

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: 1/9/2020

**ORDER FINDING PROJECT IN COMPLIANCE WITH AMENDED CPG AND
ORDERING DEERFIELD TO SELECT NEXT STEP IN RESOLVING OINR TESTING ISSUE**

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 accept the sound monitoring conducted by the Vermont Department of Public Service (“Department”) as evidence that the Project is in compliance with the Amended CPG’s sound limits. We also order Deerfield to select one of two options: (1) submit to an additional round of fall sound monitoring; or (2) conduct outside-to-inside noise reduction (“OINR”) testing at Mr. Shea’s residence (Site C).

II. RELEVANT PROCEDURAL HISTORY

On October 16, 2019, the Commission issued an Order establishing a schedule in this proceeding. The schedule provided for a response to Commission questions and two rounds of

comments by the parties on the Spring Sound Report¹ and Mr. Shea's request for OINR testing at his residence. The last round of comments was due on December 13, 2019.

On October 23, 2019, the Vermont Department of Public Service ("Department") filed comments detailing compliance with the Commission's Order dated April 25, 2019.² Attached to this filing was a revised Fall 2018 Sound Report and revised Appendices H and I for the Spring 2019 Sound Report.

On November 15, 2019, the Department, Deerfield, and the WindAction Group ("WindAction") and Tom Shea ("Mr. Shea") (jointly) filed comments on the Spring 2019 Sound Report and Mr. Shea's request for OINR testing.

In its November 15 comments, the "Department recommends that the Commission accept the conclusions in the [Spring 2019 Report] and grant Mr. Shea's motion for outside-to-inside noise reduction testing."³

In its November 15 comments, Deerfield recommends the Commission accept the Spring 2019 Report as demonstrating compliance with the Amended CPG's sound limits.⁴ Deerfield contends that the Commission should rely on the Spring 2019 Report results to determine that OINR testing at Mr. Shea's residence is not required, and that the Fall 2018 Report results "do not meet the requirements for an OINR test."⁵ Finally, Deerfield contends that three methodological issues in the Spring 2019 Report's analysis should be resolved and a revised report should be issued.⁶

In their November 15 comments, WindAction and Mr. Shea requested that the Commission (1) require that the data collected for the fall and spring tests be reprocessed; (2) resolve disputes regarding the appropriate standards and sound monitoring protocol prior to

¹ Cross-Spectrum Acoustics, retained by the Vermont Department of Public Service, completed the Spring 2019 monitoring over a period of five weeks from May 8 through June 12, 2019. *Deerfield Wind – Spring 2019 Sound Monitoring Compliance Report*, Aug. 13, 2019 at 1 ("Spring Sound Monitoring Report").

² *Department of Public Service Comments Detailing Compliance with Commission Order*, Oct. 23, 2019.

³ *Department of Public Service Comments on Spring Sound Monitoring Report and Motion for OINR Testing*, Nov. 15, 2019 at 1.

⁴ *Deerfield Wind, LLC's Comments on the Spring 2019 Sound Monitoring Report and Shea Request for OINR Testing*, Nov. 15, 2019 at 1.

⁵ *Deerfield Wind, LLC's Comments on the Spring 2019 Sound Monitoring Report and Shea Request for OINR Testing*, Nov. 15, 2019 at 1.

⁶ *Deerfield Wind, LLC's Comments on the Spring 2019 Sound Monitoring Report and Shea Request for OINR Testing*, Nov. 15, 2019 at 1.

reprocessing; (3) establish a schedule for the completion of reprocessing; and (4) require OINR testing at Mr. Shea's residence.⁷

On December 13, 2019, the Department, Deerfield, and WindAction and Mr. Shea (jointly) filed comments replying to the other parties' November 15 comments.

III. PARTIES' POSITIONS

Sound Monitoring Results

Pursuant to the Commission's December 14, 2017 Order, the Department conducted two sound monitoring campaigns. The Department engaged Cross Spectrum Acoustics ("CSA") to conduct both sound monitoring campaigns. The fall monitoring campaign was conducted from October 22 through November 26, 2018.⁸ The spring monitoring campaign was conducted from May 8 through June 12, 2019.⁹ The Fall Monitoring Report was filed on January 7, 2019, and the Spring Monitoring Report was filed on August 14, 2019.¹⁰ "Both reports found project-only sound levels at the three sites—Sites A, B, and C—within allowable limits": 45 dBA (exterior) or 30 dBA (interior).¹¹ The Fall Monitoring Report data at Site C, which is located at Mr. Shea's residence, did not satisfy the sound monitoring protocol ("Protocol").¹² As a result, the Commission approved data collection at a fourth monitoring site, Site C-Alt, at Mr. Shea's residence, to address sound interference.¹³

Applicable Sound Monitoring Standard

The Department and Deerfield disagree on the method for calculating the one-hour L_{eq} . Deerfield argues that the applicable sound testing standard is American National Standards

⁷ *WindAction-Shea Joint Comments on the Deerfield Wind Spring Sound Report and Mr. Shea's Request for OINR Testing*, Nov. 15, 2019 at 6.

⁸ *Department of Public Service Comments on Spring Sound Monitoring Report and Motion for OINR Testing*, Nov. 15, 2019 at 1.

⁹ *Department of Public Service Comments on Spring Sound Monitoring Report and Motion for OINR Testing*, Nov. 15, 2019 at 1.

¹⁰ *Department of Public Service Comments on Spring Sound Monitoring Report and Motion for OINR Testing*, Nov. 15, 2019 at 1-2.

¹¹ *Department of Public Service Comments on Spring Sound Monitoring Report and Motion for OINR Testing*, Nov. 15, 2019 at 2.

¹² *Department of Public Service Comments on Spring Sound Monitoring Report and Motion for OINR Testing*, Nov. 15, 2019 at 2; *Deerfield Wind – Fall 2018 Sound Monitoring Compliance Report*, Oct. 11, 2019 (revised) at 26, § 4.2.4 ("Fall Sound Monitoring Report").

¹³ Docket No. 7250, *Amended Petition of Deerfield Wind, LLC*, Order of 4/25/19, at 6.

Institute (“ANSI”) S12.9 Part 3 (“Part 3 Standard”), which requires that the one-hour L_{eq} be based on at least 30 minutes of data obtained during a single shutdown.¹⁴ Deerfield argues:

The particular ANSI standard to be used should be determined based upon the goals of the Protocol in determining whether the Project meets the CPG [sound] limits. ANSI S12.9 Part 3 provides procedures to measure the sound of a *specific source* at a *specific location*. In contrast, ANSI S12.9 Part 2 is to be used for long-term, time-average environmental sound measurements to determine average sound levels. As such, ANSI S12.9 Part 3 is the appropriate standard to calculate Project-only sound levels in a 1 hour L_{eq} unit of measurement, as required by the Protocol.¹⁵

WindAction and Mr. Shea concur that the applicable sound testing standard is the Part 3 Standard.¹⁶

The Department argues that the applicable sound testing standard is ANSI S12.9 Part 2 (“Part 2 Standard”) and that under either standard, minutes from different shutdowns could be combined to form the one-hour L_{eq} .¹⁷ The Department contends that the Part 3 Standard procedures and calculation methodologies were not utilized for the sound monitoring.¹⁸ The Department requests that the Commission resolve the sound monitoring standard dispute: “If the Commission were to conclude that the Part 3 Standard is the more relevant standard, CSA would reprocess the existing measurement data in accordance with the Commission’s interpretation of the Protocol.”¹⁹

The Protocol does not reference the appropriate ANSI S12.9 standard.

Sound Monitoring Findings

While Deerfield does take issue with some of the sound monitoring methodology, both Deerfield and the Department urge the Commission to find that the results of the sound monitoring demonstrate compliance with the Amended CPG’s sound limits. WindAction and

¹⁴ *Deerfield Wind, LLC Response to Shea Request for OINR Testing*, Attachment 1, Apr. 4, 2019 at 1, n.2; ANSI S12.9 Part 3, Short-Term Measurements with an Observer Present (2013).

¹⁵ *Deerfield Wind, LLC’s Comments on the Spring 2019 Sound Monitoring Report and Shea Request for OINR Testing*, Nov. 15, 2019 at 3.

¹⁶ *WindAction-Shea Joint Comments on the Deerfield Wind Spring Sound Report and Mr. Shea’s Request for OINR Testing*, Nov. 15, 2019 at 4.

¹⁷ *Department of Public Service Response*, Apr. 18, 2019 at 2; ANSI S12.9 Part 2, Measurements of Long-Term, Wide-Area Sound (1992) (reaffirmed 2018).

¹⁸ *Department of Public Service Reply to Comments Regarding Spring Sound Monitoring Report and Motion for OINR Testing*, Dec. 13, 2019 at 3-4.

¹⁹ *Department of Public Service Reply to Comments Regarding Spring Sound Monitoring Report and Motion for OINR Testing*, Dec. 13, 2019 at 4.

Mr. Shea identify issues with the sound monitoring that they claim make the data unreliable and, therefore, provide inadequate evidence of compliance with the Amended CPG's sound limits.

All parties, including the Department, agree that the Fall Site C data set fell short of the required two hours of data. Only 48 minutes of data met the Protocol requirements.²⁰

WindAction and Mr. Shea identify three separate issues with the sound monitoring, and criticize CSA for:

1. Relying on hub height wind speeds to determine turbine operation levels for maximum sound output.
2. Sourcing data from shutdowns—at different times and under acoustically distinct conditions—and combining that data to compute L_{eq} by Site and without applying the Part 3 Standard “uncertainty factors” to background sound levels.
3. Excluding all sound data measurements when the sound event exceeded 40 dBA and ground-based wind direction showed an upwind vector component to the nearest turbines.²¹

WindAction and Mr. Shea argue that these problems with collecting and processing the sound data make the results unreliable and “bias[] the result in favor of compliance,” and that the Commission should not find that the results demonstrate compliance with the Amended CPG's sound limits.²²

Both the Department and Deerfield take issues with each of WindAction and Mr. Shea's criticisms. First, the Department and Deerfield respond to WindAction and Mr. Shea's claim regarding hub height wind speed. The Department relies on the Protocol, which requires “that shutdowns occur when hub height wind speeds are over 6 m/s” rather than at maximum power output.²³ Further, the Department writes, “[I]n CSA's professional experience there is an established correlation between wind speed and sound level, yet less empirical support for a

²⁰ *Department of Public Service Reply to Comments Regarding Spring Sound Monitoring Report and Motion for OINR Testing*, Dec. 13, 2019 at 2.

²¹ *WindAction-Shea Joint Response to the Department of Public Service and Deerfield Wind LLC Comments on Spring Sound Monitoring Report and Motion for OINR Testing*, Dec. 13, 2019 at 1-2.

²² *WindAction-Shea Joint Response to the Department of Public Service and Deerfield Wind LLC Comments on Spring Sound Monitoring Report and Motion for OINR Testing*, Dec. 13, 2019 at 3; see also *WindAction-Shea Joint Comments on the Deerfield Wind Spring Sound Report and Mr. Shea's Request for OINR Testing*, Nov. 15, 2019 at 5 (“[W]ith turbines operating at levels significantly below their maximum electric output and CSA averaging sound data sourced from different shutdowns spaced days apart, it's likely the L_{eq} 's [sic] computed by CSA are lower than actual levels at the Project.”).

²³ *Department of Public Service Reply to Comments Regarding Spring Sound Monitoring Report and Motion for OINR Testing*, Dec. 13, 2019 at 6-7.

correlation between power output and sound level.”²⁴ The Department contests WindAction and Mr. Shea’s assertion that “[w]ind turbines typically produce their maximum sound levels when operating at or near full electricity power output” without further support.²⁵ The Department also disputes WindAction and Mr. Shea’s claim that shutdowns were prearranged.²⁶

Deerfield provides further support to refute WindAction and Mr. Shea’s assertion that maximum power output equates to maximum sound output: “[T]he maximum power output data for the Gamesa G87 and G97 turbines used at the Project does not equate to the maximum sound output; that is, the turbines reach at or near their maximum sound levels at 44% and 67% of their power, respectively.”²⁷ Deerfield also points to an error in WindAction and Mr. Shea’s conversion of the data based on time zones that impacts their analysis.

Second, the Department contends that WindAction and Mr. Shea’s position that two hours of data must be obtained in a single shutdown period, rather than across shutdowns, “would materially impair the ability to collect sufficient data” and “is not expressly called for in the Protocol.”²⁸

Finally, the Department and Deerfield respond to WindAction and Mr. Shea’s position regarding the exclusion of data based on ground wind direction. The Department concurs with WindAction and Mr. Shea that if there had not been sufficient data, “it could be worthwhile to conduct additional investigation of data excluded due to wind direction.” However, the Department goes on to indicate that there were sufficient data, except at Site C in Fall 2019. Nonetheless, the Department relies, again, on the Protocol, which “only calls for a ground-level wind vane at one-site,” and does not require “Deerfield to provide hub-height wind direction data” or “those conducting the monitoring program to provide hub-height wind direction data.”²⁹

²⁴ *Department of Public Service Reply to Comments Regarding Spring Sound Monitoring Report and Motion for OINR Testing*, Dec. 13, 2019 at 7.

²⁵ *Department of Public Service Reply to Comments Regarding Spring Sound Monitoring Report and Motion for OINR Testing*, Dec. 13, 2019 at 7.

²⁶ *Department of Public Service Reply to Comments Regarding Spring Sound Monitoring Report and Motion for OINR Testing*, Dec. 13, 2019 at 7.

²⁷ *Deerfield Wind, LLC’s Response to Other Parties’ Comments on the Spring 2019 Sound Report and to Mr. Shea’s Request for OINR Testing*, Dec. 13, 2019 at 2; Kenneth Kaliski, RSG, *Response to Deerfield Filings of November 15, 2019 Letter*, Dec. 13, 2019 at 1-2.

²⁸ *Department of Public Service Reply to Comments Regarding Spring Sound Monitoring Report and Motion for OINR Testing*, Dec. 13, 2019 at 8.

²⁹ *Department of Public Service Reply to Comments Regarding Spring Sound Monitoring Report and Motion for OINR Testing*, Dec. 13, 2019 at 9; Protocol § 2.4.

The Department concludes, based on CSA's assessment, that "following the methodology advocated by WindAction (i.e., including [sound] measurement data for both upwind and downwind conditions) would likely reduce the overall calculated sound level."³⁰

Deerfield agrees that, if anything, following WindAction and Mr. Shea's recommendation would reduce overall calculated sound levels.³¹ Deerfield argues, "Turbine-only sound is best propagated during downwind conditions (from source to receiver)."³²

Deerfield's sound expert, RSG, identified three methodological issues in the Spring 2019 Report concerning the data analysis:

1. All contaminating sound should be removed from the Turbine-On data set.
2. Data for winds under 5 m/s should be included in the sound monitoring report.
3. Subtraction of background sound should be done between adjacent Turbine-On and Turbine-Off periods.³³

Deerfield argues that these methodological issues warrant revision of the Spring 2019 Report, but specifies that failing to address these issues "would not change the ultimate conclusions in the Spring 2019 Report . . . i.e. . . . result in higher sound levels being reported."³⁴ Deerfield contends that all three methodological issues result in higher reported sound levels than actually occurred.³⁵

The Department responds to each of Deerfield's methodological criticisms. First, the Department argues that the Protocol, rather than the Part 3 Standard, dictates that data obtained "for wind speeds between 4 and 5 m/s (or below, as needed) should be carefully reviewed and identify any wind contamination that creates a pseudo-noise or wind-induced noise that is

³⁰ *Department of Public Service Reply to Comments Regarding Spring Sound Monitoring Report and Motion for OINR Testing*, Dec. 13, 2019 at 9.

³¹ *Deerfield Wind, LLC's Response to Other Parties' Comments on the Spring 2019 Sound Report and to Mr. Shea's Request for OINR Testing*, Dec. 13, 2019 at 4.

³² *Deerfield Wind, LLC's Response to Other Parties' Comments on the Spring 2019 Sound Report and to Mr. Shea's Request for OINR Testing*, Dec. 13, 2019 at 4.

³³ *Deerfield Wind, LLC's Comments on the Spring 2019 Sound Monitoring Report and Shea Request for OINR Testing*, Nov. 15, 2019 at 3-5.

³⁴ *Deerfield Wind, LLC's Comments on the Spring 2019 Sound Monitoring Report and Shea Request for OINR Testing*, Nov. 15, 2019 at 3; see also *Deerfield Wind, LLC's Comments on the Spring 2019 Sound Monitoring Report and Shea Request for OINR Testing*, Nov. 15, 2019 at 5 ("Even if the ANSI S12.9 Part 3 standard [was] applied to the Spring 2019 data set, the results would still demonstrate compliance with the CPG.").

³⁵ *Deerfield Wind, LLC's Comments on the Spring 2019 Sound Monitoring Report and Shea Request for OINR Testing*, Nov. 15, 2019 at 3-5.

sufficient to mask wind turbine sound” before excluding that data.³⁶ According to the Department, Deerfield excludes too much “contaminating sound” data where the Protocol suggests inclusion.

Second, for the Fall Monitoring Report, the Department notes that CSA excluded ten-minute blocks of data if the average wind speed over the interval did not meet the Protocol’s requirements.³⁷ Since the Commission’s April 25 Order increased the wind speed logging frequency from a ten-minute interval to a one-minute interval, and the Spring 2019 monitoring data were sufficient at all Sites, initial filtering for the Spring Monitoring Report did not exclude ten-minute blocks.³⁸

Third, the Department again points to the Protocol, which prescribes data processing, to refute Deerfield’s reliance on the Part 3 Standard for subtraction of background sound at adjacent Turbine-On and Turbine-Off periods.³⁹ The Department challenges Deerfield’s reliance on the Part 3 Standard where the Protocol, as approved by the Commission, provides alternative or contradictory requirements: “It would be improper for the Department to process the data in the manner advocated by Deerfield absent the Commission’s direction, since this method could favor Deerfield.”⁴⁰

The Department recommends that the Commission accept the fall and spring monitoring results as compliant with the December 14, 2017 Order and, based on this data, find the Project in compliance with the Amended CPG’s sound limits.⁴¹ Deerfield also supports the Commission’s acceptance of the fall and spring monitoring results as demonstrating the Project’s compliance with the Amended CPG’s sound limits. Deerfield’s expert reanalyzed the spring

³⁶ Protocol § 3.0.

³⁷ *Department of Public Service Reply to Comments Regarding Spring Sound Monitoring Report and Motion for OINR Testing*, Dec. 13, 2019 at 5.

³⁸ *Department of Public Service Reply to Comments Regarding Spring Sound Monitoring Report and Motion for OINR Testing*, Dec. 13, 2019 at 5-6; *Spring Monitoring Report* § 3.3.2, pg. 19.

³⁹ *Department of Public Service Reply to Comments Regarding Spring Sound Monitoring Report and Motion for OINR Testing*, Dec. 13, 2019 at 6.

⁴⁰ *Department of Public Service Reply to Comments Regarding Spring Sound Monitoring Report and Motion for OINR Testing*, Dec. 13, 2019 at 6.

⁴¹ *Department of Public Service Comments on Spring Sound Monitoring Report and Motion for OINR Testing*, Nov. 15, 2019 at 2.

data using the Part 3 Standard and “determined a turbine-only sound level of 38 dBA,” within the Amended CPG sound limits.⁴²

Mr. Shea’s Request for OINR Testing

On March 18, 2019, landowner Tom Shea filed a motion for OINR testing based on the Fall Monitoring Report. 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.”⁴³ Deerfield is required to offer OINR testing to homeowners who meet that criterion “based upon the first year of post-construction monitoring.”⁴⁴ The Fall Monitoring Report found a 41 dBA turbine-only sound level at Site C, based on only 48 minutes of data, which is not compliant with the Protocol.⁴⁵ The Spring Monitoring Report found a 38 dBA turbine-only sound level at Site C.⁴⁶

WindAction and Mr. Shea request that OINR testing be conducted at Site C. As grounds for this request, they write, “Despite the issues raised by [WindAction and Mr. Shea], the turbine-only sound level at Site C was within 2-dBA of the Fall study. And as stated, there is good reason to believe these sound levels are lower than the Project’s actual emissions.”⁴⁷ WindAction and Mr. Shea argue that the data are unreliable and, therefore, the data do not provide a basis upon which to order OINR testing without additional analysis. They instead argue that “Mr. Shea has waited eight months for the Spring test to be concluded. It is evident that additional processing will be required which could take another six months before compliance is determined. Mr. Shea should not have to wait any longer.”⁴⁸

⁴² *Deerfield Wind, LLC’s Response to Other Parties’ Comments on the Spring 2019 Sound Report and to Mr. Shea’s Request for OINR Testing*, Dec. 13, 2019 at 5.

⁴³ *Fall Monitoring Report*, Appendix A, at 6, § 2.5; Protocol § 2.6.

⁴⁴ *Fall Monitoring Report*, Appendix A, at 6, § 2.5.

⁴⁵ *Department of Public Service Comments on Spring Sound Monitoring Report and Motion for OINR Testing*, Nov. 15, 2019 at 3; *Fall Monitoring Report* at 26, § 4.2.4.

⁴⁶ *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. These results are the product of the Department’s methodology.

⁴⁷ *WindAction-Shea Joint Comments on the Deerfield Wind Spring Sound Report and Mr. Shea’s Request for OINR Testing*, Nov. 15, 2019 at 5-6.

⁴⁸ *WindAction-Shea Joint Comments on the Deerfield Wind Spring Sound Report and Mr. Shea’s Request for OINR Testing*, Nov. 15, 2019 at 6.

The Department supports Mr. Shea's motion for OINR testing "because the best available data for one of the two sound monitoring campaigns found sound levels at 40 dBA or higher."⁴⁹ The Department acknowledges that (1) the fall data are short of the 60 minutes required under the Protocol for OINR testing, (2) the spring sound levels at Site C are below 40 dBA, (3) the Protocol is silent as to whether sound levels must be 40 dBA or higher for both monitoring campaigns or a single campaign, and (4) there is disagreement on the methodology for calculating the one-hour L_{eq} .⁵⁰

Deerfield opposes Mr. Shea's motion and argues that the Spring 2019 Report data do not trigger OINR testing based on the Protocol. As for the Fall 2018 Report data, as discussed above, Deerfield contends that the method used is inappropriate, and "no single shutdown period had sufficient valid data" to support the OINR request.⁵¹ Deerfield further argues that the Fall 2018 Report data cannot be relied upon, particularly due to "contamination" and insufficiency, as a basis for triggering OINR at Mr. Shea's residence.⁵²

IV. DISCUSSION & CONCLUSION

Based on the Fall 2018 Report and Spring 2019 Report, and after review of the parties' arguments, the Commission concludes that the Project complies with the Amended CPG's sound limits.⁵³ None of the reported project-only sound levels at the three Sites—Sites A, B, and C—are outside the Amended CPG's allowable limits of 45 dBA (exterior) or 30 dBA (interior). The data analysis concerns cited by Deerfield cast doubt on whether the reported numbers are too high, rather than too low, relative to the turbine-only sound levels at the Sites.⁵⁴ The Department

⁴⁹ *Department of Public Service Comments on Spring Sound Monitoring Report and Motion for OINR Testing*, Nov. 15, 2019 at 4.

⁵⁰ *Department of Public Service Comments on Spring Sound Monitoring Report and Motion for OINR Testing*, Nov. 15, 2019 at 4.

⁵¹ *Deerfield Wind, LLC's Comments on the Spring 2019 Sound Monitoring Report and Shea Request for OINR Testing*, Nov. 15, 2019 at 6.

⁵² *Deerfield Wind, LLC's Response to Other Parties' Comments on the Spring 2019 Sound Report and to Mr. Shea's Request for OINR Testing*, Dec. 13, 2019 at 5-6. Deerfield's sound expert concludes that, "if CSA had used the ANSI S12.9 Part 3 standard, the data would not be sufficient to demonstrate sound levels at or above 40 dBA." *Deerfield Wind, LLC's Response to Other Parties' Comments on the Spring 2019 Sound Report and to Mr. Shea's Request for OINR Testing*, Dec. 13, 2019 at 6.

⁵³ While exterior sound data are collected directly, "[i]nterior 'turbine-only' sound levels were calculated from measurements of exterior 'turbine-on' and 'turbine-off' sound levels and the assumption of a fixed OINR of 15 dB to the A-weighted exterior sound level." *Spring Monitoring Report*, at 35 § 5.

⁵⁴ *Deerfield Wind, LLC's Comments on the Spring 2019 Sound Monitoring Report and Shea Request for OINR Testing*, Nov. 15, 2019 at 3 (requesting transient sound be removed prior to calculating Turbine-On sound level to

and Deerfield's responses to WindAction and Mr. Shea's criticisms demonstrate that the Protocol was adhered to and that the consequences of the sound monitoring standard dispute are not an underestimate of overall calculated sound.

Because the Commission finds that the Project complies with the Amended CPG's sound limits, and no one raises a credible concern that the reported sound levels are lower than actual turbine-only sound levels at the Sites, the Commission need not order revisions to the Fall 2018 Report or Spring 2019 Report based on these concerns.

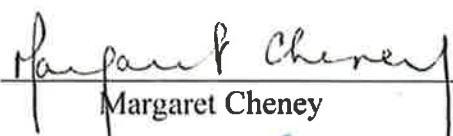
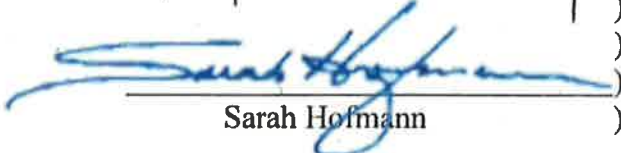
The parties disagree on whether OINR testing at Mr. Shea's residence has been triggered as a result of the data sufficiency issues discussed above, particularly the Fall Sound Monitoring Report data for Site C at Mr. Shea's residence. Thus, we order Deerfield to select one of two options: (1) submit to an additional round of fall sound monitoring in Fall 2020; or (2) conduct OINR testing at Mr. Shea's residence (Site C). Should Deerfield select additional sound monitoring, the results will be reported applying the Part 2 Standard and the Part 3 Standard for comparison. Should Deerfield elect to undergo additional sound monitoring to determine whether OINR testing at Mr. Shea's residence is triggered, the Commission will consider implementing the parties' recommendations to improve data collection.

By January 31, 2020, Deerfield must report to the Commission which of the two options it selects.

SO ORDERED.

avoid "a disproportionately higher level of sound in the reported L_{eq} "; *Deerfield Wind, LLC's Comments on the Spring 2019 Sound Monitoring Report and Shea Request for OINR Testing*, Nov. 15, 2019 at 4 (recommending removal of only one-minute interval blocks rather than ten-minute interval blocks when the block shows wind gusts above 5 m/s to avoid disproportionately increasing the L_{eq}).

Dated at Montpelier, Vermont this 9th day of January, 2020.

	)	
Margaret Cheney	)	PUBLIC UTILITY
	)	
	)	COMMISSION
Sarah Hofmann	)	OF VERMONT

OFFICE OF THE CLERK

Filed: January 9, 2020

Attest: Judith E. Whitney
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.