office of energy security

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October 13, 2010

Dr. Burl W. Haar
Executive Secretary
Minnesota Public Utilities Commission
127 7th Place East, Suite 350
St. Paul, MN 55101-2147

RE: **Comments and Recommendation of the Office of Energy Security Energy Facility Permitting Staff (Docket No. IP-6838/WS-10-425)**

Dear Dr. Haar:

Attached are the Comments and Recommendation of the Office of Energy Security Energy Facility Permitting (EFP) Staff:

In the Matter of the Application of Prairie Rose Wind, LLC for a Large Wind Energy Conversion System Site Permit for the 101 MW Prairie Rose Wind Farm in Rock and Pipestone Counties.

EFP staff recommends the Commission issue a draft permit in this matter.

Staff is available to answer any questions the Commission may have.

Sincerely,

David E. Birkholz
EFP Staff

Attachment

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BEFORE THE MINNESOTA PUBLIC UTILITIES COMMISSION

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

DOCKET NO. IP-6843/WS-10-425

Meeting Date: October 21, 2010 ..... Agenda Item # 2

Company: **Prairie Rose Wind, LLC**

Docket No. **IP-6843/WS-10-425**

In the Matter of the Application of Prairie Rose Wind, LLC for a Large Wind Energy Conversion System Site Permit for the 101 MW Prairie Rose Wind Farm in Rock and Pipestone Counties.

Issue(s): Should the Public Utilities Commission issue a Draft Site Permit?

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

Relevant Documents

Prairie Rose Wind Farm Site Permit Application ..... May 13, 2010
Site Permit Application Supplement: Amended Maps ..... June 24, 2010
Scoping and Draft Permit Comments ..... October 4, 2010
Summary of Wildlife Evaluations ..... October 6, 2010
Burrowing Owl Survey Report ..... October 6, 2010

The enclosed materials are the work papers of the Office of Energy Security Energy Facility Permitting Staff (EFP). They are intended for use by the Public Utilities Commission and are based on information already in the record unless otherwise noted. This document can be made available in alternative formats (i.e., large print or audio) 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.

Documents Attached

1. Proposed Draft Site Permit with Maps

See eDocket filings (10-425) at https://www.edockets.state.mn.us/EFiling/search.jsp, or the PUC website at: http://energyfacilities.puc.state.mn.us/Docket.html?Id=28286 for project related documents.

Statement of the Issues

Should the Public Utilities Commission (Commission) issue a Draft Permit to Prairie Rose Wind, LLC (Applicant) for a Large Wind Energy Conversion System (LWECS) for the 101 megawatt (MW) Prairie Rose Wind Farm (Project) in Rock and Pipestone counties?

Introduction and Background

Prairie Rose Wind, LLC has submitted a site permit application to construct the proposed 101 MW Prairie Rose Wind Farm in Rock and Pipestone counties. Prairie Rose Wind, LLC is a wholly owned subsidiary of Geronimo Wind Energy.

Project Location
The proposed site is located west of Hardwick and south and east of Jasper in Rock and Pipestone counties. The project is proposed to be constructed in Denver, Rose Dell and Spring Water townships in Rock County and Elmer and Eden townships in Pipestone County (see attached map). The Project Boundary encompasses approximately 35,335 acres, of which approximately 14,000 acres are under site control.

Project Description
The project for which a permit is being requested includes the following:

1. A wind turbine layout consisting of up to 67 turbines, depending on turbine specifications; the application describes the possible use of General Electric 1.5 MW, Vestas 1.8 MW or Siemens 2.3 MW wind turbines;
2. Associated facilities, including gravel access roads, an electrical collection system, permanent meteorological towers, one step-up substation, a Sonic (SODAR) or Light (LIDAR) Detection and Ranging unit and an O&M building.

The project has an associated 24-mile 115 kV transmission system that would connect to the Split Rock Substation near Brandon, South Dakota (see IP-6838/TL-10-134). An application for a transmission route has not been filed at this time.

The Applicant's goal is to complete the construction of the project and achieve commercial operation between the third calendar quarter of 2011 and the first calendar quarter of 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 Rose Wind Farm because, as a 101 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-6838/CN-10-80) on May 13, 2010, simultaneous to filing its site permit application. The Commission has been accepting written comments on the merits of the proposed project, particularly whether there are any contested issues of fact with respect to the representations made in the Application. Initial comments were accepted through Friday, September 17, 2010 and replies will be accepted through Friday, October 15, 2010.

As part of the CN process, public notices were issued and EFP staff conducted a public scoping and information meeting in Jasper, Minn., on July 27, 2010. A Scoping Decision was issued by the OES Director on August 20, 2010. Staff is currently preparing an Environmental Report (ER) evaluating the human and environmental impacts of the proposed project. A public hearing will be held by the Office of Administrative Hearings after the ER is available.

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 Rose Wind, LLC, filed a site permit application for the wind farm with the Commission on May 13, 2010.

Application acceptance. Application acceptance is guided by Minn. Rule 7854.0600. The Commission accepted the application as complete in its June 22, 2010 Order:

> Accepted the Prairie Rose Wind, LLC Site Permit Application for a Large Wind Energy Conversion System as complete, directed the Applicant to promptly amend the maps to the specifications of the Energy Facilities Permitting staff of the Minnesota Department of Commerce's Office of Energy Security, and required Prairie Rose to provide additional information as requested by the Commission and the Energy Facilities Permitting staff for the Prairie Rose Wind Farm.
>
> Authorized the Energy Facilities Permitting staff to name a public advisor for this project.
>
> Granted a variance to Minn. Rules, part 7854.0800, to extend the period for the Commission to make a preliminary determination on whether a permit may be issued or should be denied for an unspecified but reasonable period of time.

The Applicant filed the required amended maps on June 24, 2010. On July 7, 2010, the Applicant supplied notice of the application acceptance. This notice was developed by the Applicant with assistance from EFP staff to ensure that the notice met the requirements and intent of Minn. Rule 7854.0600.

As a part of the notice requirements of Minn. Rule 7854.0600, the Applicant on July 2, 2010, provided a copy of the accepted application to each landowner within the site and the agencies required by the rule.

Preliminary Determination on Draft Site Permit. Minn. Rule 7854.0800 states, "Within 45 days after acceptance of the application by the commission, the commission shall make a preliminary determination whether a permit may be issued or should be denied. If the preliminary determination is to issue a permit, the commission shall prepare a draft site permit for the project. The draft site permit must identify the permittee, the proposed LWECS, and proposed permit conditions." (Note the exception from the 45 days in the Order.)

Issuing a draft site permit does not confer an authority to construct an LWECS. The Commission may change, amend or modify the draft site permit in any respect before final issuance or may deny the site permit at a later date.

Public Participation Process. Public participation in the LWECS site permitting process is guided by Minn. Rule 7854.0900. The Commission provides notice of the availability of the draft site permit. The notice includes:

- Applicant's contact information;
- A brief description of the proposed project, including a proposed site map;
- Locations where the application and draft site permit are available for review and information on how to obtain a copy of the application and site permit;
- The role of the public advisor and how the public advisor may be contacted to obtain more information about the process or the project;
- Time and place of the public information meeting held by the EFP staff;
- The date on which the comment period terminates;
- A statement that during the comment period any person may submit written comments to the Commission on the draft site permit; and
- A statement that a person may request a contested case hearing on the matter.

Notice of draft site permit availability is sent to all persons or agencies who received a copy of the accepted application, published in local newspaper(s) and the *EQB Monito*r, and posted on eDockets and on the Commission's energy facilities permitting web page.

The public information meeting serves several functions. First, it provides EFP staff with the opportunity to provide an overview of the Commission's role in the review and approval of LWECS and associated facilities and to respond to questions or comments about the regulatory review process. Second, it provides the Applicant with an opportunity to present an overview of its proposed LWECS project. Prior to the public meeting, interested persons and governmental agencies would have had opportunity to review the LWECS application and draft site permit. Third, the public meeting provides the public with an opportunity to ask questions of the Applicant and EFP staff and offer comments on the application and draft site permit, which serve as the environmental documents for the project.

The rule requires a minimum of 30 days after publication of the notice of draft site permit availability in the *EQB Monitor* for any interested person to submit comments on either the site permit application or the draft site permit.

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. Neither Rock nor Pipestone counties have adopted ordinances pursuant to Minnesota Statutes section 216F.08. Both counties have ordinances that govern the siting of small wind energy conversion systems (under 5 MW).

EFP Staff Analysis and Comments

EFP held a public information and scoping meeting in Jasper on July 27, 2010. A comment period was open through August 17, 2010, for public input on issues that should be considered in developing the Draft Site Permit and suggested alternatives to be evaluated in the ER. Staff received comments from six individuals (including comments recorded at the public meeting). Additionally, staff received comment letters from MNDNR and Mn/DOT.

MNDNR

The DNR earlier recommended a Tier III[1] survey based on the Tiers I and II reviews of the site and provided a recommended approach for surveys for upland sandpiper, short-eared owl and burrowing owls. The Applicant conducted and reported on that survey, finding no evidence of the endangered species in the area. Staff concludes no further condition is required in the permit for Tier III surveys. The permit does carry provisions to avoid sensitive habitats.

In their comment letter the DNR reiterated an interest in a number of surveys/inventories. These surveys, e.g., the Biological Resources Survey, were committed to in the Application[2] and are required in the permit. The DNR does advocate for surveys of rare species in native prairie and bedrock outcropping areas. These should not be necessary as the Applicant has committed to "siting project infrastructure in upland cropped areas, and in particular will avoid all "Sites of Biodiversity Significance" ranked "Outstanding," "High," or "Medium", and to the extent practicable, sites ranked as "Low" or "Below"."[3]

Mn/DOT

A letter from Mn/DOT requests compliance with Mn/DOT's Utility Accommodation Policy, and similar policies of other road authorities, should be included as a condition of the site permit. The permit already states, "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."[4]

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[1] The USFWS Wind Turbine Guidelines Advisory Committee recommendations to evaluate potential impacts to wildlife:

Tier I: Preliminary evaluation or screening of sites
Tier II: Site characterization
Tier III: Field studies to document site wildlife conditions and predict project impacts

[2] Site Permit Application, 5.21
[3] Summary of Wildlife Evaluations, p. 4
[4] Draft Site Permit, 10.5

Public Comments
EFP Staff received a number of comments from citizens. The majority dealt with setbacks and noise issues. These issues are addressed in the draft site permit.

County Ordinances
EFP staff did not receive comments on any local wind restrictions from the two counties during the draft permit review process. Local governments did express concern over local roads. These issues are addressed in the draft site permit.

* * * * *

EFP staff has used the information in the site permit application, MNDNR, Mn/DOT and other comment letters, and experience with other LWECS projects as a guide for evaluating whether a draft site permit may be issued for this project or should be denied, pursuant to Minnesota Rules 7854.0800, Subpart 1. EFP staff considers the available information sufficient to make a preliminary determination that a site permit may be issued for the project. The applicant will continue to provide additional necessary information as requested by the EFP staff.

EFP staff has prepared a draft site permit identifying the permittee, the proposed LWECS, and proposed permit conditions. The proposed draft site permit is attached to these Comments and Recommendations. Commission approval of the draft site permit will allow for distribution of the draft site permit and initiation of the public review process, which includes a formal public comment period and a public meeting anticipated to be held in conjunction with the hearing for the CN proceeding.

Commission Decision Options

A. Preliminary Determination to issue a Draft Site Permit

1. Make a preliminary determination that a draft site permit may be issued.
2. Make a preliminary determination that the draft site permit should be denied.
3. Make another decision deemed more appropriate.

B. Approve the proposed Draft Site Permit for distribution and public comment

1. Approve the proposed draft site permit for the Prairie Rose Wind Project for distribution and public comment. Authorize EFP staff to implement the public participation process found in Minnesota Rules 7854.0900.
2. Amend or modify the proposed draft site permit for the Prairie Rose Wind Project for distribution and public comment. Authorize EFP staff to implement the public participation process found in Minnesota Rules 7854.0900.
3. Make another decision deemed more appropriate.

EFP Staff Recommendation: Staff recommends option **A1 and B1.**

STATE OF MINNESOTA PUBLIC UTILITIES COMMISSION

LARGE WIND ENERGY CONVERSION SYSTEM SITE PERMIT FOR THE PRAIRIE ROSE WIND FARM

IN ROCK AND PIPESTONE COUNTIES MINNESOTA

ISSUED TO PRAIRIE ROSE WIND, LLC

PUC DOCKET NO. IP-6843/TL-10-425

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

Prairie Rose Wind, LLC

Prairie Rose Wind, LLC is authorized to construct and operate up to a 101 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 [*month*] 2010

BY ORDER OF THE COMMISSION

_____

BURL W. HAAR
Executive Secretary

(S E A L)

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Table of Contents

1. PROJECT DESCRIPTION 1

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

3. APPLICATION COMPLIANCE 2

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

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

6. SURVEYS AND REPORTING 7
- 6.1 BIOLOGICAL AND NATURAL RESOURCE INVENTORIES 7
- 6.2 SHADOW FLICKER 7
- 6.3 ARCHAEOLOGICAL RESOURCES 7
- 6.4 INTERFERENCE 8
- 6.5 WAKE LOSS STUDIES 9
- 6.6 NOISE 9
- 6.7 AVIAN AND BAT PROTECTION PLAN 9

DRAFT

6.8 PROJECT ENERGY PRODUCTION 9
6.9 WIND RESOURCE USE 10
6.10 EXTRAORDINARY EVENTS 10

7. CONSTRUCTION AND OPERATION PRACTICES
7.1 SITE CLEARANCE 10
7.2 TOPSOIL PROTECTION 10
7.3 SOIL COMPACTION 11
7.4 LIVESTOCK PROTECTION 11
7.5 FENCES 11
7.6 DRAINAGE TILES 11
7.7 EQUIPMENT STORAGE 11
7.8 ROADS 11
7.9 CLEANUP 12
7.10 TREE REMOVAL 12
7.11 SOIL EROSION AND SEDIMENT CONTROL 12
7.12 RESTORATION 13
7.13 HAZARDOUS WASTE 13
7.14 APPLICATION OF HERBICIDES 13
7.15 PUBLIC SAFETY 13
7.16 EMERGENCY RESPONSE 14
7.17 TOWER IDENTIFICATION 14
7.18 FEDERAL AVIATION ADMINISTRATION LIGHTING 14

8. FINAL CONSTRUCTION 14
8.1 AS-BUILT PLANS AND SPECIFICATIONS 14
8.2 FINAL BOUNDARIES 14
8.3 EXPANSION OF SITE BOUNDARIES 14

9. DECOMMISSIONING, RESTORATION, AND ABANDONMENT 15
9.1 DECOMMISSIONING PLAN 15
9.2 SITE RESTORATION 15
9.3 ABANDONED TURBINES 15

10. AUTHORITY TO CONSTRUCT LWECS 15
10.1 WIND RIGHTS 15
10.2 POWER PURCHASE AGREEMENT 16
10.3 FAILURE TO COMMENCE CONSTRUCTION 16
10.4 PREEMPTION OF OTHER LAWS 16
10.5 OTHER PERMITS 16

DRAFT

11. COMMISSION POST-ISSUANCE AUTHORITIES 17
11.1 PERIODIC REVIEW 17
11.2 MODIFICATION OF CONDITIONS 17
11.3 REVOCATION OR SUSPENSION OF PERMIT 17
11.4 MORE STRINGENT RULES 18
11.5 TRANFER OF PERMIT 18
11.6 RIGHT OF ENTRY 18
11.7 PROPRIETARY INFORMATION 18

12. EXPIRATION DATE 19

13. SPECIAL CONDITIONS 19
13.1 NATIVE PRAIRIE AND ROCK OUTCROPPINGS 19
13.2 ENDANGERED SPECIES 19

ATTACHMENT 1: Site Permit Maps 1-2
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
ATTACHMENT 5: Best Practices Fact Sheets 1-8

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SITE PERMIT

This Site Permit for a Large Wind Energy Conversion System (LWECS) authorizes Prairie Rose Wind Energy, LLC (Permittee) to construct and operate the Prairie Rose Wind Farm (Project), a 101 Megawatt (MW) nameplate capacity LWECS and associated facilities in Rock and Pipestone counties, on a site of approximately 35,335 acres in accordance with the conditions contained in this permit.

SECTION 1
PROJECT DESCRIPTION

The up to 101MW 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 67 turbines, the number dependent on final selection of the GE 1.6 MW (82.5 m Rotor Diameter) or the Vestas V90 1.8 MW (90 Meter Rotor Diameter) turbine. Associated facilities include access roads, electrical collection system, step-up substation, transmission line, O&M building, and meteorological towers and other weather data collection systems. Turbines are interconnected by communication and underground 34.5 kV electrical power collection facilities within the wind farm that will deliver wind-generated power to the collection substation. Power will ultimately be transported via a new 115 kV line to the Split Rock substation near Brandon, South Dakota.

SECTION 2
DESIGNATED SITE

2.1 PROJECT BOUNDARY

The Project boundary is shown on the map at **Attachment 1**.

County	Township Name	Township	Range	Sections
Rock	Denver	104N	45W	2-10, 15-22, 27-34
Rock	Rose Dell	104N	46W	1-2, 11-16, 21-28, 33-36
Rock	Springwater	103N	46W	1-4, 9-12
Pipestone	Elmer	105N	45W	20, 29-34
Pipestone	Eden	105N	46W	36

2.2 TURBINE LAYOUT

Preliminary wind turbine and associated facility layouts are shown on maps at Attachment 1. Each 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 2010, and the record of this proceeding unless this Permit establishes a different requirement in which case this Permit shall prevail.

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 the prevailing wind directions and three (3) RD on the non-prevailing wind directions from the perimeter of the lands where the Permittee does not hold the wind rights, without the approval of the Commission. This section does not apply to public roads and trails.

4.2 RESIDENCES

Wind turbine towers shall not be located closer than 1,000 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.

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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

Wind turbines and associated facilities including foundations, access roads, collector and feeder lines, underground cable, and transformers, shall not be placed in native prairie, as defined in Minnesota Statutes section 84.02, subdivision 5, unless addressed in a prairie protection and management plan. The Permittee shall, with the guidance of the Commission and DNR prepare a prairie protection and management plan and submit it to the Commission and DNR Commissioner at least ten (10) working days prior to the pre-construction meeting if native prairie could be impacted. The plan shall address steps to avoid impacts to native prairie and mitigation to unavoidable impacts to 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 located in areas enrolled in the Native Bank Program.

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 80 meters (262.5 feet) above grade measured at the hub.

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 the non-prevailing wind directions and five (5) RD on the prevailing wind directions. If required during final micro-siting of the

turbine towers to account for topographic conditions, up to 20 percent of the towers may be sited closer than the above spacing but the Permittee shall minimize the need to site the turbine towers closer.

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 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 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 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 may be overhead or underground. Feeder line locations shall be negotiated with the affected landowner(s).

Any overhead feeder lines that parallel public roads shall be placed within the public rights-of-way or on private land immediately adjacent to public roads. Overhead feeder lines located within public rights-of-way 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 ten (10) working days prior to the pre-construction meeting, the Permittee shall submit to the Commission a site plan for all turbines, roads, electrical equipment, collector and feeder lines, and other associated facilities to be constructed and engineering drawings for site preparation, construction of the facilities, and a plan for restoration of the site due to construction. The Permittee may submit a site plan and engineering drawings for only a portion of the 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, which by law or pursuant to conditions outlined in this permit would preclude the use of that site as a turbine site, the Permittee shall have the right to move or relocate turbine 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 NOTICE TO LOCAL RESIDENTS

Within ten (10) working 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. If applicable, the Permittee shall, within ten (10) working 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 ten (10) working 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.

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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 ten (10) working 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 ten (10) working 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, if any, 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 ten (10) working 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 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.

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 ten (10) working 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 ten (10) working 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 (10) working 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 ten (10) working 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 carryout 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 and submit it to the Commission at least ten (10) working days prior to the pre-construction meeting. The plan shall address steps to be taken to identify 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.

In the event that 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, or federally listed species are discovered in the vicinity of the rotor swept area, the Commission, United States Fish and Wildlife Services (USFWS), and DNR shall be notified within twenty-four (24) hours.

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.

The provisions of Section 11.7 shall apply to the Commission's review of 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 ten (10) working 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.

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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 (10) working 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 his designee to obtain approval for the use of herbicide prior to any application on their property. The landowner may request that there be no application of herbicides on any part of the site within the landowner's property. All herbicides shall be applied in a safe and cautious manner so as to not damage property, including crops, orchards, tree farms, or gardens. The Permittee shall also, at least ten (10) working 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 ten (10) working days prior to the pre-construction meeting and a revised plan, if any, at least ten (10) working 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.

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SECTION 9
DECOMMISSIONING, RESTORATION, AND ABANDONMENT

9.1 DECOMMISSIONING PLAN

At least ten (10) working 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.

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 ten (10) working 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

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 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, and Aeronautics Airspace Obstruction Permit).

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 NATIVE PRAIRIE AND ROCK OUTCROPPINGS

The Permittee shall avoid all native prairie and rock outcroppings by siting project infrastructure in upland cropped areas, and in particular shall avoid all "Sites of Biodiversity Significance" ranked "Outstanding," "High," or "Medium", and to the extent practicable, sites ranked as "Low" or "Below".

13.2 ENDANGERED SPECIES

The Permittee shall follow the fact sheets of recommendations for avoiding and minimizing impacts for Blanding's turtles and Topeka shiners. The summary of recommendations for avoiding and minimizing impacts to these populations, including the attached colored photocopies of the Blanding's turtles, shall be made available to all contractors and its employees. Attachment 5 contains the fact sheets recommendations.

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ATTACHMENT 1: SITE PERMIT MAPS

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Fish and Wildlife Service Land
Wetlands
Road Setback
Microwave Beam Path
Transmission Setback
Occupied Structure 1000ft Setback
House Locations
PWI Streams
USGS Streams

Biodiversity Significance

Outstanding | High | Moderate | Below

N

DATA SOURCES:
GERONIMO WIND ENERGY
ESRI

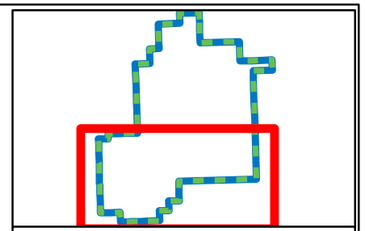
Map Date:
10/13/2010

PRAIRIE ROSE WIND FARM

TURBINE LAYOUT - VESTAS V90
1.8MW - 90 Meter Rotor Diameter

0 0.5 1 2
Miles

GERONIMO WIND ENERGY



AREA OF INTEREST

Turbine Layout
GE XLE Wind Access Setback
Access Roads
Fish and Wildlife Service Land
Wetlands
Road Setback
Microwave Beam Path
Transmission Setback
Occupied Structure 1000ft Setback
House Locations
PWI Streams
USGS Streams

Biodiversity Significance
Outstanding
High
Moderate
Below

N

DATA SOURCES:
GERONIMO WIND ENERGY
ESRI

Map Date:
10/13/2010

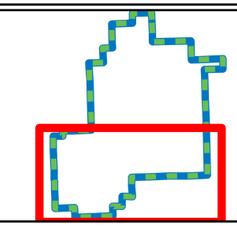
Prairie Rose Wind Farm

TURBINE LAYOUT

GE 1.6 MW 82.5 m Rotor Diameter

0 0.5 1 2
Miles

GERONIMO WIND ENERGY



AREA OF INTEREST

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:

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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, or. 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.

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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 Contacts for Complaints:

Mailing Address: Complaints filed by mail shall be sent to one of the addresses below:

Patrick Smith
Director of Environmental Planning
7650 Edinborough Way, Suite 725
Edina, MN 55435

Tel: 952-988-9000

email: Patrick@geronimowind.com

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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.

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PERMIT COMPLIANCE FILINGS[1]

PERMITTEE: Prairie Rose Wind Farm, LLC
PERMIT TYPE: LWECS Site Permit
PROJECT LOCATION: Rock County and Pipestone County
COMMISSION DOCKET NUMBER: IP-6843/WS-10-425

PRE-CONSTRUCTION MEETING

Filing Number	Permit Section	Description	Due Date	Notes
1	4.7	Native Prairie Protection Plan	Ten working days prior to pre-construction meeting, if required	
2	5.1	Site Plan	Ten working days prior to pre-construction meeting	
3	5.4	Field Representative	Ten working days prior to pre-construction meeting	
4	5.8	Complaint Reporting Procedures	Ten working days prior to pre-construction meeting and complaint submittals on the 15th of each month or within 24 hours	
5	6.1	Biological & Natural Resource Inventories	Ten working days prior to pre-construction meeting	
6	6.2	Shadow Flicker Analysis	Ten working days prior to pre-construction meeting	
7	6.3	Archaeological Resources	Ten working days prior to pre-construction meeting and as recommended by the State Historic Preservation Office	

[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.

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PRE-CONSTRUCTION MEETING (Cont.)

Filing Number	Condition	Description	Due Date	Notes
8	6.4	Interference	Ten working days prior to pre-construction meeting	
9	6.5	Wake Loss	Ten working days prior to pre-construction meeting and may be included with site plan or operation studies if performed	
10	6.7	Avian and Bat Protection Plan	Ten days prior to pre-construction meeting	
11	7.8	Roads	Ten working days prior to pre-construction meeting	
12	7.11	Soil Erosion and Sediment Control Plan	Ten working days prior to pre-construction	
13	7.16	Emergency Response	Ten working days prior to pre-construction meeting. Must register in 911 Program	
14	10.1	Wind Rights	Ten working days prior to pre-construction meeting	

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PRE-OPERATION COMPLIANCE MEETING

Filing Number	Permit Section	Description	Due Date	Notes
15	5.7	Pre-operation compliance meeting	Ten working days prior to commercial operation	
16	6.6	Noise Study Protocol	Ten working days prior to pre-operation meeting	
17	9.1 & 9.3	Decommissioning Plan	Ten working days prior to commercial operation	

OTHER REQUIREMENTS

Filing Number	Permit Section	Description	Due Date	Notes
18	5.2	Notice to Landowners and Governmental Units	Within 10 working days of permit approval	
19	5.5	Site Manager	Ten working days prior to prior to commercial operation	
20	6.6	Noise Study Results	Within 18 months of Commercial Operation, if required	
21	6.7	Avian and Bat Reporting Requirements	Quarterly Requirements	
22	6.8	Project Energy Production	Due 2/1 each year or quarterly	
23	6.9	Wind Resource Use	Upon request of the Commission	
24	6.10	Extraordinary Events	Within 24 hours and report on occurrence of event within 30 days	
25	8.1	As Builts	Within 60 days of completion of construction	
26	10.3	Failure to Start Construction	Within 2 years of permit issuance	

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ATTACHMENT 5

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

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

Background

Topeka shiner (*Notropis topeka*) occurs throughout the Big Sioux and Rock River Watersheds in five counties in southwestern Minnesota (Figure 1). The U.S. Fish and Wildlife Service (Service) listed Topeka shiner as an endangered species in 1998 and designated critical habitat1[2] for it in 2004. The Endangered Species Act (ESA) prohibits the taking[3] of this species.

Endangered Species Act Requirements for Actions in Topeka Shiner Habitat

Federal Agency Actions

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

Private or Local (Non-federal) Actions

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

Project Recommendations

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

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

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

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1. Ensure that contractors and subcontractors understand all permit provisions that are necessary to avoid or minimize adverse effects to Topeka shiners.

2. Do not dewater stream reaches or temporarily divert streams for construction.

3. Do not conduct in-stream work before August 15 to avoid disrupting Topeka shiner spawning.

4. Follow all applicable requirements and best management practices for stormwater and erosion control – for example, requirements contained within stormwater permits from Minnesota Pollution Control Agency (MPCA). Useful resources for designing effective stormwater and erosion control include the MPCA Stormwater Best Management Practices Manual (see http://www.pca.state.mn.us/water/pubs/sw-bmpmanual.html) and the Minnesota Department of Transportation Erosion Control Handbook for Local Roads (see http://www.lrrb.gen.mn.us/PDF/200308.pdf). Other resources are available at http://www.pca.state.mn.us/water/stormwater/stormwater-c.html#factsheets. General suggestions for minimizing effects of erosion on Topeka shiners are shown below.

5. Minimize removal of riparian (streamside) vegetation; such removal should occur sequentially as needed over the length of the project.

6 Mulch areas of disturbed soils and reseed promptly.

7. Implement appropriate erosion and sediment prevention measures to the maximum extent practicable. Inspect devices frequently to ensure that they are effective and in good

8. Leave existing features, such as bridge abutments, retaining walls, and riprap, in place as much as is feasible.

9. Ensure that erosion prevention measures are in place and in adequate condition when leaving work site.

10. Design and install instream structures (e.g., box culverts) in a manner that will not impair passage of Topeka shiners and other fish species after construction is completed.

11. Do not operate motorized vehicles instream. Excavation, culvert placement, etc. should be conducted from streambanks outside of standing or flowing water.

12. Backfill placed in the stream shall consist of rock or granular material free of fines, silts, and mud. Machinery parts (i.e., backhoe buckets, etc.) shall be cleaned of all such material and free of grease, oil, etc. before their instream use.

13. Prevent materials and debris from falling into the water during construction. If materials or debris fall into the water or into riparian areas retrieve them promptly by hand or with equipment working from the banks.

14. If the project is modified, or if field conditions change, the applicant or agency representative should contact U.S. Fish and Wildlife Service before proceeding.

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Environmental Review Fact Sheet Series

Endangered, Threatened, and Special Concern Species of Minnesota

Blanding's Turtle

(*Emydoidea blandingii*)

Minnesota Status:	Threatened	State Rank[1]:	S2
Federal Status:	none	Global Rank[1]:	G4

HABITAT USE

Blanding's turtles need both wetland and upland habitats to complete their life cycle. The types of wetlands used include ponds, marshes, shrub swamps, bogs, and ditches and streams with slow-moving water. In Minnesota, Blanding's turtles are primarily marsh and pond inhabitants. Calm, shallow water bodies (Type 1-3 wetlands) with mud bottoms and abundant aquatic vegetation (e.g., cattails, water lilies) are preferred, and extensive marshes bordering rivers provide excellent habitat. Small temporary wetlands (those that dry up in the late summer or fall) are frequently used in spring and summer -- these fishless pools are amphibian and invertebrate breeding habitat, which provides an important food source for Blanding's turtles. Also, the warmer water of these shallower areas probably aids in the development of eggs within the female turtle. Nesting occurs in open (grassy or brushy) sandy uplands, often some distance from water bodies. Frequently, nesting occurs in traditional nesting grounds on undeveloped land. Blanding's turtles have also been known to nest successfully on residential property (especially in low density housing situations), and to utilize disturbed areas such as farm fields, gardens, under power lines, and road shoulders (especially of dirt roads). Although Blanding's turtles may travel through woodlots during their seasonal movements, shady areas (including forests and lawns with shade trees) are not used for nesting. Wetlands with deeper water are needed in times of drought, and during the winter. Blanding's turtles overwinter in the muddy bottoms of deeper marshes and ponds, or other water bodies where they are protected from freezing.

LIFE HISTORY

Individuals emerge from overwintering and begin basking in late March or early April on warm, sunny days. The increase in body temperature which occurs during basking is necessary for egg development within the female turtle. Nesting in Minnesota typically occurs during June, and females are most active in late afternoon and at dusk. Nesting can occur as much as a mile from wetlands. The nest is dug by the female in an open sandy area and 6-15 eggs are laid. The female turtle returns to the marsh within 24 hours of laying eggs. After a development period of approximately two months, hatchlings leave the nest from mid-August through early-October. Nesting females and hatchlings are often at risk of being killed while crossing roads between wetlands and nesting areas. In addition to movements associated with nesting, all ages and both sexes move between wetlands from April through November. These movements peak in June and July and again in September and October as turtles move to and from overwintering sites. In late autumn (typically November), Blanding′s turtles bury themselves in the substrate (the mud at the bottom) of deeper wetlands to overwinter.

IMPACTS / THREATS / CAUSES OF DECLINE

- loss of wetland habitat through drainage or flooding (converting wetlands into ponds or lakes)
- loss of upland habitat through development or conversion to agriculture
- human disturbance, including collection for the pet trade* and road kills during seasonal movements
- increase in predator populations (skunks, raccoons, etc.) which prey on nests and young

*It is illegal to possess this threatened species.

RECOMMENDATIONS FOR AVOIDING AND MINIMIZING IMPACTS

These recommendations apply to typical construction projects and general land use within Blanding's turtle habitat, and are provided to help local governments, developers, contractors, and homeowners minimize or avoid detrimental impacts to Blanding's turtle populations. **List 1** describes minimum measures which we recommend to prevent harm to Blanding's turtles during construction or other work within Blanding's turtle habitat. **List 2** contains recommendations which offer even greater protection for Blanding's turtles populations; this list should be used *in addition to the first list* in areas which are known to be of state-wide importance to Blanding's turtles (contact the DNR's Natural Heritage and Nongame Research Program if you wish to determine if your project or home is in one of these areas), or in any other area where greater protection for Blanding's turtles is desired.

List 1. Recommendations for all areas inhabited by Blanding's turtles.	**List 2. *Additional* recommendations for areas known to be of state-wide importance to Blanding's turtles.**
GENERAL	
A flyer with an illustration of a Blanding's turtle should be given to all contractors working in the area. Homeowners should also be informed of the presence of Blanding's turtles in the area.	Turtle crossing signs can be installed adjacent to road-crossing areas used by Blanding's turtles to increase public awareness and reduce road kills.
Turtles which are in imminent danger should be moved, by hand, out of harms way. Turtles which are not in imminent danger should be left undisturbed.	Workers in the area should be aware that Blanding's turtles nest in June, generally after 4pm, and should be advised to minimize disturbance if turtles are seen.
If a Blanding's turtle nests in your yard, do not disturb the nest.	If you would like to provide more protection for a Blanding's turtle nest on your property, see "Protecting Blanding's Turtle Nests" on page 3 of this fact sheet.
Silt fencing should be set up to keep turtles out of construction areas. It is critical that silt fencing be removed after the area has been revegetated.	Construction in potential nesting areas should be limited to the period between September 15 and June 1 (this is the time when activity of adults and hatchlings in upland areas is at a minimum).
WETLANDS	
Small, vegetated temporary wetlands (Types 2 & 3) should not be dredged, deepened, filled, or converted to storm water retention basins (these wetlands provide important habitat during spring and summer).	Shallow portions of wetlands should not be disturbed during prime basking time (mid morning to mid- afternoon in May and June). A wide buffer should be left along the shore to minimize human activity near wetlands (basking Blanding's turtles are more easily disturbed than other turtle species).
Wetlands should be protected from pollution; use of fertilizers and pesticides should be avoided, and run-off from lawns and streets should be controlled. Erosion should be prevented to keep sediment from reaching wetlands and lakes.	Wetlands should be protected from road, lawn, and other chemical run-off by a vegetated buffer strip at least 50' wide. This area should be left unmowed and in a natural condition.
ROADS	
Roads should be kept to minimum standards on widths and lanes (this reduces road kills by slowing traffic and reducing the distance turtles need to cross).	Tunnels should be considered in areas with concentrations of turtle crossings (more than 10 turtles per year per 100 meters of road), and in areas of lower density if the level of road use would make a safe crossing impossible for turtles. Contact your DNR Regional Nongame Specialist for further information on wildlife tunnels.
Roads should be ditched, not curbed or below grade. If curbs must be used, 4 inch high curbs at a 3:1 slope are preferred (Blanding's turtles have great difficulty climbing traditional curbs; curbs and below grade roads trap turtles on the road and can cause road kills).	Roads should be ditched, not curbed or below grade.

ROADS cont.	
Culverts between wetland areas, or between wetland areas and nesting areas, should be 36 inches or greater in diameter, and elliptical or flat-bottomed.	Road placement should avoid separating wetlands from adjacent upland nesting sites, or these roads should be fenced to prevent turtles from attempting to cross them (contact your DNR Nongame Specialist for details).
Wetland crossings should be bridged, or include raised roadways with culverts which are 36 in or greater in diameter and flat-bottomed or elliptical (raised roadways discourage turtles from leaving the wetland to bask on roads).	Road placement should avoid bisecting wetlands, or these roads should be fenced to prevent turtles from attempting to cross them (contact your DNR Nongame Specialist for details). This is especially important for roads with more than 2 lanes.
Culverts under roads crossing streams should be oversized (at least twice as wide as the normal width of open water) and flat-bottomed or elliptical.	Roads crossing streams should be bridged.
UTILITIES	
Utility access and maintenance roads should be kept to a minimum (this reduces road-kill potential).	
Because trenches can trap turtles, trenches should be checked for turtles prior to being backfilled and the sites should be returned to original grade.	
LANDSCAPING AND VEGETATION MANAGEMENT	
Terrain should be left with as much natural contour as possible.	As much natural landscape as possible should be preserved (installation of sod or wood chips, paving, and planting of trees within nesting habitat can make that habitat unusable to nesting Blanding's turtles).
Graded areas should be revegetated with native grasses and forbs (some non-natives form dense patches through which it is difficult for turtles to travel).	Open space should include some areas at higher elevations for nesting. These areas should be retained in native vegetation, and should be connected to wetlands by a wide corridor of native vegetation.
Vegetation management in infrequently mowed areas -- such as in ditches, along utility access roads, and under power lines -- should be done mechanically (chemicals should not be used). Work should occur fall through spring (after October 1st and before June 1st).	Ditches and utility access roads should not be mowed or managed through use of chemicals. If vegetation management is required, it should be done mechanically, as infrequently as possible, and fall through spring (mowing can kill turtles present during mowing, and makes it easier for predators to locate turtles crossing roads).

Protecting Blanding's Turtle Nests: Most predation on turtle nests occurs within 48 hours after the eggs are laid. After this time, the scent is gone from the nest and it is more difficult for predators to locate the nest. Nests more than a week old probably do not need additional protection, unless they are in a particularly vulnerable spot, such as a yard where pets may disturb the nest. Turtle nests can be protected from predators and other disturbance by covering them with a piece of wire fencing (such as chicken wire), secured to the ground with stakes or rocks. The piece of fencing should measure at least 2 ft. x 2 ft., and should be of medium sized mesh (openings should be about 2 in. x 2 in.). It is ***very important*** that the fencing be **removed <u>before August 1st</u>** so the young turtles can escape from the nest when they hatch!

REFERENCES

[1]Association for Biodiversity Information. "Heritage Status: Global, National, and Subnational Conservation Status Ranks." NatureServe. Version 1.3 (9 April 2001). http://www.natureserve.org/ranking.htm (15 April 2001).

Coffin, B., and L. Pfannmuller. 1988. Minnesota's Endangered Flora and Fauna. University of Minnesota Press, Minneapolis, 473 pp.

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Moriarty, J. J., and M. Linck. 1994. Suggested guidelines for projects occurring in Blanding's turtle habitat. Unpublished report to the Minnesota DNR. 8 pp.

Oldfield, B., and J. J. Moriarty. 1994. Amphibians and Reptiles Native to Minnesota. University of Minnesota Press, Minneapolis, 237 pp.

Sajwaj, T. D., and J. W. Lang. 2000. Thermal ecology of Blanding′s turtle in central Minnesota. Chelonian Conservation and Biology 3(4):626-636.

CAUTION

BLANDING'S TURTLES

MAY BE ENCOUNTERED IN THIS AREA

The unique and rare Blanding's turtle has been found in this area. Blanding's turtles are state-listed as Threatened and are protected under Minnesota Statute 84.095, Protection of Threatened and Endangered Species. Please be careful of turtles on roads and in construction sites. For additional information on turtles, or to report a Blanding's turtle sighting, contact the DNR Nongame Specialist nearest you: Bemidji (218-308-2641); Grand Rapids (218-327-4518); New Ulm (507-359-6033); Rochester (507-280-5070); or St. Paul (651-259-5764).

DESCRIPTION: The Blanding's turtle is a medium to large turtle (5 to 10 inches) with a black or dark blue, dome-shaped shell with muted yellow spots and bars. The bottom of the shell is hinged across the front third, enabling the turtle to pull the front edge of the lower shell firmly against the top shell to provide additional protection when threatened. The head, legs, and tail are dark brown or blue-gray with small dots of light brown or yellow. A distinctive field mark is the bright yellow chin and neck.

BLANDING'S TURTLES DO NOT MAKE GOOD PETS
IT IS ILLEGAL TO KEEP THIS THREATENED SPECIES IN CAPTIVITY

SUMMARY OF RECOMMENDATIONS FOR AVOIDING AND MINIMIZING IMPACTS TO BLANDING'S TURTLE POPULATIONS

(see Blanding's Turtle Fact Sheet for full recommendations)

- This flyer should be given to all contractors working in the area. Homeowners should also be informed of the presence of Blanding's turtles in the area.
- Turtles that are in imminent danger should be moved, by hand, out of harms way. Turtles that are not in imminent danger should be left undisturbed to continue their travel among wetlands and/or nest sites.
- If a Blanding's turtle nests in your yard, do not disturb the nest and do not allow pets near the nest.
- Silt fencing should be set up to keep turtles out of construction areas. It is critical that silt fencing be removed after the area has been revegetated.
- Small, vegetated temporary wetlands should not be dredged, deepened, or filled.
- All wetlands should be protected from pollution; use of fertilizers and pesticides should be avoided, and run-off from lawns and streets should be controlled. Erosion should be prevented to keep sediment from reaching wetlands and lakes.
- Roads should be kept to minimum standards on widths and lanes.
- Roads should be ditched, not curbed or below grade. If curbs must be used, 4" high curbs at a 3:1 slope are preferred.
- Culverts under roads crossing wetland areas, between wetland areas, or between wetland and nesting areas should be at least 36 in. diameter and flat-bottomed or elliptical.
- Culverts under roads crossing streams should be oversized (at least twice as wide as the normal width of open water) and flat-bottomed or elliptical.
- Utility access and maintenance roads should be kept to a minimum.
- Because trenches can trap turtles, trenches should be checked for turtles prior to being backfilled and the sites should be returned to original grade.
- Terrain should be left with as much natural contour as possible.
- Graded areas should be revegetated with native grasses and forbs.
- Vegetation management in infrequently mowed areas -- such as in ditches, along utility access roads, and under power lines -- should be done mechanically (chemicals should not be used). Work should occur fall through spring (after October 1st and before June 1st).