

Staff Briefing Papers

Meeting Date: January 13, 2022

Agenda Item *2

Company: Plum Creek Wind Farm, LLC

Docket Nos.: IP-6997/WS-18-700

In the Matter of the Application of Plum Creek Wind Farm, LLC for a Site Permit for an up to 414 MW Large Wind Energy Conversion System in Cottonwood, Murray, and Redwood Counties, Minnesota

Issues: What action should the Commission take regarding Plum Creek Wind Farm, LLC's Request for Clarification?

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Relevant Documents

Date

Order Granting Certificate of Need and Issuing Site Permit and Route Permit (20219-178198-03 and 20219-178198-06)	09/23/2021
Plum Creek Wind Farm, LLC's Request for Clarification (202110-178767-02)	10/13/2021
Department of Commerce Energy Environmental Review and Analysis Comments and Recommendations (202112-180689-01)	12/15/2021
Plum Creek Wind Farm, LLC's Reply Comments (202112-180908-01)	12/21/2021

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The attached materials are work papers of the Commission Staff. They are intended for use by the Public Utilities Commission and are based upon information already in the record unless noted otherwise.

I. STATEMENT OF THE ISSUES

What action should the Commission take regarding Plum Creek Wind Farm, LLC's Request for Clarification?

II. PROCEDURAL HISTORY

On September 23, 2021, the Commission issued a site permit and a route permit for the construction and operation of the Plum Creek Wind Facility, a 414-megawatt large wind energy conversion system consisting of 67 to 74 wind turbines ranging from 5.6 to 6.2 megawatts in size and an associated 31-mile 345-kilovolt transmission line. The Plum Creek Wind Facility is located in portions of Cottonwood, Murray, and Redwood counties.

On October 13, 2021, Plum Creek Wind Farm, LLC (Plum Creek), filed a Request for Clarification of Section 7.2 of the Site Permit for the Plum Creek Wind Facility. The Request for Clarification was filed within the 20-day period for reconsideration of the Commission's order but did not specifically indicate that it was to be considered as such.¹ Upon further review of the filing, staff determined that the request aligned more properly with a permit amendment request rather than a grievance with a commission order. Therefore, staff prepared a notice of comment period that was issued on December 1, 2021, with an initial comment period ending on December 15, and a reply comment period ending on December 22. Initial comments were filed by the Department of Commerce Energy Environmental Review and Analysis (EERA) and reply comments were filed by Plum Creek.²

III. LEGAL STANDARD

Under Minn. Stat. § 216F.04(d) and Minn. R. 7854.1300, the Commission has specific authority to modify or amend a site permit for a wind project at any time if there is good cause to do so.³

¹ See Minn. Stat. § 216B.27 and Minn. R. 7829.3000.

² A comment was also received from a Ms. Laurie Johnson ([202112-180688-01](#)) indicating general opposition to the wind facility.

³ See also sections 12.4 and 13 of the site permit.

IV. REQUEST FOR CLARIFICATION

A. Plum Creek's Request for Clarification

In its Request for Clarification, Plum Creek argued that the permit language in Section 7.2 of the Site Permit concerning shadow flicker includes compliance requirements not previously discussed in the record and that the section should be amended to match the Commission's order more closely in this matter. Specifically, Plum Creek pointed to the requirement to install shadow flicker detection and monitoring systems. Plum Creek argued that there may be other suitable methods to mitigate and reduce shadow flicker exposure to fewer than 30 hours per year. Plum Creek's proposed amendments to Section 7.2 of the site permit are presented below in Table 1.

Table 1
Summary of Proposed Language Changes to Section 7.2

Current Language - Section 7.2 of Site Permit	Amendments to Section 7.2 Proposed by Plum Creek	New Language Recommended by EERA
<p>The Permittee shall prepare a Shadow Flicker Management Plan. The plan shall be filed at least 14 days prior to the pre-operation meeting. The plan shall provide data on shadow flicker for each residence of non-participating landowners and participating landowners within and outside of the project boundary potentially subject to turbine shadow flicker exposure. Information shall include the results of modeling used; assumptions made; the anticipated levels of exposure from turbine shadow flicker for each residence; and documentation on the proposed methods to avoid, minimize, and mitigate shadow flicker exposure, including relevant communications with residents.</p> <p>Should modeling identify any residence that will experience 30</p>	<p>The Permittee shall prepare a Shadow Flicker Management Plan. The plan shall be filed at least 14 days prior to the pre-operation meeting. The plan shall provide data on shadow flicker for each residence of non-participating landowners and participating landowners within and outside of the project boundary potentially subject to turbine shadow flicker exposure. Information shall include the results of modeling used; assumptions made; the anticipated levels of exposure from turbine shadow flicker for each residence; and documentation on the proposed methods to avoid, minimize, and mitigate shadow flicker exposure, including relevant communications with residents.</p> <p>Should modeling identify any residence that will experience 30</p>	<p>At least 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 potentially subject to turbine shadow flicker exposure. 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 avoid, minimize and mitigate shadow flicker exposure. The results of any modeling shall be filed with the Commission at least 14 days prior to the pre-construction meeting to confirm compliance with conditions of this permit.</p>

<p>hours or more of shadow flicker per year, the residence must be specifically identified in the Shadow Flicker Management Plan. If through minimization and mitigation efforts identified in the plan the Permittee is not able to reduce a residence's anticipated shadow flicker exposure to less than 30 hours per year, a shadow flicker detection system will be utilized during project operations to monitor shadow flicker exposure at the residence. The plan must detail the placement and use of any shadow flicker detection systems, describe how the monitoring data will be used to inform turbine operations, and include a detailed plan of when and how turbine operations will be adjusted to mitigate shadow flicker exposure exceeding 30 hours per year at any one residence.</p> <p>The Permittee may exclude from the Shadow Flicker Management Plan residences that exceed 30 hours per year by providing documentation that the landowners have reached an alternative agreement or a waiver as it relates to shadow flicker. If agreement is reached with a landowner regarding shadow flicker after the pre-construction meeting the Permittee may remove that residence from coverage under the plan.</p> <p>The results of any shadow flicker monitoring, mitigation implementation, and notice of later agreements will be reported by the Permittee in the Annual Project</p>	<p>hours or more of shadow flicker per year, the residence must be specifically identified in the Shadow Flicker Management Plan. If through minimization and mitigation efforts identified in the plan the Permittee is not able to reduce a residence's anticipated shadow flicker exposure to less than 30 hours per year, a shadow flicker detection system will be utilized during project operations to monitor shadow flicker exposure at the residence. The plan must detail the placement and use of any shadow flicker detection systems, describe how the monitoring data will be used to inform turbine operations, and include the Permittee must include a detailed plan of when and how turbine operations will be adjusted to mitigate shadow flicker exposure exceeding 30 hours per year at any one residence.</p> <p>The Permittee may exclude from the Shadow Flicker Management Plan residences that exceed 30 hours per year by providing documentation that the landowners have reached an alternative agreement or a waiver as it relates to shadow flicker. If <u>a waiver is obtained or an</u> agreement is reached with a landowner regarding shadow flicker after the pre-construction meeting the Permittee may remove that residence from coverage under the plan.</p> <p>The results of any shadow flicker <u>management plan monitoring,</u> mitigation implementation, and</p>	<p>The Permittee shall develop a project wide Shadow Flicker Management Plan that reduces shadow flicker exposure to less than 30 hours per year for all occupied residences. The Permittee may exclude from the Shadow Flicker Management Plan residences that exceed 30 hours per year by providing documentation that the landowners have reached an alternative agreement as it relates to shadow flicker. If agreement is reached with a landowner regarding shadow flicker after the pre-construction meeting the Permittee may remove that residence from coverage under the plan.</p> <p>Commission staff and EERA staff will be responsible for the review and approval of the Shadow Flicker Management Plan.</p>
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Energy Production Report identified in Section 10.8 of this Permit. The Commission may require the Permittee to conduct shadow flicker monitoring and mitigation at any time during the life of this permit.	notice of later agreements will be reported by the Permittee in the Annual Project Energy Production Report identified in Section 10.8 of this Permit. The Commission may require the Permittee to conduct shadow flicker monitoring and mitigation at any time during the life of this permit.	
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B. EERA Comments and Recommendations

EERA recommended that the language in Section 7.2 of the Plum Creek Site Permit be replaced with language recently approved in the Grand Meadow docket.⁴ EERA reasoned that potential shadow flicker issues are best dealt with in a shadow flicker management plan, for example: (1) methods to mitigate shadow flicker exposure to fewer than 30 hours per year must be included in the plan; (2) plan submittal prior to the pre-construction meeting allows for time to make slight adjustments to the project to accommodate identified issues before the site is physically developed; and (3) the plan is a post-permit compliance deliverable that must be approved before construction can begin.

C. Plum Creek Reply Comments

In reply comments, Plum Creek agreed with EERA's proposed language changes indicating that the changes address its concerns. Plum Creek requested that the Commission approve the changes proposed by EERA.

V. STAFF DISCUSSION

Staff agrees with the language changes proposed by EERA for Section 7.2 of the Site Permit. The language provides the clarity sought by Plum Creek yet still retains the protections that the Commission had intended.

Staff notes that the following annual reporting component of the current language was not carried forward by EERA:

⁴ *In the Matter of the Site Permit Amendment Application of Northern States Power Company for the Grand Meadow Wind Farm Repower Project in Mower County, Minnesota*, Docket No. IP-6646/WS-07-839, Document ID [202110-178766-01](#).

The results of any shadow flicker monitoring, mitigation implementation, and notice of later agreements will be reported by the Permittee in the Annual Project Energy Production Report identified in Section 10.8 of this Permit.

It is possible that similar language may be included in a shadow flicker management plan rather than the site permit. The Commission may want to ask EERA about this reporting requirement.

Alternatively, the Commission could add the following language to Section 7.2:

The Shadow Flicker Management Plan shall contain annual reporting filing requirements to monitor compliance and receipt of notices of any later agreements.

VI. POSSIBLE COMMISSION DECISIONS

1. Accept the amendments to Section 7.2 of the site permit as proposed by Plum Creek.
2. Accept the amendments to Section 7.2 of the site permit as proposed by EERA.
3. Include the additional language proposed by staff concerning annual reporting requirements.
4. Deny the proposed site permit amendments.

Staff Recommendation: 2 and 3