

**THE STATE OF NEW HAMPSHIRE
SITE EVALUATION COMMITTEE**

Docket No. 2021-02

Investigation of Complaints Regarding Antrim Wind LLC Operations

**BARBARA BERWICK, RICHARD BLOCK, LORI LERNER, LISA LINOWES, JANICE
LONGGOOD, ERIN MORRISON, NHWINDWATCH, BRENDA SHAEFER, MARK SHAEFER,
AND DR. FRED WARD'S MOTION FOR REHEARING JUNE 23, 2023 ORDER**

NOW COME Barbara Berwick, Richard Block, Lori Lerner, Lisa Linowes, Janice Longgood, Erin Morrison, NHWindWatch, Brenda Shaefer, Mark Shaefer, and Dr. Fred Ward (“Parties”), and hereby move the Site Evaluation Committee (hereinafter “NHSEC” or “Committee”) to grant a rehearing with regard to its June 23, 2023, SECOND ORDER REGARDING SUBCOMMITTEE CHARGE (“Order”). In support thereof the Parties state as follows:

I. INTRODUCTION

The purpose of this Motion is to request that the NHSEC grant rehearing of the Order, through which the NHSEC accepted the investigatory subcommittee’s (“Subcommittee”) recommendation on its charge 3 (“Recommendation”) to deny all noise complaints against the Antrim Wind Energy Facility (“Facility”) filed through 2021 and undertake no enforcement action on any of them.” The issues resolved through the NHSEC’s Order regarding the fifteen noise complaints directly impacted the rights of neighboring landowners to the Facility, namely Ms. Berwick, Ms. Longgood, Ms. Morrison, Ms. Shaefer, and Mr. Shaefer. The NHSEC action to accept the Recommendation disregards the fact that the HMMH noise complaint survey failed to adhere to the requirements of NH Site 301.14(f)(2)(a), NH Site 301.18, and the ANSI/ASA S12.9-2013/Part 3 standard (“ANSI Standard”) for conducting “Short-term Measurements with an Observer Present.”

II. FACTUAL AND PROCEDURAL BACKGROUND

On May 17, 2017, the NHSEC issued its Final Decision approving Antrim Wind Energy’s (“AWE”) Application to construct and operate a nine-turbine, 28.8 megawatt wind energy facility in the Town of Antrim, New Hampshire.

The Facility commenced operation on December 24, 2019. Noise complaints were subsequently filed with the NHSEC through 2020, 2021, and 2022 by neighboring property owners. Other complaints were filed with the NHSEC concerning the methodologies applied by Acentech when conducting post-construction seasonal noise compliance surveys at the Facility and Cavanaugh Tocci when conducting complainant validation at the Facility. Shadow flicker and nighttime lighting complaints were also filed with the Committee.

Ms. Longgood, Ms. Berwick, Mr. Shaefer, Ms. Shaefer, and Ms. Morrison own property affected by the Facility, and they are among the abutters and neighboring property owners who have submitted noise complaints to the NHSEC.

On April 2, 2021, the NHSEC issued an order constituting the Subcommittee and charging it with reviewing and investigating complaints filed through December 2021 and making recommendations on the dispositions of the complaints. As its first charge, the Subcommittee was to investigate and report

back to the Committee an “initial determination on how the Committee’s administrative regulations should be interpreted as applying to sound measurements for wind projects” in order that the full Committee could make a final determination of the method to be used to measure sound. The Subcommittee’s investigation of noise complaints was to occur after such determination by the full Committee. See Site Evaluation Committee Meeting Minutes for March 25, 2021.

On August 23, 2021, the Subcommittee issued a recommendation to the NHSEC¹ wherein it found, among other things, the following:

- a. The Subcommittee’s interpretation of the plain language of the rules is that they only require compliance monitoring to adhere to the ANSI Standard; they do not prescribe any particular time period to measure LAeq. Finding 48.
- b. The Facility’s sound emissions shall be measured using LAeq over the time period required by the relevant ANSI Standard. That is at least five minutes for accelerated measurements and a longer period if ANSI’s basic procedure is utilized, as reasonably determined by the professional conducting the study. Finding 77.

The Subcommittee’s August 23, 2021 recommendation also articulated specific requirements directly from the ANSI Standard including:

- a. The ANSI Standard’s stated purpose “is to provide the method(s) to measure the sound of a specific source at a specified location, such as the noise from a specific power plant in some specified person’s backyard.” The general method it prescribes “is to measure the total sound and then to subtract the background, which is all sound at the location in question except for the sound from the specific source in question.” Finding 39. (ANSI Standard at vii).
- b. The [ANSI] Standard’s conceptual approach is outlined in Section 5.3 – “General data collection methods for measurement of the L_{eq} of a source corrected for the continuous L_{eq} of the background and for transient background sound.” (ANSI Standard at 6). The steps are: (1) measurement of the source sound for some “basic measurement period,” (2) removing from the source measurement “transient background sounds” such as a dog barking, an airplane, gunshots, and then (3) correcting the source measurement for the contribution of “continuous background sound” if the source sound is not dominant. Finding 40

On March 9, 2022, the NHSEC deliberated on and ultimately adopted the Subcommittee’s recommendations.

In the period following the March 9, 2022 action by the NHSEC, the NHSEC contracted HMMH to conduct a noise complaint validation study pursuant to NH Site 301.18(i).² NH Site 301.18(i) requires that “Validation of noise complaints submitted to the committee shall require field sound surveys, except as determined by the administrator to be unwarranted, which field studies shall be conducted under the same meteorological conditions as occurred at the time of the alleged exceedance that is the subject of the complaint.”

¹ Subcommittee’s Recommendation to the Site Evaluation Committee Concerning Charge 1 August 23, 2021.

² The contract between the NHSEC and HMMH was executed on March 30, 2022 for an amount not to exceed \$100,000. See Subcommittee Quarterly Report August 31, 2022.

On or around March 30, 2022, HMMH submitted Task Order 1 (attachment A) to Jonathan Evans, the Subcommittee chairman, wherein HMMH detailed the method it would follow in conducting the sound study. The relevant parts of Task Order 1 are as follows:

HMMH will coordinate with Subcommittee representatives to determine appropriate noise monitoring locations (sites) and acoustical metrics to be collected for both short-term attended monitoring and long-term unattended monitoring. Up to four long-term sites will be chosen and up to four additional short-term sites will be selected. Noise monitoring procedures will be in substantial compliance with ANSI Standards S12.9 Part 2 for the long-term monitoring and S12.9 Part 3 for the attended short-term monitoring. In addition, the monitoring will be conducted in compliance with Site 301.18(e)(3). Some attended monitoring will also be conducted at the long-term sites during site visits throughout the measurement periods. This will include at least one session of attended monitoring at night at each long-term site. During the attended monitoring, which will last a minimum of one hour, HMMH staff will make notes of the audible noise sources throughout the measurement period synchronized with the data stream for later processing. Monitors will be programmed to collect sound levels continuously and store each sample of the A-weighted and overall sound levels as well as 1/3 octave bands. Audio recordings of the sound received by the instruments will also be made periodically for later listening and analysis, as needed.

HMMH will conduct noise monitoring at the selected Antrim Wind monitoring sites as described above during the spring season in 2022. The long-term measurements are expected to be over a period of up to three weeks, to allow time for atmospheric conditions to occur that are representative of those when complaints were received. Should those conditions occur during the first two weeks of measurement, the measurement periods may be ended at approximately two weeks. Atmospheric conditions will be determined through review of the recorded data from the monitors at the Antrim Wind facility or by reviewing data recorded and published by the National Weather Service, or other weather monitoring organizations such as Weather Underground.

The methodology outlined in Task Order 1 and accepted by the Subcommittee indicates HMMH misunderstood the objective for the sound survey. HMMH was contracted to conduct a noise complaint investigation and validation test. The description in Task Order 1 suggests HMMH planned a general post-construction compliance test. There is no information in Task Order 1 that shows HMMH's intent to adhere to the requirements of NH Site 301.18(i).

On April 22, 2022, Mr. Evans contacted Ms. Berwick, Ms. Longgood, and other noise complainants to inform that HMMH would be conducting noise complaint validation and requested permission to locate a sound meter long-term (up to three weeks) at their properties and connected to their AC power.

Ms. Berwick and Ms. Longgood notified Mr. Evans of their desire to have sound monitoring conducted on their property that was consistent with the SEC rules and relevant standards. Berwick and Longgood asked to be fully informed about the method HMMH would follow and to have an opportunity to ask, and get answers to specific questions with other, knowledgeable parties present including an experienced acoustician. See Public Comment Barbara Berwick, Janice Longgood September 9, 2022.

Given the ongoing exposure to turbine noise that Ms. Berwick, Ms. Longgood and other neighbors to the Facility have described, they had a profound interest in understanding whether the NHSEC rules would be followed. The subject of noise monitoring methodology at the Facility has been contested since the Facility was first placed in service. The AWE docket contains numerous testimonies and documents relating to the methodology for conducting noise studies. The formation of the Subcommittee itself was tied to noise monitoring issues. The Berwick and Longgood request was reasonable.

Mr. Evans refused their request. He later mischaracterized and distorted the wishes of Ms. Berwick and Ms. Longgood before the NHSEC. See Subcommittee Quarterly Report August 31, 2022. We now learn from the Recommendation at 19 that Mr. Evans created a fantastic, and baseless scenario in his own mind that a meeting as requested by Ms. Berwick and Ms. Longgood would somehow lead to the Subcommittee “jointly formulat[ing] HMMH’s methodology with the complainants and others” and bias the outcome.

The Subcommittee dropped all attempts at working with the neighbors. HMMH amended its monitoring plan to conduct short-term, attended monitoring only with meters situated on land with public access. HMMH submitted the Antrim Wind Compliance Monitoring Report (“Report”) to the NHSEC administrator more than a year later, on April 6, 2023. The Subcommittee held a public meeting to receive comment on the Report on May 15, 2023 during which the Subcommittee voted to draft and send its Recommendation to the full Committee. On June 7, 2023 the Committee accepted the Subcommittee’s Recommendation.

III. REQUEST FOR REHEARING

A person affected by an NHSEC order or decision may request rehearing within 30 days of the date of the order. N.H. Admin. R., Site 202.29. The NHSEC shall grant a motion for rehearing if it determines that the NHSEC made an error of fact, an error of reasoning, or an error of law and that the NHSEC’s resulting order was unlawful, unjust, and unreasonable.

The NHSEC issued its Order on June 23, 2023. Accordingly, this Motion for Rehearing is timely pursuant to N.H. Admin. R., Site 202.29. The Parties respectfully request rehearing regarding the June 23 Order to correct two primary errors of fact, reasoning or law. First, the NHSEC acted unlawfully and unreasonable when it accepted the HMMH Report and determined that the HMMH Report complied with NH Site 301.14(f)(2)(a), NH Site 301.18, and the underlying ANSI/ASA S12.9-2013/Part 3 standard. Second, the NHSEC acted unlawfully and unreasonably when it effectively authorized a waiver of NH Site 301.14(f)(2)(a) and provisions of NH Site 301.18, including NH Site 301.18(i) without following the process for rule waivers under NH Site 302.05.

Each of these issues are discussed in greater detail below.

1. The NHSEC Erred by Accepting the HMMH Antrim Wind Compliance Monitoring Report

a. The locations where HMMH collected noise data violated NH Site 301.14(f)(2)(a).

The monitor locations selected by HMMH do not comply with NH Site 301.14(f)(2)(a). HMMH states that the selected monitor sites were “near homes in the vicinity of the wind farm ... at locations representative of the affected residential areas.” This statement does not satisfy the plain language of NH Site 301.14(f)(2)(a) which establishes a turbine noise limit that cannot be exceeded when measured “*on property that is used in whole or in part for permanent or temporary residential purposes, at a location between the nearest building on the property used for such purposes and the closest wind turbine.*” [Emphasis added]

The phrase “between the nearest building...and the closest wind turbine” is specific and was deliberately selected by the NHSEC. The NHSEC could have written the rule to require measurements *at the residential building, at the property line of the Facility, or some other general area within a specified*

distance of the turbines but this was not done. None of the locations selected by HMMH meet the requirement under the rule.

Mr. Menge testified on May 15, 2023 that “we did get as close as possible to the homes, and while also staying on public property, and maintaining lines of sight to the turbines, to the extent possible.” In fact, the meter locations selected were at a significant distance from the turbines as compared to the homes where complaints were made. Table 4 of the HMMH Report shows that HMMH’s monitor locations were placed over 4,000 feet from each of the turbines and in most cases well over a mile, with one exception on Reed Carr Road. The Reed Carr Road location is also the site where HMMH recorded the highest noise levels.

The Report provides no explanation for how the selected locations were “representative of the affected residential areas.” It contains no photographic evidence of the monitor locations and no information indicating a line-of-sight from the sound meters to the turbines.³ All the homes where complaints were made were situated at or under 3800-feet from the nearest turbine and all involved a clear view of one or more turbines.

The Subcommittee dismissed the requirement to follow NH Site 301.14(f)(2)(a) on two grounds, neither of which justifies why the rule should have been violated.

First, the Subcommittee blames the neighbors, Berwick and Longgood, for a manufactured fear that the neighbors might bias the sound test method or outcome if they, and an experienced acoustician, met with HMMH. (Recommendation at 18, 19) Second, the Subcommittee crafts a new reason based on the May 15, 2023 sworn testimony by HMMH representative Christopher Menge that “the sites were close to the residences and that he [Menge] did not believe the differences in distance would meaningfully impact the measured sound pressure levels.” According to Mr. Menge (as paraphrased by the Subcommittee) “the Antrim Wind facility is a “line source” of sound and that generally sound levels from line sources do not decrease with distance as rapidly as other types of sound sources.”⁴ (Recommendation at 21)

Mr. Menge’s general reference to a “line source” and off-the-cuff assertion that line sources do not decrease rapidly over distance are gross simplifications of noise propagation in a complex environment. Mr. Menge has no data to support his claim as it relates to the Facility. The Subcommittee knows, or should have known that pursuant to NH Site 301.18(c)(1), AWE prepared a detailed model of turbine sound propagation for the Facility using the wind industry’s gold standard for predicting turbine noise at sensitive locations.

Unlike Mr. Menge’s flippant comment, the rate of attenuation for the Facility is built into AWE’s model. Unless, or until Mr. Menge conducts his own sound propagation analysis at the Facility, his testimony on this issue is gratuitous and should be given no weight.

b. The HMMH complaint validation study was not conducted under worst-case conditions. HMMH did not comply with NH Site 301.18(e)(1) and NH Site 301.18(e)(2).

The Facility is composed of nine Siemens SWT-3.2-113, with a nameplate capacity of 3.2 megawatts each. This information is important in understanding whether the turbines were generating at levels that could cause offending sound emissions during any of the measurement periods. HMMH asserts that the

³ HMMH later provided Ms. Linowes with photographs of the meter locations. Only two of the locations appear to be within the line-of-sight of any turbines.

⁴ Mr. Menge’s oral testimony does not reference the Antrim turbines. (Transcript at 54, May 15, 2023) His claim that wind turbines act as a line source (vs. a point source) is not a settled question.

Antrim turbines were operating during all reported measurement periods and “were audible during all reported (non-excluded) periods.” This statement is not supported by HMMH’s data.

Table 19 of the Report shows that in the mid-day and early evening periods of June 30, hub-height wind speeds were at or below the turbine cut-in speed and the turbines were largely not generating. This is further reflected by the low decibel readings during these periods which were in the mid-20 dBA range. Data in Table 20 of the Report show that 60% of the time the turbines across all monitoring periods were operating at less than half power (1600 kilowatts). This is also consistent with the hub-height wind speeds in Table 19. According to the AWE Sound Level Assessment Report,⁵ the Siemens SWT-3.2-113 turbines do not reach full sound power output until the winds at hub height reach 9.9 meters per second. Across all survey periods and all wind turbines in the HMMH study, the wind speeds reached 9.9+ m/s just 17% of the time.

Even within a selected sound period where winds at hub height may have been elevated, individual turbines at the Facility were not operating at high levels. For example, during the July 1 monitoring period, HMMH comments in the Report that the turbines were generating at a high level but causing relatively low average sound levels. However, the data show that individual turbines closest to the sound meters were still operating at low power levels. At Salmon Brook Road, five of the 9 turbines (T1, T3, T4, T6, T9) were operating well under 50% output. Similarly, at Craig Road turbines T3, T6, and T9 were operating well under 50% output.

NH Site 301.18(e)(1) requires that measurements “shall include at least one nighttime hour where turbines are operating at full sound power with winds less than 3 meters per second at the microphone.” Table 20 of the HMMH report confirms that none of the 1-hour periods, day or night, show the turbines operating at full power. This fact should have been made clear in the HMMH report and by Mr. Menge during his sworn testimony on May 15.

The Subcommittee’s Recommendation and the HMMH Report are both silent on whether the measured sound levels represented those that would cause a complaint. The Report states “[t]he total durations of good quality, *quiet or turbine-dominated sound* during each one-hour measurement period varied from 16 minutes to 56 minutes” but the only relevant periods are those when the turbine sound levels were dominating. The Report provides no information on which periods, if any, the turbines were shown to be producing dominating noise levels. Audible turbine noise does not mean dominating turbine noise.

When asked by Vice Chairman Scott whether the monitoring reflected “worst-case conditions,” Mr. Evans first responded ‘yes’ but then qualified his answer by describing the difficulty of finding periods when the winds at hub height were strong but minimal near the ground, thus conducive for collecting peak turbine noise levels. (Transcript at 64, June 7, 2023) On this same question, Mr. Menge testified “I believe we got a representative sample of the types of powers and wind that were -- in order to be able to make the study a valid study.” (Transcript at 56, May 15, 2023) That may be true, but getting a representative sample of sound levels was not the purpose of the test. The issue is that HMMH only utilized short-term attended monitoring to measure a variable sound source where the conditions that create peak decibel levels are uncertain. Long-term unattended sound monitoring should have been applied as required under NH Site 301.18(e)(2) with audio recordings serving as a proxy for a human attendant. HMMH did not comply with NH Site 301.18(e)(2).

Commissioner Chattopadhyay asked Mr. Evans if HMMH had tried to understand the wind speeds at the time of the complaints. Mr. Evans explains the difficulty of matching February weather conditions in June

⁵ Antrim Wind Energy Project Sound Level Assessment Report, February 17, 2016 at 7-1.

but fails to note that noise complaints were filed with the NHSEC in most seasons of the year including May 24, 2020, June 4, 2020, and July 27, 2020. Mr. Dell'Orfano immediately added that the Subcommittee did not try to follow NH Site 301.18(i) because doing so would have taken too long. (Transcript at 66-68, June 7, 2023) There is no information in the HMMH report that shows HMMH took steps to understand the meteorological conditions that were likely to cause a complaint.

c. HMMH sound data contained transient sounds raising doubts about the validity of the test. HMMH violated NH Site 301.18(e)(1) and the ANSI Standard.

HMMH states in its conclusion that “no LA_{eq} values measured during any of the full one-hour monitoring periods or the 5-minute monitoring periods equal or exceed the 40 dBA LA_{eq} nighttime limit or the 45 dBA LA_{eq} daytime limit.” In fact, measurements recorded at the Reed Carr Road meter reached 41.1 dBA Leq(5 minute) on June 9, 2022 during the 5-minute period ending 6:39pm. The fact that this period fell within the daytime hours is immaterial. *If turbine sound exceeds the 40dBA limit at any time, it will exceed the limit when the 40 dBA nighttime value is in effect.*

However, when challenged on the 41.1 dBA level, Mr. Menge admitted in his sworn testimony that the HMMH data were contaminated with non-turbine sounds that controlled the measurement. (Transcript at 29, May 15, 2023)

PRESIDING OFCR. EVANS: For the – at some of the higher ones [noise measurements], you can't necessarily, you know, ...you can't necessarily attribute all of that to the -- all of the noise during that, you know, five-minute, you know, compiled period, basically, you can't attribute that all necessarily just to the wind farm?

MR. MENGE: Actually, no. Because we have the recordings of the sound during the entire period, I went through and listened to almost all of them. Because our -- my observer, it wasn't me who actually did the data calculation, it was one of my colleagues at my company, who has lots of noise measurement experience, and has -- is very familiar with all this instrumentation that is quite sophisticated these days. And, so, he did his best what he heard to exclude things that happened.

I did notice that one thing, during that five-minute period where we got the 41, that he had not excluded was one particularly loud bird. And I believe that that period was not filtered. I'd have to look back at the chart. But there was something that definitely hadn't been excluded, and was affecting the sound level. And I thought "well, this is" -- "this is okay. It doesn't show a violation at night, because it's not a nighttime period." So, we let it go. He hadn't excluded it. And I thought "Well, maybe we just let it go as is." Maybe the bird contributed a moderate amount to that.

Mr. Evans' question and Mr. Menge's response disregard the requirement under the ANSI Standard and NH Site 301.18(e)(1) that a sound under test must be isolated and transient sounds in the environment removed. If other sounds are contributing to the overall noise levels, the test is not valid. If a bird was present in the data, it should have been filtered out or the data excluded. If the bird was left in the data, Mr. Menge should have made this fact known to the state but, instead, it was not disclosed until he was challenged under oath.

Additional testimony by Mr. Menge suggests other transient sounds were also left in the data. In the following transcript excerpt, Mr. Menge explains why the measurements HMMH had taken at the Reed Carr Road and Salmon Brook Road locations exceeded AWE's predicted sound levels for those areas.

I did want to mention that one commenter had suggested that these reported values suggest that the turbines exceeded the predicted values for the turbine noise, which were in the mid-30s, and not

any in the high 30s. But the commenter makes an assumption that these sound levels that are shown here are due exclusively to the wind turbine, and that's not the case. That the observer who was listening for sound was able to hear the turbines, and they were contributing to the overall sound level. But, in many cases, we had -- he had periods where there was a combination of wind in the trees and turbine sound, or a combination of maybe some very residual traffic noise as the car got farther and farther away, and turbine noise that would add to the overall sound level. So, this doesn't necessarily suggest that the turbines are exceeding the predicted sound levels from the original study. (Transcript at 17, May 15, 2023)

Mr. Menge's explanation confirms more broadly that transient sounds were left in the data and those transient sounds influenced the overall measurements cited in the Report. Section 5.3 of the ANSI Standard clearly states that "The general measurement procedure conceptually requires the measurement of source sound pressure levels for the basic measurement period *with the contribution of transient background sounds removed.*" [Emphasis added] The requirement that transient sounds be removed is included in the Subcommittee's August 23, 2021 memo that was adopted by the full Committee.

HMMH was contracted to measure turbine noise, not to report contaminated noise. Mr. Menge's sworn testimony is that the decibel levels in the HMMH report are not due exclusively to the wind turbines. His testimony contradicts the HMMH report and casts doubt on the validity of the study. Given this testimony, HMMH should withdraw its report.

IV. Reliance on Cavanaugh Tocci as validation of Facility compliance is misplaced.

The Subcommittee attempts to bolster the validity of the HMMH study by referring to the Cavanaugh Tocci sound survey conducted in 2020 at locations on Reed Carr Road. (Recommendation at 22) Cavanaugh Tocci cannot validate HMMH for the simple reason that the methodology followed by Cavanaugh Tocci bears little resemblance to that followed by HMMH.

At the outset, Cavanaugh Tocci declares that wind turbine noise is steady. On this basis, Cavanaugh Tocci excludes any sound data where the minimum and maximum levels captured over a 5-minute period differ by more than 3 decibels. The excluded data is assumed to be non-turbine sounds.

Cavanaugh Tocci's claim that wind turbine sound is steady is false. It is well documented, within the AWE docket and elsewhere, that wind turbine noise has a characteristic *whoosh-thump* that can vary between 6 and 10+ decibels with each blade pass. Acoustician Robert Rand measured pronounced variations (amplitude modulation) in turbine noise at the Berwick property. (See footnotes 7 and 8) There is no basis under the ANSI Standard for discarding sound data as was done in the Cavanaugh Tocci study.

The outcome of the Cavanaugh Tocci method was that "[a]ll 5-minute samples measured were determined to be non-steady." In other words, Cavanaugh Tocci *removed* all 5-minute samples from the sound data it collected leaving no test data. The tables in Appendix A of their report show the data as marked "void." After excluding all the data, Cavanaugh Tocci still opined that "many 5-minute samples were noted to be below 40 dBA after winds subsided. Hence, it is likely that AWE wind turbine sound during conditions when complaints occurred are less than 40 dBA. Accordingly, *it is our opinion that AWE wind turbine sound likely conforms* to limits of NH Code Admin. R. Site 301.14(f)(2a)." [Emphasis added]

The only valid conclusion that can be drawn from the Cavanaugh Tocci test is that Cavanaugh Tocci measured wind in the trees. Beyond that, the methodology was not grounded in the ANSI Standard or the NHSEC rules, and the conclusion that the Facility was operating in compliance with NH Site 301.14(f)(2)(a) was an opinion that was not informed by any data.

2. The NHSEC Erred by Effectively Authorizing Rule Waivers Without Following NH Site 302.05.

The methodology followed by HMMH in conducting the sound survey at the Facility did not comply with the following NHSEC rules and ANSI Standard:

- a. NH Site 301.14(f)(2)(a) – the locations selected for monitoring turbine noise did not follow the rule
- b. NH Site 301.18(e)(1) – HMMH did not remove all transient noises from the data set
- c. NH Site 301.18(e)(1) – HMMH did not measure turbine noise for at least one-hour at night when the turbines were operating at full power
- d. NH Site 301.18(e)(2) – HMMH did not conduct unattended long-term monitoring
- e. NH Site 301.18(e)(i) – HMMH did not take steps to ensure measurements were taken under the same meteorological conditions as those that caused the complaint. This rule generally requires long-term unattended monitoring.
- f. ANSI Standard – Consistent with NH Site 301.18(e)(1), HMMH did not remove all transient noise from the data set.

Pursuant to NH Site 302.05 the Committee or Subcommittee can waive provisions of the rules provided the “waiver serves the public interest; and the waiver will not disrupt the orderly and efficient resolution of matters before the committee or subcommittee.” The waiving of rules is a serious matter that should only be undertaken after all other options are exhausted. Subcommittee Counsel Dell’Orfano’s stance on this issue was clear at the June 7 meeting when he repeatedly reminded the Committee of its authority to waive rules, particularly those that the Subcommittee found difficult to follow.⁶

Nonetheless, the fact remains that no action was taken to waive the rules. The Subcommittee, and now the full Committee have signed-off on the HMMH report knowing the rules were violated and did so anyway. This sends a dangerous message to all Parties that the NHSEC rules carry no weight even for the state agencies tasked with enforcing them.

While the Subcommittee was quick to argue that some of the rules are too difficult to comply with, other acousticians have successfully met the requirements, including NH Site 301.18(i). We respectfully direct the Committee to the complaint validation studies by Rand Acoustics LLC that are in the AWE record. The first study was conducted over the period from of February 19 to February 23, 2020⁷; the second from March 18 to April 9, 2021.⁸ Mr. Rand properly followed the ANSI Standard and each of the rules that HMMH and the Subcommittee disregarded.

The Parties have watched the Subcommittee process closely over the last two years, and particularly its actions involving HMMH. The Committee should be aware that the violations of NH Site 301.14(f)(2)(a), NH Site 301.18(e)(1), NH Site 301.18(e)(2), and NH Site 301.18(i) can all be traced directly to Mr. Evans’ unwillingness to honor the complainants’ request for a meeting with their acoustician present. From there, HMMH changed its monitoring method to attended-only, relocated the sound meters, and repeatedly failed to capture turbine noise when it was dominant.

⁶ Mr. Dell’Orfano stated at the June 7 meeting that the NHSEC administrator has the authority to waive rules. The language of NH Site 302.05 does not specify the administrator as having this authority.

⁷ https://www.nhsec.nh.gov/projects/2015-02/post-certificate-filings/2015-02_2020-09-23_sound_monitoring_rpt.pdf

⁸ https://www.nhsec.nh.gov/projects/2021-02/public_comments/2021-02_2021-05-14_sound_monitoring_report.pdf

Had Mr. Evans extended the courtesy of a meeting with the neighbors, permissions would have been freely granted to place sound meters on their properties, long-term unattended surveys would have been conducted, and the neighbors would have gladly informed HMMH of any period when the turbines were producing crushing noise levels. In that scenario with the meters running, HMMH would have captured the sound data under the *exact* meteorological conditions that the complaint was issued. Neighbors impacted by the turbine noise should have been an integral part of the HMMH test process. In fact, NH Site 301.18(i) relies on the involvement of complainants in order to efficiently identify the meteorological conditions that caused the complaints. But Mr. Evans and Mr. Dell'Orfano have only shown defiance toward the neighbors, when all the neighbors have asked for is a fair and legitimate sound test to be conducted.

Mr. Evans' actions damaged the state's ability to conduct a valid sound test. He wasted money and time and then accepted a study that is irreparably flawed while the neighbors continue to suffer turbine noise and are no closer to a resolution on sound levels than they were three years ago.

As the NHSEC's hired expert, HMMH bears responsibility for failing to conduct a straightforward complaint validation study. Among other things, HMMH did not properly remove transient noises from the data set, did not capture and isolated periods of turbine dominant noise levels, did not ensure the sound tests were conducted in accordance with the NHSEC rules particularly in regard to sound meter placement and testing under worst-case conditions, and did not disclose the extent to which sounds levels contained in the Report were contaminated by other, non-turbines noises. HMMH has not served its client in a manner commensurate with its reputation.

IV. CONCLUSION

For the reasons stated above, the Parties respectfully ask that the NHSEC grant rehearing with respect to its decision to accept the HMMH Report and to take all steps necessary to ensure a valid sound test is conducted in accordance with the existing NHSEC rules and relevant standards.

Dated this 22 day of July, 2023

/s/ Barbara Berwick

/s/ Richard Block

/s/ Lori Lerner

/s/ Lisa Linowes

/s/ Janice Longgood

/s/ Erin Morrison

/s/ Larry Goodman
for New Hampshire Wind Watch

/s/ Brenda Shaefer and Mark Shaefer

/s/ Dr. Fred Ward

July 22, 2023

Certificate of Service

I hereby certify that I served a copy of this Motion for Rehearing pursuant to Site 202.07 to the current service list in this Docket this 22nd day of July, 2023.



Lisa Linowes

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**MEMORANDUM**

To: Jonathan Evans, Presiding Officer
Site Evaluation Subcommittee in Docket No. 2021-02

From: Chris Menge & Chris Bajdek

Date: March 30, 2022

Subject: Final Scope of Work for Antrim Wind Compliance Assessment Study:
Task Order 1 - Noise Monitoring Program

Reference: HMMH Project Number 312150
SEC Account Number 18930000/500464

This memo presents a draft scope of work for the noise monitoring effort of the Antrim Wind Compliance Assessment, which will be Task Order number 1 under the task-order contract. Data analysis and reporting requirements are yet to be finalized and will be scoped later.

Scope of Work – Noise Monitoring

Task 1 – Project Management and Coordination

HMMH will coordinate with Subcommittee representatives on the planning, scheduling, logistical aspects, and results of the noise monitoring program. We will also coordinate with other parties as needed to successfully carry out the compliance assessment study.

Task 2 – Noise Monitoring

HMMH will coordinate with Subcommittee representatives to determine appropriate noise monitoring locations (sites) and acoustical metrics to be collected for both short-term attended monitoring and long-term unattended monitoring. Up to four long-term sites will be chosen and up to four additional short-term sites will be selected. Noise monitoring procedures will be in substantial compliance with ANSI Standards S12.9 Part 2 for the long-term monitoring and S12.9 Part 3 for the attended short-term monitoring. In addition, the monitoring will be conducted in compliance with Site 301.18(e)(3). Some attended monitoring will also be conducted at the long-term sites during site visits throughout the measurement periods. This will include at least one session of attended monitoring at night at each long-term site. During the attended monitoring, which will last a minimum of one hour, HMMH staff will make notes of the audible noise sources throughout the measurement period synchronized with the data stream for later processing. Monitors will be programmed to collect sound levels continuously and store each sample of the A-weighted and overall sound levels as well as 1/3 octave bands. Audio recordings of the sound received by the instruments also will be made periodically for later listening and analysis, as needed.

HMMH will conduct noise monitoring at the selected Antrim Wind monitoring sites as described above during the spring season in 2022. The long-term measurements are expected to be over a period of up to three weeks, to allow time for atmospheric conditions to occur that are representative of those when complaints were received. Should those conditions occur during the first two weeks of measurement, the measurement periods may be ended at approximately two weeks. Atmospheric conditions will be determined through review of the recorded data from the monitors at the Antrim Wind facility or by reviewing data recorded and published by the National Weather Service, or other weather monitoring organizations such as Weather Underground.

All noise monitoring is expected to be conducted with HMMH-owned Type I (Precision) instruments with calibrations traceable to the National Institute for Standard and Technology. HMMH will also deploy weather stations near the noise monitors to collect windspeed and direction, temperature and humidity, and times of precipitation.

Task 3 – Preliminary Data Review and Report

After the data collection is conducted, HMMH will review the data to confirm the quality and determine if the data collected were sufficient for purposes of compliance determination. During this task, we will not complete all data reduction and analysis that will be needed and eventually reported. That will be done under a subsequent task order.

After the data review, HMMH will prepare a brief memorandum for the Subcommittee summarizing the measurement program and the sufficiency of the data collected for later analysis and reporting.