

May 11, 2021

VIA ELECTRONIC MAIL

Jonathan A. Evans
Presiding Officer
New Hampshire Site Evaluation Subcommittee
21 South Fruit Street, Suite 10
Concord, NH 03301

RE: DOCKET NO. 2021-02 INVESTIGATION OF COMPLAINTS REGARDING ANTRIM WIND ENERGY FACILITY

Dear Subcommittee Chair Evans:

Thank you for the opportunity to provide comment in the above referenced matter. The purpose of this letter is to emphasize the existence of the NH Site Evaluation Committee (“SEC” or “Committee”) standard for wind turbine sound and to show how Antrim Wind Energy LLC (“AWE”) has misapplied this standard at its wind facility (“Project”).

The Committee, and now the Subcommittee, appear uncertain of the NH standard for wind turbine noise. There should be no ambiguity. The standard was developed, tested and refined over more than a decade of deliberations by the SEC. Each of the Lempster Wind, Groton Wind, and Antrim Wind (Dkt #2012-01) decisions imposed not-to-exceed (Lmax) noise limits.¹ The NH Lmax standard was designed to capture the peaks and troughs characteristic of amplitude modulation found in turbine noise emissions. The SEC deliberations during the Antrim Wind (2012) proceeding² are particularly instructive as they show how the then-seated SEC members, including Commissioner Bailey, closely scrutinized and rejected the notion of long-term averaging of sound (1-hour or more) in favor of the absolute Lmax limit.

Each of these decisions had precedential value in the SB 99 stakeholder process and 2014-2015 rulemaking. The SEC’s current 1/8 second compliance interval (Leq 1/8 second) is functionally identical to its prior Lmax standard.³ To ensure there was no confusion regarding the intended compliance interval, the 1/8 second timeframe was given its own rule at NH Site 301.18(e)(6). The fact that the compliance interval is cited under NH Site 301.18 does not alter its purpose. The Committee noted this fact during rulemaking. (See: *Docket 2014-04 TR 09-29-2015* *141 where Chairman Honigberg states: “...*this [301.14(f)(2)] is where the standard is set, and [301.]18 is where you explain how and where you test.*”) Site 301.18(e)(6) is the only point in the SEC rules where a compliance interval is ascribed for Leq.⁴

¹ The maximum limit in decibels differed in Lempster, Groton and in Antrim Wind (2012). In each Docket the Committee adopted progressively more protective limits on turbine noise.

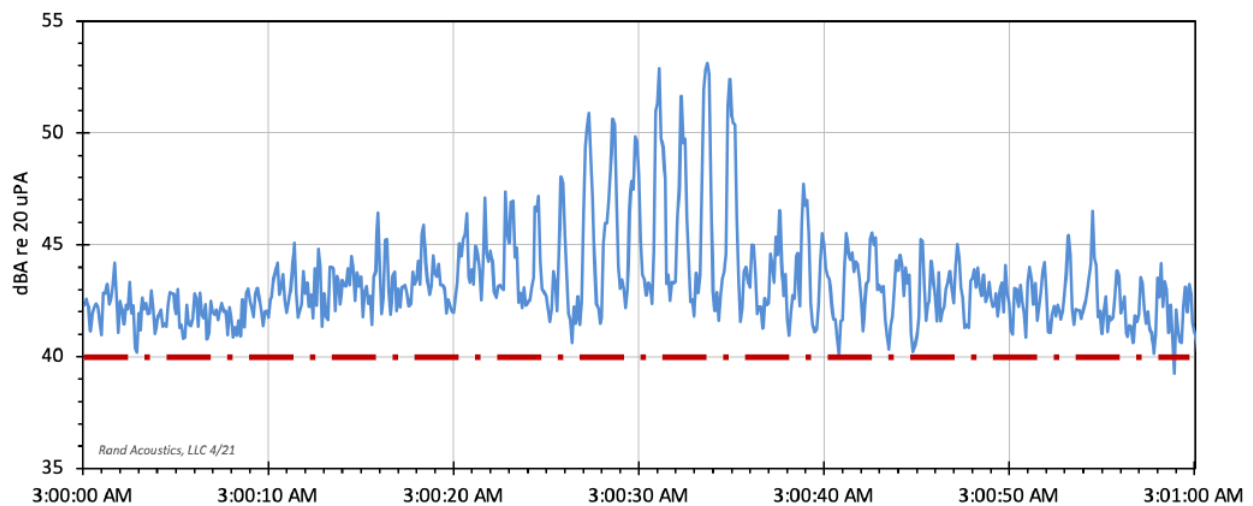
² *Docket 2012-01 Transcript, morning session. 02-07-2013* at *10 (February 7, 2013)
<https://www.nhsec.nh.gov/projects/2012-01/documents/130207minutes201201am.pdf>

³ The equivalent standard (Leq) with a 1/8 second compliance interval was selected by the Committee as it defines both a specification for sound level and a specification for timeframe. Lmax by itself does not establish a specification for timeframe. Also see: *Lisa Linowes comment on two technical memoranda prepared by Kenneth Kaliski of RSG, Inc. and Robert O’Neal of Epsilon Associates, Inc.* (March 24, 2021)
https://www.nhsec.nh.gov/projects/2015-02/post-certificate-filings/2015-02_2021-03-24_linowes_comment_technical_memoranda.pdf

⁴ *Lisa Linowes, Janice Longgood, And Barbara Berwick’s Reply To Antrim Wind Energy, LLC’s Objection To Motion For Rehearing* *8 https://www.nhsec.nh.gov/agendas-minutes/documents/2015-02_2021-02-22_linowes_longgood_berwick_reply_awe_obj_rehearing.pdf

Despite precedence and the plain language of the SEC rules, AWE has contrived its own method for conducting post-construction sound testing. Specifically, AWE (a) modifies NH Site 301.14(f)(2)a by assuming 1-hour averaging instead of the 1/8 second that the SEC rules require; and (b) incorrectly treats wind turbine noise as “steady” and discards valid Project sound data where exceedances are likely to be found.⁵ There is no foundation for AWE’s actions in the SEC’s prior decisions, current rules, or the professional standards on which the current rules rely.

Sound measurements independently collected at the Project show repetitive amplitude fluctuations ranging from 4 to 11 dB. (See chart below).⁶ When AWE applies a one-hour compliance interval the measured peaks are averaged out (i.e. removed). This enables AWE to report lower sound levels to the SEC while neighbors suffer repeated adverse noise exceedances. These fluctuations also disprove AWE’s claim that the Project noise is steady⁷ and challenge its omitting of turbine noise exceedances in its compliance analysis.^{8,9}



Noise levels 3/31/21 3:00-3:01 AM, Leq-0.1 second. Turbine noise fluctuations reach 50-53 dBA. Red dashed line denotes Committee’s 40 dBA nighttime limit. Blue lines denote Project sound measurements.

We believe the facts needed to assess compliance of the Project are already in the record. It is troubling that the Subcommittee now seeks to hire *another* outside expert to, in part, review the requirements placed on similar facilities including those out of state. The turbine sound standards adopted in other

⁵ Other serious flaws have been identified in AWE’s sound monitoring methodology that require a hearing before the Committee. The Committee’s reluctance to grant a hearing on this matter has made it impossible for interested parties to bring this information forward.

⁶ Rand Associates, LLC, *Complaint Response Noise Survey 3/18-4/9, 2021 at the Antrim Wind Facility, Antrim, NH.* (May 10, 2021)

⁷ In order for sound to be essentially steady under ANSI S12.9 Part 3 § 6.5(b)(1) “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.”

⁸ *Antrim Wind Farm – Post Construction Sound Monitoring Winter 2020 *19.* May 12, 2020. https://www.nhsec.nh.gov/projects/2015-02/post-certificate-filings/2015-02_2020-05-13-20_ave_post_construction_sound_monitoring.pdf

⁹ The ANSI definition for steady sound precisely denotes minimum (Lmin) and maximum (Lmax) sound pressure levels measured during a 5-minute attended period. AWE incorrectly used the statistical LA10 and LA90 values which do not equate to minimum and maximum sound pressures. Further, AWE’s makes no reference to an attended 5-minute time period where the test is conducted.

states, including neighboring Maine, Vermont, Massachusetts, and New York, are uniquely different, but more importantly, they are irrelevant to the Antrim Wind matter. The Antrim facility was permitted in 2017 under the NH rules and has been operational for over a year. The Subcommittee should refer to prior SEC actions to understand the plain language and intent of its rule. Any interpretation of the rule based on actions by other states or one that accepts significant changes that are inconsistent with the SEC's record on turbine noise (i.e. hourly averaging) would be grossly inappropriate and amount to *de facto* rule-making.

In closing, we respectfully request again that a formal adjudicative proceeding be convened to finally get to the bottom of this issue. *This matter has inexcusably persisted for over a year.* Only with a hearing will the impacted parties, including AWE, have a full and fair opportunity to be heard. As an initial step we support Antrim Wind's April 9th suggestion to conduct an informal working session.

Respectfully,

/s/ Barbara Berwick

/s/ Bruce Berwick

/s/ Janice Longgood

/s/ Karen Lukeman

/s/ Dr. Fred Ward

/s/ Lori Lerner

/s/ Larry Goodman

/s/ Richard Block

/s/ Ivan Quinchia

/s/ Carole Binder

/s/ William Everett

/s/ Richard B. James

/s/ Nancy Watson

/s/ Lisa Linowes

/s/ Joe Wilkas

cc: Service List, Docket 2021-02
Executive Councilor Joseph Kenney
Senator Jeb Bradley
Senator Bob Giuda
Senator Ruth Ward
Representative Michael Vose