no displacement of existing residences or structures in siting the wind turbines and associated facilities.
35. The Project will comply with the Federal Aviation Administration (FAA) requirements with respect to lighting. See site permit conditions III.E.2 and 4.
36. CWE will provide security during construction and operation of the Project, including any appropriate fencing, warning signs, and locks on equipment and facilities. The Applicant will also provide landowners and interested persons with safety information about the Project and its facilities. See site permit condition III.B.15.

37. 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, 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. There is no regular human activity expected near the turbines during winter months.
38. Each turbine will be clearly labeled to identify each unit and a map of the site with the labeling system will be provided to local authorities as part of the fire protection plan. The Permittee will also file turbine locations with appropriate local 911 services. See permit conditions III.B.15, 16 and 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 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.C.2.
41. Final wind turbine placement will take into account the locations of residential receivers during the micrositing process to ensure compliance with Minnesota Noise Standards. At the request of the PUC, CWE shall provide the PUC with results of noise modeling for the final wind turbine layout. See site permit conditions III.E.3 and III.F.2.

Visual Values

42. The visual impacts resulting from wind projects are highly subjective; some people find them to be an attractive addition to the visual landscape, others do not. The nearest wind development in the area is the 15 MW (12 Suzlon 1.25 MW turbines) Bingham Lake Wind Farm, located approximately 20 miles southwest of the proposed Project.
43. The placement of up to 17 wind turbines for the Project will affect the appearance of the project area. The turbine towers and rotor blades will be prominent features on the landscape. The turbines will be visible from Comfrey and from many of the rural residences within and near the project area. The project will also be visible to passing motorists on local, county and state highways.
44. Several mitigation measures will be taken to minimize visual impact. All site permits issued by the PUC require the use of tubular towers; therefore, the turbine towers will be uniform

in appearance. The use of underground electrical collectors and feeders will reduce the Project's visual impact.

45. Turbines will be lit with synchronized flashing red lights at night to comply with FAA requirements. No daytime lighting will be required.

Recreational Resources

46. Recreational opportunities in the area include hunting, snowmobiling and wildlife viewing. Hunting is permitted in designated state Minnesota Department of Natural Resources Wildlife Management Areas (WMAs), unless otherwise posted. Other recreational resources are the Jeffers Petroglyphs, located approximately 6.5 miles from the proposed site.
47. The Bashaw WMA, the Terri WMA and the Riecks Slough WMA are all located approximately three to five miles northwest of the proposed site. There are no state or national forests or Scientific and Natural Areas (SNAs) within five miles of the proposed project.
48. Recreational activities will not be significantly impacted by the Project. Turbines will not be located in WMAs or in any local parks. Turbine operations are not expected to affect the natural areas in any material way and no adverse impact on wildlife management areas or practices is expected.

Infrastructure

49. The Project is expected to have a minimal effect on the existing infrastructure. The proposed Project will use underground cables for the collector lines. Placement of collector and feeder lines is addressed in the site permit at III.E.7 and 8.
50. 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(a) addresses this topic. The applicants proposed layout uses a setback of 300 feet from the edge of public road rights-of-way, greater than the minimum setback of 250 feet identified in site permit condition III.C.3. Construction of the Project requires the construction of approximately three miles of access roads that will be located at the project site. The access roads will be approximately 16 feet in width and covered with class 5 gravel, or a similar material. The site permit at III.B. 8 (b) addresses this topic. The access roads will be used to deliver construction supplies and materials to each turbine site. During operation and maintenance of the wind plant, operation and maintenance crews will use access roads to inspect and service wind turbines. Periodic grading or other methods will be used as necessary to maintain road integrity. The Permittee may do this work or contract it out.
51. If access roads must be installed across streams or drainage ways, 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. This is addressed in permit condition III.B.8(b).

52. The Project 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. CWE 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.
53. Construction, operation, and maintenance of the proposed wind plant will comply with all federal and state permit requirements. This is addressed in permit condition III.K.7.

Community Benefits

54. The Project will provide local tax revenues from a production tax on the wind 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 addresses road damages at III.B.8.(a) and (b). Landowners will also receive easement payments from the Permittee.
55. To the extent that local workers and local contractors are capable, qualified, and available, CWE 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.

Effects on Land-Based Economies

56. The proposed Project does not affect any forestry or mineral extraction operations. The proposed Project is located in an agricultural area and will temporarily remove approximately 30 acres from agricultural production, and result in the permanent removal of approximately 15 acres from agricultural production. Mitigation measures for agricultural land are addressed in the site permit at III.B.2, 3, 4, 5, 6, 7, 8.(b) and (c), 9, and 12.

Archaeological and Historical Resources

57. A records review of the Minnesota Archaeological Inventory and Historic Structures Inventory did not locate any historic structures, historic sites, National Register of Historic Places (NRHP) properties or archaeological sites within the project site. The site permit at III. D.2 requires CWE to consult with the Minnesota Historical Society.
58. The site permit at III.D.2 requires that construction workers be trained about the need to avoid cultural properties, identification of cultural properties, and procedures to follow if undocumented cultural properties are found during construction. If any archaeological sites, including gravesites, 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 NRHP. If

such sites are found to be eligible for the NRHP, appropriate mitigative measures will need to be developed in consultation with the Minnesota State Historic Preservation Officer, 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.

Air and Water Emissions

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

Animals and Wildlife

60. A review of the Minnesota Natural Heritage Database maintained by the DNR shows no known occurrences of rare species or native plant communities in the project area.

61. Based upon the review of the Minnesota Natural Heritage Database, and the comments provided in the DNR comment letter of November 21, 2007 (**Exhibit 14**), 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.

62. 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 will be prepared; 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

63. 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

64. Construction of the wind turbines and access roads increases the potential for erosion during construction and converts approximately 15 acres 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.

Surface Water and Wetlands

65. No turbines, towers or associated facilities shall be placed in public waters wetlands, as defined in Minnesota Statutes 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

Future Development and Expansion

66. 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.
67. The PUC anticipates more site permit applications under Minnesota Statutes 216F.04 (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 216F.03.
68. Minnesota Statutes 216E.03, subd. 7, 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.
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 the project occupies. There is strong public support for orderly development of wind energy in Minnesota.
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 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 did not lead to a layout involving long strips of turbines running parallel to each other and perpendicular to the prevailing wind. Instead, the site

uses shorter strings. The objective was to capture the most net energy possible from the best available wind resource. CWE arrived at an average turbine spacing of approximately 3 RD in the non-prevailing wind directions and 5 RD in the prevailing wind directions in their preliminary layout. Given the prevalence of southerly and northwesterly winds at this site, the spacing between turbines is greatest in the north-south direction for the proposed project.

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 Alliant Energy. CWE will contract with the turbine manufacturer to provide service and maintenance for the project at least through the warranty period. Upon the expiration of the warranty period, CWE may perform maintenance in-house, or may contract for service and maintenance.

Decommissioning and Restoration

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 feet below grade, unless otherwise agreed to by the landowner; and (5) removal of surface road material and restoration of the roads and turbine sites to previous conditions to the extent feasible, consistent with the landowner's desires. See site permit at III.G.2.
74. CWE 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 18 months from the time the facility ceases to operate. See site permit at III.G.1 and 2.
75. CWE estimates the net decommissioning cost (estimated cost of dismantling and removal less the salvage value) for the Comfrey Wind Project at approximately \$74,000 per turbine in current dollars (**Exhibit 2**).
76. The Permit requires CWE 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.1 CWE proposes to establish a separate Decommissioning Fund Balance as a regular expense item within the Comfrey Wind Energy cash flow to allow for potential decommissioning expenses to be pre-funded (**Exhibit 2**)

Site Permit Conditions

77. 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. Comments received concerning the requirements and conditions in the draft site permit distributed for comment on October 15, 2007 have been

evaluated and addressed as appropriate. Minor changes that provide for clarifications of the draft site permit conditions have been made.

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 Comfrey Wind Energy, LLC.
3. The Comfrey Wind Energy, LLC, application for a site permit was properly filed and noticed as required by Minnesota Statutes 216F.04 and Minnesota Rules 7836.0600 subp. 2 and 7836.0900 subp. 2.
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 Minnesota Public Utilities Commission has jurisdiction under Minnesota Statutes 216F.04 over the site permit applied for by Comfrey Wind Energy, LLC.
6. The proposed Comfrey Wind Project 31.5-megawatt LWECS 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 Statute 216F.04 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 Comfrey Wind Energy, LLC, are appropriate and 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:

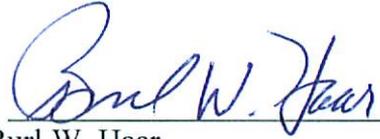
ORDER

The Attached Site Permit is hereby issued to Comfrey Wind Energy, LLC for up to a 31.5-MW Large Wind Energy Conversion System in Brown and Cottonwood counties in Minnesota. The site permit issued

by the PUC authorizes Comfrey Wind Energy, LLC to construct and operate the proposed Large Wind Energy Conversion System in accordance with the conditions contained in the site permit and in compliance with the requirements of Minnesota Statutes 216F.04 and Minnesota Rules Chapter 7836.

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

BY ORDER OF THE COMMISSION

A handwritten signature in blue ink that reads "Burl W. Haar". The signature is written in a cursive style and is positioned above a horizontal line.

Burl W. Haar,
Executive Secretary



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 Comfrey Wind Energy, LLC, for a Site Permit for the Comfrey Wind Project, a 31.5-Megawatt Large Wind Energy Conversion System in Brown and Cottonwood counties

EXHIBIT LIST
PUC Docket NO.: IP-6630/WS-07-318

EXHIBIT NO.	DATE	DESCRIPTION	e-DOCKET LOCATION
1.	7/20/2007	Comfrey Wind Energy, LLC's application for a LWECS site Permit for the Comfrey Wind Project	https://www.edockets.state.mn.us/EFiling/ShowFile.do?DocNumber=4736952
2.	8/1/2007	Comfrey Wind Energy, LLC's revised application materials for certain sections	https://www.edockets.state.mn.us/EFiling/ShowFile.do?DocNumber=4741039
3.	8/1/2007	DOC EFP Comments & Recommendations to the PUC on acceptance of the Comfrey Wind Energy, LLC's LWECS Site Permit Application.	https://www.edockets.state.mn.us/EFiling/ShowFile.do?DocNumber=4740048
4.	8/10/2007	PUC Order accepting Comfrey Wind Energy, LLC's LWECS Site Permit Application	https://www.edockets.state.mn.us/EFiling/ShowFile.do?DocNumber=4749165
5.	8/22/2007 and 8/23/2007	Affidavits of Publication: Notice of PUC's acceptance of the LWECS application appearing in <i>Cottonwood County Citizen</i> and <i>Comfrey Times</i> .	https://www.edockets.state.mn.us/EFiling/ShowFile.do?DocNumber=4869564
6.	8/24/2007	Affidavit of Service: Notice of the PUC's acceptance of the LWECS application to all	https://www.edockets.state.mn.us/EFiling/ShowFile.do?DocNumber=4875833

		affected landowners	
7.	8/30/2007	DOC Comments & Recommendations on Issuance of Draft Site Permit	https://www.edockets.state.mn.us/EFiling/ShowFile.do?DocNumber=4762100
8.	9/7/2007	PUC Order Issuing Draft Site Permit for public review and comment	https://www.edockets.state.mn.us/EFiling/ShowFile.do?DocNumber=4763390
9.	10/15/2007	Notice of Public Information Meeting and Affidavit of Service.	https://www.edockets.state.mn.us/EFiling/ShowFile.do?DocNumber=4875832
10.	10/17/2007 and 10/18/2007	Affidavits of Publication: Notice of Public Information Meeting published in <i>Cottonwood County Citizen</i> and <i>Comfrey Times</i> .	https://www.edockets.state.mn.us/EFiling/ShowFile.do?DocNumber=4875839
11.	10/22/2007	Notice of Public Information Meeting published in <i>EQB Monitor</i>	https://www.edockets.state.mn.us/EFiling/ShowFile.do?DocNumber=4869563
12.	11/9/2007	Comments of the Southwest Regional Development Commission	https://www.edockets.state.mn.us/EFiling/ShowFile.do?DocNumber=4875834
13.	11/21/2007	Comments of the Minnesota Pollution Control Agency	https://www.edockets.state.mn.us/EFiling/ShowFile.do?DocNumber=4875835
14.	11/21/2007	Comments of the Minnesota Department of Natural Resources	https://www.edockets.state.mn.us/EFiling/ShowFile.do?DocNumber=4843897

**LARGE WIND ENERGY CONVERSION SYSTEM
SITE PERMIT
FOR**

COMFREY WIND PROJECT

**IN
BROWN AND COTTONWOOD COUNTIES**

ISSUED TO

COMFREY WIND ENERGY, LLC

PUC DOCKET NO. IP-6630/WS-07-318

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

COMFREY WIND ENERGY, LLC

Comfrey Wind Energy, LLC is authorized to construct and operate up to a 31.5-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).

TABLE OF CONTENTS

I. SITE PERMIT	1
II. PROJECT DESCRIPTION	1
III. CONDITIONS	1
A. GENERAL CONSTRUCTION CONDITIONS	1
1. SITE PLAN.....	1
2. FIELD REPRESENTATIVE.....	1
3. PRECONSTRUCTION MEETING	2
4. NOTICE OF PERMIT CONDITIONS.....	2
B. MITIGATION MEASURES	2
1. SITE CLEARANCE	2
2. TOPSOIL PROTECTION	2
3. SOIL COMPACTION	2
4. LIVESTOCK PROTECTION	2
5. FENCES.....	2
6. DRAINAGE TILES.....	2
7. EQUIPMENT STORAGE.....	3
8. ROADS.....	3
9. SOIL EROSION AND SEDIMENT CONTROL	3
10. CLEANUP.....	4
11. TREE REMOVAL.....	4
12. RESTORATION.....	4
13. HAZARDOUS WASTE.....	4
14. APPLICATION OF HERBICIDES.....	4
15. PUBLIC SAFETY	5
16. FIRE PROTECTION.....	5
17. TOWER IDENTIFICATION	5
C. SETBACKS	5
1. WIND ACCESS BUFFER	5
2. RESIDENCES	5
3. ROADS.....	5
4. WILDLIFE MANAGEMENT AREAS.....	6
5. WETLANDS	6
6. NATIVE PRAIRIE.....	6
7. SAND AND GRAVEL OPERATIONS.....	6
D. PRECONSTRUCTION SURVEYS	6
1. BIOLOGICAL PRESERVATION SURVEY	6
2. ARCHAEOLOGICAL RESOURCES	6
3. ELECTROMAGNETIC INTERFERENCE.....	7
E. SITE LAYOUT RESTRICTIONS	8
1. WIND TURBINE TOWERS.....	8
2. METEOROLOGICAL TOWERS	8
3. NOISE.....	8
4. FEDERAL AVIATION ADMINISTRATION	8
5. TURBINE SPACING.....	9
6. FOOTPRINT MINIMIZATION.....	9

7. ELECTRICAL CABLES.....	9
8. FEEDER LINES.....	9
F. STUDIES.....	10
1. WAKE LOSS STUDIES.....	10
2. NOISE.....	10
G. DECOMMISSIONING/RESTORATION/ABANDONMENT.....	10
1. DECOMMISSIONING PLAN.....	10
2. SITE RESTORATION.....	10
3. ABANDONED TURBINES.....	10
H. REPORTING.....	11
1. PROJECT ENERGY PRODUCTION.....	11
2. WIND RESOURCE USE.....	11
3. EXTRAORDINARY EVENTS.....	11
4. COMPLAINTS.....	12
I. FINAL CONSTRUCTION.....	12
1. AS-BUILT PLANS AND SPECIFICATIONS.....	12
2. FINAL BOUNDARIES.....	12
3. EXPANSION OF SITE BOUNDARIES.....	12
J. AUTHORITY TO CONSTRUCT LWECS.....	12
1. WIND RIGHTS.....	12
2. OTHER PERMIT APPLICATIONS.....	12
3. PREEMPTION OF OTHER LAWS.....	12
4. POWER PURCHASE AGREEMENT.....	13
K. MISCELLANEOUS.....	13
1. PERIODIC REVIEW.....	13
2. FAILURE TO COMMENCE CONSTRUCTION.....	13
3. MODIFICATION OF CONDITIONS.....	13
4. REVOCATION OR SUSPENSION OF THE PERMIT.....	13
5. PROPRIETARY INFORMATION.....	14
6. TRANSFER OF PERMIT.....	14
7. OTHER PERMITS.....	14
8. SITE MANAGER.....	14
9. NOTICE TO LOCAL RESIDENTS.....	15
10. RIGHT OF ENTRY.....	15
11. MORE STRINGENT RULES.....	15
L. EXPIRATION DATE.....	15
M. SPECIAL CONDITIONS.....	15

ATTACHMENT 1: SITE BOUNDARY MAP

ATTACHMENT 2: COMPLAINT REPORT AND HANDLING PROCEDURES

I. SITE PERMIT

This Site Permit for a Large Wind Energy Conversion System authorizes Comfrey Wind Energy, LLC (herein after, "Permittee") to construct up to a 31.5-Megawatt (MW) Large Wind Energy Conversion System (LWECS) and associated facilities known as the Comfrey Wind Project (herein after, "Project") in Brown and Cottonwood counties, on a site of approximately 3,940 acres in accordance with the conditions contained in this Permit. The site boundary is shown on the map in Attachment 1.

II. PROJECT DESCRIPTION

The up to 31.5-MW LWECS authorized to be constructed by this Site Permit will be owned and operated by Comfrey Wind Energy, LLC. The Project will consist of up to 17 1.8 to 2.4 MW wind turbines with a combined nominal nameplate capacity of no more than 31.5 MW. Turbines are interconnected by communication and electrical power collection facilities within the wind farm. Energy from the Project will be delivered to the grid at the Comfrey Wind Energy Substation, located in Section 3 of Selma Township in Cottonwood County. Associated facilities will include one permanent meteorological tower and wind turbine access roads.

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 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 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. 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. The 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. 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. Permittee acknowledges that properties within the site boundaries for which Permittee does not hold the wind rights will not be foreclosed from installing wind turbine generators on such property at a later date, even if such turbine generators cannot be installed on such property in compliance with the setbacks set forth in the first sentence of this section.

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 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 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 (MHS) 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 the start of 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 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 at hub height.

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's 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.

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 MPCA at all times at all appropriate locations. 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. 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 erection 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 landowners. 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 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 carry out 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 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 Minnesota Statute section 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 revoked. No revocation of this Permit may be undertaken except in accordance with applicable statutes and rules, including Minnesota Statute section 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 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 Minnesota Statute section 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 Project's 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 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.