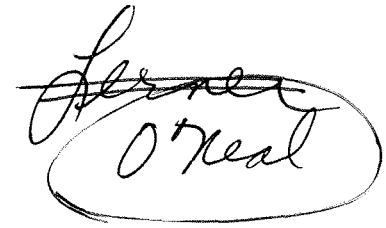


June 17, 2021, NH SEC Subcommittee Hearing
Concord, NH

A handwritten signature in black ink, appearing to read "James O'Neal", is enclosed within a hand-drawn oval.

Talking Points--RDO

Mention more detail covered in my written comments to be submitted next week.

Conclusion.

No operating wind facility can meet the “instantaneous” $1/8^{\text{th}}$ of a second limit Ms. Linowes wants applied here. That’s why there are no wind farms in the places that interpret “not to exceed” as Ms. Linowes has done.

1. Averaging over time makes sense.

There are two fundamental issues with regard to the time element of sound level measurements: the speed at which a sound meter must be set under the SEC rules to record data, and the actual measurement period used to assess compliance with the standard. These are two completely distinct issues. NH SEC Site 301.18(e)(6) deals only with the first element. This rule requires a fast response of 0.125-seconds (one-eighth of a second) for post-construction sound testing. This is the response speed of the sound level measurement instrumentation which is either fast response (0.125 seconds) or slow response (1.0 second). However, the response speed of the detector in a sound level meter is not the same as the time period to evaluate compliance with a sound standard.

Generally, a sound regulation follows 4 basic principles:

1. Relevance—relevant impact on people
2. Repeatable—similar conditions should yield similar results
3. Predictable—able to be predicted (modeled) with confidence and reliability
4. Easy to Implement—should be able to test without substantial burden on public, agencies, or operator

Using a 1-hour time period to evaluate the sound standard, and make sure it doesn’t exceed it, checks all 4 boxes. Trying to use $1/8^{\text{th}}$ of a second does not.

Same way the NH DOT and FHWA use Leq (1-hour) as their Noise Abatement Criteria (NAC) in Part 772 regs. You wouldn’t say a road needs a noise barrier because sound levels exceed the NAC of 67 dBA at a residence for $1/8^{\text{th}}$ of a second.

2. Point to portions of ANSI standards that support averaging.

Post-construction compliance monitoring [NH SEC 301.18(e)(1)] requires adherence to the ANSI/ASA S12.9-2013 Part 3 standard. Sections 6.7 and 6.8 of this standard describes the basic data collection procedure which requires measurement of the continuous background sound for 10 minutes or more, and measurement of the sound with the source(s) in operation for the basic measurement period (e.g., 1 hour). This basic measurement period shall be divided into many small blocks of time. However, in no case shall the block of time be less than 1 second. Therefore, the use of one-eighth of a second (0.125 second) as a compliance period is improper.

3. Point out repercussions of a 1/8 second compliance standard.

Post-construction compliance monitoring [NH SEC 301.18(g)] requires each post-construction sound period to measure the LA-10, LA-90, LC-10, and LC-90. These statistical sound levels are meant to be derived from a basic measurement period, such as the 1-hour example in ANSI S12.9-2013 Part 3, and trying to calculate an LA-10, LA-90, LC-10, and LC-90 from one-eighth of a second measurements is impossible as one-eighth of a second is too short a period. Taking the highest 10% of a one-eighth of a second measurement period (the SEC-required L_{10}) would be looking at the highest 1/80 of a second as the L_{10} . It is not possible to determine compliance and satisfy the SEC rules using this approach.

4. Emphasize the SEC rule is consistent with ANSI and how other jurisdictions do this.

Using a 1-hour time period, or a series of 10-minute periods, as the basic measurement time interval is consistent with ANSI standards and other jurisdictions that have operating wind turbines. For example, the States of New York, Maine, Vermont, Minnesota, and South Dakota all use an hour or more of sound data to determine compliance with their sound limits for wind turbines. The SEC rule as I've outlined above is consistent with ANSI and how other jurisdictions evaluate sound from wind energy facilities.