



## BEFORE THE MINNESOTA PUBLIC UTILITIES COMMISSION

### ENERGY ENVIRONMENTAL REVIEW AND ANALYSIS COMMENTS AND RECOMMENDATIONS

#### PLEASANT VALLEY WIND REPOWER DOCKET No. IP6828/WS-09-1197

---

Date: June 21, 2022

Staff: Richard Davis | 507-380-6859 | [richard.davis@state.mn.us](mailto:richard.davis@state.mn.us)

#### **In the Matter of the Application for a Site Permit Amendment to Repower the 200 MW Pleasant Valley Large Wind Energy Conversion System (LWECS) in Dodge and Mower Counties, Minnesota**

**Issues Addressed:** These comments and recommendations address the completeness of the site permit amendment application, the application review process, the Draft Amended Site Permit, and other issues.

**Documents Attached:**

- 1) EERA Draft Site Permit Amendment

Relevant documents and additional information can be found on the eDockets website at <https://www.edockets.state.mn.us/EFiling/search.jsp> (enter the year “09” and the number “1197”), or on the EERA website at <https://apps.commerce.state.mn.us/eera/web/project/14869>.

This document can be made available in alternative formats (i.e., large print or audio) by calling 651-539-1530 (voice).

---

### Introduction and Background

On April 29, 2022 Northern States Power (NSP), doing business as Xcel Energy (Permittee) applied to the Commission for a site permit amendment to repower the existing Pleasant Valley Wind Project located in Dodge and Nobles Counties, originally permitted in 2013 and amended in 2014.<sup>1</sup> The Pleasant Valley Wind Project has existing turbines in Hayfield and Vernon Townships in Dodge County and in Dexter, Red Rock, Sargeant, and Waltham Townships in Mower County.

---

<sup>1</sup> Xcel Energy. Pleasant Valley Wind Repower. Initial Filing – Site Permit Amendment Application, Figures, and Appendices. April 29, 2022 (Amendment Application). eDocket ID # [20224-185369-01](#), [20224-185369-02](#), [20224-185369-03](#), [20224-185369-04](#), [20224-185369-05](#), [20224-185369-06](#), [20224-185369-07](#), [20224-185369-08](#), [20224-185371-01](#), [20224-185371-03](#), [20224-185371-04](#), [20224-185371-05](#), [20224-185371-07](#), and [20224-185371-08](#)

## Project Purpose

Xcel Energy proposes to improve turbine technology, maximize energy yield, and extend service life of the turbines at the Pleasant Valley Wind Project. New, larger turbine blades, coupled with upgraded generators will result in an increase of nominal production capacity of the Pleasant Valley Wind Project from 200 MW to 220 MW. The proposed Repower will not constitute a material modification, and as long as the Project's energy deliver to the existing Point of Interconnection (POI) does not exceed 200 MW, the Project's original Generator Interconnection Agreement (GIA) is still applicable. As required in the existing GIA, to ensure that only 200 MW will go into the POI, control equipment will be installed to limit energy levels to be injected into the grid.<sup>2</sup>

## Project Description

The proposed repowering of the Pleasant Valley Wind Project will consist of upgrading the existing 100 Vestas V100 turbines with Vestas V110, 2.2 MW turbines. Existing wind turbine towers will remain in place and be used for the installation of the new Vestas V110 turbines. Repowering of 86 of 100 existing turbines will involve the replacement of some components of the existing turbine nacelles and installing rotors with longer blades. The remaining 14 turbines will be repowered by replacing the entire turbine nacelle and a rotor with longer blades.<sup>3</sup>

The repowering will utilize the existing turbine towers, turbine foundations, access roads, collection lines, substation, and the operation and maintenance (O&M) facility that were previously permitted will remain the same.<sup>4</sup> The proposed repower project does not require the construction of a new transmission line, and the existing 161 kV transmission that connects the existing Project substation to the Great River Energy Pleasant Valley Substation will be maintained.<sup>5</sup> The applicant will not be moving or adding turbines to the project and the project boundary will not be altered.

Repowering construction activities will involve the temporary widening of existing access roads to allow for equipment access and materials delivery. Large construction cranes will be necessary to remove and replace existing turbine rotors and nacelles. A temporary workspace of 400 foot radius will be established around each turbine, and a temporary crane assembly area, approximately 300 foot by 60 foot, will be necessary adjacent to existing access roads. A temporary laydown area will be graded to provide parking for construction workers, and to stage turbine components during construction. To minimize impacts to agricultural drain tile, Xcel Energy's construction contractor will not use crane paths between turbines.<sup>6</sup>

The applicant has lease agreements for all of the existing 100 wind turbine locations and is working to extend those agreements for the life of the repowered project.<sup>7</sup> Due to the larger blades necessary to repower the existing turbines approximately 1,931 acres of new, wind rights-only leases are being pursued on 36 parcels of land, which are within the larger 3 rotor diameter by 5 rotor diameter wind access buffer around each of the turbine locations.<sup>8</sup> New wind rights-only leases will be located on lands within and some lands outside of the original project boundary. At the time of their amendment application filing,

---

<sup>2</sup> Amendment Application, Section 1.2

<sup>3</sup> Amendment Application, Section 5.2

<sup>4</sup> Amendment Application, Section 5.3 and 6.0

<sup>5</sup> Amendment Application, Section 6.1

<sup>6</sup> Amendment Application, Section 6.4

<sup>7</sup> Amendment Application, Section 7.1

<sup>8</sup> Amendment Application, Section 7.1

Xcel had secured wind rights-only leases for 11 of the 36 turbines that are needed and continues to work to secure the remaining 25 leases. Xcel is requesting a waiver of the wind access buffer for any turbines that a wind rights-only lease agreement cannot be secured.<sup>9</sup> Xcel Energy is also working with Prairie Star to secure a junior wind rights document that will identify two parcels that will be impacted by the Pleasant Valley Project after repowering and the Prairie Star Project.<sup>10</sup>

Xcel Energy anticipates that the construct to repower the Pleasant Valley Wind Project will begin in May 2025 and be completed in 8 to 10 months. Commercial operation is anticipated to begin by December 2025.<sup>11</sup>

**Table 1. Comparison of Changes Between Existing and Repowered Turbines**

Design Feature	Existing Vestas V100 2.0 MW Wind Turbines	Repowered Vestas V110 2.2 MW Wind Turbines
Nameplate Capacity	2,000 kW	2,200 kW
Generation	2.0 MW	Up to 2.2 MW
Hub Height	95 m (311.7 ft)	95 m (311.7 ft)
Rotor Diameter	100 m (328.1 ft)	110 m (360.9 ft)
Total Height	145 m (475.7 ft)	150 m (492.1 ft)
Turbine Positions	100	100
Recyclability Rate	83.5%	84.5%
Cut in Wind Speed	6.7 mph (3 m/s)	6.7 mph (3 m/s)
Cut out Wind Speed	49 mph (22 m/s)	45 mph (20 m/s)
Re Cut in Wind Speed	45 mph (20 m/s)	40 mph (18 m/s)
Aerodynamic Brake	Full Blade Feathering with 3 pitch cylinders	Full Blade Feathering with 3 pitch cylinders
Power Regulation	Pitch Regulated with variable speed	Pitch Regulated with variable speed
Electrical	4 pole (50Hz) /6 pole (60 Hz) doubly fed generator, slip rings	4 pole (50Hz) /6 pole (60 Hz) doubly fed generator, slip rings
Gearbox	Two planetary stages and one helical stage	One planetary stage and two helical stages
Tower	Tubular steel with safety ladder to the nacelle	Tubular steel with safety ladder to the nacelle
Supervisory Control and Data Acquisition (SCADA)	Each turbine is equipped with SCADA controller hardware, software, and database storage capability	Each turbine is equipped with SCADA controller hardware, software, and database storage capability
Federal Aviation Administration (FAA) Lighting	Option for aviation lighting and markings on the blades	Option for aviation lighting and markings on the blades

<sup>9</sup> Amendment Application, Section 7.1

<sup>10</sup> Amendment Application, Section 7.1

<sup>11</sup> Amendment Application, Section 10.8

## Regulatory Process and Procedures

### Permit Amendment

An LWECS site permit may be amended by the Commission if, after providing due process, it finds good cause to do so.<sup>12</sup> The Commission may amend the site permit on its own initiative or upon request.<sup>13</sup> In recent dockets, the Commission has considered LWECS site permit amendments to facilitate repowering of wind farms. Repowering can take several forms – from a “full repowering” where existing turbines are decommissioned and replaced with fewer, larger turbines, to a “partial repowering” where existing turbines are retrofitted in some manner.

A permittee seeking to repower an existing wind farm must apply for a site permit amendment. Amendment applications must have the same information as would be required for an LWECS site permit application.<sup>14</sup> Per Commission practice, and following acceptance of an amendment application, Commission and EERA staff conduct a public meeting and solicit public comments on the proposed permit amendment. EERA staff enters a draft site permit into the record prior to the public meeting. After close of the public comment period, EERA staff submits comments and recommendations to the Commission regarding the amendment application. The Commission subsequently makes a decision on the application.

**Table 2. Review Process for LWECS Repowering Permit Amendment**

Approximate Day	Process Step
1	Filing of Site Permit Amendment Application
53	EERA Comments on Application Completeness and Proposed Draft Site Permit
70	Notice of Public Information Meeting and Comment Period
80	Public Information Meeting
100	End of Public Comment Period
120	EERA Comments on Site Permit Amendment
140 - 160	Commission Meeting for Decision

## EERA Staff Analysis and Comments

<sup>12</sup> Minnesota Rule 7854.1300.

<sup>13</sup> Id.

<sup>14</sup> Minnesota Rule 7854.0500.

EERA staff has reviewed the LWECS site permit amendment application and provides the following analysis and comments in response to the Permittee’s application for amendment of the existing site permit to repower the existing Pleasant Valley Wind Project.

### **Application Completeness**

EERA staff has conferred with Xcel Energy about the Pleasant Valley Wind Repower Project and has reviewed a draft permit amendment application. EERA staff believes that staff comments on the draft application have been addressed in the amendment application submitted to the Commission. Staff has evaluated the application against the completeness requirements of Minnesota Rule 7854.0500 (Table 3).

Staff finds that the application contains appropriate and complete information with respect to these requirements, including descriptions of the proposed repowering and potential human and environmental impacts and mitigation measures. Accordingly, staff believes that the permit amendment application is substantially complete.

**Table 3. Application Completeness Requirements**

<b>Minnesota Rule 7854.0500</b>	<b>Location in Site Permit Amendment Application</b>	<b>EERA Staff Comments</b>
Subpart 1. Information regarding the applicant.	Section 1	Information is provided to satisfy this requirement.
Subpart 2. Certificate of need requirements.	Sections 1 and 2	Information is provided to satisfy this requirement. Xcel Energy indicates that the project is exempt from a certificate of need per Minnesota Statute 216B.243, Subd. 8.
Subpart 3. Furtherance of state policy for wind farm siting.	Section 3	Information is provided to satisfy this requirement.
Subpart 4. Characteristics of the proposed site.	Sections 4 and 9, and Figures	Information is provided to satisfy this requirement.
Subpart 5. Wind rights.	Section 7	Information is provided to satisfy this requirement. Additional discussion below.
Subpart 6. Project design.	Sections 5 and 6 and Figures	Information is provided to satisfy this requirement.
Subpart 7. Human and environmental impacts.	Section 8	Information is provided to satisfy this requirement. The applicant discusses potential impacts and mitigation measures.
Subpart 8. Construction of the project.	Section 10	Information is provided to satisfy this requirement.

Minnesota Rule 7854.0500	Location in Site Permit Amendment Application	EERA Staff Comments
Subpart 9. Operation of the project.	Section 10	Information is provided to satisfy this requirement.
Subpart 10. Project costs.	Section 10	Information is provided to satisfy this requirement.
Subpart 11. Project schedule.	Section 10	Information is provided to satisfy this requirement.
Subpart 12. Energy projections.	Section 10	Information is provided to satisfy this requirement.
Subpart 13. Decommissioning and restoration.	Section 11 and Appendix J	Information is provided to satisfy this requirement.
Subpart 14. Identification of other permits.	Section 12	Information is provided to satisfy this requirement.

**Wind Access Buffer Setback**

Commission LWECS permits require a wind access buffer setback from non-participating landowners where permittees do not hold wind rights. The purpose of this setback is to ensure the economic efficiency of the project and to protect against infringement of wind development rights on adjacent properties. The permit requires a three-rotor diameter setback on non-prevailing wind direction and five-rotor diameter (3 RD x 5 RD) on prevailing wind direction from non-participating property lines.

The applicant discusses wind access buffer setbacks in its permit amendment application.<sup>15</sup> As discussed above, the applicant has easements for all 100 existing turbines, but 36 of the 3 RD x 5 RD wind access buffer setbacks extend outside the currently held wind rights lease agreements.<sup>16</sup> To date Xcel has secured 11 wind rights-only leases directly from the affected landowners, and they are currently working to secure the 25 additional wind rights-only leases needed for the repowered turbines. Xcel has requested that the Commission waive the wind access buffer setback requirements for any repowered turbines they cannot secure the additional wind rights-only leases for.<sup>17</sup>

**Draft Site Permit**

EERA staff has prepared and attached a draft site permit for a repowered Pleasant Valley Wind Project. Staff has prepared this draft site permit based on the current Pleasant Valley Wind LWECS site permit and updated site permit sections, conditions, and special conditions based on recent LWECS permit amendments.

<sup>15</sup> Amendment Application, Section 7.1

<sup>16</sup> Amendment Application, Section 7.1

<sup>17</sup> Amendment Application, Section 7.1

Staff has modified the current site permit to reflect the proposed repowering, including portions of the template where variances may be required for the project.

These modifications are discussed further here.

### ***Applicant Requested Site Permit Changes***

Xcel Energy requests the following changes to the amended site permit:<sup>18</sup>

1. Cover: The Applicant requests that the name of the permittee be updated to Northern States Power Company d/b/a Xcel Energy; the nameplate capacity of the wind farm be updated to 220 MW; and the expiration date for the permit be updated to 25 years from the date of amended Site Permit issuance.
2. Site Permit: Update the nameplate capacity of the wind farm to 220 MW and update the acreage of the Project boundary to 45,449 acres.
3. Section 1: Update the nameplate capacity of the wind farm to 220 MW and individual turbine capacity.
4. Section 2: Update the township, range, and section information as follows:
  - Mower Co.:
    - i. T103N, R16W, Sec. 3 - 9, 14 - 30, and 33
    - ii. T103N, R17W, Sec. 1, 12
    - iii. T104N, R16W, Sec. 5 - 11, 14 - 22, and 27 - 34
    - iv. T104N, R17W, Sec. 1 - 5, 10 - 15, 22 - 24, and 36
  - Dodge Co.:
    - i. T105N, 17W, Sec. 24, 25, and 32 - 36
    - ii. T105N, R16W, Sec. 19, 20, and 29 - 32
5. Section 3: The Applicant requests that the reference to the amended site permit application be updated to April 29, 2022.
6. Wind Access Buffer 4.1: The Applicant requests the Commission waive the wind access buffer setback for 25 turbines, including turbines 1, 3, 8-11, 24, 32, 43, 44, 53- 55, 58, 64, 66, 70, 77, 80, 85, 92, and 96-99. New wind rights-only leases are needed for 36 parcels (33 landowners) that will fall within the larger 3RD x 5RD wind access buffer of the repowered turbines. As of the date of this Application, the Applicant has secured 11 of the needed wind rights-only leases. The Applicant will continue to pursue agreements for the remaining parcels.
7. Native Prairie 4.7: The Applicant requests the language be updated consistent with other recent projects *“Wind turbines and associated facilities including foundations, access roads, collector and feeder lines, underground cable, and transformers shall not be placed in native*

---

<sup>18</sup> Amendment Application, Section 1.4

*prairie, as defined in Minn. Stat. § 84.02, subd. 5, unless addressed in a prairie protection and management plan and shall not be located in areas enrolled in the Native Prairie Bank Program. Construction activities, as defined in Minn. Stat. § 216E.01, shall not impact native prairie unless addressed in a Prairie Protection and Management Plan.*

*The Permittee shall prepare a Prairie Protection and Management Plan in consultation with the DNR if native prairie, as defined in Minn. Stat. § 84.02, subd. 5, is identified within the site boundaries. The Permittee shall file the plan with the site plan required by Section 5.1 of this permit. The plan shall address steps that will be taken to avoid impacts to native prairie and mitigation to unavoidable impacts to native prairie by restoration or management of other native prairie areas that are in degraded condition, by conveyance of conservation easements, or by other means agreed to by the Permittee, the DNR, and the Commission.”*

8. Noise 6.6: The Applicant requests the language be updated consistent with other recent projects: *“The Permittee shall file a proposed methodology for the conduct of a post-construction noise study at least 14 days prior to the pre-construction meeting. The op the post-construction noise study methodology in consultation*  
  
*with the Department of Commerce. The study must incorporate the Department of Commerce Noise Study Protocol 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 must conduct the postconstruction noise study and file with the Commission the completed post-construction noise study within 18 months of completion of the repowering project.”*
9. Avian and Bat Protection 6.7: The Applicant requests the language be updated consistent with other recent projects: *“The Permittee shall utilize a qualified third party to conduct a minimum of two full years of avian and bat fatality monitoring following the commencement of the operational phase of the project. Monitoring activities and results will be coordinated directly with the Minnesota Department of Natural Resources, U.S. Fish and Wildlife Service, and the Commission. Detailed monitoring protocols, agency coordination, and any avoidance and minimization measures will be detailed in the project’s Bird and Bat Conservation Strategy (BBCS).”*
10. Avian and Bat Protection Plan 6.7.1: The Applicant requests the language be updated consistent with other recent projects: *“The Permittee shall comply with the provisions of the March 2022, Bird and Bat Conservation Strategy submitted for this project as part of the April 29, 2022, Site Permit Amendment Application, and all necessary revisions that occur during the permit issuance process will be incorporated into a Permit Version. The Permit Version of the BBCS will be filed with the Commission 14 days before the preconstruction meeting and revisions will include any updates associated with final construction plans. The BBCS must 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 BBCS shall also include formal and incidental post-construction fatality monitoring, training, wildlife handling, documentation (e.g., photographs), and reporting protocols for each phase of the project.”*

The Permittee shall, by the 15th of March following each complete or partial calendar year of operation, file with the Commission an annual report detailing findings of its annual audit of BBCS practices. 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 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 BBCS to reduce avian and bat fatalities and shall provide a schedule for implementing the corrective or modified actions. The Permittee shall provide a copy of the report to the Minnesota Department of Natural Resources (DNR) and to the U.S. Fish and Wildlife Service (USFWS) at the time of filing with the Commission.”

11. Immediate Incident Reporting 6.7.3: The Applicant requests the language be updated consistent with other recent projects: *“The Permittee shall notify the Commission, EERA, the USFWS, and the DNR within 24 hours of the discovery of any of the following:*
- (a) five or more dead or injured birds or bats, at an individual turbine location, within a five day reporting period;*
  - (b) twenty or more dead or injured birds or bats, across the entire facility, within a five day reporting period;*
  - (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, including species proposed for listing; or*
  - (e) one or more dead or injured bald or golden eagle(s).*

*In the event that one of the five discoveries listed above should be made, the Permittee must file with the Commission within seven days, a compliance report identifying the details of what was discovered, the turbine where the discovery was made, a detailed log of agencies and individuals contacted, and current plans being undertaken to address the issue.”*

12. The Applicant requests that condition 6.7.4 *Turbine Operational Curtailment* be added to Section 6.7, Avian and Bat Protection, *“The Permittee shall operate all facility turbines so that all turbines are locked or feathered up to the manufacturer’s standard cut-in speed from one-half hour before sunset to one-half hour after sunrise of the following day from April 1 to October 31 of each year of operation. All operating turbines at the facility must be equipped with operational software that is capable of allowing for adjustment of turbine cut-in speeds.”*
13. Final Boundaries 8.2: The Applicant requests that the Commission approve a smaller project boundary. The proposed boundary more closely aligns with parcels containing Project infrastructure and with Section 4.13 of the 2014 Site Permit, Footprint Minimization. The requested boundary is reflected throughout this Application and is specifically defined in Table 4.1-1.
14. The Applicant requests that Special Conditions 13.1 and 13.2 be removed in the amended Site Permit. Section 13.1 should be removed because the Repower Project does not involve the same ground disturbing activities required for the initial construction of the Project. Section 13.2 should be removed because it will be replaced by the newer language provided in Section 6.7 and 6.7.1 described above.

### ***Other Amendments and Clarifications***

EERA staff has amended and clarified additional items in the draft site permit to reflect recent and appropriate LWECS permit amendments and the specifics of the Pleasant Valley Wind Repower Project. Modifications to the sample permit are indicated by blue text and underline (additions), and red text and strikethrough (deletions). Many of these modifications are minor in nature, such as adding project-specific information, clarifying where information can be found or when items must be filed. EERA staff provides no additional comments or information on these modifications.

The draft site permit has been amended to replace the existing Decommissioning Plan language under Section 9.1 with updated Decommissioning Plan language used in recently approved LWECS site permits.

Xcel Energy requested the removal of Special Condition 13.1 Blanding's Turtle. EERA has retained the Blanding's Turtle Special Condition as the species is still listed as state threatened, and although there is limited ground disturbance planned for repowering construction, the activities could potentially impact the species.

### **EERA Staff Recommendations**

EERA staff recommends the following based on review of the amendment application:

1. Acceptance of the permit amendment application as substantially complete.
2. Review of the Amended Site Permit using the Commission's process for LWECS repowering permit amendments (Table 2 above), beginning with noticing and holding a public information meeting as soon as arrangements can be made.
3. Use of the attached draft site permit for public comment on the proposed repowering.
4. Require an independent monitor for repowering and site restoration.