

NEW HAMPSHIRE SITE EVALUATION COMMITTEE

DOCKET NO. 2015-02

APPLICATION OF ANTRIM WIND ENERGY, LLC

PREFILE SUPPLEMENTAL TESTIMONY OF RICHARD R. JAMES

AUGUST 16, 2016

1) Please state your name, position and business address.

My name is Richard R. James. I am the Principal Consultant for E-Coustic Solutions, Okemos, Michigan. I filed testimony in the above cited matter on behalf of Janice Longgood, a resident of Antrim, New Hampshire.

2) Please summarize the purpose of your supplemental testimony in this matter.

In light of several data requests directed at me during this process, I thought it important to clarify two statements in my prefile testimony.

3) What is the first clarification you wish to make?

On page 4 of my prefile testimony, I state “The Sound Power data used in the [Antrim Wind] sound propagation models does not represent the noise produced by wind turbines during weather and operating conditions that are commonly associated with sleep disturbance and annoyance.” Antrim Wind LLC asked me to cite “all New Hampshire legal authority you rely upon which requires that a sound level study must analyze ‘conditions that are commonly associated with sleep disturbance and annoyance.’”

The immediate basis for my statement is the fact that the NH standard applies a 5 dBA more protective standard for nighttime vs. daytime. The standard for nighttime is articulated in bold below:

NH SITE 301.14(f)(2)(a): With respect to sound standards, the A-weighted equivalent 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...."**

Further, in preparing my testimony, I examined the transcripts from several public hearings held by the Site Evaluation Committee during the rulemaking docket where noise was discussed. In particular, I focused on the origins of the noise standard contained in the transcript dated April 15, 2015 starting on page 22¹ where Commissioner Burack states:

"Likewise, from looking at both the Groton Wind and the Antrim Wind Projects, there were differentiations made between daytime and nighttime noise levels. And, in one of those matters, the Groton Wind, there was a separate standard set for a campground, which would be more of that constant outside experience that people would have, where you don't have the benefit of walls of a building to, presumably, to buffer any noise. So, I think we ought to be looking at something that -- a standard that recognizes that different locations may warrant different levels of protection or controls on noise. And, so, that's just one thought I have. And, then, the other thought is that it would appear that different daytime versus nighttime standards, in settings where there are residences or other facilities near by that would be affected by the noise, at night, ought to have the benefit of a lower nighttime standard. "

On page 37, Commissioner Scott adds: "It's more the residential and businesses that are focused around people sleeping, I guess."

The full discussion continues through to page 44 and presents a clear understanding of how the committee viewed noise concerns and the priority it placed on avoiding sleep disruptions.

This point is again captured on pages 111-112 of the August 27, 2015 transcript² where Attorney David Wiesner states:

"And, "property that is used in the whole, or in part, for permanent or temporary residential purposes". And, that language I came up with, it intended to both make it clear that **we're not just, you know, seasonal housing is included, which was a concern of a number of commenters, and also to capture the concept that "wherever people are trying to sleep, we're going to measure the sound"**. So, that's "permanent or temporary residential purposes". It could cover an inn, or perhaps a campground even. So, that was the purpose for including that more expansive language. And, I will say, the changes that appear here are the result of the technical session consensus, except

¹ <http://www.nhsec.nh.gov/projects/2014-04/documents/150415minutes.pdf>

² <http://www.nhsec.nh.gov/projects/2014-04/documents/10-02-15-sec-2014-04-transcript-august-27-hearing.pdf>

for that final language, I believe, which is my attempt to interpret where the Committee ended up in its discussion of the types of properties that should be included for study for the noise criteria.” [Bold added]

4) Please state the second clarification you wish to make?

On page 7 of my prefile testimony, I state “Antrim is a quieter rural community than many in which wind turbine projects are developed.” This statement is based on the experience acquired by 45 years of conducting community noise studies in areas ranging from quiet wilderness settings to urban and industrial zones and the findings of studies that are part of the record for this docket and the earlier Antrim Wind application (2012).

According to the updated Sound Level Assessment Report filed in this docket in February 2016, Epsilon measured background LA90 Sound Levels at under 20 dBA. Even LAeq levels at four of the five monitored locations measured under 20 dBA. The fifth noise monitoring device was situated very close to Route 9 and subject to more traffic than the other four locations.

These sound levels are well below the more common 25 to 30 dB (LA90) reported in applications for other wind projects not located in quiet rural wilderness communities. The two tables from the Sound Level Assessment Report are provided below.

Table 5-4 Ambient Background L₉₀ Sound Levels

Location	Minimum L ₉₀		Maximum L ₉₀		Median L ₉₀		Average L ₉₀	
	dBA	dBC	dBA	dBC	dBA	dBC	dBA	dBC
Location L1 – Keene Road	18	28	53	58	36	42	36	42
Location L2 – Loveren Mill Road	15	27	49	57	30	39	30	40
Location L3 – Salmon Brook Road	16	26	49	55	27	37	29	38
Location L4 – Reed Carr Road	14	26	50	56	28	38	28	38
Location L5 – Gregg Lake Road	15	28	45	58	26	41	27	41

Table 5-2 Ambient Background L_{eq} Sound Levels

Location	Minimum L_{eq}		Maximum L_{eq}		Median L_{eq}		Average L_{eq}	
	dBA	dBC	dBA	dBC	dBA	dBC	dBA	dBC
Location L1 – Keene Road	43	46	62	69	57	61	56	60
Location L2 – Loveren Mill Road	19	32	64	69	39	49	39	49
Location L3 – Salmon Brook Road	18	30	55	61	34	45	35	45
Location L4 – Reed Carr Road	15	32	55	61	35	46	35	46
Location L5 – Gregg Lake Road	17	33	57	75	38	55	38	55

5) Does this complete your pre-file supplemental testimony?

Yes.