Energy Facility Permitting
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February 8, 2012

Dr. Burl W. Haar
Executive Secretary
Minnesota Public Utilities Commission
121 7th Place East, Suite 350
St. Paul, MN 55101-2147

RE: **In the Matter of the Prairie Wind Energy, LLC Application for a Large Wind Energy Conversion System Site Permit for the 100 MW Prairie Wind Energy Project in Otter Tail County. (PUC Docket No. IP-6844/WS-10-438)**

Dear Dr. Haar:

Attached are the Comments and Recommendations of the Energy Facility Permitting (EFP) staff in the question: "Should the Commission grant a site permit to Prairie Wind Energy, LLC for the up to 100 MW Prairie Wind Energy Project?"

These comments and recommendations replace those filed by EFP on February 3, 2012.

The Petition was filed on May 5, 2011 by:

John R. Gasele, Atty. Reg. No. 0386700
Fryberger, Buchanan, Smith & Frederick, P.A.
302 W Superior Street, Suite 700
Duluth, MN 55802
(218) 722-0861

EFP staff recommends granting a site permit with conditions as attached and is available to answer any questions the Commission may have.

Sincerely,

David E. Birkholz
State Permit Manager

Attachments

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BEFORE THE MINNESOTA PUBLIC UTILITIES COMMISSION

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

DOCKET NO. IP-6844/WS-10-438

Meeting Date: February 16, 2011 .....Agenda Item __9__

Company: Prairie Wind Energy, LLC

Docket No. IP-6844/WS-10-438

In the Matter of the Prairie Wind Energy, LLC Application for a Large Wind Energy Conversion System Site Permit for the 100 MW Prairie Wind Energy Project in Otter Tail County.

Issue(s): Should the Commission grant a site permit to Prairie Wind Energy, LLC for the 100 MW Prairie Wind Energy Project

EFP Staff: David E. Birkholz 651-296-2878

Relevant Documents

Site Permit Application for a Large Wind Energy Conversion System ..... May 5, 2011
Spring Avian Flight Characteristic and Raptor Nest Survey .....October 19, 2011
ALJ Summary of Comments .....November 9, 2011
Fall Avian Flight Characteristic Survey ..... December 7, 2011
DNR Comment Letter..... January 13, 2012
Applicant's Comments (in Four Parts)..... February 03, 2012

This document can be made available in alternative formats (i.e., large print or audio) by calling 651-296-0391 (voice). Persons with hearing or speech disabilities may call us through Minnesota Relay at 1-800-627-3529 or by dialing 711.

The enclosed materials are the work papers of the EFP staff. They are intended for use by the Commission and are based on information already in the record unless otherwise noted.

Documents Attached

1. Project Location Map
2. Exhibit List
3. Proposed Findings of Fact, Conclusions of Law, and Order
4. Proposed Site Permit with Turbine Layout Map

See eDocket filings (10-438) at https://www.edockets.state.mn.us/EFiling/search.jsp, or the Commission website at: http://www.energyfacilities.puc.state.mn.us/Docket.html?Id=30591 for project related documents.

Statement of the Issues

Should the Commission grant a site permit to Prairie Wind Energy, LLC (Applicant or PWE) for the 100 MW Prairie Wind Energy Project?

Introduction and Background

Prairie Wind Energy, LLC a Minnesota limited liability company formed in 2007, has submitted a site permit application to the Public Utilities Commission to construct the up to 100 MW Prairie Wind Energy Project in Otter Tail County.

Project Location
The Project is in southeastern Otter Tail County, approximately one mile from the community of Parkers Prairie. Most of the Project is located west of State Highway (SH) 29 and north of SH 235 in the townships of Parkers Prairie and Elmo. Other townships within the Project footprint include Effington and Folden. the total Project area is 23,921 acres, and PWE currently has 8,630 acres under lease for the Project.

Project Description
PWE currently anticipates that the Project would consist of up to 41 2.4 MW Nordex N117 turbines yielding a total nameplate capacity of 98.4 MW. The Applicant however is requesting authority for a total nameplate capacity of 100 MW, allowing the final number and size of the turbines to be dictated by the terms of a Power Purchase Agreement (PPA) between PWE and an off-taker, current market conditions, turbine availability and the terms of the final Site Permit for the Project. The hub height of the turbines is expected to be 91 meters, and rotor diameters of 117 meters.

The Project would include:

- gravel access roads;
- underground conductors installed between turbines;
- 34.5 kV underground or, if necessary, overhead feeders to collect power from underground conductors installed between turbine strings;
- installation of a Supervisory, Control And Data Acquisition (SCADA) system;
- construction of a project substation adjacent to an existing Great River Energy 115kV transmission line located in Section 10 of Parkers Prairie Township
- construction of an Operation and Maintenance facility;
- one or two additional meteorological towers (two are currently located in the project area).

As proposed, the Project is expected to achieve commercial operation by December 31, 2012.

Regulatory Process and Procedures

Commission review of an LWECS application entails two separate processes: the Certificate of Need (CN) and the Site Permit. Pursuant to Minn. Rule 7854.0500, subp. 2A, the Commission shall not issue a site permit for which a CN is required until the CN has been issued by the Commission. The following provides an overview of the CN and Site Permit processes.

Certificate of Need Process
A CN is required for the Prairie Wind Energy Project because, as a 100 MW LWECS, it qualifies as a “large energy facility” as defined by Minnesota Statutes section 216B.2421, subdivision 2(1). The Applicant applied for a CN (IP-6844/CN-10-429) on November 29, 2010. The Commission issued an Order on December 20, 2011, accepting the Application as complete and directing an informal review process to review the record.

As part of the CN process, public notices were issued and EFP staff conducted a public scoping meeting in Parkers Prairie on April 19, 2011. A public comment period was open through May 10, 2011, and a Scoping Decision was issued by the Department of Commerce Deputy Director on May 20, 2011. Staff released an Environmental Report (ER) on September 6, 2011, evaluating the human and environmental impacts of the proposed project. A public hearing was held by the Office of Administrative Hearings in Parkers Prairie on October 4, 2011. The Administrative Law Judge (ALJ) released his "Summary of Public Comments" on November 9, 2011.

Site Permit Process
A site permit from the Commission is required to construct an LWECS, which is any combination of wind turbines and associated facilities with the capacity to generate five megawatts or more of electricity. This requirement became law in 1995. The Minnesota Wind Siting Act is found at Minnesota Statutes Chapter 216F. The rules to implement the permitting requirements for LWECS are in Minn. Rule 7854. Prairie Wind Energy, LLC, filed a site permit application for the wind Project with the Commission on May 5, 2011. The Commission accepted the application as complete in its June 8, 2011 Order.

On August 25, 2011, the Commission made a preliminary determination that a site permit should be issued and released a Draft Site Permit for public comment. A public meeting on the Draft Permit was held in conjunction with the CN public hearing on October 4, 2011. A public comment period was open through October 19, 2011. The ALJ released his "Summary of Public Comments" on November 9, 2011.

Standard for Permit Issuance
The test for issuing a site permit for an LWECS is to determine whether a project is compatible with environmental preservation, sustainable development, and the efficient use of resources. Pursuant to Minnesota Statute 216F.02, certain sections of Minnesota Statutes 216E (Minnesota Power Plant Siting Act) apply to siting LWECS, including 216E.03, subdivision 7 (considerations in designating sites and routes). Minnesota Statutes section 216F.04 (d) allows the Commission to place conditions in LWECS permits.

County Ordinance Standards for LWECS
Minnesota Statutes section 216F.08 authorizes counties to assume responsibility for processing permit applications for LWECS with a combined nameplate capacity of less than 25,000 kilowatts. Minnesota Statutes 216F.081 states counties may assume more stringent standards than Commission rules or permits. Otter Tail County has not adopted ordinances pursuant to Minnesota Statutes section 216F.08 or section 216F.081, but does have an ordinance that governs the siting of small wind energy conversion systems (under 5 MW).

EFP Staff Analysis and Comments

EFP staff addresses oral and written comments below relating to siting the Project, as opposed to comments pertaining to the Certificated of Need.

Minnesota Department of Natural Resources (DNR)
DNR provided numerous comments on avian and habitat issues, including comments on the application, the Spring and Fall avian surveys and on the draft site permit.[1]

<u>Avian Surveys</u>:
Six Wildlife Management Areas are adjacent to or near the project area. It contains tracts of Waterfowl Production Areas managed by the U.S. Fish and Wildlife Service and numerous areas enrolled in both the Conservation Reserve Program and Reinvest in Minnesota. The Minnesota County Biological Survey has identified “Sites of Biodiversity Significance” within and adjacent to the proposed project area. Because of the high incidence of natural resources in the area, the DNR recommends that the site permit require a specific plan to address those resources.

EFP Response: DNR, EFP and the project developers have held ongoing discussions related to the natural resources in the area. In response to EFP, DNR and USFWS requests, the applicants have preformed both Spring and Fall avian surveys, including flight path studies.[2] The studies were performed to determine areas that might be at high risk of occurrences of threatened species or migratory birds.

[1] Administrative Law Judges "Summary of Public Comments," (ALJ), November 9, 2011 at Comments 30-34
[2] Spring Avian Flight Characteristic Survey, October 19, 2011; Fall Avian Flight Characteristic Survey, December 7, 2011

The Applicant submitted the results of those surveys to EFP, USFWS and DNR for comments. PWE has since filed a letter providing the Commission with information on how the studies and comments influenced PWE's final turbine layout. The letter also supplements sections 8.19 Wildlife and 8.20 Rare and Unique Natural Resources of the Application. (See PWE's January letter with turbine layout).[3] EFP has verified the final layout accommodates the DNR and USFWS concerns for avoiding high areas in the final turbine layout.

Avian and Bat Protection Plan:
The site permit would require an Avian and Bat Protection Plan (ABPP), but the DNR stressed that the Plan would better serve the project if much of the planning was completed prior to the permit decision. This would assure that the Commission better understood the potential avian impact and mitigation measures and assure timely agency input to the process.[4] Also, the DNR originally requested that the Avian and Bat Protection Plan require two years of fatality surveys, based on preconstruction surveys conducted in the project area.[5]

EFP Response: The Tier 3 surveys were used to inform the final turbine location. In essence this has resulted in serving one of the end purposes of the ABPP, that the plan help identify locations of high concern for turbine placements. In this case, the Applicant used the information from the surveys, in conjunction with comments from the DNR and USFWS, to delineate areas of high concern and avoid those areas in its final turbine location selections.[6] EFP recommends that, even though the Department continues to work toward having completed ABPPs available prior to permitting, in this case the ABPP available prior to the Preconstruction Meeting is satisfactory, because the reason for its availability at that time, i.e., determining high concern areas, has already been served. The Applicant has however submitted an outline designating the additional plans and issues to be addressed in its APBB.[7]

Also, given the results of surveys and consultation, DNR has altered its recommendation on two years of post-construction fatality surveys. The DNR recommendation now is "if the project developer commits, and is required, to locate turbines outside of high concern areas … it is suggested that results from the first year of post-construction monitoring be reviewed prior to committing to a second year of fatality surveys. If avoidance efforts are fully committed to, then the DNR recommends using draft DNR protocols as described for a project with moderate risk."[8] Again, the moderate risk plan means the DNR would not automatically assume a need for a two-year post-construction fatality plan. This is laid out in permit Special Condition 13.2.

Otter Tail County
Otter Tail County passed a resolution of support for the Prairie Wind Energy Project prior to the site permit application process.[9] EFP staff did not receive comments on meeting any local wind setback restrictions from the county during the application draft site permit review processes in relation to the County WECS ordinance.

[3] Applicant's Letter, February 03, 2012 (PWE)
[4] ALJ at 33.
[5] *Id.* at 34
[6] PWE at 2 and 3 of 4
[7] *Id.* at 4 of 4
[8] DNR Letter, January 13, 2012
[9] Site Permit Application *(*Resolution of Support for a Wind Project, June 25, 2009)

EFP Response: Staff has reviewed the county ordinance to assess local setback restrictions. The ordinance setback provision of 750 feet from dwellings is less stringent than setbacks generally imposed in recent state permits. The permit will require 1000 feet.

Public Comments

Nearly one hundred members of the public attended the public hearing/public meeting. Thirteen members of the public testified during the hearing. Twenty-seven members of the public filed written comments. The comment period closed on October 19, 2011. Issues raised by landowners and other community members in the proposed project area concerned the potential devaluation of property, degradation of the scenic views because of the proposed towers, health and safety concerns, noise, flicker and risks to crop sprayers.

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EFP Response: These issues are addressed in the Findings of Fact: Property Values (FOF 78), Aesthetics (FOF 45- 48), Health and Safety (FOF 49-58), Noise (FOF 37-40) and Shadow Flicker (FOF 41-44).

The issue of crop spraying was discussed in the Environmental Report for the Certificate of Need. However, one sprayer commented that he didn't think the report accurately reflected the heights at which he would need to fly. There are additional factors mitigating the potential dangers of aerial crop spraying in and around wind farms. In the first place, all towers are registered with the FAA, including their GPS coordinates. Secondly, the Site Permit requires all met towers be free-standing (no guy wires) and built and lighted according to FAA standards.

Based on the record of this proceeding, EFP staff concludes that the Prairie Wind Energy Project meets the procedural requirements and the considerations and standards for issuance of a site permit identified in Minnesota Statutes and Rules. The Site Permit Application and the record have been reviewed pursuant to the requirements of Minnesota Statutes chapter 216F and Minnesota Rules chapter 7854.

In accordance with Minnesota Rule 7854.0500, subp. 2, the Commission may not issue a site permit for an LWECS that requires a certificate of need until an applicant obtains a certificate of need from the Commission.

EFP staff has prepared for Commission consideration an Exhibit List, proposed Findings of Fact, Conclusions of Law and Order, and a proposed Site Permit for the 100 MW Prairie Wind Energy Project.

Exhibit List

EFP staff has prepared and attached an exhibit list of documents that are part of the record in the site permit proceeding. See attached document.

Proposed Findings of Fact
The attached proposed Findings address the procedural aspects the process followed, describe the Project, and address the environmental and other considerations of the Project. The proposed Findings of Fact reflect some findings that were also made for other LWECS projects. The site considerations addressed in the proposed Findings of Fact (such as human settlement, public health and safety, noise, recreational resources, community benefits, effects on land based economies, archaeological and historical resources, wildlife, and surface water) track the factors described in the Commission's rules for other types of power plants that are pertinent to wind projects.

Proposed Site Permit
The EFP Staff has prepared a site permit for the Commission's consideration. See the attached document. The conditions in this proposed Site Permit are consistent with conditions included in other LWECS site permits issued by the Commission. The proposed site permit is different from the draft site permit issued by the Commission. The site permit was modified to add conditions consistent with the findings for this Project.

Commission Decision Options

A. Prairie Wind Energy Project Findings of Fact, Conclusions and Order

1. Adopt the attached Findings of Fact, Conclusions of Law and Order proposed for the 100 MW Prairie Wind Energy Project and associated facilities in Otter Tail County.

2. Amend the Findings of Fact and Conclusions of Law as deemed appropriate.

3. Make some other decision deemed more appropriate.

B. LWECS Site Permit for the 100 MW Prairie Wind Energy Project

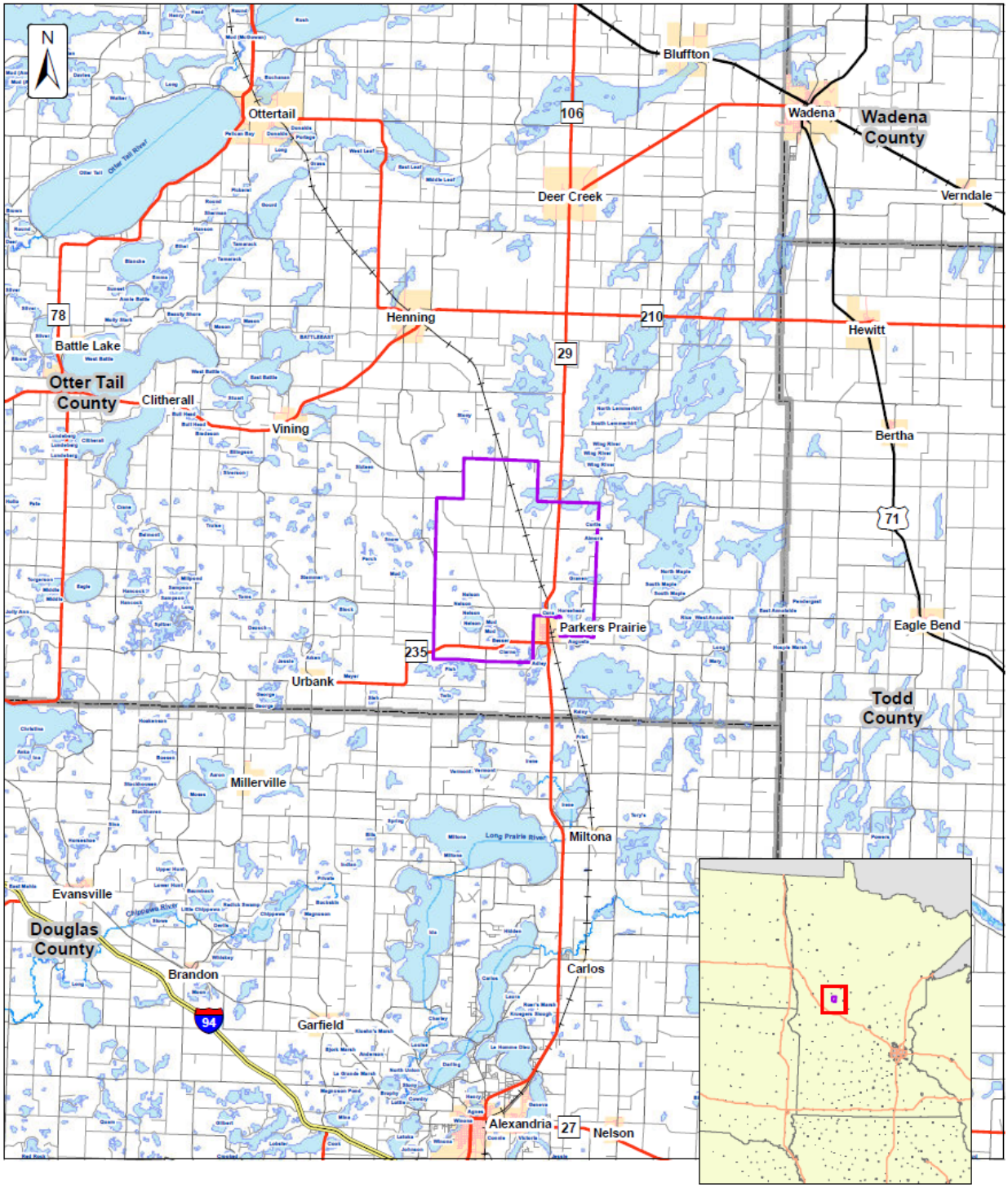
1. Issue the proposed LWECS Site Permit for the Prairie Wind Energy Project to Prairie Wind Energy, LLC.

2. Amend the proposed LWECS Site Permit as deemed appropriate.

3. Deny the LWECS Site Permit.

4. Make some other decision deemed more appropriate.

EFP Staff Recommendation: Staff recommends options A1 and B1.



ProjectArea
USGS Lakes
Major Rivers
Urban Areas
MNDOT Interstate
MNDOT_US_hwys
MNDOT_State_hyws
MNDOT Railroad

Figure 1

Prairie Wind Energy Project Location

Miles
0 2.5 5

HoustonEngineering Inc.

Exhibit List

In the Matter of the Prairie Wind Energy, LLC Application for a Large Wind Energy Conversion System Site Permit for the 100 MW Prairie Wind Energy Project in Otter Tail County.

PUC Docket No. IP-6844//WS-10-438

Exhibit No.	Exhibit	Document Date	eDocket Number
1	Prairie Wind Energy, LLC Site Permit Application for a Large Wind Energy Conversion System Prairie Wind Energy Project.	05/05/2011	20115-62305-01 20115-62305-02 20115-62305-03 20115-62305-04 20115-62305-05
2	Commission Order accepting the application as complete and granting a variance to Minnesota Rule 7854.0800 to extend the period for the PUC to make a preliminary determination on whether a site permit may be issued.	06/08/2011	20116-63355-01
3	Notice of application acceptance. a. Affidavit of Service b. Affidavit of Publication	 06/13/2011 06/16/2011	 20116-63458-01 20118-65147-01
4	Comments on issues to consider in developing the draft site permit. a. Mn/DOT b. Public c. MNDNR	 06/30/2011 08/04/2011 08/09/2011	 20116-64333-01 20118-65020-01 20118-65162-01
5	Applicant's application distribution with affidavits of service. a. Cover Letter b. Government Officials c. Landowners	 08/10/2011	 20118-65213-01 20118-65213-02 20118-65213-03

Exhibit No.	Exhibit	Document Date	eDocket Number
6	Commission Order making a preliminary determination that a draft site permit may be issued; approving the proposed draft site permit for distribution and public comment; and authorizing EFP staff to implement the public participation process found in Minnesota Rules 7854.0900.	08/25/2011	20118-65710-01
7	Notice of public hearing and availability of draft site permit. a. Affidavit of Service b. *EQB Monitor* c. Affidavit of Publication	 09/12/2011 09/19/2011 09/22/2011	 20119-66256-01 20119-66485-01 20121-70021-01
8	Applicant's "Spring Avian Survey" with MNDNR comment letter.	10/19/2011	201110-67536-05
9	Administrative Law Judge's "Summary of Public Comments."	11/09/2011	201111-68230-01
10	Applicant's "Fall Avian Survey."	12/07/2011	201112-69051-02
11	Otter Tail County Wind Ordinance	02/15/2011	20121-70351-01
12	DNR Comment Letter on PWE's Fall Avian Survey.	01/12/2012	20121-70463-01
13	Applicant's Layout Filing: a. Cover Letter b. PreliminaryTurbine Layout c. Use of Surveys in Layout d. ABPP Outline	 02/03/2012	 20122-71036-01 20122-71036-02 20122-71036-03 20122-71036-04

STATE OF MINNESOTA
PUBLIC UTILITIES COMMISSION

Phyllis Reha	Commissioner
David Boyd	Commissioner
J. Dennis O'Brien	Commissioner
Betsy Wergin	Commissioner

In the Matter of the Prairie Wind Energy, LLC Application for a Large Wind Energy Conversion System Site Permit for the 100 MW Prairie Wind Energy Project in Otter Tail County

ISSUE DATE: February ____, 2012

DOCKET NO. IP-6844/WS-10-438

FINDINGS OF FACT, CONCLUSIONS OF LAW AND ORDER, ISSUING A SITE PERMIT TO PRAIRIE WIND ENERGY, LLC FOR THE PRAIRIE WIND ENERGY PROJECT

The above-entitled matter came before the Minnesota Public Utilities Commission (Commission) on February 16, 2012, pursuant to an application submitted by Prairie Wind Energy, LLC (Applicant or PWE) for a site permit to construct, operate, maintain, and manage the Prairie Wind Energy Project (Project), a 100 Megawatt (MW) nameplate capacity Large Wind Energy Conversion System (LWECS), including associated facilities, in Otter Tail County.

All of the proposed wind turbines and associated facilities will be located in Otter Tail County. Associated facilities will include pad mounted step-up transformers for each wind turbine, access roads, an electrical collection and feeder system, an operations and maintenance building, and two permanent meteorological towers. The energy from the proposed 100 MW Project will be delivered to the grid from one project substation along Hwy 29 via a new Great River Energy Substation.

STATEMENT OF ISSUE

Should the Applicant be granted a site permit under Minnesota Statutes section 216F.04 to construct a 100 MW Large Wind Energy Conversion System in Otter Tail County?

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

FINDINGS OF FACT

Category	Findings
Background and Procedure	1 – 13
Certificate of Need	14
Project Description	15 – 22
Site Location, Characteristics, Topography	23 – 27
Wind Resource Considerations	28 – 29
Wind Rights and Easement/Lease Agreements	30 – 31
Site Considerations	32
Human Settlement	33 – 36
Noise	37 – 40
Shadow Flicker	41 – 44
Visual Values	45 – 48
Public Health and Safety	49 – 58
Public Services and Infrastructure	59 – 68
Recreational Resources	69 – 72
Community Benefits	73
Effects on Land Based Economics	74 – 77
Property Values	78
Archaeological and Historical Resources	79 – 81
Air and Water Emissions	82
Wildlife	83 – 86
Rare and Unique Natural Resources	87 – 91
Vegetation	92
Soils	93
Geologic and Ground Water Resources	94
Surface Water and Wetlands	95
Future Development and Expansion	96 – 98
Maintenance	99
Decommissioning and Restoration	100 – 102
Site Permit Conditions	103 – 105

Background and Procedure

1. On May 5, 2011, Prairie Wind Energy, LLC (PWE) filed an application with the Public Utilities Commission for up to 100 megawatts of nameplate wind power generating capacity identified as the Prairie Wind Energy Project in Otter Tail County.[1]

2. Prairie Wind Energy, LLC is a Minnesota Limited Liability Company formed in 2007.[2]

3. Department of Commerce Energy Facility Permitting (EFP) staff reviewed and recommended that the application complied with the application requirements of Minnesota Rule 7854.0500.

4. On June 8, 2011, the Commission issued an Order accepting the application for the Prairie Wind Energy Project as complete and granting a variance to Minnesota Rule 7854.0800 to extend the period for the Commission to make a preliminary determination on whether a site permit may be issued.[3]

5. On June 13, 2011, EFP staff issued a notice of application acceptance and opportunity to comment on the permit application and issues to consider in the development of a draft site permit.[4] The published notice provided: a) description of the proposed project; b) deadline for public comments on the application; c) description of the site permit review process; and d) identification of the public advisor. The notice published met the requirements of Minnesota Rule 7854.0600, subpart 2.

6. The application acceptance notice was published in the *Parkers Prairie Independent* on June 16, 2011.[5]

7. Public comments on the site permit application and issues to consider in the development of a draft site permit were accepted until June 30, 2011. EFP staff received comments from the Department of Transportation (Mn/DOT), two public comments and comments from the Department of Natural Resources (DNR).[6]

8. On August 10, 2011, the Applicant distributed copies of the site permit application to government agencies and landowners within the Project area.[7] The application distribution met the requirements of Minnesota Rule 7854.0600, subpart 3. County officials and all township boards and city councils within the project area were served.

9. On August 17, 2011, EFP staff recommended that a draft site permit be issued and distributed for public comment. On August 25, 2011, a Commission Order made a preliminary determination that a draft site permit may be issued.[8]

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[1] Exhibit 1, Site Permit Application, May 5, 2011
[2] *Id*. at 1
[3] Exhibit 2
[4] Exhibit 3a
[5] Exhibit 3b
[6] Exhibits 4a, 4b and 4c
[7] Exhibit 5
[8] Exhibit 6

10. On September 12, 2011, EFP staff issued a notice of public hearing and availability of the draft site permit.[9] The notice met the requirements of Minnesota Rule 7854.0900, subpart 1. Notice was sent to interested persons and government agencies as required by Minnesota Rule 7854.0900, subpart 2.

11. Published notice of the public hearing and availability of the draft site permit appeared in the *EQB Monitor* on September 19, 2011,[10] as required by Minnesota Rule 7854.0900, subpart 2, and in the *Parkers Prairie Independent* on September 22, 2011,[11] The deadline for submitting comments on the draft site permit was October 19, 2011.

12. A public hearing was held on the evening of October 4, 2011, in Parkers Prairie, Minnesota, presided over by Administrative Law Judge (ALJ) Manuel J. Cervantes from the Office of Administrative Hearings. Nearly one hundred people attended the public hearing with 13 people offering comment.[12]

13. On November 9, 2011, Administrative Law Judge Cervantes filed his "Summary of Public Comments."[13] The ALJ summarized written comments from the Minnesota Department of Natural Resources and a number of people who commented on the wind farm site permit. Several people made comments relevant to the certificate of need.

Certificate of Need

14. The Applicant is seeking a Certificate of Need (Docket no. CN-10-429) under Minnesota Statute 216B.243 because the Project is a large energy facility as defined by Minnesota Statute 216B.2421.[14]

Project Description

15. The Project is in southeastern Otter Tail County, approximately one mile from the community of Parkers Prairie. Most of the Project is located west of State Highway (SH) 29 and north of SH 235 in the townships of Parkers Prairie and Elmo. Other townships within the Project footprint include Effington and Folden. PWE currently has approximately 8,000 acres under lease for the Project, and the total Project area is 23,921 acres.[15]

16. PWE currently anticipates that the Project would consist of up to 41 2.4 MW Nordex N117 turbines yielding a total nameplate capacity of 98.4 MW. The Applicant however is requesting authority for a total nameplate capacity of 100 MW, allowing the final number and size of the turbines to be dictated by the terms of a Power Purchase

[9] Exhibit 7a
[10] Exhibit 7c
[11] Exhibit 7b
[12] Exhibit 9 (ALJ Report) at Finding 2
[13] Exhibit 9
[14] Exhibit 1 at Section 2
[15] *Id.* at Section 4

Agreement (PPA) between PWE and an off-taker, current market conditions, turbine availability and the terms of the final Site Permit for the Project. The hub height of the turbines is expected to be 91 meters, and rotor diameters of 117 meters.[16]

17. In addition, the Project would include: gravel access roads; underground conductors installed between turbines; 34.5 kV underground or overhead feeders to collect power from the underground conductors (the application anticipated underground lines on leased land and overhead lines in public road right-of-way)[17]; installation of a Supervisory, Control And Data Acquisition (SCADA) system; construction of a project substation adjacent to an existing Great River Energy 115kV transmission line located in Section 10 of Parkers Prairie Township; construction of an Operation and Maintenance facility; one or two additional meteorological towers (two are currently located in the project area).[18]

18. PWE incorporates a 1,000-foot setback from residences as well as the distance necessary to meet Minnesota Pollution Control Nighttime Noise Limit of 50 dBA.[19]

19. A 250-foot setback from all public road and trail right-of-way has been incorporated.[20]

20. All turbines will be located 5 RD from the edge of the leased area along prevailing wind direction (generally the northern and southern edge) and 3 RD from the edge of the leased area along non-prevailing direction (generally the eastern and western edge) to accommodate for disruption of the normal wind flow and protect the wind rights of non-participating landowners. Similarly, internal turbine spacing will follow a general rule of 5 RD in predominant wind direction (generally north-south) and 3 RD in non-prevailing direction (generally east-west) with no more than 20 percent of the project turbines closer than the prescribed setback.[21]

21. At the base of each turbine a step-up transformer will be installed to raise the voltage to power collection line voltage of 34.5 kV. [22] Generally, the electrical lines will be buried in trenches and run to the edge of the farm field. The power collection lines are expected to be underground through leased land and overhead along the road right of way to the substation. The collection lines will occasionally require an above ground junction box when the collection lines from separate spools need to be spliced together. The collector lines will deliver energy to a 115 kV step-up substation.[23]

22. The Applicant anticipated that the Project would begin commercial operation December 31, 2012.[24] The estimated Project installed capital costs were estimated between $232 million.[25]

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[16] *Id.*
[17] *Id*. at 6.2
[18] *Id.* at Section 4
[19] *Id.* at 8.3
[20] *Id*. at 5.1
[21] *Id*. at 5.1
[22] *Id*. at 5.3
[23] *Id*. at 6.1-2
[24] *Id*. at 10.8

Site Location, Characteristics, and Topography

23. The Project is located approximately one mile from the community of Parkers Prairie in Otter Tail County, west of State Highway (SH) 29 and north of SH 235 as noted below:[26]

Name	Sections	Township	Range
Parkers Prairie Township	2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 14, 15, 16, 17, 18, 19, 20, 21	T131N	R37W
Elmo Township	16, 17, 18, 19, 20, 21, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35	T132N	R37W
Effington Township	1, 12, 13, 24	T131N	R38W
Folden Township	25, 36	T132N	R38W

24. The Project site encompasses approximately 23,921 acres. PWE now has over 8000 acres under lease in the project area.[27]

25. Agriculture is the primary land use in this area of Otter Tail County. Livestock farming consists mainly of turkeys, beef and dairy. Corn, soybeans, alfalfa, potato, kidney beans and small grains are the major crops. Some of the turbines will be located in corners of farmland covered by center-pivot irrigation systems. These corners are not as productive as those areas being irrigated. Agricultural land income can be maximized by placing the turbines on these less-productive corners.[28]

26. Most of the proposed Project is located at an approximate mean elevation of 1,400 feet above sea level.[29]

27. The Prairie Wind Energy Project is located within a lightly populated rural area in southeastern Otter Tail County, with population densities of 6.8 people per square mile in Folden Township, 7.9 in Effington Township, 8.7 in Elmo Township, and 10. 2 in Parkers Township.[30]

Wind Resource Considerations

28. Based on the correlation and terrain modeling, the long term estimate at the PWE site is 7.24 m/s at the 92.5m hub height (which has subsequently been modified by Nordex to 91m).[31] Regionally, the prevailing wind directions are generally south-southeast and northwest. The north and northwest winds typically occur in winter.

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[25] *Id*. at 10.7
[26] *Id*. at 4.1
[27] *Id*. at 4.2
[28] *Id*. at 8.10
[29] *Id*. at 8.4
[30] *Id.* at 8.1
[31] *Id.* at 9

29. Wind turbines are sited to have good exposure to winds from all directions with emphasis on exposure to the prevailing wind directions while considering site topography, natural resource features, setbacks, and wind resources. The turbines are typically oriented west-southwest to north-northeast, which is roughly perpendicular to the prevailing southerly and northwest winds. Turbine placement, aside from other resource features where setbacks or wind access buffers are required, will be designed to provide sufficient spacing between the turbines to minimize internal wake losses. Given the prevalence for southerly and northerly winds, the spacing is widest in the north-south direction. Greater or lesser spacing between the turbines or turbine strings may be used in areas where the terrain dictates the spacing. Sufficient spacing between the turbines is utilized to minimize wake losses when the winds are blowing parallel to the turbines. Wake loss occurs when a turbine is spaced too close downwind of another turbine, and therefore, produces less energy and is less cost-effective. Section 4.10 of the site permit addresses turbine spacing.

Wind Rights and Easement/Lease Agreements

30. In order to build a wind facility, a developer needs to secure leases or easement agreements to ensure access to the site for construction and operation of a proposed project. These lease or easement agreements also prohibit landowners from any activities that might interfere with the execution of the proposed Project. Land and wind rights will need to encompass the proposed LWECS, including all associated facilities such as access roads, meteorological towers, and electrical collection system.

31. The Applicant has executed easement agreements that grant PWE the necessary wind rights for the construction and operation of the Project. Within the approximate 23,921 acres site, the Applicant has easement agreements for approximately 8,630[32] acres, which provides for the required land for turbines and associated facilities. Section 10.1 of the site permit requires the Applicant to demonstrate it has obtained the wind rights necessary to construct and operate the Project at least 10 business days before the pre-construction meeting.

Site Considerations

32. Minnesota Statutes chapter 216F and Minnesota Rules chapter 7854 apply to the siting of LWECS. The rules require an applicant to provide a substantial amount of information to allow the Commission 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.[33] Pursuant to Minnesota Statutes section 216F.02, certain sections in Minnesota Statutes chapter 216E (Minnesota Power Plant Siting Act) apply to siting LWECS, including section 216E.03, subdivision 7 (considerations in designating sites and routes). The analysis of the environmental impacts required by Minnesota Rule 7854.0500, subpart 7, satisfies the environmental review requirements; no environmental assessment worksheet or

[32] Per January 20, 2012, email confirmation
[33] Minn. Statute 216F.03 and Minn. Rule 7854.0500

environmental impact statement is required for a proposed LWECS project.[34] Therefore, environmental review is based on the application and the record. The following analysis addresses the relevant criteria that are to be applied to a LWECS project.

Human Settlement

33. The site is in an area of relatively low population density, which is characteristic of rural areas throughout west central Minnesota. There are no incorporated towns within the project boundary. The town of Parkers Prairie with a population of 1,007 is adjacent the project area. Henning with a population of 792 and Urbank with a population of 54 are within five miles of the Project area boundary.[35]

34. The Applicant has committed to a setback of 1,000 feet to all residences, unless otherwise arranged with a landowner participating in the Project.[36] Section 4.2 of the site permit incorporates this setback. PWE will also be required to set back its turbines a minimum of five rotor diameters (117 meter diameter[37]) on prevailing wind direction from non-participating landowners' property lines and three rotor diameters on non-prevailing wind direction, which can be found in section 4.1 of the site permit.

35. PWE's proposed Project design must comply with the Minnesota Pollution Control Agency (PCA) noise standards pursuant to Minnesota Rules Chapter 7030. As a result, the impact of the proposed Project on human settlement and public health and safety will be minimal. Sections 4.2 and 4.4 of the site permit contain conditions for setbacks from residences and roads. The proposed wind turbine layout will meet or exceed those requirements.

36. There will be no displacement of existing residences or structures in siting the wind turbines and associated facilities.

Noise

37. Based on Applicant's review of ambient noise levels measured in rural settings with high quality wind resources, typical noise levels range from 35 dBA to 44 dBA on an hourly equivalent sound pressure level (Leq) basis.[38] Typical existing ambient noise levels in rural areas are dominated by agriculture-related activities, existing wind conditions, local fauna, and proximity to other noise sources. Review of 24-hour noise monitoring data collected from other wind farm projects demonstrates that the difference between outdoor, ambient C-weighted and A-weighted noise levels exceeds 10 dB for an average of 15 hours per day in rural communities where the wind resource is suitable for wind energy development.

[34] Minn. Rule 7854.0500, subp. 7
[35] Exhibit 1 at 8.1
[36] *Id*. at 8.3
[37] *Id*. at 5.2
[38] *Id*. at 8.3

38. Noise impacts to nearby residents and other potentially affected parties will be factored into the turbine micro-siting process. The Applicant must demonstrate the Project can meet the noise standard pursuant to Minnesota Statutes chapter 7030 (site permit, sections 5.1 and 6.6). Noise levels have been predicted by a noise modeling program and will be verified per Section 5.1 to be compliant with the PCA Daytime and Nighttime L_{10} and L_{50} Limits as stated in Minnesota Rule 7030.0040. These standards describe the limiting levels of sound established on the basis of present knowledge for the preservation of public health and welfare. These standards are consistent with speech, sleep, annoyance, and hearing conversation requirements for receivers within areas grouped according to land activities by the Noise Area Classification (NAC) system established in Minnesota Rule 7030.0050. The NAC-1 was chosen for receivers in the Project area since this classification includes farm houses as household units. The nighttime L_{50} limit of 50 dBA is the most applicable stringent state limit.

39. According to the manufacturers' noise data, sound power levels measured at the 91 meter hub height is 103 dBA for the Nordex turbine. WindPRO analysis show the noise level would be below the 50 dB threshold at roughly 200 meters (656 feet) from a single N117 turbine. When the noise was originally modeled for the Project collectively, one sensor had a predicted noise value above 50 dB.[39] The layout submitted February 3, 2012 meets all noise threshold requirements.[40]

40. PWE will conduct a post-construction noise study. The noise study will determine the noise levels at different frequencies and at various distances from the turbines at various wind directions and speeds. See section 6.6 of the site permit. The purpose of the post-construction noise study is to confirm that the PCA noise standards have been met.

<u>Shadow Flicker</u>

41. Shadow flicker is described as a moving shadow on the ground resulting in alternating changes in light intensity. Shadow flicker computer models simulate the path of the sun over the year and assess at regular time intervals the possible shallow flicker across a project area. The outputs of the model are useful in the design phase of a wind farm. Generally, shadow flicker usually occurs in the morning and evening hours when the sun is low in the horizon and the shadows are elongated. Shadow flicker does not occur when the turbine rotor is oriented parallel to the receptor or when the turbine is not operating. In addition, no shadow flicker will be present when the sun seen from a receptor is obscured by clouds, fog, or other obstacles already casting a shadow such as buildings and trees.

42. Shadow intensity, or how "light" or "dark" a shadow appears at a specific receptor, will vary with the distance from the turbine. Closer to a turbine, the blades will block out a larger portion of the sun's rays and shadows will be wider and darker. Receptors located farther away from a turbine will experience much thinner and less distinct shadows since the blades will not block out as much sunlight. Shadow flicker will be greatly reduced or

[39] *Id.* at 8.3
[40] Exhibit 13 (Applicant's Comments), February 3, 2012, at B

eliminated within a residence when buildings, trees, blinds, or curtains are located between the turbine and receptor. Shadow flicker consultants generally agree that flicker is not noticeable beyond about 10 rotor diameters from a wind turbine.[41] Evidence of shadow flicker effects is hard to find, which indicates it is more of a nuisance issue. Minnesota has no published standards for shadow flicker and no examples of turbines causing photosensitivity related problems. Wisconsin is considering a shadow flicker standard of a maximum of 30 hours that would apply to non-participating residences and occupied community buildings, but those rules have not yet been formally adopted. Several jurisdictions in other countries have established guidelines for acceptable levels of shadow flicker based on certain assumptions.

43. The Applicant has provided a preliminary shadow flicker analysis. No standard of acceptable hours has been adopted by the State of Minnesota. A threshold of 25 hours a year is an arbitrary value selected for comparison purposes. When evaluating the wind farm collectively, in the worst case scenario, 47 receptors had more than 25 shadow flicker hours a year. The realistic scenario reduced this too 16 receptors. The worst case shadow flicker modeling included several conservative assumptions, e.g., all receptors are omni-directional (i.e., a greenhouse), and all houses will have a direct view (i.e., without trees or buildings).[42]

44. As directed by section 6.2 of the site permit, at least ten (10) working days prior to the pre-construction meeting, the Permittee shall provide data on shadow flicker impacts on each residence of non-participating landowners and participating landowners. Information shall include the results of modeling used, assumptions made, and the anticipated levels of impact from turbine shadow flicker on each residence. The Permittee shall provide documentation on its efforts to minimize shadow flicker impacts.

Visual Values

45. The installation of the Project will alter the visual quality of the site. The topography in the vicinity is agricultural fields, farmsteads, large open vistas and pre-historic glacial deposits with some wooded areas; making the area vulnerable to visual disruptions. The turbines will be visible to residents in and surrounding the Project Area. They will also be visible from nearby lakes and wetlands, including the Starkey Waterfowl Production Area (WPA), and visitors to Inspiration Peak, a State Wayside Park west of the Project.[43]

46. The visual impact of the wind turbines will be reduced by the use of a neutral paint color. The only lights will be those required by the Federal Aviation Administration (site permit, section 7.18). All site permits issued by the Commission require the use of tubular towers; therefore, the turbine towers will be uniform in appearance. Blades used in the proposed Project will be white or grey. The turbines and associated facilities necessary to harvest the wind for energy are not inconsistent with existing agricultural practices.

[41] Environmental Health Division, Minnesota Department of Health, *Public Health Impacts of Wind Turbines*, May 22, 2009, at 14, *available at http://energyfacilities.puc.state.mn.us/documents/Public Health Impacts of Wind Turbines, 5.22.09 Revised.pdf*
[42] Exhibit 1 at Appendix B
[43] *Id.* at 8.4

47. Wind facilities can be perceived as a visual intrusion on the natural aesthetic value on the landscape or having their own aesthetic quality. Existing wind facilities have altered the landscape elsewhere in Minnesota from agricultural to wind plant/agricultural. This Project will modify the visual character of the area. Currently there are no operating LWECS in Otter Tail County, although a number have been permitted or are being considered in western Otter Tail and in Clay County.

48. Visually, the Prairie Wind Energy Project will be similar to other LWECS projects located in rural areas.

Public Health and Safety

49. There are no public airports within the Project boundary. Henning airport is located approximately four miles northwest of the Project site. The runway orientation is north-south. It handles primarily smaller aircraft. This airport is a local service airport, having generally low activity. There are no registered private airports within the Project boundary or within 10 miles of the Project boundary.[44]

50. Air traffic may be present near the Project for crop dusting of agricultural fields. Crop dusting is typically carried out during the day by highly maneuverable airplanes or helicopters. The installation of wind turbine towers in active croplands and installation of overhead collection lines, if needed, will create a potential for collisions with crop-dusting aircraft. However, overhead collection lines are expected to be similar to existing transmission and distribution lines (located along the edges of fields and roadways) and the turbines themselves would be visible from a distance and lighted according to Federal Aviation Administration (FAA) guidelines (see section 7.18 of the site permit).

51. Crop dusters can rely on GPS for locations of obstacles. All wind turbines in the Project will be registered with the FAA. All meteorological towers in the area will be free-standing, so there will be no guy wires, a serious issue for vision and avoidance. The met towers will also follow FAA coloring guidelines and FAA lighting requirements if over 200 feet.[45]

52. Possible health concerns associated with wind turbines and transmission of electricity generally include those from electric and magnetic fields (EMF). The term EMF refers to electric and magnetic fields that are present around electrical devices. Electric fields arise from the voltage or electrical charges and magnetic fields arising from the flow of electricity or current that travels along transmission lines, power collection (feeder) lines, substation transformers, house wiring and electrical appliances. The intensity of the electric field is related to the voltage of the line and the intensity of the magnetic field is related to the current flow through the conductors. When operating, the proposed Project will generate electromagnetic fields.

[44] *Id*. at 8.8
[45] Exhibit 11 (Otter Tail County Ordinance) at 7

53. EMF from underground electrical collection lines dissipates very close to the line because they are installed below ground within insulated shielding. The electrical fields are negligible, and there is a small magnetic field directly above the lines that, based on engineering analysis, dissipates within 20 feet on either side of the installed cable. Magnetic fields from a typical 115 kV line average 29.7 under the line and 6.5 at 50 feet. Electric fields for same are 1 kV/m under the line and .5 kV/m at 50 feet.[46] The voltage for the feeder lines for this project would be 34.5 kV.

54. EMF associated with the transformers at the base of each turbine completely dissipates within 500 feet from the transformer, so the 1,000-foot turbine setback from residences will be adequate to avoid any EMF exposure to homes.

55. While the general consensus is that electric fields pose no risk to humans, the question of whether exposure to magnetic fields potentially can cause biological responses or even health effects continues to be the subject of research and debate. Based on the most current research on electromagnetic fields, and the distance between any turbines or collector lines and houses, the Project will have no impact to public health and safety due to EMF.

56. 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 during the winter months. The setback requirements in Section 4 of the site permit provide further assurance that the turbines will be placed an adequate distance from residences, roads and other areas of human activity.

57. The Applicant will prepare an emergency response plan (fire protection and medical emergency plan) in consultation with the emergency responders having jurisdiction over the Project area (site permit, section 7.16). As with any large construction project, some risk of worker or public injury exists during construction. PWE and its construction representatives and workers will prepare and implement work plans and specifications in accordance with applicable worker safety requirements during construction of the Project. PWE will also control public access to the Project during construction and operation. PWE will provide security during construction and operation of the project, including fencing, warning signs, and locks on equipment and facilities. The Applicant will also provide landowners, interested persons and public officials and emergency responders with safety information about the project and its facilities (see site permit sections 7.15 and 7.16).

[46] Exhibit 1 @ 8.8

58. 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 emergency response plan (site permit, sections 7.17 and 7.16).

Public Services and Infrastructure

59. The proposed project is expected to have minimal effects on existing public infrastructure. The proposed Project would not generate an increase in traffic volumes or daily human activity, except for a short period of time during construction and occasionally during operation and maintenance activities. The construction contractor will repair any road damage that may occur during the construction of the Project (see site permit, section 7.8).

60. Other than short-term impacts, no significant permanent changes in road traffic patterns or volume are expected. The busiest traffic would occur when the majority of the foundation and tower assembly is taking place. Township and county officials will receive advance notice of the construction schedule at the pre-construction meeting, including the timing of the delivery of towers and turbines and arrival of the crane to erect project equipment (site permit, section 5.6). PWE will work with all parties involved to address concerns related to roadway use, and adhere to state, county, and township requirements for transportation infrastructure.

61. Access roads will be built adjacent to the towers, allowing access both during and after construction. The total length of these access roads would be approximately 12 miles.[47] The roads will be approximately 16 ft wide and have gravel as cover, adequate to support the size and weight of maintenance vehicles. These roads will meet state and local requirements. The specific turbine locations will determine the amount of roadway that will be constructed for this Project. Temporary disturbances during construction of the Project include crane pads at each turbine site, temporary travel roads for the cranes, temporary laydown areas around each turbine, trenching in the underground electrical collection system, aand storage/stockpile area.

62. If access roads are installed across streams or drainage ways, the Applicant, in consultation with 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 Minnesota Department of Natural Resources. See section 10.5 of the site permit for a list of other permits that may be required.

63. The Canadian Pacific (CP) railway runs through the Project boundary between the cities of Parkers Prairie and Henning. PWE will need to run underground and overhead collector lines under and above the railroad. PWE will also need to cross the railroad during equipment movement and building. PWE does not expect the Project to have a significant impact to CP. Relevant permits will be obtained for working within the railroad right-of-way[48]

[47] *Id*. at 10.2
[48] *Id*. at 8.5

64. No interstate pipelines have been identified within the Project area.

65. There is currently one major utility corridor in the Project area. Great River Energy (GRE) has a 115 kV transmission line running north to south along State Highway 29 through the east side of the Project area. GRE also has a docket open before the Commission (ET2/TL-11-867) to replace approximately 2.1 miles of an existing 41.6 kV transmission line with a new 115 kV line along the south side of County Road 6, just west of the city of Parkers Prairie.

66. Prior to construction, Gopher State One Call will be contacted to locate underground facilities so they can be avoided. Further, section 7.15 of the site permit requires the Applicant to submit the location of all its underground cables and collector and feeder lines to Gopher State One Call. To the extent Project facilities cross or otherwise affect existing telephone lines or equipment, PWE will make arrangements with applicable service providers to avoid interference with such facilities.[49]

67. The Applicant has conducted a microwave beam path analysis, and one microwave beam path was identified within the Project area. The Applicant will conduct an off-air television reception analysis of the Project. The Applicant will not operate the wind farm so as to cause microwave, television, radio, telephone, or navigation interference contrary to FCC regulations or other law.[50] In the event the wind farm or its operation causes such interference, the Applicant will take the steps necessary to correct the problem. Section 6.4 of the site permit requires the Applicant to submit a plan to conduct an assessment of television signal reception and microwave signal patterns in the Project area.

68. Construction, operation, and maintenance of the proposed wind plant will comply with all of the required federal, state, and local permit requirements. See section 10.5 of the site permit.

Recreational Resources

69. There are no WMAs within, but several surrounding the Project area. WMAs located within five miles of the Project include: Almora WMA located adjacent to the north of the Project area; Eastern WMA located 2.3 miles east; Elmo WMA located .5 miles north; Folden WMA located 1.25 miles west; Hartfiel WMA located 3.3 miles south; Inman WMA located 2.5 miles north; Miltona WMA located 2.2 miles south; Schulke WMA located 2.7 miles south, Sixteen WMA located 2.7 miles west; and Wrightstone WMA located 3.1 miles east.[51]

70. Scientific and Natural Areas (SNAs) are areas designated to protect rare and endangered species habitat, unique plant communities, and significant geologic features that possess exceptional scientific or educational values. There are no SNAs within the Project area. USFWS Waterfowl Production Areas (WPAs) are managed to protect breeding, forage, shelter, and migratory habitat for waterfowl or wading birds, such as ducks, geese,

[49] *Id*.
[50] *Id.*
[51] *Id*. at 8.7

herons, and egrets. The Starkey WPA is located within the Project area; four others are within five miles of the Project area. USFWS administers a program by which the USFWS holds easements on private lands that have wetlands and/or grassland habitat. Development may be restricted on lands held in a USFWS easement. No easements are known to exist within five miles of the Project Area.[52]

71. No National Wildlife Refuges (NWRs) were identified within the Project area.

72. No state parks are located less than five miles from the Project area. Lake Carlos State Park is located nine miles south of the Project area.[53]

Community Benefits

73. PWE will pay a Wind Energy Production Tax to the county and townships each year expected to be approximately $400,700 per year.[54] Landowners with wind turbines on their property will also receive payments from the Applicant. The Project is expected to create new job opportunities within the local community, both during construction and operation.

Effects on Land-Based Economies

74. PWE estimates the total acreage of agricultural land permanently impacted by wind facilities to be between two to four acres per turbine, or less than 1 percent of the project area.[55] Overall, impact to agricultural lands as a result of the Project is anticipated to be short term and is not expected to significantly alter crop production. Once in operation, it may be occasionally necessary for PWE to complete repairs or clear vegetation around a turbine or facility, which could result in additional temporary impacts to agricultural operations. These interruptions are expected to be infrequent and short term.

75. The Turbine and facility siting will include discussions with property owners to identify features on their property, including drain tile, which should be avoided. Impacts to drain tile due to Project construction and operation are not anticipated. However, in the event that there is damage to drain tile as a result of construction activities or operation of the LWECS, the tile will be repaired according to the agreement between the Applicant and the owner of any damaged tile.[56] Section 7 of the site permit addresses mitigation measures for agricultural lands.

76. PWE will avoid impacts to Reinvest in Minnesota (RIM) land.[57] According to the Applicant's February 3, 2012 filing, turbines and facilities will also not be sited on CRP properties.[58]

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[52] *Id.* at 8.7
[53] *Id.*
[54] *Id.* at 8.12
[55] *Id.* at 8.10
[56] *Id.*
[57] *Id.*
[58] Exhibit 13 at C

77. Impacts to mining are not anticipated. There is one sand and gravel operation in the footprint. Construction of the Project could be an economic benefit to the owners and operators of this facility[59]

Property Values

78. A study conducted by the Lawrence Berkley National Laboratory found an absence of negative impacts to property values from wind farms within a project view shed.[60] On June 1, 2010, the Stearns County Assessor's Office prepared "A Study of Wind Energy Conversion System in Minnesota," which did not find any changes in property valuation to properties hosting a wind tower based on information provided by assessors from Dodge, Jackson, Lincoln, Martin, Mower, and Murray counties. However, the study acknowledged that there is insufficient data to allow for a reasonable analysis of the development of wind facilities on property values. The Stearns County study also cited studies completed by the Renewable Energy Policy Project, which analyzed 25,000 sales inside and outside of view sheds of a wind facility and concluded that property values appear not be affected, and a study conducted by the Royal Institute of Chartered Surveyors, which examined the impact of wind facilities on property values in the United Kingdom and found that almost 30 percent of the respondents reported a decrease in property values.

Archaeological and Historical Resources

79. Archaeological sites and historic properties within the Project area were identified in a search of the Minnesota Archaeological Inventory and Historic Structures Inventory. In total eight archaeological sites were identified. Six of those sites are located within the boundaries of the municipality of Parkers Prairie, which is outside the Project boundary. The location of the one site identified in the Project footprint is designated as security information and cannot be disclosed under Minn. Statute 307.08, subd. 11. Three mounds and human skeletal materials have been noted in this area. PWE's turbine layout will not impact this site.[61]

80. Section 6.3 of the site permit requires the Applicant to conduct an archaeological reconnaissance survey (Phase I). In concurrence with the State Historic Preservation Office (SHPO) recommendation, PWE will conduct a Phase I archaeological resources inventory. The archaeological resource inventory will focus on areas proposed for project construction, including wind turbine locations, associated access roads, electrical cables and other construction elements. These investigations will be conducted by professionals who meet the Secretary of the Interior's Standards for Archaeology as published in Title 36 Code of Federal Regulations Part 6. Survey strategies for the archaeological resource inventory will depend on surface exposure and the characteristics of the landforms proposed for development. After receiving the proposed turbine, access road, and

[59] Exhibit 1 at 8.1
[60] Ben Hoen et al., *The Impact of Wind Power Projects on Residential Property Values in the United States*, Lawrence Berkeley National Laboratory (Dec. 2009).
[61] Exhibit 1 at 8.6

electrical cable layouts, archaeologists will design an appropriate survey strategy for archaeological resources.[62]

81. If any archaeological sites are found during the Phase I survey, their integrity and significance should be addressed in terms of the site's potential eligibility for placement on the National Register of Historic Places (NRHP). If such sites are found to be eligible for the NRHP, appropriate mitigative measures will need to be developed in consultation with the SHPO, the State Archaeologist, and consulting American Indian communities. Section 6.3 of the site permit also requires the Applicant to stop work and notify the SHPO and the Commission if any unrecorded cultural resources are found during construction.

Air and Water Emissions

82. No harmful air or water emissions are expected from the construction and operation of the Project.

Wildlife

83. The Project area is used primarily for agricultural purposes, with cropland contributing the vast majority of disturbed vegetative cover.[63] Wildlife habitat impacts are expected to be minimal because turbines and access roads will be placed exclusively on cropped land. With proper planning, neither construction nor operation of the Project is expected to have a significant impact on wildlife. Based on studies of existing wind power projects in the United States and Europe, the greatest impact of concern to wildlife would primarily be to avian and bat populations. The Project will minimize avian impacts by using tubular towers to minimize perching and placing electrical collection lines underground as feasible and minimizing infrastructure.

84. The Applicant has designed its facility to minimize avian impacts by avoiding placing turbines in high use wildlife habitat areas. The Applicant performed two Tier 3 studies, a spring avian flight characteristics and raptor nest survey and a fall avian survey to determine areas of high risk for turbine locations (See Exhibits 8 and 10). The DNR commented on these surveys in relation to PWE's preliminary turbine layout, specifying locations to avoid as high risk avian areas.[64] PWE responded to DNR and USFWS concerns in their final filing and turbine layout.[65]

85. Typically in a high risk area, the DNR would recommend two years of post construction mortality studies. However, in its response letter to the fall avian survey, DNR noted that with locating all turbines outside these "high concern" areas, they are recommending results from the first year study be reviewed to determine the necessity of performing the second year of surveys. DNR also noted that if the Applicant employs the recommended

[62] *Id*.
[63] *Id*. at 8.18
[64] Exhibit 12
[65] Exhibit 13 at B and C

avoidance efforts in siting, the DNR would recommend using draft DNR protocols designed for a "moderate risk" rather than a "high risk" project.[66]

86. Section 6.7 of the site permit requires the Applicant to prepare an avian and bat protection plan, submit quarterly avian and bat reports, and report five or more dead or injured non-protected avian or bat species or a single dead or injured migratory, state threatened, endangered, species of special concern, and federally listed species discovered within 24 hours of discovery. Section 6.1 requires the Applicant to conduct pre-construction desktop and field inventories of potentially impacted native prairies, wetlands, and any other biologically sensitive areas within the site and assess the presence of state threatened, endangered, or species of special concern or federally listed species. Section 6.1 also requires the Applicant to submit any biological survey or studies conducted. Section 4.5 requires that turbines and associated facilities will not be constructed in wildlife management areas, state scientific and natural areas or parks, and a setback of five rotor diameters in prevailing wind and three rotor diameters in non-prevailing wind is applied to such public lands.

Rare and Unique Natural Resources

87. Based on a query of the NHIS the red-shouldered hawk, a state-listed species of special concern, has been documented in nearby woodlands. Red-shouldered hawks are most commonly found in large tracts of mature deciduous forest with scattered wetland openings. Suitable habitat typically occurs in uplands with diverse topography characterized by numerous small hills, ridges, and depressional wetlands or small lakes. Red-shouldered hawks also frequent mature floodplain forests.[67]

88. Special consideration is often given to raptor species at wind farms because diurnal raptors are generally at higher risk for collision with turbines than are many other avian species (National Wind Coordinating Collaborative [NWCC], 2010). Mean use of raptor species within the Project Area was low and observed flight behavior did not indicate high risk of collision mortality. Based on projected low use of the Project Area, overall risk to raptor species as a result of Project development is expected to be low.[68]

89. Waterfowl mortality has been reported at wind farms in the United States, though fatalities of other avian groups are much more common. Several post construction studies have shown reduced use of flight paths near wind turbines by migrating waterfowl. Based on this information and the lack of observed nesting trumpeter swans in the Project area, trumpeter swans are unlikely to be adversely affected by the proposed Project if they continue to use water bodies within the Project area after construction.[69]

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[66] *Id.*
[67] Minnesota Department of Natural Resources, Rare Species Guide, Buteo lineaus, http://www.dnr.state.mn.us/rsg/profile.html?action=elementDetail&selectedElement=ABNKC19030. Accessed February 18, 2011.
[68] Exhibit 10 at 11
[69] *Id.*

90. DNR has noted areas of high risk for trumpeter swans in their comments on the Spring and Fall avian studies.[70] The Applicant has avoided these areas in its preliminary turbine locations. (See Site Permit).

91. One adult bald eagle was observed during the Spring Survey and two adults were observed during the Fall Survey. One bald eagle nest was observed during the Raptor Nest Survey and appears to be inactive. The nearest turbine location is approximately one mile from the nest.[71] The presence of bald eagles within the Project area will require compliance with the Bald and Golden Eagle Protection Act. The very limited number of collision mortality records for bald eagles at other wind farms indicates that bald eagles will likely be at low risk of collision mortality to the Project area.[72] Even so, the Applicant has been in discussions with the USFWS concerning the possibility of acquiring a taking permit.

Vegetation

92. No public waters, wetlands, or forested land are expected to be adversely affected by the Project. No groves of trees or shelterbelts will need to be removed to construct and operate the system. Native prairie will also be avoided. Section 4.7 of the site permit will require a prairie protection and management plan if native prairie could be impacted, including areas temporarily impacted by construction.

Soils

93. The site permit has requirements to implement sound water and soil conservation practices during construction and operation of the Project throughout the Project's life in order to protect topsoil and adjacent resources and to minimize soil erosion. The Project will be subject to the requirements of the National Pollutant Discharge Elimination System/State Disposal System (NPDES/SDS) stormwater permit for construction activity. An erosion and sediment control plan and Storm Water Pollution Prevention Plan (SWPPP) will also be prepared for the Project and the disturbed areas will be seeded after construction to stabilize the area (site permit, section 7.11).

Geologic and Ground Water Resources

94. Surface geology in the Project Area consists of glacial deposits associated with the Des Moines Lobe and Wadena Lobe, both continental glaciers associated with the last ice age. Bedrock in Otter Tail County is covered by 200 to more than 400 feet of Wisconsin glacial deposits. The two aquifers in Otter Tail County consist of a complex network of surficial and buried deposits of sand and gravel. PWE has reviewed a sample of county well index records for the Project Area, which shows residents and farmers (for irrigation purposes) utilizing both the quaternary water table and quaternary buried artesian aquifers. Construction Impacts to geologic and groundwater resources are not

[70] Exhibit 12
[71] Exhibit 13 (Applicant Letter, February 3, 2012)
[72] Exhibit 10 at 11

anticipated. Operationally, water supply needs will be quite limited and local supplies are adequate. [73]

Surface Water and Wetlands

95. Wind turbines and associated facilities will not be located in public water wetlands, except that collector and feeder lines may cross if authorized by the appropriate permitting agency (site permit, section 4.6). A permit may be required if surface waters are impacted (see section 10.5.1 of the site permit).

Future Development and Expansion

96. Current information suggests windy areas in this part of the state are large enough to accommodate more wind facilities. Large wind projects have been permitted in western Otter Tail County and in Clay County. A number of other facilities are in various stages of planning or development in Otter Tail County. Additionally, the Prairie Wind Energy Project may share its maintenance facility with Glacial Ridge (20 MW) in southeast Pope County and Bear Creek (47.5 MW) in southwest Todd and eastern Otter Tail counties.[74] These projects have received LWECS permits from the state but have not begun construction.

97. While large-scale projects have occurred elsewhere (Texas, Iowa, and California), little systematic study of the cumulative impact has occurred. Research on the total impact of many different projects in one area has not occurred. EFP staff will continue to monitor for impacts and issues related to wind energy development.

98. The Commission is responsible for siting of LWECS "in an orderly manner compatible with environmental preservation, sustainable development, and the efficient use of resources."[75] Section 4.1 of the site permit provides for buffers between adjacent wind generation projects to protect wind production potential.

Maintenance

99. Maintenance of the turbines will be on a scheduled, rotating basis with one or more units normally off for maintenance each day, if necessary. Maintenance on the interconnection points will be scheduled for low wind periods. PWE will have on-site service and maintenance activities, including routine inspections, regular preventive maintenance, unscheduled maintenance and repair, and routine minor maintenance on the wind turbines and associated facilities.[76] PWE is estimating $5.83 million dollars in annual administration, operation and maintenance costs.[77]

[73] Exhibit 1 at 8.15
[74] *Id.* at 6.3
[75] Minn. Statute 216F.03
[76] Exhibit 1 at 10.6
[77] *Id*. at 10.7

Decommissioning and Restoration

100. Decommissioning of the site would include removal of turbines and related facilities. Foundations will be removed to a depth of four feet below grade and buried back to grade. Additionally, any disturbed surface would be graded, reseeded, and restored as nearly as possible to its preconstruction condition.[78] Section 9.2 of the site permit requires removal of wind facilities to a depth of four feet and restoration and reclamation of the site to the extent feasible. The Project site would be restored within 18 months after Project expiration.

101. Decommissioning activities will include: (1) removal of all wind turbine components and towers; (2) removal of all pad mounted transformers; (3) removal of overhead and underground cables and lines; (4) removal of foundations; and (5) removal of surface road material and restoration of the roads and turbine sites to previous conditions to the extent feasible.

102. As provided in section 9.1 of the site permit, the Applicant will 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. Section 9.1 requires the applicant to submit a Decommissioning Plan to the Commission prior to the pre-operation meeting.

Site Permit Conditions

103. All of the above findings pertain to the Applicant's requested permit for a 100 MW LWECS project.

104. Most 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 Public Utilities Commission. Comments received by the Commission have been considered in development of the site permit. Minor changes and special condition additions that provide for clarification or additional requirements have been made.

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

[78] *Id*. at 4-10

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 over this matter pursuant to Minnesota Statutes section 216F.04.

3. The Applicant has substantially complied with the procedural requirements of Minnesota Statutes chapter 216F and Minnesota Rules chapter 7854.

4. The Minnesota Public Utilities Commission has complied with all procedural requirements required of Minnesota Statutes chapter 216F and Minnesota Rules chapter 7854.

5. The Minnesota Public Utilities Commission has considered all the pertinent factors relative to its determination of whether a site permit should be approved.

6. The Prairie Wind Energy Project is compatible with the policy of the state to site LWECS in an orderly manner compatible with environmental preservation, sustainable development, and the efficient use of resources under Minnesota Statutes section 216F.03.

7. The Minnesota Public Utilities Commission has the authority under section 216F.04 to place conditions in a permit and may deny, modify, suspend, or revoke a permit. The conditions in the site permit are reasonable and appropriate.

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

ORDER

An LWECS Site Permit is hereby issued to Prairie Wind Energy, LLC to construct and operate the up to 100 MW Prairie Wind Energy Project in Otter Tail County in accordance with the conditions contained in the site permit and in compliance with the requirements of Minnesota Statutes 216F.04 and Minnesota Rules 7854 for PUC Docket No. IP-6843/WS-10-425.

The site permit is attached hereto, with maps showing the approved site and preliminary turbine layouts.

BY THE ORDER OF THE COMMISSION

_____

Burl W. Haar
Executive Secretary

(S E A L)

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STATE OF MINNESOTA PUBLIC UTILITIES COMMISSION

SITE PERMIT FOR A
LARGE WIND ENERGY CONVERSION SYSTEM

IN
OTTER TAIL COUNTY MINNESOTA

ISSUED TO
PRAIRIE WIND ENERGY, LLC

PUC DOCKET NO. IP-6844/TL-10-438

In accordance with Minnesota Statutes section 216F.04 this site permit is hereby issued to:

Prairie Wind Energy, LLC

Prairie Wind Energy, 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 thirty (30) years from the date of this approval.

Approved and adopted this _____ day of February 2012

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) by calling 651-296-0406 (voice). Persons with hearing or speech disabilities may call us through Minnesota Relay at 1-800-627-3529 or by dialing 711.

Table of Contents

1. PROJECT DESCRIPTION 1

2. DESIGNATED SITE 1
- 2.1 PROJECT BOUNDARY 1
- 2.2 TURBINE LAYOUT 2

3. APPLICATION COMPLIANCE 2

4. SETBACKS AND SITE LAYOUT RESTRICTIONS 2
- 4.1 WIND ACCESS BUFFER 2
- 4.2 RESIDENCES 2
- 4.3 NOISE 3
- 4.4 ROADS 3
- 4.5 PUBLIC LANDS 3
- 4.6 WETLANDS 3
- 4.7 NATIVE PRAIRIE 3
- 4.8 SAND AND GRAVEL OPERATIONS 4
- 4.9 WIND TURBINE TOWERS 4
- 4.10 TURBINE SPACING 4
- 4.11 METEOROLOGICAL TOWERS 4
- 4.12 AVIATION 5
- 4.13 FOOTPRINT MINIMIZATION 5
- 4.14 COMMUNICATION CABLES 5
- 4.15 ELECTRICAL COLLECTOR AND FEEDER LINES 5

5. ADMINISTRATIVE COMPLIANCE PROCEDURES 6
- 5.1 SITE PLAN 6
- 5.2 PERMIT DISTRIBUTION TO LOCAL GOVERNMENTS & RESIDENTS 7
- 5.3 NOTICE OF PERMIT CONDITIONS 7
- 5.4 FIELD REPRESENTATIVE 7
- 5.5 SITE MANAGER 7
- 5.6 PRE-CONSTRUCTION MEETING 7
- 5.7 PRE-OPERATION COMPLIANCE MEETING 8
- 5.8 COMPLAINTS 8

6. SURVEYS AND REPORTING 8
- 6.1 BIOLOGICAL AND NATURAL RESOURCE INVENTORIES 8
- 6.2 SHADOW FLICKER 8
- 6.3 ARCHAEOLOGICAL RESOURCES 8
- 6.4 INTERFERENCE 9
- 6.5 WAKE LOSS STUDIES 10
- 6.6 NOISE 10
- 6.7 AVIAN AND BAT PROTECTION PLAN 10

6.8 PROJECT ENERGY PRODUCTION 11
6.9 WIND RESOURCE USE 11
6.10 EXTRAORDINARY EVENTS 11

7. CONSTRUCTION AND OPERATION PRACTICES
7.1 SITE CLEARANCE 11
7.2 TOPSOIL PROTECTION 12
7.3 SOIL COMPACTION 12
7.4 LIVESTOCK PROTECTION 12
7.5 FENCES 12
7.6 DRAINAGE TILES 12
7.7 EQUIPMENT STORAGE 12
7.8 ROADS 12
7.9 CLEANUP 13
7.10 TREE REMOVAL 13
7.11 SOIL EROSION AND SEDIMENT CONTROL 13
7.12 RESTORATION 14
7.13 HAZARDOUS WASTE 14
7.14 APPLICATION OF HERBICIDES 14
7.15 PUBLIC SAFETY 15
7.16 EMERGENCY RESPONSE 15
7.17 TOWER IDENTIFICATION 15
7.18 FEDERAL AVIATION ADMINISTRATION LIGHTING 15

8. FINAL CONSTRUCTION 15
8.1 AS-BUILT PLANS AND SPECIFICATIONS 15
8.2 FINAL BOUNDARIES 15
8.3 EXPANSION OF SITE BOUNDARIES 16

9. DECOMMISSIONING, RESTORATION, AND ABANDONMENT 16
9.1 DECOMMISSIONING PLAN 16
9.2 SITE RESTORATION 16
9.3 ABANDONED TURBINES 16

10. AUTHORITY TO CONSTRUCT LWECS 16
10.1 WIND RIGHTS 16
10.2 POWER PURCHASE AGREEMENT 17
10.3 FAILURE TO COMMENCE CONSTRUCTION 17
10.4 PREEMPTION OF OTHER LAWS 17
10.5 OTHER PERMITS 17

11. COMMISSION POST-ISSUANCE AUTHORITIES 18
11.1 PERIODIC REVIEW 18
11.2 MODIFICATION OF CONDITIONS 18
11.3 REVOCATION OR SUSPENSION OF PERMIT 19
11.4 MORE STRINGENT RULES 19
11.5 TRANFER OF PERMIT 19
11.6 RIGHT OF ENTRY 19
11.7 PROPRIETARY INFORMATION 20

12. EXPIRATION DATE 20

13. SPECIAL CONDITIONS 20
13.1 AVOIDING HIGH CONCERN AREAS 20
13.2 POST-CONSTRUCTION AVIAN SURVEYS 20

ATTACHMENT 1: Site Permit Map 1
ATTACHMENT 2: Complaint and Handling Procedures for Large Wind Energy Conversion Systems 1-3
ATTACHMENT 3: Compliance Filing Procedure for Permitted Energy Facilities 1
ATTACHMENT 4: Permit Compliance Filings 1-3

SITE PERMIT

This Site Permit for a Large Wind Energy Conversion System (LWECS) authorizes Prairie Wind Energy, LLC (Permittee) to construct and operate the Prairie Wind Energy Project (Project), a 100 Megawatt (MW) nameplate capacity LWECS and associated facilities in Otter Tail County, on a site of approximately 23,921 acres in accordance with the conditions contained in this permit.

SECTION 1
PROJECT DESCRIPTION

The up to 100 MW nameplate capacity LWECS Project authorized to be constructed in this permit will be developed and constructed by the Permittee. The Project will consist of up to 41 Nordex N117 2.4 MW wind turbine generators with a hub height of 91 meters and a rotor diameter of 117 m. The Permittee may modify the turbine selection with the Minnesota Public Utilities Commission's (Commission) approval. Associated facilities include access roads, electrical collection system, step-up substation with Supervisory Control and Data Acquisition (SCADA) equipment, Operations and Maintenance (O&M) building (the O&M building itself is not part of this permit), and two permanent meteorological towers. Turbines are interconnected by communication and 34.5 kV electrical power collection facilities within the wind farm that will deliver wind-generated power to the collection substation. Power will ultimately interconnect at 115 kV at Township 131N, Range 37W, Section 10 at the proposed Great River Energy Graven Lake Substation along State Highway 29.

SECTION 2
DESIGNATED SITE

2.1 PROJECT BOUNDARY

The Project boundary is shown on the map at **Attachment 1**. The Project is located in the following townships:

Township Name	Sections	Township	Range
Parkers Prairie	2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 14, 15, 16, 17, 18, 19, 20, 21	T131N	R37W
Elmo	16, 17, 18, 19, 20, 21, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35	T132N	R37W
Effington	1, 12, 13, 24	T131N	R38W
Folden	25, 36	T132N	R38W

2.2 TURBINE LAYOUT

Permittee's final wind turbine and associated facility layouts are shown on the map at Attachment 1. The preliminary layout represents the approximate location of wind turbines and associated facilities within the Project boundary and identifies a layout that minimizes the overall potential human and environmental impacts, which were evaluated in the permitting process. The final layout depicting the location of each wind turbine and associated facility shall be located within the Project boundary. The Project boundary serves to provide the Permittee with the flexibility to do minor adjustments to the preliminary layout to accommodate landowner requests, unforeseen conditions encountered during the detailed engineering and design process, and federal and state agency requirements. Any modification of the location of a wind turbine and associated facility to a preliminary layout shall be done in such a manner to have comparable overall human and environmental impacts and shall be specifically identified in the site plan pursuant to Section 5.1. The Permittee shall submit the final site layout in the site plan pursuant to Section 5.1.

SECTION 3
APPLICATION COMPLIANCE

The Permittee shall comply with those practices set forth in its Site Permit Application, dated May 5, 2011, and the record of this proceeding unless this Permit establishes a different requirement in which case this Permit shall prevail.

Attachment 4 contains a summary of compliance filings required under this permit. Attachment 4 is provided solely for the convenience of the Permittee and shall not be construed as a substitute for the conditions contained in this permit.

SECTION 4
SETBACKS AND SITE LAYOUT RESTRICTIONS

4.1 WIND ACCESS BUFFER

Wind turbine towers shall not be placed less than five (5) rotor diameters (RD) on prevailing wind directions and three (3) RD on non-prevailing wind directions from the perimeter of the lands where the Permittee does not hold the wind rights, without the approval of the Commission. This section does not apply to public roads and trails.

4.2 RESIDENCES

Wind turbine towers shall not be located closer than 1000 feet from all residences, or the distance required to comply with the noise standards pursuant to Minnesota Rule 7030.0040 established by the Minnesota Pollution Control Agency (PCA), whichever is greater.

4.3 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 PCA at all times at all appropriate locations. The noise standards are found in Minnesota Rules chapter 7030. Turbine operation shall be modified or turbines shall be removed from service if necessary to comply with these noise standards. 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.

4.4 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.

4.5 PUBLIC LANDS

Wind turbines and associated facilities including foundations, access roads, underground cable, and transformers, shall not be located in public lands, including Waterfowl Production Areas, Wildlife Management Areas, Scientific and Natural Areas, or in county parks, and wind turbine towers shall also comply with the setbacks of Section 4.1.

4.6 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, subdivision 15a, except that electric collector or feeder lines may cross or be placed in public waters or public waters wetlands subject to permits and approvals by the Minnesota Department of Natural Resources (DNR) and the United States Army Corps of Engineers (USACE).

4.7 NATIVE PRAIRIE

The Permittee shall, in consultation with the Commission and DNR, prepare a Prairie Protection and Management Plan and submit it to the Commission and DNR at least 14 days prior to the pre-construction meeting if native prairie, as defined in Minnesota Statutes section 84.02, subdivision 5, is identified in any biological and natural resource inventories conducted pursuant to Section 6.1. The plan shall address steps to avoid impacts to native prairie and mitigation to unavoidable impacts of native prairie by restoration or management of other native prairie areas that are in degraded condition, by conveyance of conservation easements, or by other means agreed to by the Permittee and Commission.

Wind turbines and associated facilities including foundations, access roads, collector and feeder lines, underground cable, and transformers shall not be placed in native prairie unless addressed in a prairie protection and management plan and shall not be located in areas enrolled in the Native Prairie Bank Program. Construction activities, as defined in Minnesota Statutes section 216E.01, shall not impact native prairie unless addressed in a Prairie Protection and Management Plan.

4.8 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.

4.9 WIND TURBINE TOWERS

Structures for wind turbines shall be self-supporting tubular towers. The towers may be up to 91 meters (approx. 298.5 feet).

4.10 TURBINE SPACING

The turbine towers shall be constructed within the site boundary as shown in Attachment 1. The turbine towers shall be spaced no closer than three (3) RD in non-prevailing wind directions and five (5) RD on 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.

4.11 METEOROLOGICAL TOWERS

Permanent towers for meteorological equipment shall be free standing. 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 property where 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.

4.12 AVIATION

The Permittee shall not place wind turbines or associated facilities in a location that could create an obstruction to navigable airspace of public and licensed private airports (as defined in Minnesota Rule 8800.0100, subparts 24a and 24b) in Minnesota, adjacent states, or providences. The Permittee shall apply the minimum obstruction clearance for licensed private airports pursuant to Minnesota Rule 8800.1900, subpart 5. Setbacks or other limitations shall be followed in accordance with the Minnesota Department of Transportation (DOT), Department of Aviation, and FAA. The Permittee shall notify owners of all known airports within six (6) miles of the Project prior to construction.

4.13 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, step-up 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(s).

4.14 COMMUNICATION CABLES

The Permittee shall place all supervisory control and data acquisition (SCADA) communication cables underground and within or adjacent to the land necessary for turbine access roads unless otherwise negotiated with the affected landowner(s).

4.15 ELECTRICAL COLLECTOR AND FEEDER LINES

Collector lines that carry electrical power from each individual transformer associated with a wind turbine to an internal project interconnection point shall be buried underground. Collector lines shall be placed within or adjacent to the land necessary for turbine access roads unless otherwise negotiated with the affected landowner(s).

Feeder lines that carry power from an internal project interconnection point to the Project substation or interconnection point on the electrical grid shall be overhead or buried underground. Feeder line locations shall be negotiated with the affected landowner(s).

Any feeder lines that parallel public roads shall be placed within the public rights-of-way or on private land immediately adjacent to public roads. If feeder lines are located within public rights-of-way, the Permittee shall obtain approval from the governmental unit responsible for the affected right-of-way.

Collector and feeder line locations shall be located in such a manner to minimize interference with agricultural operations, including, but not limited to, existing drainage patterns, drain tile, future tiling plans, and ditches. Safety shields shall be placed on all guy wires associated with overhead feeder lines. The Permittee shall submit the engineering drawings of all collector and feeder lines in the site plan pursuant to Section 5.1.

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 [Recommended Practice for Inductive Coordination of Electric Supply and Communication Lines], IEEE 519 [Harmonic Specifications], IEEE 367 [Recommended Practice for Determining the Electric Power Station Ground Potential Rise and Induced Voltage from a Power Fault], and IEEE 820 [Standard Telephone Loop Performance Characteristics] provided the telephone service provider(s) have complied with any obligations imposed on it pursuant to these standards. Upon request by the Commission, the Permittee shall report to the Commission on compliance with these standards.

SECTION 5
ADMINISTRATIVE COMPLIANCE PROCEDURES

The following administrative compliance procedures shall be executed in accordance with the Permit Compliance Filings at Attachments 3 and 4.

5.1 SITE PLAN

At least 14 days prior to the pre-construction meeting, the Permittee shall submit to the Commission:

(a) a site plan for all turbines, roads, electrical equipment, collector and feeder lines, and other associated facilities to be constructed;

(b) engineering drawings for site preparation, construction of the facilities; and

(c) a plan for restoration of the site due to construction.

Construction is defined under Minnesota Statutes section 216E.01. The Permittee may submit a site plan and engineering drawings for only a portion of the Project if the Permittee intends to commence construction on certain parts of the Project before completing the site plan and engineering drawings for other parts of the Project. The Permittee shall document, through GIS mapping, compliance with the setbacks and site layout restrictions required by this permit, including compliance with the noise standards pursuant to Minnesota Rules chapter 7030. In the event that previously unidentified environmental conditions are discovered during construction that 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 site. The Permittee shall notify the Commission of any turbines that are to be relocated before the turbine is constructed on the new site and demonstrate compliance with the setbacks and site layout restrictions required by this permit.

5.2 PERMIT DISTRIBUTION TO LOCAL GOVERNMENTS AND RESIDENTS

Within 14 days of approval of this permit, the Permittee shall 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. As applicable, the Permittee shall, within 14 days of permit approval, 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 thirty (30) days of approval of this permit, the Permittee shall send a copy of the permit to each landowner within the Project boundary. In no case shall the landowner receive this site permit and complaint procedure less than five (5) days prior to the start of construction on their property.

5.3 NOTICE OF PERMIT CONDITIONS

Prior to the start of construction, the Permittee shall inform all employees, contractors, and other persons involved in the construction and ongoing operation of the Project of the terms and conditions of this permit.

5.4 FIELD REPRESENTATIVE

At least 14 days prior to the pre-construction meeting and continuously throughout construction, including site restoration, the Permittee shall designate a field representative responsible for overseeing compliance with the conditions of this permit during the construction phase of this Project. This person (or a designee) shall be accessible by telephone during normal working hours. This person's address, phone number, and emergency phone number shall be provided to the Commission, which 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 Commission.

5.5 SITE MANAGER

The Permittee shall designate a site manager responsible for overseeing compliance with the conditions of this permit during the commercial operation and decommissioning phases of this Project. The Permittee shall provide the Commission with the name, address, and phone number, and emergency phone number of the site manager prior to placing any turbine into commercial operation. This information shall be maintained current by informing the Commission of any changes, as they become effective.

5.6 PRE-CONSTRUCTION MEETING

Prior to the start of any construction, the Permittee shall conduct a pre-construction meeting with the Field Representative and the State Permit Manager designated by the Commission to coordinate field monitoring of construction activities.

5.7 PRE-OPERATION COMPLIANCE MEETING

At least 14 days prior to commercial operation, the Permittee shall conduct a pre-operation compliance meeting with the Site Manager and the State Permit Manager designated by the Commission to coordinate field monitoring of operation activities.

5.8 COMPLAINTS

At least 14 days prior to the pre-construction meeting, the Permittee shall submit to the Commission the company's procedures to be used to receive and respond to complaints. The Permittee shall report to the Commission all complaints received concerning any part of the Project in accordance with the procedures provided in Attachments 2 and 3 of this permit.

SECTION 6
SURVEYS AND REPORTING

6.1 BIOLOGICAL AND NATURAL RESOURCE INVENTORIES

The Permittee, in consultation with DNR and other interested parties, shall conduct pre-construction desktop and field inventories of potentially impacted native prairies, wetlands, and any other biologically sensitive areas within the site and assess the presence of state threatened, endangered, or species of special concern or federally listed species. The results of any surveys shall be submitted to the Commission and DNR at least 14 days prior to the pre-construction meeting to confirm compliance of conditions in this permit.

The Permittee shall provide to the Commission any biological surveys or studies conducted on this Project, including those not required under this permit.

6.2 SHADOW FLICKER

At least 14 days prior to the pre-construction meeting, the Permittee shall provide data on shadow flicker exposure on each residence of non-participating landowners and participating landowners. Information shall include the results of modeling used, assumptions made, and the anticipated levels of exposure from turbine shadow flicker on each residence. The Permittee shall provide documentation on its efforts to avoid, minimize and mitigate shadow flicker exposure.

6.3 ARCHAEOLOGICAL RESOURCES

The Permittee shall work with the State Historic Preservation Office (SHPO) and the State Archaeologist. The Permittee shall carry out a Phase 1 or 1A Archaeology survey for all proposed turbine locations, access roads, junction boxes, and other areas of Project construction impact to determine whether additional archaeological work is necessary for any part of the proposed Project. The Permittee shall contract with a qualified archaeologist to complete such surveys, and shall submit the results to the Commission, the SHPO, and the State Archaeologist at least 14 days prior to the pre-construction meeting.

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 the Commission 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 Commission of such discovery. The Permittee shall not excavate at such locations until so authorized by the Commission 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 SHPO as soon as possible in the planning process to coordinate section 106 (36 C.F.R. part 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 Commission and the SHPO about the discovery. The Commission and the SHPO shall have three (3) working days from the time the agency is notified to conduct an inspection of the site if either agency chooses to do so. On the fourth day after notification, the Permittee may begin work on the site unless the SHPO has directed that work shall cease. In such event, work shall not continue until the SHPO determines that construction can proceed.

6.4 INTERFERENCE

At least 14 days prior to the pre-construction meeting, the Permittee shall submit a plan to the Commission for conducting an assessment of television signal reception and microwave signal patterns in the Project area. 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 Project so as to cause microwave, television, radio, telecommunications, or navigation interference in violation of Federal Communications Commission regulations or other law. In the event the Project or its operations cause such interference, the Permittee shall take timely measures necessary to correct the problem.

6.5 WAKE LOSS STUDIES

At least ten 14 days prior to the pre-construction meeting, the Permittee shall provide to the Commission the pre-construction micro-siting analysis leading to the final tower locations and an estimate of total Project wake losses. The Permittee shall provide to the Commission any operational wake loss studies conducted on this Project.

6.6 NOISE

The Permittee shall submit a proposal to the Commission at least 14 days prior to the pre-operation compliance meeting for the conduct of a post-construction noise study. Upon the approval of the Commission, the Permittee shall carry out the study. The study shall be designed to determine the operating LWECS noise levels at different frequencies and at various distances from the turbines at various wind directions and speeds. The Permittee shall submit the study within eighteen (18) months after commercial operation.

6.7 AVIAN AND BAT PROTECTION PLAN

The Permittee shall prepare an Avian and Bat Protection Plan in consultation with the Commission and the DNR and submit it to the Commission at least 14 days prior to the pre-construction meeting. The plan shall address steps to be taken to identify, avoid, minimize and mitigate impacts to avian and bat species during the construction phase and the operation phase of the Project. The plan shall also include formal and informal monitoring, training, wildlife handling, documentation (e.g., photographs), and reporting protocols for each phase of the Project.

The Permittee shall submit quarterly avian and bat reports to the Commission. Quarterly reports are due by the 15th of each January, April, July, and October commencing the day following commercial operation and terminating upon the expiration of this permit. Each report shall identify any dead or injured avian and bat species, location of find by turbine number, and date of find for the reporting period in accordance with the reporting protocols. If a dead or injured avian or bat species is found, the report shall describe the potential cause of the occurrence and the steps taken to avoid future occurrences.

The Permittee shall notify the Commission, U.S. Fish and Wildlife Service, and DNR within twenty-four (24) hours of the discovery of any of the following:

(a) five or more dead or injured non-protected avian or bat species within a reporting period;

(b) one or more dead or injured migratory avian or bat species;

(c) one or more dead or injured state threatened, endangered, or species of special concern; or

(d) one or more dead or injured federally listed species.

6.8 PROJECT ENERGY PRODUCTION

The Permittee shall submit a report no later than February 1st following each complete year of Project operation. The report shall include:

(a) The rated nameplate capacity of the permitted Project;

(b) The total monthly energy generated by the Project in MW hours;

(c) The monthly capacity factor of the Project;

(d) Yearly energy production and capacity factor for the Project;

(e) The operational status of the Project and any major outages, major repairs, or turbine performance improvements occurring in the previous year; and

(f) Any other information reasonably requested by the Commission.

This information shall be considered public and must be submitted electronically.

6.9 WIND RESOURCE USE

The Permittee shall upon the request of the Commission report to the Commission on the monthly energy production of the Project and the average monthly wind speed collected at one permanent meteorological tower selected by the Commission during the preceding year or partial year of operation.

Section 11.7 shall apply to data provided pursuant to this section.

6.10 EXTRAORDINARY EVENTS

Within twenty-four (24) hours of an occurrence, the Permittee shall notify the Commission of any extraordinary event. Extraordinary events include but shall not be limited to: fires, tower collapse, thrown blade, collector or feeder line failure, and injured LWECS worker or private person. The Permittee shall, within thirty (30) days of the occurrence, submit a report to the Commission describing the cause of the occurrence and the steps taken to avoid future occurrences.

SECTION 7
CONSTRUCTION AND OPERATION PRACTICES

7.1 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.

7.2 TOPSOIL PROTECTION

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

7.3 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.

7.4 LIVESTOCK PROTECTION

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

7.5 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.

7.6 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.

7.7 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 as defined in Sections 4.6 and 4.7.

7.8 ROADS

7.8.1 PUBLIC ROADS

At least 14 days prior to the pre-construction meeting, the Permittee shall identify all state, county, or township roads that will be used for the Project and shall notify the Commission 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 Project. 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 Project for maintenance and repair of roads that will be subject to extra wear and tear due to transportation of equipment and Project components. The Permittee shall notify the Commission of such arrangements upon request of the Commission.

7.8.2 TURBINE ACCESS ROADS

The Permittee shall construct the least 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 five gravel or similar material. Access roads shall not be constructed across streams and drainage ways without required permits and approvals from the DNR, USFWS, and/or USACE. 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.

7.8.3 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.

7.9 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.

7.10 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 Commission and the approval of the affected landowner(s).

7.11 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 Commission at least ten 14 days prior to the pre-construction meeting. This Plan may be the same as the Storm Water Pollution Prevention Plan (SWPPP) submitted to the PCA as part of the National Pollutant Discharge Elimination System (NPDES) permit application.

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 implemented prior to construction and maintained throughout the Project's life.

The Permittee shall develop an invasive species prevention plan to prevent the introduction of invasive species on lands disturbed by project construction activities. This requirement may be included as an element of the Soil Erosion and Sediment Control Plan.

7.12 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 Project activities to the condition that existed immediately before construction began, to the extent possible. The time period may be no longer than twelve (12) months after completion of construction of the turbine, unless otherwise negotiated with the affected landowner(s). Restoration shall be compatible with the safe operation, maintenance, and inspection of the Project.

7.13 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.

7.14 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 the landowner's 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 property, including crops, orchards, tree farms, or gardens. The Permittee shall also, at least 14 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.

7.15 PUBLIC SAFETY

The Permittee shall provide educational materials to landowners within the site boundary and, upon request, to interested persons, about the Project and any restrictions or dangers associated with the 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 Statutes section 216D.01, subdivision 11, to Gopher State One Call.

7.16 EMERGENCY RESPONSE

The Permittee shall prepare an emergency response plan (fire protection and medical emergency plan) in consultation with the emergency responders having jurisdiction over the area prior to LWECS construction. The Permittee shall submit a copy of the plan to the Commission at least 14 days prior to the pre-construction meeting and a revised plan, if any, at least 14 days prior to the pre-operation compliance meeting. The Permittee shall also register the LWECS with the local governments' emergency 911 services.

7.17 TOWER IDENTIFICATION

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

7.18 FEDERAL AVIATION ADMINISTRATION LIGHTING

Towers shall be marked as required by the 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.

SECTION 8
FINAL CONSTRUCTION

8.1 AS-BUILT PLANS AND SPECIFICATIONS

Within sixty (60) days after completion of construction, the Permittee shall submit to the Commission a copy of the as-built plans and specifications. The Permittee must also submit this data in a GIS compatible format so that the Commission can place it into the Minnesota Geospatial Information Office's geographic data clearinghouse located in the Department of Administration.

8.2 FINAL BOUNDARIES

After completion of construction, the Commission 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.

8.3 EXPANSION OF SITE BOUNDARIES

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

SECTION 9
DECOMMISSIONING, RESTORATION, AND ABANDONMENT

9.1 DECOMMISSIONING PLAN

At least 14 days prior to the pre-operation compliance meeting, the Permittee shall submit to the Commission a Decommissioning Plan documenting the manner in which the Permittee anticipates decommissioning the Project in accordance with the requirements of Minnesota Rules 7854.0500, subpart 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 Commission may at any time request the Permittee to file a report with the Commission describing how the Permittee is fulfilling this obligation.

9.2 SITE RESTORATION

Upon expiration of this permit, or upon earlier termination of operation of the Project, or any turbine within the Project, the Permittee shall have the obligation to dismantle and remove from the site all towers, turbine generators, transformers, overhead and underground cables and lines, foundations, buildings, and ancillary equipment to a depth of four feet. To the extent feasible, 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(s) 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 Commission prior to completion of restoration activities. The site shall be restored in accordance with the requirements of this condition within 18 months after expiration, or upon earlier termination of the Project, or any turbine within the Project.

9.3 ABANDONED TURBINES

The Permittee shall advise the Commission of any turbines that are abandoned prior to termination of operation of the Project. A Project, or any turbine within the Project, shall be considered abandoned after one (1) year without energy production and the land restored pursuant to Section 9.2 unless a plan is developed and submitted to the Commission outlining the steps and schedule for returning the Project, or any turbine within the Project, to service.

SECTION 10
AUTHORITY TO CONSTRUCT LWECS

10.1 WIND RIGHTS

At least 14 days prior to the pre-construction meeting, the Permittee shall demonstrate that it has obtained the wind rights and any other rights necessary to construct and operate the Project within the boundaries of the LWECS authorized by this permit.

Nothing in this permit shall be construed to preclude any other person from seeking a site permit to construct a LWECS 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.

10.2 POWER PURCHASE AGREEMENT

In the event the Permittee does not have a power purchase agreement or some other enforceable mechanism for sale of the electricity to be generated by the Project at the time this permit is issued, the Permittee shall provide notice to the Commission when it obtains a commitment for purchase of the power. 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 two years of the issuance of this permit, the Permittee must advise the Commission of the reason for not having such power purchase agreement or enforceable mechanism. In such event, the Commission 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 Rule 7854.1300.

10.3 FAILURE TO COMMENCE CONSTRUCTION

If the Permittee has not completed the pre-construction surveys required under Section 5 and commenced construction, as defined in Minnesota Statutes section 216E.01, of the LWECS within two years of the issuance of this permit, the Permittee must advise the Commission of the reason construction has not commenced. In such event, the Commission shall make a determination as 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 Rule 7854.1300.

10.4 PREEMPTION OF OTHER LAWS

Pursuant to Minnesota Statutes 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.

10.5 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 Commission upon request.

10.5.1 COMPLIANCE WITH FEDERAL AND STATE AGENCY PERMITS

The Permittee shall comply with all terms and conditions of permits or licenses issued by Federal, State, or Tribal authorities including, but not limited to, the requirements of the PCA (Section 401 Water Quality Certification, National Pollutant Discharge Elimination System (NPDES)/State Disposal System (SDS) stormwater permit for construction activity, and other site specific discharge approvals), DNR (License to Cross Public Lands and Water, Public Water Works Permit, and state protected species consultation), SHPO (Section 106 Historic Consultation Act), FAA determinations, and DOT (Utility Access Permit, Highway Access Permit, Oversize and Overweight Permit, Aeronautics Airspace Obstruction Permit, and the Mn/DOT Utility Accommodation Policy).

10.5.2 COMPLIANCE WITH COUNTY, CITY OR MUNICIPAL PERMITS

The Permittee shall comply with all terms and conditions of permits or licenses issued by the counties, cities, and municipalities affected by the Project that do not conflict or are not pre-empted by federal or state permits and regulations.

SECTION 11
COMMISSION POST-ISSUANCE AUTHORITIES

11.1 PERIODIC REVIEW

The Commission shall initiate a review of this permit and the applicable conditions at least once every five (5) years. The purpose of the periodic review is to allow the Commission, the Permittee, and other interested persons an opportunity to consider modifications in the conditions of this permit. No modification may be made except in accordance with applicable statutes and rules.

11.2 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.

11.3 REVOCATION OR SUSPENSION OF PERMIT

The Commission 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 Commission'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 Commission.

In the event the Commission determines that it is appropriate to consider revocation or suspension of this permit, the Commission shall proceed in accordance with the requirements of Minnesota Rule 7854.1300 to determine the appropriate action. Upon a finding of any of the above, the Commission may require the Permittee to undertake corrective measures in lieu of having this permit suspended or revoked.

11.4 MORE STRINGENT RULES

The Commission's issuance of this site permit does not prevent the future adoption by the Commission 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.

11.5 TRANSFER OF PERMIT

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

11.6 RIGHT OF ENTRY

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

(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.

11.7 PROPRIETARY INFORMATION

Certain information required to be submitted to the Commission 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 Commission. The Permittee must satisfy requirements of applicable law to obtain the protection afforded by the law.

SECTION 12
EXPIRATION DATE

This permit shall expire thirty (30) years after the date this permit was approved and adopted.

SECTION 13
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.

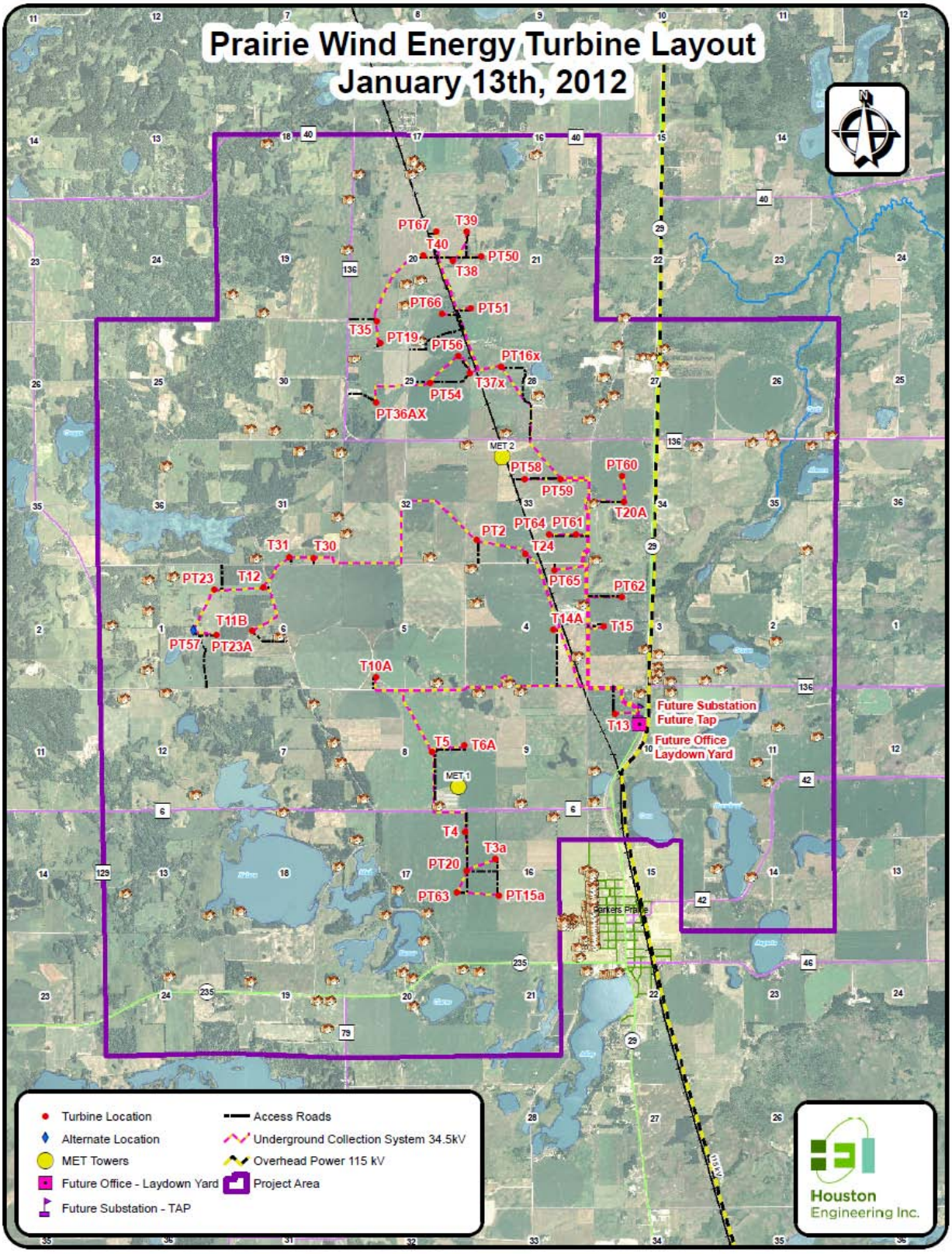
13.1 AVOIDING HIGH CONCERN AREAS

The Permittee has located turbines based on Tier 3 surveys to avoid areas considered high concern by the USFWS and the DNR. Any changes in turbine location prior to construction must verify avoidance of high concern areas as documented in the record.

13.2 POST-CONSTRUCTION AVIAN SURVEYS

The Avian and Bat Protection Plan in Section 6.7 shall include survey plans and protocols to conduct post-construction avian and bat fatality surveys. The post-construction avian and bat fatality surveys shall be conducted for a minimum of one year. The results of the post-construction avian and bat surveys shall be submitted to the Commission. Based on those results, the Commission may modify conditions in this permit pursuant to Section 11.2.

ATTACHMENT 1: SITE PERMIT MAP



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

A. Purpose:

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

B. Scope:

This document describes Complaint reporting procedures and frequency.

C. Applicability:

The procedures shall be used for all complaints received by the Permittee and all complaints received by the Commission under Minn. Rule 7829.1500 or 7829.1700 relevant to this Permit.

D. Definitions:

Complaint: A verbal or written statement presented to the Permittee by a person expressing dissatisfaction or concern regarding site preparation, cleanup or restoration or other LWECS and associated facilities site permit conditions. Complaints do not include requests, inquiries, questions, or general comments.

Substantial Complaint: A written Complaint alleging a violation of a specific Site Permit condition that, if substantiated, could result in Permit modification or suspension pursuant to the applicable regulations.

Unresolved Complaint: A Complaint which, despite the good faith efforts of the permittee and a person(s), remains to both or one of the parties unresolved or unsatisfactorily resolved.

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.

E. Complaint Documentation and Processing:

1. The Permittee shall document all Complaints by maintaining a record of all applicable information concerning the Complaint, including the following:

    a. Name of complainant, address, phone number, and e-mail address.
    b. Precise property description or parcel number.
    c. Name of Permittee representative receiving Complaint and date of receipt.
    d. Nature of Complaint and the applicable Site Permit conditions(s).
    e. Activities undertaken to resolve the Complaint.
    f. Final disposition of the Complaint.

2. The Permittee shall designate an individual to summarize complaints for the Commission. This person's name, phone number and e-mail address shall accompany all complaint submittals.

3. A Person presenting the Complaint should to the extent possible, include the following information in their communications:

    a. Name, address, phone number, and e-mail address.
    b. Date
    c. Tract or parcel
    d. Whether the complaint relates to (1) a Site Permit matter, (2) an LWECS and associated facility issue, or (3) a compliance issue.

F. Reporting Requirements:

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

Immediate Reports: All substantial complaints shall be reported to the Commission 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, 1-800-657-3794, or by e-mail to: DOC.energypermitcompliance@state.mn.us, 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 Filed to Dr. Burl W. Haar, Executive Secretary, Public Utilities Commission, using the Minnesota Department of Commerce eDocket system (see eFiling instructions attached to this permit).

If no Complaints were received during the preceding month, the permittee shall submit (eFile) a summary indicating that no complaints were received.

G. Complaints Received by the Commission or OES:

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

H. Commission Process for Unresolved Complaints:

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 appropriate person(s) 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.

I. Permittee Contact for Complaints:

Mailing Address: Complaints filed by mail shall be sent to the address below:

Terry L. Carlson
Prairie Wind Energy, LLC
PO Box 33
Parkers Prairie, MN 56361

Tel: (218) 338-4875

email: tcarlson@pwemn.net

ATTACHMENT 3

MINNESOTA PUBLIC UTILITIES COMMISSION
COMPLIANCE FILING PROCEDURE
FOR PERMITTED ENERGY FACILITIES

1. Purpose

To establish a uniform and timely method of submitting information required by the Commission energy facility permits.

2. Scope and Applicability

This procedure encompasses all compliance filings required by permit.

3. Definitions

Compliance Filing – A sending (filing) of information to the Commission, where the information is required by a Commission site or route permit.

4. Responsibilities

A) The permittee shall eFile all compliance filings with Dr. Burl Haar, Executive Secretary, Public Utilities Commission, through the Department of Commerce (DOC) eDocket system. The system is located on the DOC website: https://www.edockets.state.mn.us/EFiling/home.jsp

General instructions are provided on the website. Permittees must register on the website to eFile documents.

B) All filings must have a cover sheet that includes:
1) Date
2) Name of submitter / permittee
3) Type of Permit (Site or Route)
4) Project Location
5) Project Docket Number
6) Permit Section Under Which the Filing is Made
7) Short Description of the Filing

C) Filings that are graphic intensive (e.g., maps, plan and profile) must, in addition to being eFiled, be submitted as paper copies and on CD. Copies and CDs should be sent to: 1) Dr. Burl W. Haar, Executive Secretary, Minnesota Public Utilities Commission, 121 7th Place East, Suite 350, St. Paul, MN, 55101-2147, and 2) Department of Commerce, Energy Facility Permitting, 85 7th Place East, Suite 500, St. Paul, MN, 55101-2198. Additionally, the Commission may request a paper copy of any eFiled document.

PERMIT COMPLIANCE FILINGS[1]

PERMITTEE: Prairie Wind Energy Project, LLC
PERMIT TYPE: LWECS Site Permit
PROJECT LOCATION: Otter Tail County
COMMISSION DOCKET: IP-6844/WS-10-438

PRE-CONSTRUCTION MEETING

Permit Section	Description	Due Date	Notes	eDocket Doc. ID	Date Filed
4.7	Native Prairie Protection Plan	14 days prior to pre-construction meeting, if required.	Develop in consultation with Commission and DNR.		
5.1	Site Plan	14 days prior to pre-construction meeting.			
5.4	Field Representative	14 days prior to pre-construction meeting.			
5.8	Complaint Reporting Procedures	14 days prior to pre-construction meeting.			
6.1	Biological & Natural Resource Inventories	14 days prior to pre-construction Meeting.	Results may trigger need for a Native Prairie Protection Plan.		
6.2	Shadow Flicker Analysis	14 days prior to pre-construction meeting.			
6.3	Archaeological Resources	14 days prior to pre-construction meeting and as recommended by the State Historic Preservation Office.			
6.4	Interference	14 days prior to pre-construction Meeting.			
6.5	Wake Loss	14 days prior to pre-construction meeting.			

[1] This compilation of permit compliance filings is provided for the convenience of the Permittee and the Commission. However, it is not a substitute for the permit; the language of the permit controls.

PRE-CONSTRUCTION MEETING (Cont.)

Permit Section	Description	Due Date	Notes	eDocket Doc. ID	Date Filed
6.7	Avian and Bat Protection Plan	14 days prior to pre-construction meeting.	Develop in consultation with Commission and DNR.		
7.8	Road Identification	14 days prior to pre-construction meeting.			
7.11	Soil Erosion & Sediment Control Plan	14 days prior to pre-construction.	May be the same as NPDES SWPPP.		
7.16	Emergency Response	14 days prior to pre-construction meeting. Must register in 911 Program.			
10.1	Wind Rights	14 days prior to pre-construction meeting.			

PRE-OPERATION COMPLIANCE MEETING

Permit Section	Description	Due Date	Notes	eDocket Doc. ID	Date Filed
5.7	Pre-operation compliance meeting	14 days prior to commercial operation.			
6.6	Noise Study Protocol	14 days prior to pre-operation meeting.			
9.1 & 9.3	Decommission-ing Plan	14 days prior to commercial operation.			

OTHER REQUIREMENTS

Permit Section	Description	Due Date	Notes	eDocket Doc. ID	Date Filed
5.2	Permit Distribution to Government Units & Landowners	Within 14 days to local governments and 30 days to residents of permit issuance.			
5.5	Site Manager	14 days prior to prior to commercial operation.	Update contact information as necessary.		
5.8	Complaints	Complaint submittals on the 15th of each month or within 24 hours.	Must eFile report even if no complaints.		
6.6	Noise Study Results	Within 18 months of Commercial Operation.			
6.7	Avian and Bat Reporting Requirements	Quarterly reports due and within 24 hours of discovery of certain species.			
6.8	Project Energy Production	Due 2/1 each year.			
6.9	Wind Resource Use	Upon request of the Commission.			
6.10	Extraordinary Events	Within 24 hours and report on occurrence of event within 30 days.			
8.1	As Builts	Within 60 days of completion of construction.			
10.2	PPA or Enforceable Mechanism	Within 2 years of permit issuance.	If no PPA or other enforceable mechanism at time of permit issuance.		
10.3	Failure to Start Construction	Within 2 years of permit issuance.			