

STATE OF NEW HAMPSHIRE
SITE EVALUATION COMMITTEE

NOVEMBER 29, 2012 - 8:44 A.M. DAY 8
Concord, New Hampshire MORNING SESSION ONLY

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.
(Hearing on the merits)

PRESENT: SITE EVALUATION COMMITTEE:

Kate Bailey, Engineer (Presiding Officer)	Public Utilities Comm.
Amy L. Ignatius, Chrmn.	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
Richard Boisvert, Designee	Div. Historic Resources
Brook Dupee, Designee	Dept. Health & Human Svs.

COUNSEL FOR THE COMMITTEE: Michael Iacopino, Esq.

COUNSEL FOR THE PUBLIC: Peter C. L. Roth, Esq.
Sr. Asst. Atty. General
N.H. Atty.Gen. Office

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

I N D E X (CONT'D)

APPEARANCES: Reptg. Antrim Wind, LLC:

Susan S. Geiger, Esq. (Orr & Reno)
Douglas L. Patch, Esq. (Orr & Reno)
Rachel Goldwasser, Esq. (Orr & Reno)
Jack Kenworthy (Antrim Wind)

Reptg. Antrim Board of Selectmen:
Galen Stearns, Town Administrator
Michael Genest, Selectman
John Robertson, Selectman

Reptg. Harris Center for Cons. Edu.:
Stephen Froling, Esq.

Reptg. Antrim Planning Board:
Martha Pinello, Member
Charles Levesque, Member

Reptg. Intervenor Abutters Group:
Susan Duley

Reptg. Audubon Society of N.H.:
Amy Manzelli, Esq. (BCM Environment
& Land Law)

Reptg. Intervenor Allen/Edwards:
Mary Allen
Robert Edwards

Reptg. Industrial Wind Action Group:
Lisa Linowes

Reptg. North Branch Group
of Intervenor:
Richard Block
Loranne Carey Block
Elsa Voelcker
Robert Cleland
Annie Law

I N D E X

WITNESS PANEL: ELSA VOELCKER
 ROBERT CLELAND
 ANNIE LAW

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EXHIBITS

AWE 44 Document of map showing
 ranking of priority wildlife
 habitat by ecological condition

P R O C E E D I N G S

MS. BAILEY: Good morning, everyone. Thank you for being here again this morning. I know it was a very short break, and hopefully it will pay off and we'll get through a lot today. My name is Kate Bailey. I work for the Public Utilities Commission, and the Chair has asked me to proceed today with the hearing. This is the eighth day of hearings in Antrim Wind Energy's Application for Certificate of Site and Facility. We will start by introductions of Committee members. And I note there are a few Committee members not present today, but they will be reading the transcript.

MS. LYONS: I'm Johanna Lyons. I'm with the Department of Resources and Economic Development.

DIR. SIMPKINS: Brad Simpkins, Department of Resources and Economic Development.

CHAIRMAN IGNATIUS: Amy Ignatius, Public Utilities Commission.

MR. DUPEE: Brook Dupee, here

1 on behalf of the Department of Health and
2 Human Services.

3 DR. BOISVERT: Richard
4 Boisvert, New Hampshire Division of
5 Historical Resources.

6 MS. BAILEY: And with us at
7 the Committee table is our counsel, Mike
8 Iacopino. Let's start by taking appearances.

9 MS. GEIGER: Yes. Good
10 morning. Susan Geiger, Douglas Patch and
11 Rachel Goldwasser from Orr & Reno, on behalf
12 of the Applicant, Antrim Wind, LLC.

13 MS. BAILEY: Good morning.

14 MR. STEARNS: Good morning.
15 I'm Galen Stearns, Town of Antrim. With me
16 today is Mike Genest and John Robertson,
17 selectmen.

18 MS. BAILEY: Good morning.

19 MR. CLELAND: I'm Robert
20 Cleland, North Branch/Farmstead Road. I'm an
21 intervenor representing myself.

22 MS. BAILEY: Good morning.

23 MS. LAW: Annie Law, North
24 Branch/Farmstead intervenor, representing

1 myself.

2 MS. VOELCKER: Elsa Voelcker,
3 North Branch intervenor, representing myself.

4 MS. PINELLO: Good morning,
5 I'm Martha Pinello. And here with me is
6 Charles Levesque.

7 MS. BAILEY: Good morning.

8 MS. MANZELLI: Amy Manzelli,
9 from BCM Environmental & Land Law, here
10 representing the intervenor, New Hampshire
11 Audubon. And from New Hampshire Audubon,
12 Francie Von Mertens is with me. Thank you.

13 MS. ALLEN: Mary Allen for the
14 Allen/Edwards intervenors.

15 MR. BLOCK: Richard Block from
16 the North Branch intervenors. And with me
17 today is my wife, Lorraine Carey Block.

18 MR. ROTH: Peter Roth, Counsel
19 for the Public.

20 MS. BAILEY: Good morning. Do
21 we have any preliminary matters to take up?

22 MS. GEIGER: The only
23 preliminary, Madam Presiding Officer, would
24 be the fact that, in response to a question

1 posed by Chairman Ignatius at the first round
2 of hearings back in October or November 1st
3 area, the Applicant was asked to produce a
4 map showing, within the state of New
5 Hampshire, the ranking of wildlife habitat by
6 ecological condition. And we've submitted
7 that this morning and marked it as AWE 44,
8 and we've distributed a copy to the parties.

9 MS. BAILEY: Thank you.

10 MR. ROTH: Susan, can you --
11 there appears to be a New Hampshire Fish &
12 Game Department logo on here. Can you
13 confirm that this is in fact the New
14 Hampshire Fish and Game Department document,
15 or is this something the Applicant put
16 together?

17 MS. GEIGER: I'll let Attorney
18 Goldwasser speak to that because she found it
19 and reproduced it for us today.

20 MS. GOLDWASSER: The document
21 came directly from the New Hampshire Fish and
22 Game web site. I've not made any changes to
23 it, other than having it printed in color, in
24 the form that you see, and will provide an

1 electronic copy of that document to Mr.

2 Iacopino during the break.

3 MR. ROTH: Thank you. That's
4 all I wanted.

5 MR. IACOPINO: If I
6 understand, this is the full document of one
7 of the prior exhibits that you had blown up a
8 portion of; is that correct?

9 MS. GOLDWASSER: That is
10 correct. That shows all of the priority
11 wildlife areas that have been indicated by
12 the State.

13 MR. IACOPINO: Thank you.

14 MS. BAILEY: Okay. This
15 morning we're going to start with the North
16 Branch Intervenor Panel of Ms. Voelcker,
17 Ms. Law and Mr. Cleland. Would you like to
18 come up to the witness table, please. And
19 just so you guys know -- you can sit down --
20 but you really have to use the microphone so
21 the reporter can hear you. So please pass he
22 mic around.

23 MS. MANZELLI: Madam Chair, I
24 wonder, if we're going to have multiple

1 panelists up, if we might pause to add a
2 microphone to the table to save time?

3 MS. BAILEY: I think we can
4 take some off the middle table.

5 (Pause in proceedings)

6 MS. BAILEY: It has to be near
7 your mouth, so pull the mic near you.

8 (WHEREUPON, ELSA VOELCKER, ROBERT CLELAND
9 AND ANNIE LAW were duly sworn and
10 cautioned by the Court Reporter.)

11 ELSA VOELCKER, SWORN

12 ROBERT CLELAND, SWORN

13 ANNIE LAW, SWORN

14 DIRECT EXAMINATION

15 BY MR. IACOPINO:

16 Q. Good morning.

17 A. (Witness Panel) Good morning.

18 Q. I'm going to ask you each to identify
19 yourself, please.

20 A. (Law) Annie Law, North Branch Farmstead.

21 A. (Cleland) Robert Cleland, North Branch
22 Farmstead.

23 Q. You might need to turn that mic on.

24 A. (Voelcker) Elsa Voelcker, 97 Old Pound Road,

1 Antrim.

2 Q. Let me start with you, Ms. Voelcker. Did you
3 file prefiled direct testimony in this case?

4 A. (Voelcker) Yes, I did.

5 Q. And you are a member of the North Branch
6 Intervenor's Group?

7 A. (Voelcker) Yes, I am.

8 Q. And your testimony is dated July 31, 2012?

9 A. (Voelcker) Yes.

10 Q. If you look before you on the table, there
11 should be a document marked as NB 5. Do you
12 see that?

13 A. (Voelcker) Correct.

14 Q. Is that your prefiled testimony?

15 A. (Voelcker) Yes, it is.

16 Q. And if you were to be asked the questions
17 contained in that testimony today, would you
18 give the same answers as is contained in
19 NB 5?

20 A. (Voelcker) Yes, pretty much. I did put in a
21 new exhibit yesterday.

22 Q. We'll get to that in a minute, okay.

23 A. (Voelcker) Okay.

24 Q. Ms. Law and Mr. Cleland, would you each take

1 a look at the document marked as NB 6. Is
2 that your joint prefiled testimony?

3 A. (Law) Yes.

4 A. (Cleland) Yes, it is.

5 Q. And if you were asked the same questions
6 contained in that document today as you were
7 on July 31st, would you give the same answers
8 today?

9 A. (Law) Yes.

10 A. (Cleland) Yes.

11 Q. Now let me back up to Ms. Voelcker.

12 Ms. Voelcker, since the time that you
13 filed your prefiled testimony, there's been
14 supplemental testimony filed by other
15 parties. Do you have any new testimony in
16 rebuttal to any specific testimony given by
17 any other party to offer here this morning?

18 A. (Voelcker) In rebuttal, no.

19 Q. I'll get to your exhibit in a minute.

20 Okay. You did, I believe yesterday,
21 file with the Committee, with the assent of
22 the other parties, an exhibit; is that
23 correct?

24 A. (Voelcker) Yes.

1 Q. And I'm going to show you what has been
2 marked as NB 56. Is that the exhibit that
3 you asked to file with the Committee?

4 A. (Voelcker) Yes, it is.

5 Q. And is there anything that you wanted to say
6 about that exhibit before we move on to ask
7 Ms. Law and Mr. Cleland if they have any
8 rebuttal?

9 A. (Voelcker) I just felt it -- my exhibit
10 proves that there are new technologies which
11 are going to supersede wind energy, and
12 certainly covering our ridgelines doesn't
13 make sense.

14 Q. Okay. Mr. Cleland and Ms. Law, I'm going to
15 ask you the same question I asked Ms.
16 Voelcker. There's been subsequent
17 supplemental testimony filed by other
18 parties. Did you have any testimony
19 specifically in response to any of those
20 filings?

21 A. (Law) It is my understanding that a statement
22 that Bob made in his testimony about a
23 conversation he had with Jack Kenworthy was
24 denied by Jack Kenworthy -- and that's

1 totally wrong -- about what he had said about
2 the property values in the event that this
3 wind farm did go through, that our property
4 values would take a hit. And he denied that,
5 and that's totally wrong.

6 Q. As far as the substantive issue of whether or
7 not the property values go up or down, did
8 you have anything to add in rebuttal -- in
9 other words, in response to what other
10 parties have offered?

11 A. (Law) No.

12 Q. Okay.

13 MR. IACOPINO: At this point,
14 the Panel is available for cross-examination.

15 MS. BAILEY: Thank you. Mr.
16 Froling is not here this morning. Mr.
17 Bebrowski, Mr. Jones, Ms. Sullivan.

18 Ms. Longgood, do you have any
19 questions?

20 MS. BLOCK: I think she will,
21 but I can't -- I mean, can I ask them for
22 her?

23 MS. BAILEY: Yeah. This
24 isn't -- yes, you may.

1 MS. BLOCK: I'm sorry.

2 They're part of my --

3 MS. BAILEY: Does anybody
4 have -- does anybody object if she asks -- if
5 Mrs. Block asks Ms. Longgood's questions?

6 MS. GOLDWASSER: Is she going
7 to do it as part of her cross-examination?

8 MS. BAILEY: Well, this is the
9 North Branch witnesses.

10 MS. GOLDWASSER: I think our
11 only objection would be if Ms. Block asks Ms.
12 Longgood's questions, and then Ms. Longgood
13 comes in and asks more questions, that would
14 probably be a problem.

15 MS. BAILEY: Why don't we wait
16 until everybody else is finished, and if Ms.
17 Longgood IS not here, then --

18 MS. BLOCK: Fine. Thank you.

19 MS. BAILEY: Mr. Stearns.

20 MR. STEARNS: No questions.

21 MS. BAILEY: Ms. Pinello.

22 MS. PINELLO: No questions.

23 MS. BAILEY: Ms. Manzelli.

24 MS. MANZELLI: No questions.

1 Thank you.

2 MS. BAILEY: Ms. Allen.

3 MS. ALLEN: I do have one.

4 CROSS-EXAMINATION

5 BY MS. ALLEN:

6 Q. This is directed to Ms. Law and Mr. Cleland.

7 On Page 2 of your testimony, you talk
8 about the habitat -- at the bottom of that
9 page and onto Page 3, you talk about your
10 worries about the local habitat and the
11 natural habitat having an impact. Can you
12 more fully explain what your concerns are?

13 A. (Law) Yes. Since we've lived there, since we
14 built our home there 24 years ago, we have
15 been seeing, almost daily, sightings of not
16 only birds, but wildlife. And we really
17 don't want to lose that. We live there for
18 that reason, because we are among nature. We
19 are -- we value that more than anything, to
20 be in a peaceful environment with wildlife
21 and birds, owls, hawks, what have you. And
22 we fear that if this wind farm is
23 constructed, that we're going to lose that
24 because the habitat will be destroyed. And

1 we're very concerned about our environment,
2 and especially our close environment, since
3 it is the Rural Conservation District. And
4 we value living there because of that, the
5 Rural Conservation District being in place.
6 And we feel that it will be destroyed in the
7 event that the mountain tops will be blasted
8 and destroy the habitat for these animals and
9 birds, and we don't want to see that happen.

10 Q. Thank you. No further questions.

11 MS. BAILEY: Mr. Kimball? Ms.
12 Linowes? Ms. Geiger or --

13 MR. ROTH: Don't I get to ask
14 any questions?

15 MS. BAILEY: Well, you were
16 supposed to be first. Go ahead, Mr. Roth.
17 I'm sorry.

18 MR. ROTH: I don't mind not
19 being first. I just don't want to be skipped
20 altogether.

21 MS. BAILEY: Proceed, please.

22 CROSS-EXAMINATION

23 BY MR. ROTH:

24 Q. Ms. Voelcker, good morning.

1 A. (Voelcker) Good morning.

2 Q. I note from your testimony that you are a
3 photographer.

4 A. (Voelcker) Yes, I am.

5 Q. And do you sell your images?

6 A. (Voelcker) I sell nature cards all over the
7 state. Well, the bottom part of the state.
8 Concord. If you go to Gibson's Bookstores in
9 Concord, they carry my cards. All the
10 Toadstool Bookstores.

11 Q. And how many -- if I were to go into
12 Gibson's, how many of your images would I
13 see?

14 A. (Voelcker) Oh, probably 15 different cards.

15 Q. Okay. Do you include in your work any
16 man-made objects?

17 A. (Voelcker) No. They're all taken on my walks
18 in the morning.

19 Q. Okay. So, no stone walls or barns or
20 anything like that?

21 A. (Voelcker) Oh, yeah, stone walls and barns.
22 You know, picturesque-type things and
23 flowers.

24 Q. Have you seen, I guess, in the -- generally

1 in the photographic genre, images of wind
2 turbines?

3 A. (Voelcker) Actually, I teach with somebody
4 who paints pictures of wind turbines.

5 Q. But you haven't seen photographs of them?

6 A. (Voelcker) No, I haven't taken any. I've
7 been over to see Lempster lots of times.

8 Q. Do you think that there might be a market for
9 photographs of wind turbines?

10 A. (Voelcker) Very limited.

11 Q. Okay. So you wouldn't think about adding
12 that to your work.

13 A. (Voelcker) No.

14 And I would point out, that map that was
15 handed out this morning, there are not very
16 many nice red spaces in the lower part of New
17 Hampshire, like our little area in Antrim.
18 It's a wildlife refuge. You know, five
19 different towns, 40,000 acres have been put
20 into conservation. And they're going to put
21 this wind tower right across, like a fence,
22 splitting it in two.

23 Q. I want to ask you about, in your testimony
24 you indicate that you understand that you'll

1 be experiencing 35 decibels where your house
2 is located.

3 A. (Voelcker) Yes.

4 Q. Where did you get that information?

5 A. (Voelcker) The map provided by Eolian or
6 Antrim Wind, that says, you know, here it'll
7 be 45, here it'll be 35, here it'll be 30, on
8 the average.

9 Q. So, have you read Mr. O'Neal's report?

10 A. (Voelcker) Yes.

11 Q. And do you not find it persuasive?

12 A. (Voelcker) No. I was over in Lempster one
13 day with low cloud cover, and I heard the
14 windmills there. They sound like a jet plane
15 that doesn't go away.

16 Q. How far away from them were you?

17 A. (Voelcker) I was on 31, right past Pillsbury
18 Park. I think probably about what I'm going
19 to be. A mile and a half, two miles maybe.

20 Q. And you're certain those were wind turbines
21 and not some farm appliance or tractor or
22 something?

23 A. (Voelcker) Yes. I'm in the middle of nowhere
24 there.

1 Q. Okay. Now, I'm looking at the first
2 supplemental prefiled testimony of Greg
3 Tocci, dated October 11, 2012. Are you
4 familiar with his report?

5 A. (Voelker) I was here when he was speaking.

6 Q. Okay. Now, do you recall that he listed
7 out -- and I believe also -- well, he listed
8 out five locations where the Applicant's
9 expert did some sound analysis, and then Mr.
10 Tocci went out to Gregg Lake and Willard
11 Pond. Do you remember that?

12 A. (Voelcker) Yes.

13 Q. Now, of these seven locations, which one of
14 them is at or near your home?

15 A. (Voelcker) Well, probably Gregg Lake would be
16 the closest.

17 Q. So the Gregg -- so your home is closest to
18 Gregg Lake, not any of these others, like
19 Salmon Brook Road or Loveren Mill Road?

20 A. (Voelcker) Well, I'm four miles from Loveren
21 Mill. I think I'm only a mile from Gregg
22 Lake.

23 Q. Okay. So the Location 5, Gregg Lake Road, is
24 more like your location?

1 A. (Voelcker) Yeah.

2 Q. How far from the beach are you?

3 A. (Voelcker) About a mile.

4 Q. And is --

5 A. (Voelcker) No. Probably more than that.

6 It's five minutes for me to drive over to
7 Gregg Lake.

8 Q. Okay. And which direction from the project
9 is that?

10 A. (Voelcker) North.

11 Q. So you're --

12 A. (Voelcker) I think. No. South. It's south
13 of where I live.

14 MR. ROTH: Susan, is there a
15 board with a project map so that we can point
16 out her house?

17 MS. GEIGER: There should be
18 one behind. The other reference -- yeah,
19 that's a good one.

20 MR. ROTH: This is the sound
21 one?

22 (Mr. Roth displays map.)

23 A. (Voelcker) This is Old Pound Road. This is
24 Old Carr Road. This is my house right here.

1 Q. And could you point out where Gregg Lake is
2 and the beach on Gregg Lake?

3 A. (Voelcker) So, go down here... this is Gregg
4 Lake here.

5 Q. Okay. I understand.

6 Now, they have -- I believe both sound
7 experts have concluded -- and I... now, I've
8 showed you Page 20 of Mr. Tocci's report.

9 A. (Voelcker) Yeah. Yes.

10 Q. And it says "Gregg Lake." The baseline was
11 40 decibels, and then he did an
12 insect-removal adjustment. So it came up
13 with an adjusted baseline, insects removed,
14 of 15.

15 A. (Voelcker) Yes.

16 Q. And then the predicted sound level is 30;
17 correct?

18 A. (Voelcker) Correct.

19 Q. And the impact is 15 decibels above the 30 --
20 or above the 15. Sorry.

21 Now, what this says here, what Mr. Tocci
22 says, is that 25 percent of residents
23 annoyed, 18 percent chance of very annoyed.
24 Do you remember his testimony to that effect?

1 A. (Voelcker) Yes.

2 Q. And do you remember what he said about it
3 being self-reporting and kind of
4 self-defined? Did you understand his
5 testimony that way?

6 A. (Voelcker) Yes.

7 Q. Do you think that if you experienced this
8 kind of sound level from the project at your
9 residence, do you think you're going to be
10 among the residents annoyed, very annoyed or
11 simply not responding, or not annoyed?

12 A. Very annoyed and very --

13 MS. GOLDWASSER: I'm going to
14 object to that question. I mean, it's a
15 hypothetical question. This witness is not
16 an expert in sound, in the sound issues. And
17 she's hypothesizing based on someone else's
18 report of what she might think. And she's
19 projecting that, which is sort of without any
20 basis at all, any foundation in her expertise
21 in that, or anything like that, and
22 especially based on the number of questions
23 raised about that report in testimony
24 yesterday.

1 MR. ROTH: I don't think it
2 requires any expertise at all to describe
3 whether you're going to be annoyed or very
4 annoyed and what that means to you. That's
5 all I'm trying to do.

6 MS. GOLDWASSER: She doesn't
7 have any expertise in what 30 dBA is going to
8 be like for her. I mean, she can't possibly
9 answer that question, except based on the
10 theoretical implication, you know, the idea
11 of what 30 dBA is.

12 MR. ROTH: That's not the
13 question. The question is -- the question
14 would be, if I could ask it of her, "What
15 does 'annoyed' or 'very annoyed' mean to
16 you?"

17 (Discussion among Subcommittee members
18 off the record.)

19 MS. BAILEY: I think you're
20 asking her what her opinion of "annoyed" is,
21 as the sound expert has defined it. And I
22 think it's appropriate for you to ask her if
23 she's going to be annoyed, and I think we all
24 know the answer. But --

1 MR. ROTH: Which she's already
2 answered it. She said she's going to be very
3 annoyed. And now I want to ask her what that
4 means to her.

5 MS. BAILEY: Okay. What that
6 means to her, but not what that means in
7 terms of your witness's, Mr. Tocci's,
8 definition of "annoyed" in that sound report.
9 And if we continue with these questions, we
10 will give it the weight it deserves.

11 MR. ROTH: Okay. So, just so
12 I'm -- I think, to make clear, I think Mr.
13 Tocci's testimony was that these are
14 self-identified "annoyed," "very annoyed,"
15 whatever that means to the person. I think
16 he testified yesterday that, you know, the
17 definition, if there is one, and I think he
18 was not clear that there really was a
19 definition, came from the Pedersen report
20 from the Netherlands.

21 MS. BAILEY: Yes, but he
22 also --

23 MR. ROTH: I think what he
24 said was that there really was no definition

1 for it.

2 MS. BAILEY: All right.

3 Overruled. Let's go.

4 MR. ROTH: I'm sorry?

5 MS. BAILEY: Overruled.

6 MR. ROTH: What's -- the
7 objection's overruled. Thank you.

8 MS. BAILEY: You can ask Ms.
9 Voelcker's understanding of "annoyed."

10 MR. ROTH: Thank you.

11 BY MR. ROTH:

12 Q. Ms. Voelcker, how would you personally
13 describe what it means to you to be "annoyed"
14 or "very annoyed"?

15 A. (Voelcker) Well, I would say that the heating
16 system in this room is annoying.

17 Q. Well, I would agree with you, because most of
18 the time I'm freezing.

19 A. (Voelcker) The sound level of the air flow
20 into this room is annoying. The sound of a
21 jet flying over my house I would find very
22 annoying.

23 Q. Would a neighbor's dog barking be annoying?

24 A. (Voelcker) Yes, it is annoying. I call the

1 neighbor and I say, "Would you let your dog
2 in?"

3 Q. When you are very annoyed, what does that do
4 to your experience of life?

5 A. (Voelcker) Oh, it makes life not so happy.
6 You know, your adrenaline starts rushing.
7 And if there's nothing you can do about it,
8 it becomes a really self-destructive thing.

9 Q. Do you find it difficult to concentrate?

10 A. (Voelcker) Yes.

11 Q. Does it make you feel angry?

12 A. (Voelcker) I think it would. I've lived in
13 my house almost 30 years. I moved there for
14 the quiet. I could have lived on 202 and/or
15 right in Antrim and never had ice storms, you
16 know, disrupting my life, and life would have
17 been easy. But that isn't where I chose to
18 live. I live where I live because it's so
19 beautiful and quiet. It's very quiet. I
20 seldom hear noise from Route 9, even when I'm
21 outside.

22 Q. What did you mean when you said "It's a very
23 self-destructive thing"? What does that mean
24 to you?

1 A. (Voelcker) Well, having your adrenaline up
2 all the time is not a good thing for your
3 body to be going through. I'm worried that
4 this wind tower will make me dizzy. I've
5 read reports online that some people are
6 affected by it. I talked -- spoke to my
7 physician about it. And he said, "Well, if I
8 were you, I'd move." He said he'd heard that
9 down in Falmouth, that the wind towers -- the
10 turbines changed the pressure and that some
11 people feel like you need to clear your ears
12 all the time, but you can't, because you
13 can't. And I've had ear infections my whole
14 life. I'm allergic to milk.

15 Q. Do you have -- is your home insulated?

16 A. (Voelcker) Yes.

17 Q. Do you have new windows, double, you know,
18 thermal pane windows?

19 A. (Voelcker) No, not all of them.

20 Q. Do you --

21 A. (Voelcker) But I do weather stripping, and I
22 use plastic on the inside.

23 Q. Do you have air conditioning?

24 A. (Voelcker) No.

1 Q. Okay. Are you aware that the prevailing wind
2 direction with respect to this project -- do
3 you know what the prevailing wind direction
4 is for the project?

5 A. (Voelcker) We get nor'easters. But a lot of
6 times it's westerly.

7 Q. Meaning that it's blowing over the ridge
8 towards your home? I never understand
9 westerly, northerly. Does it mean the wind's
10 coming from that direction or it's going
11 towards it? I'm trying to understand --

12 A. (Voelcker) I don't really know. I'm not a
13 weather person.

14 Q. Would you -- do you think it makes sense that
15 the project is oriented up and down the ridge
16 the way it is to take advantage of a wind
17 blowing generally out of the northeast?

18 MS. GOLDWASSER: She's
19 testified that she doesn't know --

20 A. (Voelcker) I don't know.

21 MS. BAILEY: She just repeated
22 that answer. She doesn't know.

23 BY MR. ROTH:

24 Q. Okay. Are you aware that the project's

1 wind -- the project's noise predictions are
2 based upon a worst-case scenario, that the
3 wind is going to be blowing at your house at
4 all times at maximum velocity?

5 A. (Voelcker) Yes.

6 Q. Okay. Do you think that that's ever going to
7 happen?

8 A. (Voelcker) Yes, I do.

9 Q. At your house?

10 A. (Voelcker) Yeah.

11 Q. Okay. And do you accept that the project's
12 estimates of the noise at your house are
13 worst-case scenario?

14 A. (Voelcker) Well, I think it's probably going
15 to happen. I think it's probably more than
16 worst case. "Worst case" would mean it would
17 happen once a year or twice a year. But
18 I've... I think it would happen more than
19 that.

20 I drove over to Lempster and spoke to
21 the men who own the West Highland Cattle
22 Ranch there, and they said quite often
23 they're very bothered, that they're sure it's
24 more than 45 decibels where they live, and

1 they live roughly the same distance I live
2 from Lempster. And Lempster is shorter, and
3 it's not -- they're talking about putting in
4 the noisiest turbines.

5 Q. Now, you've -- were you here for Mr. O'Neal's
6 testimony?

7 A. (Voelcker) Yesterday.

8 Q. No, a few weeks ago.

9 A. (Voelcker) I don't -- I think so.

10 Q. All right. Well, let me ask you this then:
11 Are you familiar with the proposed condition
12 that the Applicant wants, which is to set the
13 limit at 55 decibels and, I guess, what, 45
14 at night?

15 MR. ROTH: Am I getting that
16 correct, 55 and 45?

17 MS. GOLDWASSER: It's 50 and
18 45.

19 BY MR. ROTH:

20 Q. Fifty and 45. So you're familiar with that
21 condition they're proposing?

22 A. (Voelcker) Yes.

23 Q. Okay. Are you familiar with what Mr. Tocci
24 has proposed?

1 A. (Voelcker) Yes.

2 Q. As between the two of them, which do you
3 think would be -- would better serve you?

4 A. (Voelcker) I think the lower would serve me
5 better.

6 Q. Okay. Now, I notice in your testimony that
7 you say that the project will deprive Antrim
8 of any other project development within
9 earshot of the giant, noisy turbines. What
10 do you mean by "any other development"?

11 A. (Voelcker) Well, I worked with the planning
12 board, I don't know 15, 20 years ago, on a
13 strategic plan. And I was trying to get them
14 to get more tourism in and, you know, develop
15 Antrim as a place to come in the summer and
16 enjoy Gregg Lake. And I don't think that
17 that's going to happen once the wind towers
18 are in.

19 Q. Okay. So tourism development is what you had
20 in mind?

21 A. (Voelcker) yeah.

22 Q. So if somebody wanted to bring in a
23 mail-order business or light manufacturing or
24 something like that, do you think that that

1 would be prohibited by --

2 A. (Voelcker) Probably not.

3 Q. Okay. Last question. You say that
4 installation of the wind turbines, with no
5 form of restitution --

6 (Court Reporter interjects.)

7 Q. "Hundreds of houses will be directly affected
8 by the installation of the wind turbines,
9 with no form of restitution for their ruined
10 homesteads." That was in your testimony?

11 A. (Voelcker) Yes.

12 Q. Do you believe that the granting of a permit
13 by this board will essentially grant a
14 license to commit a nuisance?

15 A. (Voelcker) Yes.

16 MS. GOLDWASSER: I'm sorry.
17 I'm going to object to the word "nuisance,"
18 to the extent it connotes a legal meaning. I
19 don't have a problem with the witness
20 providing a response, so long as it's clear
21 that it's based on her understanding of the
22 word "nuisance" and not any sort of legal
23 definition.

24 MS. BAILEY: Mr. Roth.

1 MR. ROTH: Well, I'm not sure
2 what, you know, what the objection is. I
3 think it's a proper question.

4 MS. BAILEY: She's not an
5 attorney. So are you asking her a legal
6 question?

7 MR. ROTH: I asked her if she
8 thought it was a license to commit a
9 nuisance, and she can answer --

10 MS. BAILEY: What do you mean
11 by "nuisance"?

12 MR. ROTH: What do I -- I'm
13 trying to find out what she thinks of it.

14 MS. BAILEY: Okay. As long as
15 it's clear that she is not giving a legal
16 interpretation of "nuisance," we'll allow the
17 question.

18 BY MR. ROTH:

19 Q. Do you know what a "nuisance" is?

20 MS. GOLDWASSER: Again, I'm
21 going to restate my -- I mean, what a
22 "nuisance" is, is different from, "From your
23 perspective, will it create a nuisance?"
24 What a "nuisance" is, is using a noun as if

1 it's a legal term of art. Thank you.

2 MS. BAILEY: Okay. Ms.

3 Voelcker, I'm asking you not to answer the
4 question with any legal interpretation, just
5 your understanding as a layperson of what a
6 "nuisance" is.

7 A. (Voelcker) Okay. I would find looking at
8 those wind towers and listening to them from
9 any part of Gregg Lake and from where I live
10 and from across the road a nuisance, yes,
11 especially if it's going to give you 30 hours
12 of flicker effect in a year.

13 Q. Okay. Now, based on your experience as a
14 citizen of the state of New Hampshire for
15 many years, do you think that if a person
16 suffers some harm to their property because
17 of the activities of their neighbors, they
18 have a right to sue to stop that?

19 A. (Voelcker) Yes.

20 MS. GOLDWASSER: I'm going to
21 object again for the same reason --

22 MR. ROTH: It's not a legal
23 question. That's asking a citizen of the
24 state of New Hampshire, does she think that

1 she has a right to sue a neighbor for
2 stopping a behavior of their neighbor.

3 MS. BAILEY: How's that's
4 relevant?

5 MR. ROTH: I'm getting to
6 that. It's relevant because, if she thinks
7 that this project is going to harm her
8 property, does she think she has a right to
9 sue the project.

10 MS. BAILEY: And that's --

11 MR. IACOPINO: It's not
12 relevant. How will the answer to that
13 question be relevant to this proceeding?

14 MR. ROTH: She said in her
15 testimony that the installation of wind
16 turbines will provide no form of restitution
17 for neighbors with -- or for people with
18 ruined homesteads. I think it's in the --
19 it's in her testimony. I have a right to
20 cross-examine her about it.

21 MS. BAILEY: But if she --
22 what we're asking you is, how does that
23 inform our decision on this project, whether
24 she has a right to sue or not?

1 MR. ROTH: Well, if she has a
2 right -- if she has a right to sue, then
3 people like her do have a form of restitution
4 for their ruined homesteads. And if she
5 doesn't, then that's something you should
6 consider, whether people like Ms. Voelcker
7 and other similarly situated are deprived of
8 their rights to make a claim against the
9 project if they feel like, in legal terms, a
10 "nuisance" has been effected against them.

11 MR. IACOPINO: Right. And do
12 you believe that this witness has the
13 qualifications to make that determination,
14 whether a cause action for nuisance from --

15 MR. ROTH: No.

16 (Court Reporter interjects.)

17 MR. IACOPINO: I guess that
18 goes to the issue of relevance and her
19 qualifications to answer the question,
20 doesn't it?

21 MR. ROTH: I disagree. I
22 think if -- she has testified, so I think
23 it's relevant. It's in her testimony. She
24 has testified that a hundred houses will be

1 directly affected, with no form of
2 restitution. You know, if it's irrelevant,
3 then it shouldn't be in here at all. But it
4 is in here, so I have a right to
5 cross-examine her. I think as a citizen and
6 as a homeowner in a community, and one with
7 considerable experience in this state, she
8 has an understanding that, if a neighbor does
9 something that annoys you or creates a
10 nuisance, you have a right to sue them to
11 make them stop that. Now I'm trying to find
12 out what it is she thinks that means and
13 whether she thinks that she's going to be
14 deprived of that right by an order permitting
15 the project.

16 MS. BAILEY: Ms. Goldwasser.

17 MS. GOLDWASSER: Mr. Roth just
18 indicated to the witness what he thinks the
19 answer should be. I agree with the questions
20 from the Committee regarding the relevance of
21 the line of testimony. There is a difference
22 between Ms. Voelcker indicating that she
23 believes there's going to be a harm to people
24 and Mr. Iacopino -- excuse me -- Mr. Roth

1 questioning regarding what the legal recourse
2 would be, or should be.

3 (Discussion among Subcommittee Members
4 off the record.)

5 CHAIRMAN IGNATIUS: Let me
6 take a stab at this. I think we're trying to
7 hear, genuinely, Ms. Voelcker's point of
8 view. And all of this squabbling going on,
9 which is what it is, is getting us away from
10 being able to hear your point of view. So
11 we're happy to have questions that elicit her
12 point of view about what she feels about her
13 community and the impacts of the wind farm.
14 We are not going to hear her point of view
15 about the law, because you're not here as a
16 lawyer. That's not what your testimony was.
17 You're not pretending you are, and so you
18 shouldn't be put in that box.

19 So let's continue with
20 questions about Ms. Voelcker's understanding
21 as a community member and a neighbor, how she
22 feels any recourse might be. It's her point
23 of view. It's not an analysis of the law.
24 It's not what is going to hold up in court.

1 That's not the point of the questioning. And
2 anything you can do to help make that clear
3 in your questioning, Mr. Roth, we'd
4 appreciate. We need to keep this going, and
5 we want to hear from community members about
6 their point of view.

7 MR. ROTH: Thank you.

8 BY MR. ROTH:

9 Q. Ms. Voelcker, I'm going to try to ask the
10 question in the spirit that was just
11 expressed by Chairman Ignatius, and that is:
12 Again, as a citizen of the town of Antrim and
13 of the state of New Hampshire for many years,
14 do you believe that the licensing of this
15 project by this process will deprive you of
16 rights to -- the ability to assert your
17 rights, whatever they may be, against a
18 neighbor that causes harm to your property?

19 A. (Voelcker) If a neighbor causes harm to my
20 property, I go talk to my neighbor. When we
21 moved in, our neighbor came right over and
22 said, "This is where the property line is.
23 You cut a tree on my property, it's \$100 a
24 tree. Welcome to New Hampshire."

1 [Laughter]

2 A. (Voelcker) And I've always believed in
3 talking to people first. I don't call the
4 police first when I have a problem. I talk
5 to my neighbors. I call them. I thought the
6 ice storm was great because it got everybody
7 out talking to each other. Suddenly, people
8 knew who each other were.

9 The problem is, once the wind towers are
10 in, I said to the Carricks, "Why don't you
11 complain?"

12 He said, "Who am I going to sue?
13 Spain?"

14 People know that once you try to sue
15 somebody, you're talking thousands of dollars
16 that people don't have. And once the SEC
17 says, fine, go up there, people are going to
18 feel unempowered.

19 I know my neighbor down the street,
20 who's been very sick and has a house that now
21 is completely clean so that she can live
22 there, is talking about suing Antrim, because
23 Antrim is supposed to be protecting its
24 people, and instead they're letting this

1 thing happen. And if it ends up making me
2 dizzy and I can't sell my house and I can't
3 live there, I will think about suing Antrim,
4 because it's more available. It's right
5 there. And it says they are supposed to be
6 protecting us, not letting somebody come in
7 and roll right over us.

8 Q. In respect to your answer just a moment ago,
9 you said you had talked to your neighbor. Do
10 you think that if you were experiencing sound
11 levels in your house and in your property
12 that were either annoying or very annoying to
13 you, do you think that you could call Mr.
14 Kenworthy and talk to him?

15 A. (Voelcker) No.

16 Q. Why not?

17 A. (Voelcker) I don't know his number. I guess
18 if I had his number, I'd call him for sure.

19 Q. He'd probably give it to you right now.

20 A. (Voelcker) I would call him every day that I
21 was awakened in the middle of the night. I'd
22 call him in the middle of the night.

23 I'm the kind of person that when I see
24 something I can fix, I get up and I fix it.

1 I don't look for somebody else to do it.

2 Q. So it --

3 A. (Voelcker) And so I am proactive and I will
4 try to find out what my rights are and I will
5 try to act on them.

6 Q. So why wouldn't you call Mr. Kenworthy and
7 say, "Mr. Kenworthy, this is annoying or very
8 annoying to me. Is there something you can
9 do about it?"

10 A. (Voelcker) Well, because right now they're
11 not up there yet.

12 Q. Right. But assuming it gets put up and --

13 A. (Voelcker) Mr. Kenworthy will sell this
14 within a year of having it working --

15 Q. Okay.

16 A. (Voelcker) -- and so he will no longer give a
17 darn.

18 Q. Let's assume that he does that. There will
19 be somebody else; right?

20 A. (Voelcker) Right.

21 Q. Were you here when Mr. Segura-Coto was
22 testifying?

23 A. (Voelcker) I don't remember.

24 Q. Are you aware that the project plan is to

1 have essentially a team of professionals run
2 the project?

3 A. (Voelcker) Yes.

4 Q. Okay. Now, do you think that you could
5 contact one of those professionals and say,
6 You know, Mr. Professional Wind Farm
7 Technician, this project -- the noise at my
8 house was annoying and very annoying. Can
9 you do something about it? Do you think
10 that's a -- you could possibly do that?

11 A. (Voelcker) If provided with the numbers, I
12 guess I would.

13 Q. Okay.

14 A. (Voelcker) I don't know if it would do any
15 good.

16 Q. Do you think that -- you were here yesterday
17 when Mr. Tocci testified? Yes?

18 A. (Voelcker) Yes.

19 Q. Do you remember him talking about insulated
20 windows and additional home insulation and
21 mechanical ventilation?

22 A. (Voelcker) Yeah.

23 Q. If the project -- if you reported annoying
24 and very annoying noise levels, and the

1 project, said, "Okay, we'll get you these
2 things," would you find that an acceptable
3 solution?

4 A. (Voelcker) No, because I spend a good
5 30 percent of my days outside. I have
6 gorgeous gardens. I spend a lot of time
7 gardening when I'm home in the summer, when I
8 don't have to teach.

9 Q. Okay. Thank you. That's all I have for you.

10 A. (Voelker) Thank you.

11 Q. All right. Now, I don't -- as between
12 Ms. Law and Mr. Cleland, I guess either one
13 of you can answer these questions as you
14 choose.

15 I note that in your testimony you say
16 you camped several times at Pillsbury State
17 Park, close to Lempster, and could not sleep
18 due to the whooshing sounds of the blades.
19 Is that correct?

20 A. (Law) That's correct.

21 Q. When you were camping at Pillsbury, was the
22 area around you otherwise still, as in no
23 wind blowing?

24 A. (Law) Yeah.

1 Q. Okay. And can you -- and this is sort of
2 like a "Car Talk" moment. Are you familiar
3 with "Car Talk"?

4 A. (Law) No.

5 Q. The radio show where people call in and
6 describe the problems with their automobiles?

7 A. (Cleland) Yes, I am.

8 A. (Law) He listens to that. I don't.

9 Q. On Car Talk, they ask the person to describe
10 what the noise that their car is making
11 sounds like. So I'm going to ask you to
12 attempt to make the sound that you heard of
13 the wind turbines at Lempster, if you don't
14 mind. I don't want to put you in an
15 embarrassing situation. But is it possible
16 for you to do that?

17 A. (Law) Yeah. I was trying to sleep, and I
18 could hear, "phroom, phroom, phroom" sounds
19 all night long, and I couldn't sleep. And
20 I'm a really good sleeper. I can go to sleep
21 and sleep through a hurricane. But this was
22 really disturbing, and I could not get to
23 sleep.

24 Q. And that wasn't somebody snoring?

1 A. (Law) No.

2 Q. Okay. Because I've been to campgrounds where
3 I could hear other people snoring.

4 A. (Law) No.

5 Q. Okay. Would you be surprised to learn that,
6 when sound experts testified here in front of
7 the Site Evaluation Committee about Lempster,
8 they predicted you would not be able to hear
9 the turbines inside the park at Pillsbury?

10 A. (Law) Well, they obviously haven't camped
11 there.

12 Q. Okay. Now, Mr. Cleland, I guess you
13 testified that you are a sound -- you have a
14 home sound recording studio?

15 A. (Cleland) It's her.

16 Q. Oh, it's you? I'm sorry. For some reason I
17 assumed that --

18 A. (Voelcker) Does he look like a rock star?

19 [Laughter]

20 Q. Yeah, he does, actually. These days, rock
21 stars have a lot of gray hair. So...

22 Is your sound studio insulated?

23 A. (Law) No.

24 Q. Okay. That's sort of a -- seems to me that

1 that would be a natural thing to do if you're
2 making sound recordings, that you would
3 insulate the room to --

4 A. (Law) Well, the room is -- the house is
5 insulated. But I record in my house for the
6 acoustics, because it's -- there's a lot of
7 wood, and I like the acoustics of the wood.

8 Q. Okay. When you're recording, do you
9 occasionally get stray noises from outside
10 that intrude on the recordings, like the
11 neighbor's dog barking or --

12 A. (Law) We don't have neighbors. We live on
13 top of the mountain.

14 Q. All right. Let's look at that picture over
15 there again. Can you show me where your
16 house is?

17 A. (Cleland) Do you want me to show them?

18 A. (Law) Yeah.

19 A. (Cleland) It's right up here at the top on
20 Stacy Hill. Our house is -- well, it's
21 actually a little bit above. It's not on
22 this map, okay.

23 Q. But it's up there near that --

24 A. (Cleland) It's right near the top.

1 Q. -- lavender ring?

2 A. (Cleland) Yes, right up there.

3 Q. Okay.

4 A. (Cleland) It's bordered in the back by the
5 town of Windsor.

6 Q. Okay. Now, do you have in front of you there
7 Mr. Tocci's report?

8 A. (Cleland) Yes, I do.

9 A. (Law) yes.

10 Q. Have you seen Mr. Tocci's report before?

11 A. (Law) No.

12 Q. Have you looked at Mr. O'Neal's report?

13 A. (Law) No.

14 Q. Okay. Now, looking at Mr. Tocci's report,
15 you see that he lists a number of locations.
16 One, two, three, four, five, and Gregg Lake
17 and Willard Pond?

18 A. (Law) Yes.

19 A. (Cleland) Yes.

20 Q. Now, I'm assuming, based on where you
21 pointed, that you're nowhere near Gregg Lake,
22 Willard Pond or Gregg Lake Road -- and I'm
23 not familiar enough with these other
24 locations. Is your house near to any of

1 those other locations?

2 A. (Cleland) I'd say Location 2, Loveren Mill.

3 Q. Loveren Mill Road.

4 A. (Law) And Reed Carr Road, Location 4.

5 Q. And you said you're on top of a mountain?

6 A. (Law) Yes.

7 Q. Do you have sort of a direct view from your
8 home to the top of Tuttle Ridge?

9 A. (Law) Oh, yeah.

10 Q. And they're predicting what for a sound power
11 level at your home?

12 MS. GOLDWASSER: I'm going to
13 object. They haven't testified how close
14 they are to either of those receptors or
15 which sound level he's asking about. I
16 just -- the question is confusing, and I
17 don't know where they're going to get the
18 answer from.

19 BY MR. ROTH:

20 Q. Do you know what sound level they're
21 predicting at your house?

22 A. (Cleland) No.

23 A. (Law) No.

24 MR. ROTH: She said no.

1 MS. GOLDWASSER: I'm asking
2 who "they" is, Mr. Roth. Are you speaking
3 about Mr. Tocci or Mr. O'Neal?

4 MR. ROTH: Well, the only one
5 predicting a sound level of the project is
6 the Applicant.

7 A. (Law) Well, they didn't do one at our house.
8 But according to this Location 4, it's 39;
9 and Location 2 is 35.

10 MS. GOLDWASSER: And for the
11 record, she's referencing to Mr. Tocci's --

12 A. (Law) We're not sound experts. We don't
13 know.

14 MS. GOLDWASSER: I understand.
15 I'm just trying to -- I'm not trying to make
16 a problem here. I'm trying to make sure the
17 record is clear about which numbers you're
18 referencing, whether you're referencing Mr.
19 O'Neal's report or Mr. Tocci's report, that's
20 all.

21 MS. BAILEY: Mr. Roth, the
22 witnesses testified that they hadn't reviewed
23 either reports, so I think you can move
24 through this pretty quickly.

1 MR. ROTH: Right. Well, she's
2 looking at it. So I was asking her about
3 what she's looking at.

4 A. (Law) So is it in the Column "AWE Sound Level
5 dBA"?

6 Q. That's the one, yes.

7 A. (Law) Okay. So Loveren Mill Road is not as
8 close, I don't think, to us as Gregg Lake --
9 I mean as Reed Carr Road. Reed Carr Road is
10 right at the bottom of our mountain, or right
11 across Route 9 from where we live. But it's
12 at least a mile down.

13 Q. To Reed Carr Road?

14 A. (Law) Yeah. Then I would say Loveren Mill
15 Road is about a mile west from where we live.

16 Q. Okay.

17 A. (Law) I would say. I don't know.

18 Q. All right. In terms of in your testimony you
19 say that you've -- you enjoy your pristine
20 environment and habitat for wild animals and
21 birds, and you enjoy viewing it on a daily
22 basis. And I assume that's up at your home
23 on top of the mountain there?

24 A. (Law) That's correct. Makes my day.

1 Q. Good. And what kind of animals do you see up
2 there?

3 A. (Law) Everything. We see black bear. We see
4 moose, a mama moose with twins. I've seen
5 that on three different occasions, three
6 different years, which I was blown away by.
7 We see deer. We see hawks, owls, eagles,
8 fisher cats, bob cats. It's amazing. I
9 mean, it makes my day. Every time I see a
10 wild animal or a wild bird, it just makes my
11 day. It makes me feel really good. And I
12 don't want to lose that, ever.

13 Q. Okay. Do you spend time on -- visiting,
14 hiking on, however you want to describe it,
15 on what is now the project site? Do you go
16 over there?

17 A. (Law) Do we go over there? No, not very
18 often.

19 Q. Okay.

20 A. (Law) We have our own mountain to climb.

21 Q. Sounds like. We all do, I suppose, in a way.

22 In your testimony, you describe a Live
23 Free or Die Party at the Windsor Mountain
24 International Camp. And one of you spoke

1 with Mr. Kenworthy?

2 A. (Cleland) That is me. That's correct.

3 Q. Okay. And can you just perhaps give more
4 detail about what he stated to you about the
5 direct impact on your property?

6 A. (Cleland) Yes. It was an annual party in
7 2009, in September. When I arrived at the
8 party, there was probably 40 people there.
9 And at that time, Jack Kenworthy was out
10 playing this game in a small field in front
11 of the main dining hall. So I talked to some
12 other people. And after he was done, a
13 little while after, I had discussed with Mr.
14 Kenworthy a mutual friend of ours who had
15 just gotten job at a private school. So we
16 discussed that for a little while. And then
17 I asked Mr. Kenworthy about the wind project.
18 I said, "Jack, how is this going to affect
19 me?" because he knows where I live. And he
20 looked at me, which upset me, and then he
21 looked down to the ground, and he said, "It's
22 going to be a direct impact." And basically
23 I just looked at him, and that was the end of
24 our conversation. There was other people

1 around.

2 Q. Okay. So you'd known Mr. Kenworthy before
3 that date?

4 A. (Cleland) I'd say I've known Mr. Kenworthy
5 maybe for about 14 years. He came to work as
6 a counselor. I think he was still in college
7 at that time.

8 Q. Have you known him to be a serious and
9 responsible person throughout that time?

10 A. (Cleland) At that time, he was -- I think he
11 was an outstanding counselor, and he followed
12 through. I didn't spend a lot of time with
13 him. But it's a really small community where
14 I work, so you really know what's going on.

15 Q. Okay. Now moving on in your testimony. It
16 says "we," so I guess you've both been
17 involved in trying to protect the Rural
18 Conservation District.

19 A. (Law) Yes.

20 Q. And can you describe -- were you here
21 yesterday during Ms. Vissering's testimony?

22 A. (Law) Yes.

23 Q. And there was some discussion about a state
24 initiative, such as the Quabbin-to-Cardigan

1 and the Forest Legacy. Are you familiar with
2 any other types of initiatives like that,
3 that have been employed in Antrim with
4 respect to the Rural Conservation District?

5 A. (Law) I'm not familiar with any other
6 programs or initiatives similar to that.

7 A. (Cleland) I am. Loveren Mills down below,
8 the Nature Conservancy. Also, part of
9 Windsor Mountain is under easement with the
10 Forest Society. So there's quite a bit on
11 the north side of Route 9.

12 Q. Okay. So you're mostly familiar with the
13 things on the north side.

14 A. (Cleland) No, I'm also familiar with the
15 Harris Center. Willard Pond, I spend a lot
16 of time on Willard Pond and Bald Mountain.
17 And now that the other -- the Robb Reservoir
18 is now open to the public, where you can go
19 kayaking, I spend a lot of time in that area,
20 out in the woods.

21 Q. I understand. What I'm trying to learn more
22 about is whether you're familiar with
23 programs that are either sponsored by or
24 funded by the government or

1 quasi-governmental -- not quasi-governmental,
2 but, you know, private non-profits, to foster
3 their conservation of land in the area.

4 A. (Cleland) Yeah. Well, that's Willard Pond;
5 correct?

6 Q. Right. The Audubon Society.

7 A. (Cleland) Yeah.

8 Q. But you've heard about the Forest Legacy
9 program; correct?

10 A. (Cleland) Yes.

11 Q. Are you familiar with any Forest Legacy
12 activities around the project area?

13 A. (Cleland) Not at this time. Not outside the
14 Forest Society.

15 Q. Okay. In your testimony, you also say that
16 you won't be able to recoup what you've
17 invested here with 10, 500-foot turbines on
18 the ridgeline directly in your viewshed.

19 A. (Cleland) That's correct.

20 Q. "Who will pay us fair market value for our
21 home?" Do you intend to move out of the area
22 if the project is built?

23 A. (Cleland) It's a possibility.

24 Q. Is your home now for sale?

1 A. (Cleland) No.

2 Q. Have you had your home appraised recently?

3 A. (Cleland) Yes.

4 Q. Okay. That's all the questions that I have.

5 Thank you.

6 MR. ROTH: Thank you very
7 much.

8 MS. BAILEY: Thank you. Ms.
9 Duley, would you like to ask questions?
10 Would you like to ask questions of this panel
11 on behalf of your sister?

12 MS. DULEY: I'm going to defer
13 to --

14 (Court Reporter interjects.)

15 MS. BAILEY: She said she's
16 going to defer to Lorraine Block.

17 (Discussion off the record.)

18 MS. DULEY: All right. So I'm
19 going to ask this question on behalf of my
20 sister.

21 CROSS-EXAMINATION

22 BY MS. DULEY:

23 Q. Similar to myself, you seem to have a great
24 concern for your property values. Can you go

1 further into your concerns?

2 A. (Law) Are you asking us or Elsa?

3 Q. Both of you.

4 A. (Law) Go ahead, Elsa.

5 A. (Voelcker) Well, I'm not going to be impacted
6 to the extent that Janet would be impacted.
7 I think Janet's -- Janet should be completely
8 recompensed for her place, because she's
9 going to have four of these turbines right
10 around her house. And she's lived in total
11 isolation there for 25 years. My impacts,
12 I'm concerned about in the. You know, that
13 house is all I have for my retirement. And I
14 hope I can sell it. If the wind turbines go
15 through, there's a good chance I'll be trying
16 to sell it. And my concern would be that
17 I'm, you know -- I've read studies where I'm
18 going to lose at least 25 percent of the
19 money that I would usually normally get for
20 my house.

21 Q. And may I follow up and ask, does this differ
22 from the testimony you've heard from Mr.
23 Magnusson?

24 A. (Voelcker) Yes. They're saying -- the

1 testimony I've heard from people here is that
2 it won't make any difference. But of course
3 it will. It already has, because everybody
4 knows that this is proposed, and they're
5 waiting to see if it's going to go through.

6 Q. Also, may I ask, is there any activity that's
7 taken place thus far that you think has
8 already had an effect on your property or
9 your property value?

10 A. (Voelcker) Well, they certainly did a lot of
11 logging last year. And those logging trucks
12 were going up and down my road all spring
13 until mud season. I can't say directly
14 whether's it's made an effect or not on my
15 property.

16 Q. Can you say whether it's had an effect on
17 your quality of life?

18 A. (Voelcker) Oh, yeah. I've been really upset
19 by this. I don't know -- I'm sure that you
20 people are more used to being here. But
21 spending 10 days in a courtroom is not what I
22 call wonderful living. Before that, I've
23 been to hearings in my town, almost every one
24 of them. Probably at least 10 or 15 zoning

1 board hearings, planning board hearings, the
2 selectmen, and been shot down at most of
3 them, you know, barely been able to speak.
4 And it's really upset me for three years now.
5 I thought I had the perfect place. My kids
6 are finally out of college. I was going to
7 live in my house and have a wonderful life.
8 And now I feel like, great, big business is
9 going to roll us over. I got to go move
10 somewhere.

11 Q. If I can infer from your comments, it sounds
12 like you are not only extremely concerned
13 about the property value, but this has caused
14 you a significant amount of stress in your
15 life. Is that correct?

16 A. (Voelker) That's correct.

17 Q. May I hear about your property-value
18 situation?

19 A. (Law) Yes. We actually built that house
20 ourselves, brick by brick, plank by plank.
21 We've planned on living there for the rest of
22 our lives. We love it there. It is
23 beautiful, peaceful. It's uplifting. We
24 just have to walk out of our house and into

1 our backyard, and we're climbing a mountain
2 or we're going down to Bagley Pond. We love
3 it there. We never intended to ever move
4 from there. However, this has totally
5 disrupted our lives. We feel that, you know,
6 people came in and divided our town and
7 pitted neighbors against neighbors, even
8 though we don't really have neighbors. I
9 mean, we've finally gotten to know people in
10 our town where we've lived for 24 years and
11 really didn't know a lot of people. It's
12 kind of brought some of us together. But
13 then, it's really separated people that we
14 did know who are not opposed to this. It has
15 disrupted our lives. And we feel that, in
16 the event that it does go through, we really
17 can't live there anymore. We don't want to
18 move. We don't want to have to sell our
19 house for less than it's worth. But I don't
20 believe that we're going to be able to, in
21 the event that it does happen. So I'm
22 pleading with the SEC to not let this happen,
23 because it's going to ruin a lot of lives.
24 We've been there a long time. We've paid

1 taxes to the Town of Antrim. What are our
2 rights? Because somebody wants to come in
3 and line their pockets and then split? It's
4 just not fair. And we really feel it's not
5 fair.

6 Q. Do you have any sense of the financial impact
7 on your property values that this project
8 would impose?

9 MS. GOLDWASSER: I'm just
10 going to inject for the record. These folks
11 aren't experts in property values, and they
12 haven't provided any expert reports regarding
13 that. Just want to put that on the record
14 before their response.

15 MR. ROTH: I would just point
16 out that I think it's a basic rule of law in
17 this state that every homeowner is qualified
18 to opine about the value of their own
19 property.

20 A. (Law) Well, I do real-estate investing, too,
21 and I do know property values. And I believe
22 that it will reduce the value of our property
23 immensely.

24 Q. Can you quantify that in any range? In

1 dollars, percent or anything?

2 A. (Law) I think we'll lose about 25 percent of
3 the value of our property, at least.

4 Q. Thank you. I have no more questions.

5 MS. BAILEY: Thank you. Ms.
6 Goldwasser.

7 CROSS-EXAMINATION

8 BY MS. GOLDWASSER:

9 Q. Good morning. My name is Rachel Goldwasser,
10 here on behalf of the Applicant.

11 Ms. Voelcker, I'm just going to ask you
12 some questions related to the questioning you
13 received this morning. You indicated that
14 you believe it's possible for wind to blow
15 from all 10 turbines towards your house at
16 the same time. I'm going to refer you to the
17 map that's right behind you. Do you see
18 where Turbine 1 is at the top?

19 A. (Voelcker) Yes.

20 Q. And you see where Turbine 10 is at the
21 bottom?

22 A. (Voelcker) Yes.

23 Q. And can you point to where your home is?

24 A. (Voelcker) Yes.

1 Q. So do you believe it's possible for the wind
2 to blow from Turbine 10 towards your house
3 and from Turbine 1 towards your house at the
4 same time?

5 A. (Voelcker) No.

6 Q. Okay. I just wanted to clarify that for the
7 record.

8 A. (Voelcker) Could I ask you? Is it more noisy
9 to hear from one or two of the turbines than
10 it is to hear from all 10 of the turbines?

11 Q. I don't think that I can answer a question
12 like that.

13 A. (Voelcker) Then why are you asking it? If
14 I'm listening to two of these, three of these
15 turbines, that's going to be enough to be
16 very annoying.

17 MS. BAILEY: Ms. Voelcker, I'm
18 really sympathetic to how frustrated you are.
19 But you have to ask their witnesses
20 questions, and you had an opportunity for
21 that. Now it's her turn to ask you
22 questions. I'm sorry. You can't ask her
23 questions, because she's not allowed to
24 answer them. She's not a witness.

1 MS. VOELCKER: Okay.

2 MS. BAILEY: Thanks.

3 MS. VOELCKER: But I don't
4 understand the -- I don't understand that
5 question at all.

6 MS. BAILEY: Okay. Let's move
7 on to the next question, please.

8 BY MS. GOLDWASSER:

9 Q. You also stated that you've been to many
10 public hearings and meetings in Antrim; is
11 that correct?

12 A. (Voelker) That's correct.

13 Q. Do you recall Mr. Kenworthy ever giving out
14 his number at several of those meetings?

15 A. (Voelcker) No.

16 Q. You indicated in your testimony a concern
17 about not having a phone call -- a phone
18 number to call. Have you reviewed the town's
19 agreement with Antrim Wind Energy?

20 A. (Voelcker) Yes.

21 Q. I'm showing you what is Antrim Wind Energy
22 Exhibit 3, Appendix 17A, Paragraph 5.1. And
23 I'm going to read that to you, and you can
24 tell me if I've read that correctly.

1 "During construction and operation of
2 the wind farm, and continuing through
3 completion of decommissioning of the wind
4 farm, the Owner shall identify an
5 individual(s), including phone number, e-mail
6 address and mailing address, posted at the
7 town hall, who will be available for the
8 public to contact with inquiries and
9 complaints. The Owner shall make reasonable
10 efforts to respond to and address the
11 public's inquiries and complaints. This
12 process shall not preclude the Town from
13 acting on a complaint." Did I read that
14 correctly?

15 A. (Voelcker) Yes.

16 Q. Do any of you know how many people have
17 complained to the Site Evaluation Committee
18 about noise from the Lempster project?

19 A. (Voelcker) Well, I heard reported that only
20 three.

21 Q. Okay. Are you aware that, in fact, the
22 number is two, not three?

23 A. (Voelcker) No, I guess not. Two people.

24 Q. Are you aware that one of those people

1 complained because they had a problem with
2 their hearing aid and that was corrected and
3 that complaint was withdrawn?

4 A. (Voelcker) I think a lot of people don't
5 complain when they should, the Carricks being
6 one of them. But they don't live in
7 Lempster. They live in Goshen.

8 Q. Does the paragraph that I just read you from
9 the Town agreement indicate that, if you
10 don't live in Antrim, you can't complain?

11 A. (Voelcker) No. But people don't -- they're
12 not proactive. And does it make me feel
13 better that there will be a phone number I
14 can call to complain? Not really.

15 Q. Do you know if the Town of Lempster has
16 experienced a decrease in tourism since
17 Lempster Wind was built?

18 A. (Voelcker) No, I don't.

19 Q. You referenced, in the context of nuisance, a
20 concern about 30 hours of shadow flicker
21 relating to the project. I believe that was
22 you. Is that your memory as well?

23 A. (Voelcker) Just now I did, yes. That's
24 what's predicted for Janice Longgood.

1 Q. I'm going to show you what's exhibit Antrim
2 Wind Exhibit 3, Appendix 13B, Figure 2, which
3 is Mr. O'Neal's shadow flicker -- I'm
4 sorry -- Mr. Guariglia's shadow flicker
5 analysis. Do you see that here?

6 A. (Voelcker) Yeah.

7 Q. Is your home on this map?

8 A. (Voelcker) No, I don't believe it is.

9 Q. So it doesn't show up anywhere in the
10 range --

11 A. (Voelcker) I don't expect to get a flicker
12 effect.

13 Q. Okay. Is Gregg Lake on this map?

14 A. (Voelcker) The body of water here.

15 Q. This is the blue --

16 A. (Voelker) Oh, okay. It's way off.

17 Q. We're indicating an area of blue on the lower
18 right-hand corner of the page. And that is
19 not shaded. It seems to indicate it's less
20 than two or no areas -- hours of shadow
21 flicker; is that correct?

22 A. (Voelcker) Correct.

23 Q. All three of you expressed concerns regarding
24 impacts to wildlife. Do you have any

1 citations to studies of scientific evidence
2 that those concerns will bear fruit?

3 A. (Cleland) No, we don't.

4 A. (Law) No. But if the habitat is destroyed,
5 of course it's going to impact them.

6 Q. Ms. Voelcker?

7 A. (Voelcker) Well, we recorded -- Susan Morse
8 recorded nighthawks, two different nighthawks
9 up on Tuttle Hill. So it will have an
10 impact. Plus, we know bald eagles are
11 nesting on Willard Pond.

12 Q. I just asked if you had any citation of
13 scientific studies which would indicate
14 that --

15 A. (Voelcker) Well, the study that I heard was
16 that each wind turbine will kill six to seven
17 birds a year.

18 Q. Okay. Ms. Law, your home is 1.5 miles from
19 the closest wind turbine; is that correct?

20 A. (Law) Yes.

21 Q. And you testified earlier that you had a
22 recording studio at your house?

23 A. (Law) That's correct.

24 Q. I'm going to show you what's marked as AWE

1 Exhibit 9, Tab 10, which is Mr. O'Neal's
2 supplemental testimony. Is that what you see
3 here?

4 A. (Law) Yes.

5 Q. Now I'm going to turn to Attachment RDO-B to
6 that testimony. Do you see that here, marked
7 RDO-B?

8 A. (Law) Yes.

9 Q. This a Data Request 1-41 that was propounded
10 by Antrim Wind to Mr. James, who is an expert
11 for the North Branch Intervenors; is that
12 correct?

13 A. (Law) That's correct.

14 Q. And does Mr. James indicate -- actually,
15 could you just read that, the first part of
16 this sentence. It's the first sentence of
17 the second paragraph in that response.

18 A. (Law) "The specific criteria calling for a
19 setback distance of 1.25 miles has been
20 adapted by the State of Victoria in Australia
21 and is in the process of being adopted in New
22 South Wales, Australia."

23 Q. And is that in response to the question,
24 "Please provide the sound level limits you

1 feel are necessary to ensure a compatible
2 project in the community"?

3 A. (Law) Yes.

4 Q. So your sound expert indicates that a setback
5 distance of 1.25 miles is appropriate, where
6 your house is 1-1/2 miles away from the
7 project?

8 A. (Law) I'm guessing that our house is a mile
9 and a half. It could be one closer. I don't
10 know. I mean, I've never measured it.

11 A. (Cleland) I think it's different because
12 there's nothing between us and the project.
13 It's straight. There's no trees. There's no
14 buildings, anything. And so sound is going
15 to travel quite a bit more. That's my
16 opinion.

17 Q. So you contest your own expert's testimony?

18 A. (Law) No. No, we're not testing [sic] his
19 testimony. What we're saying is we're not --
20 you know, I mean, we don't -- we have never
21 measured it physically, the exact distance.
22 But what Bob is saying is that it's an open
23 valley across from where Tuttle Hill is from
24 our house. I mean, we can clearly see it.

1 Q. When you were testifying earlier, Mr.
2 Cleland, I think you showed on the map -- and
3 I'd just like to ask you to go back to that
4 map that's behind you.

5 And you indicated that -- I was just a
6 little confused, because you indicated you
7 weren't on the map, and then you were on the
8 map. So --

9 A. (Cleland) Should be right above here.

10 Q. Okay. You're indicating just below the last
11 lavender line to the top of the exhibit?

12 A. (Cleland) I'd say an inch and a quarter below
13 it.

14 Q. And does that read "Exhibit 41"? Is that
15 correct?

16 A. (Cleland) Yes.

17 Q. In the key box at the upper left-hand corner
18 of that, can you tell me what the expected
19 dBA level is for the area that your house is
20 in? So you match the lavender with the
21 lavender and --

22 A. (Cleland) Yeah.

23 MR. ROTH: I'm going to object
24 to this question. I asked similar questions

1 about whether they knew what the noise level
2 was predicted for their home, and they said
3 "No." And I think I even got objections from
4 Ms. -- from counsel for the Applicant on this
5 very issue. And so now they're asking the
6 same questions that I was told I couldn't ask
7 and had stopped asking because they said they
8 didn't know.

9 MS. BAILEY: My recollection
10 is they gave you a number from Mr. Tocci's
11 testimony.

12 MS. GOLDWASSER: Yeah, I'm
13 just asking to read the map that's there and
14 has been in the record for months.

15 MR. ROTH: They gave me a
16 number from Mr. Tocci's testimony for Loveren
17 Mill Road, which they testified was like a
18 mile away from their house.

19 MS. BAILEY: Okay. I'm going
20 to allow them to answer the question by
21 looking at this picture. Your objection is
22 overruled.

23 A. (Law) It's 30 to 35.

24 Q. Thank you. Now, referring to Mr. Roth's

1 questions, can you go back to that map and
2 indicate where the Loveren Mill and Reed Carr
3 locations are in relationship to where your
4 home is?

5 A. (Cleland) Yes. Loveren Mills is here. Our
6 house is here. Reed Carr is here. I'm not
7 sure exactly where they did the test on
8 Loveren Mills or Reed Carr.

9 Q. Okay. So, just to clarify for the record,
10 for Loveren Mills, you're indicating the
11 darker purple?

12 A. (Cleland) Hmm-hmm. Yes.

13 Q. You're indicating the darker purple near
14 where it says "Alt 2"; is that correct?

15 A. (Law) Color-blind. He's color-blind.

16 Q. Oh, I apologize.

17 A. (Cleland) Yes, L2.

18 Q. Yes, right there. Okay. And Reed Carr, can
19 you indicate to me where that is?

20 A. (Cleland) L4.

21 Q. Thank you.

22 A. (Law) It's true.

23 Q. I think that's something we don't have to
24 dispute.

1 A. (Law) He doesn't do colors.

2 A. (Cleland) No.

3 Q. I think you said at a tech session, Ms. Law,
4 that you can sometimes hear traffic sounds
5 from Route 9 from your house.

6 A. (Law) Very rarely.

7 Q. You also indicated that you liked to climb up
8 a mountain and go to Bagley Pond from your
9 home. Are those areas that will be directly
10 impacted by the project? In other words, you
11 won't be able to go to them or, you know,
12 they're in the project area?

13 A. (Law) We'll be able to go to them.

14 Q. Okay. Thank you.

15 A. (Voelcker) But you'll hear "whoosh, whoosh,
16 whoosh."

17 A. (Law) Yeah.

18 MS. GOLDWASSER: That
19 concludes my cross-examination.

20 MS. BAILEY: Thank you.

21 Committee questions? Dr. Boisvert.

22 INTERROGATORIES BY DR. BOISVERT:

23 Q. This is for Law/Cleland. As I listened to
24 your testimony about the impacts on your

1 residence, you said that you might feel the
2 need to move if the project is constructed.

3 A. (Law) That's correct.

4 A. (Cleland) That's correct.

5 Q. Is it your opinion that the effects that you
6 anticipate cannot be mitigated --

7 "mitigated," meaning made better for you so
8 that it would be tolerable?

9 A. (Cleland) No, not for me.

10 A. (Law) How would it be made better if there
11 are --

12 Q. That's my question to you.

13 A. (Law) No, I don't believe so.

14 A. (Cleland) No.

15 Q. So, from your point of view, your opinion,
16 the only solution that this Committee could
17 find would be a complete denial of the
18 project.

19 A. (Law) That's correct.

20 MR. BOISVERT: Thank you.

21 MS. BAILEY: Chairman
22 Ignatius.

23 CHAIRMAN IGNATIUS: Thank you.

24

1 INTERROGATORIES BY CHAIRMAN IGNATIUS:

2 Q. Good morning everyone.

3 A. (Panel Members) Good morning.

4 Q. Either Ms. Law or Mr. Cleland, in your
5 prefiled testimony you said that you were
6 concerned about Eolian managing this project
7 because they'd never seen anything through to
8 fruition. What did you mean by that?

9 A. (Cleland) That this is their first project,
10 and they don't have any past, basically.

11 Q. Okay. I didn't know if that meant, also,
12 that you'd seen something started and failed.
13 It was just that this is the first --

14 A. (Cleland) Exactly.

15 Q. And you referenced another project they'd
16 done in the Bahamas, but it was a lot
17 smaller; is that right?

18 A. (Cleland) Yes. That was at the Island
19 School. I basically followed what Jack's
20 been doing over the years, because we do
21 have, you know, mutual friends.

22 Q. And your view is that their experience
23 collectively just isn't adequate for this
24 project?

1 A. (Cleland) That's my opinion.

2 Q. All right.

3 A. (Law) I have to agree, from what I've seen so
4 far in the last three years.

5 Q. What do you mean by that?

6 A. (Law) Well, I mean, everything that we've
7 heard right from the beginning has changed.
8 The met tower that we fought so hard to have
9 them not erect was erected before it was
10 allowed to be erected.

11 A. (Voelcker) Illegally.

12 A. (Law) Illegally. And they guaranteed it
13 would be up for 2-1/2 to 3 years. I
14 thought --

15 MS. GOLDWASSER: I have to
16 object to that statement. It isn't a correct
17 statement of fact. There isn't anything in
18 the record to support the fact that the met
19 tower was built without a proper permit. It
20 was built with a building permit.

21 A. (Law) We had 30 days to appeal it. It was up
22 before the 30 days. It was up within two
23 weeks. I saw it the moment -- the morning I
24 got up and --

1 Q. I'm going to stop both of you. I know
2 there's litigation on this. It's not an
3 issue for us.

4 A. (Law) Okay.

5 Q. So I just want you to go ahead and explain
6 your point of view. And it's not as to
7 whether any of your view is the only view or
8 explanation of these things. It's your point
9 of view. So if we can just go ahead and
10 finish that, please.

11 A. (Law) Okay. Since the beginning, the met
12 tower was supposed to be up for 2-1/2 to 3
13 years, and they have just asked for an
14 extension. The three years is up at the end
15 of this month, tomorrow. And it was supposed
16 to be six wind turbines, and now it's ten.
17 It was going to be 400 feet; now it's
18 500-foot wind towers. I mean, what are we
19 supposed to believe? I don't believe any of
20 it. So I don't -- I think there is no
21 credibility there.

22 Q. Thank you. Nothing else.

23 MS. BAILEY: Mr. Simpkins.

24 DIR. SIMPKINS: Yeah, I just

1 had two quick questions for Ms. Voelcker.

2 INTERROGATORIES BY DIR. SIMPKINS:

3 Q. Ms. Voelcker, in your testimony -- I want to
4 go back to something that was discussed in
5 your testimony and several questions that
6 were asked by Attorney Roth.

7 The statement you made, that there are
8 at least a hundred houses that will be
9 directly affected by the installation of the
10 wind turbines, with no form of restitution
11 for their ruined homesteads, I'm just
12 curious. Was there a particular form of
13 restitution that you were thinking of or
14 referring to when you made that statement?
15 And in your opinion, is there any type of
16 restitution you feel would be adequate if it
17 was possible?

18 A. (Voelcker) Yes. I think in New York State,
19 one county put in the provision that the wind
20 company would have to buy out property owners
21 who wished to be bought out, at regular
22 prices, fair market price. And I think that
23 would be fair. Sixty million dollars on this
24 project. You know, you're just asking for

1 another couple million to buy out people.

2 I think there are a lot of people on
3 Gregg Lake that are part-time owners.
4 They're not even here now, and they're not
5 represented. And they're going to be very
6 upset when this thing goes in and they're
7 listening to them and they're looking right
8 at them. White Birch Point has just declared
9 themselves a historic site and applied to the
10 Historical Society of New Hampshire. And
11 nobody -- you know, there's one person that
12 lives in White Birch Point around the year,
13 year-round.

14 Q. Okay. Thank you.

15 And my other question was just to
16 clarify. Are you supportive of wind energy
17 in general, but just feel this particular
18 site is inappropriate or --

19 A. (Voelcker) No. After looking into wind
20 energy, I'm not supportive of wind energy.
21 It uses rare earth metals that have to be
22 mined by people in China that are dying. You
23 know, it takes two tons of concrete to put in
24 one of these wind towers. They're going to

1 have to blast granite off of Tuttle Hill and
2 then pour this concrete in. It's too much.
3 It's like, yeah, you can buy a Prius, but the
4 amount of pre-things to making a brand new
5 Prius amounts to more than if you bought a
6 six year-old car. You'd be doing the earth a
7 better service.

8 And I think, after listening to the talk
9 on this new nuclear power system, which takes
10 our old nuclear waste and burns it for
11 another 70 years and will give us enough
12 energy to run the whole earth, even
13 accommodating more need over the 70 years,
14 that it's ridiculous to be putting in more
15 and more wind. I know Holland has stopped
16 supporting putting in more wind. I know that
17 it will affect our countryside. I read a
18 report that says it increases -- the
19 temperature in the area of a wind farm is
20 increased by 2 degrees Fahrenheit. So it
21 does affect the environment. You're going to
22 see animals dying and moving out.

23 Q. Okay. Thank you. No further questions.
24

1 INTERROGATORIES BY MS. BAILEY:

2 Q. Ms. Voelcker, have you had your house
3 appraised?

4 A. (Voelcker) I asked a realtor down the street,
5 yes. She says --

6 Q. Did she give you an official document?

7 A. (Voelcker) No.

8 Q. Okay. Thank you.

9 MS. BAILEY: Okay. Mr. Block,
10 do you have any redirect?

11 MR. BLOCK: Actually, no.
12 Thank you very much.

13 MS. BAILEY: All right. Thank
14 you very much for your testimony. You're
15 excused.

16 MS. LAW: (Law) Thank you.

17 MS. BAILEY: All right. It's
18 ten after ten. It's a little early for a
19 break, but I'd like to see if we can get
20 Mr. James. Do you know if he's available
21 yet? Let's take a five-minute break to see
22 if Mr. James is available.

23 (Recess taken at 10:10 a.m., and the
24 hearing resumed at 10:27 a.m.)

1 MS. BAILEY: Okay. We're back
2 on the record. We have Mr. James, the North
3 Branch sound witness, on video conference in
4 the hearing room. And we will proceed with
5 the direct, but we need Mr. Iacopino to swear
6 him in using the microphone. He cannot see
7 us, but we can see him.

8 (WHEREUPON, RICHARD R. JAMES was duly
9 sworn and cautioned by the Mr. Iacopino.)

10 RICHARD R. JAMES, SWORN

11 MS. BAILEY: Okay, Mr. Block.

12 DIRECT EXAMINATION

13 BY MR. BLOCK:

14 Q. Hello, can you hear me okay?

15 A. Yes, I can.

16 Q. Can you please state your name, business
17 address and occupation?

18 A. My name is Richard R. James. Business
19 address is P.O. Box 1129, Okemos,
20 O-K-E-M-O-S, Michigan. And the Zip code is
21 48805.

22 Q. And your occupation and business?

23 A. My occupation, I am an acoustician,
24 acoustical engineer.

1 Q. Can you tell us a little bit about your
2 general background and qualifications?

3 A. I started -- my background academically is as
4 a mechanical engineer with a minor in
5 acoustics from what's now called Kettering
6 Institute; formerly it was General Motors
7 Institute, primarily the school that -- you
8 know, call it engineering school for people
9 that were looking for a career in General
10 Motors or other of the big automotive
11 companies.

12 At the time I went to school, OSHA and
13 EPA were just becoming issues. And so the
14 school had started a special curriculum for
15 environmental engineering, and I participated
16 in that. As a result of the fact that I had
17 a background in acoustics at that time, that
18 was fairly unique within the company. I got
19 involved early in writing specifications,
20 evaluating health and -- health-related,
21 particularly hearing loss-related
22 information, helped the company set up
23 criteria.

24 In 1972, I left General Motors after

1 graduating and started another firm called
2 Total Environmental Systems. And the focus
3 of that company was to develop software to
4 allow computer modeling of both in-plant and
5 community noise problems, both as a way to
6 address compliance issues and for the design
7 of new plants. That involved a lot of expert
8 witness work on both EPA and OSHA work during
9 the 1970s.

10 In the 1980s we closed that company and
11 started another company. My partner and I,
12 Robert Anderson, formed James-Anderson &
13 Associates, which continued on until 2006,
14 when we closed the firm due to economic
15 situations. Our client base, General Motors,
16 were having financial problems at that time.
17 And we had developed a very large company, 45
18 employees, and didn't want to be exposed to
19 that kind of cost structure if our clients
20 were having problems.

21 So at that point, 2006, I started a new
22 company, E-Coustic Solutions, and have been
23 operating under that business name since
24 2006. The primary difference and focus at

1 that time, rather than addressing both
2 in-plant and community noise work, I started
3 to address only community noise, partly due
4 to medical situations, which is why I was at
5 the doctor this morning.

6 During that era, I also became a member
7 of the Michigan State University Staff, in
8 the Department of Speech and Communications
9 Sciences, both as an instructor for
10 audiologists and as an advisor for students
11 working on their thesis. And recently I've
12 become a professor at Central Michigan
13 University, in the same department. So I
14 have essentially spanned the issue of how
15 noise affects people for my clients over my
16 whole career.

17 Q. Thank you. Beyond your background and
18 experience as an acoustician, can you
19 describe your expertise in terms of the human
20 response to turbine noise?

21 A. Well, this was of particular interest to me.
22 When I formed my new company, one of the very
23 first calls I had was from a person here in
24 Michigan who was concerned about what a

1 proposed wind turbine project would do to the
2 community. And I had been exploring wind
3 turbine noise in Europe and Ontario prior to
4 that, and also on the East Coast, in the Mars
5 Hill case. So I started at that point
6 establishing contacts with medical
7 professionals who had some experience in this
8 region, both at Michigan State, the
9 universities, and eventually formed a group
10 of colleagues who worked with me. I shared
11 my acoustical knowledge with them, and they
12 shared their medical knowledge with me. That
13 included people like Robert McMurtry, who was
14 the former advisor to the Ontario Ministry of
15 Health; and Dr. Nissenbaum, who, in Maine,
16 has basically done most of the research on
17 adverse health effects on wind turbines; Dr.
18 Alec Salt, who's done research on the
19 biological processes involved in both
20 auditory and vestibular perception of
21 low-frequency infrasound; Dr. Dan Shepherd in
22 New Zealand, and a host of others. We have
23 been sharing information through an ad hoc
24 group called "Society for Wind Vigilance,"

1 which periodically meets to review papers,
2 published journals, and conduct some
3 symposiums to advance the state of
4 understanding of how wind turbine noise
5 affects the health of people who are living
6 near the wind turbines.

7 In addition to that, I have a number of
8 clients. Beginning in 2008, I was asked by
9 Dr. McMurtry to --

10 MR. PATCH: Madam Chair.

11 MS. BAILEY: Wait.

12 MR. PATCH: I'd just like to
13 object. I think this is going far beyond the
14 scope of direct examination, in terms of what
15 was allowed with our witnesses. Seems to me
16 we're getting into an awful lot more detail
17 than we typically have. So I want to voice
18 an objection to this.

19 MS. BAILEY: Mr. Block, do
20 you -- I think, you know, he's established
21 his credibility. Are you okay with that?

22 MR. BLOCK: All right.

23 MS. BAILEY: Thank you.

24 BY MR. BLOCK:

1 Q. We're comfortable with that, Rick.

2 A. Okay. Thank you.

3 Q. In addition to being an acoustician, do you
4 consider yourself to have particular expert
5 knowledge in the area of human response to
6 low-frequency turbine noise?

7 A. That is an area which I have developed a
8 considerable amount of experience with in the
9 past six years, as I was saying earlier, both
10 through colleagues and through experience. I
11 have a number of clients who are sensitive to
12 wind turbine noise, and I have worked with
13 them closely to find out why it is they're
14 responding to sounds they can't hear,
15 including staying in their homes and trying
16 to experience things myself. So, both
17 through my academic relationships with the
18 universities, my colleagues and personal
19 experience, I think I have a very solid
20 understanding of the impact of wind turbine
21 noise on people.

22 Q. Are you the same Richard James who submitted
23 pre-filed testimonies in this case on
24 July 30th, 2012 and October 11, 2012,

1 included in these proceedings as Exhibits NB
2 1 an NB 8?

3 A. (No response)

4 Are there any errors you'd like to
5 correct in your testimonies --

6 (Court Reporter interjects.)

7 A. Yeah, I am the same person who wrote those
8 documents.

9 BY MR. BLOCK:

10 Q. Are there any errors you would like to
11 correct in those testimonies at this time?

12 A. Not to my knowledge at this time.

13 Q. So if you were to prepare your testimony
14 again today, it would remain unchanged?

15 A. In essence, yes.

16 Q. Okay. In his supplemental testimony, Mr.
17 O'Neal stated, on Page 2 and 3, that Annie
18 Law, a musician whose home is 7900 feet from
19 the nearest wind turbine site, would not have
20 any problems with wind turbine noise
21 affecting her home studio. Do you agree with
22 that statement?

23 A. Let me -- excuse me. Let me take a look at
24 it. That was what page?

1 Q. Pages 2 and 3 of Mr. O'Neal's supplemental
2 testimony.

3 (Witness reviews document.)

4 A. Okay. I see the question now.

5 Q. Okay. The question was --

6 A. Yes.

7 Q. He claimed that she would not have any
8 problems with turbine noise affecting her
9 home recording studio. Do you agree with
10 that statement?

11 A. I think that without knowing a lot more about
12 how that studio was designed and what it is
13 she's recording, that that would be
14 impossible to make any definitive statement
15 that it would not be affected. Wind
16 turbine -- the low-frequency sound,
17 particularly those frequencies below 100
18 hertz, are --

19 (Court Reporter interjects.)

20 MS. BAILEY: Wait a minute.

21 A. Yeah. I probably would have said
22 low-frequency sounds, particularly those
23 frequencies below 100 hertz --

24 Q. Okay. Continue.

1 A. -- can propagate for great distances in
2 particularly quiet areas. This could be a
3 problem even at the kind of distances we're
4 talking about here, a mile and a quarter. If
5 the goal of the recording studio is to have a
6 very low ambient sound level in the low
7 frequencies, and the nature of the recording
8 studio is that it doesn't have extensive
9 acoustical treatment, there is a possibility
10 there would be a problem.

11 Q. Thank you. In his supplemental testimony, on
12 Pages 3 and 4, Mr. O'Neal discounts any
13 concern about the ill-effects of wind turbine
14 on wildlife. Can you comment on that?

15 A. Mr. O'Neal focuses in on several specific
16 issues that he takes -- or that he addresses.
17 I think the larger question on wildlife is
18 that we don't know what the impact is on
19 them. However, some studies that have been
20 done by the National Park Services and
21 Forestry Services, both on the issue of wind
22 turbine and other sources or anthropogenic
23 noise, have opened up our heart to things
24 like recreation or development for oil

1 exploration, gas exploration. And the
2 information coming back from these studies is
3 that, when you change the sound levels,
4 particularly increase them with nighttime
5 noise, there is a large possibility that that
6 can affect the wildlife in negative ways.

7 So I think the answer that Mr. O'Neal
8 gave was to pull a couple examples that he
9 thought proved his point, but it's not those
10 examples that are important. It's the larger
11 questions that we do not have the answer for.

12 Q. All right. On Page 7 of his supplemental
13 testimony, Mr. O'Neal mentioned a European
14 study which linked the issues of turbine
15 visibility and noise annoyance. This was
16 referred to again by Mr. Tocci. Can you
17 comment on that report?

18 A. I can comment on that report. When I first
19 read it, I thought there was confusion,
20 either through the translation from the
21 original language into English, or just
22 confusion by the people doing the study.

23 If we were to say that the closer one
24 moves to a wind turbine, the more it is

1 visually disturbing, that would be a true
2 statement. If I were to say the closer one
3 lives to a wind turbine, the more noise they
4 will hear, that would be a true statement.
5 But to attempt to conflate the similarity
6 caused by distance to, let's say people's
7 complaints about noise, are really a mask to
8 visual disturbance, I think that goes beyond
9 what the data shows. All the data really
10 showed was that the closer you are to wind
11 turbines, the larger they appear; and
12 therefore, there's more visual complaints.
13 And the closer you are to wind turbines, the
14 louder they are, and therefore, more
15 complaints about noise. And I think that's
16 all that that 2009 study really showed.

17 Q. Thank you. On Page 7 and Page 9 of his
18 supplemental testimony, Mr. O'Neal challenges
19 your findings that the predicted sound power
20 level shown in the Epsilon report should be
21 increased by up to 15 decibels, based on the
22 research done by Van den Berg. Would you
23 comment on Mr. O'Neal's statements.

24 A. Again, Mr. O'Neal takes a statement in my

1 report that is based on a number of things,
2 both my own experience and the Van den Berg
3 paper from 2003 on through his work in 2006,
4 the work of other acousticians, and attempts
5 to claim there was a flaw in my logic by
6 arguing one of the small points. He misses
7 the bigger picture.

8 The bigger picture is that I see
9 standards that are used for measuring wind
10 turbine noise to produce the sound power data
11 that goes into the models represents the
12 noise emitted during the daytime. The
13 daytime noise is lower. It is lower in both
14 absolute levels, dBA level, and also has less
15 of the infrasounds because the winds during
16 the daytime are better behaved. This is
17 written into the IEC 61400 standards. That
18 standard controls the weather, protesting to
19 be moderate daytime weather. It controls the
20 environment, so there's no turbulence caused
21 by structures around the turbines. And these
22 are ideal conditions for producing the least
23 noise, not the worst noise.

24 The 15 decibels has been identified a

1 number of times, not only in Dr. Van den
2 Berg's work -- his 2002 paper was earlier,
3 and his completed thesis was actually 2006.
4 But it's also been observed in my own work on
5 nighttime noise from wind turbines tends to
6 be about 10 to 15 decibels higher than
7 daytime, and in the work with many other
8 acousticians. So I think the argument that
9 Mr. O'Neal raises is one of a specific issue
10 with how I might interpret -- or he might
11 interpret a specific reference. But the
12 basis for the need to increase the sound
13 power level by 15 decibels, generally we
14 argue five decibels because that's more
15 reasonable; fifteen is an extreme case. It's
16 the bigger picture that he misses.

17 Q. On Page 11 of his supplemental testimony, Mr.
18 O'Neal addresses your comments on his
19 methodology of measuring background sound
20 levels in the project area. Would you speak
21 to his response there.

22 (Witness reviews document.)

23 A. I think -- yeah, I think this is, again, an
24 example of focusing in on the details while

1 missing the big picture.

2 Mr. O'Neal states, and I'll just quote
3 this, "The sound level program for the Antrim
4 Wind Project was conducted in accordance with
5 the ANSI S12.9, 1998, titled, 'Quantities and
6 Procedures for Description and Measurement of
7 Environmental Sound, Part 1.'" He then goes
8 on to quote the Forward or the Introduction
9 to that standard by saying, "This standard is
10 applicable to the description and measurement
11 of community sounds for purposes of land-use
12 planning, environment assessment and noise
13 control." That leaves one with the
14 impression that Part 1 provides procedures.
15 But Part 1 of the ANSI S12.9 series -- of
16 which there is a Part 1, Part 2, Part 3 and
17 Part 4, and I believe even a Part 6 -- Part 1
18 has nothing with to do with procedures. It's
19 the definitions. It states the working
20 terminology. Part 2 and Part 3 define the
21 procedures. And if Mr. O'Neal's response is
22 that all they did was follow Part 1, then all
23 he's saying is the terminology they used met
24 the definitions in Part 1. The procedure

1 they used actually is called "long-term
2 monitor monitoring," and it's covered in Part
3 2. The reason he probably did not address
4 Part 2 is that that requires a larger number
5 of samples laid out in a random pattern,
6 multiple weeks of testing under different
7 weather conditions, statistical analysis, and
8 meeting certain tests for type of data
9 clusters, in some cases requiring retesting.
10 And it's really clear that the testing that
11 Epsilon did was to pick five sites, one
12 period of time, and it wasn't random. On
13 that basis, the Part 2 procedures for
14 unobserved measuring were not followed. Part
15 3 is for observed measuring, where you can
16 pick your own test sites. But the test data
17 from Epsilon says it was unobserved, so
18 Part 3 doesn't apply.

19 So what I see here is that Mr. O'Neal is
20 basically saying they created their own
21 procedure, and they've agreed to follow the
22 definitions of ANSI S12.9 by either the
23 observed or unobserved procedures, Parts 2 or
24 3. In other words, they made up their own

1 procedure.

2 Q. Thank you. On Pages 12 through 16 of his
3 supplemental testimony, Mr. O'Neal discounts
4 the effects of infrasound and low-frequency
5 sound on human health and challenges your
6 assertions that sounds in these frequency
7 ranges are of concern. Can you comment on
8 Mr. O'Neal's challenge?

9 A. Yes, I can. And again, Mr. O'Neal's focus on
10 Pages 12 and 13, if we go through in detail,
11 we can see that it is on the effects of infra
12 and low-frequency sound processed through the
13 auditory portion of the cochlea. When we
14 look at how sound affects the cochlea, there
15 are two ways. There is sound process through
16 the auditory portion, which requires fairly
17 high levels in order to be perceptible, but
18 there's also sounds in that low-frequency
19 range processed through the vestibular
20 portion. And while we as acousticians have
21 known for a long time, basically since the
22 1960s, in the beginning of what was called
23 "Sick Building Syndrome," that inaudible
24 levels of low-frequency sound can create

1 symptoms that are very similar to motion
2 sickness -- nausea, headaches, dizziness,
3 sense of imbalance -- we never really
4 understood the biological mechanism. In the
5 last few years, however, the work of Dr. Alec
6 Salt, an independent researcher in cochlear
7 function, who's done a lot of work with the
8 National Institute of Communicative Disorders
9 and Speech Disorders on cochlear function,
10 decided to explore how the vestibular organs
11 respond to infrasound. He did this using
12 samples, audio samples, that were taken at
13 one of my client's homes. So he used audio
14 samples of real-world wind turbine sounds,
15 subjected those to the cochlea and observed
16 that those sounds are processed at much lower
17 levels, 60 dBG, than the auditory function,
18 which is more like 90 dBG to 100 dBG. And
19 Mr. O'Neal's argument here is that the sounds
20 don't rise to the level of auditory
21 stimulation. But our argument -- or my
22 position is we accept that it does rise,
23 however, to the threshold of vestibular
24 stimulation. As I said, we learned during

1 the 1960s forward that there's many cases
2 where inaudible, impermeable frequency sound
3 caused adverse health effects. That's not an
4 auditory function. It's a vestibular
5 function.

6 Q. Thank you. In reference to testimony
7 submitted on or after October 11th to this
8 Committee by any other parties, is there
9 anything else in the record you'd like to
10 respond to?

11 A. Yes, there is one other one, and that is in
12 Mr. O'Neal's last section. And I'm looking
13 here at Page 14. He says, "Mr. James
14 mischaracterized the results... of his own
15 paper," the 2011 Bray-James paper. Mr.
16 O'Neal states that the paper says, "The
17 purpose of the paper was to demonstrate that
18 under these conditions that cause higher
19 sound emissions, wind turbine infrasound can
20 exceed the threshold of perception
21 established for steady, pure tones."

22 Now, this is actually found in the
23 auditory function. While we do not
24 specifically address adverse health effects

1 in our paper, we did present data that's in
2 the charts and graphs showing that the sounds
3 we measured outside the home, of the Katz
4 home in Michigan, exceeded the thresholds
5 necessary for auditory perception. The fact
6 that we did not put that in our conclusion
7 was because the paper was to establish how to
8 properly measure infra and low-frequency
9 sounds for wind turbines, not to draw any
10 correlations to the adverse health affects.

11 Q. Thank you, Mr. James.

12 MR. BLOCK: The witness is
13 available --

14 A. Yeah, I do have one more.

15 Q. Sorry.

16 A. At the bottom of that same page, Mr. O'Neal
17 mentions that the Epsilon Noise Control
18 Engineering Journal paper compared
19 low-frequency wind turbines sounds to the
20 ANSI S12.2:2008 low-frequency criteria. And
21 to wrap up the story, they found no problem.
22 The reason for that is that ANSI criteria is
23 not appropriate for assessing human response
24 to low-level, modulated infrasound. There

1 are a number of papers that have been written
2 on this. But the most relevant one was the
3 1997 paper by Dr. Geoff Leventhall and
4 Kirsten Perrson Waye, which summarized the 30
5 years of study in the Sick Building Syndrome.
6 And in that paper, they compared the use of
7 the RNC curves, which is what Mr. O'Neal is
8 referring to here, the Revised Noise Criteria
9 curves, to other criteria and concluded that
10 the use of the RNC curves is not useful in
11 anticipating whether or not there will be a
12 human response to low-frequency sound. So
13 the fact that they applied the procedure and
14 found no problem is not because there is no
15 problem; it is because the procedure doesn't
16 apply to this type of adverse health effect.

17 Q. Thank you. Any further comments at this
18 time?

19 A. That'll be enough.

20 MR. BLOCK: The witness is
21 available for cross-examination.

22 MS. BAILEY: Just one second
23 off the record.

24 (Discussion off the record)

1 MS. BAILEY: Mr. Roth is the
2 Public Counsel attorney, and he is the first
3 person on the schedule to ask you
4 cross-examination questions.

5 MR. ROTH: Thank you.

6 CROSS-EXAMINATION

7 BY MR. ROTH:

8 Q. Good morning, Mr. James.

9 A. Good morning.

10 Q. I have a few questions, probably not as many
11 as you'll get from other parties this
12 morning. But I'll proceed.

13 MS. BAILEY: Mr. Roth, is your
14 mic on?

15 MR. ROTH: Yes, it is.

16 A. I can hear you.

17 BY MR. ROTH:

18 Q. Okay. What is the purpose of conducting
19 background sound measurements?

20 A. The purpose of conducting background sound
21 measurements, in the context of anticipating
22 a community's response to a new noise source,
23 over years of work on new projects,
24 acoustical experts have identified that, as

1 long as the new noise source does not
2 increase the background sound levels, the
3 background sound levels are those quiet times
4 in between transient events or short-term
5 sounds, like cars going by, airplanes flying
6 over, insects, wind, all these other things
7 that are temporary. You look for the quiet
8 times between those events. And if the new
9 noise source does not increase that level by
10 more than about 5 decibels, the community
11 will have no negative reaction to it.

12 So the purpose of establishing a
13 background test is to identify what are those
14 quiet sound levels that our auditory system
15 and our psychological system will then use as
16 a basis for judging the noisiness of the new
17 noise source. And that is why the focus here
18 is on using techniques like the 90th
19 percentile, the quietest 10 percent of the
20 time, in order to say -- and at the time when
21 the noise source would be operating. So if
22 you have a machine that operates 4 hours a
23 day, then you look for the quietest time of
24 night and exclude all of those short-term

1 events and use that number as the basis for 5
2 decibels greater being the limit for the new
3 noise source.

4 Q. Okay. You answered my next question, which
5 is good, which was: Should those
6 measurements be taken during the quietest
7 times? And you've explained that. Thank
8 you.

9 What I don't understand, though, is in a
10 case like this one, we have Mr. O'Neal goes
11 out and does background sound measurements,
12 but then the project proposes an absolute
13 limit and simply says the project won't make
14 more noise than 45 dB at night and 50 dB
15 during the day. Why do we care about
16 background sound level if, in fact, the only
17 control on this is an absolute limit?

18 MR. PATCH: I'd just like to
19 note for the record that the proposal from
20 the Company -- actually, Mr. Roth has kind of
21 mischaracterized it, because -- and maybe
22 it's just a misunderstanding, but --

23 MR. ROTH: It's very possible.
24 I'm happy to have you set the record

1 straight.

2 MR. PATCH: What the Company
3 has agreed to with the Town, which is noted
4 in the exhibit, I believe it's AWE 3 and then
5 Appendix 17A, which is actually more
6 stringent than what was done in either
7 Lempster or Groton, is that the agreement
8 between the Town and the Company here says
9 that the sound from the wind farm during
10 operations, at the exterior facades of homes,
11 shall not exceed 50 dBA, or 5 dBA above
12 ambient, whichever is greater during daytime,
13 and 45 dBA, or 5 dBA above ambient, whichever
14 is greater at night.

15 BY MR. ROTH:

16 Q. I guess, Mr. James, maybe I'll ask you to
17 comment on that. Based on what you just
18 heard from Attorney Patch, does it still
19 sound like the project could make 50 dBA
20 noise in the daytime, or if ambient noise
21 happens to be 55 dBA, it could make 60? Is
22 that correct? Did I understand what he just
23 said correctly?

24 A. That is how I understood it. Maybe he could

1 tell us whether it --

2 (Court Reporter interjects.)

3 MS. BAILEY: He said "right or
4 wrong."

5 MR. PATCH: I don't think it's
6 appropriate to ask counsel questions. I read
7 the language of it and --

8 BY MR. ROTH:

9 Q. But you understood it the same way I did?
10 Does that still sound like an absolute limit
11 to you?

12 A. That sounds like a permission to do whatever
13 they want. Let me --

14 Q. Well, I guess that characterization is not
15 helpful. I asked you, does that sound like
16 an absolute noise limit to you?

17 A. No. No, it does not.

18 Q. Okay. What does it --

19 A. And that is because, if they found the sound
20 level was exceeding 50, and then through
21 background testing identified that the
22 background test is 52, then they could bump
23 up their limit by 7. The normal way those
24 kinds of clauses are written is that you put

1 the upper limit, 50, as an upper limit, and
2 then you say the criteria should be
3 background plus 5, and never exceed 50 if the
4 background level is higher. They're putting
5 the cart before the horse, which allows a
6 potential for a constantly increasing sound
7 level.

8 The point of it is this: There is this
9 argument over background sound levels. Seems
10 to be very complex, but it's really very
11 simple. Background sound levels in quiet
12 rural areas late at night when there's no
13 traffic on the roads will generally be in the
14 low 20 dBA range. That is true in Antrim.
15 That is true in every place I've tested. And
16 it has been generally considered to be true
17 by acoustical consultants who've done work in
18 rural communities. There's a paper by George
19 Hessler summarizing the work of over a
20 hundred acoustical consultants, in which he
21 said, "Rural communities have background
22 sound levels that range between 26 and about
23 28 dBA." All of this stuff about where we
24 locate microphones, whether the wind is

1 affecting it, et cetera, are really just
2 surrogates to get around the fact that rural
3 communities are quiet at night, and that if
4 you add 5 decibels to 28 dB, which would be
5 an upper statement for rural background sound
6 levels, that comes out to a number that would
7 prevent the wind turbines being located;
8 therefore, all of this other argument is to
9 disguise the fact that for the industry
10 putting wind turbines in that community, they
11 have to find a way to bump up the background
12 sound levels to come up somewhere near the 40
13 to 45 dB that they're looking at or
14 predicting will be the sound level from the
15 turbines at nearby homes. This would be very
16 simple if it was all done just using a chart
17 that says rural communities at 25 to 30,
18 which sets a limit at 35 for wind turbines;
19 and if you can't meet 35, don't build it
20 here.

21 Q. Thank you. There was -- have you seen Mr.
22 Tocci's testimony?

23 A. I listened to it and I reviewed it briefly.

24 Q. You've seen his report?

1 A. Yes.

2 Q. Okay.

3 A. I listened to his testimony yesterday.

4 Q. Okay. And are you familiar with the concept
5 that he has expressed in there, that he
6 obtained, I believe, from the Pedersen report
7 about proximity, background and noise
8 production leading to people being annoyed or
9 very annoyed?

10 A. Yes.

11 Q. Okay. What do you understand --

12 A. I was one of the peer reviewers of the 2009
13 Pedersen report --

14 Q. Okay.

15 A. -- for the journal.

16 Q. What do you -- how do you interpret "annoyed"
17 and "very annoyed"? What does that mean to
18 you as an acoustician?

19 A. Annoyed and very annoyed are -- first,
20 there's a difference between how medical
21 professionals, acousticians and other
22 professionals who deal with human response to
23 some kind of perception use the term
24 "annoyed" and the way the general public uses

1 the term "annoyed". We're not talking here
2 about the minor annoyances of life. We're
3 talking about annoyances, where the questions
4 may not even ask someone, "Were you annoyed?"
5 They may say, "Was your sleep disturbed? Was
6 your ability to use the outside patio
7 disturbed?" And those are annoyances. So
8 when we look at the Pedersen study and we see
9 the category of "annoyed" and "very annoyed,"
10 we have to interpret it as something that has
11 been designed to give us feedback about real
12 annoyances and not petty annoyances. And I
13 have also used that same chart in work that
14 I've done, where I demonstrate that, instead
15 of a contour map, for example, showing the
16 decibel level, you could put in the percent
17 of highly annoyed. And that would make it
18 more useful and understandable to the boards
19 and panels that are reviewing it. To say
20 that it's 40 decibels outside someone's home
21 is an abstract concept. If we said
22 28 percent of all people who have a home at
23 this location from the wind turbines would be
24 highly annoyed, that is something more

1 meaningful to people making the decision.

2 So I think that what Mr. Tocci did in
3 that table was very good. I think it's very
4 useful. You know, I have done it myself.

5 Q. And can you give some examples of what might
6 happen to a person who experiences "annoyed"
7 or "very annoyed"?

8 A. Well, I think the easy way to answer that is
9 one of my medical colleagues, Dr. Sarah
10 Laurie in Australia, has been doing studies
11 of wind turbine noise in large projects.
12 This included putting noise monitors in the
13 yards of people, documenting when the
14 turbines are running, and then taking
15 cortisol tests. Cortisol is a hormone that
16 is a stress indicator. And what they have
17 found in this study is that when the wind
18 turbines are running, they can detect
19 increased cortisol, which is an indicator of
20 annoyance or stress out distances of as far
21 as 5 kilometers from wind turbines, even
22 though the wind turbines at that distance are
23 no longer audible; however, the sound level
24 meters in the yards are still picking up the

1 very low-frequency sounds from the wind
2 turbines. So, I mean, they've taken it out
3 of the category of an abstract, "Are you
4 annoyed?" and moved it over to a
5 physiological test of cortisol levels and
6 find that people as far as two miles,
7 three miles from large projects show a
8 correlation between when the turbines are
9 running and their stress levels.

10 Q. Other than this hormone production -- because
11 "annoyed" and "very annoyed" to me sounds
12 like an emotional or behavioral response.
13 And I don't know whether -- I'm not -- I have
14 no medical training. But the question is:
15 Are there emotional and behavioral sort of
16 manifestations that might come as a result of
17 being annoyed or very annoyed?

18 A. Yes, there are. In fact, let me see if I --
19 in the document that was reviewed yesterday
20 by -- let's see if I can get the number on
21 it. I don't have the reference in the
22 exhibits. But I believe it was an exhibit
23 yesterday called, "Low-frequency Noise and
24 Annoyance," by H.G. Leventhall, published in

1 Noise and Health back in 2004. Mr.
2 Leventhall summarized the World Health
3 Organizations --

4 Q. Just for the record, we're referring -- can I
5 just stop you for a second?

6 A. Sure.

7 Q. We're referring to IWAG N4. Go ahead. I'm
8 sorry.

9 A. In that document, he summarizes a number of
10 different studies on annoyance. And there's
11 a section called, "Annoyance - the Meaning of
12 Annoyance." It says, "Annoyance has roots in
13 a complex set [sic] of responses which are
14 moderated by both [sic] personal and social
15 characteristics of a complainant."

16 It's partly due to acoustic factors and
17 partly due to social and personal variables,
18 such as sensitivity to noise, a person's
19 evaluation of the source and how much they
20 have to cope in order to adjust to the noise.
21 For example: If you take coping as an
22 indicator -- I have a client who lives
23 1400 feet from a turbine, and his family
24 can't -- has not been able to deal with the

1 low-frequency noise. They have vestibular
2 responses. He is now sleeping in the
3 basement of his home in order to mitigate the
4 effect on himself and his family. That's a
5 coping capacity. So when you're sleeping in
6 the basement because of a noise source,
7 you're annoyed -- probably in that case,
8 highly annoyed. Noise annoyance -- it goes
9 on. "Noise annoyance in the home is
10 considered as leading to a long-term negative
11 evaluation of living conditions," depending
12 on past disturbances, et cetera.

13 Dr. Nissenbaum's new paper published
14 this October identified that within 4500 feet
15 of a wind turbine project, very similar to
16 what we're talking about here in Antrim --
17 except that in Antrim the turbines are double
18 the size -- 75 percent of all the people
19 living within 4500 feet wanted to move. So
20 those are the kinds of things that lead
21 people to mark down "annoyed" or "highly
22 annoyed." And it's spelled out in probably
23 four pages of this article. It's not a
24 simple matter, but it goes far beyond the

1 layperson's use of "annoyance" as a petty or
2 a minor response to something.

3 Q. Is there a category that goes beyond "very
4 annoyed" in this methodology? Something
5 worse?

6 A. Well, in my experience of wind turbines, yes.

7 Q. But in terms of Pedersen's study.

8 A. No. They stop at "annoyed." But there is
9 one level beyond that, and that's when people
10 walk away from their home.

11 Q. Okay. But that's not -- in terms of the
12 Pedersen criteria or the Pedersen standard,
13 I'm not sure what to call it exactly, he uses
14 "annoyed" and "very annoyed."

15 A. Yeah. Yes, we use "annoyed" and "very
16 annoyed." And that's done at a lot of
17 studies with acoustics. We try to classify
18 our reaction to different sounds in some
19 measure so we can relate what we see on our
20 meters, our instruments, to human response.

21 Q. Okay.

22 A. Generally the two categories are "annoyed"
23 and "highly annoyed."

24 Q. The description of "annoyance" and "very

1 annoyed" that you gave and you said was based
2 on the Leventhall low-frequency noise and
3 annoyance, do those -- is there a different
4 kind of annoyance that's associated with
5 other than low-frequency noise? Because as I
6 understand low frequency, low-frequency noise
7 is something that's perhaps not audible. But
8 for people who actually have an auditory
9 experience, is there a different kind of
10 annoyance or a "very" annoyance?

11 A. Well, yes. And, again, this comes down to
12 coping. If the sound is sufficient to wake
13 someone up at night, that's going to be
14 "annoyance." If the sound is such that,
15 let's say at night, in the evening, the
16 family used to sit on the patio in their
17 backyard listening to the natural sounds of
18 nature, if now the backyard sounds like, a --
19 well, to characterize the wind turbines on
20 the top of the ridge, in many cases it sounds
21 like a very busy highway at a distance. If
22 that now covers up that natural sound that
23 people wanted to enjoy on their patio, then
24 they'll be annoyed. So when it becomes

1 audible, a lot of times the coping mechanisms
2 are -- what is it that they feel they have
3 lost by no longer having the quiet natural
4 sounds that have been replaced with the
5 industrial sounds from the wind turbines?

6 Q. Okay. Now, you spoke a minute ago about a
7 Nissenbaum paper?

8 A. Yes.

9 Q. Is this Nissenbaum, Aramini and Hanning?

10 A. Yes, it is.

11 Q. Okay.

12 MR. ROTH: I just wanted to
13 note for the record that that appears to be
14 to NB 55.

15 BY MR. ROTH:

16 Q. Now, in terms of --

17 A. That is in the record? That's good. Yes,
18 thank you.

19 Q. Yeah. In terms of the example you gave about
20 people sitting on their patio and being
21 annoyed by the sound of the wind turbines,
22 I'm going to cite sort of a personal
23 experience that doesn't have anything to do
24 with wind turbines and see what you make of

1 it.

2 When I grew up, there were freight
3 trains. And you could hear the freight
4 trains something like a mile away. Now, I
5 know a freight train is not as loud -- or is
6 louder probably than a wind turbine, maybe.
7 I don't know. But the point is this: After
8 a while, the freight train became simply
9 something that was just in the background. I
10 didn't really notice it anymore. Is it
11 possible that people who are -- have a new
12 experience listening to a wind turbine might
13 be annoyed with it at first and later on just
14 get used to it and not even notice it
15 anymore?

16 A. That's an interesting example. One of the
17 things that we've noticed about noise sources
18 and how people respond to them is that there
19 is a potential for acclimating. But this is
20 for noise sources that are not present all of
21 the time. If the train that you're talking
22 about is heard coming towards you, you know
23 that in five minutes or ten minutes it will
24 be gone and you'll be back to your normal

1 environment. If that train was to park in
2 your backyard and be present all night long,
3 you might have a different reaction to it.
4 That, I think, is the reason why wind
5 turbines can't be associated or can't be
6 compared directly to other common noise
7 sources in the community. They are not a
8 temporary noise source. They are there 24
9 hours a day, 7 days a week.

10 Now, in Britain, back in, I believe it
11 was about six years ago, one of the British
12 agencies took up this task. They did a study
13 to find out, for people in communities where
14 wind turbines had been present for a long
15 time, had they become acclimated? And what
16 they found in the study was that there was no
17 acclimation. If anything, there was a higher
18 level of hostility, because the people in
19 most communities were frustrated that their
20 local political leaders and other people to
21 whom they would go to seek some kind of
22 abatement or mitigation of a noise were
23 refusing to do so. So instead of
24 acclimating, there was actually higher levels

1 of annoyance, higher levels of anger, and
2 there was no apparent acclimation. And like
3 I said, I think this comes from the fact that
4 the wind turbines aren't like other types of
5 noise sources which are present for a while
6 and then an airplane flies overhead and then
7 it's gone. A train comes and it goes. A car
8 comes and it goes. The other thing is, most
9 of these do not happen for hour after hour
10 during quiet nighttime periods when people
11 are trying to sleep.

12 Q. In Mr. O'Neal's testimony a couple weeks
13 ago -- were you here for that, or did you
14 listen to it?

15 A. I was present for that, yes. I was present
16 for one day of it, not the second day.

17 Q. Yeah. He described the 15- to 19-decibel
18 limit -- or background, rather, that Mr.
19 Tocci had calculated as "extremely, extremely
20 rare." Do you agree with that?

21 A. No. I think for the last 40 years of my
22 career, I've done a lot of work on community
23 noise for my clients, large manufacturing
24 firms. We never really put a new facility

1 into an area as rural as some of the areas
2 where wind turbines are being proposed.

3 When I went out to do my first noise
4 study in one of these rural areas, I was
5 shocked to see how low the sound levels were.
6 I expected levels in the 25, maybe 35 range,
7 and what I got were levels below 20. This is
8 very common in areas where the rural
9 character is really almost wilderness, where
10 there are no nearby highways, no nearby
11 industrial sources. And in the literature,
12 if we look at people who have done studies in
13 these kind of quiet areas, many of them have
14 recorded sound levels in the range of 18 to
15 22 decibels, particularly when those samples
16 are done late at night.

17 Q. And going back to the quietest times
18 question. Now, you probably observed that
19 Mr. O'Neal conducted his measurements during
20 pre-frost. I believe it was early autumn, I
21 think last year. I'm not sure. It could
22 have been -- at this point I lose track of
23 time. It might have been two years ago. But
24 he did it in the early autumn, as I recall,

1 or late summer. Does that sound about right
2 to you?

3 A. That sounds right, yes.

4 Q. Now, what sort of additional sounds might he
5 have picked up doing his measurements at that
6 point that might have been avoided had he
7 conducted those measurements in January or
8 February?

9 A. In taking background readings in a quiet
10 environment, there's really three types of --
11 three things you have to worry about and try
12 to exclude. One of them is insect noise.
13 And there's two ways of doing that: One is
14 to take data during the -- insect noise is
15 mostly a problem in late July through August,
16 prior to frost. Springtime, we don't have a
17 lot of insects. Wintertime, we don't have a
18 lot of insects. And so some acousticians
19 actually try to do the background sound
20 measurements during those periods. The
21 second way of doing it is by collecting
22 octave band, or one-third octave band data.
23 It's very easy to exclude the insect noise,
24 the way that Dr. Schomer did for the National

1 Park Services, by just excluding all the
2 frequencies above 1,000 hertz. And it sounds
3 like we're throwing out half the noise with
4 1,000 hertz on up to 20,000. But in most
5 communities and most rural communities, the
6 background sounds are ranging from the low
7 frequency up to this 1,000 hertz octave band.
8 So if you have the detailed data, it's very
9 easy to just get rid of all the
10 high-frequency end of it, recalculate your
11 sound levels, and that will give you a very
12 good estimate of the dBA levels minus the
13 insects.

14 The second part of it is wind-induced
15 noise, particularly during seasons when the
16 leaves are beginning to get a little dry.
17 You can pick up a lot of wind noise that is
18 only there during the season when we have
19 leaves blowing around that are not part of
20 the natural background. So that's another
21 one that we can address either through taking
22 data at different seasons, or we can address
23 it by carefully putting the instruments where
24 we don't have any vegetation that might cause

1 leaf rustle.

2 And the third one, and this is the most
3 problematic of all, is that as our
4 instruments begin to test for quieter and
5 quieter and quieter environments, we run into
6 the problem that, as the wind moves over the
7 microphone, we begin to induce artifact
8 noise, pseudo noise, self-generated noise.
9 There's a lot of terms for it. That has
10 nothing to do with the environment around us,
11 but it's a result of wind and turbulence
12 moving across the microphone diaphragm.

13 Q. Okay. But that sort of thing -- I was asking
14 you about noise that would occur, sort of a
15 seasonal thing. I'm not asking about the
16 microphone problem.

17 A. Okay.

18 Q. But what about running water? I mean, in Mr.
19 O'Neal's report, he indicated that there was
20 running water in a couple of places. Is that
21 something that you would not have a problem
22 with if you did the measurements in January?

23 A. Well, it might be frozen at that time. But a
24 better solution is to relocate your test site

1 to someplace where there isn't audible
2 running water. Putting a measuring location
3 near running water is asking for the data to
4 represent the sound of running water and not
5 the community.

6 Q. Do you --

7 A. There's no reason to put it there. There are
8 many other locations it could have been.

9 Q. Now, did you look at Mr. O'Neal's report?

10 A. I looked at it, but I need more specificity.

11 Q. In the text of his report, he reported that
12 his background measurements in a couple
13 places were influenced by sounds of water
14 running and sticks snapping and that sort of
15 thing. Do you remember that?

16 A. I remember something to that, yes. He
17 described each of the test sites.

18 Q. Okay. And yesterday we had, I think it was
19 Mr. Tocci, look at that and then looked at
20 the data table, or I guess it was a figure in
21 the back of the report, and confirmed that
22 there was no evidence in the data of what Mr.
23 O'Neal reported in the report. Did you hear
24 that?

1 A. I remember that discussion, yes.

2 Q. Okay. Now, when you -- if you have Mr.
3 O'Neal's report, I believe the discussion was
4 about Figure A-3 or 2, which was location
5 L2 --

6 A. Figure A-3?

7 Q. Or A-2.

8 A. Yeah, I'm looking for Figure A-3. Okay.

9 Yeah, I see A-3.

10 Q. And in his report -- no, actually, I think it
11 was A-3. So in his report where he described
12 L3, he said, "Sound levels at the L3 were
13 influenced by flowing water from a nearby
14 brook, aircraft, traffic noise, branches,
15 birds..." Now, if you look at A-3, Figure
16 A-3, which corresponds to Location L3, Mr.
17 Tocci was asked whether there was any
18 evidence in this figure of those influences.

19 Now, when you look at this figure, do
20 you see any evidence of those influences in
21 this figure? And I think --

22 A. When I look at graphs like this, I would
23 assume that a steady source of noise, like
24 flowing water, would represent the minimum

1 levels, or it would be most noticeable when
2 the sounds are at minimum level. And what I
3 see here is at nighttime, usually about
4 midnight through four or five in the morning,
5 we drop down to 22 decibels, 24 decibels,
6 maybe as high as 28. So if running water was
7 present, I would assume that it would be
8 somewhere around 22 to 25 decibels, based
9 upon this chart.

10 MS. BAILEY: Excuse me a
11 minute. The court reporter missed something.
12 Do you want to go back, or should we --

13 THE COURT REPORTER: I got it.

14 BY MR. ROTH:

15 Q. So, looking at chart -- at Figure A-3, is
16 there any -- is there anything on this figure
17 that graphically shows the influence of
18 running water?

19 A. It doesn't have the characteristics of
20 having -- running water was not dominating
21 the readings, unless the running water was 25
22 decibels or 23 decibels.

23 Q. Okay. Now going back to Mr. Tocci's report.
24 There are a number of -- do you want to look

1 back at the screen right now? All we can see
2 is your ear.

3 A. Oh, sorry.

4 [Laughter]

5 Q. Okay. In Mr. Tocci's report, there are a
6 number of computations that he performed to
7 reach the information that he provided in the
8 table on Page 20.

9 A. Okay. Let me see if I can pull up his
10 report. Now, we're looking at his initial
11 prefiled testimony or --

12 Q. His supplemental prefiled testimony of
13 October 11th.

14 A. Can you give me a reference? I know where I
15 can find that. Excuse me. I know where I
16 can find that. Okay. I'm looking at his
17 October 11th, 2012 paper.

18 Q. Okay. Now, if you look at Page 20 --

19 A. Getting there slowly. Page 19... okay. I
20 see a table on that page.

21 Q. Okay. Have you previously had an opportunity
22 to look at this table?

23 A. I did not review this in detail. I remember
24 the discussion yesterday about it.

1 Q. Okay. Do you have experience with or
2 knowledge of Mr. Tocci?

3 A. I met him briefly when I was at the hearing
4 earlier this month. But other than that,
5 I've had no experience, other than possibly
6 some e-mail exchanges. And I sent him a few
7 copies of the reports I've written on this
8 issue.

9 Q. Okay. And in your review of this report, do
10 you believe that Mr. Tocci employed
11 acceptable, reasonable methodology in making
12 his computations?

13 A. I think he used a reasonable method. I think
14 it was much more complicated than I would
15 have done. But in most cases, I think it was
16 reasonable.

17 Q. Okay. Do you think that he made up numbers
18 to reach any of these conclusions in the
19 table?

20 A. No. No, I think this was the result of his
21 analysis. Like I said, there are some of
22 them, like Location 1, Location 5 possibly,
23 where I might have come up with lower
24 numbers. But I think in general it's a

1 reasonable approach. It's just much more
2 complicated than I would have taken.

3 Q. Okay. Thank you.

4 In Mr. O'Neal's testimony, his original
5 testimony -- do you have that?

6 A. His original prefiled?

7 Q. Yes.

8 A. Yes.

9 Q. And if you turn to Page 10 of that --

10 A. I'm on Page 10 now.

11 Q. So, for the five locations there's a table
12 there, Table 7-3. And he predicts for the
13 five locations that the highest wind turbine
14 sound level on that table is Location L3, at
15 42 dB -- dBA; correct?

16 A. That's correct. 42 at Location 3.

17 Q. Okay. And is it your understanding that this
18 is a -- in using his methodology, this is a
19 worst-case figure?

20 A. No, it's not a worst-case figure. And the
21 explanation for that is long and complicated.
22 But the short answer is: There have been a
23 number of studies done, both in Ontario and
24 here in the states, by people who are

1 following up on complaints, in which they
2 find that the predicted value at a property
3 is lower than what they measure when they
4 follow up on the complaint. So, I -- rather
5 than going through a long explanation of why
6 that could happen, what I generally do is say
7 that, if we know that the model predicts 5
8 decibels lower, potentially 20 decibels
9 lower, but at least 5 decibels lower than
10 what would be measured during a complaint at
11 that location, we need to increase all of the
12 predicted levels by at least 5 in order to
13 account for this deviation. So what I see in
14 this table is 42 at Salmon Brook Road. I
15 would say that we would probably find 47 at
16 Salmon Brook Road on a night when a complaint
17 would be likely; 39 at Reed Carr Road would
18 be more like 44 at night. And it could be as
19 much as 5 to 20 decibels higher, depending
20 upon the weather conditions.

21 When we say "predicted worst case," that
22 is a very long stretch. If all of -- and let
23 me back up this way. This model is no
24 different than the models submitted for

1 projects all around the world. All of them
2 come up with numbers above at the same
3 distances --

4 Q. Well, what -- Mr. James --

5 (Court Reporter interjects.)

6 A. If we didn't have complaints -- I mean, if
7 these models were right, we wouldn't have
8 complaints. We do have complaints. Those
9 models are wrong.

10 Q. All right. Mr. James, it seems to me that
11 Mr. O'Neal's objective here is to
12 over-estimate the amount of noise that the
13 wind turbines will produce. And I think you
14 previously testified that they essentially
15 create or provide a higher level of
16 background noise to sort of justify that.

17 What would be Mr. O'Neal's incentive to
18 underestimate the noise that the wind
19 turbines make at a given location, if what in
20 fact he was doing was setting himself up to
21 fail in actual performance? Why would he do
22 that?

23 A. Well, there's two answers to that. The first
24 one is when you're presenting information to

1 a Committee for a decision on a permit, it
2 really helps the argument for that permit if
3 you can claim that the background levels are
4 high, so high that the wind turbines will
5 barely be noticed --

6 Q. Well, I understand that with background
7 levels --

8 (Court Reporter interjects.)

9 MS. BAILEY: Can you stop a
10 second, please?

11 THE WITNESS: Yes.

12 BY MR. ROTH:

13 Q. Sorry. I had interrupted you, and that
14 tossed off the record.

15 So you were commenting on the reason for
16 using higher background levels. And I tried
17 to object to you, because that's not what --
18 that wasn't my question. And I guess I want
19 to go back to my question, which was: Why
20 would they have an incentive to understate
21 the expected noise of the turbines? Because
22 you've probably heard the expression, you
23 know, "under-promise, over-deliver." Aren't
24 they doing the opposite here, if what you're

1 saying is true?

2 A. Not if the goal is to get a permit. They
3 want the turbines to appear as quiet as
4 possible. And that is what has been done.

5 Now, when we say 40 at Keene Road or 35
6 at Loveren Mill Road, arguably, those are
7 average levels. Complaints don't get
8 generated off of average levels. They get
9 generated off of the extremes that occur
10 under other weather conditions. But the goal
11 here is to get a permit. And so why would
12 they want to say at Keene Road it could be as
13 high as 55 under some weather conditions?
14 That's just likely to get the permit denied.

15 Q. I guess the problem that I'm having with this
16 approach that you're suggesting is that
17 they're proposing a limit, an absolute limit
18 of 45, basically, at night. And what you're
19 saying is that, if the 42 is 5 decibels
20 higher, then they're going to be violating
21 their own self-established limit.

22 A. That's right.

23 Q. And they don't care about that?

24 A. That's right. They're very close to the

1 limit right here. And if they pointed out
2 that this is a mean predicted level from
3 optimum noise-emission conditions, that would
4 work against their ultimate goal of getting
5 the permit.

6 Q. If you were to propose an absolute limit for
7 this project, what would it be?

8 A. Well, I have proposed an absolute limit for
9 projects, and I'm consistent with that. So
10 35 dBA would be the absolute limit, based
11 upon calculations for 1-1/2-megawatt wind
12 turbines.

13 Q. Why does -- what's the relationship to
14 1-1/2-megawatt wind turbines? These are
15 twice that size.

16 A. Well, the reason I say 1-1/2-megawatt
17 turbines is those were the turbines available
18 when George Kamperman and I prepared our 2008
19 document. And we went through the
20 calculation to find out what would be the
21 maximum level of a wind turbine that would
22 still blend into the background in a rural
23 community. And so our assumption was a rural
24 community would be 40 decibels or quieter at

1 night; 5 decibels over if that would be 35
2 decibels. Since that time, we have the work
3 by Pedersen, which shows that annoyance seems
4 to be minimal, with 10 percent annoyed at 35
5 decibels, and then rapidly increases as sound
6 levels go up 35. And we have our experience
7 from projects showing where people are
8 exposed to levels of 35 real levels, measured
9 levels at 35, we generally don't have
10 complaints.

11 So what started as a calculation
12 exercise in 2008 has now been corroborated by
13 social studies of people living near wind
14 turbines and by the experience of looking at
15 projects where there was sufficient distance
16 between homes and wind turbines to prevent
17 levels going over 35. And so at this point,
18 I believe 35 is a very solid number, and it
19 is also being accepted and adopted by
20 communities around the world.

21 Q. Okay. So, really, the 1-1/2-megawatt wind
22 turbine is simply where you started --

23 A. Yes.

24 Q. -- but is not really a factor in relation to

1 the 35 or not. You're saying --

2 A. That's right.

3 Q. You're saying it should be 35, whether it's a
4 3-megawatt or a 1-1/2 or a 1/2.

5 A. Yes, with one caveat; and that is, as wind
6 turbines get larger, they produce more
7 low-frequency sound. And so a limit of just
8 35 dBA may give, for a larger wind turbine,
9 the sense that it will not have excessive
10 low-frequency noise. What we need in
11 addition to the dBA criteria is a limit on
12 the low-frequency sound.

13 Q. If you have 35 dBA -- let's say you got a
14 turbine that is a 3-megawatt and it's
15 producing 35, 40 dBA at a residence. Is it
16 going to -- is there going to be
17 low-frequency sound of sufficient power to
18 make -- to be an issue at that residence
19 that's experiencing 30 to 35?

20 A. Yes, and I base that on both studies. But
21 the thing that really brought that home to me
22 was a client I have in Wisconsin, in a
23 project called Shirley Wind. This is a home
24 that is 3300 feet away from the nearest

1 turbine. So it's comparable to many of the
2 homes in the Antrim project. The sound
3 levels outside that home are routinely in the
4 32 to 33 dBA range from the wind turbine.
5 But the low-frequency sound from these
6 turbines -- these are 2-1/2-megawatt
7 turbines -- inside the home is enough that
8 the air palpably shimmers at night. I have
9 stayed overnight there, and I have
10 experienced it myself. The people who live
11 in that home left their home about two or
12 three months after the project started and
13 have not been back to it since.

14 Q. Other than the palpable shimmering --

15 A. So I have personal experience, that, yeah,
16 larger turbines can produce more
17 low-frequency sound while still meeting a 35
18 dBA criteria.

19 Q. Okay. Other than the palpable shimmering in
20 that residence, did you measure the
21 low-frequency sound in any way?

22 A. Yes, I did.

23 Q. And what did you measure it at?

24 A. Low-frequency sounds inside the home

1 generally range at a level of about 70 to 80
2 decibels.

3 Q. And because that's a low frequency, that's
4 not audible?

5 A. It's absolutely inaudible to me. I couldn't
6 hear it. I don't have a vestibular response
7 to it. But I could actually feel the
8 resonance in the -- inside the building.

9 Q. Okay. I'm going to move on to -- this is
10 sort of a nice segue to my question, which is
11 about audibility.

12 MS. BAILEY: Before you move
13 on, Mr. Roth, can I just ask the reporter?

14 Are you okay, or do you -- I
15 wouldn't be surprised if you need to take
16 more frequent breaks.

17 MR. ROTH: I only have two
18 more questions.

19 MS. BAILEY: Oh, two more
20 questions? Okay.

21 MR. ROTH: I can't speak to
22 everyone else, but that's all I've got.

23 BY MR. ROTH:

24 Q. In Mr. Tocci's testimony, he spoke about the

1 audibility of the turbines on nature trails
2 near Willard Pond. Did you see that in his
3 report?

4 A. Yes, I did.

5 Q. Okay. And do you believe that while -- do
6 you believe that audibility of turbine noise
7 in a nature trail or similar natural
8 recreational setting would be a factor that
9 might be found to be annoying, whether you
10 use Pedersen's approach or not, but might
11 annoy a hiker or a kayaker?

12 A. Well, I think the whole point of hiking or
13 kayaking -- well, kayaking, you have river
14 noise --

15 Q. Well, it's a still pond. So --

16 A. But people who are -- yeah, okay. Still
17 pond. That's true. The point of being in a
18 nature preserve is to listen to nature. The
19 presence of wind turbine sounds that are 10
20 to 15 decibels louder than the nature sounds
21 destroys the whole premise of why you want to
22 be there.

23 Q. Okay. And then my last question --

24 A. People don't take hikes in industrial parks.

1 Let me put it that way.

2 [Laughter]

3 Q. Well, I note in my own experience, when I
4 hike in the White Mountains and I hear a
5 Harley on the highway, it tells me two
6 things. One, I'm almost out of the woods,
7 and I feel pretty good. But it also tells me
8 I can hear the Harley, and that's
9 bothersome. Is that kind of what you're
10 talking about?

11 A. That is exactly what I'm saying. It's a
12 sound that is not within the character of the
13 environment.

14 Q. Thank you. In your experience doing these
15 kinds of -- working on these kinds of cases
16 and problems, have you experienced the wind
17 turbine manufacturer's noise guaranty? Have
18 you had any experience with that?

19 A. Yes, I have.

20 Q. Okay. Now, you may remember a question I
21 asked Mr. O'Neal about what happens when --
22 with the guaranty. And I'll be more
23 specific.

24 I asked Mr. O'Neal -- I think I asked

1 Mr. O'Neal, and maybe it was in my
2 imagination. But here's the question: If a
3 wind turbine manufacturer models a particular
4 noise level and makes a guaranty based upon
5 that noise level, and then later goes and
6 conducts tests of the actual turbine running
7 and comes up with a higher number, is the
8 guaranty that the manufacturer makes after
9 those two things have happened, when a sale
10 is made, going to apply to the model, or is
11 it going to apply to the actual test number?

12 A. The guaranty is only applied to the test
13 number. If there was a situation -- and this
14 is a hypothetical because I don't believe
15 it's happened yet. If there was a situation
16 where a project is installed using the
17 manufacturer's data and you later find that
18 the sound levels are much higher and someone
19 says, well -- the utility operator says to
20 the manufacturer, "You guaranteed me it would
21 be X decibels," the way the guaranty is
22 worded would go into effect. And the
23 guaranty only applies to tests of the wind
24 turbine under the conditions defined in the

1 IEC 6140400-11 procedure, which means we'd
2 have to take the turbine off the ridge, move
3 it to a flat area, test it during the daytime
4 with low wind sheer. In other words, the
5 guaranty only applies to the test
6 reproducibility, not to what happens when we
7 relocate that turbine into other areas where
8 wind, turbulence, topography and many other
9 factors could increase it. And so the
10 guaranty is not a guaranty that the sounds
11 will never be excessive in Antrim. It is
12 only that the particular turbine, if tested,
13 again, on a test bed, would still have the
14 same sound levels within plus or minus two of
15 what the test data derived.

16 Q. Okay. Thank you. That's all the questions I
17 have.

18 MS. BAILEY: Thank you. We're
19 going to take a 15-minute break, and we will
20 resume at 12:15 p.m..

21 THE WITNESS: Okay. I'm going
22 to just mute my mic and turn off the screen.

23 MS. BAILEY: Okay.

24 (Recess taken at 12:03 p.m., and the

1 hearing resumed at 12:20 p.m.)

2 MS. BAILEY: Okay, we're back
3 on the record. And next up for questions is
4 Mr. Froling. Do you have any, Mr. Froling?

5 MR. FROLING: No questions
6 today. Thank you.

7 MS. BAILEY: Mr. Beblowski.

8 MR. BEBLOWSKI: No questions.

9 MS. BAILEY: Mr. Jones.

10 MR. JONES: Not at the moment.

11 MS. BAILEY: Well, this is
12 your only moment, just so you know, for this
13 witness.

14 MR. JONES: Yeah. Right.

15 MS. BAILEY: So you don't have
16 any questions.

17 Katharine Sullivan.

18 (No verbal response)

19 MS. BAILEY: Ms. Longgood or
20 Ms. Duley.

21 MS. DULEY: Yes, I do have
22 some. Thank you.

23 CROSS-EXAMINATION

24 BY MS. DULEY:

1 Q. Mr. James, I'm speaking for Janice Duley
2 Longgood. My name is Susan Duley. I am her
3 sister. I'm very familiar with the home
4 she's had in Antrim for many, many years.
5 And I believe you met her when you were here.

6 Her house will be within one mile of
7 four turbines, the closest one being
8 3800 feet. There are a few different numbers
9 for ambient levels: 24 for Mr. O'Neal, taken
10 from Table 6-2, Appendix 1A, NB 57; and also
11 32/15 from Mr. Tocci, Page 20 in his
12 supplemental. I'm trying to read her notes
13 here.

14 I guess the question that I really have
15 is: Are these numbers reasonable, based upon
16 everything you have read, studied and
17 commented on thus far, for us to -- or for
18 her to consider as reasonable approximations
19 of what will really happen? And I'd like you
20 to note that she lives in a very quiet
21 hollow. And the sound equipment -- her sound
22 station was L3, Salmon Brook Road, and it was
23 located above her house, about 800 feet
24 further from the turbine site than her house.

1 A. Okay. I see L3 on the map.

2 Q. If you were looking at that map, the square
3 that is the closest to the -- I don't know
4 what number turbines they are, but they're
5 the middle group of turbines -- that is her
6 house. And it's adjacent to a small beaver
7 pond.

8 A. Okay.

9 Q. Okay.

10 A. So I think I have --

11 Q. So what we're trying to ask --

12 A. So your question is: Are the sound levels
13 representing background sound, I believe you
14 said in the high 20s and low 30s,
15 representative?

16 Q. No. I said ambient levels of 24 for O'Neal
17 and then 32 to 15 for Mr. Tocci. I'm trying
18 to discern what is --

19 A. From 15 -- was Mr. Tocci's lowest number 15?

20 Q. Hold on. I'm getting some help. Just a
21 moment.

22 (Pause in proceedings)

23 MS. BAILEY: Back on the
24 record, Ms. Duley.

1 BY MS. DULEY:

2 Q. Excuse me. I'm going to start over. I've
3 confused myself in asking the questions.

4 So I've introduced myself. I'm Susan
5 Duley. I'm Janice Duley Longgood's sister.
6 I'm representing her at this hearing. And
7 these questions are to ascertain how sound
8 will affect her particular situation.

9 Her house is the one I noted earlier.
10 It's near Sound Tower L3, and it is the
11 little square that is closest to the middle
12 run of the turbines. So there are a few
13 different numbers for ambient levels. Mr.
14 O'Neal has cited an ambient level of 24. And
15 that is taken from Table 6-2, Appendix 13A,
16 Exhibit NB 57. And then also, Mr. Tocci
17 mentioned that there's an ambient sound level
18 of 32. And if you take the insect noise out
19 of that, which was a minus 15, it yields an
20 ambient level of 17. Do you consider these
21 numbers reasonable approximations of the
22 impact of sound on this particular household,
23 noting that it is in a very quiet hollow, and
24 the sound equipment that measured these was

1 above the house about 850 -- 800 feet further
2 from the turbine site?

3 A. I think those numbers are very reasonable.
4 But 24 through 17 are right in the range of
5 what I would expect.

6 Q. And if I look at the 17 here, adjusted number
7 without the insects, and the Antrim Wind
8 Energy sound, I calculate an impact of 26.
9 Does that sound reasonable?

10 A. The difference between the existing
11 background and the predicted sound level is
12 26 decibels? That right there would lead to,
13 as a general rule, a high degree of annoyance
14 complaints. In similar cases where I've gone
15 through the analysis, I would predict that
16 that would be a situation that would lead to
17 lawsuits, if not abandonment of the home.

18 Q. Can you comment at all on the impact of "high
19 annoyance" or "annoyance," as you were
20 discussing vis-a-vis cortisol levels, with
21 any long-term health effects, given your
22 studies done in conjunction with the medical
23 community?

24 A. Well, the reason why Dr. Laurie is taking

1 cortisol samples is because the long periods
2 with high cortisol levels in the body lead to
3 cardiovascular disease and other types of
4 health effects that are driven by stress.
5 And so, yes, it would lead to long-term
6 effects. Whether direct or indirect may be
7 argued. But high cortisol levels over long
8 periods of time are known to cause adverse
9 health effects.

10 Q. And in your experience, would these be
11 exacerbated if someone maybe already had high
12 blood pressure or if someone had a
13 compromised immune system?

14 A. I have clients on Vinalhaven Island that were
15 at similar distances from three wind
16 turbines, whose doctor -- or a client whose
17 doctor recommended that they leave their home
18 on the island because it was beginning to
19 show deterioration of heart function from the
20 continuing stress.

21 Q. Thank you. Does the 15-decibel insect-noise
22 reduction seem appropriate to you in terms of
23 adjusting the figures that Mr. Tocci put
24 forward?

1 A. Well, you know, I would have had to have been
2 there to hear how loud the turbines or the
3 insects were. But the end result he got of
4 18 decibels to 17 decibels is what I would
5 expect for a very quiet area away from
6 highways at night when there's very little
7 human activity going on. Once you removed
8 the insects, there's not much to be heard out
9 in an area like that.

10 Q. Do you have experience with people living as
11 close as my sister does to turbines that are
12 so large, 3 megawatts?

13 A. Not 3 megawatts. That's a newer size. But
14 2-1/2 megawatts is the closest I have come to
15 that. However, the general trend we've seen
16 is that the complaints about -- the
17 complaints that are related to the
18 low-frequency sound components tend to
19 increase as the turbines get larger. And so
20 my assumption is that my experience with the
21 2-1/2-megawatt turbines in places here in
22 Michigan and Ohio, New York, Wisconsin,
23 Illinois, will be comparable to or slightly
24 worse when we go to the 3-megawatt turbines.

1 Q. So it's fair so assume there will be more low
2 frequency noise --

3 A. Yes.

4 Q. -- rather than less.

5 A. Yes.

6 Q. And though it has been stated that the more
7 modern wind turbines do not have this
8 low-frequency noise, what has your experience
9 been with the more modern turbines?

10 A. Well, that's a bit of sophistry. That
11 statement about modern wind turbines don't
12 produce the low-frequency noise that older
13 wind turbines produce comes from the style of
14 turbines that are now obsolete, where the
15 blades were on the downwind side of the
16 tower. So as the wind came towards the
17 tower, we had kind of a dead air spot on the
18 other side that the blades passed through,
19 creating a very loud thump. And by moving
20 the blades to the upwind side, we've reduced
21 that thump. But there's still a wind. The
22 wind slows down as it gets towards that
23 tower. It's just the resistance as the air
24 gets closer. So there is still a detectable

1 thump from that. Dr. Malcolm Swingbanks, in
2 his 2012 paper for inner noise in New York
3 City last August, demonstrated that there was
4 sufficient energy to produce this thump,
5 especially with modern wind turbines.

6 The point is, it's much lower. However,
7 that's not the only source of infrasound.
8 The infrasound that we're seeing and was
9 measured in the paper by myself and Wade Bray
10 is caused by what's called "in-flow
11 turbulence." It's the little gusts and
12 cross-winds and updrafts, et cetera, that are
13 present in the air flowing into the blades,
14 at the height of the blades. These little
15 deviations in the airstream cause little
16 bursts of infrasound. And this would have
17 been a function that's just as true about the
18 old downwind-style turbines as the new,
19 modern turbines. The problem is, until
20 recently, we didn't have instruments that
21 could detect it. And that was the point of
22 our paper, to demonstrate there are now
23 instrumentation methods that can detect the
24 small bursts of acoustic energy in the very

1 low-frequency ranges. And that was our 2011
2 paper. And those have nothing to do with the
3 tower interaction. Those are entirely a
4 function of turbulence in the air moving over
5 the blades, causing little bursts of
6 low-frequency noise. Very short ones, less
7 than a tenth of a second. Very short little
8 bursts.

9 Q. Do you have experience with people -- at what
10 level -- what do people report when those
11 noises are a part of the sound environment
12 around a wind turbine?

13 A. Well, they report that they feel a number of
14 symptoms. These persons get -- some people
15 sense nausea like you would get with motion
16 sickness. One of my Michigan clients
17 described it as standing still while the moon
18 spun her. Another person described it as the
19 sense that the world was okay, but she was
20 spinning. Very similar to the effect she
21 described as when she was a young girl and
22 used to spin rapidly in circles until the
23 world would spin around her. Other people
24 pick it up as pulsations in their chest.

1 There's a wide variety of ways people
2 perceive it. But as a general rule, they all
3 are triggered not by the auditory response;
4 they don't hear it. Let me put it that way.
5 Most of my clients that describe the
6 vestibular-related symptoms do not hear the
7 wind turbines in their homes; they feel it.
8 And they can do this repeatedly.

9 I have a client in Ontario who, while I
10 was taking data outside, told me the turbines
11 had stopped. There's no way he knew that,
12 because he was sitting in a room that had no
13 windows facing the turbines. And he had the
14 TV on, so he couldn't have heard the
15 turbines. And I went outside and looked at
16 my meter. And just at the point he told me
17 the turbines stopped, the sound level had
18 dropped. I went inside, and about of
19 half-hour later he said, "The turbines are
20 running again, except now they've switched
21 direction." I go outside, and indeed the
22 turbines are running, they're in different
23 direction, and my meters show the sound
24 levels are back up. Now, how can he do this

1 if he's not perceiving it? We don't
2 necessarily know everything about how people
3 are perceiving it. But what we can say is
4 there is a certain group of people -- whether
5 it's 10 percent or 20 percent or 40 percent,
6 we don't know -- whose sensitivity to the
7 low-frequency sounds is sufficient to allow
8 them to perceive the turbines operating. And
9 for those people, this becomes an
10 overwhelming problem, causing them to leave
11 their homes. This particular family had
12 their home bought by the operator because of
13 the continuing complaints, along with five
14 other families in that complex. And those
15 homes were at distances of 2200 feet and
16 greater.

17 We're still in the early part of
18 understanding all the nuances. But there are
19 so many complaints with such a well-defined
20 set of symptoms, that I don't believe at this
21 time we can afford to ignore it any longer.

22 Q. Can you account for, or can you explain --
23 let me back up a minute.

24 There's a lot of talk about Wind Turbine

1 Syndrome, vibroacoustic disease. We've gone
2 over that. Yet, the wind industry, and even
3 Mr. Tocci, seem to discount this. Can you --
4 is there any reason for that? Can you
5 account for these -- explain this discrepancy
6 between your perspective and what we're
7 hearing from Mr. Tocci?

8 A. Well, I think the easy answer to that is, if
9 Wind Turbine Syndrome had been described as
10 "Low-Frequency Noise Syndrome," then there's
11 a wealth of literature. The Journal of
12 Low-Frequency Noise and Vibration, published
13 by Geoff Leventhall, who's one of the wind
14 industry experts, routinely has articles on
15 how inaudible levels of low-frequency sounds
16 cause problems. There's a whole class of
17 symptoms related to this aspect. The term
18 "Low-Frequency Noise Syndrome" is the larger
19 category for what we call Wind Turbine
20 Syndrome or Sick Building Syndrome or Truck
21 Driver's Syndrome. People who are exposed to
22 highly modulated, low-frequency sound, who
23 have a vestibular sensitivity that is
24 slightly greater than average, report the

1 consistent a set of symptoms. And the only
2 difference between Sick Building Syndrome and
3 Wind Turbine Syndrome is, instead of office
4 workers in an office, Sick Building Syndrome,
5 we have homeowners in their homes, and we
6 call it Wind Turbine Syndrome. Now, whether
7 Mr. Tocci was involved in this over his
8 career, I don't know. But I have dealt
9 with -- I worked -- and I have a paper out on
10 this called, "Warning Signs That Went
11 Unheard," in a peer-review journal, both in
12 science technology and society, that goes
13 over the history of all of the clues from
14 other types of noise sources causing these
15 adverse health effects that should have been
16 considered by politicians and medical experts
17 when setting up criteria for wind turbines.
18 And as the title says, these warning signs
19 went unheard. So we're seeing the result of
20 it now in projects all over the world, where
21 people can't live in a home or are living in
22 their home and complaining about these
23 symptoms. But symptoms are the same, whether
24 it's Low-Frequency Noise Syndrome, Wind

1 Turbine Syndrome or Sick Building Syndrome.

2 Q. Thank you. Are you familiar -- I know you're
3 familiar with Dr. Nissenbaum's study. You've
4 referenced it. Could you characterize how
5 the people in Mars Hill and Vinalhaven would
6 relate to my sister's situation on Salmon
7 Brook Road? She's very concerned about not
8 being able to sleep. Should she be concerned
9 about that?

10 A. Well, that was -- I mean, it's very similar.
11 There's two wind projects in Dr. Nissenbaum's
12 paper. One of them was the Three Wind
13 Turbine project on Vinalhaven Island, which
14 really isn't that comparable to Antrim. But
15 there's also Mars Hill, where we have, I
16 think it was 19 wind turbines located on a
17 ridge above a very quiet area. This ridge is
18 right along -- it runs north and south along
19 the Canadian border in Maine, such that you
20 bump into the Canadian border 4500 feet from
21 the base of the ridge. So there's only a
22 limited strip where you can put homes. And
23 there's nothing on that site because it's a
24 border area.

1 So you have a very quiet community. You
2 have people within 4500 feet of wind
3 turbines. He did a case control study. We
4 have a control group from the other side of
5 the ridge, several miles away. And he
6 compared the symptoms of the people on the
7 quiet side of the ridge to the people closer
8 to the wind turbine, on what I'll call the
9 "noisier side" of the ridge, and found that
10 of the families who are on the -- within
11 4500 feet of the turbines, 75 percent of them
12 wanted to sell their homes or leave their
13 homes but were unable to because they
14 couldn't get anyone to buy it. He found an
15 increase in the number of sleep aids. He
16 found an increase in the number of basically
17 antidepressants, serotonin -- selective
18 serotonin reuptake inhibitors used by those
19 people. But the general finding was people
20 within 4500 feet of wind turbines were
21 showing a mix of coping mechanisms for both
22 the audible sound and the inaudible sound.
23 And his conclusion was that, if he had gone
24 farther, if the Canadian border hadn't been

1 so close to the ridge, he would have found
2 similar problems extending out to probably
3 distances of a mile and more. His conclusion
4 was that, although we don't know for sure
5 what the safe level is, it's going to be less
6 than 40 decibels. Mars Hill is probably the
7 most deeply studied wind project in the
8 United States. There's been years' worth of
9 study going on. We know what the sound
10 levels were. The models have been redone and
11 readjusted so that they're now fairly close
12 to the way the measurements come out. And
13 because of having that similarity to Antrim,
14 it is very safe, I believe to say, that the
15 kind of responses that Dr. Nissenbaum found
16 for people living on the wind turbine's noisy
17 side of that ridge would be comparable to
18 what would happen in Antrim.

19 Q. Thank you. She writes that -- and I'm
20 quoting -- "I am horrified that Mr. Tocci
21 said mitigation could be storm windows,
22 insulation and indoor ventilation." She
23 lives in this area in Antrim in order to be
24 able to be outside her home, as well as

1 inside the home. Do you know of any other
2 mitigation methods?

3 A. Well, first, I wouldn't necessarily say I'm
4 horrified with the suggestions. But let's
5 say this: That's a "blame the victim." In
6 other words, there are some people who choose
7 to live in quiet rural areas for a number of
8 reasons. Maybe they don't cope well with
9 noise. Maybe they just want to listen to the
10 sounds of insects at night. We don't know
11 what motivates them. But they have chosen
12 this. When you then have a new noise come
13 in, whether it be a highway or airport or a
14 set of wind turbines, it disrupts the basis
15 for why they made that decision. To tell
16 them that the solution is that they now begin
17 to live like urban people -- you put up extra
18 insulation on your home; you live indoors
19 instead of on your patio -- is a terrible
20 imposition upon the whole premise that those
21 who are there first have a priority. If wind
22 turbines had been there and someone moved in,
23 I think that's a whole different issue. But
24 people have self-selected that community, and

1 the newcomer is the wind turbine project.
2 And the newcomer needs to accommodate the
3 character of the community and the desires of
4 its citizens. And putting up storm windows
5 is not accommodating. Accommodating them is
6 either use a wind turbine that is quieter or
7 locate them differently, or locate them
8 somewhere else.

9 Q. Thank you. I have, I think, one other -- two
10 other questions.

11 Given -- have you studied the topography
12 of the ridge upon which these turbines will
13 be erected? Are you familiar with it?

14 A. I'm familiar with it, in that I have been in
15 that area just long enough to see the ridge,
16 to understand where the main highway was with
17 respect to the ridge, and done a number of
18 views using Google Earth to see how the ridge
19 and the wind turbines would look from
20 different homes around that area. But I
21 don't have the in-depth personal experience
22 been with that ridge that I do with other
23 projects.

24 Q. The reason I'm asking is, I wanted to ask if

1 you have an opinion, based upon what you do
2 know about the topography of the ridge and
3 what you know about wind turbine behavior and
4 what you know about weather coming down from
5 Canada in the winter, as to whether the
6 decibel ratings that are projected for this
7 would be adequate, given the fact that we
8 sometimes get some very severe winter storms
9 and unusual wind patterns in this part of the
10 country.

11 A. I think that Mars Hill -- again, the people
12 who live along the base of Mars Hill -- of
13 the ridge in Mars Hill say that the worst
14 time of the year is wintertime, and it's
15 because of those kind of situations. I would
16 have assumed it was summertime when they
17 wanted to use the outdoors. But I have
18 families there that I have communicated with
19 who have told me that there are times during
20 the winter when the sound in their homes from
21 the wind turbines, the audible sounds, are
22 the dominant sounds and that they have to
23 turn up their television or talk louder
24 around the dinner table. So I think that is

1 what you could expect in Antrim. There will
2 be times when the wind turbines are
3 inaudible. There will be other times when
4 it's the dominant noise source. And we don't
5 see that in the prediction. The prediction
6 just gives us an average level without
7 looking at the higher and lower extremes that
8 are going to be the basis for the complaints.

9 Q. Thank you. One more question, and that is
10 that the Applicant wants to have a limit of
11 50 decibels during the day and 45 decibels at
12 night. And you have talked about your
13 clients experiencing both audible frequency
14 responses to that as well as low-frequency or
15 inaudible responses. Given those decibel
16 levels, can you characterize what percent of
17 the -- let's see. I think you said people
18 within 4500 feet would experience high
19 annoyance?

20 A. Well, let me -- yeah, 75 percent of the
21 people within 4500 feet at Mars Hill wanted
22 to sell their homes. I guess that's an
23 indication of being highly annoyed.

24 Q. I'm sorry. I do have one last question.

1 In your experience as an expert witness
2 on sound, would you -- are you familiar with
3 or would you recommend that there be any kind
4 of accommodation in permitting for homes that
5 are located within that sound range that you
6 talk about, I think it's 4500 feet, or
7 exceeding a certain decibel level? By
8 "accommodation," I mean that there be some
9 recognition that their quality of life, if
10 not the value of their home and their
11 physical health, will be affected by living
12 there?

13 A. I think that this is normally addressed with
14 what we call "the property value guaranty."
15 That's what we've done in Illinois and a
16 number of cases. If the project is approved,
17 and we recognize there are a number of people
18 who will be adversely affected, then they
19 should be allowed to get the value of the
20 their property and go elsewhere. That should
21 be built into the cost of the project.
22 Whether that's built into the cost by the
23 Committee making it a requirement or the
24 developer just offering it as a way to

1 minimize future problems doesn't really
2 matter.

3 But the real issue is, given this
4 community, do the turbines belong there? And
5 from what I have seen, the community will
6 have a negative impact. And the negative
7 impact will be extreme for all the people
8 within 4500 feet. And that includes people
9 on both sides of the ridge. To say --
10 declare an eminent domain situation and buy
11 everybody up and add 25 percent to the value
12 of their property just seems like uprooting
13 an awful lot of people for a wind project
14 that might have a happy home on another ridge
15 elsewhere.

16 Q. Thank you, Mr. James. I have no more
17 questions.

18 MS. BAILEY: All right. Mr.
19 Stearns.

20 MR. STEARNS: No questions.

21 MS. BAILEY: Ms. Pinello?

22 MS. PINELLO: No questions.

23 MS. BAILEY: Ms. Manzelli?

24 MS. MANZELLI: No, thank you.

1 MS. BAILEY: Ms. Allen.

2 MS. ALLEN: Yes, I have one
3 question.

4 CROSS-EXAMINATION

5 BY MS. ALLEN:

6 Q. Mr. James, my name is Mary Allen, and I'm a
7 co-intervenor with Bob Edwards in this case.
8 And I have one question for you.

9 Do you have any opinion or evidence
10 about what happens to sound from wind
11 turbines as they travel over a quiet water
12 surface, such as a lake surface? And do you
13 have any idea about when they might be
14 perceived, in terms of distance from the
15 turbine?

16 A. Well, sound traveling over a water surface is
17 kind of an example of a worst-case situation.
18 Sound travels -- because the surface is
19 reflective, the sound will travel very
20 clearly. I think many people have had the
21 experience of sitting on one side of a lake
22 during the quiet of the night and hearing
23 people talk on the other side of the lake.
24 If there had been equal distance to a forest,

1 we probably wouldn't have heard them. So
2 it's a worst-case situation.

3 Q. Thank you very much. No further questions.

4 MS. BAILEY: Mr. Kimball?

5 (No verbal response)

6 MS. BAILEY: Ms. Linowes, how
7 many -- how long do you have, do you think?

8 A. I have quite -- well, a lot of the questions
9 were asked, so I'm doing great. But I
10 probably have at least 40 minutes, I'm
11 thinking, maybe a little more.

12 MS. BAILEY: All right. Let's
13 try to get started and go until about 1:15.

14 Is that okay with you, Sue?

15 THE COURT REPORTER: Yeah.

16 MS. BAILEY: Thank you.

17 Go ahead.

18 CROSS-EXAMINATION

19 BY MS. LINOWES:

20 Q. Hello, Mr. James. My name is Lisa Linowes.
21 And a lot of the questions I had that I was
22 going to ask you have been asked already. So
23 I'm very happy about that. But I do want to
24 cover some territory that was not touched

1 upon.

2 You listened to the testimony yesterday
3 or the cross-examination of Mr. Tocci; is
4 that correct?

5 A. Yeah, that's correct. Up until the very end
6 of it, yes. Just --

7 Q. Okay. So you're aware --

8 (Court Reporter interjects.)

9 MS. LINOWES: I apologize.

10 MR. IACOPINO: Can you repeat
11 that, please?

12 MS. BAILEY: Can you repeat
13 that, please?

14 A. I said it actually was just before the end of
15 it. The battery on my phone died and cut off
16 probably the last 10, 15 minutes.

17 BY MS. LINOWES:

18 Q. Thank you. Okay. So you know that Mr.
19 O'Neal's background sound study had five
20 locations. He had collected A-weighted data
21 on all of the locations, but octave band data
22 for only two of the locations, L1 and L4. So
23 you're aware of that from the report, as well
24 as from his -- from the testimony yesterday?

1 A. Yes.

2 Q. And you also heard Mr. Tocci. He read a
3 paragraph out of a paper written by George
4 Hessler. I referenced it in Paul Schomer's
5 critique of another background study done at
6 Cape Vincent. Do you recall that?

7 A. Yes.

8 Q. And you recall that the content of the
9 paragraph, that he recommended that the
10 intent was to find the lowest consistent
11 background noise? I'm paraphrasing here.
12 But is that your understanding?

13 A. That's my understanding. It's generally
14 accepted practice, yes.

15 Q. You recall that Mr. Tocci agreed that -- or
16 admitted or stated that Mr. O'Neal did not
17 follow that methodology that was recommended
18 by Mr. Hessler?

19 A. That's correct.

20 Q. So if you, Mr. Schomer, Mr. Tocci and Mr.
21 Hessler were all in the room together right
22 now, and I asked each of you, "Did Mr. O'Neal
23 follow the proper methodology for collecting
24 background sound survey?" could you say that,

1 based on what you have heard and read, that
2 you would all agree that Mr. O'Neal did not
3 follow standard practices for collecting
4 background noise?

5 A. Mr. O'Neal did not follow either of the two
6 standardized methodologies, S12.9 Part 2 or
7 S12.9 Part 3, in his background study. And
8 he also focused not on the quietest times,
9 but on times that in his table are described
10 as "average" or "maximum." He also included
11 Leq, which is one of the worst indicators for
12 use in quiet rural areas for background
13 noise. And as such, I could say that some of
14 the data that Mr. O'Neal presented appears to
15 be consistent with what I would have expected
16 for a rural community, particularly one with
17 wilderness characteristics. But the fact
18 that it is mixed in with a lot of other data,
19 that really is irrelevant and makes it hard
20 for the reader to see what is important and
21 what isn't important.

22 Q. Thank you. That gets to my next question.
23 As I was listening to some of your testimony
24 today, I looked again in Mr. O'Neal's report.

1 And I would like to direct your attention to
2 two pages, the first one being 5-5, and the
3 second --

4 A. Okay. I have 5-5 here.

5 Q. Now, here he -- actually, the text begins on
6 the prior page. But in any event, he's
7 talking about Location 1 at the beginning of
8 this Page 5-5. And he says that the
9 continuous steady-state L90 measurements
10 range from 27 to 63 decibels, and then down
11 to Location 2 he says it ranges from 21 to 68
12 decibels. Again, this is L90. And it
13 continues for all of the locations. There's
14 some large range there. So --

15 A. That's right.

16 Q. -- in looking at that, can you draw any
17 conclusion as to what the background sound
18 level is in Antrim?

19 A. Yes. If you just look at the first number,
20 for L1, 27 L90; for L2, 21 L90; for L3, 22,
21 L90; for L4, 23 L90; and for Location 5, 19
22 L90.

23 Q. Thank you. Now --

24 A. The other numbers, the Leq numbers, the

1 higher numbers are irrelevant to the topic of
2 anticipating community response to new noise.

3 Q. Now, Mr. James, if you could look on Page
4 6-3.

5 A. Okay.

6 Q. This table shows the ambient background L90
7 sound levels apparently during periods of
8 high wind conditions -- or including some
9 periods of high wind conditions, what he is
10 calling "the worst case." Would you -- are
11 these the -- are these numbers meaningful, or
12 are they -- are we looking still at what you
13 had said the L90s would be on Page 5-5?

14 A. These numbers are in line. I mean, if you
15 take Table 6.2 and you cross out the last
16 three columns -- the Maximum, Medium and
17 Average -- and you just look at the minimum
18 L90, you have a good characterization of the
19 community. And it's right in the ballpark
20 for what I would expect in a quiet rural
21 community at night.

22 Q. Okay. Thank you. Just bear with me. I'm...
23 (Pause in proceedings)

24 Q. Okay. Based on your examination of Mr.

1 O'Neal's work then, you can determine -- or
2 draw a conclusion as to what the L90 is. So
3 is that the number that you would recommend
4 the Committee start with? So when we're --
5 what would we call -- when we were saying
6 there's a potential over-estimate of the
7 long-term background level, in fact, you're
8 saying that there is enough information in
9 the report to draw a conclusion that the
10 background sound survey is showing sound
11 levels in the 20-decibel to 29-decibel range;
12 is that correct?

13 A. That's correct.

14 Q. Okay. Now, I have some questions regarding
15 the noise modeling, okay. They use the
16 CadnaA software to predict the
17 post-construction noise on an operating wind
18 project. And the CadnaA software is based on
19 a standard, the ISO -- that's based on the
20 standard, the ISO 9613; is that correct?

21 A. That's correct.

22 Q. Okay. Now, in Mr. O'Neal's report, on
23 Page 7-2 he states -- this is at the top of
24 the first -- second full sentence on the top

1 of the page. He says the software was run
2 with meteorology conditions of 10 degrees
3 centigrade and 70-percent relative humidity.
4 Do you see that?

5 A. Yes. Yes.

6 Q. Now, I had asked Mr. O'Neal, when he was on
7 the witness stand, about the standard. And
8 if I could direct your attention to Exhibit
9 IWAG-N1.

10 A. Okay. Give me a second.

11 Q. Okay.

12 (Pause in proceedings)

13 A. That appears to be a copy of the ISO
14 standard.

15 Q. I specifically asked him about the
16 meteorological conditions that the ISO
17 operates under, the ISO standard operates
18 under. If you can look at the bottom of that
19 first column there. And I read to Mr.
20 O'Neal, or pointed out the two conditions
21 under which -- two meteorological conditions
22 under which the ISO standard can work: The
23 one being A, moderate downwind conditions of
24 propagation or their equivalent, and the

1 second being a variety of meteorological
2 conditions as they exist over months or
3 years. And he stated that he used the first
4 of the two; so, the letter A. You were in
5 the room. Do you remember him saying that?

6 A. I remember something along those lines, yes.

7 Q. Now, in your testimony -- and let me just get
8 to it. And this would be your report from
9 July.

10 MS. LINOWES: I'm sorry,
11 Committee. I don't remember the -- I don't
12 know the exhibit. It would be NB 9 maybe?

13 MR. IACOPINO: From July?
14 NB 1.

15 MS. LINOWES: NB 1?

16 A. NB 1. I might be able to get that. I
17 already had it opened so I didn't have to go
18 look at the exhibits.

19 BY MS. LINOWES:

20 Q. I want to refer you specifically to Page 6 of
21 your study, in the bottom. You have a
22 paragraph before the last. There's a
23 sentence that starts, "Meteorological
24 conditions..."

1 A. Yes.

2 Q. Now, you state here -- if I understand this
3 correctly, you're stating that the
4 meteorological conditions that are referred
5 to in the standard are limited to wind speeds
6 of approximately 1 meter per second and
7 5 meters per second when measured at a height
8 of 3 to 11 meters. Is that correct?

9 A. That's what would be considered as a moderate
10 sound wind condition.

11 Q. So when you --

12 A. Go ahead.

13 Q. So when Mr. O'Neal conducted his modeling,
14 was there any way for him to alter the
15 meteorological conditions -- or is the model
16 that he ran to produce the predictive noise
17 based on wind speeds that are in the 1- to
18 5-meter-per-second range?

19 A. The model -- here's the part that's
20 important, and it's a couple sentences
21 earlier. The ISO model assumes that we're
22 looking at ground-based noise sources. It's
23 designed for road or rail traffic, industrial
24 sources, construction activities, et cetera.

1 It is not intended to model noise sources
2 that are elevated high above the ground.
3 When you put a wind turbine on a ridge and
4 then have the blades on a 90-meter tower,
5 this is definitely not a ground-based wind
6 source. So that's where the issue of
7 meteorological conditions comes in.

8 If we limit the model to ground-based
9 noise sources, no height -- no taller than
10 30 meters, then, as a general rule, we can
11 find a condition where there's calm winds at
12 the ground, 1 meter per second or so. And
13 that simplifies all the calculations about
14 how wind interacts with noise, enough that we
15 can have some degree of certainty that the
16 model prediction will relate to what we would
17 go out and measure. And that's where this
18 plus or minus 3-decibel tolerance or
19 competence comes in. When you violate that
20 by either having wind speed at the hub --
21 probably 9 meters per second, 10 meters per
22 second at 20 miles an hour or so -- it's
23 elevated, such that the sound has to travel
24 through layers of wind that may change, such

1 that by the time you get to the ground it's
2 zero. The model just can't address that.
3 The model is not designed to address that;
4 therefore, any assumption that the plus or
5 minus 3dB confidence limits that apply when
6 all of the assumptions are met can't be
7 applied to this. The fact that we can run
8 some numbers, we can put data in and we can
9 take data out, but we don't know whether it's
10 plus or minus 3, plus or minus 5, or plus or
11 minus 15. And the fact of the matter is,
12 when you look at data measurements for Mars
13 Hill -- for example: They took measurements
14 over the course of a year, and they found
15 that the sound levels at the homes varied
16 from as low as 35 decibels to as high as 52
17 decibels. The model predicted, let's say 42.
18 So we see a huge range. So we can't say that
19 the model is accurate, because the
20 assumptions behind the model aren't met when
21 you put wind turbines on a ridge. For that
22 matter, they aren't met when you put wind
23 turbines on a flat farmland in the city -- or
24 state of Illinois. They are too tall, and

1 they operate in different weather conditions
2 than the model can address. There are some
3 models that can address different wind
4 conditions. There's one called Nord2000.
5 But it's not used by the wind industry in the
6 United States. They tend to defer back to
7 the ISO standard 9613.2.

8 Q. Thank you, Mr. James. Now I want to -- and I
9 appreciate what you're saying. But I want to
10 get to a related point. So if we argue for
11 the moment, as Mr. O'Neal is saying, that the
12 model works reasonably well, even though the
13 standard says it does not apply, and we just
14 look at the meteorological conditions under
15 which it's operating, let's assume -- let's
16 accept today, for the moment, that the height
17 is not a problem for the noise source, even
18 though it's well outside the range of how the
19 model's been defined. If the meteorological
20 conditions under which the standard is run
21 are moderate -- which means, from your
22 definition, from what you're saying, 1 meter
23 per second to 5 meters per second -- if the
24 model produced noise levels for those

1 conditions, then what you said a moment ago,
2 a wind turbine operating at full bore, maybe
3 up at 10-meters-per-second wind speeds, what
4 is that -- what would that do to the noise
5 output? Do we have that information?

6 A. Well, the noise output -- the higher the wind
7 speed at the noise source, the farther sounds
8 can propagate, because the downwind condition
9 pushes the sound down towards the ground. So
10 the higher the wind speed, the more sound
11 gets pushed down towards the ground. What
12 it's going to lead to is the model
13 underestimating what the real-world sound
14 levels will be. And that's what we find when
15 we go out and check it, is they tend to
16 under-predict the sound levels, and this is
17 why it appears on paper that the project can
18 be compatible. But once it's operating, you
19 get complaints from people living there.

20 Q. So, Mr. James, earlier today, Mr. Patch, the
21 attorney for the Applicant, read the standard
22 or the condition for wind -- for turbine
23 noise, saying 50 decibels -- that would be
24 dBA -- or 5 dBA above ambient during the

1 daytime, and 45 dBA or 5 dBA at night. Now,
2 in questions under -- and Mr. Roth was asking
3 you questions about that. Why would the
4 Applicant model and demonstrate that the
5 project is not going to have noises that
6 would fit -- why would he said it would fit
7 within that if in fact it's going to operate
8 outside of that range? And I had -- my
9 question for you is, if you can turn to Page
10 7-3 --

11 MR. IACOPINO: Of what?

12 BY MS. LINOWES:

13 Q. I'm sorry. Of Mr. O'Neal's study.

14 A. And is that the table?

15 Q. Yes, it is. Table 7-2.

16 A. Okay.

17 Q. Now, what my eye is drawn to here is dBA.

18 It's not max. It's not the maximum noise
19 level, it's dBA. Is that correct?

20 A. The model of the -- what the model produces
21 is a mean, an average sound level for the
22 conditions it represents. My assumption is
23 that the numbers in this table are the
24 average sound levels that the model produced

1 at each of these locations: At the trailer,
2 at a commercial operation, at a house, et
3 cetera. But they're the average levels, not
4 the plus or minus confidence limit levels.

5 Q. Can you -- in looking at this, are you able
6 to determine what the plus and minus might
7 be?

8 A. Not from looking at this.

9 Q. Okay.

10 A. But looking at other people's studies of
11 similar projects, they would easily be plus
12 or minus 5, with the possibility of as much
13 as 10 or higher.

14 Q. Okay. So, just to reiterate, the conditions
15 under which the wind turbines are operating,
16 on some occasions it may well fit -- this
17 average may be well representative of the
18 sound level, and on other occasions it could
19 be higher or lower; is that correct?

20 A. That's correct.

21 Q. And you're saying, if I understand you
22 correctly, it can be higher by as much as 5,
23 10, 15, and it could be lower by as much as
24 some other amount?

1 A. Yeah. Probably in terms of lower, probably
2 won't be much lower than 5 below these
3 numbers, because, I mean, at some point the
4 only way to get it lower is to turn them off.

5 Q. And if you wanted to -- if you were to look
6 at this information and you wanted to make a
7 correction, based on your experience with
8 post-modeling data, predictive sound levels
9 and post-construction surveys of operating
10 systems, would it be your recommendation to
11 add 5 decibels to this dBA? Six? Ten? What
12 would your recommendation be, so that we have
13 a clearer understanding of the likely sound
14 level?

15 A. I would say, if you were trying to anticipate
16 complaints, we would add 5 decibels to all of
17 those numbers. If we're trying to anticipate
18 a true worst-case situation, you could add 10
19 to 15 to those numbers.

20 Q. So, Mr. James, when we talked about the
21 background sound level as the current -- at
22 the current location, without an operating
23 system, operating project, if we are starting
24 with a background noise level of 22 decibels,

1 and the average -- or the mean decibel level
2 is going to be 40, 39, 35, 37, we're
3 almost -- we're well over 10 decibels above
4 the background noise level; is that correct?

5 A. You're almost 18 over the background sound
6 levels. That would be in the area of "highly
7 objectionable."

8 Q. I want to --

9 MS. BAILEY: Ms. Linowes, are
10 you at a transition point here?

11 MS. LINOWES: I am. I'm
12 actually almost done.

13 MS. BAILEY: Okay.

14 MS. LINOWES: I don't know if
15 you want -- if I could just finish --

16 MS. BAILEY: Yeah, that would
17 be great. Like almost five minutes or --

18 MS. LINOWES: I can't imagine
19 it being more than five minutes.

20 MS. BAILEY: All right.

21 MS. LINOWES: Thank you.

22 BY MS. LINOWES:

23 Q. Mr. James, I was struck -- this was on
24 November 2nd. There was -- Chairman Ignatius

1 had asked some questions of Mr. O'Neal. This
2 was a day that you were not here. And this
3 is -- I would like to read to you from the
4 transcript what she said. And she wrote --
5 she said, "There are concerns about high wind
6 conditions, high power production operations
7 and the sounds of the rotors" -- oops, sorry.
8 I'm sorry. Let me start. I'm on the wrong
9 page.

10 She goes, "I have to say, this is the
11 area that's the most baffling to me as we sit
12 in these cases, that there seems like such a
13 disconnect from what some residents report in
14 other facilities, and we get news clippings
15 and letters and things... versus what the
16 sound engineers tell us is going to be the
17 reality of how people perceive these
18 turbines." And --

19 MR. PATCH: Can we have a
20 page?

21 MS. LINOWES: Yes, of course.
22 That would be Page 24 and 25 of the
23 transcript.

24 BY MS. LINOWES:

1 Q. Based on what you're hearing, what you know
2 of Mr. O'Neal's testimony and of his report,
3 and based on some of what you have discussed
4 today, in terms of the background noise level
5 and what the model noise levels are, is that
6 the "disconnect" we're talking about, that
7 really the background noise level is much
8 lower than the sound engineer, Mr. O'Neal,
9 has indicated, and the noise level of the
10 turbine, even in his model level, is going to
11 be considerably louder than the background
12 noise? Is that the "disconnect"?

13 A. I believe that is. I mean, when you read
14 these reports -- and I have probably read
15 well over a hundred of them in last five
16 years, they're almost like cookie cutters.
17 The same report would be issued in Australia
18 as in Britain, with some minor changes for
19 local ordinances and the way the regulations
20 are written. All of them tend to try to
21 inflate the background sound level and
22 deflate the predicted level. The consequence
23 of this is that many projects have been
24 granted permits, only to produce community

1 disturbances; community annoyance; and in
2 some cases, on particular individuals,
3 severe, call it "impact," in that it affects
4 their health. It affects their ability to
5 even use their property.

6 It would have been very simple. I mean,
7 the assumption should be that the consultant
8 for the developer is advising the developer
9 about the worst-case situation. And if
10 that -- and excluding how many times "worst
11 case" appears in these reports, I would just
12 cross all that out. Despite the fact that
13 they're framed as "worst case," they are not
14 worst case. They are the best argument that
15 the consultant can put forward for why a
16 permit should be granted. If the goal had
17 been to only explain what the background
18 level was, according to convention, meaning
19 the L90 values, and that the models were
20 presented along with the rational explanation
21 of what the assumptions meant, what the
22 deviations between assumptions and real world
23 could mean in terms of exceeding the
24 predicted levels, these reports would be

1 three pages long and very simple to
2 understand, but not necessarily very useful
3 for getting permits when a wind project is
4 near people. So I think a lot of the
5 confusion is trying to give the appearance of
6 a scientific report, while subtly masking the
7 fact that the project may not be suitable for
8 that community.

9 Q. Thank you. And I have one last question for
10 you, and I'm trying to find the exact
11 sentence. I can't find it in Mr. O'Neal's
12 report right now.

13 But in any event -- oh, it is on 8-2.
14 We have heard discussion about audible sound
15 in high frequency; we've heard audible sound
16 in low-frequency, and you've also talked
17 about low-frequency sound that's inaudible.
18 And Mr. O'Neal states in the last sentence on
19 that page, he says, "Low-frequency sound from
20 modern upwind wind turbines has been studied
21 and is not an issue." Now, I don't really
22 want go into a lot of detail on this. But
23 is -- A, has it been studied; and B, is it
24 not an issue? If you could just answer those

1 two questions.

2 A. Okay. I'm going to need to get -- I'm
3 looking at Page 8.2?

4 Q. 8-2.

5 A. And it has three bullet points. And I don't
6 see the statements you've made on that.

7 Q. It's the last sentence.

8 A. Oh, I see it. Okay. I see it now. I was
9 confused by the bullets. "Low-frequency
10 sound from modern wind [sic] turbines has
11 been studied and is not an issue." It has
12 been studied. The purpose of the Bray-James
13 paper was to demonstrate that the studies to
14 date have used methods that are unable to
15 identify, unable to resolve the rapid
16 pulsations that occur in the infrasound
17 range. This isn't because the instruments
18 aren't any good. It's because the
19 instruments are based upon filters, and the
20 filters require that the sound be present for
21 a certain period of time in order to get a
22 reading. And in the infrasound range, the
23 sound has to be present and steady for a
24 period of a second to four seconds. So, if

1 we're looking at pulses that are only a tenth
2 of a second long, they don't get measured.
3 They're not included. In fact, the bulk of
4 the paper, the Bray-James paper, is trying to
5 explain to people who have done the studies
6 that Mr. O'Neal is referring to, including
7 Mr. O'Neal himself, because they're one of
8 the people who've done these studies, that
9 the reason they can't find infrasound is
10 because they're not using the right
11 equipment, the right analytical methods. And
12 we presented to them the correct analytical
13 methods so that they would know how to find
14 them. It isn't that it's not there; it's
15 that they've been using the wrong instrument.
16 Let's use this example: If we're looking for
17 a plastic needle in the haystack with a
18 magnet, you're not going to find it. That's
19 what they're doing. They're using the wrong
20 instrument to find something that is very
21 faint, very difficult to find in the
22 beginning. But it's the wrong instrument,
23 and then they come to the conclusion there is
24 no problem.

1 Q. Nonetheless, physiologically, bodies are
2 picking that sound up.

3 A. Our bodies are much better than any known
4 instrument. In fact, this is the basis for a
5 whole new field of acoustics that just got
6 introduced in this last Acoustical Society of
7 America Conference in Kansas City. And this
8 new field is based upon instruments that have
9 been used for what's called "sound quality,"
10 designing products that meet human perception
11 needs. And the basis for this new field is
12 going to be that we recognize that people --
13 humans are better instruments than any
14 instrument we have, and rather than
15 discounting people's complaints about noise,
16 we include it as one of the three methods for
17 identifying qualitatively noises that
18 interfere with human psychology, physiology,
19 or just our activities in general. So we
20 have come to the point where we now realize
21 that the best instruments we have are not as
22 good as people's auditory and vestibular
23 functions, and we need to include that now in
24 our studies.

1 Q. Thank you very much, Mr. James.

2 MS. LINOWES: I'm all set,
3 Madam Chair.

4 MS. BAILEY: Okay. Thank you.
5 We're going to take an hour for lunch. And
6 when we get back, we're going to have
7 cross-examination by the Applicant and then
8 redirect by Mr. Block. Or no. First, we're
9 going to have questions by the Committee and
10 then redirect by Mr. Block.

11 So, Mr. James, could we maybe
12 arrange to try to meet back here with the
13 court reporter at ten after two so that we
14 can --

15 THE WITNESS: Yes, we can.

16 MS. BAILEY: -- so you, he and
17 I can do some sound checks?

18 And then everybody else, we'll
19 restart the hearing at 2:25. So I'll set up
20 the conference bridge to reopen at 2:10.

21 THE WITNESS: Okay.

22 MS. BAILEY: Thank you.

23 THE WITNESS: Thank you.

24 (Whereupon the lunch recess was taken,

1 and the Morning Session ONLY ended at
2 1:28 p.m., and the hearing to resume in a
3 transcript to be filed under separate
4 cover so designated as "Afternoon
5 Session ONLY".)

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C E R T I F I C A T E

I, Susan J. Robidas, a Licensed
Shorthand Court Reporter and Notary Public
of the State of New Hampshire, do hereby
certify that the foregoing is a true and
accurate transcript of my stenographic
notes of these proceedings taken at the
place and on the date hereinbefore set
forth, to the best of my skill and ability
under the conditions present at the time.

I further certify that I am neither
attorney or counsel for, nor related to or
employed by any of the parties to the
action; and further, that I am not a
relative or employee of any attorney or
counsel employed in this case, nor am I
financially interested in this action.

Susan J. Robidas, LCR/RPR
Licensed Shorthand Court Reporter
Registered Professional Reporter
N.H. LCR No. 44 (RSA 310-A:173)

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