

STATE OF VERMONT
PUBLIC UTILITY COMMISSION

Docket 7250

Amended Petition of Deerfield Wind, LLC, for a certificate of public good authorizing it to construct and operate a 15-turbine, 30 MW wind generation facility, and associated transmission and interconnection facilities, on approximately 80 acres in the Green Mountain National Forest, located in Searsburg and Readsboro, Vermont, with 7 turbines to be placed on the east side of Route 8 on the same ridgeline as the existing GMP Searsburg wind facility (Eastern Project Area), and 8 turbines along the ridgeline to the west of Route 8 in the northwesterly orientation (Western Project Area)	
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Order entered: 07/01/2021

ORDER REGARDING FALL 2020 SOUND MONITORING

I. INTRODUCTION

This case pertains to the amended certificate of public good (“Amended CPG”) issued by the Vermont Public Utility Commission (“Commission”) to Deerfield Wind, LLC (“Deerfield”) for construction and operation of a 30 MW wind electric generation facility located in Searsburg and Readsboro, Vermont (the “Project”).

In this order, we review the round of sound monitoring conducted in the Fall of 2020 to determine whether outside-to-inside noise reduction (“OINR”) testing is required at Mr. Tom Shea’s residence. Based on this review, we conclude that the requirement for OINR testing at Mr. Shea’s residence is not triggered and that no further sound monitoring is required at this time.

II. RELEVANT PROCEDURAL HISTORY

On June 26, 2020, the Commission ordered an additional round of sound monitoring in the Fall of 2020 to determine whether outside-to-inside noise reduction (“OINR”) testing is required at Mr. Shea’s residence and providing additional guidance for the collection and

analysis of the sound monitoring data.¹ The Fall 2020 monitoring, in combination with the Spring 2019 monitoring, was to be used to determine whether the requirement for OINR testing had been triggered.²

On January 12, 2021, the Vermont Department of Public Service (“Department”) filed the Fall 2020 Sound Monitoring Compliance Report (“Fall 2020 Report”) compiled by Cross-Spectrum Acoustics, Inc. (“CSA”), the Department’s expert.

On March 15, 2021, Deerfield filed comments on the Fall 2020 Report.

On March 16, 2021, Windaction Group and Tom Shea (“Windaction/Shea”) filed comments on the Fall 2020 Report.

On April 14, 2021, the Department filed reply comments.

No other comments were received.

III. PARTIES’ POSITIONS

The Department

In its reply comments, the Department summarizes the conclusion reached in the Fall 2020 Report that the sound level associated with the Project measured 39 dBA (L_{eq})(1 hr).³ The Department addresses comments from both Deerfield and Windaction/Shea regarding the methods used to analyze the data collected for the Fall 2020 sound monitoring. The Department characterizes Deerfield’s squabbles with the data as “not imperative” to Deerfield’s sound consultant’s “ultimate conclusion that CSA’s sound monitoring complied with the Protocol.”⁴ The Department similarly dismisses Windaction/Shea’s comments as focused on the ANSI Standards, which the Department argues “were only consulted as a means to provide guidance and address the Commission’s question regarding uncertainty factors.”⁵ The Department argues in response to both Deerfield and Windaction/Shea that the ANSI Standards “are not applicable

¹ A corrected version of this Order was issued on September 9, 2020, to remedy typographical errors. Also on September 9, 2020, the Commission issued an order denying Windaction Group and Tom Shea’s motion to amend the decision in the June 26, 2020, Order.

² The Fall 2018 sound monitoring was not compliant with the Protocol and, thus, will not be used to determine whether OINR testing has been triggered at Site C. Docket 7250, Order of 1/9/20 at 5.

³ Department of Public Service Reply Comments (4/14/21) at 2; Docket 7250, Deerfield Wind – Fall 2020 Sound Monitoring Compliance Report of 1/11/21, at 2.

⁴ Department of Public Service Reply Comments (4/14/21) at 2.

⁵ Department of Public Service Reply Comments (4/14/21) at 4.

for purposes of determining noise compliance under the Protocol.”⁶ The Department focuses on the fact that both Deerfield and Windaction/Shea commented that the Fall 2020 sound analysis was conducted consistent with the Protocol and met the Commission’s June 26 Order guidance. Although not explicitly stated, the Fall 2020 Report supports the conclusion that Site C (Mr. Shea’s residence) is not eligible for OINR testing based on Criterion 2 of the Protocol, which sets 40 dBA (L_{eq})(1 hr) as the threshold to trigger testing.

Deerfield

Deerfield submitted a memorandum from RSG, its sound expert, regarding the Fall 2020 Report and the underlying raw sound data. RSG concludes:

When CSA and RSG used the Protocol methodology on the same data . . . , the result are nearly identical, confirming the validity of the CSA analysis. The overall sound levels were at least 6 dB below the CPG exterior limit of 45 dBA. In addition, the Protocol’s 40 dBA threshold for requiring OINR testing was not met.⁷

Deerfield further analyzed the raw sound data to calculate the sound level, accounting for accuracy and uncertainty under ANSI S12.9 Parts 2 and 3. Deerfield argues that this analysis should not be used to determine whether the OINR threshold has been met under the Protocol, but further states that “[w]e conclude that the sound level from the Deerfield Wind Project at Monitor C does not exceed 39 dBA, even accounting for uncertainty.”⁸

Windaction/Shea

Windaction/Shea filed comments on the Fall 2020 Report and argues that: (1) the ANSI Part 2 Standard was incorrectly applied, (2) the ANSI Part 3 Standard is the appropriate standard, and (3) OINR testing has been triggered at Site C.⁹ Windaction/Shea urge that the Commission find that the ANSI Part 3 Standard with 1.5 dB uncertainty is the appropriate method and that, under Part 3, OINR has been triggered.¹⁰

⁶ Department of Public Service Reply Comments (4/14/21) at 3-4.

⁷ Memorandum from Kenneth Kaliski, RSG (3/15/21) at 2.

⁸ Memorandum from Kenneth Kaliski, RSG (3/15/21) at 3.

⁹ Windaction/Shea Joint Comments in Response to Fall 2020 Sound Monitoring Conducted at Site C (3/16/21) at 2-4.

¹⁰ Windaction/Shea Joint Comments in Response to Fall 2020 Sound Monitoring Conducted at Site C (3/16/21) at 4-5.

IV. DISCUSSION

OINR testing is available under the Protocol if post-construction sound monitoring shows “Deerfield Project sound levels of 40 dBA (L_{eq})(1 hour) or higher at the location.”¹¹ The Spring 2019 sound monitoring found a 38 dBA turbine-only sound level at Site C.¹² Based on the Fall 2020 Report and the arguments of the parties, we determine, as further explained below, that OINR testing has not been triggered at Site C.

Reported Sound Levels

The June 26 Order required CSA to report the Fall 2020 results in two ways: (1) “following the procedure utilized in both the Fall 2018 and Spring 2019 Monitoring Reports (*i.e.*, combining data samples associated with different shut-downs, including over multiple days) and (2) reporting only data samples contained within a single one-hour period before or after each shut-down.”¹³

The parties agree that the data were reported per the Protocol and the Commission guidance.

The Fall 2020 Report states that under the first reporting procedure, the turbine-only sound level was 39 dBA (L_{eq}). Under the second reporting procedure, the Fall 2020 Report states that for six intervals the turbine-only sound levels ranged from 37 to 39 dBA (L_{eq}), with a sound level of 39 dBA (L_{eq}) for five of the six intervals. Under this method, the Report states that the highest result for an individual interval was 39 dBA (L_{eq}). Based on these results, the Fall 2020 Report concludes that the turbine-only sound level at Site C during the Fall 2020 monitoring period was 39 dBA (L_{eq}).¹⁴

ANSI Standards and Uncertainty Analysis

The June 26 Order required the Fall 2020 reporting to “include an explanation of what uncertainty factor, *if any*, is applied to the data.”¹⁵ The 39 dBA results discussed above do not

¹¹ *Fall Monitoring Report*, Appendix A, at 6, § 2.5; Protocol § 2.6.

¹² Docket 7250, Order of 1/9/20 at 9; *Department of Public Service Comments on Spring Sound Monitoring Report and Motion for OINR Testing*, Nov. 15, 2019 at 4; *Spring Monitoring Report* at 34.

¹³ Department of Public Service Comments on Fall 2020 Sound Monitoring, February 20, 2020, at 4.

¹⁴ Fall 2020 Report at 2, 25.

¹⁵ Docket 7250, Order of 6/26/20 at 8 (emphasis added).

include an uncertainty factor. The Fall 2020 Report notes that the Protocol provides neither a requirement nor guidance regarding the inclusion of uncertainty factors. Therefore, CSA consulted the American National Standards Institute (ANSI) Standard S12.9 “Quantities and Procedures for Description and Measurement of Environmental Sound” Parts 2 and 3 for guidance. CSA notes that accuracy and uncertainty factors included in the ANSI Standard could potentially be applied to the Fall 2020 measurement results. However, because the Protocol does not refer to ANSI S12.9 or require its use, and because portions of the standard may conflict with the Protocol, CSA states that its reporting on the ANSI S12.9 guidance is for informational purposes only. The Department and Deerfield concur that “the ANSI Standards—including use of said standards for uncertainty factors—are not necessary for determining Project compliance with the sound levels approved by the Commission in the Protocol.”¹⁶

According to CSA, Part 2 includes guidance regarding “accuracy” while Part 3 includes guidance regarding “uncertainty factors.”

CSA states that the Part 2 Standard’s “Class C” survey “is designed to define an upper limit to the environmental sound levels, the highest level or worst case.”¹⁷ Both the Department and Deerfield conclude that, if applying the Part 2 Standard, the closest measurement program is the “Class C” survey.¹⁸ Because the Fall 2020 measurements were similar to a Class C measurement, CSA concludes that the measured L_{eq} sound level of 39 dBA “may be interpreted as the highest or worst-case sound level that would be expected under typical conditions.”¹⁹ Deerfield agrees with this analysis. However, Windaction/Shea argue that the Part 2 Standard is not the correct standard to follow, and that it was misapplied by CSA.²⁰ Windaction/Shea do not articulate what effect the alleged misapplication of the standard would have on the conclusion reached by CSA and RSG. In the Fall 2020 Report, CSA acknowledges that none of the ANSI Standards match precisely the Protocol ordered for sound monitoring in this case.

The Fall 2020 Report also includes a Part 3 Standard uncertainty analysis, which includes 1.5 dB uncertainty factor applied to measured background sound level (“turbine off”). Using this

¹⁶ Department of Public Service Reply Comments (4/14/21) at 3.

¹⁷ Fall 2020 Report (1/11/21) at 22.

¹⁸ Fall 2020 Report (1/11/21) at 22-23; Memorandum from Kenneth Kaliski, RSG (3/15/21) at 1.

¹⁹ Fall 2020 Report (1/11/21) at 23.

²⁰ Windaction/Shea Joint Comments in Response to Fall 2020 Sound Monitoring Conducted at Site C (3/16/21) at 2-3.

methodology, CSA reports that the resulting “turbine only” sound levels for the six intervals ranged from 36 to 40 dBA (L_{eq}). Through their experts, the Department and Deerfield disagree about the method to use for subtracting background sound levels.²¹ Deerfield provided an alternative uncertainty analysis using the Part 3 Standard that subtracts out background sound levels using 1/3 octave bands. The result of this analysis is an even lower range of turbine-only sound, from 35 to 39 dBA. Deerfield urges the Commission to view CSA’s analysis as conservatively high.

Windaction/Shea urge the Commission to “[f]ind that the results of the sound monitoring at Site C met the requirements for further OINR testing.”²²

CSA did not apply the ANSI Standards in conducting its sound-level analysis.²³ This understanding of the role of the ANSI Standards is confirmed by the language in our June 26 Order: “The Department’s reporting should also include an explanation of what uncertainty factor, *if any*, is applied to the data.”²⁴ We did not require the application of an uncertainty factor, but requested an explanation if one was applied. Thus, the reporting requirement was meant to provide additional information, and not as an additional Protocol requirement for determining whether OINR testing has been triggered. The Protocol establishes the methods for collecting and processing the sound data.

The ANSI Standards are not applicable for purposes of determining compliance under the Protocol or whether OINR testing has been triggered by the sound levels measured at Site C. Instead, the ANSI Standards were consulted to provide complete answers to the questions raised by the Commission in its June 26 Order. Specifically, the Department states that its report refers to the ANSI standards only when discussing accuracy and uncertainty factors under two ANSI standards. Because CSA did not include an uncertainty factor in its reported results, and because none of the ANSI standards are controlling under the Protocol, it is unnecessary for us to resolve the parties’ disputes about the ANSI standards.

²¹ Memorandum from Kenneth Kaliski, RSG (3/15/21) at 1-2; Department of Public Service Reply Comments (4/14/21) at 3.

²² Windaction/Shea Joint Comments in Response to Fall 2020 Sound Monitoring Conducted at Site C (3/16/21) at 4.

²³ Department of Public Service Reply Comments (4/14/21) at 4.

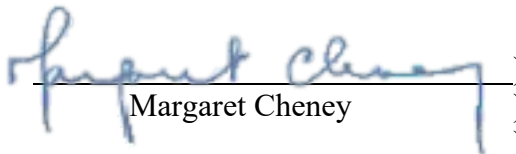
²⁴ Docket 7250, Order of 6/26/20 at 8 (emphasis added).

V. CONCLUSION

The Fall 2020 Report indicates that under either of the reporting methods required by the June 26 Order, the turbine-only sound level at Site C during the Fall 2020 monitoring period was 39 dBA (L_{eq}). Thus, we determine that OINR testing has not been triggered at Site C. No further sound monitoring for the Project is required at this time.

SO ORDERED.

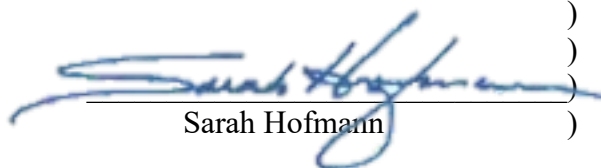
Dated at Montpelier, Vermont, this 1st day of July, 2021.


Margaret Cheney)

PUBLIC UTILITY

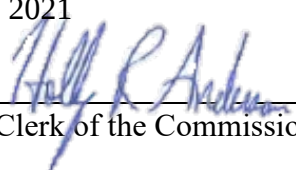
) COMMISSION

) OF VERMONT


Sarah Hofmann)

OFFICE OF THE CLERK

Filed: July 1, 2021

Attest: 
Clerk of the Commission

Notice to Readers: This decision is subject to revision of technical errors. Readers are requested to notify the Clerk of the Commission (by e-mail, telephone, or in writing) of any apparent errors, in order that any necessary corrections may be made. (E-mail address: puc.clerk@vermont.gov)

Appeal of this decision to the Supreme Court of Vermont must be filed with the Clerk of the Commission within 30 days. Appeal will not stay the effect of this Order, absent further order by this Commission or appropriate action by the Supreme Court of Vermont. Motions for reconsideration or stay, if any, must be filed with the Clerk of the Commission within 28 days of the date of this decision and Order.

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(Send Orders and Hearing Notices)