

June 3, 2021

Will Seuffert
Executive Secretary
Minnesota Public Utilities Commission
121 7th Place East, Suite 350
St. Paul, MN 55101-2147

RE: EERA Comments and Recommendations on a Site Permit Amendment for the Nobles Wind Farm Repowering (Docket No. WS-09-584)

Dear Mr. Seuffert,

Attached are comments and recommendations of Department of Commerce, Energy Environmental Review and Analysis (EERA) staff in the following matter:

In the Matter of the Site Permit Amendment Application of Northern State Power Company for the Nobles Wind Farm in Nobles County.

The site permit amendment application was filed on February 26, 2021, by:

Matt Langan, Principal Agent
Xcel Energy
414 Nicollet Mall
Minneapolis, MN 55401

EERA staff recommends granting a site permit amendment to facilitate a repowering of the Nobles Wind Farm. Staff is available to answer any questions the Commission may have.

Sincerely,



David Birkholz, EERA Staff
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BEFORE THE MINNESOTA PUBLIC UTILITIES COMMISSION

ENERGY ENVIRONMENTAL REVIEW AND ANALYSIS COMMENTS AND RECOMMENDATIONS

Nobles Wind Farm Repower Project *Docket No. WS-09-584*

Date: June 3, 2021

Staff: David Birkholz | david.birkholz@state.mn.us | 651-539-1838

In the Matter of the Site Permit Amendment Application of Northern States Power Company for the Nobles Wind Farm Repower Project in Nobles County

Issues Addressed: These comments and recommendations address whether a site permit amendment should be issued for a repowering of the Nobles Wind Farm

Additional documents and information, including the permit amendment application, can be found on eDockets by searching “09” for year and “584” for number:

<https://www.edockets.state.mn.us/EFiling/search.jsp> or the EERA webpage:
<https://mn.gov/eera/web/project/357/>.

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

Introduction and Background

Northern States Power Company d/b/a Xcel Energy (applicant or Xcel Energy) currently owns and operates the 201 megawatt (MW) Nobles Wind Project in Nobles County. The wind farm includes 134 1.5 MW GE 1.5 sle wind turbines and has been in operation approximately 10.5 years. On February 26, 2021, the applicant filed an application to amend its site permit for the wind farm.¹ The applicant proposes to retrofit the existing wind farm by installing new, larger rotors and replacing components within the wind turbine nacelles.

Project Purpose

The purpose of the repowering project is to improve turbine technology, maximize energy yield, and extend the service life of the turbines. New blades provide an increase in the rotor swept area, which, when coupled with the upgraded generators, results in a corresponding increase in the nominal production capacity of the Project.²

¹ Site Permit Amendment Application for a Large Wind Energy Conversion System (Application), Northern States Power Company, February 26, 2021, <https://mn.gov/eera/web/file-list/14301>.

² Amendment Application, Section 1.2

Project Description

The applicant proposes to repower the wind farm's existing GE wind turbines by:³

- Replacing the turbine blades, increasing the rotor diameter (RD) from 77 meters to 91 meters for 22 turbines and to 97 meters for 111 turbines;
- Decommissioning Turbine 47 and replacing with a "safe harbor" turbine, a Vestas V136;
- Replacing equipment within the wind turbine nacelles, including gearboxes; and
- Installing a lighting mitigation system.

There would be no changes to turbine locations (excepting moving Turbine 47 approximately 100 feet), turbine towers, meteorological towers, the underground electrical connection system, the project substation, or the connecting Nobles Substation. Construction of the project would use existing turbine access roads; the applicant indicates that some roads may need to be temporarily widened. (The applicant had intended to reinforce the turbine foundations with concrete collars, but an engineering study⁴ has determined that is not necessary at this time.)

There would be an increase in the electrical capacity of individual wind turbines; the nameplate capacity of the wind farm would increase from 201 MW to 217 MW. However, the overall capacity at the point of interconnection would remain at 201 MW per the existing MISO GIA.⁵ The repower project boundary would be reduced to 23,912 acres.⁶

The applicant anticipates that construction of the project will begin in the second quarter of 2022, with an in-service date of December 2022.⁷

Regulatory Process and Procedures

A site permit from the Commission is required to construct and operate a large wind energy conversion system (LWECS), which is any combination of wind turbines and associated facilities with the capacity to generate five MW or more of electricity.⁸ Once issued, a site permit may be amended by the Commission if, after providing due process, it finds good cause to do so.⁹ The Commission may amend the site permit on its own initiative or upon request.¹⁰

The Commission has, in recent dockets, considered LWECS site permit amendments for the repowering of wind farms. To afford due process, and based on recent Commission practice, a permittee seeking to repower a wind farm must apply for a site permit amendment and have the application reviewed through a public meeting and comment period (Table 1).

³ Amendment Application, Section 1.5

⁴ Wind Turbine Foundation Evaluation Report, Barr Engineering, March 2021, eDockets no. [20215-174032-03](#)

⁵ Amendment Application, Section 4.1

⁶ Amendment Application, Section 4.2

⁷ Amendment Application, Section 1.2

⁸ Minnesota Statute 216F.04

⁹ Minnesota Rule 7854.1300

¹⁰ Id.

Table 1. Review Process for LW ECS Repowering Permit Amendment

Approximate Day	Entity
---	Filing of Site Permit Amendment Application
20	EERA Comments on Application Completeness and Proposed Draft Site Permit
30	Notice of Public Information Meeting and Comment Period
50	Public Information Meeting
60	End of Public Comment Period
74	EERA Comments on Site Permit Amendment
95-115	Commission Meeting for Decision

On March 19, 2021, Department of Commerce, Energy Environmental Review and Analysis (EERA) staff recommended acceptance of the site permit amendment application as complete and provided a draft site permit for public comment.¹¹ On April 8, 2021, the Commission issued notice of a public meeting and comment period on the site permit amendment application.¹² A public meeting was held on April 29, 2021, and the public comment period closed on May 10, 2021.

Comments

Commission and EERA staff held a virtual (Webex + phone) public meeting regarding the applicant’s site permit amendment application on April 29, 2021. Approximately 40 persons called into the meeting, including presenters. Charley Bruce of PUC EFP presented on the process involved in permitting repowering projects; Matthew Langan of Xcel Energy presented on the details of the Nobles project; and David Birkholz of EERA presented on the environmental impacts and potential mitigations for the project. The panel solicited questions and comments on the Amendment Application and on the Draft Site Permit submitted by EERA.¹³

Two oral comments were made at the meeting: One person spoke in support of the project on behalf of union workers; and another person requested information on payments for those with participation agreements.¹⁴

¹¹ Comments and Recommendations on Completeness plus Draft Site Permit (Draft Site Permit), EERA, March 19, 2021, eDockets no. [20213-172070-01](#)

¹² Notice of Public Information Meeting and Comment Period, April 8, 2021, eDockets no. [20214-172679-01](#)

¹³ Record of Public Information Meeting, Shaddix & Associates, April 29, 2021, eDockets no. [20215-173916-01](#)

¹⁴ Id.

Public Comments

Comments were received during the comment period from three individuals local to the Project. One expressed concern over the incremental impact on personal health and aesthetics. The Amendment Application discusses mitigations for the repowered turbines. Specifically, for the noise of larger blades, the Applicant has modeled turbine-only noise at a maximum 47 db(A) at any receptor.¹⁵ In other words, the noise impact should be equal to or less than the existing project. Additionally, the Applicant will be implementing an aircraft detection lighting system (ADLS)¹⁶ which will turn off FAA lighting unless an aircraft is detected. This will eliminate the constant, blinking red lights that can be an especial impact during nighttime hours.

Two people submitted comments questioning waiver of turbine setbacks as set forth in the Draft Site Permit.¹⁷ EERA will discuss turbine setback waivers below. Additionally, one of those commenters also expressed concern over incremental impact of shadow flicker. A modeling of shadow flicker for the repowered project was conducted and is included in the Application. The modeling projects there would be four receptors (homes) of non-participants with more than 30 hours of shadow flicker per year.¹⁸ The Applicant discusses potential mitigations, including external or internal options, in the home in the Amendment Application.¹⁹

LIUNA Minnesota & North Dakota submitted comments supporting the project due primarily to the creation of quality union construction jobs. The comments suggest the Commission take a “flexible approach” when developing permit conditions, including adjustments to setback requirements, due to the potential economic benefits. EERA has no comment, leaving the evaluation and establishment of such equivalencies to the Commission as permitting authority.

Agency Comments

The Minnesota Department of Natural Resources (DNR) requested a permit condition that the applicant avoid upstream crossings during the Topeka Shiner (a federally-listed endangered and state-listed special concern fish species) spawning season.²⁰ (See further discussion under applicant reply comments below.) The DNR also noted the difference between a License to Cross Public Waters and a Public Waters Work Permit, noting a work permit is needed “to change or diminish the course, current, or cross section of public waters by filling, excavating, or placing materials in or on the bed of public waters.”

The Minnesota Department of Transportation (MnDOT) commented that turbines in proximity to state trunk highways ROW may warrant additional concern for public safety due to the height increases.²¹ To note, the closest state trunk highway, MN-91, is located three miles west of the project area. As per usual, MnDOT states it will not issue any permits, such as access or alterations, until after the Commission has approved an Amended Site Permit.

¹⁵ Amendment Application, Section 8.4

¹⁶ Amendment Application, Section 8.5

¹⁷ Draft Site Permit, Section 4.1

¹⁸ Amendment Application, Appendix F

¹⁹ Amendment Application, Section 8.5.5.2

²⁰ DNR Comment Letter, May 10, 2021, eDockets no. [20215-174021-01](#)

²¹ MnDOT Comment Letter, May 10, 2021, eDockets no. [20215-174004-01](#)

Reply Comments

One response, from the applicant, was received during the reply comment period.²² The applicant suggests that Special Condition 6.2 in the Draft Site Permit unnecessarily excludes the repowering of Turbine 21 due to potential interference with a county-designated beam path. EERA believes that that exclusion was included due to a miscommunication and agrees with the applicant that the condition should be removed in the final Site Permit. EERA would edit the Draft Site Permit as follows:

~~6.2 Microwave Beam Interference~~

~~To Avoid potential interference with a county-designated microwave beam path, the Permittee shall repower turbine 21 without the installation of large rotor blades.~~

The applicant addressed the comments of the DNR. The applicant noted that a public water work permit will be required for the project. The applicant also contends that the DNR requested permit condition is not necessary; they suggest an alternative special condition to follow USFWS recommendation for Topeka Shiners the Commission has included in previous repowering permits. Xcel Energy has committed to matting all crane paths and using temporary span bridges, as necessary, for waterbody crossings, including upstream tributaries even though they are not part of the designated critical habitat.

EERA contacted DNR to discuss whether they found the applicant's alternative satisfactory. DNR believes the above mitigations should be effective in attaining the protections they require. DNR does not have a record of having been presented with the draft language of the proposed special condition but find it satisfactory. EERA agrees the desired goals are achieved with the condition. EERA recommends including the USFWS fact sheet of recommendations for avoiding and minimizing impacts for Topeka shiners as an attachment to the permit. EERA would also amend the Draft Site Permit to include the following special permit condition:

6.2 Endangered Species

The Permittee must follow U.S. Fish and Wildlife Service's Recommendations for Projects Affecting Waters Inhabited by Topeka Shiners (2016) for avoiding and minimizing impacts for Topeka shiners. The summary of recommendations for avoiding and minimizing impacts to these populations must be made available to all contractors and its employees.

Finally, the applicant argues that the Commission's requirement in permit condition "5.6.2 Other Permits and Regulations" to provide an affidavit of compliance with other permits, authorizations and approvals is redundant to the condition's requirement to provide an updated status of those same at pre-construction; the applicant would strike that clause. EERA believes the Commission's intent in adding that clause to modern permits is to add a final compliance verification before actual construction. While EERA had not encountered significant compliance issues prior to the inclusion of the clause, EERA does not agree with the applicant that they are redundant requirements.

²² Reply Comments, Xcel Energy, May 25, 2021, eDockets no. [20215-174491-01](#)

EERA Staff Analysis and Comments

EERA staff believes that the applicant has essentially addressed the comments of the agencies and individuals who brought up issues during the comment period. EERA has offered some assessment of that in the above discussion. The main issue that remains to be addressed here is wind access buffer setbacks. With larger blades, the 3x5 RD is naturally larger, in some cases expanding beyond where the applicant has established wind project participation agreements. In some instances, the applicant has been able to enter into new agreements with landowners. In other cases, the applicant has not been able to obtain an agreement and is requesting waivers from the turbine wind access buffer.

Waiver of Wind Access Buffer Setbacks

The original application contained a request for the Commission to waive the wind access buffer for 63 of the 134 turbines.²³ On May 10, 2021, the applicant filed an update on its negotiations with landowners for wind rights for the repowering project.²⁴ Xcel Energy has obtained additional wind rights, reducing the number of waiver requests to 37 turbines. The applicant included an appendix updating the actual turbines for which they are still requesting waivers.²⁵

The Commission has, in recent repowering dockets, waived wind access buffer setbacks for select turbine locations within a project.²⁶ In some instances, these waivers have included conditions, e.g., filing of proposed landowner agreements or acknowledgements of the waiver of wind rights. The Commission has based these waivers on information in the record regarding:

- Negotiations with landowners and the results of these negotiations.
- The extent of the setback proposed to be waived – i.e., what portion of the 3 RD X 5 RD setback cannot be accomplished; what is its size and where is it located.
- The reason(s) for the waiver request. Is a waiver required because the Commission's setback standards have changed over time? Or is the waiver required because of the proposed repowering using longer turbine blades?

The Commission is charged with siting wind farms in an orderly manner that is compatible with environmental preservation, sustainable development, and the efficient use of resources.²⁷ In instances where the Commission has waived wind access buffers setbacks, it has done so because the waivers supported this charge.²⁸

²³ Amendment Application, Section 1.4

²⁴ Initial Comments, Xcel Energy, May 25, 2021, eDockets no. [20215-174032-01](#); Attachments [20215-174032-02](#)

²⁵ Initial Comments, Attachment A

²⁶ Community Wind North, Order Approving Amended Site Permit with Conditions, September 25, 2019, eDockets Number [20199-156059-01](#); Jeffers Wind 20, Order Issuing Amended Site Permit, September 23, 2019, eDockets Number [20199-156016-01](#); Fenton Wind Project, Order Granting Wind-Access-Buffer Waivers, April 25, 2019, eDockets Number [20194-152349-01](#); Trimont Wind I, Order Issuing Amended Site Permit and Requiring Monitoring, June 14, 2018, eDockets Number [20186-143837-01](#)

²⁷ Minnesota Statute 216F.03

²⁸ See, e.g., Community Wind North, Order Approving Amended Site Permit with Conditions, September 25, 2019, eDockets Number [20199-156059-01](#)

EERA considers the logic in granting waivers in this repowering project as follows:

1. The concept of turbine buffer setback is simply to protect the applicant and the development rights of nonparticipating landowners.
2. The particular of a 3 RD x5 RD setback has evolved over the last 20 years as the best, conservative estimate to achieve that protection.
3. It does not set a legal precedent for infringement of “wind rights.”
4. The larger RD size may or may not have a greater impact on that protection, based on wake-loss studies.
5. EERA supports Xcel extending payments to non-participants who may now have a technically larger impact due to larger RD.
6. EERA also believes the Commission has a right to waive that condition in its own permit, based on their best assessment of actual impact.

EERA believes the applicant has shown the impact to be *de minimus*.²⁹ The effect of extending the existing setbacks by the length of the larger rotor would not impede the non-participating landowners from developing their own parcels in any manner or from exercising their own wind development where they hold sufficient land and rights to do so. Given that, EERA would expect the applicant to continue to attempt to reach agreement with non-participating landowners up to and through construction. However, at this point EERA would support the requested waivers and edit the Draft Site Permit as follows:

4.1 Wind Access Buffer

Wind turbine towers shall not be placed less than five rotor diameters on the prevailing wind directions and three rotor diameters 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.

~~*[The Commission authorizes a variance of the wind access buffer setback for the following turbine locations: 63 turbines, including turbines: 1-2, 8-16, 18, 20-21, 25-26, 30-31, 34, 37, 50-51, 54-56, 58, 61, 63, 66-67, 69-70, 82-86, 89, 92-93, 95-99, 101-102, 105, 108-109, 116-117, 119, 122, 125-128, and 130-134. Update prior to permitting following continuing negotiations.]*~~

[The Commission authorizes a variance of the wind access buffer setback for the following turbine locations: 37 turbines, including turbines: 1-2, 12, 37, 50-51, 54, 56, 58, 61, 63, 66-67, 85, 92-93, 95-99, 101-102, 105, 108-110, 116-117, 122, 126, 128, 130-134.]

²⁹ Initial Comments, Attachment C

EERA Staff Recommendation

EERA staff recommends approval of the Nobles Wind Farm Site Permit Amendment, as it is compatible with environmental preservation, sustainable development, and the efficient use of resources. EERA recommends the applicant follow USFWS recommendations for protection of Topeka Shiners and provide information on compliance of other downstream permits or approvals, such as road agreements and MnDOT approvals. EERA recommends that the Commission waive the standard wind access buffers for the 37 turbines mentioned above, and further recommends the Permittee continue to seek agreements with non-participants newly affected by the larger buffer sizes.



David Birkholz, Environmental Review Manager
Energy Environmental Review and Analysis
Department of Commerce

June 3, 2021

Date