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January 16, 2013

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

**RE: Comments and Recommendations of the Department of Commerce Energy Facility Permitting Staff**  
Docket No. IP-6688/WS-08-973

Dear Dr. Haar:

Attached please find the initial comments and recommendations of the Department of Commerce Energy Facility Permitting staff in the following matter:

Site Permit Application of EcoHarmony West Wind, LLC for a 280 MW Large Wind Energy Facility in Fillmore County, Minnesota

The petition for approval to extend the in-service date and amend the site permit for the now proposed 116 MW EcoHarmony Wind Project Farm was filed on February 2, 2012, by:

Christina K. Brusven  
Fredrikson & Byron, P.A.  
200 South Sixth Street, Suite 4000  
Minneapolis, MN 55402-1425

Energy Facility Permitting staff has prepared: (1) a proposed LWECS amended site permit. EFP staff may submit reply comments, if warranted, and is available to answer any questions the Commission may have.

Sincerely,

/s/ LARRY B. HARTMAN  
DOC EFP Staff

LBH/sm  
Attachment

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## BEFORE THE MINNESOTA PUBLIC UTILITIES COMMISSION

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

DOCKET NO. IP-6688/WS-08-973

EFP Staff: Larry B. Hartman.....651-296-5089

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**In the Matter of** EcoHarmony West Wind, LLC's Site Permit for an up to 280 MW Large Wind Energy Conversion System in Fillmore County, Minnesota

**Issues Addressed:** Department of Commerce, Energy Facility Permitting (EFP) staff's comments and recommendations on EcoHarmony West Wind, LLC's February 2, 2012, petition to amend the Commission issued site permit dated February 3, 2010.

**Documents Attached:**

1. Site Location Map
2. Revised 200 MW Turbine Layout and Associated Facilities
3. Proposed 116 MW Turbine Layout and Associated Facilities
4. Summary of Activities Involving the Permittee, DNR, the Service and DOC EFP in Review of Permit Amendment Request
5. EFP Proposed Amended Site Permit

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## INTRODUCTION AND BACKGROUND

EcoHarmony West Wind, LLC (Harmony Wind) received a site permit from the Public Utilities Commission (Commission) on February 3, 2010, to construct an up to 280 megawatt (MW) large wind energy conversion system (LWECS) in Fillmore County called the EcoHarmony West Wind Project;<sup>1</sup> on February 19, 2010, the Commission issued a Certificate of Need for the Project.<sup>2</sup> The Permittee is a Minnesota limited liability company. On February 2, 2012,

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<sup>1</sup> Public Utilities Commission Order, February 3, 2010, eDockets, Document ID [20102-46737-01](#)

<sup>2</sup> Public Utilities Commission Order, February 19, 2010, eDockets, Document ID [20102-47276-01](#)

Harmony Wind filed a petition to amend the permit to provide an additional two years for the Permittee to obtain a PPA or other enforceable mechanism and to commence construction. Harmony Wind also has reduced the size of the project for which it is requesting the amendment from 280 megawatts to 116 MW as noted in its November 2, 2012, filing, identified as a “*Project Update and Supplemental Information*,”<sup>3</sup> and discussed in these comments.

### ***Project Location***

The proposed EcoHarmony West Wind Project is located in south central Fillmore County, just north of the Iowa border, as shown on the accompanying map (Attachment 1).

The project boundary includes the townships of Harmony, Bristol, York, Carimona, Forestville and Preston, all in Fillmore County. The project boundary encompasses approximately 49,500 acres. These townships are all zoned agricultural. The dominant land use is agricultural (74%), comprised of corn and soybeans. There are also grasslands (13%), used for livestock operations, pasture and hay production; deciduous and evergreen wooded areas (8%) often associated with shelterbelts, woodlots, and drainage ways within the proposed site boundaries. Average farm size in Fillmore County is approximately 280 acres; the county has a population density of around 24 persons per square mile, which is considered low.

The topography within the site is comprised of rolling hills with long low ridges and intermittent drainage ways and minor streams. The site includes a number of broad ridges with elevations approximately 1,350 above mean sea level. Surrounding elevations are lower by as much as 150 to 200 feet. The primary ridge in the area lies in an easterly to westerly direction and is a prominent landscape feature. The project area includes karst, a landform shaped by the slow dissolution of limestone rock.

Within the project site boundary, there are approximately 475 landowners. EcoHarmony has obtained lease and easement option agreements and/or rights to such agreements with 118 different property owners of 327 parcels totaling approximately 24,750 acres of land within the project site boundary.

If necessary, additional wind rights and buffers may need to be obtained to comply with site permit setback requirements. Land and wind rights will need to encompass the proposed wind farm and all associated facilities, including but not limited to wind and buffer easements, wind turbines, access roads, meteorological towers, electrical collection system and electric lines located on or along public road rights-of-way. Additional land rights may need to be acquired for the 8.5-mile long 161 kV transmission line.

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<sup>3</sup>“ *Project Update and Supplemental Information*”, See eDockets, Document ID [201211-80341-01](#) and [201211-80341-02](#) through [201211-80341-09](#)

## ***Amendment Requests***

The EcoHarmony West Wind Project is comprised of three (3) separate, but related, Commission dockets:

- Certificate of Need (CN) for EcoHarmony West Wind Project [Docket # IP-6688/WS-08-961];
- LWECs Site Permit for EcoHarmony West Wind Project [Docket # IP-6688/WS-08-973]; and
- Route Permit for EcoHarmony West Wind, LLC 161 kV Transmission Line and Associated Facilities [Docket # IP-6688/TL-09-601].

Harmony Wind in February 2012 filed two separate amendment requests, one for the CN docket and the other in the LWECs Site Permit docket as described below. No amendment request was filed for the Route Permit docket.

One of the more noticeable features in the site amendment request, as now proposed by Harmony Wind in its November 2, 2013, filing, is the reduction in the size of the project from 280 MW to 116 MW, a reduction of 164 MW. The proposed turbine layout represents the results of Harmony Wind working with the United States Fish and Wildlife Service (USFWS or the Service), the Minnesota Department of Natural Resources (DNR) and DOC EFP staff since February 2012, in order to minimize avian and bat impacts in what is now considered a high-risk site by the Service and DNR. Harmony Wind's proposed scaled down project is comprised of 58 Gamesa 2.0 MW wind turbines, with a greater setback from sensitive natural resources features within the site permit boundary.

The amendment request petitions also noted that EcoHarmony West Wind, LLC (Harmony Wind) is now a wholly owned subsidiary of Gamesa Energy USA, LLC (Gamesa) and that Gamesa is now taking the lead as the project developer. Because EcoHarmony West Wind, LLC, will continue as the project entity, it noted that there is no need to transfer the permit for the project. Gamesa Energy now owns EcoHarmony West Wind, LLC, but the Permittee remains the same."<sup>4</sup>

In closing, the petition states that, "Gamesa Energy is a well-capitalized entity that has the necessary finances and experience to proceed with the EcoHarmony West Wind Project. The Company is already proceeding with efforts to complete interconnection requirements, secure financing, obtain a PPA, complete pre-construction studies and finalize the project design. The project is in a position to have satisfied all pre-construction activities within a two-year timeframe."<sup>5</sup>

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<sup>4</sup> Petition for Permit Amendment, See eDockets, Document ID [20122-70991-01](#)

<sup>5</sup> Ibid, p. 5

## ***Certificate of Need***

Because the EcoHarmony West Wind Project is greater than 50 Megawatts (MW), the Permittee also applied for and obtained a Certificate of Need for the Project from the Commission on February 19, 2010. See eDockets (IP-6688/CN-08-961). On February 2, 2012, Harmony Wind filed in the CN docket (08-961) a petition for Determination that Time Extension is warranted without Further Hearing and Recertification.<sup>6</sup> The Commission considered this matter and issued an Order on March 13, 2012, determining that the change in timing from December 2010 to June 2014 is acceptable without recertification.<sup>7</sup>

On December 27, 2012, Harmony Wind filed a “Notice of Decrease in Project Size” pursuant to Minn. Rule 7849.0400, subp. 2H. This notice states that the size of the Project is being reduced from 280 megawatts to 116 MW and requests that the Commission determine that the change in size is acceptable without recertification.<sup>8</sup> The reasons for this reduction in project size are reviewed in more detail later in this document.

On January 11, 2013, the Department of Commerce, Division of Energy Resources filed comments recommending “the Commission determine that the change is acceptable without recertification.”<sup>9</sup>

## ***LWECS Site Permit***

On February 2, 2012, EcoHarmony West Wind, LLC filed a petition advising the Public Utilities Commission that the Permittee has not obtained a Power Purchase Agreement (PPA) or other enforceable mechanism for the sale of the electricity and has not yet completed the requisite pre-construction studies or began construction.<sup>10</sup> The petition noted, “there is good cause for the Commission to amend the permit to provide an additional two years for the Permittee to obtain a PPA or other enforceable mechanism and to commence construction.”<sup>11</sup>

## ***Route Permit for 161 kV Transmission Line and Associated Facilities***

A Commission order, dated June 9, 2010, issued a route permit for EcoHarmony West Wind, LLC’s 161 kV transmission line between a newly proposed EcoHarmony West substation in Bristol Township and the newly proposed switching station in Harmony Township. The proposed transmission line is approximately 8.5 miles in length. The route permit is valid until June 9, 2014. If the Permittee has not commenced construction or improvement of the route within four years after the date of issuance of the permit, the Commission shall consider

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<sup>6</sup> See eDockets, Document ID [20122-70992-01](#)

<sup>7</sup> See Commission Order, eDockets, Document ID [20123-72552-01](#)

<sup>8</sup> See eDockets, Document ID [201212-82223-01](#)

<sup>9</sup> DOC, Division of Energy Resources, See eDockets, Document ID [20131-82637-01](#)

<sup>10</sup> EcoHarmony West Wind, LLC *Petition for Approval to Extend the In-Service Date and Amend the Site Permit for the up to 280 MW EcoHarmony West Wind Project*, February 02, 2012, eDocket Document ID: [20122-70991-01](#)

<sup>11</sup> *Ibid*, p. 1

suspension of the permit in accordance with Minnesota Rule 7850.4700. The Commission may also amend the permit.<sup>12</sup>

## **REGULATORY PROCESS AND PROCEDURES**

Siting of Large Wind Energy Conversion Systems are governed by Minnesota Statutes, §216F. Minnesota Statutes 216F.03 states:

The legislature declares it to be the policy of the state to site LWECS in an orderly manner compatible with environmental preservation, sustainable development, and the efficient use of resources.

Minnesota Rules, part 7854.1000, subpart 1, directs the Commission to make a final site permit decision based on the record that has been compiled in the matter. Minnesota Rule, part 7854.1000, subpart 3, requires that the Commission determine that:

...the project is compatible with environmental preservation, sustainable development, and the efficient use of resources, and the applicant has complied with this chapter.

Minnesota Rules, part 7854.1300, subpart 2, states that:

The Commission may amend a site permit for an LWECS at any time if the commission has good cause to do so.

There is no required time frame for the Commission to consider the extension request, or revocation once a request is initiated.

### ***Permit Amendment Review Process***

On March 1, 2012, EFP staff provided a “Notice of Comment Period on Proposed Permit Amendment”.<sup>13</sup> Notice was eFiled and sent to persons on the project distribution list. The initial deadline for comments was March 23, 2012.

Written comments were received and eFiled from the Minnesota Department of Natural Resources (DNR)<sup>14</sup> and the United States Fish and Wildlife Service (USFWS or the Service).<sup>15</sup> Both the DNR and the Service identified additional information needs, as did EFP staff.

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<sup>12</sup> Route Permit, See eDockets, Document ID [20106-51408-01](#), p. 8.

<sup>13</sup> See eDockets, Document ID [20123-72098-01](#)

<sup>14</sup> See eDockets, Document ID [20123-73149-01](#)

<sup>15</sup> <sup>15</sup> See eDockets, Document ID [20123-73146-01](#)

Based on these comments and EFP's own review of the project and docket, EFP determined that, unlike other recent permit extension requests, it believed additional information was necessary for analysis of this request. EFP met with DNR, USFWS, and the Permittee regarding various outstanding issues with the project, including previous biological information that was to have been eFiled and changes in expectations since the permit was issued. Issues included eagle surveys and acoustic bat monitoring.

In addition, the Permittee informed EFP that it was considering various project changes, including the project layout, turbines, turbine sizes, and possibly even the project boundary.

EFP staff advised the Permittee and the Commission that it believed Commission consideration of an extension was premature without some updated and new information. EFP staff believed the information was needed to determine whether the LWECS "endangers human health or the environment and the danger cannot be resolved by modification of the permit or LWECS." (Minn. Rule 7854.1300, subp 3. C.). EFP staff also advised the Permittee that it would be recommending that the Commission not consider the amendment request until after the updated and new information was provided and reviewed by the agencies and EFP staff.

Initial additional information requests of the Permittee included:

- Description of the proposed project and corresponding map with the anticipated turbine layout, alternative turbine locations and an explanation of how the layout avoids or minimizes impacts.
- Summary of how natural resource data collected to date fits into USFWS Tiers 1-3 *Land Based Wind Siting Guidelines*, released on March 23, 2012, and provide a range of expected fatalities for tree and cave roosting bats and migratory birds. This information is now required as part of the application and is discussed in the *Application Guidance for Site Permitting of Large Wind Energy Conversion Systems* (DOC 2010).
- Bat monitoring report
- Eagle Monitoring report
- Draft Avian and Bat Protection Plan
- Shadow Flicker Analysis
- Noise Analysis
- Geotechnical Survey Results on the Avoidance of Sinkholes

Harmony Wind submitted a filing with the requested information to the Commission on November 2, 2012. The filing, identified as a "*Project Update and Supplemental Information*,"<sup>16</sup> documents the results of additional environmental studies and project design work undertaken by the Permittee in collaboration with the DNR, the Service and EFP staff. This document provides text, figures (1-8) and exhibits (A-F) in support of its request. Exhibit A is the *Bird and Bat Conservation Strategies* (BBCS) otherwise referred to as the *Avian and Bat Protection Plan*.

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<sup>16</sup>“ *Project Update and Supplemental Information*”, See eDockets, Document ID [201211-80341-01](#) and [201211-80341-02](#) through [201211-80341-09](#)

These documents are reviewed in the following section.

## **EFP STAFF ANALYSIS AND COMMENTS**

Because the Commission found in its permit decision (February 2010), based on information in the record, that the proposed project is compatible with environmental preservation, sustainable development and the efficient use of resources, it would appear that any permit amendment should also meet those same standards. To that end, EFP staff focused its analysis on the following three areas:

- Compliance with existing site permit terms and conditions
- Permit amendments not requested by the applicant, but consistent with more recently issued site permits
- Project changes – compatibility considerations, proposed project changes that would substantially change the findings accompanying the Commission's original permit decision, and potentially change the Commission's determination that the project is compatible with the standards set out in Statute and Rule

### ***Compliance with Existing Site Permit Terms and Conditions***

In recent years and for a variety of reasons, several permitted wind projects have petitioned the Commission for permit amendments to allow additional time to obtain a power purchase agreement (PPA) or other enforceable mechanism and to commence construction. The Commission has granted these petitions in all cases, except one. EFP staff notes that one other site permit amendment request (Pleasant Valley [IP-6828/WS-09-1197] in Mower County) is currently pending.

Harmony Wind's petition seeks to bring it back into compliance with permit conditions 10.2 and 10.3.

**III.K.4 Power Purchase Agreement** (See Attachment 6, Proposed EFP Permit at Section 10.2) In the February 2010 site permit, condition III.K.4 Power Purchase Agreement (now proposed as 10.2) requires Harmony Wind to obtain a PPA or other enforceable mechanism for sale of the electricity generated by the Project within two years of the permit issuance.

Harmony Wind asserts that it has been unable to obtain a PPA or other enforceable mechanism because of delays associated with uncertainty regarding extension of the federal energy production tax credit, coupled with MISO Group 5 studies, and interconnection revisions at MISO. Harmony Wind's interconnection request is MISO Project G746.<sup>17</sup>

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<sup>17</sup> See eDockets, Document Id. [20122-70991-01](#), p. 3

**III.K.2 Failure to Commence Construction** (See Attachment 6, Proposed EFP Permit at Section 10.3)

In the February 2010 site permit, condition III.K.2 (now proposed as 10.3), states that:

If the Permittee has not completed the pre-construction surveys required under this permit and commenced construction of the Project within two years of the issuance of this Permit, the Permittee must advise the Commission of the reason construction has not commenced.

The Permit, at condition III.K.2 (proposed as 10.2), does not authorize construction of the project without a PPA or other enforceable mechanism; it follows that Harmony Wind must find a purchaser for their power before commencing construction or providing for an enforceable mechanism for sale of the electricity generated by the project.

**EFP Staff Analysis:** With regard to permit conditions (III.K.2, III.K.4), now proposed as sections 10.2 and 10.3 in the EFP staff proposed permit, Harmony Wind's situation is similar to others who have requested permit amendments allowing for more time to obtain a PPA and commence construction. Such requests generally cite uncertainly related to federal production tax credits, MISO Group 5 studies and interconnection issues. EFP staff has reviewed Harmony Wind's compliance filings to date and, aside from the items discussed above (10.2 and 10.3), Harmony Wind appears to be current with compliance filing requirements, except for permit condition 5.2, Notice to Local Residents.

Permit Condition III.K.9 (now proposed as 5.2) requires the permittee to provide a copy of the permit within 10 days of permit issuance to the auditor of each county within which the site is located, as well as representatives of each city and township within which the project is located and to provide a copy of the permit to each affected landowner within the site within 30 days of permit issuance. No documentation has been filed indicating that the permit when issued in February 2010 was distributed to land owners or local units of government.

In the event that Harmony Wind has not complied with permit condition 5.2, the record should reflect that this permit condition has not been satisfied. If Harmony Wind is not in compliance with permit condition 5.2, EFP staff sees no value, and the potential for confusion, in sending a permit that is essentially invalid to potentially affected governments and landowners. Should the Commission choose to amend the permit and re-issue a site permit, Harmony Wind is obligated to satisfy this requirement by mailing a copy of the amended permit to local units of governments, affected landowners, and e-filing documentation demonstrating compliance with permit condition 5.2. Should the Commission deny the request for permit amendment, the question of notice becomes moot.

### ***Consistency with Recently Issued Site Permits***

Since issuance of a site permit in February 2010 to Harmony Wind, the Commission has made numerous changes to LWECS site permits. Most of these changes have been implemented by modifying the following LWECS site permit conditions and requirements:

- 4.7 [Native Prairie]
- 5.6 [Pre-Construction Meeting]
- 5.7 [Pre-Operation Meeting]
- 6.1 [Biological and Natural Resource Inventories]
- 6.2 [Shadow Flicker]
- 6.6 [Noise Study]
- 6.7 [Avian and Bat Protection]
- 6.8 [Project Energy Production]
- 6.9 [Wind Resource Use]
- 8.4 [Notification to the Commission]
- Attachment 2 [Complaint Handling Procedures for Large Wind Energy Conversion Systems]
- Miscellaneous changes for consistency purposes

The EFP staff proposed amended site permit incorporates permit language consistent with recently issued site permits for the above noted conditions and requirements. Rather than restating all of the language changes incorporated into the EFP proposed amended site permit and supporting reasons, readers are directed to the recent EFP staff briefing paper in the Paynesville Wind docket (IP-6830/WS-09-49).<sup>18</sup>

In addition, the permit numbering system has changed since the Harmony Wind permit was issued. The February 2010 permit used an older numbering system (III.A.1, etc.). That permit numbering system has been replaced by an ordinal numbering system, with subsets, e.g., 4. [Setbacks], 4.1 [Site Layout Restrictions], followed by 4.2., etc.

Other minor permit modifications include a universal change throughout the permit modifying the number of days for submittal of pre-construction and pre-operation compliance filings from 10 working days to 14 calendar days, unless otherwise noted, and clarifying what is meant by the term “filing.”

Rather than providing the Commission with what would be a very cluttered and confusing amended site permit with strikeout and deletions illustrated, EFP has provided a clean copy of the EFP proposed amended site permit. (See Attachment 5)

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<sup>18</sup> See eDockets, Document ID [201211-80592-01](#), [201211-80341-09](#)

The Harmony Wind site permit also contained four special conditions in section III.M:

1. Setbacks from Residences (now section 4.2)
2. Noise Study (now section 6.6)
3. Shadow Flicker (now section 6.2)
4. Geotechnical Investigation

The first three of these special permit conditions are now standard conditions in the LWECS site permits and have been included in the EFP proposed amended site permit in the sections noted. The fourth condition, Geotechnical Investigation, is retained as a special condition.

### **Geotechnical Investigation**

Because of the wide spread presence of karst topography in southeastern Minnesota, and in particular, Fillmore County, a special condition was placed in the site permit requiring a geotechnical investigation to avoid placing turbines and their foundations in areas where karst may be present. The site permit condition requirement for III.M.4., Geotechnical Investigation, has been incorporated into the reformatted EFP proposed site permit as a special condition at 13.1 and reads as follows:

#### **13.1. GEOTECHNICAL INVESTIGATION**

In order to minimize and avoid project impacts on karst within the project area the Permittee shall perform a geotechnical investigation at each of the wind turbine sites which will consist of a minimum of three phases that shall include, but not be limited to: (1) a geophysical investigation (electrical resistivity) to explore for voids in the bedrock; (2) followed by soil/bedrock borings to check the results of the electrical resistivity survey; (3) followed by a series of electric cone penetrometer (CPT) soundings if the potential for loose zones in the soil overburdens are suspected.

The evaluation process will be designed to eliminate the selection of potential turbine sites that may be susceptible to sinkhole formation. In addition to the site evaluation, a system to monitor potential ground subsidence at turbine sites shall be incorporated into project construction plans.

The results of the geotechnical investigation shall be submitted to the Commission ~~24~~ 30 days prior to any pre-construction meeting.

**EFP Staff Analysis:** During the permit amendment request review process, karst impacts were discussed at meetings between the agencies (DNR, the Service and EFP) and representative of Gamesa and in correspondence from the DNR to Gamesa and EFP on March 23, June 20, July 19 and October 24, 2012. Harmony Wind has tried to maintain a setback of approximately 300 feet from known karst areas within the project site.

Gamesa retained the services of a geotechnical consulting firm, American Engineering Testing (AET), to provide a comprehensive, detailed geotechnical investigation of karst in order to adequately address foundation design issues for the wind turbines. On June 27, 2012, AET presented to Gamesa a *Work Plan for Geotechnical Investigation*, which includes the following:

At each of the wind turbine sites, the geotechnical investigation will consist of three phases – (1) a geophysical investigation (electrical resistivity) to explore for voids in the bedrock; (2) followed by soil/bedrock borings to check the results of the electrical resistivity survey; (3) followed by a series of electric cone penetrometer (CPT) soundings if the potential for loose zones in the soil overburden are suspected.<sup>19</sup>

It is the understanding of EFP staff, from review of the work plan, that if a turbine site does not pass the first test (geophysical investigation for low resistivity zones within the limestone formation), the site will be eliminated from further consideration and an alternative turbine location site will be considered. The possibility of voids in the rock formation is one of the reasons alternative turbine sites have been proposed.

It is also in Permittee's best interest to avoid the placement of turbines in areas where sinkholes are likely to occur. As EcoHarmony stated in its application at page 45:

The evaluation process will eliminate the selection of potential turbine sites that may be susceptible to sinkhole formation. In addition to the site evaluation, a system to monitor potential ground subsidence at turbine sites will be incorporated into project construction.

The geotechnical investigation is required to be filed as a compliance document prior to the start of construction. EFP is requesting that the lead time for submittal and review of this document be increased from 21 to 30 days, in order to provide adequate time for review of the geotechnical investigation.

### ***Project Changes – Compatibility Considerations***

EFP staff also evaluated project changes that could substantially change the findings accompanying the Commission's original permit decision, and potentially change the Commission's determination that the project is compatible with the standards set out in Statute and Rule.

EFP staff has been coordinating with Gamesa staff, the DNR and USFWS in evaluating the permit amendment request prior to presenting it to the Commission for consideration. Attachment 2, extracted from Exhibit A -- *Bird and Bat Conservation Strategy*, provides a

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<sup>19</sup> See eDockets, Document ID [201212-81857-01](#)

consultation timeline beginning with the Permittee's petition for a permit amendment in February 2012 through October 2012.<sup>20</sup> In addition to the items detailed in Attachment 2, three meetings were also held (April 3, 2012, May 30, 2012, and October 12, 2012): the first to discuss data needs as identified by DNR, the Service and EFP staff, the second with representatives of Gamesa, DNR, the Service and EFP to review information gathered and the third to review the modified turbine layout.

The consultation and review process highlighted in Attachment 4 resulted in Harmony Wind submitting a filing with the Commission on November 2, 2012. The filing, identified as a "*Project Update and Supplemental Information*,"<sup>21</sup> documents the results of additional environmental studies and project design work undertaken by the Permittee in collaboration with the DNR, the Service and EFP staff. According to Harmony Wind, "The goal ... has been to bring the environmental due diligence and project design up to current industry best practices and to propose a project layout which minimizes impacts to the host community environment while making efficient use of the area's strong wind and transmission resources."<sup>22</sup>

Since Gamesa (Harmony Wind) acquired the EcoHarmony West Wind Project, significant modifications have been made to the project, its design and layout, both before and subsequent to submittal of the permit amendment request. The project modifications and changes include a reduction in the number of turbines being proposed, reduction in the megawatt capacity of the project, and incorporation of larger buffers and setbacks from natural resource features of concern, including karst features, resulting in a smaller proposed project and footprint on landscape.

**2010 Permitted Project:** The February 3, 2010, site permit authorized construction of up to 280 MW's nameplate capacity. The project, as then proposed, was to consist of anywhere between 93 to 187 wind turbine generators, depending on model selected, and ranging in size from 1.5 to 3.0 MW representing up to a combined nameplate capacity of approximately 280 MW.<sup>23</sup>

**Current Project:** As a result of Gamesa's acquisition of the project, Harmony Wind now plans to use the Gamesa 2.0 MW G97-90T wind turbine on this project site. The G97-90T turbine has a 97 meter (318 foot) rotor diameter and sits atop towers 90 meters (295 feet) in height. This turbine tower is taller and the rotor diameter larger than a GE 1.5 MW turbine. In addition, the project has been reduced in size to 116 MW with 58 planned turbine locations to address natural resource concerns.

EFP staff evaluation of project changes and compatibility considerations associated with Harmony Wind's permit amendment request covers five issues:

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<sup>20</sup> See eDockets, Document ID [201211-80341-09](#), pp. 5-9

<sup>21</sup> "*Project Update and Supplemental Information*", See eDockets, Document ID [201211-80341-01](#) and [201211-80341-02](#) through [201211-80341-09](#)

<sup>22</sup> Ibid., Cover letter, dated November 2, 2012.

<sup>23</sup> LWCS Site Permit, See eDockets, Document ID [20102-46737-01](#), p. 1.

- Studies and Surveys in Support of Amendment
- Project Design and Layout
- Turbine Noise and Shadow Flicker
- Avian and Bat Impacts
- Avian and Bat Protection Plan

### **Studies and Surveys in Support of Amendment**

After acquiring the project, Harmony Wind initiated a reevaluation of all prior environmental studies and permits, updated existing environmental studies with current field data, consulted with key agencies and utilized new agency guidance documents published since the Site Permit was first issued. These guidance documents include the Service's Draft Eagle Conservation Plan Guidance (January 2011) and Land-Based Wind Energy Guidelines (March 2012) and the DNR Guidance for Commercial Wind Energy Projects (October 2011) and Draft Protocols for Post-Construction Monitoring (August 2011).

Harmony Wind also initiated three additional surveys to better inform site layout decisions, which included bald eagles, bats and loggerhead shrike. Survey results reported are as follows:

#### Bald Eagles

Ground-based and aerial bald eagle surveys documented bald eagle activity within the project area and identified bald eagle nests within a 10-mile radius of the project boundary (the 2012 Spring Eagle Survey). The eagle surveys were conducted from late February 2012 through April 2012. Results of the 2012 Spring Survey Report are included in the "Eagle Survey Report" dated May 12, 2012.<sup>24</sup> The 2012 Spring Survey Report confirmed the locations of one bald eagle nest within the project boundary and four nests within two miles of the project boundary. The Project Update and Supplemental Information in Figure 3 (includes 7 map sheets) depicts the locations of the documented bald eagle nests and other environmental constraints within and near the project area.<sup>25</sup>

Bald eagle point counts were initiated in July 2012 and will continue through July 2013. The survey methodology employed is consistent with the Service's guidance and will be used in future collision risk modeling analysis. Harmony Wind and the Service agree that additional study results are needed before adequate assessments of risk to eagles can be determined. An interim report summarizing eagle observations to date is also available.<sup>26</sup>

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<sup>24</sup> Eagle Survey Report, See eDockets [20127-76555-01](#) (Part 1), [20127-76555-02](#) (Part 2), [20127-76555-03](#) (Part 3), [20127-76555-04](#) (Part 4), [20127-76555-05](#) (Part 5), and [20127-76555-06](#) (Part 6)

<sup>25</sup> See eDockets, Document ID [201211-80341-03](#), [201211-80341-04](#), and [201211-80341-05](#)

<sup>26</sup> See eDockets, Document ID [201211-80341-09](#), Appendix E

### Bats

Harmony Wind completed analysis of the bat data collected in 2009 and produced the “Acoustic Bat Data Analysis” dated April 2012.<sup>27</sup> The 2009 bat survey data identified all seven species of bats known to live in Minnesota as being present on the site. The 2009 pre-construction acoustic survey results indicated relatively high bat use areas within the site, especially during the fall migration season. Based on this information, Harmony Wind worked with DNR to identify known and potential bat hibernaculum and roosting area locations within and near the project to establish setbacks from woodlots and other bat habitat features. The revised project layout avoids forested areas. See eDockets, Document ID [201211-80341-03](#), Sheets 3-6.

The pre-construction acoustic surveys indicated that the greatest incidence of observed bat passes per monitoring night were associated with wooded riparian areas and northwestern areas of the project closer to resource features for bats beyond the northwestern boundary of the project. Most bat calls were recorded below the rotor swept zone. Appendix F to Exhibit A summarizes bat use activity with respect to the revised turbine layout.<sup>28</sup> Harmony Wind noted that analysis of the results of the pre-construction acoustic survey with respect to the final project layout indicates that bat mortality at the project is likely to be similar to bat mortality rates observed at other wind energy facilities in the Midwest.

### Loggerhead Shrike

Potential loggerhead shrike habitat was assessed by comparing aerial photography with known loggerhead shrike habitat features, including grasslands, shrubs, barbed-wire fence lines and perching features. Harmony Wind consulted with DNR to determine the location of potential loggerhead shrike; DNR provided input on basic habitat characteristics. Field surveys were conducted to verify if identified habitat was suitable for loggerhead shrike. Harmony Wind committed to avoiding placing turbines in grassland areas with potential loggerhead shrike habitat and to setting back from grassland areas to the extent possible. The result of the field verification and habitat avoidance measures are reviewed in the “Bird and Bat Conservation Strategy.”<sup>29</sup>

In an effort to complete micro-siting of the turbines and bring the project to a construction ready status, Harmony Wind plans to undertake the following additional studies:

- Eagle activity surveys twice per month through July 13, 2013 (in accordance with USFWS Guidance);
- Wetland delineation of the project impact area;
- Refresh the NHIS database review for endangered and threatened species;
- Phase I cultural resource assessment;

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<sup>27</sup> See eDockets, Document ID [20127-76559-01](#)

<sup>28</sup> See eDockets, Document ID [201211-80341-09](#), Appendix F

<sup>29</sup> See eDockets, Document ID [201211-80341-09](#)

- Geotechnical studies;
- Refresh microwave beam path/telecommunication facility locations; and
- Other study and permit requirements as listed in the original project Site Permit.\*

\*EFP staff notes that this would include any requirements included in an amended site permit not included in the original permit.

The results of these studies would be filed with the Commission as pre-construction filing requirements.

### **Project Design and Layout**

Harmony Wind also began a detailed effort to develop a turbine layout utilizing Gamesa turbines within the project site, with a goal of striking a balance between minimizing project impacts upon the surrounding environment while making efficient use of the wind resource. In finalizing its turbine layout, Harmony Wind considered agency consultations and the results of previous environmental studies that included:

- Baseline avian point count surveys conducted from June 2008 to May 2009
- Acoustic bat activity monitoring from June to September 2009
- General habitat/land cover analysis
- A wetland delineation for the proposed 8.5 mile 161 kV HVTL

The 116 MW, 58 turbine layout submitted on November 2, 2012, was the culmination of numerous discussions and alternate proposals.

In June 2012, Harmony Wind developed a proposed 100 turbine layout for a nameplate capacity of 200MW in response to initial agency concerns about bald eagles and karst locations as potential bat habitat. This represents an 80 MW reduction in project size and incorporated a 1.5-mile buffer setback from known bald eagle nest locations and a 100-foot setback from mapped karst locations. See Attachment 2.

In its July 19, 2012, comments, DNR estimated that the risk to bird and bat species from the project would be high and noted 41 particular turbines of concern. These included turbines in proximity to bat habitat features present in nearby Forestville State Park northwest of the project areas, turbines near Bloody Run Creek and another intermittent creek in the southwest corner of the project area and 27 turbine locations as being “in close proximity” to identified sinkholes.<sup>30</sup>

In October 2012, Harmony Wind provided another turbine layout to USFWS, DNR and EFP. A copy of this layout is provided. This site layout attempted to respond to feedback from the agencies and incorporated a number of setbacks from wildlife habitat features, including:

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<sup>30</sup> See eDockets, Document ID [201211-80341-01](#), p.7

- 2 miles from bald eagle nests
- 500 feet from forested areas within the project boundary presumed to be suitable for summer and migratory bat habitat
- 500 feet from presumed loggerhead shrike habitat
- Approximately 3 miles from Goliath Cave
- Approximately 5 miles from Mystery Cave
- 300 feet from mapped karst features

This layout also included other necessary setbacks based on site permit requirements and/ or other factors as described in the “*Project Update and Supplemental Information*,” Exhibit E.<sup>31</sup>

The October 2012 turbine site layout identified and included 59 potential sites. Harmony Wind, in its November 2, 2012, filing, in Exhibit C, provided a “Summary of Turbine Changes Made in Response to July 19 DNR Letter.” This table documents that each of the 41 turbine locations and areas of concern identified by DNR in its July 19, 2012, letter was either eliminated in the October 2012 turbine site layout or field investigated by Harmony Wind and confirmed by DNR to not be an issue.

In its October 24, 2012, comments on the revised layout, DNR expressed concerns over a cluster of turbines located in the northwest corner of the project near Forestville State Park. DNR stated that it “considers the most northwestern cluster of turbine to have the highest risk of collision and/or barotraumas for bats and birds within the updated project layout. Moving these turbines to alternative locations within the project boundary is recommended.”

Harmony Wind evaluated relocating or eliminating nine turbines in the northwest corner of the project. It determined these nine turbines represented nine of the top 20 highest energy producing turbine in the layout and that the alternative locations suggested by the DNR were below average in energy production. Harmony Wind also determined that these alternative locations had other constraints and was concerned that elimination of all nine turbine locations would leave little future siting flexibility if geotechnical investigations discover unsuitable karst conditions.

Following DNR confirmation that it would continue to recommend post-construction monitoring protocols for a high risk site even if all nine turbines were removed, Harmony Wind agreed to relocated the five turbines closest to the park in an effort to balance DNR concern with other project restraints. The four remaining turbines in this northwest area are all between 1.5 and 1.8 miles from the closest park boundary. Exhibit D summarizes Harmony Wind’s response to the turbine concerns raised by DNR on October 24, 2012.<sup>32</sup> See Attachment 3.

**EFP Staff Analysis:** EFP staff believes that Harmony Wind has demonstrated a willingness to work collaboratively to satisfy different interests and modify the project design and turbine layout to comply with present day permit requirements and expectations.

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<sup>31</sup> See eDockets, Document ID [201211-80341-01](#), Exhibit E, p. 1-3

<sup>32</sup> See eDockets, Document ID [201211-80341-01](#), Exhibit D

EFP staff believes that Harmony Wind has put considerable effort, time, money and other resources into addressing concerns of the Service, DNR and EFP staff to reduce or lessen potential project impacts while preserving the viability of the project. The accommodations made by Harmony Wind to reduce potential project impacts also come with a cost. The resulting smaller project will reduce the positive economic benefits of the project to area landowners, the surrounding community and the production taxes paid to the county and townships hosting turbines.

### **Turbine Noise and Shadow Flicker**

As mentioned earlier, EFP staff requested information on sound modeling and shadow flicker. The Project Update and Supplemental Information, filed on November 2, 2012, did provide some information on turbine noise and shadow flicker.

Harmony Wind used AWS's "OpenWind" software to model the project's compliance with Minnesota's noise standards and provided a sound contour map illustrating the modeled sound level at residences within the project footprint. Based on the sound modeling results, the expected maximum sound level at residences within the project area will be 48.6 decibels (dB), which is slightly below the Minnesota Pollution Agency Nighttime Noise Standard of 50 dB.<sup>33</sup> Harmony Wind has indicated that sound modeling results will also be verified through a third party study prior to the pre-construction meeting and a post-construction noise study.

Harmony Wind also modeled potential shadow flicker exposure at each residence within the project area and the preliminary results are illustrated in the Project Update and Supplement Information (Figure 8) using a worst-case scenario.<sup>34</sup> The preliminary shadow flicker analysis prepared by Harmony Wind will be refined and verified by an independent third party. That study would be filed as a compliance document prior to a pre-construction meeting.

**EFP Staff Analysis:** Submittal of these filings provides the Commission with a similar level of information about the project as would be available for current projects. However, EFP staff notes that the 48.6 dB maximum is very close to the standard and most applicants strive for maximum modeled sound levels of less than 45 dB. It also is not clear from the information provided if background noise levels have been included in this number or if it represents turbine only noise. The standard applies to total noise.

### **Avian and Bat Impacts**

The Commission's decision to issue a site permit in February 2010 relied on information in both the CN and site permit dockets; however, new information on potential avian and bat impact appears to differ sharply from information that was in the record for this docket at permit issuance.

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<sup>33</sup> See eDockets, Document ID [201211-80341-01](#), p. 10 and Figure 7 at [201211-80341-07](#), p.3

<sup>34</sup> See eDockets, Document ID [201211-80341-01](#), p. 10-11 and Figure 8 at [201211-80341-07](#), p.4

The Environmental Report prepared for the CN docket (08-961) at part 6.13 Wildlife, based on the information available, noted the Project's potential to impact birds and bats as follows:<sup>35</sup>

Impacts on ground animals due to operation of the project would be minimal. However there would be negative impacts to animals that fly, e.g., birds and bats. Birds can collide with spinning turbine blades. Bats can avoid turbine blades, but appear to suffer injury to their respiratory systems when they fly through low pressure wakes near turbine blades.<sup>36</sup>

Studies have been conducted throughout the Midwest in an attempt to quantify bird and bat mortality due to wind turbines. A study of bird mortality rates at a wind farm in Iowa resulted in estimated mortality rates between 0.3 and 0.8 birds/turbine/year.<sup>37</sup> This estimate is similar to results from studies in other states where mortality rates ranged between < 1 to 2.83 birds/turbine/year.<sup>38</sup> Studies conducted in the Buffalo Ridge region of southwestern Minnesota resulted in estimated bird mortality rates between 1.0 and 4.5 birds/turbine/year.<sup>39</sup> Nocturnal migrants suffered relatively more mortalities; local grassland species suffered relatively less. The studies noted that birds tend to avoid turbine towers, but utilized the surrounding habitat. Overall, studies of bird mortalities near wind farms indicate that mortality will occur but in such numbers as to be insignificant from population standpoint.

Bats typically utilize forests, riparian corridors, and wetlands as feeding habitat due to higher nocturnal insect densities in these areas. The Iowa wind farm study estimated bat mortality rates between 6 and 9 bats/turbine/year.<sup>40</sup> The Buffalo Ridge studies estimated bat mortality rates between 0.25 and 2.0 bats/turbine/year.<sup>41</sup> Relatively less information is available about local bat populations within Minnesota. Thus, the population impact of bat mortalities due to wind farms is uncertain.

Commission's findings of fact (74-79)<sup>42</sup> on LWECS site permit issuance also addressed the then known potential for the project to impact birds and bats, and citing the Buffalo Ridge studies, noted in Finding 75 that "Avian mortality appears to be low on Buffalo Ridge, compared to other wind facilities in the United States" and "With proper planning neither construction nor

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<sup>35</sup> Environmental Report, EcoHarmony West Wind Project, See eDockets, Document ID [200911-43822-08](#) or [200910-42823-01](#)

<sup>36</sup> Extreme Pressure Changes near Blades Injures Bat Lungs, <http://www.ucalgary.ca/news/aug2008/batdeaths>.

<sup>37</sup> Bird and Bat Behavior and Mortality at a Northern Iowa Windfarm, Jain, 2005  
[http://www.batsandwind.org/pdf/Jain\\_2005.pdf](http://www.batsandwind.org/pdf/Jain_2005.pdf).

<sup>38</sup> Id.

<sup>39</sup> Avian Monitoring Studies at the Buffalo Ridge, Minnesota Wind Resource Area: Results of a 4-Year Study, <http://energyfacilities.puc.state.mn.us/documents/AvianMonitoringBuffaloRidge.pdf>.

<sup>40</sup> Bird and Bat Behavior and Mortality at a Northern Iowa Windfarm, Jain, 2005  
[http://www.batsandwind.org/pdf/Jain\\_2005.pdf](http://www.batsandwind.org/pdf/Jain_2005.pdf).

<sup>41</sup> Avian Monitoring Studies at the Buffalo Ridge, Minnesota Wind Resource Area: Results of a 4-Year Study, <http://energyfacilities.puc.state.mn.us/documents/AvianMonitoringBuffaloRidge.pdf>.

<sup>42</sup> Commission Order (Findings of Fact p. 17-19), See eDockets, Document ID [20102-46737-01](#)

operation of the Project is expected to have a significant impact on wildlife." Possible impacts to eagles were noted and were to have been further addressed by the applicant (pg. 13, Commission Order).

The EcoHarmony January 26, 2009, LWECS site permit application, on page 51, states that impacts at birds and bats are expected to be minimal, but that potential impacts would be assessed following analysis of the year-long bird survey currently underway.

Regarding impacts to birds and bats, upon completion of a desktop avian and bat screening analysis and the year-long bird survey currently underway, an assessment of potential impacts to birds and bat can be determined for this project location. Based on similar studies that have been conducted in Minnesota and Iowa, results indicate that when properly located, bird and bat fatalities are minimal and do not significantly impact the overall population of these species.

The location of the proposed wind energy facility was selected due to the favorable wind resource in this area and the open landscape that maximizes free flow of the wind. As a result of this landscape and the agricultural land use practices, there is a lack of habitat that would typically attract large numbers of birds and bats. Also, the wind turbine and associated infrastructure layout will be designed to avoid the wetland and woodland habitat that has the highest likelihood of attracting birds and bats. Based on these considerations, impacts to these species are expected to be minimal, and thus, pending study results that indicate otherwise, mitigative measures are expected to be unnecessary.

This expectation of minimal impact or low risk was also reflected in the *Bird Screening Analysis and Pre-Construction Bird Survey* for the EcoHarmony West Wind Energy Project, completed in January 2010. Page 1 notes that "Based on wildlife assessment and project siting guidelines for wind energy projects, the Project is considered to be in an area with comparatively low risk to birds." Page 12 concludes that "Overall, the results of the screening analysis and pre-construction bird surveys conducted for the EcoHarmony West Wind Energy Project suggest that the risk to birds is low overall." Analysis of bat data was not included in the report.

However, information compiled during the permit amendment review process supports classification of the project as high risk for bird and bat impacts, rather than a low risk. Factors contributing to this change include improved approaches to assessing risks (e.g., USFWS Land-Based Wind Energy Guidelines, March 2012, and DNR Draft Protocol for Post-Construction Monitoring, August 2011), more detailed natural resource information and increased concern for impacts to bats.

Both DNR and the Service have concluded that the site should be considered a high risk site, and Harmony Wind appears to acknowledge this change in risk level in its "*Bird and Bat Conservation Strategies*" (BBCS)<sup>43</sup>. The strategy notes possible bird fatalities up to 11.83 birds/turbine/year (pg. 31) and up to 40.5 bats/turbine/year (pg.34) and trigger levels for possible mitigation measures at 8.6 birds and 38.7 bats per turbine per year (pg. 47).

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<sup>43</sup> Bird and Bat Conservation Strategies, See eDockets, Document ID [201211-80341-09](#)

**EFP Staff Analysis:** EFP staff believes that the change in characterization of risk to birds and bats from low to high is significant. Staff also believes that acceptance of the trigger levels for action of 8.6 birds and 38.7 bats per turbine per year would suggest that these are acceptable levels "compatible with environmental preservation, sustainable development and the efficient use of resources." In particular, the bat fatalities are more than four times higher than what has been documented in fatalities studies for the Buffalo Ridge and Top of Iowa wind resource areas and what has been used as a bench mark for previous permit decisions.

### **Avian and Bat Protection Plan**

When the Commission issued a site permit for the EcoHarmony Project in February 2010, avian and bat protection plans were not a site permit condition or a requirement. Since February 2010, the requirements for avian and bat protection plans have evolved and are now a standard requirement, as proposed in the EFP staff proposed amended site permit.

## **6.7 AVIAN AND BAT PROTECTION**

### **6.7.1 AVIAN AND BAT PROTECTION PLAN**

The Permittee shall, in consultation with the Commission and DNR, prepare an Avian and Bat Protection Plan and file it at least thirty (30) 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, by March 15 following each complete or partial calendar year of operation, file with the Commission an annual report detailing findings of its of ABPP monitoring. The annual report shall include summarized and raw data of bird and bat fatalities and injuries and shall include bird and bat fatality estimates for the Project using multiple agreed upon estimators from the prior calendar year. The annual report shall also identify any deficiencies or recommended changes in the operation of the Project or in the ABPP to reduce avian and bat fatalities and shall provide a schedule for implementing the corrective or modified actions. The Permittee shall provide notice of the report to DNR and to the U.S. Fish and Wildlife Service at the time of filing with the Commission.

### **6.7.2 QUARTERLY INCIDENT REPORTS**

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

Permittee shall provide notice of the report to DNR and to the U.S. Fish and Wildlife Service at the time of filing with the Commission.

### 6.7.3 IMMEDIATE INCIDENT REPORTS

The Permittee shall notify the Commission, United States Fish and Wildlife Service (USFWS), and DNR within twenty-four (24) hours of the discovery of any of the following within the vicinity of the rotor swept area:

- (a) five or more dead or injured non-protected avian or bat species within a reporting period;
- (b) one or more dead or injured migratory avian or bat species;
- (c) one or more dead or injured state threatened, endangered, or species of special concern;
- (d) one or more dead or injured federally listed species; or
- (e) one or more bald eagles.

Wind energy facilities do have the potential to impact birds and bats through habitat fragmentation, displacement, and fatalities due to collision with or proximity to wind turbine blades. Therefore, over the last two years, the requirements and wording of 6.7 have evolved, as well as the Commission's procedures for incorporating this requirement into the permitting process.

For example, if this were a new project going through the permitting process, a draft Avian and Bat Protection Plan would have been filed prior to the issuance of a draft site permit and both documents would be available for public review and comment. Comments would then lead to either a revised ABPP for the final permit or a recommendation on necessary revisions to be incorporated, allowing the plan to be re-filed as a pre-construction filing compliance document. The process allows the Commission to identify specific monitoring and mitigation plan requirements prior to issuing a permit. This represents the approach recently taken on the Black Oak and Getty dockets and the approach for all new wind dockets.

Because the site permit issued to EcoHarmony did not require an ABPP, EFP staff advised Harmony Wind of the need to develop a Draft ABPP that demonstrated how the results of the pre-construction avian surveys informed micro-siting and steps taken to identify, avoid, minimize and mitigate impacts to avian and bat species during the construction and operation phases of the project. Harmony Wind was also advised of the need to address formal and informal monitoring, training, wildlife handling, documentation (e.g., photographs) and reporting protocols for each phase of the project. EFP also pointed out that it would be necessary to have specifics, such as specific avoidance and mitigation strategies, in the plan based on final survey work and agency review.

Harmony Wind filed a “Bird and Bat Conservation Strategy,” otherwise referred to as an “Avian and Bat Protection Plan” in Commission dockets,<sup>44</sup> as part of its November 2, 2012, filings. A draft document was not available for review and comment prior to this filing. EFP staff requested comments from the USFWS and DNR on the Bird and Bat Conservation Strategy (BBCS). Comments from the two agencies were received on December 14, 2012.<sup>45 46</sup> They are summarized below.

The Bird and Bat Conservation Strategy (BBCS) filed by Harmony Wind is intended to satisfy the requirement of the site permit condition 6.7.1 and identify how the project avoids or reduces potential impacts to birds and bats. The BBCS identified four (4) specific goals:<sup>47</sup>

- Develop measures that, when implemented for the Project, will avoid and reduce potential affects to birds and bats during construction, operation, maintenance, and decommissioning of the Project;
- Develop effective post-construction monitoring and adaptive management procedures to guide management actions for the life of the Project;
- Develop a protocol for consistent, ongoing communication and reporting to the Minnesota Public Utilities Commission (PUC), Minnesota Department of Commerce, Energy Facility Permitting Staff (DOC-EFP), U.S. Fish and Wildlife Service (USFWS) or the Service) and the Minnesota Department of Natural Resources (MDNR); and
- Outline Harmony Wind’s efforts to implement recommendations and best practices contained within the USFWS Land-Based Wind Energy Guidelines (March 23, 2012).

### **USFWS Bird and Bat Conservation Strategy Comments<sup>48</sup>**

#### Project Update and Supplemental Information Document

- The 2-mile eagle nest setback should not be used to exclude turbines without first looking at supplemental eagle data such as foraging areas and daily flight paths. This will inform not only turbine placement, but operational minimization.
- The Service recommends a 2013 spring nest survey (prior to leaf-on) to determine if new nests have been built and more frequent surveys during spring migration to capture the spring migration pulse.

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<sup>44</sup> See eDockets, Document ID [201211-80341-09](#)

<sup>45</sup> Comment Letter from USFWS, See eDockets, Document ID [201212-81904-01](#)

<sup>46</sup> Comment Letter from DNR, See eDockets, Document ID [201212-81867-01](#)

<sup>47</sup> See eDockets, Document ID [201211-80341-09](#)

<sup>48</sup> Comment Letter from USFWS, See eDockets, Document ID [201212-81904-01](#)

### Bird and Bat Conservation Strategy

- The strategy should note that the northern long-eared bat is known to forage over open agricultural land and wetland area in landscapes when wooded riparian habitat is limited (BBCS Section 3.1.1, p.19).
- With regard to migratory bird point count surveys and the percentage of birds that were observed in the rotor swept zone, the Service would like to know how those flights were verified (BBCS Section 3.1.1., p. 21).
- The Service recommends that the eagle nest survey and eagle flight pattern survey data sets be utilized to the greatest extent possible to assist Gamesa in completing Eagle Collision Risk modeling. Continuation of eagle surveys throughout the year will help determine if eagle presence, and thus risk to eagles, changes throughout the year. The Service recommends ongoing analysis of eagle data as it becomes available (BBCS Section 3.3.2., p. 21-22).
- To date, the Service has not seen the raw data from the 2008-2009 eagle surveys, and is unable to know if the data is usable for risk assessment modeling. The Service has worked with many wind farms that collect data through the collision risk model. To date, Gamesa has not asked the Service for assistance analyzing the 2008-2009 data (BBCS Section 5.1.3., p. 32).
- If further studies indicate that turbines are bisecting eagle daily movement patterns, the Service recommends additional consideration of turbine relocation, or if not feasible, operational minimization (BBCS Section 6.1., p. 35).
- If spring 2013 surveys reveal any eagle nests within 660 feet of any proposed construction, the Service may recommend an eagle disturbance permit for this activity, regardless of whether the construction occurs outside of the breeding season (BBCS Section 6.2., p. 36).
- The Service recommends Gamesa develop a carcass maintenance plan and recognizes that more detailed BMP' will be included in the forthcoming Eagle Conservation Plan by Gamesa (BBCS Section 6.3., p. 39).
- The Service recommends that O&M personnel not be tasked with identifying bat and migratory birds. All carcasses should be collected as specified in the BBCS, and identified by a specialist (BBCS Section 7.1.3., p. 41).
- EcoHarmony Wind Project should be considered a high-risk site as mentioned in the BBCS. The Service recommends continued coordination with our office on post-construction monitoring procedures and protocols. At this time utilization of the Minnesota DNR Draft Avian and Bat Survey Protocols (August 2011)\* is appropriate. Following completion of the Eagle Collision Risk modeling the Service

will be able to provide more detailed recommendations on post-construction monitoring protocol and methodology (BBCS Section 7.1.4., p. 42). [\*The August 2011 Protocols have been updated with a October 2012 version and may continue to be updated]

- The Service requests that Gamesa provide a rationale and justification for deeming the 90<sup>th</sup> percentile for annual bird and bat mortality rates at wind energy facilities as an appropriate benchmark for “high mortality.” The projected annual mortality rates of 8.6 birds/turbine/year and 38.7 bats/turbine/year appear to be high trigger points for considering project modification (BBCS Section 7.2., p. 47).
- The Service anticipates this section (Adaptive Management) will be expanded in Gamesa’s forthcoming Eagle Conservation Plan. The Service will likely recommend monitoring for longer than a year (BBCS Section 7.2., p. 48).

### **Department of Natural Resources Bird and Bat Conservation Strategy Comments<sup>49</sup>**

#### Updated Project Layout

- Due to the project location in the vicinity of important bat and avian habitat, the DNR still considers the site to rank as high risk for bird and bat impacts.

#### Bird and Bat Conservation Strategy.

- The strategy should include the number of proposed permanent MET towers (BBCS Section 2.2., p. 15).
- The DNR understood that the project developer agreed to include an analysis of existing point count survey data in the ABPP. This document includes a discussion of point count results, but does not seem to discuss how or if point count data was used in turbine layout designs (BBCS Section 3.3., p. 20-21).
- The DNR is not currently recommending further pre-construction bat surveys. However, when interpreting existing data, it is important to note that surveys were conducted June 3<sup>rd</sup> through September 29<sup>th</sup>, which misses portions of spring and fall migration. The DNR recommends that the strategy define “classifiable bat pass” in the discussion (BBCS Section 3.4., p. 23).
- A discussion of the methods for assessing loggerhead shrike habitat should be included.
- The strategy should include reporting forms, training forms, and discussion of the type of information that will be included in annual reports.

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<sup>49</sup> Comment Letter from DNR, See eDockets, Document ID [201212-81867-01](#)

- The BBCS does not provide a plan for which best management plans (BMPs) would be used in various circumstances. For example, if fatality surveys indicated high mortality, would curtailment of turbine(s) be planned? Curtailment should be included in the ABPP/BBCS and the Site Permit as an option.
- The DNR recommends, as a minimum, use of high risk protocols included in the document DNR Draft Avian and Bat Survey Protocols for Large Wind Energy Conversions Systems in Minnesota dated October 2, 2012.
- The DNR recommends that the ABPP/BBCS and the Site Permit include, as a minimum, with periodic reassessments, the high-risk protocols included in the October 2012 DNR draft protocols.
- More than one modern estimator should be used in interpreting post-construction monitoring data to account for different biases in various estimators.

### **DOC EFP Bird and Bat Conservation Strategy Comments**

EFP staff believes that, in general, the BBCS provides a good description of the project, avian and bat resources within the site, avoidance and minimization measures incorporated into the projects siting and design process and potential impacts to birds and bats from the project. But staff also believes the BBCS would benefit by including more detail about implementation of BBCS/ABPP training requirements, adaptive management, operational mitigation and sample forms.

The EFP agrees with the comments provided by the Service and DNR on the BBCS and, also finds that some parts of the BBCS, including the parts that cover Best Management Practices and Monitoring/Reporting and Adaptive Management Plan, as written, are not clear and do not satisfy the requirement of Section 6.7 as proposed.

**BMPs.** For example, many of the post-construction best management practices relate to decommissioning and retrofitting or re-using project components. But the strategy notes that post-construction monitoring during the first year of project operation will be conducted to assess the effectiveness of these measures.

The construction BMP section acknowledges that training will be integrated into the construction orientation, describes how training materials may be made available and identifies subject areas to be covered by training; however, no specific examples are provided or cited. EFP staff believes specific examples, as required by 6.7.1, would be more helpful, rather than just a list of training topics.

**Monitoring and reporting.** The BBCS notes that the results of the two-year formal monitoring will be provided to the Service and DNR for review and that Harmony Wind will work with those agencies to determine the cause of any high rates of fatalities and develop specific mitigation measures. The Commission's site permit controls the project and either the

Commission or DOC EFP should be included in any review to determine additional requirements or modifications.

In addition, the proposed permit at 6.7 requires on-going monitoring and annual reports/audits for the life of the project, not just for the two-year formal monitoring period. The annual reports, besides reporting on monitoring activities for the preceding year, are to contain recommendations for any ABPP/BBCS plan or operational modifications, training and other requirements associated with the requirements of 6.7 such as wildlife handling, documentation (e.g., photographs), and reporting protocols for each phase of the Project. As a general observation, the BBCS needs to do a better job of integrating all of requirements of Section 6.7 throughout the BBCS.

**Adaptive management trigger.** One of EFP's primary questions associated with this discussion, as also noted in the comments of the Service, is why the high estimated bird (8.6 birds/turbine/year) and bat (38.7 bats/turbine/year) fatality numbers were used for this project. The particularly high number bat fatalities is more than four time higher than what has been documented in fatality studies for the Buffalo Ridge and Top of Iowa wind resource areas. In these two wind resource areas the number of bird fatalities varied from a low of .44 to 4.5 bird fatalities/turbine/year, while bats varied from .25 to 9 fatalities/turbine/year.

For the Harmony Wind project, the estimated fatality number for birds (8.6 birds/turbine/year) is higher than the numbers for Buffalo Ridge and Top of Iowa fatality studies; however, it may not be out of the ordinary range of expected fatalities because the project area is in a different ecological section of the state. However, irrespective of the ecological section, the fatality number used for bats (38.7 bats/turbine/year) is significantly higher than any bat fatality numbers associated with Buffalo Ridge or the Top of Iowa.

Harmony Wind's rationale for using higher outlier numbers in assessing risks rather than the bat fatality numbers from the Buffalo Ridge and Top of Iowa fatality studies is unclear. Additionally, staff is concerned that Harmony Wind appears to be suggesting that bat fatalities of 38.7 bats/turbine/year should be the standard used to determine whether additional operational mitigation strategies will be implemented.

## **EFP STAFF CONCLUSIONS AND RECOMMENDATIONS**

As noted earlier, because the Commission found in its permit decision (February 2010), based on information in the record, that the proposed project is compatible with environmental preservation, sustainable development and the efficient use of resources, it would appear that any permit amendment should also meet those same standards.

With regard to the three focus areas analyzed to determine if the permit amendment is compatible with environmental preservation, sustainable development and the efficient use of resources, EFP concludes the following:

## **Compliance with existing site permit terms and conditions**

EFP concludes that Harmony Wind is in general compliance with the terms and conditions of its permit.

## **Permit amendments not requested by the applicant, but consistent with more recently issued site permits**

EFP concludes that the EFP Proposed Amended Permit would impose conditions on this project similar to those of recently issued permits and that the conditions are appropriate.

EFP recommends, however, that the Commission find that the Bird and Bat Conservation Strategy submitted as part of the November 2, 2012, filings is not acceptable as the Avian and Bat Protection Plan required under permit condition 6.7. If the permit is amended, EFP recommends that the permittee be required to consult with EFP, DNR and the Service to address deficiencies to the November 2, 2012 filing.

**Project changes – compatibility considerations**, proposed project changes that would substantially change the findings accompanying the Commission's original permit decision, and potentially change the Commission's determination that the project is compatible with the standards set out in Statute and Rule.

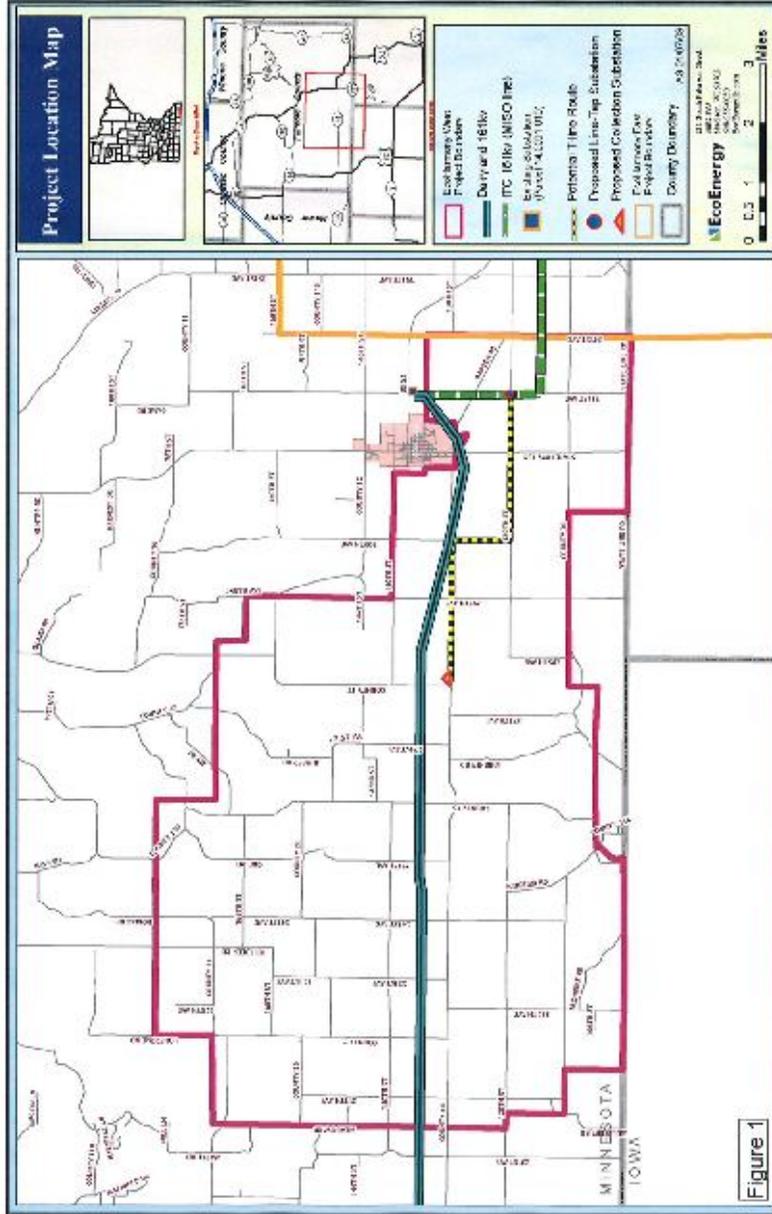
EFP concludes that Harmony Wind has cooperated with EFP, DNR and USFWS in supplying requested information and modifying the project to minimize impacts on birds and bats. The resulting a size reduction from 280 MW to 116 MW remains an efficient use of the wind resource.

EFP also concludes that the potential impacts of the project differ from those anticipated when the Commission issued its original permit decision. The project is now considered a high risk for avian and bat impacts. The permittee appears to suggest that bat fatalities could be four times higher than what had been anticipated. The determination of relative project risks to eagles is ongoing.

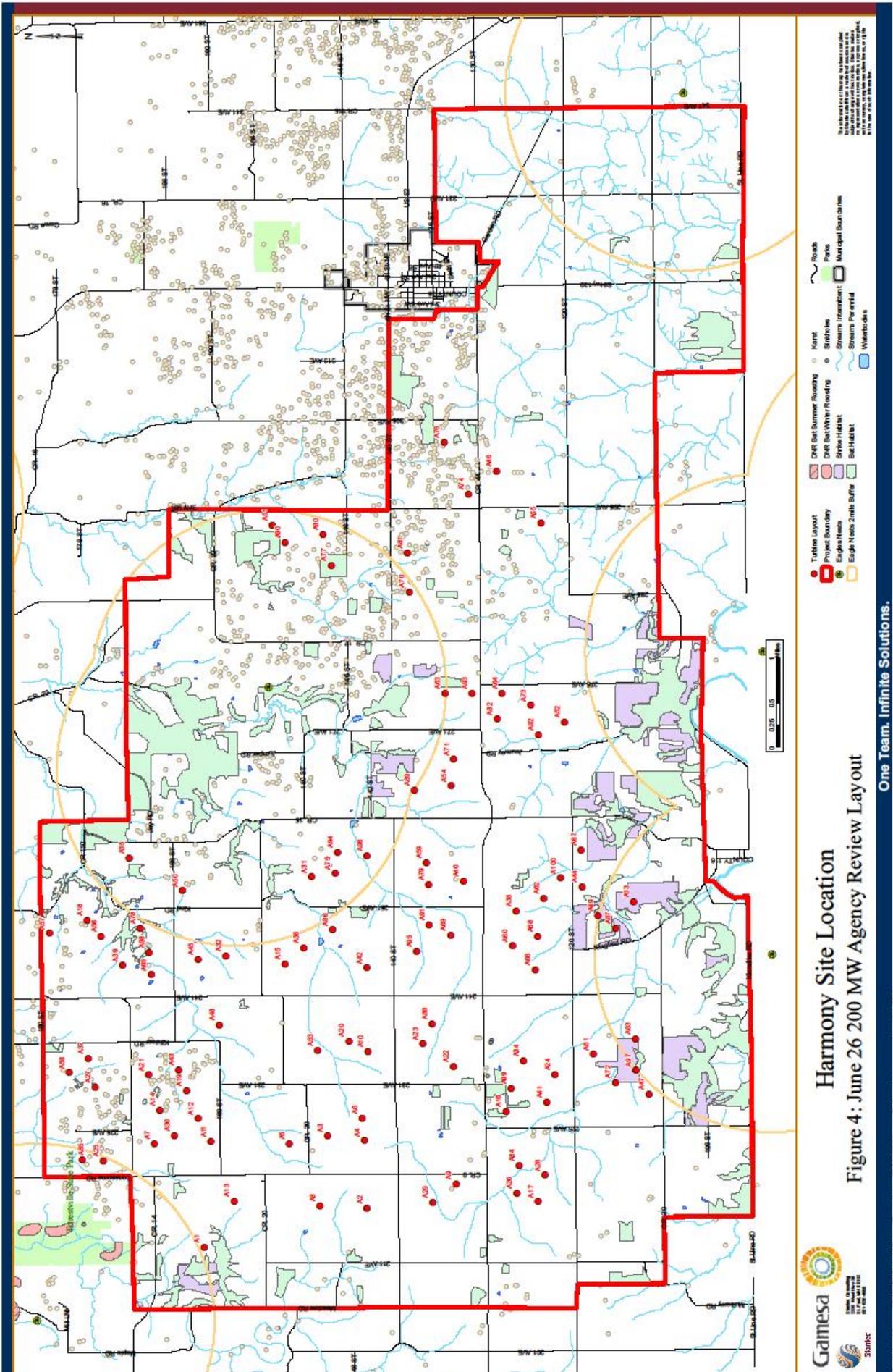
EFP recommends that in weighing these factors the Commission consider the degree to which impacts can be mitigated, both through its authority and that of the USFWS through its Eagle Conservation Plan. That is, whether the LWECS “endangers human health or the environment and the danger cannot be resolved by modification of the permit or LWECS.” (Minn. Rule 7854.1300, subp 3. C.). For example, the Commission permit and ABPP can require operational mitigation techniques to reduce impacts on bats, such as raising turbine cut speeds during the bat migration season.



# ATTACHMENT 1: SITE PERMIT MAP

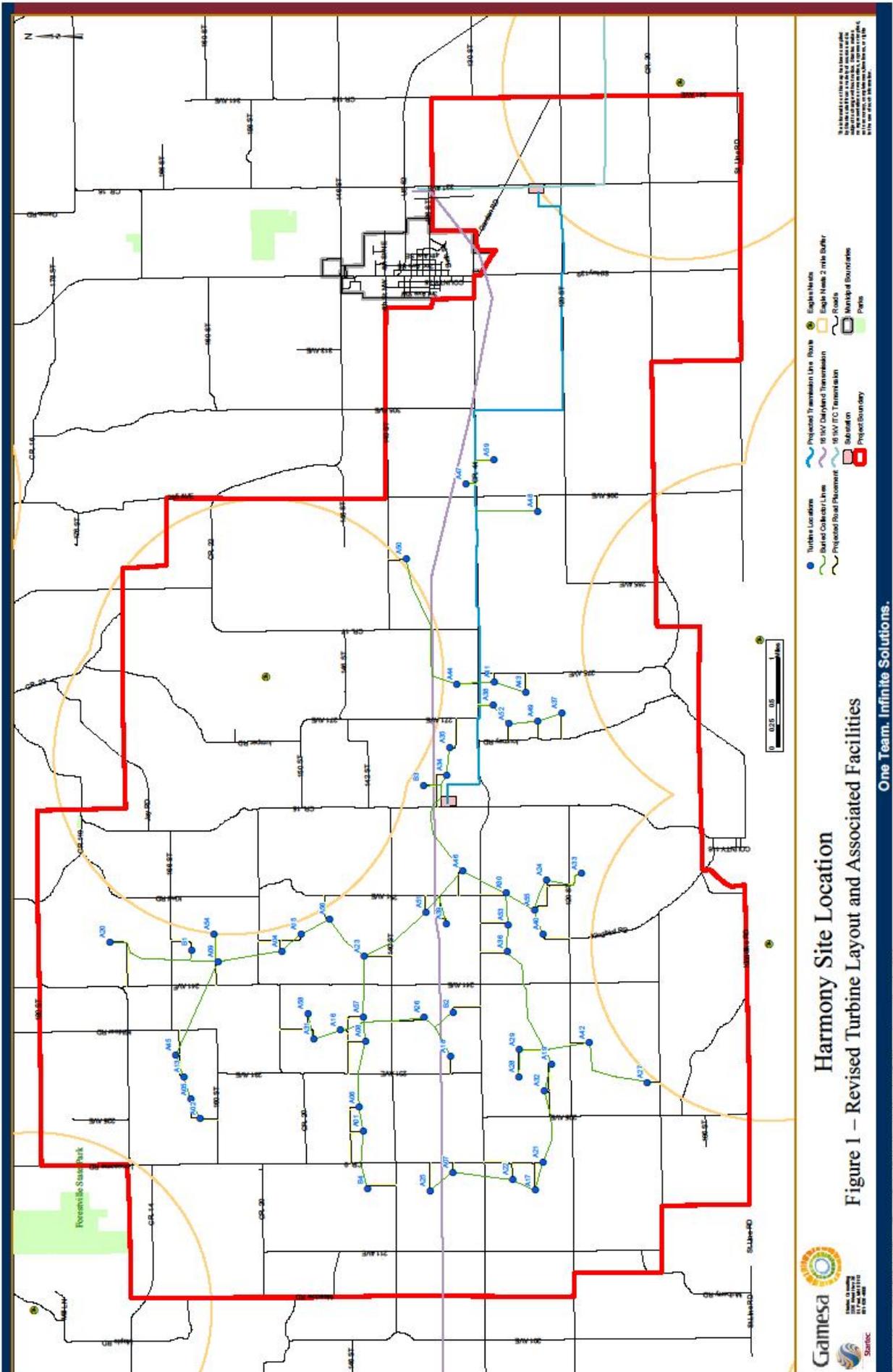








Attachment 3



Harmony Site Location

Figure 1 – Revised Turbine Layout and Associated Facilities



One Team. Infinite Solutions.

November, 2012



**Summary of Activities Involving the Permittee, MDNR, the Service  
and DOC EFP in Review of Permit Amendment Request**

- February 2, 2012:* Harmony Wind submitted to the PUC a Petition for Determination that Time Extension Is Warranted Without Further Hearing and Recertification for the Project's Certificate of Need to allow a change in the in-service date of the Project and requested an amendment to the site permit to provide the Permittee (Harmony Wind) with two additional years to obtain a Power Purchase Agreement (PPA) or other enforceable mechanism for sale of the electricity and to commence Project construction.
- March 13, 2012:* The PUC determined that the change in timing of the Project's Certificate of Need from December 2010 to June 2014 was acceptable without recertification.
- March 23, 2012:** **USFWS Land-Based Wind Energy Guidelines released.**
- March 23, 2012:* Jamie Schrenzel of the MDNR provided a review of the Project's site permit amendment request to the Minnesota Department of Commerce. The MDNR recommended the PUC amend the permit to include natural resource permit conditions, requested to review the Project's acoustic bat survey data and report, and indicated a concern that Project turbines may impact karst features. The MDNR also recommended the development of an Avian and Bat Protection Plan (ABPP) for the Project and micro-siting of turbines.<sup>50</sup>
- March 23, 2012:* Tony Sullins of the Service provided a review of the Project's site permit amendment request to the Minnesota Department of Commerce. The Service outlined issues pertaining to the Endangered Species Act (ESA), Migratory Bird Treaty Act (MBTA), Bald and Golden Eagle Protection Act (BGEPA), and Fish and Wildlife Act of 1956. The Service noted that:
- no federally listed species are expected to occur in the Project area, although the northern long-eared bat (*Myotis septentrionalis*), known to occur in the Project vicinity, is currently under consideration for listing under the ESA,
  - no Service-owned refuge lands or Waterfowl Production Areas are currently within one mile of the Project area, and

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<sup>50</sup> See eDockets, Document ID [20123-73149-01](#)

- the transmission infrastructure associated with the Project may present an electrocution risk to raptors and measures to reduce this risk should be considered.

Additionally, the Service recommended that:

- no turbines should be located within ¼ mile of Conservation Reserve Program, Wetland Reserve Program, or similar federally or state-funded restoration projects,
- the Service's Land-Based Wind Energy Guidelines (USFWS 2012) should be considered in the Project's planning and design processes,
- daily movement patterns of bald eagles nesting within two miles of the Project area should be assessed,
- at least one additional year of assessments of all bird and bat use of the Project area should be conducted before proceeding with Project design (i.e. turbine micro-siting), including the analysis of eagle flight paths and use concentrations and the installation of two AnaBat SI detectors per meteorological tower,
- three years of post-construction bird and bat fatality monitoring should be conducted at the Project and used to adjust operations to reduce mortality if necessary and feasible, and
- an ABPP should be developed for the Project.<sup>51</sup>

*April 20, 2012:*

Deborah Pile of Energy Facility Permitting at the Minnesota Department of Commerce provided a site permit amendment update to the PUC stating that more information was required from the Permittee regarding eagle nests, acoustic bat surveys, and various changes to the Project before a decision would be made regarding the request.<sup>52</sup>

*June 20, 2012:*

Jamie Schrenzel of the MDNR provided a review of the Project's acoustic bat survey, eagle survey, and avian survey. The MDNR recommended the use of Project siting and turbine micro-siting to address impacts to bird and bat species and encouraged consideration of karst features in the turbine layout as well. It was noted that a more detailed

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<sup>51</sup> See eDockets, Document ID [20123-73146-01](#)

<sup>52</sup> See eDockets, Document ID [20124-73831-01](#)

review and formal risk assessment could be provided once the turbine layout was available.<sup>53</sup>

- June 21, 2012:* Tony Sullins of the USFWS provided comments regarding the Project's May 2012 Eagle Survey Report. The Service recommended, based on the results of the eagle survey and the avian survey, the development of an Eagle Conservation Plan (ECP) for the Project.<sup>54</sup>
- June 26, 2012:* Gamesa submitted a CD containing GIS shape files of the Project layout to the MDNR for review against the context of various environmental study results.<sup>55</sup>
- July 19, 2012:* Jamie Schrenzel of the MDNR provided a letter in response to the turbine layout files submitted June 26, 2012. The letter noted that the MDNR estimated a high risk to bird and bat species for the Project, due to the Project's proximity to protected wildlife areas, known bat hibernaculum, and karst features, and documentation of state-listed birds in the Project area. It was recommended that post-construction avian and bat fatality studies at the Project follow MDNR draft wildlife protocols for high-risk sites.<sup>56</sup>
- July 25, 2012:* Jamie MacAlister of DOC-EFP provided a site permit amendment update to the PUC stating that the Permittee would respond to all data requests by mid-September 2012 and outlining a new Project timeline.<sup>57</sup>
- October 11, 2012:* Harmony Wind again provided a much-revised turbine layout to USFWS, MDNR and EFP. While no agency provided any specific guidance on setback distances, the October 11 layout responded to prior feedback from these agencies regarding concerns over protecting bald eagles, loggerhead shrike and bats, by incorporating a number of conservative setbacks from wildlife habitat features.<sup>58</sup>
- October 12, 2012* Harmony Wind provided a detailed description of the October 11 layout and solicited comments from the USFWS, MDNR and EFP in an agency coordination meeting.

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<sup>53</sup> See eDockets, Document ID [20126-75931-01](#)

<sup>54</sup> See eDockets, Document ID [20127-76558-01](#)

<sup>55</sup> See eDockets, Document ID [201211-80341-05](#), Figure 4

<sup>56</sup> See eDockets, Document ID [20127-76988-01](#)

<sup>57</sup> See eDockets, Document ID [20127-77202-01](#)

<sup>58</sup> See Dockets, Document ID [201211-80341-05](#), Figure 5

October 24, 2012

Jamie Schrenzel of the MDNR provided a letter in response to the *October 12, 2012* turbine layout expressing concerns and requesting elimination of the cluster of nine turbines in the northwest corner of the Project, nearest to the Forestville State Park.

MDNR's letter also noted that, when weighing the priority of protecting bat habitat near the Forestville State Park with other considerations, Harmony Wind may want to reevaluate its rigid application of a voluntary 500 foot setback from potential loggerhead shrike habitat (while continuing to avoid direct impacts to such habitat) and the voluntary 500 foot setback from other wooded areas. In addition, MDNR proposed seven alternative turbine locations to the nine recommended for removal.<sup>59</sup>

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<sup>59</sup> See Dockets, Document ID [201210-79891-01](#)

**STATE OF MINNESOTA PUBLIC UTILITIES COMMISSION**

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

**IN FILLMORE COUNTY**

**ISSUED TO**

**ECOHARMONY WEST WIND, LLC**

**PUC DOCKET NO. IP-6688/WS-08-973**

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

EcoHarmony West Wind, LLC

The Permittee is authorized to construct and operate up to a 116 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 approval of this amended permit.

Approved and adopted this \_\_\_\_\_ day of February 2013

BY ORDER OF THE COMMISSION

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BURL W. HAAR  
Executive Secretary

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## SITE PERMIT

This **SITE PERMIT** for a Large Wind Energy Conversion System (LWECS) authorizes EcoHarmony Wind West, LLC (Permittee) to construct and operate the EcoHarmony West Wind Project (Project), an up to 116 Megawatt (MW) nameplate capacity LWECS and associated facilities in Fillmore County, on a site of approximately 49,500 acres in accordance with the conditions contained in this permit.

### SECTION 1 PROJECT DESCRIPTION

The up to 116 MW nameplate capacity LWECS authorized to be constructed in this permit will be developed and constructed by the Permittee. The Project will consist of up to 58 Gamesa 2.0 MW G97-90T wind turbine generators. The G97-90T turbine has a 318-foot (97 meter) rotor diameter and sits atop a tower 295 feet (90 meters) in height. Associated facilities will include wind turbine access roads, underground electrical collection system comprised of 34.5 kV collector and feeder lines, a Supervisory Control and Data Acquisition System (SCADA) for monitoring the Project, a Project substation, up to two permanent meteorological towers and an Operations and Maintenance (O&M) building. Power will be delivered from the EcoHarmony West Project substation to a new EcoHarmony switching station that will tie into an ITC owned 161 kV transmission line southeast of Harmony. The Permittee will seek local permitting for an Operations and Maintenance building.

### SECTION 2 DESIGNATED SITE

#### 2.1 PROJECT BOUNDARY

The Project boundary is shown on the map at Attachment 1. The Project is located in Fillmore County in the townships of Harmony, Bristol, York, Preston, Carimona, and Forestville. The project boundary encompasses approximately 49,500 acres.

<b>Township Name</b>	<b>Sections</b>	<b>Township</b>	<b>Range</b>
Harmony	5,6,7,8,10,13,14,15,16,17,19,20,21,22,23,24,25,26,27,28,29,34,35,36	T101N	R10W
Bristol	All sections	T101N	R11W
York	1,2,11,12,13,14,23,24,25,26,36	T101N	R12W
Preston	31,32	T102N	R10W
Carimona	27,28,29,30,31,32,33,34,35,36	T102N	R11W
Forestville	35,36	T102N	R12W

#### 2.2 TURBINE LAYOUT

The Revised Turbine Layout and Associated Facilities layout is shown in Attachment 1. The Revised Turbine 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 and permit amendment review process. The final layout depicting the location of each wind turbine and associated facilities shall be located within the Project boundary. The Project boundary serves to provide the Permittee with the flexibility to do minor adjustments to the 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 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 January 9, 2009, supplemental filings submitted on November 2, 2012, and the record of this proceeding unless this amended permit establishes a different requirement in which case this amended permit shall control. Attachment 4 provides a summary of compliance filings required under this amended permit, which is provided solely for the convenience of the Permittee.

### **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 property 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**

In no case shall a wind turbine 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 (MPCA), 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 MPCA 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 MPCA noise standards. The Permittee shall be required to comply with this condition with respect to all

homes or other receptors in place as of the time of construction, but not with respect to such receptors built after construction of the towers.

#### **4.4 ROADS**

Wind turbine and meteorological towers shall not be located closer than 250 feet from the edge of the nearest public road right-of-way.

#### **4.5 PUBLIC LANDS**

Wind turbines and associated facilities including foundations, access roads, underground cable and transformers, shall not be located in public lands, including Waterfowl Production Areas, Wildlife Management Areas, Scientific and Natural Areas or 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), and local units of government as implementers of the Minnesota Wetlands Conservation Act.

#### **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, or lands enrolled in the Native Prairie Bank program as provided for in Minnesota Statutes section 84.96, unless addressed in a Prairie Protection and Management Plan. Construction activities, as defined in Minnesota Statutes section 216E.01, shall not impact native prairie unless addressed in a Prairie Protection and Management Plan. If native prairie is identified in any biological or natural resource inventories conducted pursuant to Section 6.1, or if lands defined as native prairie or lands enrolled in the Native Prairie Bank program have the potential to be impacted by construction activities, the Permittee shall, with the guidance of the Commission and DNR, prepare and file a Prairie Protection and Management Plan at least thirty (30) days prior to the pre-construction meeting. The plan shall address steps that will be taken to avoid impacts to native prairie and, if applicable, mitigation to unavoidable impacts to native prairie including restoration or management of other native prairie areas that are in degraded condition, conveyance of conservation easements, or by other means agreed to by the Permittee and Commission. Restoration of native prairie impacted by construction shall be done in accordance with the guidance developed pursuant to Minnesota Statutes 84.963(b), if available at the time of restoration.

#### **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 90 meters (295 feet) above grade measured at hub height.

#### **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 licensed private airports (as defined in Minnesota Rule 8800.0100, subparts 24a and 24b) in Minnesota, adjacent states, or provinces. 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 the 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. If overhead feeder lines are located within public rights-of-way, the Permittee shall obtain approval from the governmental unit responsible for the affected right-of-way.

Collector and feeder line locations shall be located in such a manner as 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 require filings with the Commission. Filings with the Commission must be made by electronic filing (eFiling) in accordance with the Permit Compliance Filings requirements of Attachments 3 and 4.

### **5.1 SITE PLAN**

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

- (a) a site plan for all turbines, roads, electrical equipment, collector and feeder lines, and other associated facilities to be constructed;
- (b) engineering drawings for site preparation, construction of the facilities; and
- (c) a plan for restoration of the site due to construction.

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

### **5.2 NOTICE TO LOCAL RESIDENTS**

Within fourteen (14) days of permit issuance, the Permittee shall send a printed 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 fourteen (14) days of permit issuance, send a printed 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 amended 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, developed pursuant to Section 5.8, 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 fourteen (14) days prior to the pre-construction meeting and continuously throughout construction, including site restoration, the Permittee shall designate a field representative responsible for overseeing compliance with the conditions of this permit during the construction phase of this Project. This person (or a designee) shall be accessible by telephone during normal working hours. This person's address, phone number, and emergency phone number shall be filed with 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 by eFiling.

### **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 by eFiling, as they become effective.

### **5.6 PRE-CONSTRUCTION MEETING**

Prior to the start of any construction, representatives of the Permittee, the Field Representative, and the Department of Commerce State Permit Manager for this project shall participate in a pre-construction meeting to review pre-construction filing requirements, scheduling, and to coordinate monitoring of construction and site restoration activities. The Permittee shall file with the Commission within fourteen (14) days following the pre-construction meeting a summary of the topics reviewed and discussed and a list of attendees.

### **5.7 PRE-OPERATION COMPLIANCE MEETING**

Prior to commercial operation, representatives of the Permittee, the Site Manager and the Department of Commerce State Permit Manager shall participate in a pre-operation compliance meeting to review compliance reporting requirements. The Permittee shall file with the Commission within fourteen (14) days following the pre-operation meeting a summary of the topics reviewed and discussed and a list of attendees.

### **5.8 COMPLAINTS**

At least fourteen (14) days prior to the pre-construction meeting, the Permittee shall file with 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 the DNR and other interested parties, shall design and conduct pre-construction desktop and field inventories of potentially impacted native prairies, wetlands, and any other biologically sensitive areas within the site, and assess the presence of state threatened, endangered, or species of special concern or federally listed species. The results of these inventories shall be filed at least thirty (30) days prior to the pre-construction meeting to confirm compliance of conditions in this permit.

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

### **6.2 SHADOW FLICKER**

At least fourteen (14) days prior to the pre-construction meeting, the Permittee shall provide data on shadow flicker for each residence of non-participating landowners and participating landowners within and outside of the project boundary subject to exposure from turbine shadow flicker. Information shall include the results of modeling used, assumptions made, and the anticipated levels of exposure from turbine shadow flicker for each residence. The Permittee shall provide documentation on its efforts to minimize shadow flicker exposure. The results of any modeling shall be filed with the Commission at least fourteen (14) days prior to the pre-construction meeting to confirm compliance with conditions in this permit.

### **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 file the results with the Commission, the SHPO, and the State Archaeologist at least fourteen (14) days prior to the pre-construction meeting.

The SHPO and the State Archaeologist will make recommendations for the treatment of any significant archaeological sites which are identified. Any issues in the implementation of these recommendations will be resolved by the Commission in consultation with SHPO and the State Archaeologist. In addition, the Permittee shall mark and preserve any previously unrecorded archaeological sites that are found during construction and shall promptly notify the SHPO, the State Archaeologist, and the Commission of such discovery. The Permittee shall not excavate at such locations until so authorized by *the Commission in consultation with the SHPO and the State Archaeologist*.

*If human remains are encountered during construction, the Permittee shall immediately halt construction at that location and promptly notify local law enforcement authorities and the State Archaeologist. Construction at the human remains location shall not proceed until authorized by local law enforcement authorities or the State Archaeologist.*

If any federal funding, permit, or license is involved or required, the Permittee shall notify the SHPO as soon as possible in the planning process to coordinate section 106 (36 C.F.R. part 800) review.

Prior to construction, construction workers shall be trained about the need to avoid cultural properties, how to identify cultural properties, and procedures to follow if undocumented cultural properties, including gravesites, are found during construction. If any archaeological sites are found during construction, the Permittee shall immediately stop work at the site and shall mark and preserve the site and notify the Commission, SHPO, and State Archaeologist about the discovery. The Commission and SHPO shall have three working days from the time the agency is notified to conduct an inspection of the site if either agency shall choose to do so. On the fourth day after notification, the Permittee may begin work on the site unless the 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 fourteen (14) days prior to the pre-construction meeting, the Permittee shall submit to the Commission the results of an assessment of television and radio signal reception, microwave signal patterns, and telecommunications 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 or radio reception, microwave patterns, or telecommunications in the event residents should complain about such disruption or interference after the turbines are placed in operation. 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 fourteen (14) days prior to the pre-construction meeting, the Permittee shall file the pre-construction micro-siting analysis leading to the final tower locations and an estimate of total Project wake losses. As part of the annual report on project energy production required under Section 6.8 of the permit the Permittee shall file with the Commission any operational wake loss studies conducted on this Project during the calendar year preceding the report.

#### **6.6 NOISE**

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

## 6.7 AVIAN AND BAT PROTECTION

### 6.7.1 AVIAN AND BAT PROTECTION PLAN

The Permittee shall, in consultation with the Commission and DNR, prepare an Avian and Bat Protection Plan and file it at least thirty (30) 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, by March 15 following each complete or partial calendar year of operation, file with the Commission an annual report detailing findings of its ABPP monitoring. The annual report shall include summarized and raw data of bird and bat fatalities and injuries and shall include bird and bat fatality estimates for the Project using multiple agreed upon estimators from the prior calendar year. The annual report shall also identify any deficiencies or recommended changes in the operation of the Project or in the ABPP to reduce avian and bat fatalities and shall provide a schedule for implementing the corrective or modified actions. The Permittee shall provide notice of the report to DNR and to the U.S. Fish and Wildlife Service at the time of filing with the Commission.

### 6.7.2 QUARTERLY INCIDENT REPORTS

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

### 6.7.3 IMMEDIATE INCIDENT REPORTS

The Permittee shall notify the Commission, United States Fish and Wildlife Service (USFWS), and DNR within twenty-four (24) hours of the discovery of any of the following within the vicinity of the rotor swept area:

- (b) five or more dead or injured non-protected avian or bat species within a reporting period;
- (c) one or more dead or injured migratory avian or bat species;
- (d) one or more dead or injured state threatened, endangered, or species of special concern;
- (d) one or more dead or injured federally listed species; or
- (e) one or more bald eagles.

## **6.8 PROJECT ENERGY PRODUCTION**

The Permittee shall by February 1<sup>st</sup> following each complete or partial year of Project operation file a report with the Commission including:

- (a) The installed 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 filed electronically.

## **6.9 WIND RESOURCE USE**

The Permittee shall, by February 1st following each complete or partial calendar year of operation, file with the Commission the average monthly and average annual wind speed collected at one permanent meteorological tower during the preceding year or partial year of operation.

This information shall be filed electronically.

## **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, file a report with 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 Project.

## **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(s).

## **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(s). 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(s).

## **7.7 EQUIPMENT STORAGE**

The Permittee shall not locate temporary equipment staging areas on lands under its control unless negotiated with affected landowner(s). 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 fourteen (14) 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 by development and/or road development agreements 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. Upon request of the Commission, the Permittee shall notify the Commission of such arrangements.

#### **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. The access or intersection points with public roadways shall be located in accordance with all necessary townships, county or state road requirements and permits. The access roads shall 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(s).

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

The Soil Erosion and Sediment Control Plan shall address what types of erosion control measures will be implemented during each Project phase and shall at a minimum identify: plans for grading, construction, and drainage of roads and turbine pads; necessary soil information; detailed design features to maintain downstream water quality; a comprehensive re-vegetation plan to maintain and ensure adequate erosion control and slope stability and to restore the site after temporary Project activities; and measures to minimize the area of surface disturbance. Other practices shall include containing excavated material, protecting exposed soil, and

stabilizing restored material and removal of silt fences or barriers when the area is stabilized. The plan shall identify methods for disposal or storage of excavated material. Erosion and sedimentation control measures shall be implemented prior to construction and maintained throughout the Project's life.

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

## **7.12 RESTORATION**

The Permittee shall, as soon as practical following construction of each turbine, considering the weather and preferences of the affected landowner(s), 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 fourteen (14) days prior to the application, notify beekeepers with an active apiary within one mile of the proposed application site of the day the company intends to apply herbicide so that precautionary measures may be taken by the beekeeper.

## **7.15 PUBLIC SAFETY**

The Permittee shall provide educational materials to landowners within the site boundary and, upon request, to interested persons about the Project and any restrictions or dangers associated with the Project. The Permittee shall also provide any necessary safety measures, such as warning signs and gates for traffic control or to restrict public access. The Permittee shall submit the location of all underground facilities, as defined in Minnesota Statutes section 216D.01, subdivision 11, to Gopher State One Call.

## **7.16 EMERGENCY RESPONSE**

The Permittee shall prepare an emergency response plan (fire protection and medical emergency plan) in consultation with the emergency responders having jurisdiction over the area prior to Project construction. The Permittee shall submit a copy of the plan to the Commission at least fourteen (14) days prior to the pre-construction meeting and a revised plan, if any, at least fourteen (14) days prior to the pre-operation compliance meeting. The Permittee shall also register the Project 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 file with the Commission a copy of the as-built plans and specifications. The Permittee must also file 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.

## **8.4 NOTIFICATION TO THE COMMISSION**

At least three (3) day before the Project is to commence commercial operation, the Permittee shall file the date on which the Project will commence commercial operation, the date on which construction was completed, who the power is being sold to and the length of the PPA.

## **SECTION 9 DECOMMISSIONING, RESTORATION, AND ABANDONMENT**

### **9.1 DECOMMISSIONING PLAN**

At least fourteen (14) days prior to the pre-operation compliance meeting, the Permittee shall submit to the Commission a Decommissioning Plan documenting the manner in which the Permittee anticipates decommissioning the Project in accordance with the requirements of Minnesota Rules 7854.0500, subpart 13. The Permittee shall ensure that it carries out its obligations to provide for the resources necessary to fulfill its requirements to properly decommission the Project at the appropriate time. The Commission may at any time request the Permittee to file a report with the Commission describing how the Permittee is fulfilling this obligation.

### **9.2 SITE RESTORATION**

Upon expiration of this permit, or upon earlier termination of operation of the Project, or any turbine within the Project, the Permittee shall have the obligation to dismantle and remove from the site all towers, turbine generators, transformers, overhead and underground cables and lines, foundations, buildings, and ancillary equipment to a depth of four feet. To the extent feasible, the Permittee shall restore and reclaim the site to its pre-project topography and topsoil quality. All access roads shall be removed unless written approval is given by the affected landowner(s) requesting that one or more roads, or portions thereof, be retained. Any agreement for removal of foundation to a depth of less than four (4) feet 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(s) shall be filed with the Commission prior to completion of restoration activities. The site shall be restored in accordance with the requirements of this condition within eighteen (18) months after expiration.

### **9.3 ABANDONED TURBINES**

The Permittee shall advise the Commission by a filing 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 filed 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 fourteen (14) days prior to the pre-construction meeting, the Permittee shall demonstrate that it has obtained the wind rights and any other rights necessary to construct and operate the Project within the boundaries of the LWECS authorized by this permit.

Nothing in this permit shall be construed to preclude any other person from seeking a permit to construct a WECS in any area within the boundaries of the Project covered by this permit if the Permittee does not hold exclusive wind rights for such areas.

### **10.2 POWER PURCHASE AGREEMENT**

In the event the Permittee does not have a power purchase agreement or some other enforceable mechanism for sale of the electricity to be generated by the Project at the time this permit is issued, the Permittee shall file notice with the Commission when it obtains a commitment for purchase of the power. This permit does not authorize construction of the Project until the Permittee has obtained a power purchase agreement or some other enforceable mechanism for sale of the electricity to be generated by the Project. In the event the Permittee does not obtain a power purchase agreement or some other enforceable mechanism for sale of the electricity to be generated by the Project within two years of the issuance of this amended permit, the Permittee must advise the Commission of the reason for not having such commitment. 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 this permit and commenced construction as defined in Minnesota Statutes section 216E.01, of the Project within two years of the issuance of this amended permit, the Permittee must advise the Commission of the reason construction has not commenced. In such event, the Commission shall make a determination as to 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 and the MN/DOT Utility Accommodation Policy).

### **10.5.2 COMPLIANCE WITH COUNTY, CITY, OR MUNICIPAL PERMITS**

The Permittee shall comply with all terms and conditions of permits, authorizations, or licenses issued by the counties, cities, and municipalities affected by the Project that do not conflict with or are not pre-empted by federal or state permits and regulations. These authorizations include, but are not limited to, compliance with Minnesota's Wetland Conservation Act.

## **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 Project; 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 filed under this permit, 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 amended 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. GEOTECHNICAL INVESTIGATION**

In order to minimize and avoid project impacts on karst within the project area the Permittee shall perform a geotechnical investigation at each of the wind turbine sites which will consist of a minimum of three phases that shall include, but not be limited to: (1) a geophysical investigation (electrical resistivity) to explore for voids in the bedrock; (2) followed by soil/bedrock borings to check the results of the electrical resistivity survey; (3) followed by a series of electric cone penetrometer (CPT) soundings if the potential for loose zones in the soil overburdens are suspected.

The evaluation process will be designed to eliminate the selection of potential turbine sites that may be susceptible to sinkhole formation. In addition to the site evaluation, a system to monitor potential ground subsidence at turbine sites shall be incorporated into project construction plans.

The results of the geotechnical investigation shall be submitted to the Commission 30 days prior to any pre-construction meeting.

Adoption of this special condition is based on facts associated with this docket and provides no precedent or prediction regarding information to be requested on geotechnical information that the Commission may deem appropriate and reasonable to require in future dockets.

### **13.2 AVIAN AND BAT POST-CONSTRUCTION FATALITY MONITORING**

The Permittee shall, in consultation with the Department of Commerce, USFWS and DNR, design and implement a post construction avian and bat fatality-survey consistent for a site

considered to be of high risk to wildlife. The survey design shall be filed with the Commission no later than (90) days prior to commercial operation of the Project. The survey shall be conducted for a minimum of two field season(s) starting March 15 and ending on November 15 after the commencement of commercial operation, unless a reduction in monitoring effort can be justified for the second year.

Because bald eagles are known to use the project area, the Permittee shall consult with the United States Fish and Wildlife Service to determine appropriate survey adjustments or survey modifications including extending the monitoring period from November 15 to March 15.

Monitoring results shall be filed with the Commission, DNR and USFWS at least quarterly. Results shall be filed in an Excel spreadsheet and include summarized and raw data. Results shall also be included in the annual reports required pursuant to Section 6.7.1 which shall identify any recommended changes in operations to reduce avian and bat fatalities. Based on those results, the Commission may modify conditions in this amended permit pursuant to Section 11.2.







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

2. A Person presenting the Complaint should to the extent possible, include the following information in their communications:
  - a. Name of Complainant, address, phone number, and e-mail address.
  - b. Date of complaint
  - c. Tract or parcel number
  - d. Whether the complaint relates to (1) a Site Permit matter, (2) an LW ECS and associated facility issue, or (3) a compliance issue.
3. The Permittee shall document all Complaints by maintaining a record of all applicable information concerning the Complaint, including the following:
  - a. Docket Number and Project Name
  - b. Name of complainant, phone number and e-mail address.
  - c. Precise property description or parcel number.
  - d. Name of Permittee representative receiving Complaint and date of receipt.
  - e. Nature of Complaint and the applicable Site Permit conditions(s).
  - f. Activities undertaken to resolve the Complaint.
  - g. Final disposition of the Complaint.

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 the Commission's Consumer Affairs Office at 1-800-657-3782 or [consumer.puc@state.mn.us](mailto:consumer.puc@state.mn.us). Voice messages are acceptable. E-mail Subject Line should read "EFP Complaint" with Docket Number.

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 Commission's eDocket system.

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

Permittee shall commence complaint reporting at the beginning of project construction and continue through the term of the permit.

G. Complaints Received by the Commission or the Department of Commerce:

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

H. Commission Process for Unresolved Complaints:

Initial Screening: Commission staff shall perform an initial evaluation of unresolved Complaints submitted to the Commission. Complaints raising substantial LWECS Site Permit issues shall be processed and resolved by the Commission. Staff shall notify Permittee and appropriate person(s) if it determines that the Complaint is a Substantial Complaint. With respect to such Complaints, each party shall submit a written summary of its position to the Commission no later than ten days after receipt of the Staff notification. The Complaint will be presented to the Commission for a decision as soon as practicable.

I. Permittee Contact for Complaints:

Permittee will eFile the Project's Complaint Contact information within 14 days of the Order granting a site permit and will include the Project's Complaint Contact information in the mailing to landowners and local governments.



**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's 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.

A) 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

B) 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 7<sup>th</sup> Place East, Suite 350, St. Paul, MN, 55101-2147, and 2) Department of Commerce, Energy Facility Permitting, 85 7<sup>th</sup> Place East, Suite 500, St. Paul, MN, 55101-2198. Additionally, the Commission may request a paper copy of any eFiled document.



**PERMIT COMPLIANCE FILINGS<sup>60</sup>**

**PERMITTEE:** EcoHarmony Wind West Wind, LLC  
**PERMIT TYPE:** LWECS Site Permit  
**PROJECT LOCATION:** Fillmore County  
**COMMISSION DOCKET NUMBER:** IP-6688/WS-08-973

**PRE-CONSTRUCTION MEETING**

<b>Filing Number</b>	<b>Permit Section</b>	<b>Description</b>	<b>Due Date</b>	<b>Notes</b>
1	4.7	Native Prairie Protection Plan	30 days prior to pre-construction meeting, if required.	Develop in consultation with Commission and DNR
2	5.1	Site Plan	14 days prior to pre-construction meeting.	
3	5.4	Field Representative	14 days prior to pre-construction meeting.	
4	5.8	Complaint Reporting Procedures	14 days prior to pre-construction meeting and complaint submittals on the 15 <sup>th</sup> of each month or within 24 hours.	
5	6.1	Biological & Natural Resource Inventories	30 days prior to pre-construction Meeting.	Results may trigger need for a Native Prairie Protection Plan
6	6.2	Shadow Flicker Analysis	14 days prior to pre-construction meeting.	
7	6.3	Archaeological Resources	14 days prior to pre-construction meeting and as recommended by the State Historic Preservation Office.	

<sup>60</sup> 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.

**PERMIT COMPLIANCE FILINGS**  
**PRE-CONSTRUCTION MEETING**

<b>Filing Number</b>	<b>Condition</b>	<b>Description</b>	<b>Due Date</b>	<b>Notes</b>
<b>8</b>	6.4	Interference	14 days prior to pre-construction meeting.	
<b>9</b>	6.5	Wake Loss	14 days prior to pre-construction meeting and may be included with site plan or operation studies if performed.	
<b>10</b>	6.7	Avian and Bat Protection Plan	30 days prior to pre-construction meeting.	Develop in consultation with Commission and DNR
<b>11</b>	7.8	Roads	14 days prior to pre-construction meeting.	
<b>12</b>	7.11	Soil Erosion and Sediment Control Plan	14 days prior to pre-construction meeting.	
<b>13</b>	7.16	Emergency Response	14 days prior to pre-construction meeting. Must register in 911 Program.	
<b>14</b>	10.1	Wind Rights	14 days prior to pre-construction meeting.	
<b>15</b>	13.1	Geotechnical Investigation	30 days prior to pre-construction meeting	

**PRE-OPERATION COMPLIANCE MEETING**

<b>Filing Number</b>	<b>Permit Section</b>	<b>Description</b>	<b>Due Date</b>	<b>Notes</b>
<b>16</b>	5.7	Pre-operation compliance meeting	Prior to commercial pre-operation.	
<b>17</b>	6.6	Noise Study Protocol	14 days prior to pre-operation meeting.	
<b>18</b>	9.1 & 9.3	Decommissioning Plan	14 days prior to pre-operation meeting.	

**OTHER REQUIREMENTS**

<b>Filing Number</b>	<b>Permit Section</b>	<b>Description</b>	<b>Due Date</b>	<b>Notes</b>
<b>19</b>	5.2	Notice to Landowners and Governmental Units	Within 14 days of permit approval to local units of government and within 30 days to landowners.	
<b>20</b>	5.5	Site Manager	14 days prior to prior to commercial operation.	Update contact information as necessary.
<b>21</b>	6.6	Noise Study Results	Within 18 months of Commercial Operation, if required.	
<b>22</b>	6.7.1	Annual Audit Report of ABPP	By March 15 <sup>th</sup> following each complete or partial year of operation.	
<b>23</b>	6.7.2	Quarterly Incident Reports	By 15 <sup>th</sup> January, April, July, and October.	
<b>24</b>	6.7.3	Immediate Incident Report	Within 24 hours of discovery.	
<b>25</b>	6.8	Project Energy Production	Due 2/1 each year.	

<b>26</b>	6.9	Wind Resource Use	February 1 <sup>st</sup> following each partial or complete year of operation.	
<b>27</b>	6.10	Extraordinary Events	Within 24 hours and report on occurrence of event within 30 days.	
<b>28</b>	8.1	As Builts	Within 60 days of completion of construction.	
<b>29</b>	8.4	Notification of Commercial Operation	At least 3 days prior to commencement of commercial operation.	
<b>30</b>	10.2	PPA or Enforceable Mechanism	Within two years of permit issuance.	If no PPA or other enforceable mechanism at time of permit issuance
<b>31</b>	10.3	Failure to Start Construction	Within 2 years of permit issuance.	
<b>32</b>	13.2	Avian & Bat Post Construction Monitoring	Quarterly for two years	

## **CERTIFICATE OF SERVICE**

I, Sharon Ferguson, hereby certify that I have this day, served copies of the following document on the attached list of persons by electronic filing, certified mail, e-mail, or by depositing a true and correct copy thereof properly enveloped with postage paid in the United States Mail at St. Paul, Minnesota.

**Minnesota Department of Commerce  
Comments and Recommendations**

**Docket No. IP6688/WS-08-973**

Dated this 16<sup>th</sup> of January, 2013

**/s/Sharon Ferguson**

First Name	Last Name	Email	Company Name	Address	Delivery Method	View Trade Secret	Service List Name
Julia	Anderson	Julia.Anderson@ag.state.mn.us	Office of the Attorney General-DOC	1800 BRM Tower 445 Minnesota St St. Paul, MN 551012134	Electronic Service	No	OFF_SL_8-973_1
Christina	Brusven	cbrusven@fredlaw.com	Fredrikson & Byron, P.A.	200 S 6th St Ste 4000  Minneapolis, MN 554021425	Electronic Service	No	OFF_SL_8-973_1
Sharon	Ferguson	sharon.ferguson@state.mn.us	Department of Commerce	85 7th Place E Ste 500  Saint Paul, MN 551012198	Electronic Service	Yes	OFF_SL_8-973_1
Todd J.	Guerrero	tguerrero@fredlaw.com	Fredrikson & Byron, P.A.	Suite 4000 200 South Sixth Street Minneapolis, MN 554021425	Electronic Service	No	OFF_SL_8-973_1
Burl W.	Haar	burl.haar@state.mn.us	Public Utilities Commission	Suite 350 121 7th Place East St. Paul, MN 551012147	Electronic Service	Yes	OFF_SL_8-973_1
John	Lindell	agorud.ecf@ag.state.mn.us	Office of the Attorney General-RUD	1400 BRM Tower 445 Minnesota St St. Paul, MN 551012130	Electronic Service	No	OFF_SL_8-973_1
Donald	Miller	DMiller@ecoenergyllc.com	EcoEnergy LLC	2511 Technology Dr Ste 110  Elgin, IL 60124	Paper Service	No	OFF_SL_8-973_1
Jamie	Schrenzel	jamie.schrenzel@state.mn.us	Minnesota Department of Natural Resources	500 Lafayette Road  Saint Paul, MN 55117	Electronic Service	No	OFF_SL_8-973_1
Tony	Sullins	N/A	U.S. Fish and Wildlife Service	Twin Cities Ecological Services Field Office 4101 American Blvd. E. Bloomington, MN 55425	Paper Service	No	OFF_SL_8-973_1