

Staff Briefing Papers

Meeting Date: February 4, 2021

Agenda Item *1

Company: Xcel Energy

Docket No. IP6961/WS-16-686

In the Matter of the Application of Blazing Star Wind Farm, LLC for a Site Permit for the up to 200-Megawatt Blazing Star Wind Project in Lincoln County, Minnesota

Issues: What action should the Commission take on Mr. Ron Weverka's Noise Complaint?

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 Relevant Documents	Date
Order Approving Site Permit Amendments	04/02/2019
Noise Monitoring Report - Ron Weverka Residence (July 9, 2020)	01/13/2021
Ron Weverka Complaint Letter (September 25, 2020)	01/13/2021
BSW Noise Complaint Response – Weverka Residence (Outdoor) (November 23, 2020)	01/13/2021
Department of Commerce Environmental Energy Review and Analysis Comments and Recommendations	01/14/2021
Xcel Energy Response to Complaint	01/21/2021

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These 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 on Mr. Ron Weverka's Noise Complaint?

II. PROJECT DESCRIPTION

The Blazing Star 1 wind facility is a 200-megawatt large wind energy conversion system (LWECS) located in Hansonville, Hendricks, and Marble townships in Lincoln County, Minnesota. The wind facility is comprised of 100 Vestas 2.0-megawatt turbines (90 V120 models and 10 V110 models). The wind facility was issued a site permit on August 3, 2017,¹ and began commercial operation on April 3, 2020.

III. HISTORY OF COMPLAINT

Xcel Energy (Xcel) began submitting monthly complaint reports in April 2020, the same month commercial operation started.² According to the April 2020 monthly noise complaint report, Mr. Ron Weverka made an initial complaint with Xcel on March 9, 2020, indicating elevated noise from Turbine T-90 was negatively impacting daily activities and preventing sleep.

In response to the complaint, Xcel representatives met with Mr. Weverka that same day and recommended that supplemental noise monitoring be conducted at the property to further characterize noise levels. In addition, Xcel placed Turbine T-90 on daily curtailment between 7:00 p.m. and 7:00 a.m.

In July 2020, Xcel completed its report on the sound monitoring performed at the Weverka residence on March 11, 2020; March 31 to April 4, 2020; and May 18 and 19, 2020.³ The report concluded that daytime noise levels were compliant with Minnesota noise standards. However, due to the limited hours of valid noise monitoring data and the limited weather conditions they represent, additional outdoor noise monitoring and monitoring inside Weverka residence was recommended.

On August 31, 2020, Mr. Weverka contacted Commission staff concerning the ongoing noise impacts at his residence from the Blazing Star 1 wind facility. Mr. Weverka reported that the noise continued to prevent sleep and has caused his wife to have headaches and feel ill.

¹ The site permit was transferred from Blazing Star Wind, LLC to Xcel Energy on December 11, 2018. The site permit was amended on April 2, 2019, to reflect a change in wind turbine technology.

² It should be noted that turbines were operational prior to commercial operation of the facility in order to perform noise testing and other operational requirements.

³ Xcel Energy, Noise Monitoring Report - Ron Weverka Residence, July 9, 2020 (Document ID [20211-169780-01](#)).

On September 1, 2020, staff contacted Xcel Energy about Mr. Weverka's noise complaint. Xcel indicated representatives have been in regular contact with Mr. Weverka and that additional on-site noise monitoring both inside and outside the residence is scheduled to begin on September 8, 2020. Staff requested that Xcel continue to work closely with Mr. Weverka to further analyze and, if possible, attempt to resolve the noise complaint.

On September 21, 2020, staff contacted Mr. Weverka to let him know that Xcel had been contacted and explained that the additional noise monitoring that is being performed is necessary in order to better evaluate the noise levels at his property. In addition, because Mr. Weverka's complaint had been ongoing since March 2020, and because he has been contacting staff on a regular basis, staff asked Mr. Weverka to prepare a letter detailing his complaint.

Staff received Mr. Weverka's letter on September 25, 2020.⁴ Following is a summary of the letter:

Mr. Weverka identified his residence as being located in Section 25 of Hendricks Township in Lincoln County. The wind turbine identified by Mr. Weverka is Turbine T-90 and is described as being 966 feet from his home.⁵ Mr. Weverka described the noise from Turbine T-90 as a thumping and pounding sound that does not stop. Mr. Weverka said the noise is preventing outside activities in his yard, making tools vibrate in his workshop, and is causing mental and physical impacts such as stress, headaches, and upset stomachs. Mr. Weverka's wife stated that she had visited her doctor due to health concerns related to the noise. Mr. Weverka indicated that he has been in contact with Xcel several times and that the noise testing is not resulting in a resolution to the problem. Mr. Weverka asserted that the turbine is not always curtailed overnight and that he has had to contact to Xcel to report this. The Weverka's requested that Turbine T-90 be taken down, curtailed both day and night, or that Xcel purchase their property.

Between September and November 2020, staff discussed the situation separately with Mr. Weverka and Xcel during several phone conversations. In that time, Xcel Energy had completed the report on the supplemental noise monitoring performed at the Weverka residence between September 8 and 29, 2020. The report concluded that operation of the wind turbines near the Weverka residence did not exceed the daytime noise standards, but that nighttime noise standards were exceeded four times.⁶

⁴ Weverka Complaint Letter, September 25, 2020.

⁵ Xcel indicated that Turbine T-90 is approximately 1, 150 feet northwest of the Weverka residence. The only other turbines within one mile of the property are Turbine T- 78 (4,300 feet north) and Turbine T- 79 (4,900 feet north).

⁶ RSG, BSW Noise Complaint Response – Weverka Residence (Outdoor), November 23, 2020 (Document ID 20211-169783-01).

On December 10, 2020, in a phone conversation with Commission staff, Mr. Weverka indicated that the noise problem persisted, that there has been no resolution, and requested that the matter be taken up by the Commission.

Staff notes that the complaint at that time had been active for at least 10 months with no satisfactory resolution. As provided by the site permit complaint procedures, an unresolved complaint is a complaint which, despite the good faith efforts of the permittee and a person, remains unresolved or unsatisfactorily resolved to one or both of the parties. Staff believes this complaint may be considered unresolved.

Staff contacted Department of Commerce Environmental Energy Review and Analysis (DOC EERA) and requested that it review the noise complaint and the two noise monitoring reports and provide comments and recommendations. Staff also contacted Xcel Energy to notify them of the decision and requested that Xcel Energy provide any additional information on the complaint by January 21, 2021.

IV. SITE PERMIT CONDITIONS

Site Permit Section 4.2 - Residences

Wind turbine towers shall not be located closer than 1,000 feet from all residences or the distance required to comply with the noise standards pursuant to Minn. R. 7030.0040, established by the Minnesota Pollution Control Agency, whichever is greater.

Site Permit Section 4.3 - Noise

The wind turbine towers shall be placed such that the Permittee shall, at all times, comply with noise standards established by the Minnesota Pollution Control Agency as of the date of this permit and 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 Minnesota Pollution Control Agency 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.

Minnesota Rule 7030.0040 - Noise Standards

Subpart 1. Scope. These standards describe the limiting levels of sound established on the basis of present knowledge for the preservation of public health and welfare. These standards are consistent with speech, sleep, annoyance, and hearing conservation requirements for receivers within areas grouped according to land activities by the noise area classification (NAC) system established in part 7030.0050. However, these standards do not, by themselves, identify the limiting levels of impulsive noise needed for the preservation of public health and welfare. Noise standards in subpart 2 apply to all sources.

Subpart 2. Noise Standards.

Noise Area Classification	Daytime		Nighttime	
	L ₅₀	L ₁₀	L ₅₀	L ₁₀
1	60	65	50	55
2	65	70	65	70
3	75	80	75	80

V. DOC EERA COMMENTS AND RECOMMENDATIONS

DOC EERA filed comments and recommendations on the noise complaint on January 14, 2021.⁷ DOC EERA provided an analysis and summary of the July 9, 2020 Noise Monitoring Report and the November 23, 2020 BSW Noise Complaint Response Report. DOC EERA concluded the following:

- Monitoring of the fully operating Blazing Star 1 wind facility did not identify any exceedances of the daytime noise level limits.
- The wind facility, including Turbine T-90, can operate at full power level production during daytime hours without exceeding daytime total noise limits.
- Full operation of the Blazing Star 1 wind facility, including Turbine T-90, can generate an exceedance of 50 dBA at Monitoring Location 2 on the Weverka Property.
- The total sound levels produced by Turbine T-90 during daytime hours would exceed the nighttime noise level limits if the same weather conditions were present at night.
- Under certain weather conditions Turbine T-90 was a significant sound contributor to Monitoring Location 2 on the Weverka Property.
- Monitoring identified that Turbine T-90 could be operated at 50% power level output during nighttime periods and under specific meteorological conditions without exceeding the nighttime noise level limit.

⁷ DOC EERA, Comments and Recommendations, January 14, 2021 (Document ID [20211-169833-01](#)).

- Turbine only sound levels from Turbine T-90, measured at Monitor Location 2 on the Weverka Property, are one to two dB higher than indicated by the Project's pre-construction sound propagation modeling.

DOC EERA made the following recommendations:

- Because the Weverka complaint was submitted on March 9, 2020, prior to commercial operation of the wind facility on April 3, 2020, DOC EERA recommended that the Commission require Xcel to file a letter clarifying the timing inconsistencies.
- To address the Weverka complaint, DOC EERA recommended that Xcel be required to develop a Curtailed Turbine Operation Plan for Turbine T-90, in coordination with DOC EERA staff. DOC EERA specified that the Curtailed Turbine Operation Plan should identify specific meteorological conditions and background sound levels, including other Project turbine operation noises, under which Turbine T-90 can operate during nighttime hours and not exceed the nighttime sound level limits; and should also provide specifics on additional sound level monitoring activities at the Weverka Property to further validate the sound levels during the operation of Turbine T-90.

VI. XCEL ENERGY COMMENTS

In its comments, Xcel explained that it has been working with Mr. Weverka since receiving his initial complaint during operational testing in March 2020.⁸ Xcel Energy pointed to the following steps it has taken to resolve the issue:

- Initially curtailed Turbine T-90 from 7:00 p.m. to 7:00 a.m., and at the Weverka's request, adjusted the curtailment times to 6:00 p.m. to 6:00 a.m.
- Performed noise monitoring at the Weverka residence on two different occasions; a preliminary study performed by Xcel personnel and a larger study performed by a third-party noise consultant.

Based on the noise monitoring results that indicated nighttime noise standards were exceeded on four different occasions (one occurring during turbine operation and the others when the turbine was off), Xcel stated that it will continue to curtail T-90 from 6:00 p.m. to 6:00 a.m. each day until an understanding can be reached on how to avoid any exceedances of the nighttime noise standard.

⁸ Xcel Energy, Response to Complaint, January 21, 2021 (Document ID [20211-170084-01](#)).

Xcel also agreed to coordinate with DOC EERA to determine the appropriate noise mitigation measures that are necessary to ensure compliance with the noise standards and the site permit and will undertake additional noise analysis to ascertain turbine-only noise for T-90.

VII. COMMISSION DECISION OPTIONS

1. Require Xcel to file a letter that explains the inconsistencies concerning turbine operations and the date the wind facility was considered commercially operational.
2. Require Xcel to coordinate with the DOC EERA to (i) determine the appropriate noise mitigation measures that are necessary to ensure compliance with the noise standards and the site permit at the Weverka residence; and (ii) develop a Curtailed Turbine Operation Plan for Turbine T-90.
3. Require Xcel to file monthly updates summarizing the status of the Weverka noise complaint and actions taken to resolve the noise complaint.
4. Take some other action deemed appropriate.

Staff Recommendation: 1, 2, and 3