

**ENERGY INFRASTRUCTURE PERMITTING STAFF
REPLY COMMENTS ON A SITE PERMIT AMENDMENT**

Big Bend Wind Project

DOCKET NO. IP-7013/WS-19-619

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In the Matter of the Application of Big Bend Wind, LLC for a Large Wind Energy Conversion System Site Permit for the up to 300 MW Big Bend Wind Project in Cottonwood and Watonwan Counties, Minnesota.

Issues Addressed: These reply comments address public comments that were submitted during the initial comment period for proposed amendments to the site permit for the Big Bend Wind Project.

Additional documents and information can be found on eDockets:

<https://www.edockets.state.mn.us/documents> (19-619) and on the Commission's website:

<https://puc.eip.mn.gov/web/project/14153>.

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Introduction and Background

On October 31, 2025, Big Bend Wind, LLC (Big Bend) filed a request to amend their site permit for the Big Bend Wind Project.¹ Big Bend has requested this amendment to the site permit under Minn. Stat. § 216I.09 and Site Permit Section 13.0.

Big Bend is seeking to amend the site permit as follows:

- Turbine technology changes
 - Remove Nordex N-163 turbine from consideration

¹ Big Bend Wind, LLC, *Site Permit Amendment Request Letter* (2025 SPAR), October 31, 2025, eDocket No. [202510-224488-01](#), [202510-224488-02](#), [202510-224488-03](#), [202510-224488-04](#), [202510-224488-05](#), 202510-224488-06 (Non-public), [202510-224488-07](#), [202510-224488-08](#), [202510-224488-09](#), [202510-224488-10](#)

- Upgrade the GE-158 turbine from a capacity of 5.8 MW to 6.1 MW, this comes with no changes in the turbine's dimensions;
- Site layout changes
 - Remove two possible turbine locations
 - Addition of a collection line easement, avoiding a collection line crossing a Minnesota Department of Natural Resources (MDNR) driveway
 - Shifting the location of the project's O&M building so it is collocated with the Project substation (location was previously planned, reviewed, and permitted to be the location of Red Rock Solar substation²)

On November 26, 2025, the Commission issued a notice³ soliciting comments on Big Bend's site permit amendment request (2025 SPAR). The Commission identified the following topics for comment:

- Are there any new or changed human or environmental impacts from the redesigned project when compared to the original project?
- If the proposed design changes were known to the Commission at the time the site permit was issued, would the Commission have made a different decision?
- Should the Commission approve Big Bend Wind's petition to amend the site permit for the Big Bend Wind Project?
- Are there other issues or concerns related to this matter?

Energy Infrastructure Permitting (EIP) staff⁴ and Mr. Brad Hutchison⁵ provided comments during the initial comment period which ended on December 10, 2025.

EIP Staff Reply Comments

EIP staff have reviewed the comments submitted by Mr. Hutchison and provides the following reply comments to address Mr. Hutchison's concerns and to also provide clarity for the Commission regarding the proposed amendment of the Big Bend Wind Project site permit.

Mr. Hutchison's comments focus on three primary issues/concerns:

1. The environmental assessment (EA) originally prepared for the project is based on outdated data and needs to be updated.
2. The Jeffers Petroglyphs settlement agreement highlights environmental impacts to area homeowners that have not been addressed.

² Commission, *Attachment 2*, September 28, 2022, eDocket No. [20229-189351-15](#)

³ Commission, Notice of Comment Period on Site Permit Amendment, November 26, 2025, eDocket No. [202511-225345-01](#)

⁴ PUC EIP, Comments on Permit Amendment Request, December 10, 2025, eDocket No. [202512-225702-01](#)

⁵ PUC, Public Comment – Brad Hutchison 1, December 11, 2025, eDocket No. [202512-225744-01](#)

3. Alternative plans for wind development in Minnesota.

Current EA and Updated Data

EIP staff acknowledges the EA for the project was issued in January 2022, with some revisions completed in February 2022.⁶ Staff believes the 2022 EA, and corrections, are still adequate with respect to the analysis of the project's potential human and environmental impacts. Additionally, the permittee provided updated information in their filed amendment application request,⁷ regarding the potential human and environmental impacts of the amended project.

The site permit application is considered the primary environmental review document when the Commission considers site permit issuance for wind energy facilities, and in turn the site permit amendment application is considered an amendment to the environmental review and analysis document for the project. Based on staff's review of Big Bend's updated environmental analysis of the potential impacts associated with the amended project, staff believes Big Bend has adequately addressed potential human and environmental impacts that will be associated with the amended project.

Big Bend provided updated sound modeling and shadow flicker modeling analysis for the uprated GE-158 turbine they have requested to use for the amended project. Because the locations, dimensions and noise characteristics of the uprated GE-158 turbine have not changed from the originally proposed and permitted GE-158 wind turbine, no changes to potential noise or shadow flicker impacts are anticipated to occur.

Staff acknowledges Mr. Hutchison's concerns with respect to potential turbine noise impacts that may increase due to the loss of several large ash trees throughout the project area. Although the presence of trees on the landscape does provide some attenuation of sound and may be noticeable at individual residences, noise modeling conducted for wind projects does not consider the potential attenuation of existing vegetation.⁸ Generally, noise modeling is completed with a "worst – case scenario" approach and vegetation on the landscape is not factored into the modeled sound levels to be experienced at individual receptors. This type of attenuation may be reflected in monitoring of the ambient sound levels within portions of the project area, but the ambient sound level utilized in the noise modeling is a general average across the entire project area.

Staff does not believe that the loss of individual trees across a project area the size of the Big Bend Wind Project will have a significant impact on the ambient sound level. Additionally, without a very significant

⁶ DOC-EERA, *Environmental Assessment (EA) – Summary and Main Document*, January 18, 2022. eDocket No. [20221-181617-03](#), [20221-181617-08](#), [20221-181617-13](#)

⁷ Big Bend Wind, LLC, *Site Permit Amendment Request Letter* (2025 SPAR), October 31, 2025, eDocket No. [202510-224488-01](#), [202510-224488-02](#), [202510-224488-03](#), [202510-224488-04](#), [202510-224488-05](#), [202510-224488-06](#) (Non-public), [202510-224488-07](#), [202510-224488-08](#), [202510-224488-09](#), [202510-224488-10](#)

⁸ Selkimäki, M., J. Riippi, P. Rana, L. Lamula, M. Antila, T. Heinonen, T. Tokola. *Forest landscape shield models for assessing audio-visual disturbances of wind turbines*, Journal of Environmental Management, Volume 352, February 2024, ISSN 0301-4797, <https://www.sciencedirect.com/science/article/pii/S0301479724000562>.

increase (10 or more decibels) in ambient sound levels within the project area there would be minimal to no changes in the noise modeling analysis results.

Mr. Hutchison also commented that the loss of the large tree makes it more apparent that the ground factor of G=0.5 is not realistic to use in noise modeling. Per the current ANSI/ACP wind turbine sound modeling standards, a ground factor of G=0.5 is appropriate as long as a +2 (two) decibel factor is added to the turbine's sound power level.⁹ Big Bend's Noise Assessment Report indicates that the noise modeling was conducted in accordance with the ANSI/ACP wind turbine sound modeling standards, and a ground factor of G=0.5 was used and two additional decibels were added to the proposed turbine models' sound power levels.¹⁰ Big Bend's Noise Assessment Report indicates that no forest attenuation was taken into consideration during the noise modeling,¹¹ so the loss of trees throughout the project area will not impact the noise modeling analysis results.

The project amendment does not propose additional land clearing activities or grading, other than what has been permitted previously by the Commission. To the best of staff's knowledge there has not been any significant grading or excavation activities related to other projects within the area, so the topography of the area has not been changed since the EA was completed.

Jeffers Petroglyphs Settlement Agreement

The Jeffers Petroglyphs have a long history of significant ceremonial and spiritual purposes for numerous Native American Tribes. The Settlement Agreement between Big Bend Wind, Apex Clean Energy, the Minnesota Historical Society, Lower Sioux Indian Community in the State of Minnesota (Lower Sioux), and the Upper Sioux Community (Upper Sioux) was initiated to specifically address the concerns of potential cultural and archaeological impacts of the wind turbines at the Big Bend Wind Project on individuals using the Jeffers Petroglyphs for ceremonial and/or spiritual purposes.¹² The potential visual impacts of a wind turbine associated with cultural activities at the Jeffers Petroglyphs are not considered the same as a homeowner, an individual driving a vehicle on a road within the project area, or individuals working outdoors within the project area simply being able to see a wind turbine. Simply viewing a wind turbine during typical everyday activities is not considered to cause human or environmental harm or damage.

⁹ American National Standards Institute, *ANSI/ACP Standard 111-1 – Wind Turbine Sound Modeling*. 2022

¹⁰ Big Bend Wind, LLC, *Other – Attachment C-Noise Assessment Report*. October 31, 2025, eDocket No. [202510-224488-05](#).

¹¹ Big Bend Wind, LLC, *Other – Attachment C-Noise Assessment Report*. October 31, 2025, eDocket No. [202510-224488-05](#).

¹² Big Bend Wind, LLC, *Other – 2021-09-14 Big Bend Settlement Agreement*, September 14, 2021, eDocket Nos. [20219-177943-02](#), [20219-177943-05](#), [20219-177943-08](#), [20219-177943-11](#), [20219-177943-14](#), [20219-177943-17](#), [20219-177943-20](#), [20219-177943-23](#)

The Settlement Agreement identified four turbines for which Big Bend requested wind access buffer setback waivers. The site permit issued to Big Bend Wind provided a waiver, allowing for a reduced wind access buffer for two specific wind turbine locations at the facility. This waiver request was reviewed and approved by the Commission at the time of issuance of the original site permit. Staff is not aware of the need for additional wind access buffer waivers for the proposed site permit amendment.

Alternatives Plans

Finally, Mr. Hutchison commented that “the burden of coming up with an alternative plan should truly be placed on those who have set the guidelines for wind development in the state of Minnesota.” It is not entirely clear to EIP staff what Mr. Hutchison means by “an alternative plan.” Staff does not suggest alternatives to proposed energy generation facilities for the Commission’s consideration. Staff has confirmed that all lands to be used in the construction and operation of the proposed Big Bend Wind Project currently are, or will be, under an easement and/or agreement with Big Bend. Land easements will be reviewed again by staff as part of a required pre-construction compliance filing to be made by Big Bend.

EIP Staff Recommendations

Staff believes that the updated sound modeling and shadow flicker modeling completed by Big Bend is an appropriate analysis of the potential human and environmental impacts associated with the proposed site permit amendment. Staff recommends that the Commission approve the amendment of the Big Bend Wind Project site permit as was described in staff’s December 10, 2025, comments.