



BEFORE THE MINNESOTA PUBLIC UTILITIES COMMISSION

**COMMENTS AND RECOMMENDATIONS OF THE
MINNESOTA OFFICE OF ENERGY SECURITY
ENERGY FACILITY PERMITTING STAFF**

DOCKET NO. IP-6839/WS-10-119

Meeting Date: July 29, 2010.....Agenda Item # 10

Company: Oak Glen Wind Farm, LLC

Docket No: **IP6839/WS-10-119**

In the Matter of the Application of Oak Glen Wind Farm, LLC for a Site Permit for a 44 MW Large Wind Energy Conversion System Project in Steele County

Issue(s): Should the Commission grant a site permit to Oak Glen Wind Farm, LLC for the 44 MW Oak Glen Wind Farm?

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RELEVANT DOCUMENTS

- Oak Glen Wind Farm, LLC, Site Permit Application Initial Filing February 5, 2010
- Supplemental Information to the Application.....March 10, 2010
- Public Comments.....June 22, 2010
- Oral Public Comments.....June 22, 2010
- Oak Glen Wind Farm Preliminary Turbine Layout and Constraint MapJuly 13, 2010

The enclosed materials are work papers of the Office of Energy Security (OES) Energy Facility Permitting (EFP) staff. They are intended for use by the Minnesota Public Utilities Commission (Commission) and are based on information already in the record unless otherwise noted.

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DOCUMENTS ATTACHED

1. Proposed Oak Glen Site Location Map
2. Proposed Findings of Fact, Conclusions of Law, and Order
3. Exhibit List
4. Proposed Site Permit

See eDocket filings (10-119) at <https://www.edockets.state.mn.us/EFiling/search.jsp>, or the PUC website at: <http://energyfacilities.puc.state.mn.us/Docket.html?Id=25858> for project related documents.

STATEMENT OF THE ISSUES

Should the Minnesota Public Utilities Commission issue a site permit for a 44 Megawatt Large Wind Energy Conversion System in Steele County, Minnesota?

INTRODUCTION AND BACKGROUND

Oak Glen Wind Farm, LLC (Applicant or Oak Glen) submitted a site permit application to construct the proposed 44 Megawatt (MW) Oak Glen Wind Farm (Project) in Steele County. Oak Glen is a wholly owned subsidiary of Minnesota Municipal Power Agency (MMPA). Each of the eleven MMPA members is a publicly owned electric utility. Avant Energy, Inc., serves as the agent for MMPA and will oversee and administer all aspects the Project, including design, construction, and operation and maintenance.

Project Location

The proposed Project will be located in Steele County in the township of Blooming Prairie. The project area is located 3 miles northwest of the city of Blooming Prairie near U.S. Highway 218 and encompasses 3,215 acres. The Applicant has wind rights for approximately 3,070 acres, which is sufficient to provide flexibility in the micro-siting process.

Project Description

The Project, including associated facilities, encompasses the following:

- A wind turbine layout consisting of 24 Vestas 1.8 MW wind turbine generators mounted on 80 meter (262.5 feet) towers and a rotor diameter of 90 meters (295 feet);
- Gravel access roads; electrical collection system, SCADA wiring, pad mounted turbine transformers, one substation, and one permanent meteorological tower.

The Applicant's goal is to complete the construction of the Project and achieve commercial operation by December 2011. A 69 kV transmission line, three miles in length, from the project substation to the point of interconnection will be permitted locally.

REGULATORY PROCESS AND PROCEDURE

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 Minnesota Rules chapter 7854.

Certificate of Need Process

Projects equal to or greater than 50 MW in size require a Certificate of Need from the Commission for a large electric power generating plant pursuant to Minnesota Statutes sections 216B.2421 and .243. A Certificate of Need is not required for the Project because the Project size is 44 MW.

Site Permit and Application Acceptance

The Applicant filed a site permit application for the Project with the Commission on February 5, 2010. The Commission accepted the site permit application, combined with the supplemental information, filed March 10, 2010, as complete on March 22, 2010.

Notice of Application Acceptance

An EFP notice of site permit application acceptance was issued on March 26, 2010. The Applicant distributed the EFP notice of application acceptance and the site permit application pursuant to Minnesota Rules 7854.0600, subparts 2 and 3, which included landowners within the Project boundaries, county board, city councils, township boards, local newspapers, and the Minnesota Historical Society. Upon request of the EFP staff, the Applicant distributed the notice of application acceptance and a copy of the site permit application to a local library and technical representatives for the Department of Agriculture, Department of Health, Minnesota Pollution Control Agency, Office of Attorney General, Board of Water and Soil Resources, Department of Natural Resources, Department of Transportation, and Department of Employment and Economic Development. This notice was also published on eDockets and the Commission's Energy Facility Permitting website.

Public Comments

As part of the notice of site permit application acceptance, the EFP staff solicited public comments on issues that should be considered in developing a draft site permit for the Project. Public comments were accepted through April 14, 2010. EFP staff did not receive any comments.

Preliminary Determination on Draft Site Permit

Pursuant to Minnesota Rule 7854.0800, the Commission has 45 days after application acceptance to make a preliminary determination on whether a draft site permit may be issued or denied. On

May 4, 2010, the Commission issued an order authorizing a preliminary draft site permit and approved distribution of the proposed draft site permit for comment under the public participation process outlined in Minnesota Rules 7854.0900.

Public Participation Process

Public participation in the LWECS site permitting process is governed by Minnesota Rules 7836.0900. The Commission provides public notice of the availability of the draft site permit. Pursuant to Minnesota Rules 7854.0900, subpart 2, the notice was sent to interested persons and governmental agencies and published in the *Blooming Prairie Times* on May 18, 2010, the *Owatanna Peoples Press* on May 18, 2010, and the *EQB Monitor* on May 17, 2010. The notice was also posted on eDockets and the Commission's Energy Facility Permitting website.

Public Meeting

Pursuant to Minnesota Rules 7854.0900, subpart 4, the OES EFP staff conducted a public information meeting on the evening of June 7, 2010, in Blooming Prairie, Minnesota, to provide an overview of the Commission permitting process and to receive comments on the draft site permit. Approximately 27 people attended the meeting. The applicant's representatives were also present. OES EFP staff provided an overview of the LWECS site permitting process, the draft site permit, and responded to questions. OES EFP staff and the applicant responded to project specific questions and general questions about wind energy. Project specific questions were related to soil impacts, noise, crop damage, and drainage tile damage. A complete record of the meeting was e-filed on June 22, 2010.

Public Comment Period

The public comment period, ending on June 18, 2010, afforded any interested person an opportunity to submit comments on either the site permit application or the draft site permit. Minnesota Rule 7854.0900, subpart 5, provides the opportunity for any person to request that a contested case hearing be held on the proposed LWECS project. No request for a contested case hearing on the proposed project was submitted. EFP staff received four comments during the comment period.

STAFF ANALYSIS AND COMMENTS

EFP staff has reviewed the record of this proceeding, including oral and written comments. The following EFP comments and analysis addresses concerns and comments raised in this proceeding. Four written comments were received, including letter from the Applicant addressing the Commission Order, dated May 4, 2010. The three other comment letters were from two state agencies (Department of Natural Resources and Minnesota Department of Transportation) and Steele County. Comments at the public meeting focused on the Project details.

Applicant Comments

The Applicant's comment letter addressed the Commission's Order, dated May 4, 2010. Specifically, the Commission asked the Applicant, the EFP staff, and any other parties or participants to consider and address the potential impact of noise, sub-audible noise, and shadow flicker as those issues related to setbacks and other siting considerations. The Commission also asked the Applicant, the OES EFP staff, and other participants to address the impact of the proposed Project on non-participating landowners and on other non-participating persons likely to be affected. The Applicant's letter addressed shadow flicker, noise, and non-participating landowners and/or other non-participating persons likely to be affected by the project.

- **Shadow Flicker:** The Applicant described how it considered shadow flicker impacts on participating and non-participating landowners during the preliminary wind turbine layout. The mean distance between the nearest turbine and a residence is 1,459 feet, regardless of whether they are participating in the Project. The mean distance between the nearest turbine and a non-participating residence is 2,430 feet. The closest residence of a non-participating landowner from a turbine is 1,457 feet. Distances from turbines to residences of non-participating landowners are greater than residences of participating landowners to lessen the potential for shadow flicker on non-participating landowners. In Minnesota, turbine shadows occur mostly to the north of the turbine because Minnesota is in the northern hemisphere. In the few instances where turbines are sited less than 1,200 feet to residences, the turbines are generally not sited south of the residence where shadow flicker would be more likely to occur.
- **OES EFP Response:** Shadow flicker consultants generally agree that shadow flicker is not noticeable beyond about 10 rotor diameters from a wind turbine. Ten rotor diameters for the Vestas V90 turbines is 2,950 feet. Most residences are likely to experience some shadow flicker. Based on the Applicant's data provided in its comments, participating landowners will likely experience more shadow flicker than non-participating landowners and other non-participating persons. The issue of shadow flicker was not raised in either comment period or at the public meeting. Staff believes the Applicant has demonstrated that it considered shadow flicker with regard to setbacks and the positioning of turbines to residences. See Findings 49 to 51 for a more thorough discussion on shadow flicker. The Site Permit does not require the Applicant to conduct a shadow flicker analysis.
- **Noise:** The Applicant described how it considered noise impacts in developing its preliminary turbine layout. The Applicant selected the Vestas V90 turbines, in part, based on anticipated noise performance of the turbines. The average distance from a turbine to the nearest residence is 1,459 feet and the average distance to a non-participating residence is 2,430 feet. Only two residences are closer than 1,000 feet, and both landowners are participating in the project. The Applicant stated that the increased distances in its siting efforts facilitates the dissipation of sound waves before reaching residences and turbine noise approaches the natural ambient noise levels of the area.

OES EFP Response: The Applicant must comply with Minnesota Rules chapter 7030, which require the Project to meet the Noise Area Classification 1, L50 50 dBA residential noise standard during overnight hours. Setback distances are calculated on site layout and turbine for each residential receiver. Typically, 750 feet to 1,500 feet is required to meet noise standards; however, noise is analyzed on a case by case basis. At a minimum, the turbines must be located 750 feet from residences as required by proposed Site Permit, Condition III.N.1. The Applicant must verify that it will comply with the noise standards in Minnesota Rules chapter 7030 in its site plan, as referenced in the proposed Site Permit, Condition III.A.1, and Permit Compliance Filings, Attachment 4, Filing Number 1. The proposed Site Permit, Condition III.F.2, requires the Applicant to conduct a post-construction noise study.

- Non-participating Parcels: The impacts to non-participating parcels are discussed above, but the Applicant further discussed impacts in its comment letter. Specifically, the Applicant pointed out that Steele County will realize benefits from the Project and MMPA members will meet a significant portion of their state mandated renewable energy requirement from this Project. Steele County will receive revenue in the form of an annual Wind Energy Projection Tax payment. Residents will also have an opportunity to learn about renewable energy. The Applicant selected Mortenson Construction as its site manager, which will contribute to local jobs. Many of the non-participating landowners in the general proximity to the Project have expressed an interest in becoming part of the Project.

OES EFP Response: In addition to the setbacks required to meet the noise standard, the proposed Site Permit, Condition III.C.1, requires a wind access buffer of 5 rotor diameter on the prevailing wind direction and 3 rotor diameter on the non-prevailing wind direction from property where the Applicant does not hold the wind rights. Using the Vestas V90 turbine, the distance from non-participating parcels will be 1,475 feet on the prevailing wind direction and 885 feet on the non-prevailing wind direction. A wind rose map is included in the Applicant's site permit application.

Steele County Comments

Steele County adopted standards that apply to Commercial WECS with a capacity of equal or greater than 40 kilowatts, consists of four or more wind turbines, or contains wind turbines equal or greater than 200 feet in height as measured from the ground level to the top of the blade at its highest point. Tom Shea, Chair of the Steele County Board of Commissioners, submitted comments on behalf of Steele County. The comment letter referred to a letter sent to the Applicant in January 2010 pointing out two of Steele County's setback requirements that exceed state standards: the 750 foot setback of wind turbines to dwellings and the minimum front yard setback from road rights-of-way equal to the height of the wind turbine measured to the top of the blade at its highest point. The Steele County Board of Commissioners has reviewed the Applicant's site permit application and the proposed turbine layout and found that the aforementioned setbacks would be met or exceeded. Accordingly, Steele County does not take exception to the layout of the Project as currently proposed.

OES EFP Response: The proposed Site Permit, Condition III.N.1, requires the Applicant to comply with the standards brought forward by Steele County in its comment letter.

Minnesota Department of Natural Resources Comments

The Minnesota Department of Natural Resources (MnDNR) states that it appreciated the efforts by the Applicant with regard to avoiding wildlife impacts. After reviewing the Applicant's Project area and available information, MnDNR does not consider the site to be at a high risk for wildlife impacts.

MnDNR noted the Rickert Lake State Game Refuge that is partially located within the Project boundaries. MnDNR suggested locating turbines outside of the State Game Refuge if possible due to the use of the area by ducks and geese. Regardless, MnDNR requests that the Applicant contact them for any additional coordination regarding the State Game Refuge.

MnDNR further recommended that the Applicant conduct bat studies as recommended in the Site Characterization Study the Applicant conducted prior to submitting its site permit application.

OES EFP Response: Minnesota Statutes section 97A.085 describes how a game refuge can be established. State game refuges may be designated by the MnDNR commissioner if one of the following three conditions is met:

1. More than 50 percent of the proposed area is publicly owned and the proposed area is at least 640 acres in size.
2. The MnDNR receives a petition signed by every landowner or lessee in the proposed area. The area must be at least 640 acres in size unless it borders or includes a wetland or other water body.
3. The MnDNR receives a petition describing an area at least 640 acres in size, signed by 50 or more residents of the county where the proposed refuge is located.

Before designating a State Game Refuge, the MnDNR commissioner must hold a public hearing within the county in which the majority of the proposed refuge is located. According to the MnDNR website as referenced in the comment letter, game refuges may be open or closed at the discretion of the MnDNR commissioner. State Game Refuges prohibit the hunting or trapping of some or all wild animals within the refuge.

A portion of the 711-acre Rickert Lake State Game Refuge is on two parcels within the far eastern border of the Project boundary. These parcels are actively farmed and no encumbrances on the land exist in relation to the State Game Refuge. The site permit application states that the refuge is open to Canada Goose hunting during early September. The Preliminary Turbine Layout and Constraint Map (e-filed July 13, 2010) shows one turbine located within the game refuge. EFP staff will coordinate with the MnDNR in the micro-siting process.

The Site Characterization Study referenced in the MnDNR comment letter was conducted in 2009 and evaluated a site boundary different than the current site boundary for this Project.

Further, the study's recommendation of bat mortality monitoring was not due to specific findings in the area, but due to a general lack of knowledge regarding wind turbine impacts on bats. EFP staff did not include in the proposed Site Permit a requirement regarding bat studies. However, this Project site could be evaluated as a future state sponsored update to the 2003 Buffalo Ridge bat study, which is being discussed by EFP and MnDNR staff.

Minnesota Department of Transportation Comments

The Minnesota Department of Transportation (MnDOT) noted that there may be highway-related considerations regarding the oversize/overweight hauling of wind turbines and equipment. If the Applicant has to intersect with the trunk highway system, the Applicant will need to apply for permits. It does not appear that the Applicant will directly abut a state trunk highway. MnDOT further noted that it should be involved in any planning and coordinating construction activities.

OES EFP Response: EFP staff will continue to work with MnDOT in the micro-siting process.

Based on the record of this proceeding, OES EFP staff concludes that the Oak Glen Wind Farm meets the procedural requirements and the criteria and standards for issuance of a site permit identified in Minnesota Statutes and Rules. The site permit application has been reviewed pursuant to the requirements of Minnesota Statutes chapter 216F and Minnesota Rules chapter 7854.

EFP staff has prepared for Commission consideration proposed Findings of Fact, Conclusions of Law, and Order (Attachment 2), an Exhibit List (Attachment 3) for the Oak Glen Wind Farm, and a proposed Site Permit (Attachment 4) for the 44 MW Oak Glen Wind Farm.

The site criteria addressed in the 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. The conditions in this proposed Site Permit are consistent with conditions included in other LWECs site permits issued by the OES EFP and the Commission.

Proposed Findings of Fact

The proposed Findings (Attachment 2) 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 following outline identifies the categories of the Findings of Fact.

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COMMISSION DECISION OPTIONS

A. Oak Glen Wind Farm Findings of Fact, Conclusions of Law, and Order

1. Adopt the attached proposed Findings of Fact, Conclusions of Law, and Order prepared for the 44 MW Oak Glen Wind Farm in Steele County.
2. Amend the proposed Findings of Fact, Conclusions of Law, and Order as deemed appropriate.
3. Make some other decision deemed more appropriate.

B. LWECS Site Permit for the 44 MW Oak Glen Wind Farm in Steele County

1. Issue the proposed LWECS Site Permit for the 44 MW Oak Glen Wind Farm in Steele County to Oak Glen Wind Farm, 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.

OES EFP Staff Recommendation: The staff recommends options A.1 and B.1.