STATE OF NEW HAMPSHIRE

SITE EVALUATION COMMITTEE

FEBRUARY 6, 2013 - 1:52 P.M. DAY 2 Concord, New Hampshire AFTERNOON SESSION ONLY DELIBERATIONS

IN RE: SITE EVALUATION COMMITTEE:

DOCKET NO. 2012-01: Application of Antrim Wind, LLC, for a Certificate of Site and Facility for a 30 MW Wind Powered Renewable Energy Facility to be Located in Antrim, Hillsborough County, New Hampshire.

PRESENT: SITE EVALUATION COMMITTEE:

Public Utilities Comm. Amy L. Ignatius, Chrmn. (Presiding Officer) Kate Bailey, Engineer Public Utilities Comm. Harry T. Stewart, Dir. DES - Water Division Johanna Lyons, Designee Dept. of Resources & Econ. Dev. Brad Simpkins, Dir. DRED-Div. Forests & Land Ed Robinson, Designee Fish & Game Department Craig Green, Designee Dept. of Transportation Richard Boisvert, Designee Div. Historic Resources Brook Dupee, Designee Dept. Health & Human Svs.

COUNSEL FOR THE COMMITTEE: Michael Iacopino, Esq.

COURT REPORTER: Susan J. Robidas, N.H. LCR No. 44

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1		APPEARANCES (CONT'D)	
2			
3	APPEARANCES:	Reptg. Antrim Wind, LLC: Susan S. Geiger, Esg. (Orr & Reno)	
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5		Counsel for the Public: Peter C. L. Roth, Esg.	
6		Sr. Asst. Atty. General N.H. Atty. Gen. Office	
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1	AFTERNOON PROCEEDINGS
2	CHAIRMAN IGNATIUS: I'd like to
3	resume the proceedings after the lunch break.
4	It's ten of two, and we're
5	going to begin again, finishing up the final
6	pieces we were so close but finish up
7	those final pieces on possible conditions in
8	the Natural Environment category.
9	When we left off, we were
10	going through the Fish and Game letter that
11	was submitted in this docket and wanting to
12	be clear whether there were items that Fish
13	and Game asked for that we have already
14	addressed, any that we have not addressed.
15	And Mr. Iacopino, you had
16	read the first one had to do with natural
17	revegetation that was called for under the
18	AP the ABPP. And the Fish and Game was
19	asking for a copy of the plan to be notified
20	of the steps that were intended, and to
21	receive periodic updates evaluating the
22	degree to which the revegetation plan was
23	successful. And I don't believe anybody had
24	any opposition to the request that had been
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1	voiced, but some uncertainty about whether it
2	was going beyond the terms of the AP ABPP.
3	Do you know, Mr. Iacopino, whether the
4	request made by Fish and Game really does go
5	beyond the terms of the plan itself?
6	MR. IACOPINO: I think it does,
7	only to the extent that it I'm sorry. I
8	think it does, only to the extent that it
9	requires the reports to be made to Fish and
10	Game, in terms of providing them with a copy
11	of the plan and then the periodic updates. I
12	don't recall seeing that in the ABPP.
13	CHAIRMAN IGNATIUS: And they'd
14	be informational filings. It's not that it
15	would be giving Fish and Game the authority to
16	make changes to the plan, but really just
17	informational copies of the plan, of any steps
18	that are undertaken under it and updates on
19	how it's been going; is that right?
20	MR. IACOPINO: Yes, that's
21	clearly what Fish and Game is asking for, is
22	nothing but information.
23	CHAIRMAN IGNATIUS: Is the
24	Committee comfortable with that? Any reason
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you would not want to grant that request as a 1 condition? 2 MS. BAILEY: I don't think 3 that's overly burdensome. 4 CHAIRMAN IGNATIUS: 5 So it sounds like there's no concern that it 6 intrudes too much or creates an obligation 7 8 that isn't appropriate. And certainly, if it had been made a formal permit by an agency, we 9 would honor it automatically. And so I think 10 11 it seems reasonable to include it, although it came in as a recommendation. 12 The next item in the letter 13 14 from Fish and Game, Mr. Iacopino, can you 15 read us that? 16 MR. IACOPINO: This more a 17 comment, but I'll let you decide if you should make it a condition or not. 18 19 It references Page 64 of the 20 ABPP and says, "This section refers to 21 consultation and evaluation of wind data from 22 other wind projects in the region. However, 23 we would like to emphasize that AWE used data from wind projects established in the 24 {SEC 2012-01}[DAY 2 AFTERNOON SESSION ONLY]{02-06-13}

1	northeast for more comparative information.
2	Although this may be referred inferred in
3	the ABPP, we would like it to be clear that
4	data from the other New England states and
5	local projects should be utilized for
6	comparison purposes to the AWE project." So
7	they're looking for a little more clarity on
8	the wind projects that are going to be used
9	to compare against for the adaptive
10	management plan.
11	CHAIRMAN IGNATIUS: Mr.
12	Robinson.
13	MR. ROBINSON: The Fish and
14	Game having the ability to review and approve
15	all wildlife and avian surveys, my intent was
16	to capture No. 3 through No. 7, all those.
17	CHAIRMAN IGNATIUS: Questions
18	that could be I assume the department could
19	work that out with the Applicant under those
20	conditions, the Items 3 through 7 in the
21	letter?
22	MR. ROBINSON: Hmm-hmm.
23	They're all specific comments and requests of
24	certain things. And if they work with the
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1	Applicant, they should able to address them
2	all in that manner. That was my intent.
3	CHAIRMAN IGNATIUS: So in your
4	earlier condition about having Fish and Game
5	involved in the final approval of the plan, it
6	was with those particulars in mind.
7	MR. ROBINSON: Yes.
8	CHAIRMAN IGNATIUS: All right.
9	Thank you. That's helpful.
10	MS. BAILEY: There's one
11	condition
12	CHAIRMAN IGNATIUS: Please go
13	ahead.
14	MS. BAILEY: There was one
15	request for I don't know if it's a
16	condition; I think it is that suggested
17	that during a consultation phase after the
18	three-year study that we've decided is going
19	to be necessary, if Fish and Game and the
20	Applicant can't agree on what the adaptive
21	management strategy should be, that they could
22	come and ask us to decide it. Is that
23	automatically the case? Do we need to make a
24	condition about that?

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CHAIRMAN IGNATIUS: 1 Well, I 2 think it's assumed that anytime a term can't be met and there's a disagreement or need for 3 guidance, it comes back to us, unless we've 4 specifically said that, you know, we're done 5 and it only can be resolved through some other 6 entity. If we're saying that Fish and Game 7 8 has the ultimate decision-making about that, 9 and Fish and Game says "We're not comfortable with what we've gotten. We want" -- you know, 10 11 they come to us asking for help and not just 12 simply declaring an answer, then I think it would come to us. We wouldn't have to say 13 that. But if you think there's a need for 14 15 more clarity on that, on the role we play 16 going forward, we could try. My fear is that 17 you never can anticipate exactly what -- how something is going to play out. So it may not 18 19 be necessary. I don't know. 20 Mr. Iacopino, do you have a 21 sense from other condition language that 22 we've used to avoid those problems? 23 I was just going MR. IACOPINO: to point out that the statute, under R.S.A. 24 $\{\text{SEC 2012-01}\}$ [DAY 2 AFTERNOON SESSION ONLY] $\{02-06-13\}$

162-H:4,I(c), as in Charlie, says that, "The 1 Committee shall monitor the construction and 2 operation of any energy facility granted a 3 certificate under this chapter." And 4 subsection (d), as in Delta, says, "The 5 Committee shall enforce the terms and 6 conditions of any certificate issued under its 7 8 chapter." So, between those two sections, chapters, there's certainly the authority of 9 the Committee to monitor what goes on, and if 10 11 there are disputes between Fish and Game and the Applicant, to exercise its monitoring 12 power and enforcement powers, if there's 13 14 something to enforce. So, to the extent you 15 may want to provide a specific condition, 16 that's up to the Committee. I just want to 17 point out that there is this generic authority granted to you under the statute. 18 Madam Chairman? 19 MS. BAILEY: 20 CHAIRMAN IGNATIUS: Yes. 21 MS. BAILEY: If the condition 22 is that the Applicant has to work with Fish 23 and Game on a mitigation plan, I think Fish and Game is raising the question as to what 24 $\{\text{SEC 2012-01}\}$ [DAY 2 AFTERNOON SESSION ONLY] $\{02-06-13\}$

1	happens if they're working together and they
2	can't agree. And if the condition is that
3	they just have to work together, there may
4	not I think the point here is that there
5	may not be a condition that they have to
6	resolve and come to a decision. And so
7	CHAIRMAN IGNATIUS: But weren't
8	we talking about a condition earlier, that
9	Fish and Game would hold the authority for the
10	final decision-making on the plan? So if that
11	were the case, some period of time may go on
12	where they try to work together, and if it
13	doesn't if it's not successful, Fish and
14	Game gets to dictate what the right answer is,
15	or if it feels needs more guidance, could, of
16	its own choice, come back to us, I suppose.
17	MS. BAILEY: Okay.
18	CHAIRMAN IGNATIUS: But I think
19	if we're if our first condition was that
20	Fish and Game holds that ultimate authority,
21	then if you hit that point of impasse, and
22	cooperation no longer can get you to an
23	agreed-upon resolution, I think we have one or
24	two steps: Fish and Game just says what the
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answer is, or they ask for involvement of the 1 Committee. 2 MS. BAILEY: 3 Okay. Thank you. CHAIRMAN IGNATIUS: So, is it 4 5 acceptable to the Members to treat the remaining requests in the letter from Fish and 6 7 Game as part of the issues that's to be worked 8 out with Fish and Game and the Applicant and not have need for additional conditions on 9 those matters? 10 11 (No verbal response) CHAIRMAN IGNATIUS: 12 It appears no one's troubled by that. All right. And so 13 14 perhaps a specific reference in our 15 conditioning language about Fish and Game authority to mention the actual exhibit that 16 17 we've been talking about, so that everyone knows where to find those additional 18 discussions. 19 20 All right. Having been 21 through our list of conditions, and we've set 22 aside the one that relates to land under the 23 protective easement, to be picked up again in the context of aesthetics and whether it 24 $\{\text{SEC 2012-01}\}$ [DAY 2 AFTERNOON SESSION ONLY] $\{02-06-13\}$

1	comes up in any other issue that we have yet
2	to discuss, setting that aside for the
3	moment, is there anything further on issues
4	of natural environment that people want to
5	raise?
6	(No verbal response)
7	CHAIRMAN IGNATIUS: I see
8	nothing. Is there anyone who, having been
9	through those discussions on natural
10	environment issues, now is concerned that
11	there is the potential for an undue adverse
12	impact and wants to revisit that question? Or
13	is the initial discussion that there was no
14	finding of undue adverse effect, but that
15	could be improved with conditions, or in the
16	case of Dr. Boisvert, there is no adverse
17	effect, provided there are conditions that
18	we've now been through so with either of
19	those two conditions, is anything anyone wants
20	to revisit on that, or is everyone still
21	comfortable with the way they came out before
22	and comfortable with the list of conditions?
23	(No verbal response)
24	CHAIRMAN IGNATIUS: All right.
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Seems like we're -- everyone seems okay on 1 2 that. So with that, then, the next 3 category is another very broad one and will 4 take quite a bit of time to go through as 5 carefully as we can because we don't want to 6 cross up the evidence too much, and we'll 7 8 take them kind of in separate pieces. Public Health and Safety. And 9 Kate Bailey, you're going to manage most of 10 11 that topic, maybe not all of it. But however 12 best you want to work your way through the various topics under Public Health and 13 Safety, we'd appreciate. 14 15 MS. BAILEY: Okay. Thank you. 16 So, the statute is the same. We have to 17 decide whether the project would not have an unreasonable adverse effect on public health 18 19 and safety. And there are several topics 20 included in the discussion about public health 21 and safety, but the biggest topic that raised 22 the most noise was about the impact from the 23 noise of the project and whether that was 24 going to have an impact -- or an undue impact, {SEC 2012-01}[DAY 2 AFTERNOON SESSION ONLY]{02-06-13}

1	an unreasonable impact on people's health. So
2	I'm going to go through all the positions and
3	the arguments that were made, and hopefully we
4	can have a discussion about it. It's really
5	complicated, and if you have questions, stop
6	me along the way. I'll try to take this
7	slowly.
8	I think, in general, as a
9	summary, there were a couple of big issues:
10	One of the first well, there's the
11	question of is there an impact from audible
12	sound and is there an impact from inaudible
13	sound. And the issues around the impact from
14	audible sound include whether you should
15	measure the background sound at the absolute
16	quietest it can ever be and compare that to
17	the model that Epsilon produced that showed
18	what the expected sound from the project
19	would be and all the assumptions in that
20	model.
21	So, I guess I'll start with
22	Mr. O'Neal's testimony. And Mr. O'Neal was
23	the witness for the Company or for the
24	Applicant. And he testified about the
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1	Epsilon sound-level assessment report. And
2	in summary, Epsilon performed a background
3	noise study to determine ambient sound
4	without turbines. And I sort of use "ambient
5	sound" and "background sound"
6	interchangeably. I don't know if that's
7	technically accurate, but that's my
8	understanding. So he conducted the study for
9	18 days in September and October of 2011.
10	The study was unattended and collected at
11	five locations. And those were listed as
12	locations L1, L2, L3, L4 and L5 that the
13	Applicant thought would represent the
14	community, or to try to establish what the
15	background normal quiet level of sound was
16	without the project. The results shown are
17	in Table 6-2. And the exhibit that we're
18	discussing, the Epsilon sound-level
19	assessment, is AWE 3, Appendix 13A.
20	The results shown in Table 6-2
21	indicate the average background at L90 sound.
22	And L90 is where the sound level was exceeded
23	90 percent of the time during the measurement
24	period; so, most of the time this is what the
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1	sound level is. They measured 37 to 44 dBA.
2	Now, "dBA" is a way of measuring sound that
3	concentrates the measurement around a
4	thousand hertz. And we'll talk a little bit
5	more about that. But it has to do with what
6	sounds, I think, are most audible to humans.
7	The second part of the
8	analysis was his model of the sound levels
9	that were expected to be produced when all 10
10	turbines were running at the same time. And
11	he articulated they use very conservative
12	assumptions. They measured or they
13	modeled or predicted the sounds at 154
14	receptor points, using a grid pattern. They
15	used Cadna/A software, which uses an ISO
16	Standard 9613-2, which we heard a lot about.
17	And I don't think there was a whole lot of
18	debate about whether that was the appropriate
19	standard or not. I think people were
20	comfortable that the Cadna/A software was
21	okay to use. He said that the model would be
22	conservative, as it assumes all receptors are
23	always located directly downwind from all the
24	turbines simultaneously, which was a physical
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1	impossibility now, that's required by the
2	ISO standard, that they do the model that
3	way, but he still makes the point that that
4	does produce a conservative result; that all
5	10 turbines were operating simultaneously,
6	which isn't always going to be the case; that
7	no vegetation was included in the model,
8	which can reduce some of the sound; and that
9	the maximum sound guaranteed by Acciona was
10	used with a 2 dBA uncertainty factor.
11	So he input into the model the
12	absolute maximum sounds that Acciona
13	guarantees this turbine is going to produce.
14	The results for this part of the study are
15	shown in Table 7-3, which shows the sound
16	expected at the five locations; L1 through L5
17	showed that the results were expected to be
18	between 33 and 42 dBA. And Table 7-2 shows
19	the predicted sound levels at all 154 points
20	on their grid, and it indicates that the
21	sound would not be any greater than 43 dBA.
22	And I think that was only in one location.
23	So, according to Mr. O'Neal,
24	these predicted levels are worst case and
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1	will easily meet the acceptable noise levels
2	applied by the SEC to the Groton and Lempster
3	projects. In those cases, according to his
4	testimony, the most restrictive requirement
5	was established for Lempster, where the sound
6	levels at residences could be no greater than
7	45 dBA or 5 dBA greater than background. The
8	predicted sound would also meet the 1999
9	World Health Organization's 45 dBA night
10	guideline for residential locations and the
11	United States Environmental Protection Agency
12	guideline of 48.6 dBA. According to this
13	analysis, predicted sound levels are all
14	below 45 dBA, and except for the L3 location
15	on Salmon Brook Road, the average L90
16	background sound is greater than the
17	predicted sound from the turbines. The
18	difference between the average L90 background
19	sound at Salmon Brook Road and the sound
20	predicted from the turbines would only be 4
21	dB. So that's less than 5 dB, so it should
22	be okay.
23	He also said that
24	interconnection facilities won't add

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1	appreciable noise. The transformers, at the
2	worst case, would only be expected to produce
3	only 33 dBA of noise at any residence, and
4	that's lower than the background, and when
5	combined with the highest turbine sound, the
6	addition would be less than 1 dBA. So that's
7	almost imperceptible. So the transformers,
8	he said, don't add anything to the sound
9	impacts.
10	Mr. Tocci, the witness for
11	Public Counsel, testified that the World
12	Health Organization updated its guidelines in
13	2009 and recommended the nighttime noise
14	level be limited to 40 dB, and they used a
15	new term, "L night, outside." I looked at
16	the 2009 World Health Organization guidelines
17	because they were on the Web, easily
18	accessible, and the "L night, outside" is
19	defined as "The A-weighted, long-term average
20	sound level as defined in the ISO 1996-2,
21	1987, determined over all the night periods
22	of the year" "over all the night periods
23	of a year." Mr. Tocci testified this was
24	"considered a health-based limit value of the
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night noise guidelines necessary to protect 1 the public." 2 So, to contrast, Mr. O'Neal 3 said that the 45 met the World Health 4 Organization standards, and Mr. Tocci pointed 5 out that those standards had been updated 6 since, in 2009, and now the new standard was 7 8 40. Now, here's the big point I 9 think of Mr. Tocci's testimony, is that he 10 11 measured background sound levels at Gregg Lake and Willard Pond. He did it from 12 August 22nd through 29th, 2012. And there 13 was testimony that says that insect noises 14 15 occur in late summer until the first frost. 16 And so I think there was probably insect 17 noise when Mr. Tocci did his measurements at Gregg Lake and Willard Pond, and there was 18 19 probably insect noise when Mr. O'Neal did his 20 study. And the point that they're making is 21 that insect noise is not present at all times 22 of the year, especially in winter. So the 23 difference in the sound level, when you have the quietest time of year and you compare 24

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1	that to the project noise, is a lot greater
2	than what Mr. O'Neal was testifying.
3	So he made his measurements,
4	and he used one-third octave bands, which
5	will allow the identification of insect
6	noise, and it showed that there was a great
7	increase in high-frequency noise during the
8	night when insects would be expected. So he
9	estimated that the background sound at Gregg
10	Lake and Willard Pond, once he subtracted the
11	insect noise that he measured, would be
12	really, really quiet, at 12 to 19 dBA. And
13	he says that that's you know, that's
14	scientifically proven because it was a
15	measurement that he took.
16	Using L90, he concludes the
17	average background level at night in the
18	area, in the general area, is about 15 dBA,
19	which is much quieter than the minimum
20	background sound reported by Epsilon. As a
21	result, he says, "The Epsilon data would
22	understate AWE sound impact when impact is
23	quantified as an amount that the background
24	sound would be raised during AWE operation."
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CHAIRMAN IGNATIUS: Can I ask a 1 2 question? On the measuring of the background noise that Mr. Tocci did, did you say that he 3 measured it but then removed it because he 4 5 could see the bands, the sounds bands, and knew what was attributed to insects, so 6 removed it from the numbers to reach that 7 8 lower level, or that he actually was measuring that lower level? 9 No, he didn't 10 MS. BAILEY: 11 measure the lower level. He measured the overall sound. But the instrument that he 12 used allowed him to identify certain frequency 13 noises. And so by identifying the impact from 14 15 the high-frequency insect noise, he subtracted 16 that noise from the overall measurement that 17 he took, and he said if the insects weren't there, then this is what the sound would have 18 19 been. 20 CHAIRMAN IGNATIUS: Okay. 21 Thank you. 22 MS. BAILEY: To avoid adverse 23 community response, according to Mr. Tocci, wind turbine sound should be limited to a 24 $\{\text{SEC 2012-01}\}$ [DAY 2 AFTERNOON SESSION ONLY] $\{02-06-13\}$

1	margin above L90 baseline sound without
2	insects. If sound at a residence exceeds
3	background by more than 10 dBA, significant
4	impact is expected. If sound exceeds
5	background by 5 and 10 dBA, then modest noise
6	impact is expected. I think that's where he
7	talked about "annoyed" and "highly annoyed."
8	And his definition of "annoyed" and "highly
9	annoyed" wasn't annoyed, like I'm annoyed by a
10	fly. It's, you know, the impact from the
11	change in sound that I'm used to, to what I
12	hear today, is so annoying that it's raising
13	my stress levels. And when it's "highly
14	annoyed," it's so annoying, that my stress
15	levels are raised and it has an impact on my
16	health and I can't live here anymore.
17	He also cites a Pedersen study
18	which indicates there are never any
19	complaints if the sound is less than 30 dBA.
20	So if the overall sound at any time is less
21	than 30 dBA, you don't have to worry about
22	it.
23	So there's two kinds of
24	standards that people are talking about:
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What the absolute maximum sound should be 1 2 allowed, and what the difference between the right background noise, whatever that is, and 3 the new noise from the project. But he says 4 that if it's more than 10 dBA, then it's 5 going to have a significant impact. 6 Therefore, he recommended, on cross from 7 8 Chairman Ignatius, that sound levels should be limited to the greater of 30 dBA or 10 dBA 9 above background, with insect correction 10 11 applied. He also pointed out background 12 noise could be reassessed during winter to establish the baseline background rather than 13 subtracting measured insect noise from 14 measured background noise. 15 16 So, to answer your question, 17 Chairman Ignatius, they could go out -according to Mr. Tocci, they could go out 18 19 right now and actually take a measurement, 20 and that would give them a more accurate 21 measurement of background sounds, and it 22 wouldn't include insect noise. So if people 23 are troubled by the math that he did, then he suggests that we could do another measurement 24

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1	right now, well before the insect noise
2	starts again.
3	According to his analysis, Mr.
4	Tocci found that, in wilderness areas within
5	4,000 feet of the turbines, the project sound
6	will exceed the background sound by 25 dB,
7	which will dominate the acoustical
8	environment and greatly diminish the
9	wilderness experience.
10	Mr. James was the witness for
11	the North Branch intervenors, and he
12	critiqued the Epsilon sound-level assessment.
13	According to him, the purpose of background
14	noise tests is to determine quiet periods,
15	and if new noise does not increase that level
16	by more than about 5 dB, the community will
17	have no negative reaction to it. He says the
18	background sound level measured by Epsilon is
19	not accurate because it includes seasonal and
20	transient noise, like insect noise, and maybe
21	rustling leaves because it was the fall, and
22	it uses daytime background noise when it
23	should use the quietest time, which is
24	generally at night. This results in an
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1	upward biased assessment of background sound
2	levels by 10 to 15 dBA. According to
3	Mr. James, he says that if the background
4	sound levels used to compare to predicted new
5	sound from the project was correct, the
6	results would show an increase in noise from
7	the project of 10 to 20 dBA near residences,
8	and that would be fairly significant. That
9	would be significant.
10	On cross, he said on cross
11	from the Committee, he said we could use the
12	minimum L90 measurement for baseline
13	background in Table 6-2 of the Epsilon
14	report, and that would be adequate. So,
15	Table 6-2 in the Epsilon report shows the
16	background sound that they measured, and they
17	showed the minimum and the average and the
18	mean, and I think maybe one other number. He
19	said, you know, rather than deal with the
20	insect noise, another way to deal with it is
21	just to accept the quietest sound that they
22	measured during their measurement period, the
23	minimum sound, would be acceptable to use as
24	a baseline for background.

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According to Mr. James, the 1 2 computer model used to predict the project sound is not adequate. He made a big point 3 about the maximum sound guaranteed by 4 Acciona, and he said that it's based -- the 5 maximum sound's based on standardized 6 conditions so buyers can compare models and 7 products. So he said it's kind of like the 8 9 highway mileage ratings on a car when you're buying a car. You can compare what the gas 10 11 mileage is on this car to the gas mileage on another car, and those levels are all 12 determined the same way, using the same 13 14 But when you put the turbine out in tests. 15 the field, it's not under the standardized 16 conditions used to figure out what the 17 guaranteed sound is, and it's going to produce higher sounds when there's great wind 18 shear. And wind shear, he said, was the 19 20 difference between, I think it was the 21 difference of the wind speed at the top of 22 the blade and the bottom of the blade was 23 large, that would produce high wind shear, and that would make more noise than when the 24

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1	turbines were tested under the standards,
2	where it was all there was no wind shear.
3	On cross, Mr. Patch implied
4	the noise guaranty was firm. But Mr. James
5	would not agree. Mr. Patch suggested the
6	Committee could impose a condition that would
7	limit the maximum sound to the guaranteed
8	value.
9	In response to a question from
10	the Committee, Mr. James said he believes the
11	disconnect between what sound engineers
12	predict and what people experience is because
13	background noise is inflated by including
14	things like transient sounds, like leaf
15	rustle in the fall and insect noise, and the
16	emphasis on average background noise rather
17	than the quietest time, and because the
18	predicted sound level is deflated by using
19	the guaranteed sound output as the maximum
20	possible, the modeled project sound
21	represents the average, not the extreme. So
22	the difference between quiet background and
23	actual project sounds are actually greater
24	than predicted when it actually goes out into
ļ	{SEC 2012-01}[DAY 2 AFTERNOON SESSION ONLY]{02-06-13}

1	the field.
2	Mr. James said he believes
3	people can live with absolute sound levels of
4	35 dBA, compared to Mr. Tocci's minimum of 30
5	dBA and Mr. O'Neal's minimum of 45 dBA. But
6	he also would add a limit on low-frequency
7	noise, which I'll cover in a little while.
8	Ms. Linowes argues prior noise
9	standards imposed by the Committee are
10	outdated. She points out that all three
11	sound experts agree that the background sound
12	survey is intended to identify the lowest
13	sound level consistently present and
14	available to mask project noise, and that
15	also, in her opinion, should be used to set a
16	floor against which new sounds are judged.
17	She also points out that the V-Bar report
18	states the highest wind speeds occur at
19	night, which will produce the loudest sounds
20	at the quietest time.
21	Ms. Linowes recommends
22	increases over L90 minimum background noise
23	from the project should be limited to 5 dBA
24	in order to avoid an unreasonable adverse
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1	impact to those living near the project. If
2	the Committee prefers to adopt an absolute
3	number, she recommends 35 dBA, so residents
4	who live nearby can still enjoy their
5	property, and that noise limits be set at the
6	property lines.
7	Public Counsel emphasizes the
8	findings of Mr. Tocci, that background sound
9	is the area in that background sound in
10	this area is much more quiet than measured by
11	Epsilon "in this area," I mean in the
12	Antrim area is much more quiet than measured
13	by Epsilon. As a result, changes in sound
14	level resulting from the project will have a
15	significant impact and create a substantial
16	risk to people living with those sound levels
17	being annoyed or very annoyed.
18	He argues Ms. Longgood's
19	property is expected to receive an increased
20	noise impact of 26 dBA when comparing
21	background sounds without insect noise to the
22	predicted sound from the project. This, he
23	argues, will likely lead to abandonment of
24	her house.

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1	A similar analysis of the
2	Blocks' property indicates the sound will
3	increase by 16 dBA, and at the Voelcker
4	property by 15, which, again, would be
5	significant. He therefore concludes the
6	weight of the evidence shows the project's
7	predicted noise levels are at best unknown,
8	and at worst will have a significant and
9	unreasonable adverse effect on the health and
10	safety of residents. At a minimum, the
11	Applicant has not shown that very large
12	turbines will not have an unreasonable
13	adverse effect on the people of Antrim.
14	Now I'm going to switch to the
15	low-frequency discussion. So do you have any
16	questions about this part? Do you want to
17	talk about this part, or shall I just keep
18	going?
19	CHAIRMAN IGNATIUS: I think
20	probably keep on going and get through all the
21	noise issues together.
22	MS. BAILEY: Okay. A large
23	part of Mr. James's testimony focused on
24	"low-frequency" and "infrasound." He said
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1	everyone agrees that infrasound is 10 hertz
2	and below, and low frequency is defined as
3	"200 hertz and below." There's general
4	agreement that the problem with low-frequency
5	audible sound, the "whoosh" sound that was
6	evolving to a loud "thump" sound as the tower
7	heights increase, has been addressed by the
8	modern turbine design where the rotors are
9	located on the upwind side of the tower.
10	The record, to me, seemed to
11	get a little muddled between the discussion
12	about "low frequency" and "very low
13	frequency." And Mr. James's testimony was
14	primarily focused on "very low-frequency" or
15	"infrasound." He said some people called the
16	region between 10 and 20 hertz "very
17	low-frequency" sound, and others call it
18	"infrasound." According to Mr. James, that's
19	the region where most of the acoustic energy
20	from wind turbines is concentrated. So he
21	refers to this range as "infra" and
22	"low-frequency" sound.
23	I think that sort of helps
24	muddle the record, because when he's talking
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1	about "low-frequency" sound, he's not talking
2	about the low-frequency sound that's above 20
3	hertz. And when other people are talking
4	about low-frequency sounds, they're saying,
5	"Well, low frequency got fixed by putting the
6	blades on the other side of the tower." So
7	it is confusing. The "low-frequency" and
8	"infrasound," as Mr. James defined it, for
9	the vast majority of people, is inaudible.
10	According to Mr. James,
11	A-weighted measurements, or dBA, do not
12	include low frequencies. This is
13	corroborated in the Epsilon report which
14	says, "A-weighted sound levels emphasize the
15	middle frequency, around 1,000 hertz, and
16	de-emphasize lower and higher frequency
17	sounds. Absolute standards, like 35 dBA,
18	protect people from health effects of audible
19	sounds." According to Mr. James, there's a
20	growing body of evidence that health can be
21	affected by inaudible sounds from wind
22	turbines.
23	To demonstrate health effects
24	of infrasound, he cites research by Dr. Salt
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1	from August 2011, which claims, "Inaudible
2	low-frequency sounds interfere with the sense
3	of balance; cause sensations like stuffiness
4	in the ears, headache and general malaise.
5	This is 'believed' to be the result of
6	in-flow turbulence of the air stream entering
7	the path of the blades. The turbulence
8	results in dynamically modulated infra and
9	low-frequency sound emitted in short-duration
10	bursts of acoustic energy, with peak sound
11	pressure levels of 30 to 40 dB higher than
12	the sound pressure in the valleys between
13	them." He says these frequencies can be
14	measured by C-weighting, or "dBC." He
15	recommends a limit of 50 dBC. He said
16	Germany imposed a limit of 35 dBC in quiet,
17	rural areas, but the standard in the U.S. has
18	been mostly limited to dBA. The World Health
19	Organization has broad guidelines, not
20	specific to wind turbine noise, that say
21	something like, "If dBC level is more than 10
22	dB higher than the dBA level, then there's
23	reason for concern about low frequency and
24	noise and health impacts."

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When asked about infrasound 1 2 and low-frequency sound mediated by the cochlear vestibular organs, Mr. Tocci said he 3 was "aware of other experts making the 4 claim," but he was not an expert and could 5 not say that was, in fact, the case. 6 He was reminded of his testimony in Groton, where he 7 8 said, "Modern upwind-styled wind turbines 9 avoid the propensity to generate the significant levels of low-frequency sound 10 11 common in older turbines," and his testimony that "designing wind turbines so that the 12 blades are upstream of the tower support has 13 mostly eliminated low-frequency excitation in 14 15 newer wind turbines." Mr. Patch had him read into the record a statement from his Groton 16 17 testimony which said, "There is no evidence to indicate that low-frequency sound or 18 infrasound from current models of wind 19 20 turbine generators should cause concern." 21 Mr. Patch didn't ask him if he still agreed 22 with that. 23 Mr. O'Neal strongly disagrees 24 with Mr. James about the potential health

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risks associated with low-frequency and 1 2 infrasound and argues that James's conclusions are based on conjecture and not 3 based on evidence. Mr. O'Neal cited a study 4 released by the American Wind Energy 5 Association and Canadian Wind Energy 6 Association entitled, "Wind Turbine Sound and 7 8 Health Effects - An Expert Panel Review," from December 2009. The conclusions drawn 9 were that "vibroacoustic disease," "Wind 10 Turbine Syndrome" and "visceral vibratory 11 vestibular disturbance" are unproven 12 hypotheses that have not been confirmed by 13 appropriate research studies. 14 15 Mr. O'Neal cited another study released in January of 2012, commissioned by 16 17 the Massachusetts Department of Environmental Protection and Department of Health, which 18 found, first, "There is insufficient evidence 19 20 that the noise from wind turbines is 21 directly -- i.e., independent from an effect 22 on annoyance or sleep -- causing health 23 problems or disease; 2) whether annoyance from wind turbines leads to sleep issues or 24

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1	stress has not been sufficiently quantified;
2	3) claims that infrasound from wind turbines
3	directly impacts the vestibular system have
4	not been demonstrated scientifically;
5	available evidence shows that the infrasound
6	levels near wind turbines cannot impact the
7	vestibular system; and 4) there is no
8	evidence for a set of health effects from
9	exposure to wind turbines that can be
10	charactered as a wind turbine syndrome."
11	On cross-examination about
12	this study, Mr. James said the study was only
13	based on a literature review, but that he
14	does not dispute the conclusions of the
15	literature review, based on the literature
16	that existed at that time.
17	Public Counsel argues there is
18	evidence that low-frequency noise, inaudible
19	to the human ear, may still be problematic.
20	He points out that the scientific
21	understanding of the effects of low-frequency
22	noise is not yet well established, but
23	there's growing acceptance that it can cause
24	problems with some people, and criticizes the
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1	Applicant for its lack of modeling for
2	low-frequency noise effects, because it
3	dismissed the issue. Public Counsel cited a
4	recent Wisconsin Public Service Commission
5	conclusion that low-frequency noise from
6	operating turbines could be detected in
7	residences within 3500 feet of the nearest
8	turbine and that such could lead to an
9	adverse response, such as motion sickness.
10	He quotes Mr. Tocci's answer in response to a
11	Committee question as, "There's enough of an
12	issue there to call into question that
13	low-frequency sound could be an issue and
14	that the usual ways of evaluating noise,
15	using A-weighted sound levels and so forth,
16	may fall short of trying to identify those
17	issues."
18	The North Branch intervenors
19	conclude, based on the testimony of
20	Mr. James, that noise will unquestionably
21	result in serious noise disturbance and
22	health risks and therefore will have an
23	unreasonable adverse effect on public health
24	and safety.

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For all of the reasons 1 discussed, the Audubon Society argues the 2 Applicant has not demonstrated that noise 3 will not have an unreasonable impact. 4 5 And that is the summary of the record that we have so far on noise. 6 7 CHAIRMAN IGNATIUS: See, that's 8 why we gave this issue to the engineer. That's extremely thorough. Thank 9 Thanks. 10 you. 11 Are there other facts that people recall from the testimony that Kate 12 didn't highlight and that you want to bring 13 14 out, or conflicting arguments that you heard on some of those issues that haven't been 15 brought out? Mr. Simpkins. 16 17 MR. SIMPKINS: I just had a Mr. Tocci measured at Willard Pond, 18 question. but Mr. O'Neal didn't; is that correct? 19 20 MS. BAILEY: That's correct. 21 MR. SIMPKINS: And you 22 mentioned Mr. O'Neal used 45 decibels as the 23 World Health Organization, and Mr. Tocci said that was updated in 2009 to 40. You did find 24 {SEC 2012-01}[DAY 2 AFTERNOON SESSION ONLY]{02-06-13}

1	that that was correct, 40?
2	MS. BAILEY: I did.
3	MR. SIMPKINS: Okay.
4	MS. BAILEY: I didn't look at
5	the 1999 standard to see what scale that was,
6	if it was 45 dBA. The 2009 report says 40 dB
7	night night outside, which was based on
8	some A-weighted rating. But they didn't call
9	it "40 dBA." But I assumed that the I
10	assumed, and I didn't check and I can go
11	back and check this that they didn't change
12	the way the units were.
13	CHAIRMAN IGNATIUS: Unless
14	there's other questions or sort of clarifying
15	factual things to talk about, I think the next
16	thing to tackle here is what to make of all
17	that. And this is the one that had probably
18	the most split of opinion and dueling
19	expertise and conflicting studies and
20	literature over the years thrown back and
21	forth. So this is probably the most
22	challenging issue, because none of us are
23	sound engineers, to make sense of the
24	different studies and claims that were given
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1	to us. Does anyone want to lead off on how
2	you interpreted all of that, what conclusion
3	you drew?
4	MS. BAILEY: Can I make a
5	suggestion?
6	CHAIRMAN IGNATIUS: Yeah.
7	MS. BAILEY: Maybe if we break
8	it all up in small bits
9	CHAIRMAN IGNATIUS: Sure.
10	MS. BAILEY: it might be
11	easier. I think the main issues are how
12	should we measure the background sound and
13	what level of background sound should we use,
14	whether the model that Epsilon whether the
15	assumptions that Epsilon used and the models
16	to predict the sound that would be generated
17	by the project was reasonable; and then, when
18	you're trying to figure out whether there's a
19	health impact, whether you should use an
20	absolute value or whether you should use a
21	comparison between background and the modeled
22	sound, and if so, what those levels what
23	those levels should be. And then there's a
24	whole discussion about the infra, very

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low-frequency sound. 1 2 CHAIRMAN IGNATIUS: All right. So, having given us that good series of 3 questions, you want to start tackling them? 4 5 MS. BAILEY: Okay. I'll start I was convinced that it's appropriate to 6 off. look at how much noise the project is going to 7 increase the norm. And I think it's going to 8 be most irritating or most -- it's going to 9 have the most impact on people probably at 10 11 night when it's usually more quiet and when it's the most quiet time of the year. 12 So I think that, for background purposes, we should 13 be trying to figure out what the quietest time 14 15 is, if we're going to use that to compare to -- if we're going to use that to figure out 16 17 what the difference is with the projected 18 sound. 19 CHAIRMAN IGNATIUS: I can tell 20 you that one of my reactions to the whole 21 background sound that I find a little bit 22 confusing about this is that, because it's a 23 natural environment, and a relatively undeveloped natural environment, there are 24 {SEC 2012-01}[DAY 2 AFTERNOON SESSION ONLY]{02-06-13}

1	noises that just are sort of occurring as part
2	of wind rustling, insects, just sort of the
3	sound of being out in the open that are part
4	of, I would say part of the reasons people
5	value being out in the open space and miss
6	that when they're in a more sterile, built
7	environment. So I've always been surprised
8	when people say it's important to strip those
9	noises out, when I always thought that was one
10	of the charms of being in a rural area, was
11	that kind of noise that you would hear, that
12	you may not get in a more developed area. And
13	so I always find it confusing to say that we
14	want to take this in order to preserve this
15	rural character, we have to take out the
16	sounds of life in a rural place.
17	MS. BAILEY: I don't think
18	that's what they're saying. I don't think
19	anybody disagrees that there's insect sounds
20	some of the months of the year. I think when
21	you're trying to figure out whether there's
22	going to be a health impact, you have to look
23	at when it's the most quiet time and what the
24	difference is this is the argument and
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1	what the difference is when sound from the
2	project is present. And when that is a big
3	difference, then the study suggests that that
4	could have a health impact or the evidence
5	suggests that that could have a health impact,
6	when the difference is larger than 10 dB.
7	So I think that nobody's
8	saying that you should eliminate insect
9	noise or nobody's saying that insect noise
10	won't help maybe mask the project sound in
11	the summer, so people might be less annoyed
12	in the summer because there's a little bit
13	more background noise. But in winter, when
14	it's a lot quieter, then it's really going
15	to people are going to hear the noise
16	more, the project noise. And so when you're
17	setting up a standard, the standard should be
18	based on the I don't want to say yeah,
19	I guess it would be the worst-case scenario,
20	you know, where you're going to experience
21	the greatest difference in the sound. And by
22	using by taking the measurement during a
23	period of time when there's noise that isn't
24	there all year-round, it sort of overstates

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what the general sound level in the area is 1 for a lot of the time. 2 CHAIRMAN IGNATIUS: That's a 3 good explanation. Mr. Simpkins. 4 This is another 5 MR. SIMPKINS: question. When they're looking at the 6 7 quietest times of the day, the nighttime 8 noises, was it the averages over all the hours that they monitored, or was it the absolute 9 quietest point in time that they monitored 10 11 over the entire time? MS. BAILEY: Let me look that 12 So I'm going to go to AWE 3, 13A. 13 up. 14 MR. SIMPKINS: Because I know 15 there was discussion about that using 16 averages. And I don't remember who it was, 17 but one of the people testified that you're going to notice it most at those times when 18 19 it's the most quiet. So if you just go by 20 average, that's not going to --21 MS. BAILEY: Oh, I think I know 22 what that discussion was about. In the 23 Epsilon report -- let me get to the table. They gave us results for different --24 $\{\text{SEC 2012-01}\}$ [DAY 2 AFTERNOON SESSION ONLY] $\{02-06-13\}$

MR. IACOPINO: Table 6.2. 1 2 MS. BAILEY: Table 6.2. on page, I think, Page 6-3. And it says for the 3 measurements, they measured the minimum sound 4 5 that was present 90 percent of the time, the maximum sound that was present 90 percent of 6 7 the time, the median and the average. And 8 your question is what does the "average" mean? 9 MR. SIMPKINS: Well, I think that answers it. So it's 90 percent of the 10 11 time. 12 MS. BAILEY: Right. MR. SIMPKINS: So it's 13 90 percent of the time, that was the minimum. 14 15 There may be 10 percent or some-odd thing that went lower than that, but... 16 17 MS. BAILEY: Right. And it had to do with 10-minute, I think, sampling 18 19 increments, and -- you know, there was a lot 20 more math to it. But as a shorthand, that's 21 my understanding. 22 And so that's the column that 23 Mr. James said would be acceptable to him to use as a minimum -- as a background to which 24 {SEC 2012-01}[DAY 2 AFTERNOON SESSION ONLY]{02-06-13}

you compare the predicted noise. And Mr. 1 Tocci and Mr. -- Mr. Tocci said even that's 2 too high because it includes some insect 3 noise which isn't there all the time. 4 5 CHAIRMAN IGNATIUS: So your thought that it makes sense to develop a quiet 6 winter baseline to compare against rather than 7 8 using the noisier summer/fall period makes 9 sense. MS. BAILEY: I think if we're 10 11 trying to evaluate whether there's going to be a health impact. And the evidence suggested 12 that a health impact is likely if the 13 difference between the sound level, the 14 15 ambient sound level, and the project sound level is more than 10 dB, then it makes sense 16 17 to compare the quietest sound to the sound that's made by the project, because that's 18 19 when you're going to have the health impact. 20 CHAIRMAN IGNATIUS: And the 21 measurement Mr. Tocci made that took the 22 insect noise out of the results -- was that 23 him who did that? 24 MS. BAILEY: Yes. Did it for

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1	Willard Pond and Gregg Lake only.
2	CHAIRMAN IGNATIUS: And his
3	results were coming in the 15 to 19 dBA level.
4	MS. BAILEY: Yeah. He
5	concluded that the background sound in the
6	area, in the Antrim I mean in the Willard
7	Pond and Gregg Lake area, was between he
8	measured between he said he measured, after
9	he corrected for insect noise, between 12 and
10	19 dBA. And actually, I think Mr. O'Neal was
11	asked on cross-examination if he agreed with
12	how Mr. Tocci did that, and he said yes. And
13	then Mr. Tocci sort of made, well, the leap,
14	but interpolated that to mean that the ambient
15	sound near the residences that we were talking
16	about would be around the same level. And he
17	surmised that if he took the insect noise that
18	he measured at Willard Pond and Gregg Lake and
19	subtracted that from the measurements that
20	O'Neal did, it verified that it came out
21	around 15 dB.
22	CHAIRMAN IGNATIUS: And I know
23	you said this today. But once again, what is
24	the source and the theory that more than a 10
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1	dB difference between baseline and the sound
2	when you add the project will cause health
3	effects? It will cause more sound. But how
4	do we get to "will cause more health effects"?
5	MS. BAILEY: Right. I think I
6	found that in a couple different places. And
7	I think the thing to give you a really sound
8	answer, I should take that over a break and
9	try to find out where that came from, because
10	I think it came I mean, I think it I
11	think Linowes cited something that said it was
12	5 dB and somebody else said something like the
13	difference should be 5 dB. And I think it was
14	the no. Let me think.
15	CHAIRMAN IGNATIUS: We have
16	used a "level over background" sound level
17	that wasn't the "stripped-out" baseline. But
18	we've used a "no greater than X dB over the
19	baseline" as one of the tests in both, I think
20	in both Groton and Lempster. I don't know
21	about Granite Reliable. But I don't recall
22	that being because there was a defined showing
23	that an increase in dB over baseline leads to
24	health effects, it was just another way of
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1	measuring impacts, overall impacts of sound
2	the overall sound impact at different times,
3	so that during quiet nighttimes it was a
4	different way of measuring it than the way you
5	might measure it in the middle of a noisier
6	afternoon.
7	MS. BAILEY: I think it came
8	from Mr. Tocci's testimony.
9	CHAIRMAN IGNATIUS: We can come
10	back to that.
11	What are other people's
12	impressions of that issue, about how to
13	measure a baseline and what sort of baseline
14	is important to do? You know, there's sort
15	of the O'Neal approach and the Tocci approach
16	on that. Anyone have any comments? Mr.
17	Simpkins.
18	MR. SIMPKINS: Well, I guess I
19	would I kind of feel on the side that Ms.
20	Bailey was mentioning, that you would think as
21	a baseline you would want to use the quietest
22	time because that's when you're going to
23	notice it the most. That typically occurs at
24	nighttime, and that's when people are going to
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1	be most quiet. They're going to be sleeping.
2	During the day they may be doing other things.
3	There's going to be noises in the house and
4	outside from all the other things going on.
5	But typically, you consider nighttime to be a
6	quiet time. And so it seems to me that you
7	would use the quiet time as the baseline
8	because that's going to impact people or
9	affect people the most. I mean, at least in
10	my mind, that makes sense. You know, I think
11	that nighttime you are going to have different
12	noises at nighttime, the environmental noises.
13	But I also agree that insects are not
14	year-round. So I think it does make sense to
15	take out the insects. And so whatever that
16	number is after you take out the insects, of
17	the quietest time of day, I think would make
18	sense to be the baseline.
19	MS. BAILEY: And if people
20	aren't comfortable using that mathematical
21	measurement, we can ask the Applicant to go
22	out and do a sound test before the insects get
23	here. And I think in the brief they said they
24	would do some more sound testing, but that was
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1	probably after the project's built.
2	CHAIRMAN IGNATIUS: Other
3	comments on the background testing methodology
4	or levels?
5	Mr. Iacopino, do you recall,
6	in other cases, the levels that were I
7	think Kate Bailey mentioned a couple of
8	them the levels that were established,
9	rather than absolute levels, the ways in
10	which some of them were established to be an
11	amount over baseline at different times of
12	day?
13	MR. IACOPINO: Yes. Originally
13 14	MR. IACOPINO: Yes. Originally in Lempster, we had areas where the existing
13 14 15	MR. IACOPINO: Yes. Originally in Lempster, we had areas where the existing ambient sound pressure levels exceeded 55 dBA.
13 14 15 16	MR. IACOPINO: Yes. Originally in Lempster, we had areas where the existing ambient sound pressure levels exceeded 55 dBA. "The standard shall be ambient plus 5 dBA."
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13 14 15 16 17 18 19 20 21 22 23	MR. IACOPINO: Yes. Originally in Lempster, we had areas where the existing ambient sound pressure levels exceeded 55 dBA. "The standard shall be ambient plus 5 dBA." We also had a requirement that, "Sound from the project immediately outside the residence of a non- participating homeowner shall be limited to the greater of 45 dBA or 5 dBA above the ambient sound level," for non-participating landowners, and eventually we changed that to just the 45 dBA. In

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1	CHAIRMAN IGNATIUS: I'm sorry.
2	"Changed that," meaning?
3	MR. IACOPINO: I'll have to
4	double-check the exact wording in the orders.
5	But I think we actually changed it. We
6	originally had it as an "either/or." It was
7	the greater of 45 dBA or 5 dBA above the
8	ambient level. I think that was subsequently
9	changed to just 45 dBA, though, because of
10	the we had the other requirement in areas
11	where it's 55, so it took care of itself.
12	CHAIRMAN IGNATIUS: The first
13	part didn't change. It was only the second
14	MR. IACOPINO: Right. And then
15	in Groton, it was daytime, 55 dBA or 5 dBA
16	greater than ambient, whichever is greater.
17	And at night, it was 45 dBA or 5 dBA greater
18	than ambient, whichever is greater, with the
19	exception of Baker River Campground, where it
20	was 40 dBA or 5 dBA above ambient, whichever
21	is greater. And that was to be measured
22	within the boundaries of the campground
23	itself.
24	CHAIRMAN IGNATIUS: I'm sorry.

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1	Can you do that again, on the 45 and the 55,
2	before you get to the campground?
3	MR. IACOPINO: Sure.
4	MS. BAILEY: I think in some
5	prior cases they allowed the noise generated
6	to be higher during the day than at night.
7	And there was some testimony about it was
8	fairer to use an "either/or" standard, because
9	you could have a day when there's other noise
10	in the background, that when added to the
11	project noise would exceed the absolute
12	standard. So if the background noise you
13	know, who knows what the background noise in
14	Lempster and Groton were. I don't know. But
15	if there was a time when the background noise
16	was or there was noise from other sources,
17	not the project, then the project shouldn't
18	have to take the hit for those other noises.
19	So they had the other standard where it was
20	background plus 5 dBA.
21	MR. IACOPINO: Did you want me
22	to repeat the Groton ones again?
23	CHAIRMAN IGNATIUS: Sure, why
24	don't you.
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1 MR. IACOPINO: In Groton, at 2 the outside facade of homes, as the point of measurement, okay, should not exceed in the 3 daytime 55 dBA or 5 dBA greater than ambient, 4 whichever is greater; then at nighttime, again 5 at the outside facade of the home, 45 dBA or 5 6 dBA greater than ambient, whichever is 7 8 greater. Do you want the campground, too? 9 CHAIRMAN IGNATIUS: No, that's Well, actually, maybe that -- sure, why 10 okay. 11 not. 12 MR. IACOPINO: The campground was limited to -- doesn't say day or night --13 40 dBA or 5 dBA over ambient, whichever is 14 greater, as measured within the current 15 boundaries of the Baker River Campground. 16 Ι 17 have to double-check on the Lempster thing. CHAIRMAN IGNATIUS: Thank you. 18 19 And Ms. Bailey, the levels that Mr. O'Neal predicted for the project 20 were -- what were the maximum levels that he 21 22 modeled could be the result of the project? MS. BAILEY: Well, he said that 23 24 everything he measured was lower than the 45 {SEC 2012-01}[DAY 2 AFTERNOON SESSION ONLY]{02-06-13}

dBA that was imposed on by the last 1 certificate. So I think he was thinking 45 2 dBA was really acceptable, and his results 3 showed that everything would be lower than 4 5 that. CHAIRMAN IGNATIUS: Did he show 6 7 what the actual figures would be, to see how 8 much lower than 45? I mean, I guess that was all the turbines running at all times --9 MS. BAILEY: Right. 10 11 CHAIRMAN IGNATIUS: -- and all downwind immediately of them. So that's a 12 slightly artificial way of calculating it. 13 14 But in that case, do you recall what the actual sound levels were? 15 16 I think they were MS. BAILEY: 17 all lower than 43. And I have that. Hang on 18 a second. 19 MR. IACOPINO: I believe that's 20 Table 7-3. 21 MS. BAILEY: Yeah. 22 CHAIRMAN IGNATIUS: And he did 23 not do the amount over ambient modeling that Mr. Tocci recommended. 24 {SEC 2012-01}[DAY 2 AFTERNOON SESSION ONLY]{02-06-13}

1	MS. BAILEY: He didn't. But he
2	gave us data on what he thought the ambient
3	was. So if the standard were to be I mean,
4	maybe that's because that's what every other
5	Applicant had to produce. But if the standard
6	were going to be an absolute sound, and he
7	knew it was going to be 45, then the predicted
8	modeling that he did, which shows I think at
9	154 receptor points, he thinks that the sound
10	levels on the project are going to be
11	somewhere between, I think, 33 and 43 dBA, and
12	32 at the low end.
13	CHAIRMAN IGNATIUS: Well, was
14	it did you say that his receptor tests, the
15	five that he used, that Mr. O'Neal used, was
16	somewhere in the range of 34 dBA or maybe a
17	range leading up to 34 dBA is what he found
18	from those five receptors as his way of
19	measuring the ambient sound that still
20	included the insect noises?
21	MS. BAILEY: Correct.
22	CHAIRMAN IGNATIUS: And so if
23	he were to look at that as a baseline, plus if
24	you had, you know, five over ambient sound,
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1	that would be his baseline. You'd be taking
2	five above, somewhere in the
3	MS. BAILEY: But it didn't
4	matter because the actual noise was lower than
5	the baseline in most cases. That was his
6	point.
7	CHAIRMAN IGNATIUS: And he was
8	not suggesting that 5 dBA over the Tocci
9	version of baseline would be met because
10	that's a whole different
11	MS. BAILEY: Right.
12	CHAIRMAN IGNATIUS: much
13	lower number.
14	MS. BAILEY: Correct.
15	CHAIRMAN IGNATIUS: And when
16	in those other cases, Mr. Iacopino, that you
17	read off, in Lempster and Groton, when there
18	was an over-baseline over-ambient sound
19	level, that was the all-in measurement that
20	included whatever noises happened to be in the
21	baseline, whether insect noise and all that.
22	It was not stripped out.
23	MR. IACOPINO: Well, it was the
24	greater of either a limit, which was 45 dBA,
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or 5 dBA above the ambient. And the condition 1 itself did not mention whether -- how 2 "ambient" was to be measured. 3 MS. BAILEY: And I think when 4 5 that standard comes into play, you go out at that time when the complaint is registered, 6 and you measure what the ambient is then. So, 7 8 you know, some other project may have been developed in the meantime, and there could be 9 a lot of ambient noise from that other 10 11 project. So I think that's kind of fair. But I doubt that they took any -- I don't -- I'm 12 not going to say what I think about that. 13 Ι don't know what they did. I don't think it 14 15 mattered. 16 Well, I think, I MS. LYONS: 17 mean, if you know what the --18 MR. IACOPINO: I'm just not sure that insect noise was ever a 19 20 consideration at all in the Lempster docket. 21 I'm not sure they used the same criteria that 22 had been presented to you in this case in that 23 particular docket. 24 CHAIRMAN IGNATIUS: I would

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1	agree with that. I think how to measure
2	ambient was not an issue that I recall in
3	Lempster. And I didn't participate in Groton.
4	But when we compare one to another, I think
5	we're using very different starting points in
6	what the comparisons are. And it may be that
7	there's evolution that makes sense in how we
8	evaluate these, but it is somewhat different.
9	MS. BAILEY: It is a big
10	difference.
11	CHAIRMAN IGNATIUS: So, do
12	people want to discuss more the question of
13	the background sound, how to measure it, or
14	move into the modeling that was done?
15	Are you ready to move into a
16	question of how the modeling was done
17	MS. BAILEY: Oh, I'm sorry.
18	Yes.
19	CHAIRMAN IGNATIUS: and what
20	assumptions are reasonable?
21	MS. BAILEY: Yeah. The biggest
22	issue that was raised about the modeling was
23	the fact that the Applicant used the
24	greatest the guaranteed sound level from
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1	Acciona, which was like 109 dB when you add
2	plus or minus 2 dB. I don't know what else
3	they could have used. And I think if the
4	Applicant is willing to limit the noise level
5	to that produced when you assume in the model
6	the greatest sound I think I was convinced
7	by the testimony that the actual sound could
8	be higher than the guaranteed sound, because
9	the guaranteed sound is just sort of a
10	standard that you compare other models
11	against. But on cross-examination, Mr. Patch
12	was really adamant that there was a firm
13	guaranty, and it would never exceed 109 dBA.
14	And I also don't know, if the actual sound was
15	110, how that would have changed the predicted
16	sound values. But somebody suggested that
17	I think it was Mr. James that he thinks
18	that the predicted sound levels are about 5 dB
19	too low for the actual maximum sound that
20	could possibly come from these turbines.
21	I think it doesn't really
22	matter, because if you set an absolute sound
23	level, and the turbine exceeds the maximum
24	guaranteed sound level, then they're probably

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1	going to exceed the absolute standard level.
2	And that could be, you know, you set the
3	standard at 45 dBA like you did in Lempster,
4	or you set it at 40. So I don't really think
5	that's a big thing we need to get hung up on.
6	And nobody really criticized the rest of the
7	model. That was the only assumption that was
8	criticized.
9	CHAIRMAN IGNATIUS: Whatever
10	the maximum sound level is coming at the
11	source, the important part is what the level
12	is at the reception point of the exterior of
13	the residence.
14	MS. BAILEY: Well, that's what
15	they were trying to model, is what the sound
16	would be at the residence. But they had to
17	assume what the sound was starting at. But it
18	doesn't really matter, because if we set a
19	standard and we have a complaint and we go out
20	and we measure it and it's higher than the
21	standard, who cares what the sound was where
22	it started; it's what we're measuring at the
23	location. So, to the extent that these sound
24	levels are under-predicted, that's a risk on
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the Applicant. 1 2 CHAIRMAN IGNATIUS: Anyone? Any comments on that? Looks like people are 3 nodding in agreement. 4 5 All right. So you were, Ms. Bailey, I think, sort of giving us ways to 6 7 break out the discussion. What was your third question? 8 MS. BAILEY: The "weirdness 9 factor." 10 11 CHAIRMAN IGNATIUS: The "weirdness factor"? 12 13 MS. BAILEY: Infrasound. 14 CHAIRMAN IGNATIUS: Oh, well, 15 the health impact and ambient versus 16 background value. I've written down that 17 maybe we've talked about that. I guess we've done it in a combination of both ways in prior 18 19 cases. And in this case, the recommendation from Mr. Tocci was to do a combination of both 20 21 an absolute and a background of ... what did he 22 have? A 30 dBA or 10 above the background? 23 MS. BAILEY: Right. 24 CHAIRMAN IGNATIUS: And he was $\{\text{SEC 2012-01}\}$ [DAY 2 AFTERNOON SESSION ONLY] $\{02-06-13\}$

using the lower, stripped-out insect noise 1 background. So if that was running in the 12 2 to 19 dB level -- is that what that was? 3 MS. BAILEY: Say 15. 4 5 CHAIRMAN IGNATIUS: -- ends up being an absolute of 30, or a potential of 6 7 about 25. 8 MS. BAILEY: Right. CHAIRMAN IGNATIUS: Not that 9 much difference between the two. 10 11 MS. BAILEY: But I don't think there's much difference in the other. 12 CHAIRMAN IGNATIUS: 13 That's 14 true. 15 MS. BAILEY: It's just a lot lower. And Mr. Tocci's recommendation was the 16 17 absolute lowest, and it was -- the absolute number, 30, was based on something that he 18 19 cited that said that people are really sure 20 that there's no health impacts from sounds 21 that are lower than 30 dBA. 22 CHAIRMAN IGNATIUS: But isn't 23 the point of using the amount over the background, at least in those other instances 24 {SEC 2012-01}[DAY 2 AFTERNOON SESSION ONLY]{02-06-13}

1	in other cases, was to reflect that there
2	might be other things going on? You might be
3	near a highway, or you might be near a
4	processing station that has some high
5	industrial sounds periodically that have
6	nothing to do with the wind facility, and that
7	setting those levels over ambient was to
8	reflect sometimes it would be reflecting a
9	quieter time, and other times it would be
10	reflecting a noisier time?
11	MS. BAILEY: Right. I think he
12	said that if the new noise is between 5 and 10
13	dBA greater than the old noise, it's going to
14	be pretty annoying. If it's more than 10 dBA
15	greater than the old noise, it's going to be
16	really annoying, and really annoying is going
17	to cause health impacts.
18	CHAIRMAN IGNATIUS: I guess
19	what I'm struggling with is that in the desire
20	to be able to measure the impact the wind
21	facility adds to the ambient noise, we can't
22	also be intentionally stripping down to the
23	quietest possible ambient level. There's some
24	times when that may be appropriate. But how
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1	is that appropriate for
2	MS. BAILEY: You wouldn't do it
3	when you were evaluating a complaint.
4	CHAIRMAN IGNATIUS: Okay.
5	MS. BAILEY: You're only going
6	to do it when you're setting a standard. And
7	it's only applicable to the standard that
8	talks about "ambient plus." Well, no, it
9	doesn't maybe this is another if there's
10	a complaint that somebody's health is
11	impacted, we're going to go out and measure
12	what the ambient sound is right then and
13	there. And it might be 30 dBA, and then with
14	the turbines turned on it might be 35 dBA, in
15	which case the ambient plus 5 dBA is
16	acceptable, even though 35 dBA sounds like
17	it's pretty high compared to the 15 dBA that
18	Mr. Tocci said is the quietest time. So the
19	difference between what he thinks is the
20	really quiet norm, in the area of 15 dBA, it
21	is only relevant when the project sound is a
22	lot louder than that. But if the background
23	sound is 30 dBA, then the project sound I
24	think could be a little bit louder. The
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background sound would mask it, and it would 1 still meet the standard compared to the 2 ambient. Does that make sense or just confuse 3 things? 4 5 CHAIRMAN IGNATIUS: No, it makes sense. I'm not sure I've got clarity 6 7 yet, but it makes sense. I think the 8 MS. BAILEY: 9 question you asked me to find out about -where did the idea that if the change in sound 10 11 between ambient and the project is more than 12 10 dBA, that's going to create a health impact -- I think I need to find the answer to 13 that question. 14 15 CHAIRMAN IGNATIUS: Okay. 16 Should we then talk some more about the 17 infrasound? 18 MS. BAILEY: So, anybody Sure. 19 want to start with this or -- you want me to 20 start again. 21 CHAIRMAN IGNATIUS: I think 22 it's fair -- and Mr. Iacopino, correct me if 23 I'm wrong -- that this is an area that we have not addressed in prior certificates. 24 We've {SEC 2012-01}[DAY 2 AFTERNOON SESSION ONLY]{02-06-13}

1	been dealing only with the audible sound
2	levels and have not set any kind of standards
3	or really tried to delve into the meaning of
4	"infrasound issues" in prior wind cases. Am I
5	right about that?
6	MR. IACOPINO: I believe that
7	it's been mentioned in some prior wind cases.
8	The Committee in those cases did not find it
9	to be an issue, based upon what the evidence
10	presented in those dockets was.
11	MS. BAILEY: I think they even
12	made a finding that there's no scientific
13	proof that it exists, or something like that.
14	MR. IACOPINO: They didn't say
15	that infrasound doesn't exist, but that there
16	was no proof of ill-health effects.
17	MS. BAILEY: Ill-health
18	effects. Right.
19	MR. IACOPINO: Correct.
20	CHAIRMAN IGNATIUS: That was in
21	the Groton case?
22	MR. IACOPINO: I'm checking. I
23	think it was Groton.
24	CHAIRMAN IGNATIUS: And just
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for the record, the reason that I keep 1 checking back to where we've been is not 2 because I want to follow exactly what was done 3 in another case, but I want to be certain that 4 if we want to follow what was done before, we 5 have a sound basis to do so, and if we want to 6 deviate from what was done before, we have a 7 I mean, I think in the 8 sound basis to do so. 9 notion of predictability and fairness to applicants and parties in the future on any 10 11 other cases, there has to be a sense that we 12 have a reasoned approach to what we're doing and that we are not locked into the decisions 13 made by people in the past, but we have reason 14 15 why we head off in different directions and 16 that it isn't just the whims of whoever 17 happened to be sitting on any particular case that the answers are bouncing all over the 18 19 place. So, all of these issues evolve. The facts change from case to case. 20 The 21 scientific literature changes. And so I would 22 expect there to be change over time, but it 23 has to be -- I want to be sure that we are being as analytical as we can about it and 24 {SEC 2012-01}[DAY 2 AFTERNOON SESSION ONLY]{02-06-13}

1	understand what we've done in the past as a
2	way to help think through should we do
3	something different now.
4	But I interrupted you there.
5	If you want to go back to the infrasound
6	issues
7	MR. IACOPINO: Do you want me
8	to read the finding in Groton?
9	In Groton, on Page 81 to 82 of
10	the decision, the Committee made a couple of
11	findings. They said they were "not persuaded
12	by the intervenors' evidence that Wind
13	Turbine Syndrome will be a public health
14	result from the construction of the facility;
15	the existence of Wind Turbine Syndrome has
16	not been scientifically established, and the
17	intervenors have not pointed us to any
18	specific characteristics of this project that
19	are likely to cause the constellation of
20	symptoms which the intervenors alleged
21	establishes the syndrome." The Committee
22	went on to find, "We also find the assertion
23	that the project may affect human health by
24	causing vibroacoustic disease to be

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1	unpersuasive. It is undisputed that only
2	significant high sound-wave levels can affect
3	the connective tissue. In fact,
4	vibroacoustic disease is generally connected
5	to sound levels caused by close proximity to
6	jet engines. The project will not generate
7	such sound levels; therefore, we find the
8	project will not have an adverse effect on
9	human health by causing vibroacoustic
10	disease." So those were the two findings
11	which would pertain to some of what was
12	discussed here. There was more discussion
13	regarding low-frequency and infrasound, per
14	se, in this docket, I believe.
15	CHAIRMAN IGNATIUS: Thank you.
16	MS. BAILEY: So I think that
17	there's some evidence that this could be a
18	concern. I don't think there's any proof that
19	there's an impact on public health as a result
20	of this very low-frequency and infrasound.
21	But I think there is a body of evidence sort
22	of growing or increasing that suggests that,
23	well, maybe there might be something to this,
24	especially after turbines get bigger, and we
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just don't have the data to know whether it's 1 2 going to cause an impact on public health. But the World Health Organization did 3 include -- did choose to keep in the 2009 4 guidelines, although not specific to wind 5 turbine noise, that if the dBC level is more 6 than 10 dB higher than the dBA level, then 7 8 there's reason for concern about low frequency 9 and noise health impacts. And so, reasons for concern: 10 11 Don't know what the extent is. We don't even know for sure what the sound power level is 12 that these turbines would generate at these 13 14 frequencies. And, you know, even if it does 15 generate some level, is it enough to cause a 16 health impact? We don't know. I've thought 17 about this a lot. And it struck me this morning, you know, we don't know if the 18 19 turbines are going to help kill off the bat 20 population, so we're going to do a study. Do you think we might should do a study on this, 21 22 just to see what the levels are and if the 23 turbines produce this kind of low-frequency sound and at what level? It's just a thought 24 $\{\text{SEC 2012-01}\}$ [DAY 2 AFTERNOON SESSION ONLY] $\{02-06-13\}$

1	that I had. I'm not convinced. I don't
2	really know what my position is on this one
3	yet, and I'm really hoping you guys will help
4	me out.
5	CHAIRMAN IGNATIUS: Mr. Dupee.
6	MR. DUPEE: Thank you, Madam
7	Chairman. Are you suggesting that we would do
8	a study to demonstrate that the infrasound
9	existed or that there was a health effect
10	derived therefrom?
11	MS. BAILEY: I think we need to
12	know both.
13	MR. DUPEE: The second thing
14	would be a much harder question to ask if you
15	really want to do that adequately in an
16	experimental situation. Some people get
17	exposed, some not. A lot of control goes into
18	that. It would be a very difficult study to
19	do in the concert of this particular effort.
20	I think that's good scientific endeavor, but
21	not one that I think would fall under the
22	purview of this Committee.
23	MS. BAILEY: Okay. So what do
24	we do about the possibility that this might
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1	cause a health impact? We don't know.
2	CHAIRMAN IGNATIUS: Please.
3	MR. DUPEE: I would say what
4	Attorney Iacopino read earlier from the record
5	in previous cases is pretty much indicative of
6	where the science is today. I don't think
7	it's changed particularly since we've had that
8	conclusion. Very low-frequency noise, looks
9	like it doesn't really affect many people, but
10	potentially may affect some. But then you try
11	to weed out, okay, this person's exposed, the
12	person next to them is exposed; one says yes,
13	one says no. It becomes very difficult to
14	develop a methodology that would account for
15	that in a disease way.
16	CHAIRMAN IGNATIUS: Ms. Bailey,
17	do we have any evidence in the record of what
18	the dBC levels are? You probably just went
19	through this, and I'm sorry. I'm losing it
20	here.
21	MS. BAILEY: We don't have any
22	evidence of what the predicted dBC levels are
23	because the Applicant didn't touch this
24	subject.

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CHAIRMAN IGNATIUS: And none of 1 2 the other --MS. BAILEY: And reasonably so, 3 because the Committee dismissed it the last 4 time. 5 What Mr. James said was that, in 6 7 Germany, they established a level at 35 dBC, and he recommended that we establish a level 8 of 50 dBC. And I think that's because he 9 recommends... does he recommend -- he 10 11 recommends 35 dBA. And so 10 above that would be 45 dBA. So I don't really know why 12 he said 50. I can't remember. 13 14 CHAIRMAN IGNATIUS: And nobody 15 measured or modeled what they thought the dBC level would be at various receptor points. 16 We 17 know Mr. O'Neal did not. But Mr. Tocci did not either? 18 19 MS. BAILEY: No. Mr. Tocci 20 kind of -- he didn't really have any testimony 21 on this, except for on cross-examination where 22 he said, you know, it could be. I don't know. 23 CHAIRMAN IGNATIUS: And do you recall if anyone had data from other wind 24 {SEC 2012-01}[DAY 2 AFTERNOON SESSION ONLY]{02-06-13}

1	facilities in the region, I guess, or
2	elsewhere, on what kind of dBC levels had been
3	recorded?
4	MS. BAILEY: No, I didn't see
5	any data on what had been recorded.
6	CHAIRMAN IGNATIUS: People's
7	comments on this issue? Mr. Simpkins.
8	MR. SIMPKINS: Well, just some
9	thoughts. I don't think it will help us
10	really get to a conclusion. But this is what
11	I've given a lot of thought to also, because
12	it's well, one, out of the topics, it's
13	probably the one I'm least familiar with, not
14	being an acoustician, however you say that.
15	But it also probably bothers me the most
16	because, you know, when it comes to natural
17	environment and things, you know, we can do
18	easements, we can do studies of birds and
19	bats, you know, we can deal with aesthetics,
20	those types of things. But, you know, when
21	it's impacting someone's health, I mean, to
22	me, that's a big deal. And, you know, this
23	we didn't hear a lot of scientific evidence
24	that these types of things actually exist or
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1that there's the science seems very cloudy2on it certainly, at best. However, I can't3say I'm convinced that nothing exists. You4know, I kind of think in my line of work, lyme5disease is a big deal. And, you know, for a6while, lyme disease was kind of dismissed.7You know, it's other things and it's kind8of and, you know, now, all of a sudden,9it's starting to lyme disease is getting10more attention and those types of things.11But, you know, it took a long time. And so,12you know, this project is not going to be a13six-month or a one-year project. It's going14to go out decades.15So while we may not know16what's going on, sitting here today, I guess17my question is: What do we do about it 1018years from now when they say, "Yeah, this is19a real deal." Do we just say, "Well, we20didn't know about it then, so nothing we can21do about it now?" You know, as far as22setting certain limits, I don't really see23how that's going to help us much, because24there's no scientific basis to set a limit.		
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 how that's going to help us much, because there's no scientific basis to set a limit. 	22	setting certain limits, I don't really see
24 there's no scientific basis to set a limit.	23	how that's going to help us much, because
	24	there's no scientific basis to set a limit.

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1	Is it 35? Is it 50? Is it 100? So I don't
2	know that setting a limit is going to help.
3	So what I'm looking at is, if
4	a local resident all of a sudden comes up
5	with some type of symptoms that they did not
6	have prior, is that something that, you know,
7	we need to deal with? You know, granted,
8	that would you know, none of us are
9	medical doctors. But I guess that's the
10	question in my mind. If we're wrong, what do
11	we do about it then, if someone gets ill from
12	it? And how I guess it would be up to a
13	medical doctor to make the connection that if
14	someone did get ill, it was a result of
15	infrasound. But that's kind of what I'm
16	wrestling with.
17	CHAIRMAN IGNATIUS: Others? I
18	mean, we're getting close to taking a
19	decision, sort of a straw vote, on a finding
20	of whether there would be health and safety
21	issues as a result of noise. And so I'm
22	wondering, are there other issues people want
23	to discuss before they can reach that sort of
24	a conclusion in their own minds, or is it
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1	something that you're not ready yet to answer,
2	because we need to check other things in the
3	record, as Ms. Bailey offered, to check back
4	on that 10 dB increment issue? Dr. Boisvert.
5	MR. BOISVERT: I just was
6	thinking that, as I recall the testimony from
7	various people who objected to the noise from
8	the wind towers, as much as anything that came
9	through to me, it was the annoyance factor,
10	and it's almost at an aesthetic level, not a
11	health level. And now I fully recognize that
12	a certain degree of stress to somebody has
13	health impacts, physiological health impacts.
14	I'm not disputing that. But it seemed to be
15	more an issue that, "It was quiet, and I
16	appreciated the quiet. This is why I moved
17	here, to be away from the noise." But it was
18	the quiet. And without explicitly saying so,
19	with one exception, it was a matter of, I
20	would say, aesthetics and not health. We're
21	talking about health here. The exception was
22	the individuals who had the recording studio,
23	and that sound issue played out there. No pun
24	intended.

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1	But in terms of the health
2	aspect, I did not hear a strong thread of
3	argument that the sound was causing enough
4	annoyance to be stressful, to be unhealthy.
5	It was more the sound was causing a lot of
6	annoyance because you lost the appreciation
7	for the quiet solitude, et cetera, of the
8	rural character of the area.
9	That said, the issue of the
10	inaudible, low-frequency sound causing
11	physiological problems, the best comparison
12	was that it made you feel like you had motion
13	sickness. That was something that I thought
14	that appears to me to have some validity.
15	But the problem is how is this as Mr.
16	Dupee said, how do you factor that out? How
17	do you recognize you know, what test case
18	can you have? Do you expose some people to
19	sound, some people not? Do you look at
20	meta-studies of lots of people in lots of
21	areas and so forth, proximity to wind towers
22	and so forth? We've heard a lot of argument
23	in the Groton Wind case about Wind Tower
24	Syndrome. That came from a totally different
	$\{\text{SEC 2012-01}\}$ [DAY 2 AFTERNOON SESSION ONLY] $\{02-06-13\}$

people. The argument on Wind Tower Syndrome 1 2 was really not raised as an issue here. It was people drawing upon a totally different 3 set of data. 4 I would be concerned that 5 there are health impacts. But like Mr. 6 7 Dupee, I despair that we're going to be able 8 to come up with a condition on the permit that would allow us to discover it and treat 9 it. But as I said, the discussions of the 10 11 ambient sound, whether or not to include insects and so forth, to me was setting a 12 baseline of: Are you going to compare it 13 against "sort of quiet" or "really quiet"? 14 15 What is more fair to compare against? If you use the baseline plus so many decibels, if 16 17 you start with a higher ambient, then it makes it a harder threshold to achieve that 18 it be will be a problem. And that's how I 19 20 read the testimony on sound. And it was 21 almost a mental health -- in other words, 22 being upset that you've lost the quiet of 23 your home as opposed to physiological health. And believe me, I recognize that mental 24

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health and physiological health are both
health issues and that you don't only pay
attention to just the physiological as
opposed to the mental health issues. I think
they're both equally important.
But that's what I heard
before, and I was struggling to find a way to
process and take into account what Ms. Bailey
was saying and realized it was almost
aesthetic versus health issue.
CHAIRMAN IGNATIUS: I remember
one of the things we were told that seemed
consistent with what you're saying, and that
was someone stating that I think Mr. O'Neal
stating that, for those who can see the
turbines, the aggravation of the noise is
perceived to be greater than for those who
can't see the turbines. And so it was, again,
in that sort of annoyed, aggravated way more
than a change in someone's health.
Mr. Dupee, comment?
MR. DUPEE: Yes. Thank you.
Madam Chair. Once again, pointing out the

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Couple thoughts here to Mr. 1 Simpkins' point about what happens if this 2 Committee were to make a decision to the 3 effect that it wasn't going to be a health 4 problem, and then it turned out at some point 5 in the future there was a recognized etiology 6 of people getting sick, and there was a clear 7 8 and demonstrable reason for why that was happening, that in the world of public 9 health, statutory authority in cases like 10 11 that, where all of a sudden you find out that things that were considered fine before are 12 no longer fine, there are steps you can take, 13 14 under law to try to address that. 15 Getting back to your point. Ι 16 think another way to frame that up is 17 somewhere between a health effect -- a public health effect called a "nuisance," things 18 19 that maybe some would object to and some 20 would not. But it's -- somebody objecting to 21 something smells awful would be considered a 22 nuisance. And is that a health effect or, 23 you know, is it something less than that? But clearly, it's something that affects 24

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1	individuals. It might affect their health
2	ultimately if, as you mentioned, it's a
3	strong enough mental stimulus. But it's a
4	hard thing to write into a permit because we
5	can't say with certainty who was affected and
6	who was not affected by those kinds of
7	things. And is there a way we can measure it
8	and say, "Yes, this is the sort of effect we
9	can count on, understand and manage" versus
10	an individual idiosyncrasy, which may be
11	real, but that person probably has to work
12	with a healthcare provider to understand what
13	their particular unique circumstance is and
14	then work with their provider to reach their
15	own remedy?
16	CHAIRMAN IGNATIUS: Mr. Stewart.
17	DIRECTOR STEWART: Yeah, just
18	to reaffirm what Mr. Dupee has just stated.
19	In my world, which is the regulatory world,
20	and has been forever, standard-setting and
21	then implementation of standards change all
22	the time. You know, for drinking water,
23	standards change all the time. Arsenic
24	standard was 50 parts per billion, now it's
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10. Twenty years ago it was 50, now it's 10. 1 We adjust. The facilities adjust, in terms of 2 what they have to do to perform -- to attain a 3 standard. So I think we have to recognize 4 that we're dealing with a dynamic environment, 5 and we have to make a reasonable decision 6 based on what we really know and not the 7 hypothetical. And so I think we move -- my 8 suggestion is we move forward with what we 9 have, and ultimately that leads to a standard 10 11 in the conditions similar to the Groton, although I have a question about the actual 12 numbers in there because of something Mr. 13 Tocci said. 14 15 And I actually went on the 16 World Health Organization and found that in 17 the Groton there was a 45 dBA nighttime standard. Mr. Tocci, in his testimony, 18 19 suggested 40 based on a newer guidance 20 document from WHO. And I think that's 21 actually correct. I think I found it in the 22 document, if I'm reading the right place. 23 But at the end of the day, I 24 think we move forward with what we have and {SEC 2012-01}[DAY 2 AFTERNOON SESSION ONLY]{02-06-13}

1	not the hypotheticals and build in the
2	ability to adapt as knowledge about health
3	effects may change in the future.
4	MS. BAILEY: So are you
5	suggesting that we should make the absolute
6	level 40 dBA to go along with the World Health
7	Organization guidelines
8	DIRECTOR STEWART: Well, I
9	think
10	MS. BAILEY: for the
11	nighttime?
12	DIRECTOR STEWART: Yeah. Well,
13	I think what changes now I'm looking at the
14	Groton conditions that the Applicant has
15	provided, and which was consistent with what
16	Mr. Iacopino the nighttime 45 dBA, if I'm
17	interpreting this right, may need to be 40 to
18	be consistent with the World Health
19	Organization. I think that's what Mr. Tocci
20	said, too.
21	MS. BAILEY: Yes.
22	DIRECTOR STEWART: And again,
23	that's an adjustment, because it seems like
24	that value shifted. You know, if the reliance
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is on WHO, the value has shifted down 1 2 slightly. CHAIRMAN IGNATIUS: And are you 3 making a recommendation of what the daytime 4 absolute limit should be? 5 DIRECTOR STEWART: I did not 6 see a change in that. Kate may have more on 7 8 that, but I didn't see a change recommended. CHAIRMAN IGNATIUS: 9 Which I think in both Lempster and Groton, was it 55 10 as the absolute? 11 DIRECTOR STEWART: 12 Yeah, I think that's consistent --13 MS. BAILEY: I think that would 14 15 be way too high, because the Applicant has said they're not going to be more than 43. 16 So 17 why would we make the standard 55, especially since there's been so much controversy --18 19 DIRECTOR STEWART: Just to be 20 clear on what I was saying, and this is from 21 Mr. Tocci's testimony, the WHO document is a 22 night noise guideline. And that was expressed 23 in terms of the nighttime guidelines as an "L night, outside" of 40 decibels. And again, I 24 {SEC 2012-01}[DAY 2 AFTERNOON SESSION ONLY]{02-06-13}

1	just went on and found the document. And his
2	testimony is consistent with what I saw upon a
3	quick review of the WHO guidelines.
4	MS. BAILEY: Also the same
5	thing I did.
6	CHAIRMAN IGNATIUS: So, does
7	somebody want to make a proposal of what an
8	appropriate level would be for a daytime
9	absolute limit, and if it's going to be a
10	two-stage, the greater of, an absolute or some
11	amount of over ambient, lay out what you think
12	would be an appropriate standard to set?
13	DIRECTOR STEWART: Should I go
14	ahead?
15	CHAIRMAN IGNATIUS: Sure, if
16	you'd like.
17	DIRECTOR STEWART: Based on
18	what we've found, again, unless Kate has
19	something different, the Groton condition was
20	sound levels generated by the project at the
21	outside facades of home should not exceed 55
22	dBA or 5 dBA greater than ambient, whichever
23	is greater, in daytime. And I think that
24	would hold. I haven't seen anything to change
L	{SEC 2012-01}[DAY 2 AFTERNOON SESSION ONLY]{02-06-13}

1	that. And the nighttime, what Groton says, 45
2	dBA or 5 dBA greater than ambient. I think
3	that probably should be 40 dBA or 5 dBA
4	greater than ambient, whichever is greater at
5	night.
6	MS. BAILEY: I think that that
7	might have a health impact, based on the
8	testimony that I reviewed for the daytime.
9	DIRECTOR STEWART: So the 55,
10	I'm okay with that, too.
11	MS. BAILEY: Yeah, and I think
12	it's because we have no idea what the recorded
13	background noise in Lempster was when they set
14	that standard, and we know that in this area
15	it's really quiet most of the time a lot of
16	the time and when it's not really quiet,
17	it's insect noise. So I think 55 dBA is way
18	too high, especially because the Applicant
19	themselves said they're never going to be more
20	than 43 dBA. So I think it should be much
21	lower than that.
22	CHAIRMAN IGNATIUS: Would you
23	propose a different absolute level for
24	daytime?

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1	DIRECTOR STEWART: Would it be
2	40?
3	MS. BAILEY: I would be
4	comfortable with 40 dBA absolute level all the
5	time, but I don't know if that's too
6	stringent. And, you know, if ambient is
7	really 15 at the most quiet time, and there is
8	a possibility that there's health impacts when
9	that noise level's increased by 10, that's 25.
10	So even if you double that, if you assume,
11	well, the health impacts are that's too
12	conservative or that's too low a number, if
13	you said ambient plus 20, that would give you
14	35 dBA, which is a big change in sound for
15	people who are used to living with 15, and it
16	could have health impacts. I don't know. But
17	40 dBA seems about at the absolute maximum for
18	me.
19	CHAIRMAN IGNATIUS: Mr.
20	Simpkins.
21	MR. SIMPKINS: Well, a couple
22	things. I'm looking at Table 6-2 in Mr.
23	O'Neal's study, Appendix 13A, and he has
24	maximum numbers. The lowest is 45 and the
I	{SEC 2012-01}[DAY 2 AFTERNOON SESSION ONLY]{02-06-13}

1	highest is 51, and then he has averages. This
2	is from the minimum, which I assume is at
3	night, and the maximum during the day. And
4	those averages range from a low of 37 to a
5	high of 44. So I guess my concern with going
6	with 40 during the daytime is you're saying
7	it's already louder than that now without the
8	turbines at least in two of the locations that
9	he measured, and it's within three points. So
10	this is the average. So this isn't even the
11	maximum. If you go with the maximum, there's
12	areas out there the lowest maximum he has
13	was at Gregg Lake Road, and that was 45. So
14	there's already noises out there that are well
15	above 40 without the turbines, according to
16	Table 6-2, if I'm reading that correctly.
17	So
18	MS. BAILEY: That's a good
19	point.
20	MR. SIMPKINS: I'm thinking 40
21	during the daytime may almost be impossible to
22	achieve because of all the other noise. So
23	that's one comment.
24	Another comment is, and not to
	{SEC 2012-01}[DAY 2 AFTERNOON SESSION ONLY]{02-06-13}

1	be the skunk at the lawn party, but I just
2	want to bring this up one more time. We
3	talked about, you know, right now we need to
4	go with what the science is, and into the
5	future standards will change. Mr. Stewart
6	talked about arsenic in water. But we just
7	talked now about the World Health
8	Organization has changed their standards down
9	to 40. I don't think we're advocating that
10	we're to go open up all the other prior
11	approved certificates and drop them from 45
12	to 40. So I guess that's my question again.
13	So if we approve this certificate and then
14	find out five years from now that there is an
15	issue, is it only for new certificates that
16	are issued?
17	And then the last thing I
18	have and I just have it in my notes
19	because it hasn't come up yet. But during
20	this whole noise discussion, there was, I
21	believe, software with the Acciona 3000
22	series where there was a one-to-four-decibel
23	noise reduction. I know that was discussed.
24	That hasn't come up yet, but I know there was
l	{SEC 2012-01}[DAY 2 AFTERNOON SESSION ONLY]{02-06-13}

a way to reduce the noise a few decibels. 1 What the power penalty for that is, I don't 2 I think we asked that, but I don't know. 3 think they knew either. But --4 5 MS. BAILEY: That's right. There is a software package that comes with 6 the turbines, that if they need to reduce the 7 8 sound output, they can adjust the pitch of the blades, I think, and that gives you a decrease 9 in power output but also will decrease the 10 11 noise. CHAIRMAN IGNATIUS: 12 Do other people have a recommendation of what they 13 think an appropriate absolute level might be? 14 I think this ambient sound level makes it a 15 more complicated question than it would be 16 17 otherwise. If some of the ambient testing was already showing high levels without a turbine, 18 then that's not an effective test to apply. 19 20 Mr. Stewart. 21 DIRECTOR STEWART: The language 22 I'm reading is "generated by the project." So 23 I'm not sure what that means in terms of -you know, in other words, if the ambient level 24 $\{\text{SEC 2012-01}\}$ [DAY 2 AFTERNOON SESSION ONLY] $\{02-06-13\}$

is 70 decibels, then I'm not sure it's 1 relevant what the project -- in other words, 2 if the project can attain its 55, and the 3 ambient is 70 absent the project, then it 4 really doesn't matter, I don't think. 5 MS. BAILEY: I think I agree 6 7 with that. But in the Epsilon report, there's 8 something that shows you what 70 dB sounds -yeah, Page 2-3, Figure 2-1. And 70 dB is a 9 gas lawnmower at 100 feet; it's a vacuum 10 11 cleaner at 10 feet. That's loud. DIRECTOR STEWART: 12 Yes. MS. BAILEY: So I don't think 13 ambient's going to be at 70. 14 15 DIRECTOR STEWART: Right. That was just an arbitrary number. 16 17 MS. BAILEY: I mean, this --DIRECTOR STEWART: I didn't 18 know it was a gasoline mower. 19 Quiet, urban 20 MS. BAILEY: nighttime is 40 dB, okay. And quiet suburban 21 22 looks like it's about 37. 23 CHAIRMAN IGNATIUS: Well, 24 that's where your two-step approach comes in, {SEC 2012-01}[DAY 2 AFTERNOON SESSION ONLY]{02-06-13}

1	that you have both an absolute and an
2	over-ambient test, so that if it were five
3	over ambient, whether it's a quiet time or a
4	noisy time, the wind facility can't add more
5	than 5 dBA over that.
6	DIRECTOR STEWART: That's
7	right.
8	CHAIRMAN IGNATIUS: And I
9	guess, Ms. Bailey, as you were saying, ambient
10	could be measured however it's decided to be
11	measured.
12	MS. BAILEY: Well, I think it
13	would be measured at the time of the
14	complaint. And then there might be some
15	disagreement. You know, somebody becomes
16	sick, and they think it's because of stress
17	from the increased noise, and the increased
18	noise is 25 dB over what they used to have and
19	so that's why they're sick. If that's the
20	point they're making, and they've been
21	experiencing this over the course of a year,
22	then it may not be appropriate just to measure
23	it once, the ambient sound once. You may want
24	to figure out what the ambient sound is the
l	{SEC 2012-01}[DAY 2 AFTERNOON SESSION ONLY]{02-06-13}

1	majority of the time over the year to really
2	see what the difference is.
3	CHAIRMAN IGNATIUS: So it
4	sounds like there are two possible standards
5	thrown out, and people may have others yet to
6	introduce. One would be Mr. Stewart's, to
7	take 55 dBA or 5 dBA over ambient levels
8	during the daytime, and a 40 dBA or 5 over
9	ambient at nighttime. That would be one way
10	to structure it. Another would be, as Ms.
11	Bailey was saying, what if you had just one
12	simple standard, not day or night, that would
13	be 40 dBA, or I assume also a 5 over ambient
14	level.
15	MS. BAILEY: Sure. And the
16	other I have a question for Mr. Iacopino.
17	The last project that was
18	approved, that didn't have 55 dBA during the
19	daytime, did it?
20	MR. IACOPINO: Yeah.
21	MS. BAILEY: I thought it went
22	to a standard 45 dBA.
23	MR. IACOPINO: Last one was
24	Groton, and that was 55 dBA or 5 dBA greater
l	{SEC 2012-01}[DAY 2 AFTERNOON SESSION ONLY]{02-06-13}

1	than ambient in the daytime, and 45 dBA or 5
2	dBA greater than ambient at night, whichever
3	is greater, and then 40 at the campground.
4	The 40 at the campground was day or night.
5	CHAIRMAN IGNATIUS: Are there
6	other proposals of standards that anyone else
7	thinks would be appropriate?
8	MS. BAILEY: How about 45 dBA
9	during the day, and 40 at night or 5 over
10	ambient? I mean, the Applicant has said 43 is
11	the max at these close residences. So why you
12	would set a standard at 55, especially if you
13	have an ambient plus five?
14	CHAIRMAN IGNATIUS: All right.
15	So, 45 or 5 over by day, and 40 or 5 over by
16	night, whichever is greater.
17	MS. BAILEY: Yes.
18	MR. IACOPINO: What do you say,
19	Harry, 47/5?
20	DIRECTOR STEWART: That's what
21	I just said.
22	CHAIRMAN IGNATIUS: Any
23	reactions to that?
24	MR. SIMPKINS: Just to confirm.
I	{SEC 2012-01}[DAY 2 AFTERNOON SESSION ONLY]{02-06-13}

1	For the daytime, that would be 5 above the
2	ambient daytime?
3	MS. BAILEY: Yes.
4	MR. IACOPINO: Is the proposal
5	"whichever is greater"?
6	MS. BAILEY: Yes.
7	CHAIRMAN IGNATIUS: Can I ask
8	anyone who's thought about this more than I
9	have, if you always have a or test above
10	ambient level, why do you need an absolute?
11	What does the absolute play? How does that
12	either protect the public or offer certainty
13	to the Applicant? I'm sure there's a really
14	good answer to this and I'm just getting
15	muddled.
16	MS. BAILEY: I'm sure, too.
17	DIRECTOR STEWART: My
18	interpretation is that, if the background were
19	20, then the project could add 5, you know,
20	for a total of 25, more or less. I think
21	that's
22	MR. BOISVERT: Would it not
23	then have to read
24	(Court Reporter interjects.)
I	{SEC 2012-01}[DAY 2 AFTERNOON SESSION ONLY]{02-06-13}

1 MR. BOISVERT: It was a comparison of 40 or ambient plus 5. Wouldn't 2 it make more sense to make it whichever is 3 In other words, if it's very, very less? 4 5 quiet, then you do 5 plus or 10 plus, whatever is decided. That's what you want to shoot 6 7 for, as opposed to 40, which may be another 10 or 15 decibels above that. 8 I'm kind of 9 muddled, too. I'm trying to struggle with why you would have -- why you would want -- why 10 11 you sort of give them the -- allow a higher 12 level, 40 decibels in the evening, why you'd say that's fine if the ambient is, say 20, and 13 14 plus 5 be 25. 15 CHAIRMAN IGNATIUS: Well, I 16 guess I'm answering my own question. I think 17 the purpose of the absolute number is to account for times that it's guiet, and yet the 18 19 facility is going to make noise and shouldn't 20 have to shut down every time we enter a quiet 21 spell. 22 DIRECTOR STEWART: Yeah, I got 23 it wrong. 24 CHAIRMAN IGNATIUS: Maybe it's {SEC 2012-01}[DAY 2 AFTERNOON SESSION ONLY]{02-06-13}

1	feathering it back, dialing it back a bit at
2	night so that the noise it imposes into the
3	night air isn't as great as it could be during
4	the day. But if the thought is that a certain
5	level of sound imposed on the community is
6	acceptable, but no greater than, you know, 40,
7	45, 55 dBA, then I think you do want the
8	maximum, the greater of those, rather than the
9	lesser of those, because otherwise you will
10	always go to the quietest time, which may be
11	good for enjoying the quiet, but does nothing
12	for the notion of operating an industrial wind
13	facility. So I think if we're willing to
14	accept that these things do make noise, we
15	want to make sure that there's a maximum they
16	can't exceed and find that right level of
17	what's loud enough to be realistic to operate,
18	but not so loud as to be so annoying or
19	actually cause physiological effects.
20	So if we have a recommendation
21	of sounds like on nighttime, everybody is
22	coming down to 40 or 5 greater than ambient,
23	whichever is greater, as a maximum standard.
24	It's the daytime level as low as 40, 45 or

{SEC 2012-01}[DAY 2 AFTERNOON SESSION ONLY]{02-06-13}

1	55 I'm sure we can put in some 50s in
2	there as well or 5 over ambient, whichever
3	is greater, I think that sounds like the last
4	question to decide, what level to set here.
5	Anybody want to make a pitch for one or
6	another? Anywhere between 40 and 55 sounds
7	like what we're debating. Mr. Robinson.
8	MR. ROBINSON: I just have a
9	question about the 55 daytime in the past
10	projects. What was the does anyone know
11	what the rationale was for setting that?
12	Because it seems like we're just kind of
13	picking numbers out of the air here for the
14	daytime. I haven't heard a whole lot that
15	would convince me that the 55 needs to be
16	changed. Do we have a real good rationale on
17	why it was set that way from the past two
18	projects, and have we had any complaints that
19	we know of from the public?
20	MS. BAILEY: Well, the
21	testimony was that there's only been two
22	complaints in Lempster, and one was from
23	somebody who was having a problem with his
24	hearing aid. Groton hasn't been built yet;
l	{SEC 2012-01}[DAY 2 AFTERNOON SESSION ONLY]{02-06-13}

right? 1 2 MR. IACOPINO: Groton just recently went on to -- just recently opened 3 the commercial operation. 4 Just for the Committee's 5 edification, there is a post-construction 6 7 sound study that is supposed to be conducted 8 by Iberdrola on the Groton project once they're all fired up, but obviously you don't 9 10 have that for this docket. There was a 11 post-construction noise study done on Lempster as well. That's on our web site, I 12 believe. 13 14 MR. ROBINSON: I guess my 15 thought process is that we have a piece of 16 data that tells us that 40 perhaps should be 17 the nighttime from the World Health Organization. But for daytime, I just haven't 18 19 heard anything that makes me want or need to 20 change my mind on the standards set in the 21 past. I hate to pull things out of the air 22 without some good background. 23 CHAIRMAN IGNATIUS: And my best 24 recollection -- and Mr. Iacopino, please {SEC 2012-01}[DAY 2 AFTERNOON SESSION ONLY]{02-06-13}

1	correct me if I'm getting this wrong is
2	that some of the 55 source comes from the
3	Federal Energy Regulatory Commission standards
4	that we looked at in a gas-processing
5	facility. And there were federal standards
6	that we looked at in that case, and that then
7	kind of led us towards some state standards
8	being imposed as well. Now, there may be
9	other reasons that we were looking at 55 in
10	Lempster and those other cases that I'm
11	getting muddled, but that's my recollection.
12	MR. IACOPINO: I don't recall
13	whether it's the gas-compression unit for
14	Tennessee Gas or Lempster. I don't know which
15	one came first. I have to go back and check
16	the dates of the orders. Lempster, the
17	decision was on June 28th, 2007. Tennessee
18	Gas was later; it was March 19, 2009.
19	CHAIRMAN IGNATIUS: So that
20	didn't help.
21	MR. IACOPINO: I believe that
22	there was a reference to a FERC standard for
23	the gas, but I think it was a standard that,
24	under the Natural Gas Act, that they were
I	{SEC 2012-01}[DAY 2 AFTERNOON SESSION ONLY]{02-06-13}

somewhat subject to, anyway. 1 2 MS. BAILEY: Can I make a point? 3 CHAIRMAN IGNATIUS: Please. 4 The reason I think 5 MS. BAILEY: 45 is reasonable is because the Applicant's 6 7 testimony, Mr. O'Neal -- this is AWE 2, and 8 it's in the O'Neal testimony -- says, "Because the predicted worst-case sound levels from the 9 Antrim Wind project will be below 45 dBA at 10 11 all occupied buildings, the project will easily meet the acceptable noise level applied 12 by the SEC to the Lempster and Groton Wind 13 14 projects. It will also meet the World Health 15 Organization's 45 dBA nighttime guidelines for 16 residential locations and the U.S. EPA 17 guideline of 48.6 dBA." And they didn't make a distinction between day and night there, so 18 19 that's kind of why I was recommending 45. 20 CHAIRMAN IGNATIUS: Mr. 21 Simpkins. 22 MR. SIMPKINS: So this is a 23 So I mentioned about Table 6-2. question. It already had maximums in the upper 40s and as 24 {SEC 2012-01}[DAY 2 AFTERNOON SESSION ONLY]{02-06-13}

1	high as 51 and had averages between 37 and 44.
2	That's now. So if the turbines never created
3	noise above 45, something out there already is
4	creating something above 45. So if the
5	modeling of the turbines said the turbines
6	will never make it go above 45, that's not to
7	say there's not going to be traffic or
8	construction nearby that's going to make it go
9	over 45. If there's a complaint, how do we
10	tease out what was caused by the turbine
11	versus these other things that caused spikes?
12	MS. BAILEY: I think that's why
13	you have the standard that says "or 5 dBA
14	above ambient, whichever is greater." And
15	when you have that complaint, you go out and
16	you put the sound-measuring devices on and
17	listen to it with the project turned on, and
18	then you turn the towers off and measure
19	ambient, and you see if there's more than a
20	5-dB difference.
21	MR. SIMPKINS: But to get to
22	that ambient, it wouldn't be like a one-day
23	thing. It would be because it wouldn't be
24	a point in time. It would have to be an
	{SEC 2012-01}[DAY 2 AFTERNOON SESSION ONLY]{02-06-13}

average, I would assume. 1 I would assume 2 MS. BAILEY: that it would have to be some kind of 3 scientifically proven test procedure. 4 And there's probably guidelines. I don't know 5 I'm not a sound engineer. 6 that. 7 CHAIRMAN IGNATIUS: So I quess if we're looking at -- I think we've agreed on 8 40 or 5 over ambient as a nighttime standard? 9 So it's the daytime standard, and the 45 10 Yes. 11 or 5 over ambient, as Ms. Bailey recommends, or 55 or 5 over ambient as has been done in 12 other recent cases in New Hampshire. 13 14 Any more discussion? You want 15 to just sort of take a vote and see where 16 people want to come out? Or does anybody 17 want to recommend 50, in between the two or anything before we take a vote? 18 19 (No verbal response) 20 CHAIRMAN IGNATIUS: All right. 21 You're good with 45 or 55 as a test? All 22 right. 23 So, for those who would favor the 45 or 5 over ambient daytime as their 24 {SEC 2012-01}[DAY 2 AFTERNOON SESSION ONLY]{02-06-13}

1	preferred approach, please raise your hands.
2	(Subcommittee members indicating by
3	show of hands.)
4	CHAIRMAN ICNATIUS. All right
т Б	And these who would favor the EE or E over
5	And those who would lavor the 55 of 5 over
6	ambient as the approach.
7	(Subcommittee members indicating by
8	show of hands.)
9	CHAIRMAN IGNATIUS: All right.
10	So it's five more for the lower standard than
11	for the higher standard.
12	MS. BAILEY: But it's pretty
13	close.
14	CHAIRMAN IGNATIUS: Yeah.
15	Well, does anybody want to look at a different
16	way of doing it or I'm happy if that's the
17	result and we close this one out. But I'm
18	happy to keep
19	MR. SIMPKINS: Well, I was just
20	going to say, I mean, you kind of said it
21	jokingly before, but maybe 50 would be I
22	mean, we're split almost half and half. So
23	maybe 50 would be the
24	CHAIRMAN IGNATIUS: All right.
	{SEC 2012-01}[DAY 2 AFTERNOON SESSION ONLY]{02-06-13}
1 Show of hands for people who would support 50 as a daytime, 50 or 5 over -- maybe this is no 2 longer what your preferred is. But is this 3 something that you would support? Maybe do it 4 that way. So, 50... I think I'm muddling my 5 choices here. Between 50 and 45 is your 6 7 preferred -- 50 versus 45. Let's do it that 8 way and see how that one comes out. Is there going to be a difference? Not going to be a 9 difference. 10 11 Yeah, there could MS. BAILEY: 12 be. CHAIRMAN IGNATIUS: 13 Okay. So 14 50 or 5 over --15 MS. BAILEY: I think it's more 16 based on horse trading than science or 17 evidence, but... CHAIRMAN IGNATIUS: All right. 18 19 So, 50 or 5 over, let's see a show of hands. 20 (Subcommittee members indicating by 21 show of hands.) 22 CHAIRMAN IGNATIUS: We have 23 one, two, three, four, five, six. Who knew. 24 And versus 45?

 $\{\text{SEC 2012-01}\}$ [DAY 2 AFTERNOON SESSION ONLY] $\{02-06-13\}$

[DELIBERATIONS]

1	(Subcommittee members indicating by
2	show of hands.)
3	CHAIRMAN IGNATIUS: Would be
4	one, two, three. Okay.
5	Is there anyone who feels
6	well, I won't ask that. Never mind.
7	Okay. So are we settled,
8	then, that it be a 50 or 5 over daytime and a
9	40 or 5 over nighttime standard? Is that the
10	end of the discussion on that?
11	(No verbal response)
12	CHAIRMAN IGNATIUS: Okay.
13	Well, that's issue No. 1.
14	MS. BAILEY: Time for the court
15	reporter to have a break.
16	CHAIRMAN IGNATIUS: Yeah, I
17	think so. That is the hardest of all of them.
18	I don't think anything on the rest of the
19	Public Health and Safety will be remotely as
20	difficult as that.
21	What I would recommend is we
22	call it quits for today, unless you want to
23	take on one more issue. Otherwise, we would
24	just begin tomorrow morning at 9:00 and
	{SEC 2012-01}[DAY 2 AFTERNOON SESSION ONLY]{02-06-13}

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1	continue through that list of health and
2	safety, decommissioning issues, and then
3	circle back again to the aesthetic issues,
4	which is a big one. And the question is: Is
5	there anything that's a mitigation that would
6	be appropriate? Any kind of condition we
7	could set or mitigation action? And, oh, I
8	guess on the financial issue as well, are
9	there mitigation standards required? So we
10	will have to go back into that again
11	tomorrow.
12	So, unless there's anything
13	else we should talk about right now, I think
14	we're all a little fried. It's probably a
15	good idea to call it quits for now and begin
16	again tomorrow morning at 9:00. Thank you,
17	everyone, for all of your work in slugging
18	through this. We're adjourned until tomorrow
19	morning.
20	(Whereupon the Deliberations Day 2
21	Afternoon Session adjourned at 4:12
22	p.m.)
23	
24	

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1	CERTIFICATE
2	I, Susan J. Robidas, a Licensed
3	Shorthand Court Reporter and Notary Public
4	of the State of New Hampshire, do hereby
5	certify that the foregoing is a true and
6	accurate transcript of my stenographic
7	notes of these proceedings taken at the
8	place and on the date hereinbefore set
9	forth, to the best of my skill and ability
10	under the conditions present at the time.
11	I further certify that I am neither
12	attorney or counsel for, nor related to or
13	employed by any of the parties to the
14	action; and further, that I am not a
15	relative or employee of any attorney or
16	counsel employed in this case, nor am I
17	financially interested in this action.
18	
19	Sugan J Pobidas LCP/PPP
20	Licensed Shorthand Court Reporter
21	N.H. LCR No. 44 (RSA 310-A:173)
22	
23	
24	
ı	{SEC 2012-01}[DAY 2 AFTERNOON SESSION ONLY]{02-06-13}

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