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

**Docket No. 2015-02**

**APPLICATION OF ANTRIM WIND ENERGY, LLC**
**FOR A CERTIFICATE OF SITE AND FACILITY**

# LISA LINOWES, JANICE LONGGOOD, AND BARBARA BERWICK'S MOTION FOR REHEARING JANUARY 5, 2021 ORDER

NOW COME, Lisa Linowes, Janice Longgood, and Barbara Berwick ("Objecting Parties"), and hereby move the Site Evaluation Committee (hereinafter "NHSEC") to grant a rehearing with regard to its January 5, 2021, Order on Pending Matters, including the Request for Waiver of Portions of N.H. Administrative Rule Site 301.18 ("the Order"). In support thereof the Objecting Parties state as follows:

## I. INTRODUCTION

1. The purpose of this Motion is to request that the NHSEC grant rehearing of the Order, through which the NHSEC granted Antrim Wind Energy a waiver request regarding certain post-construction sound monitoring requirements and accepted the Winter 2020 post-construction sound monitoring report prepared by Acentech ("Acentech Report") that Antrim Wind Energy ("AWE") submitted. The issues resolved through the NHSEC's Order regarding post-construction sound monitoring directly impacted the rights and input of neighboring landowners, namely Ms. Longgood and Ms. Berwick, and was not made despite concerns raised by Ms. Linowes, through an expert report that she commissioned by a qualified acoustician, as to the Acentech Report's compliance with this NHSEC's rules.

2. Nevertheless, the NHSEC failed to provide Ms. Linowes or the other affected property owners with notice of the November 23, 2020, hearing and, in doing so, failed to follow the NHSEC's procedural rules. Furthermore, the Acentech Report did not comply with NHSEC's rules with regard to manner in which sound was monitored and reported. Ms. Linowes respectfully requests that the NHSEC grant rehearing so that all affected parties can receive notice and participate in the rehearing of this matter.

## II. FACTUAL AND PROCEDURAL BACKGROUND

3. In prior proceedings, the NHSEC issued a Decision and Order Granting Application for Certificate of Site and Facility and issued an Order and Certificate of Site and Facility with Conditions, which authorized AWE to site, construct, and operate nine renewable energy wind turbines in the Town of Antrim (the "Antrim Wind Facility"). See Order and Certificate of Site and Facility with Conditions, Re: Application of Antrim Wind Energy, LLC for a Certificate of Site and Facility, SEC Docket No. 2015-02 (dated March 17, 2017) (hereinafter "Certificate of Site and Facility"); Decision and Order Granting Application for Certificate of Site and Facility, Re: Application of Antrim Wind Energy, LLC for a Certificate of Site and Facility, SEC Docket No. 2015-02 ("March 17, 2017 Order").

4. One of the conditions of approvals reflected in the Certificate of Site and Facility required AWE to conduct post-construction sound monitoring and to submit reports to the NHSEC. See Certificate of Site and Facility at 10; N.H. Admin. R., Site 310.18. AWE additionally was required to "retain a third-party noise expert, as approved by the Administrator of the Committee, to assist that Town of Antrim and the Administrator in taking field measurements in order to evaluate and validate noise complaints." Certificate of Site and Facility at 9.

5. Both Ms. Berwick and Ms. Longgood own property affected by the Antrim Wind Facility, and they are one of numerous abutters and neighboring property owners who intervened in the underlying proceedings, including in NHSEC Docket 2015-02.

6. Following construction of the Antrim Wind Energy Facility and the Facility becoming operational, the NHSEC received noise complaints from several neighboring property owners regarding the Antrim Wind Facility. See, e.g., Amanda Buco, E-mail to NHSEC titled "Antrim Windmills" (June 18, 2020); Barbara Berwick, E-mail to NHSEC titled "noise from Antrim Turbines (June 29, 2020); Erin Morrison, E-mail to NHSEC titled "Turbines 7/20/2020" (July 20, 2020). These complaints are publicly available in "Post-Certificate Filings" for Docket No. 2015-02 on the NHSEC's website.

7. On July 21, 2020, the NHSEC noticed a meeting on July 29, 2020. The Agenda for the July 29, 2020 meeting included discussing citizen noise complaints related to Antrim Wind Energy as well as post-construction sound monitoring of Antrim Wind Energy.

8. The notice of that July 21, 2020 meeting was distributed to all interested parties through the NHSEC's electronic service list, in accordance with the NHSEC's rules. See N.H. CODE OF ADMIN. RULES Site 202.07.

9. On July 24, 2020, AWE submitted to the NHSEC a request to "adjust the schedule and location for the post-construction sound monitoring surveys."

10. The NHSEC held a public meeting regarding noise complaints and sound monitoring on July 29, 2020.

11. Again, notice of this July 29, 2020 public meeting was distributed electronically, via email, to interested parties.

12. Lisa Linowes attended the July 29, 2020 meeting, during which Ms. Linowes submitted testimony to the NHSEC, which asked the NHSEC deny Antrim Wind's request. See Lisa Linowes, "Comments by Lisa Linowes" (July 29, 2020). Ms. Linowes testified that "[r]esidents living near the Antrim Wind Facility are experiencing significant noise impacts both outside and inside their homes," and that the sound studies being performed were flawed because they were inappropriately averaging sound over a one-hour period, which is contrary to NH SEC rules and permits. Id.; see N.H. Admin. R., Site 301.18(e)(6) ("All sound measurements during post-construction monitoring shall be taken at 0.125-second intervals measuring both fast response and Leq metrics." (emphasis added)).

13. On August 11, 2020, counsel for AWE submitted a letter to the NHSEC specifically responding to Ms. Linowes's prior letters to the NHSEC and testimony before the NHSEC. Among other things, AWE's counsel disputed how N.H. Admin. R., Site 301.18(e)(6) should be interpreted and applied.

14. Ms. Linowes filed another letter on August 18, 2020, noting that the "disputed points" AWE's counsel raised demonstrate "that this is clearly a contested matter which should be properly adjudicated." Lisa Linowes, Letter to NHSEC titled "Docket No. 2015-02, Antrim Wind Energy LLC Sound Monitoring Protocol," (August 18, 2020). Ms. Linowes specifically requested that the NHSEC schedule a tech session, evidentiary hearing, and briefing schedule so that the parties could address these issues. Id.

15. On September 23, 2020, Ms. Linowes submitted a Sound Monitoring Report prepared by sound expert Rand Acoustics, LLC. Lisa Linowes, Letter to NHSEC titled "Docket No. 2015-02, Antrim Wind Sound Monitoring," (September 23, 2020). The Sound Monitoring Report consisted of a four-day sound survey conducted at the Antrim Wind Facility from February

19 through 23, 2020. Id. The Sound Monitoring Report, which properly adhered to the requirements of N.H. Admin. R., Site 301.18, determined that sound from the Antrim Wind Facility exceeded allowable noise limits, and therefore corroborated the previously filed noise complaints. Id.

16. The NHSEC held a second hearing on the noise complaints and on Antrim Wind Energy's waiver request on November 23, 2020 (the "November 23 Hearing"). NHSEC stated that the subject of the meeting was to "review post-certificate filings" relating to the Antrim Wind Facility, including Antrim Wind Energy's sound monitoring waiver request, peer review of Antrim Wind Energy's Winter 2020 Sound Monitoring Report dated September 4, 2020 (revised) , and "complaint validation" relating to the noise complaints.

17. Unlike the previous meeting held on July 29, 2020, the NHSEC did not provide notice to the service list or interested parties of this hearing, nor was notice sent to Ms. Linowes or any landowner that had submitted a noise complaint. But see N.H. Admin. R., Site 202.07 (providing that the NHSEC "shall" serve copies of all "notices, orders, decisions or other documents issued by the [NHSEC]" to all parties on the service list.). Nor did NHSEC publish the hearing notice in the Docket 2015-02, Post-Certificate Filings webpage.[1]

18. Because the Objecting Parties did not receive notice and were, therefore, unaware of the November 23 Hearing, the Objecting Parties did not have the opportunity to attend or participate in that hearing.[2]

[1] A Notice of Public Meeting and Agenda dated November 17, 2020 was posted to the NHSEC website under the "Meeting Notices, Agendas, and Minutes" page.

[2] Antrim Wind Energy's representative, Attorney Getz, appeared at the November 23 Hearing and spoke on Antrim Wind Energy's behalf. Transcript at 27. It is unclear whether the NHSEC provided notice of the November 23 Hearing to Antrim Wind Energy directly.

19. During the November 23, Hearing, the NHSEC addressed AWE's request related to seasonal sound monitoring from so-called "Location 4," which is owned by Ms. Berwick. Throughout the proceedings, the NHSEC heard representations from AWE that the owner of Location 4 "denied" AWE access to her property. See e.g. November 23, 2020 Transcript at 10. However, the NHSEC did not have the opportunity or allow the opportunity for Ms. Berwick to provide her side of this story, namely that Ms. Berwick would authorize AWE to perform sound monitoring if AWE following the methodology for sound monitoring required by the NHSEC's rules, which AWE had failed to do. See N.H. CODE OF ADMIN. R. Site 301.18.

20. Significantly, at the November 23 Hearing, the NHSEC also addressed issues relating to the proper methodology for conducting noise studies—an issue that Ms. Linowes had contested by submitting testimony, expert evidence, and arguments. In fact, the transcript of the November 23 Hearing references Ms. Linowes by name repeatedly, with the NHSEC's counsel suggesting that a further hearing could be scheduled so Ms. Linowes could be "invited." See November 23, 2020 Transcript at p. 62, 66, 68, The NHSEC references to Ms. Linowes included: Ms. Linowes's background regarding the purpose and proper interpretation of the NHSEC's sound monitoring rules; whether Ms. Linowes or her consultant had or should have had an opportunity to review AWE's sound monitoring data; the fact that Ms. Linowes had opposed AWE's interpretation of the sound monitoring rules; the fact that Ms. Linowes had submitted testimony and expert evidence regarding this issue; and the fact that Ms. Linowes had requested a technical session to address this issue. See, e.g., November 23, 2020 Transcript at 66-68, 79, 89-91, 101, 108.

21. Notwithstanding Ms. Linowes's status as an intervenor, her extensive participation in Docket 2015-02 regarding post-construction sound monitoring, and the NHSEC's failure to

provide her notice regarding the November 23 Hearing, the NHSEC voted to accept the Acentech Report submitted by AWE. Transcript at 88, 102-10.

22. The Objecting Parties only learned of the November 23 Hearing on December 17, 2020, after Ms. Linowes prompted NHSEC counsel by email on when the NHSEC will meet to address the Antrim Wind noise monitoring and compliance issues.[3]

23. The Objecting Parties now move for rehearing of the January 5 Order. Specifically, The Objecting Parties request that the NHSEC reconsider its decision to accept the Acentech Report and waiver requests based on: (i) NHSEC's failure to provide notice in accordance with the NHSEC's Order to the Objecting Parties or other interested parties as of the November 23 Hearing; and (ii) the failure of the Acentech Report to comply with N.H. Admin. R., Site 301.18.

## III. REQUEST FOR REHEARING

24. 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.

25. The NHSEC issued its Order on January 5, 2021. Accordingly, this Motion for Rehearing is timely pursuant to N.H. Admin. R., Site 202.29. The Objecting Parties respectfully request rehearing regarding the January 5 Order to correct two primary errors of fact, reasoning or law. First, the NHSEC acted unlawfully and unreasonable because the Objecting Parties, other neighboring property owners, and interested parties did not receive notice of the November 23 Hearing, as required by NHSEC rules and by the Due Process Clause of the State Constitution.

[3] NHSEC counsel also contacted Ms Linowes by phone on October 28, 2020 in response to an email Ms. Linowes had sent that day to admin@sec.nh.gov inquiring when a meeting would be held. At that time, NHSEC counsel informed Ms. Linowes that a meeting of the NHSEC was being planned but did not specify as to when that meeting would be scheduled.

Second, the NHSEC erroneously applied N.H. Admin. R., Site 301.18 when it accepted the Acentech Report and determined the Acentech Report complied with said rule. Third, the NHSEC acted unlawfully and unreasonably when it granted AWE's request for a waiver.

26. Each of these issues are discussed in greater detail below.

**1. The NHSEC was required to provide Ms. Linowes and other affected parties notice of the November 23 Hearing**

27. It is clear that the NHSEC has conducted the November 23, 2020 proceedings in a non-adjudicative capacity and, in so doing, has not applied the NHSEC's rules related to adjudicative hearings. In doing so, the NHSEC has acted unlawfully and unreasonably when it did not determine that these proceedings constitute a contested case requiring an adjudicative hearing, that the NHSEC's rules regarding an adjudicative hearing applied, and failed to apply those rules when it conducted the November 23, 2020 hearing, namely providing notice of the hearing in accordance with Rule Site 202.07. Further, in so doing, the NHSEC has violated the procedural and substantive due process rights of the Objecting Parties and other impacted landowners.

a. The determination of the Acentech Report's compliance with NHSEC Rules and the proper interpretation of Rule Site 301.18 requires an adjudicative hearing.

28. The determination of whether the Acentech Report was in compliance with the NHSEC's rules and the proper application and interpretation of Rule Site 301.18 requires an adjudicative hearing because the dispute between AWE, the Objecting Parties, and other impacted landowners has risen to the point where the matter now constitutes a contested case.

29. The NHSEC, as an agency of the State of New Hampshire is required to conduct its proceedings in accordance with RSA 541-A, the administrative procedures act. RSA 541-A:31 provides that "[a]n agency shall commence an adjudicative proceeding if a matter has reached a

stage at which it is considered a contested case or, if the matter is one for which a provision of law requires a hearing only upon the request of a party, upon the request of a party." See RSA 541-A:31, I. A contested case is defined as a "proceeding in which the legal rights, duties, or privileges of a party are required by law to be determined by an agency after notice and an opportunity for hearing. RSA 541-A:1, IV. "In a contested case, all parties shall be afforded an opportunity for an adjudicative proceeding after reasonable notice." See RSA 541-A:31, III.

30. The purpose of the NHSEC's post-construction sound monitoring requirements is to protect neighboring property owners from adverse sound impacts. Pursuant to that purpose, the NHSEC rules contain numerous requirements regulating the potential adverse impacts of wind generation facilities. The NHSEC rules recognize that the purpose of these rules is to protect public health and safety from unreasonable adverse effects, including sound. See N.H. Admin. R., Site 301.08(a)(1); Site 301.14(f); Site 301.16(j); Site 301.17(g). One of the requirements intended to protect neighboring property owners from adverse sound impacts is N.H. Admin. R., Site 301.18(e), which requires post-construction noise-compliance monitoring and provides a process for the public to submit noise complaints. In this way, the NHSEC's sound monitoring rules, including Rule Site 301.18(e), specifically establish a right for neighboring property owners to be protected against adverse sound impacts. It is through the establishment of the rights set forth in the Rule Site 301.18(e) that the protected property interests in the continued use and quiet enjoyment held by those individuals owning property in proximity to the Antrim Wind Facility are protected.

31. The NHSEC's review of the Acentech Report and other post-construction sound monitoring matters involved the adjudication of the respective rights of AWE (as the facility owner) and affected property owners, including the Objecting Parties (as the members of the public

whose use and enjoyment of their property are directly affected by any adverse noise impacts caused by Antrim Wind Facility). This adjudication affected the property interests of both AWE, the Objecting Parties and others. A review of the record makes it readily apparent that the property interests at stake were contested under these circumstances, requiring the conduct of an adjudicative hearing. See RSA 541-A:1, IV; RSA 541-A:31, I. This is particularly true here, where members of the public submitted noise complaints regarding alleged exceedances of applicable sound thresholds and complaints that the Acentech Report was not conducted in accordance with NHSEC Rules. See, e.g., Barbara Berwick, E-mail to NHSEC titled "noise from Antrim Turbines (June 29, 2020); Lisa Linowes, "Comments by Lisa Linowes" (July 29, 2020). This is further true where Ms. Linowes submitted testimony and expert evidence regarding (1) exceedances of applicable sound thresholds caused by the Antrim Wind Facility, see N.H. CODE OF ADMIN. R. Site 301.14 (f)(2), and (2) the proper methodology for conducting post-construction sound monitoring from abutting properties. In that regard, the matters decided at the November 23, 2020 hearing impacted protected property interest, which under the U.S. and New Hampshire Constitution, required due process, namely notice and opportunity to be heard. See, e.g., In re Kilton, 156 N.H. 632, 638 (2007) (Parties "whose rights are to be affected" are entitled to notice and an opportunity to be heard); Appeal of Portsmouth Trust Co., 120 N.H. 753, 758 (1980) (explaining that the fundamental due process right to be heard at a "meaningful time and in a meaningful manner" is "grounded in the need for confrontation when adjudicative rights are in dispute"); Desfosses v. City of Saco, 128 A.3d 648, 654-55 n. 10 & n.12 (Me. (2015) (noting that members of the public opposing projects on abutting parcels have protected property interests and have a right to notice and an opportunity to be heard in all proceedings related to that interest); Larose v. City of Biddeford, 2003 Me. Super. LEXIS 186, *5 (York Super. Ct. 2003) (stating that

"close proximity" to abutting properties creates protected property interests to participate in hearings regarding land uses on abutting properties).

32. As the NHSEC's November 23, 2020 proceedings implicated the property interests of the Objecting Parties and the rights of nearby landowners requiring notice and a hearing, the NHSEC was required to treat this matter as a "contested case," as that term is defined by RSA 541-A:1, IV and was required to conduct the proceedings as an adjudicative hearing under the NHSEC's administrative rules. Had the NHSEC done so, the NHSEC would have provided notice of the November 23, 2020 Hearing through the electronic service list for Docket 2015-02 as required by Rule Site 202.07 (as the NHSEC had done for numerous other meetings and hearings and most recently July 29, 2020). See also N.H. CODE OF ADMIN. R. Site 202.09 (requiring the NHSEC to provide notice of all adjudicative hearings); N.H. CODE OF ADMIN. R. Site 202.15(f) (requiring the NHSEC to provide affected parties the opportunity to comment on waiver requests); N.H. CODE OF ADMIN. R. Site 302.01 (requiring the NHSEC to provide 14-days-notice prior to holding a hearing at which the NHSEC makes a determination regarding compliance with a certificate). The NHSEC's failure to provide notice in accordance with Rue 202.07 was unlawful and unreasonable.

33. The transcript of the November 23 Hearing demonstrates that the rights of Ms. Linowes and other affected property owners were being adjudicated. The NHSEC references Ms. Linowes directly by name repeatedly throughout the transcript, including regarding Ms. Linowes's participation in NHSEC sound monitoring rulemaking and her testimony, arguments, and evidence regarding the issues addressed in the July 29, 2020 Hearing. The NHSEC referenced Ms. Linowes participation in the promulgation of the NHSEC rules with NHSEC Committee Member Scott acknowledging Ms. Linowes involvement. See November 23, 2020 Transcript at p. 61, 66-68.

The NHSEC's counsel recognized that the NHSEC could gather more information on these issues, including by "invit[ing] Ms. Linowes and anybody else who the [NHSEC] believes might have a view on how the rules should be interpreted, and to determine whether the [Antrim Wind Energy] report is acceptable." November 23, 2020 Transcript at p. 68. The NHSEC also referenced that Ms. Linowes had submitted letters, arguments, and evidence regarding the issues acted upon by the NHSEC. November 23, 2020 Transcript at p. 61-62, 89-95, 99-101, 108. The NHSEC specifically identified the issue being deliberated as including the validity of Antrim Wind Energy's sound valuation report and peer review. Antrim Wind also acknowledged the "underlying issue," namely the dispute about the "eighth-of-a-second measurements" and "how the reports should be compiled." November 23, 2020 Transcript at p. 101. The NHSEC further recognized that "Ms. Linowes represented that she was part of the rulemaking and that they were very specific in wanting this [sound monitoring] interval," and that " [Ms. Linowes] was pretty clear on how it was supposed to be used," which was contrary to AWE's argument regarding how the interval should be used. November 23, 2020 Transcript at p. 61; see also November 23, 2020 Transcript at p. 93 (speculating as to whether Ms. Linowes had previously requested sound monitoring data at the 0.125 second interval).

34. In other words, despite failing to provide Ms. Linowes with notice of the November 23 Hearing, the NHSEC took up issues on which Ms. Linowes specifically took positions and submitted evidence, deliberated on Ms. Linowes's arguments, evidence, and potential testimony, and made determinations on issues that directly affect the Objecting Parties, two of whom are neighboring property owners and both of whom have submitted noise complaints. Clearly, the fact that Ms. Linowes and her arguments, testimony, and evidence were the subject of substantial deliberation during the November 23 Hearing demonstrates that the issues addressed by the

NHSEC directly affected Ms Linowes's rights and conferred upon her and impacted property owners rights applicable to an adjudicative hearing under the NHSEC's rules. Further, that members of the NHSEC recognized that the interpretation of Rule Site 301.18 may impact the consideration of the various submitted noise complaints further reflects that the NHSEC adjudicated the rights and interests of the Objecting Parties. See November 23, 2020 Transcript at 77 (statement of NHSEC counsel).

35. The NHSEC's error is further reflected in the NHSEC's consideration of AWE's request for a waiver with regard to sound monitoring at Location 4. Rule Site 202.15(f) requires the NHSEC to provide affected parties the opportunity to comment on any waiver request. Ms. Berwick is the owner of Location 4 and was a person who is impacted by the waiver request. The purpose of post-construction monitoring is to confirm that sound pressures do not exceed the NHSEC's sound thresholds. Throughout the November 23, 2020 hearing, there were numerous references as to why the waiver was being sought, in part, because the owner of Location 4 "denied" access. See e.g. November 23, 2020 Transcript at p. 9, 10, 22, 24, 92. Yet, the owner of Location 4 – Ms. Berwick – was not notified of the meeting to be able to present her position on the waiver request. See N.H. CODE OF ADMIN. R. Site 202.15(f). Had the NHSEC notified Ms. Berwick, the NHSEC would have learned that her reluctance to allow AWE onto Location 4 was directly tied to the AWE's erroneous application and interpretation of Rule Site 301.18, namely that the sound pressures were going to be averaged and that short-term sound fluctuations, which even Mr. Tocci acknowledged could be a "source of annoyance," would not be accurately represented. See November 23, 2020 Transcript at 56. The NHSEC's counsel specifically noted in the November 23 Hearing that the waiver requests affect one homeowner, "may affect other homeowners," and directly relate to whether the Antrim Wind Facility is complying with NHSEC

rules prohibiting excessive sound-pressure levels. Transcript at 22-23. Yet, despite these apparent impacts to homeowners, the NHSEC deliberated this contested matter in a non-adjudicative proceeding, without the benefit of completing evidence, testimony, or comment.

36. Taken together, it is clear from the NHSEC's repeated references to Ms. Linowes and her arguments and evidence while the NHSEC deliberated these issues, that the NHSEC was adjudicating the rights of Ms. Linowes and other affected property owners at the November 23 Hearing. Similarly, it is clear that the NHSEC was adjudicating Ms. Berwick's rights when it considered and granted AWE's requests for a waiver. Accordingly, the NHSEC violated the Administrative Procedures Act and Rule Site 202.07, when it conducted the November 23, 2020 Hearing under a non-adjudicative process and without providing notice through the electronic service list.

b. Due Process Required the NHSEC to Provide Notice to Affected Persons Prior to the November 23 Hearing.

37. The NHSEC acted unlawfully and unreasonably because the process used by the NHSEC at the November 23, 2020 hearing and in issuing the January 5, 2020 Order violated the due process rights of the Objecting Parties and other interested parties. "Where governmental action would affect a legally protected interest, the due process clause of the New Hampshire Constitution guarantees to the holder of the interest the right to be heard at a meaningful time and in a meaningful manner." Appeal of Pennichuck Water Works, 160 N.H. 18, 36 (2010).

38. As described above, the Objecting Parties and the other property owners living in the vicinity of the Antrim Wind Facility have the right to the use and quiet enjoyment of their property. That use and quiet enjoyment includes the right to be protected from adverse sound impacts associated with the Antrim Wind Facility. See N.H. CODE OF ADMIN. R. 301.14(f)(2). The NHSEC made determinations affecting those individuals' protected property interests at the

November 23 Hearing, when it determined that Acentech Report complied with Rule Site 301.18, effectively adopting the interpretation of Rule 301.18 submitted by AWE and Acentech, and granted AWE's requests regarding the sound monitoring reports The Due Process Clause of the State Constitution required the NHSEC to provide the Objecting Parties and the other affected property owners with notice of the November 23 Hearing and an opportunity to be heard at that hearing. The right to be heard goes hand-in-hand with the right to notice; absent notice, there is no opportunity to be heard. In re Kilton, 156 N.H. at 639 ("Parties whose rights are to be affected are entitled to be heard; and in order that they may enjoy that right they must first be notified." (quotation omitted)).

39. Indeed, at the November 23 Hearing, NHSEC Chair Diane Martin specifically noted that the NHSEC must provide parties an opportunity to be heard prior to making a decision. November 23, 2020 Transcript at p. 25. Indeed, that the NHSEC previously provided notice of hearings addressing Antrim Wind Energy's sound monitoring compliance to the Objecting Parties and other abutters stands as an acknowledgment that those individuals were entitled to such notice when the NHSEC took up these issues again at the November 23 Hearing.

40. Because the NHSEC did not provide the notice required by the Due Process Clause of the State Constitution, the Objecting Parties respectfully request that the NHSEC grant rehearing on the matters decided at the November 23 Hearing and in the January 5 Order, and provide prior notice of the rehearing, so that all affected parties have proper notice and the opportunity to participate in that rehearing.

## 2. The NHSEC Erred by Accepting the Antrim Wind Energy Sound Monitoring Report

41. The NHSEC acted unlawfully and unreasonably when it determined that the Acentech Report satisfied Rule Site 301.18 because the Acentech Report failed to provide data related to sound intervals at the .125 second measure, as required by Rule Site 301.18.

42. In discussing this issue, the Objecting Parties will provide a background of the regulations associated with Rule Site 301.18 and the factual circumstances regarding the dispute associated with the 2020 post-construction sound monitoring. After the Objecting Parties will explain how the NHSEC's decision was unlawful and unreasonable.

### a. Regulatory and Background for 2020 Post-Construction Monitoring

43. NHSEC's rules require post-construction sound monitoring. See N.H. Admin. R., Site 301.18(e). In particular, post-construction sound monitoring "shall be conducted once within 3 months of commissioning and once during each season thereafter for the first year." N.H. CODE OF ADMIN. R. Site 301.18(e)(7). NHSEC's rules further require that "All sound measurements during post-construction monitoring shall be taken at 0.125-second intervals measuring both fast response and Leq metrics." N.H. CODE OF ADMIN. R. Site 301.18(e)(6). Post construction noise compliance must adhere to the "standard of ANSI/ASA S12.9-2013, Part 3 and "for each sound measurement period during post-construction monitoring, reports shall include each of the following measurements: LAeq, LA-10, and LA-90; and LCeq, LC-10, and LC-90. N.H. CODE OF ADMIN. R. Site 301.18(g).

44. On May 12, 2020, Antrim Wind Energy submitted the Acentech Report. The Acentech Report concluded that the Antrim Wind Facility complied with the "1-hour Leq 40 dBA" nighttime sound limit. Although Acentech "continuously measured sound,", Acentech then "averaged" that continuous sound over a 10-minute interval, including "high sound level single-

event ambient sounds and the relatively steady background sounds," which it then used to compute hourly averages. Acentech Report at 2, 8, 16.

45. Four property owners submitted complaints to the NHSEC regarding adverse sound impacts from the Antrim Wind Facility.

46. Thereafter, Ms. Linowes submitted letters and testimony arguing that the Acentech Report's use of an hourly average did not comply with Site 301.18(e)(6). See, e.g., Lisa Linowes, "Acentech Winter 2020 Sound Monitoring Report Antrim Wind" (May 21, 2020); Lisa Linowes, "Comments by Lisa Linowes" (July 29, 2020). In particular, Ms. Linowes argued that averaging all data into hourly increments renders that data meaningless. Lisa Linowes, "Acentech Winter 2020 Sound Monitoring Report Antrim Wind," at 2 (May 21, 2020).

47. The NHSEC hired Cavanaugh Tocci to perform a peer review of the Acentech Report. Ms. Linowes specifically objected to having Mr. Tocci perform a peer review of the Acentech Report because Mr. Tocci's sound testing protocol involves a one-hour averaging standard, which is contrary to Rule Site 301.18(e)(6) which requires testing in intervals of .125 seconds. See Lisa Linowes, "Comments by Lisa Linowes" (July 29, 2020). It is worth noting that, per Mr. Tocci's own admissions, he has not previously performed a sound analysis related to a wind energy facility.

48. On September 4, 2020, Mr. Tocci submitted his revised peer review (the "Tocci Report"). The Tocci Report purported to confirm the conclusions of the Acentech Report and opined that the Acentech Report complied with NHSEC's rules regarding sound monitoring. See Cavanaugh Tocci Peer Review (September 4, 2020); November 23, 2020 Transcript at p. 49-50.

49. On September 23, 2020, Ms. Linowes submitted a report prepared by Rand Acoustics, LLC, which is a qualified acoustician experienced in measuring noise impacts

associated with wind facilities. Mr. Rand determined that sound from the Antrim Wind Facility exceeded the nighttime noise limit of 40 dBA Leq over the 0.125 second interval. At the November 23 Hearing, the NHSEC considered the issue of whether to accept the Acentech Report as well as the import of the Tocci Report. See generally November 23, 2020 Transcript at p. at 49-110.

50. Mr. Tocci testified that the purpose of his peer review was to render an opinion regarding "how measurements are to be conducted" and whether "the procedure that [Acentech] follow was generally in line with those of 301.18." November 23, 2020 Transcript at p. 53. Mr. Tocci concluded that the Acentech report complied with NHSEC's sound reporting requirements. See November 23, 2020 Transcript at p. 53-54. However, Mr. Tocci recognized that Acentech did not report sound levels at 0.125 second intervals but instead reported one-hour average sound levels. November 23, 2020 Transcript at p. 54. Mr. Tocci failed to offer any explanation regarding how the Acentech Report complied with Site 301.18(e)(6) using an hourly average, instead testifying that he could only "guess" and that "it's not clear to me in the rules how to use the 125-millisecond data." November 23, 2020 Transcript at p. 57, 59. When pressed on this issue by Member Duprey, Mr. Tocci speculated that sound must be measured in 0.125 second intervals but need not be reported in those intervals. November 23, 2002 Transcript at p. 60.

51. Many of the NHSEC members also stated that it was unclear how the requirement set forth in Site 301.18(e)(6) should be applied or whether Acentech complied with that rule's requirement. See November 23, 2020 Transcript at p. 61 (stating that it was "wasn't clear" why Site 301.18(e)(6) would require sound to be measured but not used at 0.125-second intervals); November 23, 2020 Transcript at p. 65 (suggesting that the 0.125 second interval requirement "is not a meaningful requirement" based on how it was used in the Acentech Report); November 23,

2020 Transcript at p. 78 (stating that the Tocci Report did not resolve the "time interval question"); November 23, 2020 Transcript at p. 92 (noting a "conundrum" that Site 301.18(e)(6) requires sound to be taken at the 0.125 second interval but the Acentech Report did not use that interval).

52. The NHSEC specifically discussed Ms. Linowes's participation in Office of Strategic Initiative work sessions related to the NHSEC's promulgation of these rules. November 23, 2020 Transcript at p. 66. Member Duprey additionally noted that Ms. Linowes represented that the 0.125-second interval was purposefully put into the rules, and Ms. Linowes was clear on how that interval was supposed to be used (i.e., not averaged). November 23, 2020 Transcript at p. 61; see also November 23, 2020 Transcript at p. 61 (Chair Martin agreeing that the requirement that sound be taken at 0.125-second intervals "is clear."). Member Scott corroborated Ms. Linowes statements, referencing that the requirement for a .125-second interval was "an attempt to make sure that the intervals weren't so far apart, that spikes in sound, if you will, were missed in the analysis." November 23, 2020 Transcript at p. 67.

53. In sum, the Acentech Report, which averaged sound over 10-minute increments and then averaged those increments over hourly periods, did not meaningfully use sound data in 0.125-second intervals as required by Site 301.18(e)(6). Further, it is apparent that Mr. Tocci had no idea how to apply the requirement set forth in Site 301.18(e)(6) and, therefore, could not validate Acentech's compliance with that requirement. Lastly, the NHSEC members appeared to recognize that the Acentech Report reported its data and conclusions in a manner that made the 0.125-second interval requirement in Site 301.18(e)(6) "not meaningful." Nevertheless, the NHSEC voted to accept the Acentech Report and Tocci report. November 23, 2020 Transcript at p. 88, 102, 110. The NHSEC's decision was unlawful and unreasonable as the NHSEC misapplied and misinterpreted Rule Site 301.18.

b. The NHSEC Erred by Accepting the Acentech Report, which Failed to Comply with Site 301.18(e)(6).

54. The Objecting Parties respectfully submit that the NHSEC erred by accepting the Acentech Report because: (i) the Acentech Report did not comply with the plain language of Site 301.18(e)(6) which requires that sound be taken at 0.125-second intervals and (ii) the Acentech Report erroneously reported turbine sound emissions as a steady sound and arbitrarily excluded intermittent or pulsing turbine sound emissions from its data set.

(i) *The Acentech Report does not Comply with Site 301.18(e)(6).*

55. The NHSEC acted unlawfully and unreasonable when it accepted the Acentech Report and the conclusions in the Tocci Report that the Acentech Report complied with the NHSEC's rules because the Acentech Report violated Rule Site 301.18(e)(6) by failing to monitor and report on sound at .125-secound intervals.

56. The plain language of Site 301.18(e)(6) is clear—sound measurements must be taken at 0.125-second intervals. See also November 23, 2020 Transcript at p. 61 (noting that this requirement "is clear"). The purpose of the 0.125 second interval requirement is to ensure that spikes in sound are not missed when conducting sound monitoring. In other words, the 0.125-second interval requirement set forth in Site 301.18(e)(6) ensures that pulsing sounds, such as turbine amplitude modulation, are captured. Notwithstanding this "clear" requirement, the Acentech Report failed to report any data or conclusions based on 0.125 second intervals.

57. Therefore, based on the plain language of Site 301.18(e)(6), the Acentech Report failed to comply with that rule.

58. The Tocci Report similarly failed to validate the Acentech Report's compliance with Site 301.18(e)(6), and suffered from the same flaw by analyzing data solely based on one-hour averages. Moreover, Mr. Tocci actually testified that he could only "guess" and that "it's not

clear to me in the rules how to use the 125-millisecond data." Transcript at 57, 59. When pressed on this issue, Mr. Tocci implicitly conceded that neither he nor Acentech reported sound levels in the required 0.125-second intervals. Transcript at 60. Accordingly, the Tocci Report cannot credibly validate whether the Acentech Report complied with Site 301.18(e)(6).

59. The NHSEC members on numerous occasions during the November 23 Hearing recognized that the Acentech Report did not comply with Site 301.18(e)(6), did not meaningfully use the 0.125-second interval measurements, and that not reporting 0.125-second interval measurements renders the requirement in Site 301.18(e)(6) effectively meaningless. In other words, although the NHSEC members appeared to agree that Site 301.18(e)(6) was clear with regard to taking sound measurements, the rule was unclear or presented a conundrum with regard the purpose of taking measurements in that interval or how those measurements should be used. As explained below, the purpose of Site 301.18(e)(6) is to ensure that all potentially adverse sound is measured and considered, including short spikes in sound.

60. It appears that the NHSEC issued its ruling based on the conclusion that, because the post-construction sound monitoring reports have to have measurements for LAeq, LA-10, LA-90, LCeq, LC-10, and LC-90, that somehow there is no need to report sound using the .125-second interval. See N.H. CODE OF ADMIN. R. Site 301.18(g). However, this argument ignores the fact that sound monitoring has to report sound at the LAeq interval chosen by the NHSEC is the .125-second interval." See N.H. CODE OF ADMIN. R. Site 301.01(e)(6) ("[a]ll sound measurements during post-construction monitoring shall be taken at 0.125-second intervals measuring both fast response and Leq metrics"). As such, there is no ambiguity or disconnect in the rule: Rule Site 301.18(g) clearly incorporates the .125-second Leq interval reflected in Rule Site 301.18(e). The NHSEC's interpretation to the contrary is unlawful and unreasonable.

61. Indeed, to hold, as the NHSEC did would effectively render the .125-second interval requirement a nullity and would be contrary to the entire purpose of the .125-second interval. As was acknowledged by Mr. Tocci himself, when he said that the .125-second interval was "related to . . . what is normally called 'amplitude modulated sound," which is "pulsing sound that sometimes occurs for a couple of reasons by wind turbine," and that this sound is "quite detectable and could be a source of annoyance." November 23, 2020 Transcript at p. 56. Mr. Tocci acknowledged that the methodology used by Acentech resulted in a "disconnect" with the .125-second interval requirement (even though he agreed with it) and stated that such a methodology "may not have directly looked at amplitude modulated sound." Effectively, under the interpretation adopted by Acentech and subsequently approved by the NHSEC, the .125-secound interval requirement set forth in Rule Site 301.18(e)(6) is rendered a nullity, whereby the one sound metric that could most poignantly measure and inform as to adverse sound impacts to properties is effectively ignored and unreported. See November 23, 2020 Transcript at 61 (statement of Chairwoman Martin that "it wasn't clear to me why it would be required to be done that way if it wasn't meant to be used for a purpose that way").

62. In short, the Acentech Report failed to satisfy the requirements set forth in Rule Site 301.18 because it fails to report sound at the .125-second interval.[4] The NHSEC acted unlawfully and unreasonable in accepting the Acentech Report and adopting the determination of Mr. Tocci that the Acentech Report was prepared in compliance with NHSEC rules. This issue is not occurring in a vacuum. As the NHSEC referenced throughout the November 23, 2020 proceedings, there are several noise complaints which remain outstanding; the issue of the

[4] During the November 23, 2020 hearing, representatives for AWE alleged that it was impossible or impracticable to provide data at the .125-second interval level. However, as Member Duprey noted, the data could be "filtered such that it shows . . . every point where it is above the standard for the times that they measured it," a point which Mr. Tocci himself said was "not unreasonable." November 23, 2020 Transcript at p. 80.

appropriate interval "has come up in both realms." November 23, 2020 Transcript at 77 (statement of NHSEC counsel). The Objecting Parties and other adjacent landowners remain concerned that, in evaluating noise associated with various complaints, AWE and the NHSEC will utilize a similar methodology as Acentech and average-out the amplitude modulated sound, where exceedances of the NHSEC turbine noise limits are likely occurring and are disrupting the peoples' home lives.

(ii) *The Acentech Report erroneously reported steady sound and arbitrarily excluded the sound impacts from intermittent or pulsing sounds.*

63. The NHSEC acted unlawfully and unreasonably when it accepted the Acentech Report as compliant with the NHSEC's rules because the Acentech Report's methodology excluded sound impacts from intermittent or pulsing sounds.

64. Regardless of whether Acentech may have measured data at a 0.125-second frequency, the Acentech Report did not report or meaningfully use measurements in 0.125-second intervals. Rather, the Acentech Report presented sound levels based on hour-long averages. Averages are used to show central tendency — not to show extremes. Thus, by using averages, the Acentech Report fails to properly report the impact of the highest levels of sound being caused by the Antrim Wind Facility.

65. The purpose of the NHSEC's rules regarding sound monitoring are to protect the public from adverse sound impacts. Adverse sound impacts can include continuous sounds as well as pulsing or intermittent sounds. November 23, 2020 Transcript at p. 56, 67. The Acentech Report failed to comply with NHSEC rules because it arbitrarily declared that wind turbine noise must be a steady sound source, thereby excluding the potential adverse impacts of intermittent or pulsing sounds caused by the Antrim Wind Facility. See Rand Acoustics, LLC Sound Monitoring Report (September 23, 2020). Furthermore, based on this declaration, Acentech excluded sound measurements from its data set where "the LA10 and LA90 sound level differed by more than 3

dBA." See Acentech Report at 19. Acentech misapplied ANSI S12.9 Part 3 § 6.5(b)(1) in trying to claim the ANSI standard supported this action. It does not. The purpose of § 6.5 is to describe a quick and simplified method for on-site observers to measure steady (or intermittent) sounds under noncomplex environmental conditions. Acentech conducted unattended and long-term monitoring under highly complex environmental conditions where the repetitive whoosh of the measured sound regularly exceeds 3 dB.

66. Furthermore, the Acentech Report's practice of using averages and excluding data does not comply with the plain language and intent of Site 301.18(e)(6) because it will not properly account for the impact of adverse intermittent sounds that exceed the limits imposed by the NHSEC's rules. See N.H. Admin. R., Site 301. In other words, the Acentech Report incorrectly treated the NHSEC's sound monitoring requirements by requiring only measurement of steady state sound, which effectively excludes all pulsing and intermittent sounds.[5]

67. Therefore, the Objecting Parties respectfully submit that it was an error for the NHSEC to accept the Accentech Report, which excluded valid noise caused by the Antrim Wind Facility and was based on averages of sound levels, because the Accentech Report does not comply with NHSEC Rules, including Site 301.18(e)(6) and Site 301.14(f)(2).

**3. The NHSEC erred in granting Antrim Wind Energy's Waiver Request**

68. The NHSEC acted unlawfully and unreasonable when it granted Antrim Wind Energy's waiver request to eliminate the need to conduct post-construction sound monitoring at Location 4. According to Antrim Wind Energy, it was unable to conduct testing at Location 4 because the property owner (Ms. Berwick) refused to allow access onto the property.

[5] A loud pulsing sound (a sound that is not steady) can be heard in the sound clip submitted by Amanda Buco with her sound complaint on May 21, 2020.

69. To grant a waiver of NHSEC rules, the NHSEC must find that the "waiver serves the public interest" and will not "disrupt the orderly and efficient resolution of matters." N.H. Admin. R., Site 302.05(a). In determining the public interest, the NHSEC must find that "[c]ompliance with the rule would be onerous or inapplicable given the circumstances of the affected person" or that the "purpose of the rule would be satisfied by an alternative method proposed." N.H. Admin. R., Site 302.05(b). But see Site 301.18(e)(7)(b) (authorizing the NHSEC to adjust the post-construction sound monitoring schedule, but not the location of sound monitoring sites).

70. It is worth noting that Ms. Berwick has not definitively refused access to the use of her property. Rather, Ms. Berwick has refused to allow AWE to perform sound monitoring that involves the "averaging" out of sound fluctuations and, thus, minimizes and/or ignores the various complaints that she has submitted to the NHSEC. She respectfully declines to allow herself or her property to put forth a narrative of compliance that she does not believe exists.

71. Going beyond Ms. Berwick's concerns as to the methodology used for post-construction sound monitoring and reporting, AWE should not be given a full waiver of performing any sound monitoring in the vicinity of Location 4, as sought in the waiver. At the November 23 Hearing, AWE acknowledged that it made no effort to contact other property owners who are similarly situated to Ms. Berwick. Rather, AWE proceeded to conduct subsequent testing by simply ignoring Location 4 and without any consideration as to whether an alternative or substitute location would be necessary.

72. Granting of this waiver disrupts the orderly and efficient resolution of matters before the NHSEC, particularly as a major contested issue is the proper method to conduct sound monitoring. Location 4 is a residence located in one of the largest clusters of residential properties

and in close proximity to the turbines. In other words, Location 4 was specifically chosen to measure the impact on this residential area, and measurements at that location or in that area are both relevant and necessary for determining whether sound from the Antrim Wind Facility is negatively impacting these residential property owners. Significantly, Location 4 is the general area where most of the noise complaints filed with the NHSEC have come from, and all of these complaints remain unresolved. Therefore, granting AWE's waiver request and not requiring AWE to conduct sound monitoring from a nearby, alternative location, inhibits the ability of both affected residents and the NHSEC to get monitoring data needed to assess AWE's compliance.

73. AWE's assertion that an alternate location would not serve the "purpose" of Rule Site 301.18 to "test" pre-construction predictive models or provide for a proper comparison to pre-built conditions reflects a gross misreading of Rule Site 301.18(e)(5). Contrary to AWE's assertion, the post-construction sound monitoring requirement exists to compare turbine noise levels from one seasonal compliance test to the next. Rule Site 301.18 provides that locations for post-construction noise compliance monitoring be conducted at "the same locations at which predictive sound modeling study measurements were taken" pursuant to Rule Site 301.18(c). Rule 301.18(c) requires predictive modeling to be performed in locations where the "worst case wind turbine sound emissions" are likely to occur. See N.H. CODE OF ADMIN. R. Site 301.18(c)(6). It is in those areas where compliance monitoring is needed most. Once the monitoring locations are selected and sound monitoring has begun, simply removing one or more locations is inconsistent with the purpose and intent of these rules and deprives the NHSEC and interested parties of the ability to evaluate how actual turbine sound emissions vary by season. A full waiver of the requirement to perform post-construction sound monitoring anywhere in the vicinity of Location 4 cannot be said to be within the public interest or satisfy the purpose of the rule.

74. Moreover, AWE's assertion that such a waiver is necessary for compliance with Rule 301.18 (e) is not accurate. Rule 301.18 (e) (5), while requiring the use of the same "location" as that used in predictive modeling, does not require the use of the exact same GPS coordinates as used in predictive modeling, and, therefore, does not prohibit the use of a location in close proximity to Location 4. Mr. Latour's concerns about "pre- and post-project comparison" and that background noise levels will not be the same in other locations are misplaced. See November 23, 2020 Transcript at p. 41-42. For one, Mr. Latour's argument fails to understand the language of Site Rule 301.18(e)(4) which requires "measurements being made with the turbine in both operating and non-operating modes," which would necessarily provide a background noise profile to be used for comparison. Additionally, Mr. Latour's argument that somehow noise from foliage and insects will be so materially different from a location that is feet away from Location 4 as to call the validity of the post-construction sound monitoring into question is specious and contrary to common sense. Simply stated, alternatives exist that should be used while the NHSEC considers the issue of the proper means by which to perform post-construction sound monitoring.

75. Furthermore, where this waiver request specifically impacts the rights of the property owners living in the vicinity of Location 4, the NHSEC should have provided notice to those affected persons prior to considering and ruling on the waiver request at the November 23 Hearing.

## IV. REQUEST FOR DATA AND TECHNICAL SESSION

76. During the November 23, 2020, there was substantial discussion as to AWE and/or Acentech making raw data related to sound measurements available to Ms. Linowes. During that discussion, various members of the SEC expressed that they were unclear as to whether Ms. Linowes had made such a formal request for that raw data. To the extent that there is any

confusion, Ms. Linowes hereby formally requests all raw data in the possession of AWE or Acentech related to the 2020 post-construction sound monitoring be provided to Ms. Linowes, [6] and if necessary, for the NHSEC to order the production of that raw data.[7] Such informed would include the .125-second interval readings and the corresponding audio files related to that monitoring at all five locations. In addition, Ms. Linowes requests all original SCADA data for the 9 turbines including as a minimum: power output, rotor speed, temperature, humidity, wind speed, and direction at nacelle, yaw, and pitch angle.

77. Ms. Linowes notes that, contrary to Mr. Latour's representations at the November 23, 2020 hearing, such information is routinely provided in an excel format and, as recently as January 2021, a wind developer in Vermont had provided such raw data in an excel file format; there was no assertion in those Vermont proceedings that the production of that raw data would not be of "value" or would be "impracticable." Mr.Latour should be aware that Rion NL-52 sound meters referenced as being used by Acentech during its 2020 winter monitoring store data in a standard CSV format that can readily be input into any spreadsheet software or any 3rd party software used to for conducting acoustic analysis on sound data.

78. To the extent that Acentech or AWE has any stored data or documents in some form of proprietary format, Ms. Linowes asks that the NHSEC direct AWE to maintain such raw data in a more-readily available file format to allow for transparency and to allow for meaningful review should a dispute as to methodology or report accuracy arise.

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[6] Acentech states in its report that it stored audio data using 128 kbps mp3 file formats. Acentech Report at 15. Mp3 files are not of a sufficient quality to accurately reproduce the sound caused by the Antrim Wind Facility. Rather than using Mp3 files, Acentech should have used 12kHz 16-bit WAV files, which Acentech's equipment is capable of recording.

79. Further, as Ms. Linowes has previously sought, after the grant of rehearing, and prior to any adjudicatory hearing, a technical session should be scheduled such that interested parties have a meaningful opportunity to ask questions about the raw data and/or the analysis and conclusions reflected in various reports. Such a process is what is normal and customary in the context of an adjudicative hearing and should be followed in these proceedings.

THIS PLEADING WAS PREPARED WITH THE ASSISTANCE OF A NEW HAMPSHIRE ATTORNEY

## V. CONCLUSION

80. For the reasons stated above, Ms. Linowes respectfully requests that the NHSEC grant rehearing with respect to its decisions to accept the Acentech Report and to grant Antrim Wind Energy's waiver requests. Ms. Linowes did not properly receive notice of the November 23 Hearing, and the Acentech Report does not comply with NHSEC's rules. Granting a rehearing would correct the failure to provide notice, provide Ms. Linowes and other affected property owners with an opportunity to speak to whether the Acentech Report should be accepted and to address the expert evidence Ms. Linowes submitted, and provide Ms. Linowes an opportunity to speak to the propriety of Antrim Wind Energy's waiver request and its impact on neighboring property owners.

Dated this 4th day of February, 2021.

Respectfully submitted,

Lisa Linowes

Barbara Berwick

Janice Longgood

THIS PLEADING WAS PREPARED WITH THE ASSISTANCE OF A NEW HAMPSHIRE ATTORNEY

**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 4rd day of February, 2021.

/s/ Lisa Linowes

THIS PLEADING WAS PREPARED WITH THE ASSISTANCE OF A NEW HAMPSHIRE ATTORNEY

September 22, 2020

***VIA ELECTRONIC MAIL***

Ms. Pamela Monroe, Administrator
Site Evaluation Committee
21 South Fruit Street, Suite 10
Concord, NH 03301

**RE: DOCKET NO. 2015-02, ANTRIM WIND SOUND MONITORING**

Dear Ms. Monroe:

Attached please find a Sound Monitoring Report prepared by Rand Acoustics, LLC ('Rand') of Brunswick Maine (Exhibit B). The report summarizes the results of a four-day sound survey conducted at the Antrim Wind Energy facility ('Project') from February 19 to February 23, 2020. The survey involved the installation of two outdoor noise monitors at the Berwick property situated at 72 Reed Carr Road in Antrim. During the survey period, Ms Berwick reported two noise complaints. Post-analysis confirmed that both complaints were from Antrim Wind turbine noise. This was corroborated by audio recordings. In each case the recorded Project noise levels exceeded the nighttime noise limit of 40-dBA Leq-0.125 second as defined in the Site Evaluation Committee ('Committee') rules.

Rand's independent survey was conducted at the request of neighbors to the Project. Rand followed the sound monitoring method detailed in NH Site 301.18 and the applicable standards. Graphs shown on pages 6 and 7 of the report clearly show noise exceedances occurring when the Antrim turbines dominated the acoustic environment with pronounced whooshing and thumping typical of wind turbine amplitude modulation[1] ('AM'). Rand recorded repetitive AM ranging between 3 and 8 decibels (dB). His findings are consistent with audio recordings submitted to the Committee by Ms. Berwick and others living near the Antrim turbines.[2]

Turbine amplitude modulation is obvious to the listener, well documented in the technical literature, and clearly recognizable in valid sound data. No competent acoustician who has dealt with wind turbine noise could say otherwise.

In fact, Michael Bahtiarian, Antrim's principle consultant for its winter 2020 monitoring documented AM emitted from turbines located in Falmouth, MA[3] and Kingston, MA.[4] In

[1] Amplitude modulation is a well document characteristic of wind turbine noise. It is defined as periodic changes in amplitude or loudness of a signal and is associated with the rate of blade-pass frequency.
[2] Morrison, E, (20 July, 2020). Complaint from Erin Morrison 07/20/20. Audio submitted to the Committee is sufficient for demonstrating the characteristic AM in the Project turbine noise. Retrieved at https://drive.google.com/file/d/1iPND1w1dJzxZ6kK00N4-oXkuvNVFTKzL/view
[3] Bahtiarian, M. & Beaudry, A. (27 February, 2015) Infrasound measurements of Falmouth wind turbines

Kingston, Mr. Bahtiarian explains how his data showed "*the acoustic characteristic produced by wind turbines (i.e. the "woosh-woosh" sound) known as Aerodynamic Amplitude Modulation (AAM)*." He goes on to explain that "*AAM is a striking characteristic or signature unique to wind turbines. Persistent evidence of AAM in a set of noise data is a reliable method for determining if a wind turbine is indeed the primary noise source.*" (Beaudry 2013 at 8) His explanation is consistent with Rand's findings at Antrim.

Mr. Bahtiarian and Acentech now claim that wind turbine noise is a 'steady sound source,'[5] which is factually untrue and not supported in any literature addressing modern wind turbine noise. Mr. Bahtiarian and Acentech use this claim to declare Project sound measurements where the minimum and maximum levels differed by more than 3 dB as contaminated by 'non-turbine sounds' and exclude those measurements from their data set.[6]

The obvious effect of this is to throw out valid turbine noise intended to be measured thereby *suppressing instances of turbine noise exceedances*.

This action is not supported by NH Site 301.18 or any of the relevant professional sound standards cited. Acentech misapplied ANSI S12.9 Part 3 § 6.5(b)(1) when it tried to claim the ANSI standard supported this action. It does not. The purpose of § 6.5(b)(1) is to describe a quick method for on-site observers to determine ***if*** a noise source is steady. Section 6.5(b)(1) in no way serves as a basis for discarding valid turbine sound data. The language of § 6.5(b)(1) is provided in Exhibit A attached for the Committee's convenience.

As you are aware, numerous noise complaints have been filed with the Committee by residents living near the Project. The record is replete with correspondence on this issue. Antrim Level, LLC insists the Project is operating in compliance with the certificate. Its July 17[7] and August 11[8] letters tortuously labor to find foundation within the plain language of the SEC rules and supporting standards to justify its claim where no such foundation exists. The fact remains that the methods utilized by Mr. Bahtiarian, Acentech, and now Cavanaugh-Tocci[9] are not

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Wind #1 and Wind #2 (at 2). Retrieved at http://s3.amazonaws.com/windaction/attachments/2359/NCE-Report-of-February-27-2015.pdf

[4] Beaudry, A. & Bahtiarian, M. (23 April, 2013). O'Donnell wind turbines noise evaluation Kingston, MA. Retrieved at https://windwisema.files.wordpress.com/2013/05/2013-05-23-o_donnellwindturbineevaluation.pdf

[5] Brush, E. & Bahtiarian, M. (12 May, 2020). Post construction sound monitoring report – Winter 2020 (at 19). Retrieved at https://www.nhsec.nh.gov/projects/2015-02/post-certificate-filings/2015-02_2020-05-13-20_awe_post_construction_sound_monitoring.pdf

[6] Wording from Acentech's winter 2020 report states as follows: "ANSI S12.9 2013 Part 3 suggests that a steady sound source shouldn't vary by more than 3 decibels over the period of measuring its sound levels. In keeping with this statement, periods in which the LA10 and LA90 sound levels differed by more than 3 dBA were excluded."

[7] Latour, J. (17 July, 2020). TransAlta response to comments received on post-construction sound monitoring report. Retrieved from https://www.nhsec.nh.gov/projects/2015-02/post-certificate-filings/2015-02_2020-07-17_transalta_response_linowes.pdf

[8] Needleman, B. (8 August, 2020). Response to Comments of Lisa Linowes dated 08/11/20 https://www.nhsec.nh.gov/projects/2015-02/public-comments/2015-02_2020-08-11_resp_comments_l_linowes.PDF

[9] Cavanaugh-Tocci misapplied ANSI S12.9 Part 3 §6.5(b)(1). See Cavanaugh-Tocci (25 August, 2020). AWE wind farm sound measurement report at 3 and Appendix A where Cavanaugh-Tocci voids ***all*** Project sound

supported by the SEC rules and render any legitimate analysis and validation of their conclusions and regulatory compliance impossible.

We hope the attached report will prove a useful addition to the record. Now that Mr. Tocci has completed his peer-review of the Acentech winter sound monitoring report, we urge the Committee to schedule a tech session, an evidentiary hearing and a briefing schedule so that parties can respond appropriately.

Respectfully,

Lisa Linowes
for The Windaction Group

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data collected and declares the turbines compliant with the certificate. Also See: CAVANAUGH TOCCI Peer Review at 4.

# EXHIBIT A



(b) The following is the method of simplified procedure 1:

(1) Set the sound level meter to measure approximately 0.1 s time-average or *fast* time-weighted sound pressure levels. Observe the changes in indicated level when the source(s) of a steady sound are turned on or off, or when the source(s) of an intermittent sound are on or off, and determine if each source constitutes a dominant sound.

- *For a steady sound*, observe the indicated sound level for a 5-min period with the source(s) in operation and determine the frequency-weighted or frequency-filtered sound pressure level. For the sound to be essentially steady, the difference between the maximum sound pressure level and the minimum sound pressure level measured during the 5-min observation period shall be less than or equal to 3 dB. If there are transient background sounds that cause the indicated sound pressure level to rise by 3 dB or more, discard the sound pressure level measurements and repeat the 5-min observation. If interruptions persist, use the methods of 6.7.2 or 6.7.3 to eliminate the contribution of transient background sounds from the measurements of sound pressure levels as measured in the field.

# EXHIBIT B – Rand Report Antrim Wind Facility

Robert W. Rand, ASA, INCE (Member Emeritus)
RAND ACOUSTICS, LLC
65 Mere Point Road
Brunswick, ME 04011
E-mail: rrand@randacoustics.com
Telephone: 207-632-1215

September 3, 2020

Ms. Lisa Linowes
The WindAction Group
286 Parker Hill Road
Lyman, NH 03585

Re: Complaint Response Noise Survey 2/19-2/23, 2020
Antrim Wind Facility, Antrim, NH

The New Hampshire SEC Rules for Noise Testing and Compliance are complaint-driven. Shortly after Antrim Wind began operation, two neighbors, one east and another west have complained about Antrim Wind noise.

Per your request, two outdoor noise monitors were installed near the Berwick home (east) in Antrim, NH from February 19 to February 23, 2020. During the four-day survey there were two noise complaints: first at 8:48 pm (21Feb2020) and a second at 12:36 am (22Feb2020). Post-analysis confirmed that both noise complaints were from Antrim Wind turbine noise, corroborated by audio recordings and dBA vs 100 millisecond time history graphs.

I respectfully submit this complaint response technical report summarizing the Antrim Wind noise monitoring and post-analysis. Antrim Wind turbine noise levels exceed the 40-dBA, Leq-0.125-second site noise limit at the Berwick home.

## Methodology

By NH SEC Rules, Leq-0.125-second noise levels shall not exceed 40 dBA at night and measurements during field sound surveys investigating noise complaints shall be taken at 1/8-second intervals using Fast response and Leq metrics:

> *NH Site 301.14(f)(2)a: With respect to sound standards, the A-weighted equivalent*[1] *sound levels produced by the applicant's energy facility during operations shall not exceed the greater of 45 dBA or 5 dBA above background levels, measured at the L-90 sound level, between the hours of 8:00 a.m. and 8:00 p.m. each day, and the greater of 40 dBA or 5 dBA above background levels, measured at the L-90 sound level, at all other times during each day, as measured using microphone placement at least 7.5 meters from any surface where reflections may influence measured sound pressure levels, 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, and the measurements shall be performed at night with winds above 4.5 meters per second at hub height and less than 3 meters per second at ground level; and*
>
> *NH Site 301.18(e)(6): All sound measurements during post-construction monitoring shall be taken at 0.125-second intervals measuring both fast response and Leq metrics; and*
>
> *NH Site 301.18(i): Validation of noise complaints submitted to the committee shall*

1) Equivalent sound level measurements are defined as Leq, 0.125-second, Fast response in NH Site 301.18(e)(6): "*All sound measurements during post-construction monitoring shall be taken at 0.125-second intervals measuring both fast response and Leq metrics*".

*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.*

Noise measurements were acquired using recommended survey methods which are consistent with ANSI S12.9 and requirements in the Site 301.18(a)(4) Sound Study Methodology, sections of which are listed below:

*Sound measurements shall be omitted when the wind velocity is greater than 4 meters per second at the microphone position, when there is rain, or with temperatures below instrumentation minima; and,*

*a. Microphones shall be placed 1 to 2 meters above ground level, and at least 7.5 meters from any reflective surface; and*

*b. A windscreen of the type recommended by the monitoring instrument's manufacturer must be used for all data collection;*

*c. Microphones should be field-calibrated before and after measurements; and*

*d. An anemometer shall be located within close proximity to each microphone.*

Facility noise levels were acquired at 1/10-second intervals which is consistent with and exceeds the 1/8-second interval requirements of the NH SEC Rules for Noise Testing and Compliance. Measurements using longer averaging than 1/8-second (examples, 1-second, 10-second, 10-minute, 1-hour) fail to track the Fast response as the ear hears (complaints).

Noise monitoring during this complaint response survey represents the meteorological conditions for noise complaints as the measurements were conducted during complaints. Hub height operating conditions during the survey are unknown without SCADA logs.

It must be noted from decades of professional noise survey practice: When the noise source under investigation dominates the acoustic environment, rural background sound levels 10 or more dB lower are insignificant and "corrections" to measured sound levels are not warranted.

Facility overview

The Antrim Wind facility consists of nine Siemens SWT-3.2-113 Direct Drive turbines each with a nameplate generating capacity of 3.2 MW. The turbines run approximately two miles along the Tuttle Hill ridgeline toward nearby Willard Mountain as shown on Figure 1. Excluding turbine blades, 8 of the turbines are 92.5 meters tall (303.5 feet) and 1 turbine is 79.5 meters tall (260.9 feet). Including turbine blades, 8 of the turbines are 488.8 feet tall and turbine 9 is 446.2 feet tall. The Tuttle Hill ridgeline elevation ranges between 1760 and 1830 feet, a rise of 610 to 680 feet above the valley floor. The three nearest turbines to the Berwick property, T1, T2, and T3 are line-of-sight and respectively approximately 3670, 3800, and 5000 feet from the Berwick home. Turbine T1 is visible and audible through trees. Turbine T2 (see Figure 3 of this report) has a total elevation to blade tip of approximately 1000 feet above the Berwick home. The T3 hub and blades are visible above the treeline (see Figure 3).

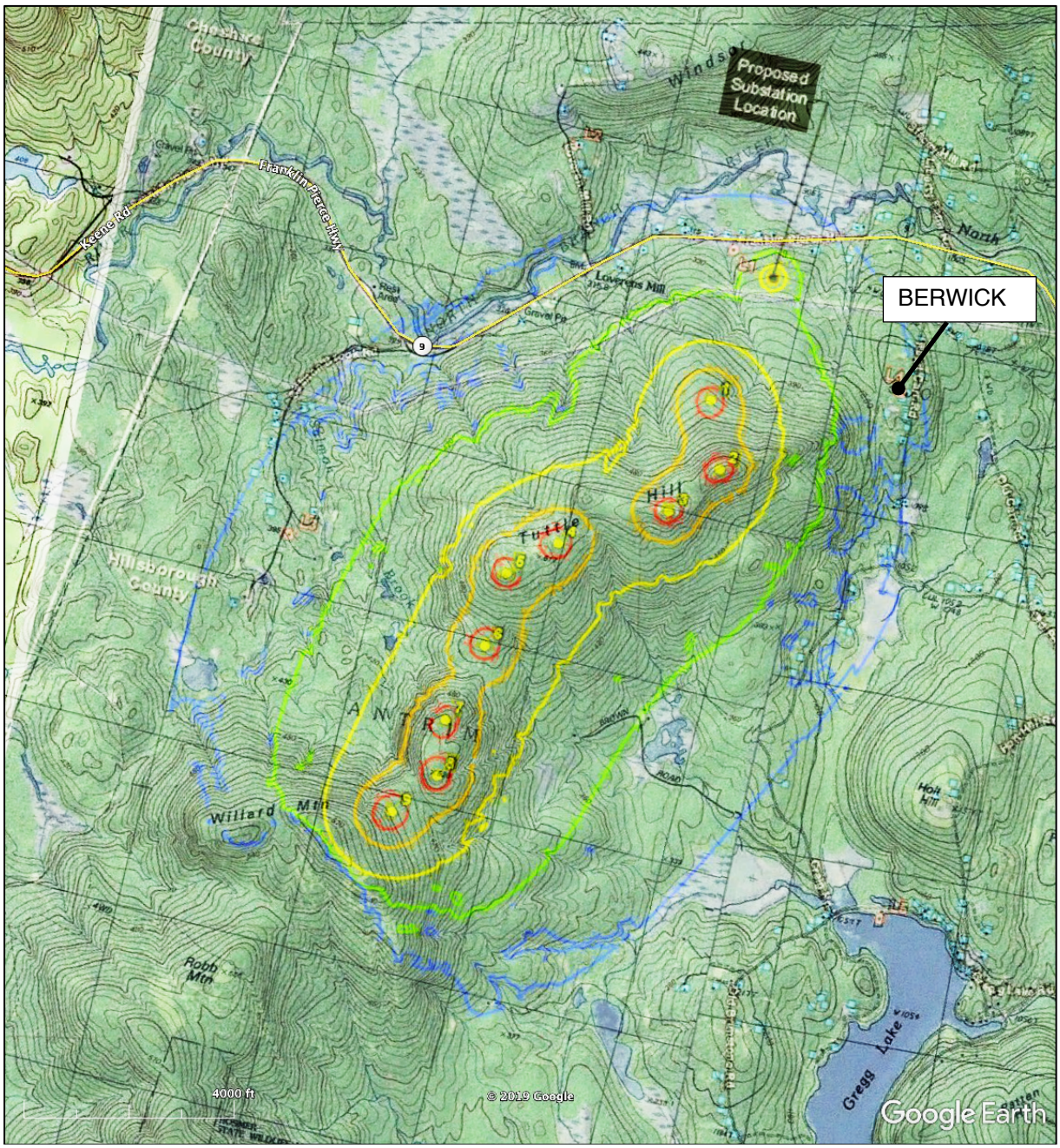


Figure 1. Turbine locations with 2016 predicted long term average noise levels (yellow, 45 dBA; green, 40 dBA; blue, 35 dBA). This survey location is at 72 Reed Carr Road (BERWICK).

Survey setup and instrumentation

The Berwick home was visited by this author during the midday on 2/19/20. The weather was mild and sunny with light winds. The Berwicks were home during the visit and agreed to the noise survey. The yard layout was reviewed, and locations selected for instrumentation.

The survey was conducted from approximately noon on 2/19/20 to noon on 2/23/20. Primary and backup survey microphones (NM1 and NM2) were installed in the yard approximately 40

and 37 feet (12 and 11 meters) diagonal to and southwest of the home, in the clear yard area away from trees. Per NH Site rules, the distances from microphones to the home exceed the minimum requirements of 7.5 meters and, as required, the microphone locations fall between the home and turbine locations. A datalogging wind speed anemometer (WM) was installed near the survey microphones to assess for wind speeds at microphones. The microphones and anemometer were installed at a height of approximately 1.2 meters, within the required 1 to 2 meters.

The NM1 system was comprised of a Svantek SV 277 PRO Outdoor Monitor System (SV 977: sn 46468) with Type 1 Environmental Microphone System with manufacturer's environmental windscreen and bird-spikes, powered via AC power cable from the house. Calibration was checked before and after the survey with a Svantek Acoustic Calibrator (SV33A: sn 46144) operating within its calibration period. The NM1 was set up to acquire Fast Response LAeq (A-weighted), LCeq (C-weighted), and LZeq (Linear) sound levels 10 times per second, meeting and exceeding the 8 samples per second requirements of the NH SEC Rules.

The NM2 backup system was comprised of a GRAS 40AN Type 1 Precision microphone (sn 73461) and GRAS Type 26AI low frequency 200V preamplifier (sn 283409) connected via 100-meter Norsonic LEMO7 cable to a SINUS Messtechnik GmbH Model Apollo Box 4-channel Acoustic Analyzer (sn 7800) operated with Sinus Samurai software version 2.8.3 on a Windows 10 laptop located in the house basement. System end-to-end calibration was performed with a Bruel & Kjaer Type 4230 Acoustic Calibrator (sn 1103065) operating within its calibration period. The NM2 microphone was equipped with a 7-inch ACO windscreen covered with nylon coated with ScotchGard and topped with bird spikes. Five parallel Samurai Class 1 sound level meters meeting IEC 60561, 60804, and 61672 were set up on the NM2 signal with an audio sampling rate of 12800 Hz at 24 bits and configured to acquire 0.05, 0.125 (matching NH SEC Rules), 1, 60 and 600 second time records including simultaneous LAeq, LCeq, and LZeq sound levels for each time period. TeamViewer software was utilized to observe and listen to Samurai data acquisition remotely during the survey. Recordings were reviewed during post analysis. Extraneous ground loop noise was found in the recording but didn't interfere with listening. The NM2 data were not used in this analysis.

The two calibrators' outputs provided consistent system calibration within 0.5 dB.

The WM wind speed logger was a Madgetech Wind101A (sn N66334) cup anemometer set up to record average wind speed in 10-second periods. The Madgetech was configured to start automatically on 2/19/20 and was stopped and downloaded on 2/23/20.

Survey instrumentation locations (NM1, NM2, WM) are shown in Figures 2 and 3 below.

Figure 2. Mic (NM1, NM2) and anemometer (WM) locations.

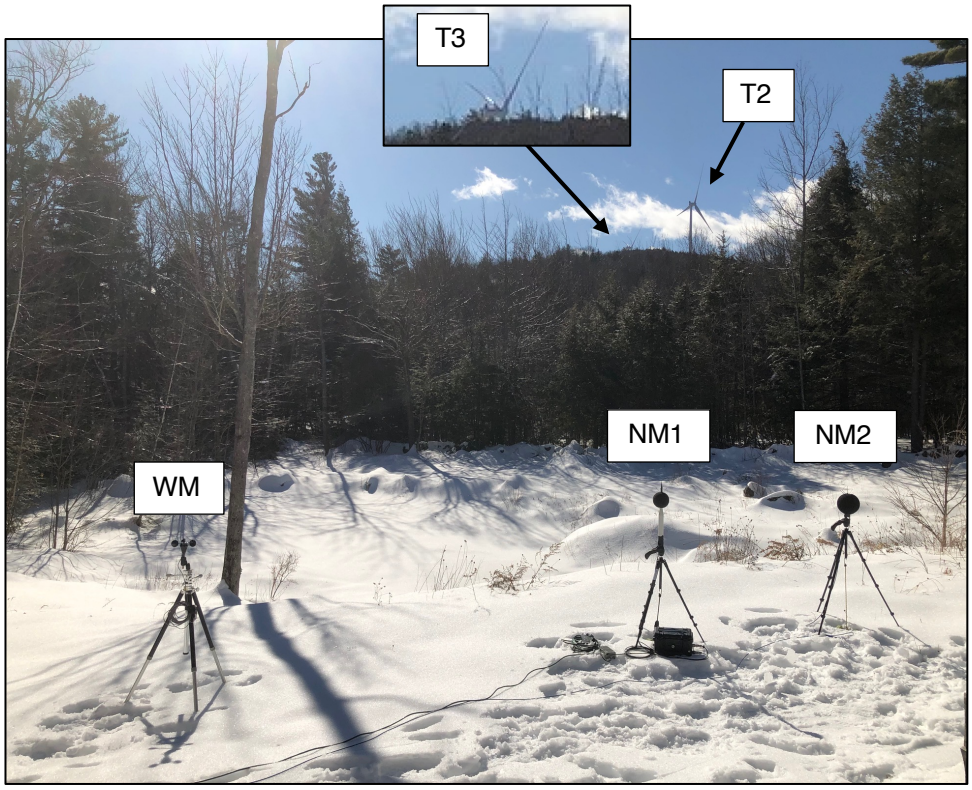

Figure 3. Looking West, left to right, anemometer WM, primary system NM1, and backup system microphone NM2. Turbines 2 and 3 are visible direct line-of-sight on Tuttle Hill in top right portion of photograph (T3 nacelle is just above ridgeline).

Complaint Noise Analysis

**2/21/20 8:48 PM:** Sound occurring during the Berwick noise complaint for February 21, 2020 8:48 pm was reviewed in the backup record and plotted from the primary system NM1. The Antrim Wind turbines dominated the acoustic environment with pronounced low frequency whooshing-thumping. There was very low variable wind (slight to none) at the Berwick home, under 3 m/s and no wind induced noise in the microphone recording. The local temperature was 21F and humidity 51% [2]. The 1/10-second A-weighted Leq noise level exceeded the facility not-to-exceed night noise limit of 40 dBA by several dBA numerous times. Deep repetitive amplitude modulations, adding together from multiple turbines, and exceeding 3 dB up to 7 dB depth, were observed occurring at wind turbine blade pass rates. See Figure 4 trend chart below showing A-weighted sound level versus time.

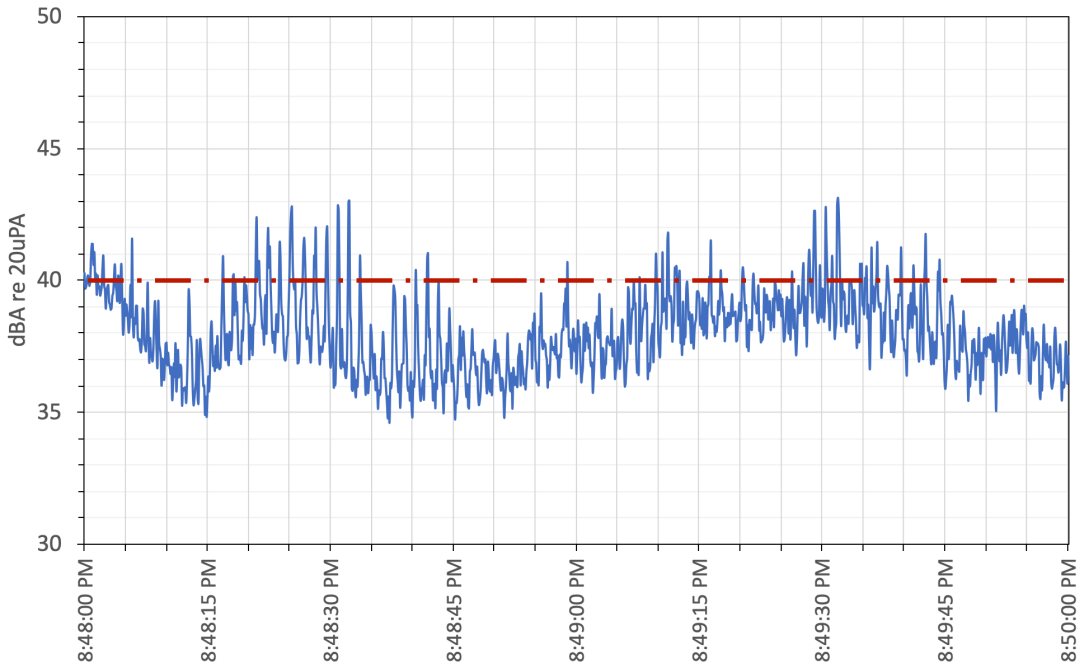


Figure 4. 2/21/20 8:48 PM, 1/10-second LAeq, turbines dominating the acoustic environment. The NH shall-not-exceed 40-dBA night noise limit is shown in red.

**2/22/20 12:36 AM:** Sound occurring during the Berwick noise complaint for February 22, 2020 12:36 am was reviewed in the backup record and plotted from the primary system NM1. The Antrim Wind turbines dominated the acoustic environment with pronounced low frequency whooshing and thumping. There was no wind at the Berwick home and no wind induced noise in the microphone recording. The local temperature was 20F and humidity 52%. The 1/10-second A-weighted Leq noise level exceeded the facility not-to-exceed night noise limit of 40 dBA by several dBA numerous times. Deep repetitive amplitude modulations, adding together from multiple turbines, exceeding 3 dB up to 8 dB depth were observed occurring at wind turbine blade pass rates. See Figure 5 trend chart below showing

2 https://www.wunderground.com/dashboard/pws/KNHANTRI9/ accessed March 1, 2020.

A-weighted sound level versus time.

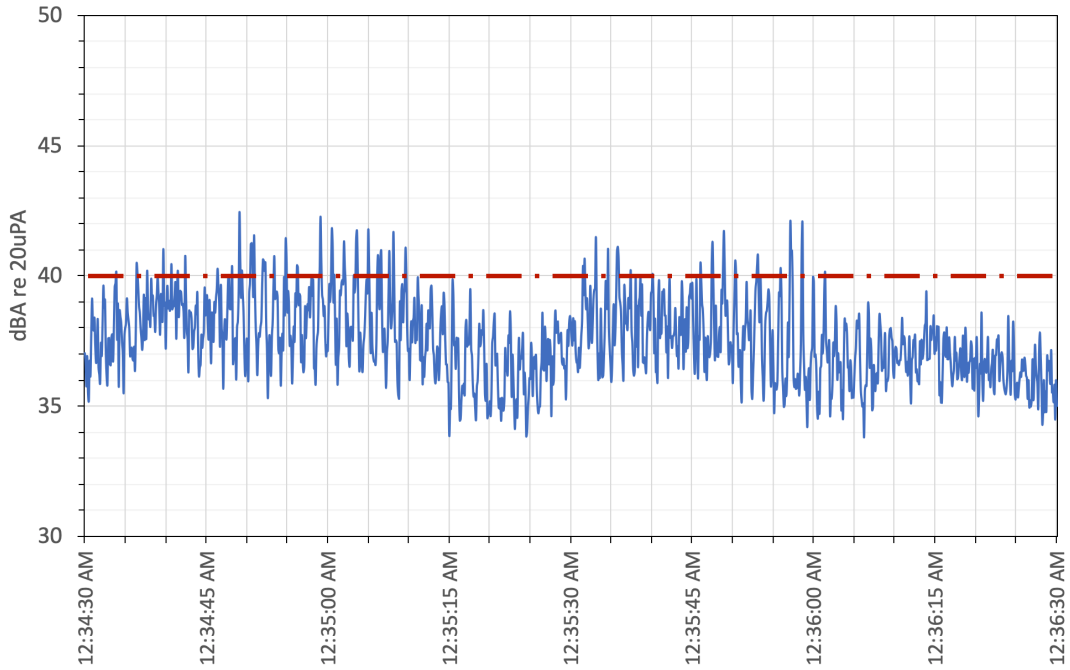


Figure 5. 2/22/20 12:36 AM, 1/10-second LAeq, turbines dominating the acoustic environment. The NH shall-not-exceed 40-dBA night noise limit is shown in red.

<u>Wind speed at microphones during complaint times</u>

Wind speeds at microphones as measured by the WM anemometer were below 4 m/s during the complaint times of <u>2/21 8:48 pm</u> and <u>2/22 12:36 am</u>.

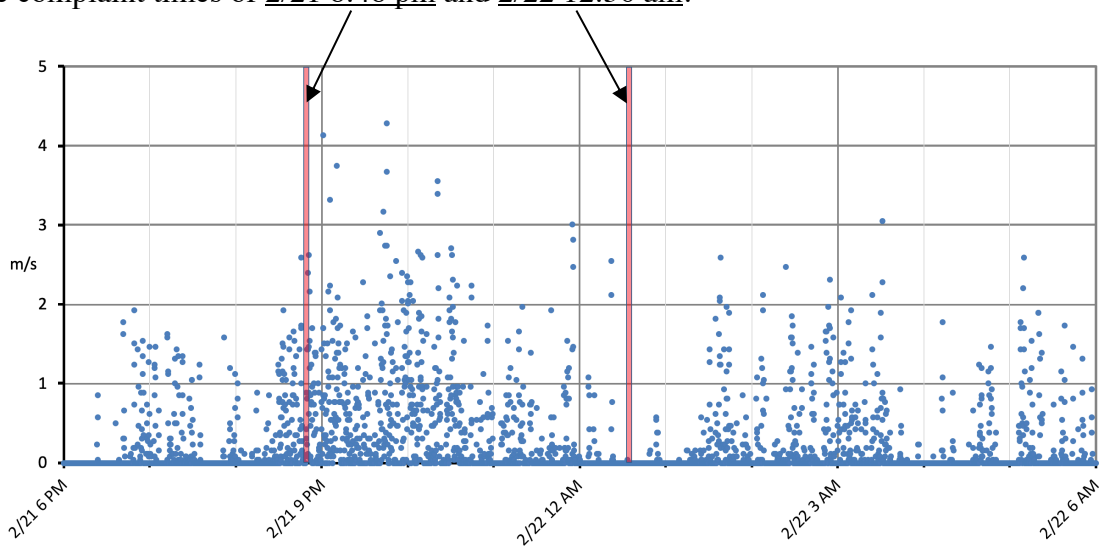


Figure 6. Wind speeds at microphone locations with complaint times shown.

Ground-level wind speeds at the Berwick home were light, variable and under 3 m/s at 2/21 8:48 pm and negligible (no wind) at 2/22 12:36 am. The data are consistent with observations that the Antrim Wind turbines dominated the acoustic environment at the time of complaints and "wind in trees" sounds were not significant contributors to the measured sound levels.

Conclusions

1. The complaint response noise survey at the Berwick home February 19-23, 2020 documented Antrim Wind exceeding the do-not-exceed 40-dBA night noise limit at complaint times.
2. Antrim Wind turbine noise dominated the acoustic environment at the complaint times with repetitive modulations with 1/10-second LAeq exceeding 40 dBA numerous times.
3. The noise survey was conducted during light wind conditions suggesting partial power conditions. During stronger winds aloft the turbines could be louder.
4. Complaints investigated during the noise survey occurred in the nighttime period. Complaint times and notes provided the most efficient basis for monitoring scheduling.
5. Noise survey results confirmed that excessive noise can be documented using recorded unattended monitoring when analysis corresponds with neighbor complaints.
6. Sensitive home activities such as sleeping and restoration in quiet conditions occur primarily between 8 pm and 8 am (night). It may be more efficient to focus on nighttime noise monitoring than daytime.
7. Valley topographic isolation below ridge with winds hundreds of feet aloft moving through turbine blade envelopes can result in low or no winds at the valley home with Antrim Wind turbine noise illuminating and dominating the valley acoustic environment.

Much appreciation is extended to the Berwicks for hosting the survey at their home, and to Mr. Stephen E. Ambrose, INCE (Board Cert. Member Emeritus) for instrumentation and analysis review.

Thank you for your consideration of this report. If you have any questions, please contact me.

Respectfully Submitted,

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Robert W. Rand, ASA, INCE (Member Emeritus)