

## STATE OF NEW HAMPSHIRE

## SITE EVALUATION COMMITTEE

November 2, 2012 - 8:05 a.m.  
Concord, New Hampshire

DAY 5  
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 Commission

Amy L. Ignatius, Chrmn.

Public Utilities Commission

Harry T. Stewart, Dir.

DES - Water Division

Johanna Lyons, Designee

Dept. of Resources & Econ. Dev.

Craig Green, Designee

Dept. of Transportation

Brad Simpkins, Dir.

DRED - Div. of Forests & Lands

Ed Robinson, Designee

Fish & Game Department

Richard Boisvert, Designee

Division of Historic Resources

Brook Dupee, Designee

Dept. of Health & Human Services

**COUNSEL FOR THE COMMITTEE:** Michael J. Iacopino, Esq.

**COUNSEL FOR THE PUBLIC:** Peter C. L. Roth, Esq.  
Senior Asst. Atty. General  
N.H. Attorney General's Office

**COURT REPORTER:** Steven E. Patnaude, LCR No. 52

1  
2 **APPEARANCES:**    **Reptg. Antrim Wind, LLC:**  
3                    Susan S. Geiger, Esq. (Orr & Reno)  
4                    Douglas L. Patch, Esq. (Orr & Reno)  
5                    Rachel A. Goldwasser, Esq. (Orr & Reno)  
6  
7                    **Reptg. Antrim Board of Selectmen:**  
8                    Galen Stearns, Town Administrator  
9                    Michael Genest, Selectman, Town of Antrim  
10  
11                   **Reptg. the Harris Center for Cons. Edu.:**  
12                   Stephen Froling, Esq.  
13  
14                   **Reptg. Antrim Planning Board:**  
15                   Martha Pinello, Member  
16  
17                   **Reptg. Audubon Society of New Hampshire:**  
18                   David M. Howe, Esq.  
19                   Amy Manzelli, Esq. (BCM Envir. & Land Law)  
20                   Jason Reimers, Esq. (BCM Env. & Land Law)  
21  
22                   **Reptg. North Branch Group of Intervenors:**  
23                   Richard Block  
24                   Lorraine Carey Block  
                 Elsa Voelcker  
  
                 **Reptg. Appalachian Mountain Club:**  
                 Kenneth Kimball

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1                                   P R O C E E D I N G

2                                   MS. BAILEY:   Good morning.   We'll open  
3                                   the fifth day of hearings in Antrim Wind Energy, LLC's  
4                                   case for a Certificate of Site and Facility.   And, we will  
5                                   pick up where we left off last night.   Mr. Roth has asked  
6                                   to continue his cross-examination with one more question,  
7                                   and then we'll take questions from the Committee.   And, at  
8                                   9:00, or somewhere about then, we will take comments from  
9                                   the public.

10                                  Let's start by identifying who's here.  
11                                  And, for the record, Mr. Simpkins had to leave a little  
12                                  bit early last night, and he wasn't here last night when  
13                                  we decided to start at 8:00 this morning.   So, I  
14                                  apologize.   We didn't call him and tell him.   So, he's not  
15                                  late, he just didn't know.   I'm Kate Bailey.   And I'll be  
16                                  presiding today.   I am the Director of Telecommunications  
17                                  at the Public Utilities Commission, and an Engineer for  
18                                  the Committee.

19                                  DIR. STEWART:   Harry Stewart, Water  
20                                  Division Director, Department of Environmental Services.

21                                  MS. LYONS:   Johanna Lyons, Department of  
22                                  Resources and Economic Development.

23                                  MR. ROBINSON:   Ed Robinson, New  
24                                  Hampshire Fish & Game Department.

1 CHAIRMAN IGNATIUS: Amy Ignatius,  
2 Chairman of the Public Utilities Commission.

3 MR. DUPEE: Brook Dupee, here on behalf  
4 of the Department of Health & Human Services.

5 MR. GREEN: Craig Green, New Hampshire  
6 Department of Transportation.

7 MR. BOISVERT: Richard Boisvert, New  
8 Hampshire Division of Historical Resources.

9 MS. BAILEY: And, this is the  
10 Committee's attorney, Mr. Michael Iacopino. Mr. Roth --  
11 oh, wait a second. We need to take appearances.

12 MS. GEIGER: Yes. Susan Geiger, Douglas  
13 Patch, and Rachel Goldwasser, from the law firm of Orr &  
14 Reno, representing Antrim Wind Energy, LLC, the Applicant.  
15 Good morning.

16 MS. BAILEY: Good morning.

17 MR. STEARNS: Galen Stearns, Town  
18 Administrator of Antrim. Good morning.

19 MS. BAILEY: Good morning.

20 MS. PINELLO: Martha Pinello, Antrim  
21 Planning Board. Good morning.

22 MS. BAILEY: Good morning.

23 MR. HOWE: Good morning. David Howe,  
24 counsel to New Hampshire Audubon.

[WITNESS: O'Neal]

1 MS. BAILEY: Good morning.

2 MR. ROTH: Good morning. Peter Roth,  
3 Counsel for the Public.

4 MS. BAILEY: Good morning.

5 (Whereupon **Robert D. O'Neal** was recalled  
6 to the stand, having been previously  
7 sworn.)

8 MS. BAILEY: Okay. I remind you that  
9 you're still under oath. And, Mr. Roth, you may proceed.

10 MR. ROTH: Thank you. Are you rested?

11 WITNESS O'NEAL: It was just a short  
12 time ago I think that we were here, but I'm ready.

13 MR. ROTH: It's Ground Hog Day, right?

14 WITNESS O'NEAL: Yes.

15 **ROBERT D. O'NEAL, Previously Sworn**

16 **CROSS-EXAMINATION (resumed)**

17 BY MR. ROTH:

18 Q. Yesterday, when you began your testimony, you offered  
19 some comments in rebuttal to the testimony presented,  
20 the supplemental testimony presented by Mr. Tocci. Do  
21 you remember that?

22 A. I remember in general. I'm not sure of the specific  
23 question you're talking about.

24 Q. Yes, we'll get there.

[WITNESS: O'Neal]

1 A. Okay.

2 Q. Just trying to set the stage here. Mr. Tocci, in his  
3 calculations and measurements at Willard Pond, was able  
4 to produce a 15-decibel measurement or calculation, I  
5 guess is probably the more accurate expression, I'm not  
6 trying to characterize it in any way, but on his chart  
7 he shows 15 decibels at Willard Pond. And, he does  
8 that by removing the insect noise from the monitoring  
9 in some fashion. Do you remember that?

10 A. Yes.

11 Q. Okay. And, yesterday, you said two things. You said,  
12 first, that "we never saw 15 decibels." And, in  
13 looking at Mr. Tocci's chart and understanding, I think  
14 you do, the way he came up with the 15 decibels, do you  
15 think it's fair to say that, in fact, Mr. Tocci did see  
16 15 decibels at Willard Pond?

17 A. I guess, let me clarify what I meant when I said "we  
18 hadn't seen 15." It's correct. At this point, you  
19 know, the Applicant has measured for two and a half  
20 weeks during September and October, and Mr. Tocci  
21 measured for a week in August. And, out of those three  
22 and a half weeks of data, nobody's yet actually  
23 measured a 15-decibel value.

24 That being said, yes, his calculations,

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[WITNESS: O'Neal]

1 the technique of removing insect noise mathematically,  
2 would indicate that -- that it could be as low as  
3 15 decibels at night, at Willard Pond, if you take out  
4 everything, all those insects.

5 Q. Okay. And, are you comfortable with the way he  
6 mathematically removed the insect noise?

7 A. It's an appropriate technique, yes.

8 Q. Okay. And, now, I note you did your measurements in  
9 September and October of last year, correct?

10 A. Correct.

11 Q. And, you didn't go out there in January, when there  
12 would be no insect noise, leaf rustle, water running,  
13 correct?

14 A. Correct.

15 Q. Okay. Now, the question I really wanted to get to, but  
16 you took me somewhere else by providing your  
17 explanation, and I appreciate that, is you also said  
18 that "the 15 decibels was perhaps not relevant",  
19 because you believe that "the met tower showed a very  
20 low wind speed, and that, therefore, you would not have  
21 had the wind turbine running at that wind speed." Do  
22 you remember that?

23 A. Yes.

24 Q. Okay. Now, isn't it true that there are instances,

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[WITNESS: O'Neal]

1 perhaps not infrequent incidents -- instances, where  
2 you could have very low sound levels, background sound  
3 levels, and very quiet air at Willard Pond, and still  
4 have sufficient wind to have the turbines running where  
5 the met tower is?

6 A. That is absolutely true. Yes.

7 Q. Okay.

8 A. That may happen.

9 MR. ROTH: All right. Thank you.

10 That's all I have.

11 MS. BAILEY: Okay. Thank you. You  
12 ready? Okay, Ms. Lyons.

13 MS. LYONS: Good morning.

14 WITNESS O'NEAL: Good morning.

15 BY MS. LYONS:

16 Q. We heard a lot of questions yesterday about baseline  
17 sampling, baseline methods that were used for that. My  
18 question is, do we use the same sampling method  
19 post-construction? Would that be a valid measure of  
20 pre- and post-?

21 A. That's a great question. You can do it, I guess, one  
22 of two ways. You can do -- you can do the  
23 post-construction in a long-term, generally unattended  
24 fashion, similar to what we did pre-construction. We

[WITNESS: O'Neal]

1       leave the meters out there for a long period of time  
2       and collect a lot of data. And, then, from that, you  
3       try to identify periods of time where you had good  
4       winds up on the ridge for the Project. So, you know  
5       the turbines are operating at good capacity, maximum  
6       capacity, hopefully. And, we would know that from the  
7       operator's SCADA data, their operational electrical  
8       output. And, yet, we've got low winds down at the  
9       ground to minimize other contributions from other  
10      sources.

11               The reason you sometimes have to do that  
12      is that it's not so simple as saying "All right, we're  
13      going to go out tonight and measure at three or four  
14      locations. They're all going to be downwind of the  
15      turbines. And, all those conditions will be present."  
16      It's surprisingly difficult to find those conditions on  
17      a routine basis. They do happen. But they don't  
18      happen every night, they don't happen every day.

19               So, in a perfect world, you would prefer  
20      to do the "attended" measurements. Where myself or my  
21      colleagues would go out there for three or four hours,  
22      you know, midnight, 2:00 in the morning, and be there  
23      with our meters at locations, take some data for a  
24      little while. Listen, hear what's going on, take some

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1 notes, be confident in what we see and hear, and hope  
2 we've got all those conditions met.

3 Now, in my years of experience, that  
4 doesn't usually happen. You end up going out, it's not  
5 a good night, or the winds aren't blowing as strong as  
6 they were forecast, so you have the turbines spinning  
7 at maybe half their power capacity. So, you've got  
8 some data, but it's not worst-case.

9 So, I guess it's a little long-winded  
10 way of answering your question to say that there really  
11 are two ways to try to do it post-construction, and  
12 they each have their merits, their advantages and their  
13 disadvantages. As I said, in a perfect world, you do  
14 the short-term, with an observer present, I think. But  
15 it may take many occasions in going out there to find  
16 those conditions present, where you want strong winds  
17 up on the ridge, light winds down on the ground,  
18 everybody's downwind of the turbines, all -- you know,  
19 they can't all be downwind the same night. Obviously,  
20 in this Project, you've got some to the east, some to  
21 the west. So, you have to go out multiple nights,  
22 multiple days, and so forth.

23 Q. Would post-construction monitoring be at the same  
24 locations that you used pre-construction?

[WITNESS: O'Neal]

1 A. They would generally be at slightly different  
2 locations, but perhaps in the -- certainly in the same  
3 general area. In other words, for example, let's use  
4 Location 3, L-3 as an example. It's a location near  
5 Ms. Longgood's house, but it wasn't on her property.  
6 You know, we didn't have permission or access at that  
7 time. If the Project is approved and we're permitted  
8 to go out and do post-construction testing, then, in  
9 that case, we would request permission to try to get on  
10 her property and test somewhere, you know, in her  
11 backyard, for example, if that's granted, if she's  
12 amenable to that. So, we would try to test at similar  
13 locations, but not necessarily the identical locations.

14 MS. LYONS: No, I have another question.

15 MS. BAILEY: Okay.

16 BY MS. LYONS:

17 Q. Do you know if Acciona uses third party certification?

18 A. Yes, they do.

19 MS. LYONS: Okay. Thank you. That's  
20 all I have.

21 MS. BAILEY: Okay. Mr. Robinson.

22 BY MR. ROBINSON:

23 Q. I'm trying to get my mind wrapped around how you apply  
24 your different sound numbers to different people's

[WITNESS: O'Neal]

1 ability to hear. And, I'm not questioning your numbers  
2 or anything, I'm just trying to understand it. So, if  
3 you bear with me for a second, I'm just going to give  
4 you a little scenario, using myself as an example. I'm  
5 a wildlife biologist. Part of what I do is conduct  
6 various wildlife surveys. Most of those are bird  
7 surveys. Because of silly things I did when I was  
8 younger, operating chainsaws without ear protection,  
9 shooting guns without ear protection, I've lost a fair  
10 amount of ability to hear in my ears. And, what I  
11 can't hear anymore are higher pitched bird sounds, you  
12 know, like warblers and things like that. But I still  
13 hear turkeys gobble and things like that. So, that's  
14 me. My wife is also a wildlife biologist. And, she  
15 has exceptional hearing. She could be sitting here,  
16 and I would swear to you she could hear the pin drop in  
17 the corner of the room. So, two extremes.

18 Now, each year, in September, we go over  
19 to Watertown, New York for a weekend. We get there  
20 going up through north of Utica, through the Tug Hill  
21 Plateau. And, on the Tug Hill Plateau is a very large  
22 wind farm, Maple Ridge, I believe it is, about 300  
23 turbines or so. And, the highway goes right through  
24 the farm. So, it's pretty neat.

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1                   So, the first time we went through  
2           there, the majority of the turbines that we could see  
3           were turning. And, there's probably 50, 60 of them or  
4           more. So, we pulled off, and we got out of the car.  
5           And, I said "I've got to hear these things." So, we're  
6           standing there side-by-side, and I made a comment to my  
7           wife, I said "Wow, these are really quite. I can't  
8           hear them at all." And, she turns and looked at me and  
9           asked me what planet I was on, because she could hear  
10          them turning or hear them making noise.

11                   So, at your various different stations  
12          where you have taken sound points, my wife and I could  
13          actually be standing side-by-side and we would hear  
14          very different sounds. So, how does -- how does your  
15          sound data get transferred to real-life people that  
16          have different abilities to hear? And, what does it  
17          mean, if anything?

18   A.   That's a fair question. The data presented, in terms  
19          of, for example, what you see up here in this contour  
20          plot, and I'm pointing at AWE-41 exhibit, those are  
21          what's called a "A-weighted sound levels", and pardon  
22          me if I'm repeating something you've already heard.  
23          But the A-weighted takes all those different  
24          frequencies, the high frequencies, the middle

[WITNESS: O'Neal]

1 frequencies, and the low frequencies, and each one of  
2 those frequencies makes a contribution to the overall  
3 A-weighted number, and that contribution is defined by  
4 standard. The ANSI, American National Standards  
5 Institute, says how much our human ear, and this is the  
6 average human ear, which is, I guess, getting to what  
7 you're saying, the average human ear hears each  
8 frequency and how it contributes to, you know, how well  
9 we hear. We hear middle frequencies typically pretty  
10 well; high frequencies, okay; low frequencies we don't  
11 hear very well. So, it discounts the lower frequencies  
12 in calculating this overall A-weighted sort of  
13 one-number level. But that's based on an average  
14 person's hearing.

15 But you're absolutely right. Different  
16 people, whether it's wind turbines or anything, are  
17 going to hear the sounds differently. They're going to  
18 hear the different frequencies differently. So, they  
19 may sound quieter or louder on an individual person. I  
20 can't really sit here and say how each individual  
21 person is going to experience it. All we can do is  
22 present what an A-weighted number would be for a  
23 typical or average person. I'm sorry I can't be any  
24 more definitive than that.



[WITNESS: O'Neal]

1 Q. No, I understand what you're saying. It's based on an  
2 average person's ability to hear?

3 A. Correct.

4 MR. ROBINSON: Thank you.

5 WITNESS O'NEAL: You're welcome.

6 MS. BAILEY: All set? Chairman  
7 Ignatius.

8 CHAIRMAN IGNATIUS: Thank you. Good  
9 morning, Mr. O'Neal.

10 WITNESS O'NEAL: Good morning.

11 BY CHAIRMAN IGNATIUS:

12 Q. Building on what you were just describing about the  
13 A-weighting, and I think someone touched on this  
14 yesterday, but I didn't get the full understanding of  
15 your answer. Because the A-weighting is what human  
16 ears perceive and is the focus when we're talking about  
17 disturbance to people, is there any analysis of what  
18 the turbine noise effect is on animals and birds and  
19 bats? I mean, are there other weightings, other ways  
20 that you discount the parts they don't get much of and  
21 concentrate on the parts that they do get of, and any  
22 concerns about noise from the nonhuman population?

23 A. There's no weighting scale, *per se*, that's applied to  
24 animals that I'm aware of. The little bit of

[WITNESS: O'Neal]

1 literature I've seen on sound impacts to wildlife, from  
2 the Fish & Game folks, basically, I think says that  
3 it's -- that there's no definitive research on it yet,  
4 but it's something that they're interested in studying.  
5 So, I don't -- I'm not aware of anything that says, at  
6 a certain sound level or a certain octave, band or  
7 frequency, is a concern for certain species.

8 Q. Are there any even anecdotal findings that sound is  
9 having an impact or is not having an impact on wildlife  
10 that you're aware of in your business?

11 A. I mean, anecdotally, I can only speak for what I've  
12 seen firsthand in the last six or seven years, where  
13 I've been out at active wind turbine projects, you  
14 know, up to the turbine base and in the vicinity of  
15 turbines, and see plenty of deer and wild animals, as  
16 well as domesticated animals, you know, dogs and cows  
17 and cattle and so forth, grazing right in the -- you  
18 know nearby wind turbines, with no apparent ill  
19 effects.

20 Q. Also, yesterday, you testified that your sound data was  
21 "conservative by assuming all turbines were running at  
22 once, which really wouldn't happen, because that would  
23 require wind coming from all directions at once." And,  
24 I probably didn't get that quite right, but do you know

[WITNESS: O'Neal]

1       where I'm going there?

2   A.   I think so.  Can I just clarify, --

3   Q.   Please do.

4   A.   -- if I misspoke?  What I was saying was that,  
5       certainly, all turbines may be operating at once, and  
6       operating at full capacity.  But the wind can't be  
7       blowing towards a receptor -- and this might be helpful  
8       again if I go up to the exhibit here.  So, again, let's  
9       take Ms. Longgood's house as an example here, which is  
10      do west of the Project.  So, the calculations that go  
11      into the model to develop these contours assume that  
12      all ten of the turbines are operating at their full  
13      maximum capacities simultaneously, which I'm sure the  
14      developer hopes happens quite frequently.  I'm sure it  
15      will.  It will happen often.  But the challenge is that  
16      the model is going to bring a northeast wind to  
17      Turbines 1 and 2 to her house, as well as an easterly  
18      wind and a southeast wind, which is what you would need  
19      for her house to be downwind simultaneously of all ten  
20      of those.  That's the part of conservatism I was  
21      talking about.  Reality is it's going to be one  
22      direction at a time.  So, if it's a northeast wind,  
23      she'll get the contributions from these turbines here  
24      (indicating), 1, 2, and 3 perhaps, and much lesser

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[WITNESS: O'Neal]

1 contributions from the other seven.

2 Q. All right. That makes a lot of sense. Because it's  
3 true, isn't it, that turbines are designed to sort of  
4 feather their blades and pick up wind from whatever  
5 direction they're coming from? They don't have to be  
6 physically facing a particular direction to be -- to  
7 make use of that wind?

8 A. They will be constantly -- well, not constant, they  
9 will be finding the direction of the winds. So, if  
10 it's a northwest wind, they will rotate so that they're  
11 facing into the northwest winds, right.

12 Q. Okay. So, it is possible, and, in fact, likely, that  
13 at times all turbines will be running at high speeds.  
14 But your point was that the receptors, the people  
15 hearing the sound, the wind won't be bringing the  
16 sounds of all turbines to their location at the same  
17 speed, because the wind's only going in one direction?

18 A. Correct.

19 Q. That helps. Thank you. There are sound complaints  
20 that we hear about and read about that seem to fall  
21 into three different categories that I know of, and I  
22 want to ask you if there are additional categories.  
23 There are concerns about high-wind operations, high  
24 power production operations, and the sound of the

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1 rotors or the mechanical parts of the turbine itself.

2 Correct?

3 A. The parts in the nacelle, for example?

4 Q. Yes.

5 A. Like the generator that might be inside the nacelle?

6 Q. Yes.

7 A. Okay. And, that's going all the time.

8 Q. Okay. There is also -- but, as the wind gets stronger,  
9 that sound increases, or no?

10 A. No. I mean, the sound -- the sound is in total from  
11 both the blades, the "aerodynamic noise", it's called,  
12 as the blades move through the air, in addition to the  
13 sound from the nacelle, which is the stationary part,  
14 you know, the generator and so forth in the nacelle.

15 Q. So, the sound from the nacelle is constant, whether  
16 it's a low-wind or a high-wind day?

17 A. Fairly constant. Really, what changes is the  
18 aerodynamic sound, as the blades -- the RPM of the  
19 blades increases.

20 Q. Then, there's also, we hear and read about complaints  
21 about a very, almost soft, but intermittent sound that  
22 people have described as sort of a slow, kind of a  
23 "whoosh" almost noise, that is kind of a rhythmic  
24 repetition sound. And, I'd be interested in your

[WITNESS: O'Neal]

1 explanation of what it is that people are hearing?

2 A. That sort of "whoosh, whoosh" sound is the sound of --  
3 the aerodynamic sound of the blades passing through the  
4 air. And, typically, that's the downward stroke of the  
5 blades is passing in front of the tower. So, about  
6 once a second you will hear that "whoosh, whoosh" type  
7 sound. And, again, that's the aerodynamic noise of the  
8 blades.

9 Q. Another sound we've heard described, which is a metal  
10 contraction sound, more of a high-pitched, creaky metal  
11 noise. And, of contraction in cold weather, does that  
12 -- has that held up in from your experience as  
13 something that happens frequently?

14 A. That I'm not -- that's not ringing a bell, in terms of  
15 a "metal" sound. I mean, there are -- the only other  
16 closest thing I could think of to that perhaps is that  
17 every once in a while there will be a maintenance issue  
18 on a turbine. And, as it's rotating to find the wind,  
19 as the yaw is moving, if there's a bad bearing or  
20 something like that, it will make a mechanical type of  
21 noise. Which is not normal, and it means there's a  
22 maintenance issue. And, I have heard that on occasion,  
23 but that's not a typical, every day sound.

24 Q. So, as the components heat up or cool during the course

[WITNESS: O'Neal]

1 of a day and with weather changes, you don't hear a  
2 contraction noise from the unit itself?

3 A. No. No. Almost like, as the temperature changes, a  
4 materials property change? No, I have never heard  
5 that.

6 Q. All right. Are there any other sounds that you heard  
7 complaints about, things in other categories that I  
8 haven't mentioned?

9 A. Probably the only other one I have heard of, and I  
10 don't know if it's even applicable to this particular  
11 turbine or in this part of the country, is, down in  
12 Texas, they have what's called a "hot weather package"  
13 on some of the turbines, where they have some  
14 additional cooling fans that the manufacturer will  
15 install in the nacelle, because it gets so hot down  
16 there, that they need to cool the inside, and that's  
17 like a giant school bus up there. So, they need to  
18 cool it. And, so, they have these cooling fans to  
19 ventilate it. And, I think they've got them on a  
20 thermostat. So, at certain temperatures, they will --  
21 they will kick on. And, they're, frankly, more of an  
22 issue at fairly close-in distances, but they can be an  
23 additional source of sound. And, I am not aware that  
24 they have that on this particular turbine. I don't see

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1       that too often.

2   Q.   What do you understand of that intermittent,  
3       one-time-per-second whooshing noise, and how that is  
4       perceived, as opposed to constant noise? I mean, is  
5       the concern not so much the actual sound level, but the  
6       on/off aspect of it?

7   A.   My understanding of, when the complaints that have come  
8       from that type of sound is, yes, it's not so much the  
9       absolute sound level, in other words, the decibel  
10      level, *per se*. It's the fact that folks can hear it.  
11      It's audible, and it's something they perceive and can  
12      hear, and they find that bothersome. Why someone finds  
13      that bothersome, that I can't answer. It could be the  
14      fact that it's just audible and it's different from  
15      what they're accustomed to, perhaps. But you might  
16      hear that at a pretty modest sound level. It certainly  
17      doesn't have to be extremely loud to hear.

18   Q.   Do people vary in their response to it? That some are  
19       more bothered than others?

20   A.   That's my experience, yes. Some people aren't bothered  
21       by it at all. Some people are very much bothered by  
22       it. It seems to be an individual reaction.

23   Q.   I have to say, this is the area that's the most  
24       baffling to me as we sit in these cases. That there



[WITNESS: O'Neal]

1 seems like such a disconnect from what some residents  
2 report in other facilities, and we get news clippings  
3 and letters and things, that sort of thing. Versus  
4 what the sound engineers tell us is going to be the  
5 reality of how people perceive these turbines. And, it  
6 doesn't seem to have changed over the years. And, that  
7 there still is this huge disconnect between some  
8 people's complaints and what the science keeps telling  
9 us. So, I don't even know how to phrase that as a  
10 question, other than it is baffling. And, if you have  
11 any thoughts on that, I would be interested?

12 A. Sure. No. That's certainly an issue that comes up  
13 routinely in these types of projects, whether it's in  
14 New Hampshire or other states. And, I think, you know,  
15 what you can do is look at "Is the Project well-sited?"  
16 "Are the sound levels, you know, at a reasonable level,  
17 based on other guidelines and criteria and standards?"  
18 But, knowing that, the research does show there's some  
19 -- some of these European studies have been introduced  
20 as part of this case, and other cases, particularly,  
21 the -- they call them "Pedersen", a scientist named  
22 "Pedersen", in Sweden, has introduced some papers.  
23 And, her research shows that the visual aspect is at  
24 least as important as the audible aspect. When folks

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1 see wind turbines, and she's got a lot of statistics on  
2 this, in terms of their annoyance, their purported  
3 annoyance, the annoyance levels go up when the turbines  
4 are visible, and they go down when they're less  
5 visible, at the same sound levels.

6 So, that research is -- seems to be  
7 pretty consistent that the visual aspect plays at least  
8 as large a role as the sound. So, you can have the  
9 same sound levels, and people have different reactions  
10 whether they're visible or not visible. So, I think  
11 that's one of the difficulties that the acoustical  
12 engineers have, when we say, you know, most -- just  
13 about every single resident in Antrim is going to be in  
14 the 20s and the 30s in this Project. I think there's  
15 only two or three that are even at 40 or 41. So, this  
16 is -- we have very large setbacks for this. They're  
17 generally 3,000 feet and beyond. So, the sound levels  
18 are going to be, you know, fairly low for this. Yet,  
19 there's -- you know, you can be fairly confident that  
20 some folks will still be bothered by it, and they will  
21 still here it, and perhaps complain about it, even at  
22 fairly modest sound levels.

23 Q. You had said in your testimony that the "nearest  
24 residence is a half a mile away." Can you show us

[WITNESS: O'Neal]

1 which one that is?

2 A. Sure. The nearest residence is Mr. Ott, who's a  
3 participating residence. His house is right next to  
4 the substation that we've seen. And, he's a half a  
5 mile away. The nearest non-participating residence is  
6 his neighbor, who is 2,800 feet away. I forgot the  
7 gentleman's name, but he lives along Route 9 there.  
8 He's 2,800 feet. And, everybody else is generally  
9 3,000 feet or further. So, the two closest ones are  
10 due north of Turbine 1.

11 CHAIRMAN IGNATIUS: We have a few too  
12 many decibels going on up here.

13 MR. IACOPINO: Pure tone.

14 BY CHAIRMAN IGNATIUS:

15 Q. Do you have any understanding of reports that there may  
16 be sleep disturbance or mental concentration problems  
17 or even mental functioning problems, as a result of  
18 being in proximity to windmill sounds?

19 A. I mean, I've certainly seen some of the papers and the  
20 write-ups that have been done about that. I guess a  
21 couple things to keep in mind. Is that, these sound  
22 levels that we're talking about here, I'm not sure if I  
23 said this yesterday or not, we have to remember, these  
24 are all outdoor sound levels, okay? So, these are

[WITNESS: O'Neal]

1 outside the home. So, at 40 decibels, 35 decibels, you  
2 should subtract 10 to 15 additional decibels to  
3 estimate what it would be inside someone's home.  
4 Windows open, you can subtract 10; windows closed,  
5 especially here in New Hampshire, at least 15 decibels.  
6 So, 40 decibels becomes 25 to 30 in the home.

7 The World Health Organization has a  
8 couple different community guideline criteria that talk  
9 about sleep disturbance. One of them is the 45 dBA  
10 that you've heard mentioned before probably, that's  
11 also an exterior number. Certainly, this Project would  
12 comply with that. There's a relatively new night noise  
13 guideline that's also been discussed, I think, that the  
14 WHO has introduced. It's a European guideline values  
15 called "Night Noise Guideline", and that's a 40-decibel  
16 value. And, that's a long-term annual average for  
17 nighttime sound to permit good sleep and good health.

18 This Project also meets that. And, the  
19 reason I say that, 40 decibels, on an annual basis,  
20 means that some nights, even with the closest homes,  
21 you might have 40 to 41 decibels at night. But there  
22 will be many, many nights where you could have sound  
23 levels lower than that. Because either the turbines  
24 are not spinning at all, in which case the sound level

[WITNESS: O'Neal]

1 is zero from the turbines, or the turbines are spinning  
2 at somewhat reduced power operations, so the sound  
3 levels are less than 40. So, when you add it up over  
4 the course of a year, every single home in this Project  
5 area is going to meet that European guideline of 40  
6 Night Noise Guideline, which goes to your question of  
7 sleep.

8 So, I can introduce those concepts as  
9 something to give you a data point. Will someone wake  
10 up in the middle of the night, down the road, if these  
11 turbines are operating, with their windows open, hear  
12 them and not be able to get back to sleep? Certainly,  
13 that's a possibility. I could never say that that  
14 wouldn't be true. But, I think, using those guideline  
15 values and looking at the levels of this Project, I  
16 think that it's very compatible what they're trying to  
17 do.

18 Q. When you said that those average numbers means that  
19 "there will be times when there will be less --  
20 actually less going on, if there's periods where the  
21 turbines are not operating or at a much lower speed",  
22 that also suggests there will be times where, over the  
23 course of an hour, there may be some real spikes in  
24 sound as well, does it not?

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[WITNESS: O'Neal]

1 A. Well, these sound levels that we've been talking about  
2 here, those are the time periods when the turbines are  
3 operating at their maximum output. So, those would be  
4 the top values, if you will, or the highest values.

5 Q. All right. You're right. You had said that. And, you  
6 based the maximum you used, I've forgotten it, you told  
7 us the number of meters that you used to model that.  
8 Is that because any higher than that the turbine  
9 doesn't -- it shuts down, it doesn't keep operating or  
10 what?

11 A. No. I mean, the turbine will keep operating up to I  
12 believe 25 meters per second, which is about 50 to  
13 55 miles per hour. Above that, it will shutdown. So,  
14 it will keep operating. The sound levels from the  
15 machine will not get any louder. It's because this is  
16 a -- what's called a "pitch-controlled machine", so the  
17 blades are going to turn to generate more power, but  
18 they don't increase the sound levels. That's the more  
19 modern technology. The older technology was a  
20 "stall-controlled", which the sound levels could keep  
21 increasing as the wind speed increased. Don't be  
22 confused, that's not what we're talking about here.

23 Q. Well, but I now am confused. Because I thought you had  
24 said that the nacelle sound is a constant, but the

[WITNESS: O'Neal]

1 movement of the blades changes, because of the  
2 aerodynamic speed of that movement, that that does  
3 increase with wind speed. And, then, at some point,  
4 does it level off and doesn't go any further?

5 A. That's correct. It increases up to a certain point,  
6 and then it goes flat. So, increases up to about I  
7 believe it's 8 meters per second, around that wind  
8 speed at the hub. And, then, after that, the sound  
9 levels do not increase even as the wind speed  
10 increases.

11 Q. So, you could go from 8 meters per second up to  
12 25 meters per second, and the sound -- the aerodynamic  
13 sound wouldn't change and the nacelle sound wouldn't  
14 change?

15 A. That's correct.

16 Q. Yesterday, you said that "there are things one can do  
17 to mitigate noise." What are the steps that are  
18 possible within modern turbines to reduce noise?

19 A. Most of the turbine manufacturers, including Acciona,  
20 the one we're talking about here, have what's called a  
21 "noise reduction option". And, what that basically  
22 means is they adjust the pitch angle of the blade, and  
23 they can do it in sort of a stepwise fashion. You  
24 know, to reduce it basically at a decibel at a time.

[WITNESS: O'Neal]

1 And, I don't know all the engineering details about how  
2 they do it and what goes on internally. But it has  
3 something to do with the pitch angle of the three  
4 blades. But, by doing that, there's two consequences:  
5 One, they reduce the sound. And, number two, they  
6 reduce the electrical output from the turbines.

7 Q. Have you seen instances where that's been ordered after  
8 sound measurements came in higher than had been  
9 expected?

10 A. Yes, I have. Do you want me to explain where?

11 Q. That's okay. I just -- is it something that is -- does  
12 it come with that package in it automatically? You  
13 know, that it's already part of what one purchases with  
14 the Acciona system? Or, is it something that has to be  
15 specially ordered to be included in that?

16 A. I'll make my best estimate, but, really, it would be a  
17 question for the Antrim Wind folks. My understanding  
18 is that's mostly a software adjustment. So, the  
19 turbine itself is going to be the same when they order  
20 it. They would then have to speak with Acciona about  
21 making those adjustments in the software. So, I don't  
22 know if there's a contractual price issue there or not.

23 Q. So, when often in these cases, if a permit is issued  
24 and there are conditions about meeting -- adhering to



[WITNESS: O'Neal]

1 certain sound levels, the consequences of what one does  
2 if the sound levels are exceeded is always a little bit  
3 -- you know, so, then, what do you do? You're not  
4 going to tear everything all down. And, so, what are  
5 the responses? And, it sounds like that adjustment of  
6 the blades is one option, correct?

7 A. That is correct. You can use that noise reduction  
8 option. And, you do that on a turbine-by-turbine  
9 basis, for example. In other words, there's ten  
10 turbines here. And, there may only be a couple of  
11 homes or locations where it's a concern. And, you can  
12 pretty quickly identify which turbine or turbines are  
13 the culprits, if you will, in terms of making it a  
14 little bit louder than they should be. So, maybe you  
15 just do it for those one or two turbines, and the rest  
16 of them, which are further away, you don't have to do  
17 anything for. So, there is some flexibility there.

18 Q. The more extreme option would be to actually shut down  
19 a particular turbine, if that was causing -- causing  
20 sound over the levels?

21 A. That would be the most extreme option, yes.

22 Q. I believe, in some cases, there's also been discussion  
23 about sound mitigation that could be done at the  
24 property line or near the residence, of planting

[WITNESS: O'Neal]

1 additional buffering, trees or bushes, that sort of  
2 thing. Have you ever had experience with that?

3 A. Generally, for a wind turbine Project, all that's going  
4 to do is give a visual screen. It's not going to do  
5 anything of real substance, in terms of lowering the  
6 sound levels at someone's house. The alternative to  
7 that is that I have seen homes undergo some additional  
8 replacement windows or something like that, if there's  
9 a concern from outdoor to indoor. You can certainly  
10 look at something like that, in terms of mitigating the  
11 sounds inside someone's house.

12 Q. Do you think those are effective?

13 A. Well, I mean, they're used -- they're used routinely  
14 around airports to reduce sound. The FAA has a whole  
15 program for that. And, certainly, if you're looking at  
16 a home that has perhaps older style windows,  
17 single-pane windows, and you replace them with  
18 double-pane, double-glaze or triple-glaze, and  
19 different doors and so forth, you can get a more  
20 significant sound reduction. So, yes, they can be  
21 effective on a case-by-case basis.

22 CHAIRMAN IGNATIUS: All right. I think  
23 those are my questions. I appreciate that. That's very  
24 helpful.

[WITNESS: O'Neal]

1 WITNESS O'NEAL: You're welcome.

2 MS. BAILEY: Mr. Dupee.

3 MR. DUPEE: Just one quick question,  
4 following up on Mr. Robinson's comments.

5 BY MR. DUPEE:

6 Q. And, that is talking about the "A-weighted scale". So,  
7 I think what we're saying there is that the receptor is  
8 the variable, not the source of noise. Because if you  
9 characterized that by a A-rating -- A-weighted rating,  
10 you would receive the same as somebody with the same  
11 ability to hear, is that correct?

12 A. Could you just say that again. I wasn't sure as to the  
13 question.

14 Q. If Mr. Robinson and his wife both have the same acuity  
15 of hearing, if they both perceive the same sound, if  
16 exposed to the same A-weighted sound?

17 A. Right. But they heard it differently?

18 Q. Because their different ability to receive it?

19 A. That's correct. Yes.

20 MR. DUPEE: Thank you.

21 WITNESS O'NEAL: Yes.

22 MS. BAILEY: Yes, Dr. Boisvert.

23 BY MR. BOISVERT:

24 Q. Am I correct in that the primary wind direction source

[WITNESS: O'Neal]

1 is from the north/northwest?

2 A. That is correct.

3 MS. BAILEY: Can you pass him the  
4 microphone please.

5 BY MR. BOISVERT:

6 Q. Consequently, the greatest perception of sound from the  
7 turbines would be the south/southeast, because the wind  
8 would carry the noise, correct?

9 A. That's correct.

10 Q. Okay. And, it's also fair to say that, in your  
11 studies, sampling is where you begin the data  
12 collection. You don't get a total representation of  
13 all sound, you select samples, correct?

14 A. That's right.

15 Q. So, the location of where you take the samples is going  
16 to be very important to the overall validity and  
17 reliability of your findings? If you don't select the  
18 right sample, you'll get a biased result?

19 A. Yes. That's true.

20 Q. Okay. As I look at the distribution of your sampling  
21 stations, where you have your monitors, I notice that  
22 three of them are, in effect, upwind from the turbines,  
23 one is downward wind, and one is tangential. Why  
24 weren't there more downwind?

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[WITNESS: O'Neal]

1 A. That's a good question. I think, in the case of a  
2 pre-construction study like this, the thinking was to  
3 represent the community in all directions, because we  
4 felt that people in the community would be interested  
5 no matter where they lived, upwind or downwind. If and  
6 when the Project gets to the point of doing  
7 post-construction compliance testing, to see if they  
8 meet any kind of permit conditions for sound, then I  
9 would suggest there will be more locations in a  
10 downward direction to do that kind of compliance  
11 testing.

12 Q. But wouldn't you suffer from not having as broad of a  
13 baseline comparative database?

14 A. What can also be done, and what is often done in  
15 post-construction testing, is you can also get some  
16 shutdowns done in the post-construction testing, so you  
17 can also get a database at that same time, in terms of  
18 what it is without the turbines.

19 Q. So, for the purposes of the sound study, you would have  
20 the Project shut down, so you could get some  
21 non-operational time comparisons?

22 A. I mean, that is certainly one option. I have seen that  
23 done on some post-construction studies. It's not  
24 absolutely required, but that is something that could

1 be done.

2 Q. Now, you said that these were -- these stations were  
3 distributed to reflect "the community", is that  
4 correct, the location of the monitoring stations?

5 A. Right. The spatial distribution throughout the  
6 community, with a focus as much as possible on areas of  
7 the community that were going to be generally closest  
8 to the proposed wind turbines.

9 Q. Now, when you say "community", what specifically do you  
10 mean? Residences?

11 A. Yes.

12 Q. So, other facilities that were not a residence weren't  
13 included in the selection criteria?

14 A. Well, we, with the exception of Location 5, the Gregg  
15 Lake area, which we understood was a town -- town  
16 recreation area, and there also are some residents down  
17 along that area, but we understood that was a  
18 recreation area, and so we put one monitor there as  
19 well.

20 Q. So, you didn't consider the Harris Center to be an area  
21 that might be of particular interest?

22 A. I'm not familiar with the Harris Center.

23 Q. Correct me if I'm wrong, but it's by Willard Lake, is  
24 that the area?

[WITNESS: O'Neal]

1 MR. ROTH: I think Willard Pond is where  
2 the Audubon center is.

3 MR. BOISVERT: Okay. My apologies.  
4 Right. I'm sorry. Okay.

5 BY MR. BOISVERT:

6 Q. A environmental appreciation area, in effect, of  
7 Audubon, and I think what is safe to say is more or  
8 less oriented towards natural environment and areas  
9 that are not residential?

10 A. Yes.

11 Q. So, that wasn't highly under consideration then?

12 A. No. I mean, you know, you try to put a reasonable  
13 number of sound level monitors out there. Obviously,  
14 there's many number of locations you could measure.  
15 And, we felt, on balance, that this gave us -- these  
16 five locations gave us a reasonable idea of what was  
17 going on today in the community.

18 Q. In your post-construction studies, I thought I heard  
19 you infer that you would be more likely to put some  
20 stations downwind?

21 A. Well, yes. As I said, one of the -- one of the  
22 requirements, when you do the post-construction, is you  
23 want to make sure that you're measuring downwind when  
24 the turbines are operating. So, if the predominant

[WITNESS: O'Neal]

1 direction is a northwest flow, northwest winds, then it  
2 would certainly make sense to try to do several  
3 locations downwind of that, which would be, say,  
4 southeast of the Project.

5 MR. BOISVERT: Okay. Thank you.

6 WITNESS O'NEAL: You're welcome.

7 MS. BAILEY: I have a few questions.

8 BY MS. BAILEY:

9 Q. What is the lowest level of sound that could be  
10 possibly detrimental to humans in the units that we've  
11 been discussing?

12 A. Lowest? I'm not sure I understand your question.

13 Q. Well, you know, we've been talking about, you know,  
14 maybe some people will experience a sound power level  
15 of 41 dBA. So, if that sound were constantly there all  
16 the time, would that be detrimental? You know, I know,  
17 if you're in a rock band, and you're exposed to loud  
18 sounds a lot, your hearing can be affected. So, I'm  
19 just trying to figure out what -- what the minimum  
20 acceptable level of sound would be before there could  
21 be damage to humans, any human?

22 A. Just as a way of comparison, maybe if we look at the  
23 sound level reports. There's a figure in there which  
24 shows a lot of different sound levels. It's Appendix



[WITNESS: O'Neal]

1 13A of Exhibit Number --

2 MR. PATCH: AWE 3.

3 WITNESS O'NEAL: Thank you.

4 MS. BAILEY: Okay. Just a second  
5 please.

6 WITNESS O'NEAL: There's what we call a  
7 "noise thermometer" in there, which shows very common  
8 indoor and outdoor sound levels.

9 MS. BAILEY: Can we get to where we're  
10 going? It's --

11 MR. IACOPINO: AWE 3.

12 MS. BAILEY: All right. And, which  
13 appendix is it?

14 MR. IACOPINO: 13A. The electronic  
15 document, 25.

16 MR. PATCH: Figure 2-1.

17 WITNESS O'NEAL: Yes, it's Figure 2-1 in  
18 there.

19 MS. BAILEY: Okay.

20 MR. IACOPINO: Twenty-five.

21 WITNESS O'NEAL: Let me know when folks  
22 have it.

23 MS. BAILEY: Everybody there?

24 **BY THE WITNESS:**

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[WITNESS: O'Neal]

1 A. So, this figure, maybe give you an idea sort of of the  
2 range of some common indoor and outdoor sound levels,  
3 and what we experience perhaps on a typical day,  
4 whether it's a, you know, a vacuum cleaner, a  
5 lawnmower, a gas lawnmower, at three feet, is over  
6 90 decibels. Obviously, that's the stage where you  
7 should be wearing hearing protection.

8 Q. At what? Ninety?

9 A. At 90 decibels, right. I mean, OSHA -- OSHA says "85  
10 decibels or more for eight hours a day, you should be  
11 wearing hearing protection." So, that's sort of at the  
12 high end of things. Those are things that we do and  
13 experience. And, we're talking about sound levels of  
14 40 outside at the maximum from wind turbines. So, as  
15 you can see, that's down there on the quieter side.

16 So, it's very hard to give sort of a one  
17 -- at what one number is it not an issue any more.  
18 It's a sliding scale. Certainly, at 40 decibels,  
19 there's no hearing damage, there's no hearing issue  
20 with it. There may be an audibility, you may hear it,  
21 as we talked about yesterday. Some people could hear  
22 sound at 30 decibels.

23 Q. That was going to be my next question. So, what's the  
24 minimum number in dBA sound level -- sound pressure

[WITNESS: O'Neal]

1 level that an extremely -- a person with extremely good  
2 hearing would be -- could be audible?

3 A. Well, I mean, if you're in sort of a wilderness area  
4 with nothing around, and there's no sources of sound,  
5 you're down there in that 10 to 20 decibel range. What  
6 do you hear? You don't hear anything. Just you hear  
7 silence, I guess.

8 Q. But, if a leaf fell in that silence, you could hear it?

9 A. You'd hear it. Yes.

10 Q. And, would that be around 20, do you think, or --

11 A. I've never measured a leaf falling, I don't know.

12 Q. Okay. Are you familiar with the term "capacity  
13 factor"?

14 A. I've heard of it, yes.

15 Q. It's, as I understand it, it's the percentage of time  
16 that the turbine is producing power on an annual basis.  
17 And, so, the testimony that we've heard is that the  
18 capacity factor on these turbines is between 37 and a  
19 half and 40 and a half percent of the time the power  
20 will be being generated. You were discussing the World  
21 -- I think it was the World Health Organization's  
22 standard that said, I think, "during the night, it  
23 shouldn't be more than 40 dBA on an annual basis"?

24 A. That's correct. The Night Noise Guideline that they

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1 recently put out for the European Union suggested 40 as  
2 a guideline.

3 Q. So, if the capacity factor is a maximum of 40 and a  
4 half percent, does that mean that the turbines will  
5 only be running 40 and a half percent of the time, so  
6 that sound will only be there 40 and a half percent of  
7 the time?

8 A. No.

9 Q. Okay.

10 A. No. That's not what it means. And, I'm not the right  
11 guy to try to get into details of "capacity factor".  
12 I'm sure I'd misstate that, --

13 Q. Okay.

14 A. -- and Jack would not like me for that. But the point  
15 is of that, that European guideline, is that it's an  
16 annual number. So, there's going to be many nights  
17 during the year when it is running at full capacity. I  
18 mean, otherwise, the developer wouldn't be here. But  
19 there's also going to be nights where it's not running  
20 at all, and nights where it's running at partial  
21 capacity, because the winds are blowing, say, at four  
22 or five meters per second, not at eight to ten meters  
23 per second.

24 Q. Okay. All right. When you were discussing testimony

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1 with Ms. Longgood, and the sound at her house, you said  
2 something to the effect that "sound levels can vary a  
3 lot at different locations." It was -- the sentence  
4 that I wrote down was "how much sound levels can vary  
5 at any location is surprising"?

6 A. Yes. Yes.

7 Q. So, --

8 A. Yes. And, the genesis for that statement was just  
9 looking at the data we collected at Location 3 near her  
10 house, which, over two and a half weeks, varied by --  
11 the variation of that was by more than 40 decibels.

12 Q. Oh, the variation at one location?

13 A. At that one location.

14 Q. Oh. Okay. Because, in response to another question  
15 that she asked you, you said "for purposes of  
16 pre-construction testing, the location doesn't matter"?

17 A. Well, I hope I wasn't quite that flippant. What I  
18 meant was, the Location 3, which was several hundred  
19 feet or yards removed from her house, was still a very  
20 reasonable representative measure of what she  
21 experiences today at her house, even though it wasn't  
22 in her backyard.

23 Q. Okay.

24 A. So, it is -- it was a reasonable representation. I

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1 mean, there may be a couple decibel variation in where  
2 Location 3 is versus her backyard. But it's going to  
3 give a pretty reasonable picture of what she  
4 experiences today.

5 MS. BAILEY: Okay. Thank you.

6 WITNESS O'NEAL: That's what I meant.

7 MS. BAILEY: All right. Mr. Iacopino.

8 MR. IACOPINO: Thank you.

9 BY MR. IACOPINO:

10 Q. Can you just give us the actual site, I know it's in  
11 one of the exhibits, but for that World Health  
12 Organization on nighttime standard for the European  
13 Union?

14 A. Sure.

15 Q. Just the title, the title of it.

16 A. I don't believe it's in any of my testimony. So, I'm  
17 going to point you somewhere else.

18 Q. Okay.

19 A. Give me a second and I'll find it.

20 MS. BAILEY: While he's looking for  
21 that, I note that it seems we have several members from  
22 the public present. And, we will be taking public comment  
23 as soon as this witness's testimony is over. If there's  
24 anybody that needs, I don't think he will be more than

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1 another half hour, but, if anybody needs to go before  
2 that, can you raise your hand?

3 (Show of hands.)

4 MS. BAILEY: We need you to sign in, and  
5 the sign-in sheets are -- Ms. Pinello has them. Thank  
6 you. Okay. Proceed.

7 WITNESS O'NEAL: I have the citation for  
8 you.

9 MR. IACOPINO: Thank you.

10 WITNESS O'NEAL: It's actually in the  
11 prefiled testimony of Mr. Tocci, from July 31st. And,  
12 it's on Page -- Page 3 of that testimony.

13 MR. IACOPINO: Thank you.

14 WITNESS O'NEAL: Okay. You're welcome.

15 BY MR. IACOPINO:

16 Q. Ms. Lyons asked you if the Acciona data that you based  
17 your estimates on was third party -- subject to third  
18 party certification. Do you recall that question?

19 A. Yes.

20 Q. Please explain for the record what that is.

21 A. I'm not overly familiar with it, but my understanding  
22 is that all of the turbine vendors are going to get an  
23 independent third party organization that's competent  
24 and certified to do this kind of testing. And, it's

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1 not just sound. It's other things, you know, power  
2 curve, sound, and so forth, to do an independent test  
3 of that before it's "certified" into the market. And,  
4 I'm not sure where that stands right now, but I know  
5 that will be happening by an independent organization  
6 sometime in the next three to six months.

7 Q. There have been literally thousands of megawatts of  
8 wind power constructed in North America over the last  
9 several years. Can you tell us, is it common to  
10 calculate predicted sound levels based on  
11 manufacturer's specifications like you've done?

12 A. Yes. In fact, that's virtually the only way we can do  
13 it.

14 Q. Okay. You indicated that -- you spoke, actually, in a  
15 little more detail about the reduced noise option on  
16 the Acciona 3000. Do you know what the possible  
17 reduction in noise is that the -- that the manufacturer  
18 -- I shouldn't say -- reduction in sound pressure that  
19 the manufacturer claims will occur if the reduced noise  
20 package option is applied?

21 A. I can answer that. Just give me one second, I have a  
22 data sheet. The Acciona, this particular turbine, is  
23 available with options that will allow a reduction  
24 anywhere from one to four decibels. So, it can go as



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1 much as four decibels lower.

2 Q. And, when you say "decibels", do you mean "dBA" or some  
3 other measurement?

4 A. Thank you. DBA, A-weighted decibel.

5 Q. Okay. Let's say that there was a reduction in the --  
6 you used the figure of "109.4", I believe?

7 A. Yes.

8 Q. Okay. If there was a reduction of four dBA to that  
9 figure, and I know you're not going to do the  
10 calculation here, but can you give us either a scale or  
11 an order of magnitude of how that would affect your  
12 report and the -- I think that's Exhibit 41 behind you,  
13 that has sort of the contour lines for sound?

14 A. Sure. And, in that particular case, if you did the  
15 extreme example of going to the noise reduction mode of  
16 four decibels lower, you would simply subtract four  
17 from every line there. So, a straight linear  
18 subtraction.

19 Q. Okay.

20 A. So, just subtract four.

21 Q. Okay. I understand, and tell me if I'm correct about  
22 this, but that another option to reduce noise in  
23 turbines is to reduce the length of the blades  
24 themselves, the rotor? Or, the rotor diameter?

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1 A. Right. That I'm not sure about, because each unit is,  
2 I mean, they come with different rotor diameters. And,  
3 I don't recall if the slightly smaller rotor diameter  
4 option was much different from a sound level  
5 perspective. I know they do make a different rotor  
6 diameter package besides --

7 Q. Do you have the specs for the different rotor diameter  
8 packages?

9 A. I don't. We just were given the ones for the 116 meter  
10 unit that's in the Application.

11 Q. Well, we're aware just from the filings in this case  
12 that there is a 109-meter rotor sweep available for the  
13 Acciona 3000. I understand, from what I've seen, that  
14 that's -- that they market that for high and medium  
15 wind sites. Would a reduction from 116 meters to  
16 109 meters affect the sound from the Project?

17 A. It would depend what Acciona guarantees for a sound  
18 power level from the 109 unit. And, I don't know what  
19 that is.

20 Q. What about just from the actual mechanics of how sound  
21 is generated by wind turbines?

22 A. I mean, the fact that it's a 7 meter shorter diameter?

23 Q. Yes. If you know?

24 A. I don't know.

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1 Q. Okay.

2 A. Because there's some other factors that come into play.

3 Q. I have pulled up Acciona's website. And, for the 3000,  
4 they have some published technical specifications.

5 And, they suggest that the maximum sound level, using  
6 the 109-meter rotor sweep is 105.7 dBA. Again, if we  
7 were to try to calculate that, that would also be a  
8 linear calculation with respect to your report and the  
9 Exhibit 41?

10 A. Yes, it would. You would still have to add in the  
11 two decibels of uncertainty.

12 Q. Okay.

13 A. But, yes.

14 Q. And, as I understand, and I don't know if it's an  
15 option in this case, is that there's also a 100-meter  
16 rotor diameter available for the AW-3000. Are you  
17 aware of that?

18 A. Yes. I know that's another offering they make.

19 Q. Okay. Yesterday, during your cross-examination by Ms.  
20 Linowes, she referred you to an Exhibit IWAG-N7, which  
21 was the Schomer report, and I'll get the -- it's  
22 IWAG-N7. It was a Schomer & Associates critique, I  
23 guess, of a Hessler report in the -- some wind turbine  
24 site, I'll tell you the name of it, in the vicinity of

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1 Cape Vincent, New York. Do you have that available to  
2 you?

3 A. I'm looking for it right now. Yes, I just found it.

4 Q. Okay. My understanding -- and have you read this  
5 document?

6 A. I have not read the document.

7 Q. Okay. Are you aware of Schomer & Associates?

8 A. Yes, I am.

9 Q. And, are you aware of the person she identified as "Mr.  
10 Hessler"?

11 A. Yes.

12 Q. Okay. Are they -- how is it that you're aware of  
13 Schomer & Associates?

14 A. Just from being in the acoustical business. I see  
15 their name on publications, papers, conferences.

16 Q. They do the same type of work that you do?

17 A. Yes, they do.

18 Q. And, is that the same for Mr. Hessler?

19 A. Mr. Hessler does similar work as well, yes.

20 Q. Okay. In fact, this paper that has been submitted as  
21 "IWAG-N7" is a critique by Schomer of some work done by  
22 Hessler, if I understand correctly. Is that your  
23 understanding of it?

24 A. From just reading the introduction, that's my

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1 understanding of it as well, without see all the  
2 details.

3 Q. And, the quote at the end of the paper that Ms. Linowes  
4 referred you to yesterday is an attempt to impeach Mr.  
5 Hessler's work by use of a prior paper that he wrote.  
6 Is that correct?

7 A. That's what it sounds like, yes.

8 Q. In fact, they say that "his failure to remove insect  
9 noise contradicts what he recommended in his paper",  
10 correct?

11 A. Yes.

12 Q. In your opinion, is it normal in your industry to take  
13 these sound measurements without correcting for insect  
14 noise and to report them without correcting for insect  
15 noise?

16 A. It has certainly been done both ways. We try to  
17 acknowledge, and we do in our report, that there were  
18 insects present. And, there were certainly some times  
19 when the insects likely influenced the sound levels.  
20 But they're obviously part of the landscape, if you  
21 will. So, it's not unusual to report them. And, you  
22 may correct for them; you may not. There doesn't --  
23 you don't have to do it.

24 Q. Okay. Is there a common time of year that you get

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1 insect noise during the -- I mean, can you define the  
2 time of year when you get insect noise in these types  
3 of studies?

4 A. The generalization, I would say, is generally late  
5 summer/early fall is when you typically, and under warm  
6 conditions, you have that.

7 Q. And, your -- I forget. You did yours, your evaluation,  
8 your study in this case in October, was it?

9 A. It was September and October.

10 Q. Okay. So, it was early fall?

11 A. It was.

12 Q. Okay. You also mentioned -- I think this is just my  
13 last line of questions, madam Chair. You mentioned in  
14 your -- I don't know if it was in your direct  
15 testimony, but, at least in your cross-examination, you  
16 mentioned the standards -- has standards, the Site  
17 Evaluation Committee decisions in the Lempster Wind  
18 case and in the -- I believe it was Groton Wind, is  
19 that correct?

20 A. Yes. That's correct.

21 Q. And, actually, I do have one other question before I  
22 get into that. I mentioned as a wisecrack before that  
23 the Town -- I'm sorry, the phrase "pure tone". Can you  
24 tell us what that means in your business?

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1 A. In general, a "pure tone" is defined as when a certain  
2 frequency band is well above the adjacent bands. And,  
3 there are definitions in terms of what -- how high  
4 above those adjacent bands it needs to be.

5 Q. What's the general effect on people who hear a pure  
6 tone?

7 A. Generally, a pure tone would be like a screech or a  
8 high-pitched whining-type noise. And, pure tones, in  
9 general, are something that we don't like.

10 Q. Okay. Do, in your experience, do wind turbines, in  
11 general, emit pure tones?

12 A. No, they don't.

13 Q. Okay. Let me get back to Lempster and Groton Wind  
14 then. Did you prepare a study for one of those  
15 dockets?

16 A. Yes. The Groton docket.

17 Q. The Groton docket. And, the nighttime noise study that  
18 you cited to me before, did that come out? That's been  
19 published since your testimony in that particular  
20 docket, is that correct?

21 A. What nighttime? The WHO --

22 Q. Yes.

23 A. -- Nighttime Noise Guideline? I think that came out in  
24 2009. And, the Groton docket was -- so, the study was

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1 done around 2009. So, it was around the same time.

2 Q. And, in both of those dockets, there were limits placed  
3 on daytime and nighttime operation of the facility,  
4 with respect to noise at where people can hear it,  
5 where there's receptors, is that your understanding?

6 A. That's right.

7 Q. And, if I recall correctly, those were 55 decibels?

8 A. Fifty-five (55) during the day and 45 at night.

9 Q. Did you consider Groton to be a more quiet project than  
10 the project that's proposed in this docket?

11 A. I would say it's similar, in terms of it had similar  
12 setbacks, in other words, there were no homes closer  
13 than a half a mile in the Groton case, similar to this,  
14 this site here, in Antrim.

15 Q. Groton was, I think, a larger in megawatt site?

16 A. It was a 48 -- it is a 48-megawatt site. So, 24 wind  
17 turbines.

18 Q. But they were smaller turbines than are proposed in  
19 this?

20 A. Correct.

21 Q. Do you see whether -- is there any way to determine  
22 whether or not that difference -- whether something  
23 like that would make a difference in terms of the sound  
24 levels or the noise that people are going to hear in



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1 the community?

2 A. I'm not sure I followed the question.

3 Q. Well, you have more turbines at a lower -- a lower  
4 maximum --

5 A. Sound pressure.

6 Q. -- nameplate capacity.

7 A. Yes.

8 Q. And, I'm assuming a lower sound pressure, compared to  
9 fewer turbines with a higher sound pressure. What  
10 would be -- would there be any distinction? And, if  
11 so, what would be the causes? I'm not asking you to  
12 calculate it, because I'm sure you can't. But what  
13 would be the types of causes that you would at least  
14 hypothesize would make the difference?

15 A. The trade-off you're going to have is, you know, if you  
16 have a smaller nameplate megawatt capacity, for  
17 example, Groton was a 2-megawatt turbine for each of  
18 those, and a slightly smaller hub height, they may be  
19 able to put more of them in to get to the project  
20 capacity that's appropriate, or that they need, versus  
21 using a larger turbine, with a higher nameplate  
22 capacity, you can use a few less turbines to achieve  
23 that same total power output. And, the fact that  
24 you've got fewer turbines, but a higher sound power

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1 level, I think is generally going to be a wash.

2 Q. And, it's clear that, in general, a 3-megawatt turbine  
3 operating properly, will that make more noise than a  
4 2-megawatt turbine, individually?

5 A. Yes.

6 Q. Okay. Have you done any -- well, Groton is not  
7 operating yet, is it?

8 A. No.

9 MR. IACOPINO: I don't have any further  
10 questions. No further questions, madam Chair.

11 MS. BAILEY: Mr. Dupee.

12 MR. DUPEE: Just one fast follow-up  
13 regarding -- thank you. I have just one fast follow-up  
14 question.

15 BY MR. DUPEE:

16 Q. You mentioned that there is an option for the turbines  
17 under consideration for the site whereby they could  
18 have lower sound emissions, is that correct?

19 A. I guess I would characterize it as, I'm not sure it's  
20 "under consideration for the site", but it's something  
21 that the manufacturer offers.

22 Q. For that particular turbine, it is offered?

23 A. It is offered, yes.

24 Q. A 4-decibel reduction, I think you mentioned?

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1 A. Up to four decibels, yes.

2 Q. Okay. Could you, and maybe you're the wrong person to  
3 answer the question, but could you tell me what the  
4 decrease in power would be for that trade for the  
5 decrease in noise? Is it five percent? Two percent?  
6 One percent?

7 A. That's a very good question. And, I'm not the right  
8 person to answer that, I don't know. But there is a  
9 penalty, there's a power penalty with that trade-off.  
10 I don't know what it is.

11 MR. DUPEE: Okay. Perhaps we can find  
12 that out from some other witness. Thank you.

13 WITNESS O'NEAL: You're welcome.

14 MS. BAILEY: Mr. Patch, how much  
15 redirect do you think you have?

16 MR. PATCH: I'm thinking maybe ten  
17 minutes. And, I would ask if I could just have a minute  
18 with the witness before I do that, that would be helpful.

19 MS. BAILEY: Okay. How about if we take  
20 the public comment and then do the redirect, would that be  
21 okay?

22 MR. PATCH: That would be fine. Thank  
23 you.

24 MS. BAILEY: Okay. And, we'll take a

1 break, I'll ask the reporter, how are you doing?

2 MR. PATNAUDE: Keep going.

3 MS. BAILEY: Okay.

4 MR. IACOPINO: Mr. Patch, you may want  
5 to go outside to talk to the witness, so that we can do  
6 the public comment without interrupting you.

7 MR. PATCH: Thank you.

8 MS. BAILEY: Could the two people that  
9 need to leave quickly raise their hand?

10 CHAIRMAN IGNATIUS: Off the record.

11 (Off-the-record discussion ensued  
12 regarding feedback from the  
13 microphones.)

14 MS. BAILEY: Okay. We're going to take  
15 public comment now. And, the first sheet I have is C.R.  
16 Willeke. Could you come up to this middle table and sit,  
17 and speak directly into the microphone, so that the  
18 reporter can get everything word. Is the little red light  
19 on? There's a button there.

20 MR. WILLEKE: Yes.

21 MS. BAILEY: Okay. Thank you.

22 MR. WILLEKE: Okay. I'm C.R. Willeke.  
23 I have a house in Antrim. And, I just want to make a  
24 quick public comment. I was on the Planning Board at the

1 time the Application came in. So, I'm somewhat familiar  
2 with the details of the proposal, and somewhat familiar  
3 with talking with folks, as part of my role on the  
4 Planning Board, to see what the various folks in town  
5 thought.

6 After looking at the issue, I'm in favor  
7 of the wind project. And, I just wanted to go on record  
8 saying that. I think it's a good renewable energy  
9 project, and I think it's a good project for the town.  
10 And, I think it's an appropriate use for the zoning  
11 district that the project is in. And, just want to say  
12 I'm in favor of the project. And, thank you.

13 MS. BAILEY: Thank you. Shelley  
14 Nelkens.

15 MS. NELKENS: I'm afraid I won't be as  
16 fast as Mr. Willeke. I'm an alternate on the ZBA, but I'm  
17 not speaking as an alternate. And, I am very familiar  
18 with the entire project, since I've been attending the  
19 meetings since the inception.

20 When the SEC came out, when the  
21 Committee came out to Antrim, we went -- stopped at a few  
22 places. One of the places was on Cemetery Hill, where the  
23 Grange is at the bottom, and -- and, the reason I'm  
24 bringing this up is because you said that "whatever was

1       said there was not on the record, and that it would have  
2       to be put on the record." We went to look at sites. One  
3       of them was up on Cemetery Hill. And, it was from the  
4       cemetery, and I pointed out that, if you went just a  
5       little ways up to where the old Town Hall used to be,  
6       which then lost one story and was brought down to the  
7       bottom of the hill, and became the Grange Hall. And, I am  
8       the overseer at the Antrim Grange. That you had a perfect  
9       view. Whereas, from just a smidgen down the hill, at the  
10      cemetery, you would not be able to see the wind towers as  
11      well. So, I just wanted to point that out.

12                   Also, then, we went to Gregg Lake Beach.  
13      And, while we were there, you saw an osprey. I missed it,  
14      because my eyesight is not that great. But you saw an  
15      osprey fly across the lake and land on a tree. Now, I go  
16      up to Gregg Lake just about every day, rain, shine, snow,  
17      doesn't matter, I hike around there a lot. The next day  
18      when I went up there, I was standing on the little bridge  
19      that goes onto Craig Road, which is right off of Gregg  
20      Lake Road. And, an osprey was circling over the marsh,  
21      and then went -- dove in and went "kerplunk". It did that  
22      three times, until it finally caught something and flew  
23      off.

24                   But I spend a lot of time, as I said, up

1       there. And, I was on the beach. And, I know that, if I  
2       heard "wump", "wump", "wump", "wump" [sic], which is the  
3       sound that I got when I was up at Lempster, I could hear  
4       it very clearly, and I was over a mile and a half away.  
5       I'm more in line with this gentleman's wife, as far as my  
6       hearing goes. And, I was listening to the geese and the  
7       babies, and they were doing their little "gibble",  
8       "gibble", "gibble" [sic]. And, while I was listening to  
9       them, a kingfisher flew over with its little screech, and  
10      did its dive. And, you know, just absolutely lovely  
11      sounds. And, I know that I would be really annoyed, to  
12      say it gently, by the noises of the wind turbines up  
13      there. It's an amazing place, as is Willard Pond. It's a  
14      place where people can go and get away from the sounds of  
15      "civilization".

16                   And, at the meeting that you had in the  
17      gymnasium, the only people who were there to speak were  
18      people who were against the wind towers. I don't believe  
19      anyone spoke for them at that point. One of the questions  
20      that was asked before you took questions from the public  
21      or comments from the public was "were there any people who  
22      were leasing the land who lived there?" And, the response  
23      was "one person". That one person, my understanding, who  
24      lives there is only a part-timer. So, there's nobody who

1 is leasing their land who lives there full time. So, I  
2 just wanted to correct that.

3 Also, it was interesting listening to  
4 this gentleman talk about the sounds and how, if you have  
5 the visuals, it will heighten the sound, which I think is  
6 going to be the impact at Gregg Lake Beach. Because those  
7 towers are going to be incredibly visible, as will the  
8 sound be. And, so, I think that's going to -- that should  
9 be taken into consideration.

10 When -- I know that Eric Tenney, one of  
11 the selectmen, sent a letter saying that the Town is  
12 supportive of this. And, I have to disagree. I called  
13 his daughter right after I heard about the letter, and  
14 she's like against it, as is her mother, and as are a lot  
15 of people against the wind towers. When the survey was  
16 sent out, there was a notable absence of surveys sent to  
17 people like me, I had to go ask for one. I found out  
18 through somebody else that they had gone around. And, I  
19 talked to quite a few people, and a lot of people that I  
20 know who are against the wind towers never received the  
21 survey. When the survey was also done at the Town Hall  
22 during one of the elections, the surveyors were set off to  
23 the side, so when people came out of voting, they had this  
24 set up, and there were three people there who were, I



1 believe, giving people misinformation about the impact.  
2 And, there are a lot of people who are really, really,  
3 really uneducated about this. They think that -- and, I  
4 think it's a matter of lessening the guilt about using so  
5 much electricity. People want green power, so they can  
6 keep using the same amount of power, rather than trying to  
7 conserve. Even though this electricity will not reduce  
8 the baseload requirements, because it's unreliable, as far  
9 as, you know, how smooth the operation can be.

10 For instance, one of the women I talked  
11 to, who is here and who will be testifying for the wind  
12 towers, we had a discussion. And, she was absolutely  
13 adamant that, because the circumference is wider at the  
14 top, longer at the top, that it goes -- the blades will go  
15 slower so birds won't get hit. And, it was -- it was  
16 frightening, it was just frightening the beliefs that some  
17 people have about this. As I said, I think a lot of the  
18 support is because people don't want to reduce the amount  
19 of electricity they use, and they also want to reduce the  
20 guilt that they're feeling about using as much as they do.

21 My notes are awful. Oh. And, one of  
22 the questions from the Committee was "what the effects  
23 were on the animals?" Well, you really can't look at  
24 animals and see what the stress level is on the animals

1 for the sound. It's my -- my understanding is that, and  
2 this is, again, right off the top of my head, so it's as  
3 valid as what anybody else has to say about it, since  
4 there has been no studies on it, that the stress level of  
5 sounds that are not natural, that we are not encoded for  
6 in our DNA, is going to raise our stress levels. And,  
7 that will affect reproduction, health, everything.

8 But, again, going back to those  
9 aerodynamic sounds, I can hear them very clearly. And, I  
10 resent the fact that we -- that Antrim, which has this  
11 amazing conservation area, which is just -- it's pretty  
12 quiet. I mean, obviously, you have some of the sounds  
13 from the highways going through. But that we're going to  
14 put an industrial wind tower in a place that a lot of us  
15 -- I've lived in Antrim since '76, and I moved there from  
16 Francestown. A lot of us work really hard to make that  
17 into a refuge for people to get away from the whole  
18 craziness of the everyday world, with all the sounds, all  
19 the -- all the -- I don't even know how to say it. It's  
20 just, it's a really -- it's been a very, to me, spiritual,  
21 holy place to go and to be just de-stressed, and just to  
22 remember who I am and, you know, just -- just be in a  
23 wonderful place.

24 So, again, there's a huge difference

1 between noise and sound. And, even though the sound  
2 levels of the insects may be high, it's not noise. And,  
3 just like the sounds of the geese may be high, but it's  
4 not noise. And, I think that has to really be, and I'm  
5 sure you are, taken into consideration.

6 So, that's -- I think I touched on  
7 everything I wanted to. Yes. I just want to really  
8 stress that a lot of people in town are not supportive of  
9 this. And, then, there are, obviously, a lot of people  
10 who are. And, again, the people -- many of the people who  
11 are want "green energy", but I don't believe that this is  
12 as "green" as it's touted.

13 And, I also haven't heard anything about  
14 the really low frequency sounds that I've read about,  
15 which are the ones that apparently can have an impact,  
16 just like, you know, if there's a base in a band or some  
17 really low, where you have somebody go by with a car with  
18 one of those amps and it goes "wump", "wump", you know,  
19 really deep, you can feel it in your body. And, a lot of  
20 those sounds you can feel, and you won't be able to hear.  
21 And, I haven't heard, and maybe that discussion took  
22 place, excuse me, another time. But what is the impact of  
23 the really low, very low frequency sounds?

24 And, I guess that's it. Well, one more

1        thing. I do know that, because there's a lot of water  
2        between the range, which is a fly-way, and where there  
3        are, you know, eagles and all sorts of animals that, well,  
4        flying animals, bats, that go through there. I know some  
5        of the studies have shown that they haven't found dead  
6        bodies. And, I'm thinking, "okay, if a bird goes through  
7        and gets hit by one of those blades and goes "splat",  
8        because the blades are going, what, 180 miles an hour,  
9        it's really hard to avoid them." First of all, you're not  
10       going to find the body parts. And, if there was a body  
11       part, some animal is going to come and eat it, it's fresh  
12       meat. You're not going to be able to find a whole bunch  
13       of dead birds around, regardless of how many there may be.

14                        But what I was saying, with the water,  
15       when it's at night, when it gets cold, and the wind will  
16       drop down, the sound will also drop down. So, the sounds  
17       at night are going to be really different. And, I do  
18       think, up in that area around Gregg Lake, it's going to be  
19       very detrimental. But, thank you.

20                        MS. BAILEY: Thank you for your  
21       testimony. Cynthia Crockett.

22                        MS. CROCKETT: Can I just use this mike?

23                        MS. BAILEY: Sure.

24                        MS. CROCKETT: Is it on?

1 MS. BAILEY: Yes.

2 MR. IACOPINO: Just pull it closer to  
3 you please.

4 MS. CROCKETT: My name is Cynthia  
5 Crockett. I am at 55 Pierce Lake Road, in Antrim. I am a  
6 resident there. And, first of all, I'd like to  
7 respectfully request some of Shelley's comments be  
8 stricken from the record, as she was referring to me.  
9 And, her comments are hearsay, and they are completely  
10 inaccurate in the conversation that we had. And, she took  
11 things out of context and completely misrepresented me  
12 here, and I take offense to that.

13 Having said that, I am here because the  
14 Town of Antrim overwhelmingly spoke in favor twice of the  
15 wind energy project, and did not want the Planning  
16 Board's, excuse me, ordinance put into place, which is  
17 very prohibitive and restrictive, and prevents pretty much  
18 putting a wind energy project anywhere in town. In fact,  
19 the Town of Antrim said 584 to 225 "do not exclude it from  
20 the Rural Conservation District." And, the Town also said  
21 501 to 309, "no, we don't want your ordinance that  
22 prohibits this wind energy project."

23 Having said that, a lot of people cite  
24 noise as an issue. Noise, according to the Renewable

1 Energy Research Lab and UMass-Amherst white paper as of  
2 January 2006. "Wind turbines generate sound via various  
3 routes, both mechanical and aerodynamic. As the  
4 technology has advanced, wind turbines have gotten much  
5 quieter, but sound from wind turbines is still an  
6 important siting criterion. Sound emissions from the wind  
7 turbine have been one of the more studied environmental  
8 impact areas in wind energy engineering. Sound levels can  
9 be measured, but, similar to other environmental concerns,  
10 the public's perception of the acoustic impact of wind  
11 turbines is, in part, a subjective determination. Noise  
12 is defined as any unwanted sound."

13 In general, the white paper research  
14 from UMass-Amherst's Energy Research Lab, found that  
15 overwhelmingly "subjective effects including annoyance,  
16 nuisance, and dissatisfaction" were the primary offenses.

17 Secondly, there are white papers out of  
18 Harvard, MIT, UMass-Amherst, Columbia University,  
19 California, Michigan, *etcetera*, and none of those have  
20 ever been cited by people who are opposed to the wind  
21 energy project.

22 There are also claims that there will be  
23 piles of avian casualties around the wind turbines. In  
24 fact, the white paper from the Discovery Company, along

1 with others, report -- that found that the associated bird  
2 deaths from man-made structures and technologies are, in  
3 fact, falling into various categories, such as feral and  
4 domestic cats; power lines; windows, residential and  
5 commercial; pesticides; automobiles; lighted communication  
6 towers; and wind turbines. The most dramatic effect is  
7 from feral and domestic cats, with hundreds of millions,  
8 the source is from the AWEA. And, the least, the very  
9 least, at 10,000, avian casualties from wind turbines  
10 across the planet is a mere 10,000 to 40,000 from wind  
11 turbines.

12           The misinformation that has come about  
13 is based on, as reported in several white papers, the  
14 Altamont facility in California. Which is one of the  
15 very first turbine arrays. It is antiquated technology,  
16 it's antiquated design. These turbines that they're  
17 referring to that caused many avian casualties are of a  
18 lattice work design, which simulates perching, which the  
19 birds -- avian species tend to migrate to and tend to  
20 perch on. This, of course, will have a drastic effect on  
21 the birds. However, we don't use that technology anymore.

22           That facility was also poorly sited.  
23 It's a major migratory pathway for avian life. And, they  
24 were set up in such a manner that they are far too close

1 together, they're stacked in, they're lined up. And, it's  
2 a poor example. But this is where overwhelming evidence  
3 from several white papers points to the misinformation  
4 coming from in avian deaths.

5 Finally, one of the major majority --  
6 or, I'm sorry, one of the major causes of bird deaths in  
7 the U.S., as reported in the New York Times within the  
8 last year, comes from reflective surfaces of skyrise --  
9 high-rise skyscraper buildings in major cities.

10 Specifically, New York City, where you have a migratory  
11 corridor. However, with the reflectivity of the windows  
12 and the sides of the building, they see dramatic bird  
13 deaths from flying into those windows and from those  
14 buildings. So, that city, and many other major cities,  
15 has taken the step to put a special coating on these  
16 windows, on the sides of these buildings, that reduce by a  
17 great margin the number of avian deaths, the number of  
18 avian impacts with reflective surfaces.

19 If a major city like that can do  
20 something so dramatic, then I think it speaks highly of  
21 what the problem has been identified as, and it's not wind  
22 turbine deaths. It's something more visible, such as a  
23 reflective surface. And, that was a New York Times  
24 report.



1                   And, finally, I cited the zoning  
2                   ordinance ballot numbers. We were asked to have another  
3                   -- a special meeting and vote again, because the Planning  
4                   Board felt that the Town of Antrim didn't understand what  
5                   the ordinance was saying. We are not stupid. We voted  
6                   again. And, again, the majority of the Town said "We  
7                   don't want that ordinance. We would like to see this  
8                   project go forward. And, we're not going to exclude it  
9                   from the Rural Conservation District."

10                  However, the majority of the voters in  
11                  the Town of Antrim have not had any legal representation  
12                  or any voice. Mr. Roth, Attorney Roth, has taken the  
13                  position of the vocal minority of those opposed to the  
14                  project in town, and has brought their case before you  
15                  instead. That leaves the rest of us with no voice, no  
16                  representation, and no -- no means of recourse to prevent  
17                  the few on the Planning Board, who are so opposed to this  
18                  project, from throwing lawsuit after lawsuit at the Town  
19                  itself, and standing in the way obstructionistly of  
20                  progress.

21                  If the majority of the globe and the  
22                  rest of the planet is doing their part to pursue clean  
23                  energy, Antrim is being denied the opportunity to do its  
24                  part to improve energy production by a few who do not want

1 to be inconvenienced. Change is always difficult. There  
2 are consequences with every change. And, there are  
3 sacrifice, and that is the responsibility of every person.  
4 It is every individual's responsibility to stop the  
5 selfishness for the greater good of all.

6 Since the majority of Antrim does not  
7 have that voice, it is our hope that the SEC will uphold  
8 the state and global initiative to pursue renewable  
9 energy, so that we can, in fact, do our part. Thank you  
10 very much for your time.

11 MS. BAILEY: Thank you for your  
12 testimony. Mr. Ward.

13 MR. WARD: I have to say, just following  
14 up, that there was never a survey done in Stoddard, where  
15 I live. And, I can guarantee that the overwhelming  
16 majority would be against it, since we get no taxes and no  
17 nothing out of it. My name is Fred Ward. I live in  
18 Stoddard. And, I'm testifying here as a meteorologist.

19 Now, the interesting part that I found  
20 going on in amongst the various members of the Committee  
21 is that some people hear a lot and some people don't hear  
22 a lot. And, that's the way it is. There's one thing that  
23 I can just say to you, so you can kind of test your  
24 hearing. If any of you live within 2-4 miles of a

1 jetport, Manchester Airport, Concord, down in Boston,  
2 wherever it is, you will note that, during the day,  
3 generally, you don't hear a lot of noise. You get it late  
4 at night, early in the morning, and you will hear a lot of  
5 noise. In particular, you can hear Logan Airport 10 miles  
6 west of Boston, in the early morning, when you have the  
7 right weather condition. And, that's what I want to speak  
8 to.

9                   There are only two things that determine  
10 whether you're going to hear sound: The loudness of the  
11 sound right at the source, and the weather that's  
12 prevailing at the time. Now, there's two big differences,  
13 and I'll just talk about the two extremes. A nice, bright  
14 sunny day, the air is very unstable, the ground is warm,  
15 and the temperature drops with height, and the sound goes  
16 everywhere. It dissipates, you could say in the jargon of  
17 the current, it goes off into the cloud. The contrast to  
18 that is, typically, early in the morning/late at night,  
19 when the ground is cooling, and the air, just to be sure,  
20 doesn't warm and cool with the Sun, it warms and cools  
21 with contact with the ground. The ground absorbs Sun in  
22 the daytime, warms the ground and then the air. The  
23 ground cools at night, especially when it's clear and the  
24 skies are clear, and then the air running across it cools.

1                   Now, when you have a situation that is  
2                   very stable, whereas the ground is cool, the air above it  
3                   is warmer, the sound tends to get trapped. In the  
4                   ultimate, it's sort of in a duct, that's d-u-c-t, you  
5                   know, like air conditioning ducts. If you were to take a  
6                   sound and put a duct in front of it, you could carry it  
7                   100 miles, if you wanted to. The air isn't quite that  
8                   good, but it carries it much further when the air is  
9                   stable.

10                   Now, the problem I have is, and I've  
11                   tried to get data from the met tower, because averages  
12                   don't tell you anything. If it ends up, and I'm not  
13                   saying it's true, but, from what I've read out of the tens  
14                   of thousands of pages, is that there tends to be higher  
15                   winds up on the blade or the rotor height, wherever it is,  
16                   higher winds at night than in daytime. And, that the  
17                   sound that comes out of these things is a function of the  
18                   wind shear. That is, where there's a big difference  
19                   between the wind lower down, and the wind higher up. I  
20                   assume, because the blades are going through very rapidly  
21                   changing wind speeds, that that tends to make the most  
22                   noise.

23                   Now, if that's true, and I can only go  
24                   from what I've read, we have a situation where we get the

1 maximum noise, because of the maximum wind shear, we get  
2 the absolute minimum ambient noise, so there's nothing  
3 else around, and we get as close as we get to ducting, so  
4 it's going to be carried the longest distance.

5 Now, if you're going to really look at  
6 it, and I've read through a lot of the things, but I don't  
7 claim to have read all the pages, I don't see anything  
8 that's been done on measuring sound in just those  
9 circumstances where it ought to be the loudest and carried  
10 the furthest. That's the only thing that's going to count  
11 here. When it's quiet, nobody cares, about the sound at  
12 least. But, when you get some noise, that's the time that  
13 makes the difference. And, we ought to be sampling and  
14 measuring and talking about those few instances -- I  
15 shouldn't say "few", but those hours of the day when  
16 you're going to get the maximum sound carrying the maximum  
17 distance. Those are the only things as far as I can see  
18 that really are determinate in here as far as sound levels  
19 are concerned. The sound itself, which we've got plenty  
20 of data on, and the weather. And, I don't see anything  
21 being done that says "we took those sound measurements  
22 when they should have carried the longest distance."  
23 That's what we need. And, for that, you need not the  
24 average wind, not the average wind shear, but the

1 particular wind -- particular wind shear, particular  
2 temperature distribution, when you have -- likely to have  
3 the maximum problem. Thank you very much.

4 MS. BAILEY: Thank you for your  
5 testimony. Benjamin Pratt.

6 MR. PRATT: I am a long-term resident of  
7 the Town of Antrim. And, I wish to express my strong  
8 support for the Antrim Wind Energy Project, unless there  
9 exist very compelling reasons why it should not go  
10 forward. It is my impression that the majority of folks  
11 in Antrim feel the same way. I understand that the SEC  
12 has the responsibility to determine if the benefits of the  
13 proposed wind energy project outweigh any detrimental  
14 impacts of that project.

15 It seems to me that any large scale  
16 energy project will have some undesirable characteristics.  
17 However, our present practices of power generation, based  
18 to a large extent on the use of fossil fuels, are having a  
19 devastating effect on our environment. Many scientists in  
20 the field are now convinced that the changes which have  
21 already occurred in the atmosphere and the oceans will  
22 challenge our descendents for untold generations to come.

23 At the present time, some corporations  
24 and other groups with an axe to grind are attempting to

1       confuse the public about the severity of the challenges we  
2       face. They are using the same tactics and, in some cases,  
3       the same people that were previously employed by the  
4       tobacco industry in an attempt to blur the connection  
5       between smoking and health. To some extent, they have  
6       succeeded in slowing needed action to address our  
7       problems.

8                       On a personal note, I speak about this  
9       issue, in part, because of my concern for the welfare of  
10      my three great granddaughters, age three and younger. I  
11      fear that, before they reach my age, they will be looking  
12      back in sorrow and with a sense of wonderment at how our  
13      generation could have been so shortsighted and so selfish.  
14      Thank you.

15                    MS. BAILEY: Thank you for your  
16      testimony. Eric, from River Road, can't read your last  
17      name. Would you please identify yourself.

18                    MR. ORFF: Good morning, madam Chairman.  
19      My name is Eric Orff. I'm a Wildlife Biologist. I  
20      actually worked for the New Hampshire Fish & Game  
21      Department for 31 years. I was the state's first bear  
22      biologist and furbearer biologist. But also had a lot of  
23      experience using a tranquilizer gun. And, for that  
24      reason, I got to tranquilize numbers of moose, nearly 40

1 in my career. So, to me, a moose is a very majestic  
2 creature. And, that's kind of why I'm here this morning,  
3 to speak about moose.

4 I was able to tranquilize moose that  
5 were in situations like in Manchester or one in  
6 Portsmouth, and move them out of harm's way. And, now I  
7 find that the moose are again in harm's way, but for a  
8 whole different reason, because our climate is warming.  
9 In fact, I have been a long-time local writer and I wrote  
10 an article about the impacts of our climate change on  
11 moose. And, what we're finding, over the last decade, is  
12 our numbers of moose are significantly in decline. In  
13 fact, moose were nearly gone from New Hampshire by 1901,  
14 when they were finally protected. Came back because of  
15 protection and forestry practices. And, in the '80s, we  
16 realized we had numbers of moose.

17 Well, that number peaked in about 2005  
18 at about 7,500 moose. But, then, we had a series of mild  
19 winters. When we have mild winters, the tick population  
20 explodes. For instance, our moose biologist, who I've  
21 known for a long time, Kris Rines, felt that in 2000 --  
22 because of the winter was so mild in 2010, in the winter  
23 of 2011, many of the moose carried over 100,000 ticks.  
24 And, because of that reason, they died. In fact, she felt



1       that winter probably all the calves died of winter ticks,  
2       and perhaps 40 percent of the adults.

3               Consequently, over the last few years,  
4       the Fish & Game Department has had to ratchet down the  
5       number of moose hunter permits, from nearly 700 a decade  
6       ago, to only 280 this last year. And, I just printed out  
7       last night a recent press release from the Fish & Game  
8       Department: "Moose hunter success was 62 percent this  
9       year." The lowest it has been since I recall when the  
10      season started in 1988. And, the moose biologist lended a  
11      significant part of this decline in moose hunter success  
12      to the warm trend of this winter.

13              So, basically, we need to get away from,  
14      as the last gentleman spoke about the need to generate  
15      green energy, green power, get away from carbon that is  
16      affecting our environment and really affecting our moose.

17              You know, I hate to see the moose in  
18      such a decline. And, we really need other types of  
19      energy. And, this is one of those that will hopefully  
20      turn things around for future generations. So, I'm very  
21      concerned for our moose. And, I would, as an individual,  
22      speak in favor of this, the wind project.

23              MS. BAILEY: Thank you for your  
24      testimony.

1 MR. ORFF: You're welcome.

2 MS. BAILEY: Wes Enman.

3 MR. ENMAN: I'd like to thank the Board.

4 I'm a 30-year homeowner in Antrim. I would like to thank  
5 the Board for taking jurisdiction of this process.

6 Unfortunately, as you probably well know at this point,  
7 you put yourself in a rough situation. It's not going to  
8 -- whatever outcome, somebody's not going to be happy.

9 You've no doubt heard from all the  
10 opponents. Their names are probably familiar to you by  
11 now. You've heard from the vocal minority. I'm part of  
12 the silent majority. The ones that voted in favor of this  
13 location and voted down the overly restrictive ordinances.  
14 I've been involved in the wind process for most of two  
15 years. From the start, even most of the opponents  
16 expressed that they are not opposed to wind energy; just  
17 not in Antrim.

18 Which has led me to this conclusion:  
19 This entire project pretty much boils down to visual  
20 impact. If you couldn't see the Project, there would be  
21 very little opposition. Unfortunately, you cannot hide a  
22 commercial wind project. Visual impact is subjective.

23 I find wind turbines to be stunning,  
24 peaceful, mesmerizing, almost like fire. I can't stop

1 looking at it. A friend of mine calls them "silent  
2 sentinels of functional art". They actually do -- they're  
3 pretty to look at and they actually do provide a service.

4 You have a report that challenges the  
5 placement and height of this project because of the visual  
6 impact. To reduce the number or size of these turbines  
7 affects the viability of this project, which is exactly  
8 what the opponents are looking for. To change the scope  
9 of this Project, because you can see it from a certain  
10 vantage point, is unthinkable. Antrim Wind and the  
11 landowners have made certain concessions to offset some of  
12 these concerns. A successful wind project needs several  
13 components: Viable wind, existing infrastructure, access,  
14 willing landowners, adequate setbacks, and limited  
15 population. This site meets every one of these  
16 requirements. If it did not, we would not be here today.

17 We have been challenged by the state and  
18 national level to promote renewable energy, and rightly  
19 so. If the worst thing that you can say about this  
20 Project is that "you can see it", I welcome that. We need  
21 to be reminded that all energy comes with a cost.  
22 Seabrook and Bow certainly come with costs, but we don't  
23 see them every day.

24 I speak in support of this Project. I

1 hope that you will, too. Thank you very much.

2 MS. BAILEY: Thank you for your  
3 testimony.

4 MR. ROTH: Madam Chairman, as was noted  
5 yesterday about one of the -- a public speaker. I think  
6 it should be noted that Mr. Enman is either an employee or  
7 a subcontractor on the Project.

8 MS. BAILEY: Kathryn Chisholm.

9 MS. CHISHOLM: I don't do public  
10 speaking. So, the fact that I'm here and saying anything  
11 gives you an indication of how important I think it is. I  
12 believe that we need to reduce our dependence on fossil  
13 fuels. And, this Project is just another step in that  
14 direction. I would like to express my strong support for  
15 the Antrim Wind Farm Project. I'm part of the majority of  
16 Antrim residents who support this Project, contrary to  
17 what you might have heard. I think that the votes in  
18 opposition to the ordinances give you some indication of  
19 the support that actually is in the Town. And, we are  
20 part of the silent majority. We don't like to say too  
21 much.

22 It has also been painful for some  
23 people, because hard feelings have been generated. So,  
24 many people, excuse me, in the silent majority don't want

1 to say anything in public. I hope that you will take this  
2 on and help make this Project a reality. I see it as  
3 being in the best interests of the Town as a whole. And,  
4 I can see no legitimate reason to oppose it.

5 And, that's it. Thank you.

6 MS. BAILEY: Thank you for your  
7 testimony. That completes the filled-out forms that I  
8 have. Are there any other members of the public that wish  
9 to speak who haven't already spoken?

10 (No verbal response)

11 MS. BAILEY: Okay. So, that will  
12 complete our public testimony for today. And, I think  
13 we're going to need to take a ten-minute break for the  
14 reporter. Thank you.

15 (Recess taken at 10:02 a.m. and the  
16 hearing resumed at 10:16 a.m.)

17 MS. BAILEY: Okay. We're going to  
18 continue with redirect of Mr. O'Neal.

19 MR. IACOPINO: And, just before we  
20 begin, madam Chair, I would just point out that in the  
21 back of the room we have a contingent of law students from  
22 UNH School of Law here to observe us and see how we do.  
23 So, welcome to them.

24 (Whereupon **Robert D. O'Neal** was recalled

[WITNESS: O'Neal]

1 to the stand having been previously  
2 sworn.)

3 MR. PATCH: Okay. Mr. O'Neal, I have a  
4 few questions for you on redirect.

5 **ROBERT D. O'NEAL, Previously Sworn**

6 **REDIRECT EXAMINATION**

7 BY MR. PATCH:

8 Q. In response to a question from the Committee, you  
9 talked about "pitch-controlled" versus  
10 "stall-controlled" wind turbines, do you recall that?

11 A. Yes.

12 Q. And, didn't you describe that in your supplemental  
13 testimony, which is part of Exhibit AWE 9, I believe  
14 it's Tab 10 or Tab 11, I don't have that right in front  
15 of me, but -- yes, and that's on Page 6 of that  
16 testimony. I wonder if you'd just take a look at that  
17 briefly. And, I believe it's Lines 10 through 14.  
18 Could you just read into the record what your testimony  
19 says with regard to the difference between  
20 "pitch-controlled" and "stall-controlled" machines?

21 MR. IACOPINO: And, just for the  
22 Committee, that's Document Number -- electronic Document  
23 Number 34 in that exhibit, which is AWE 9.

24 MS. BAILEY: And, could you repeat the

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1 page please, Mr. Patch.

2 MR. PATCH: Page 6 of 16. It's the  
3 October 11th testimony, part of AWE 9. And, it's Lines 10  
4 through 14.

5 **BY THE WITNESS:**

6 A. Sure. The discussion is about the difference between  
7 "pitch-controlled" and "stall-controlled. "The major  
8 difference is that pitch-controlled machines", like the  
9 -- which is the Acciona machine --

10 MR. ROTH: Madam Chairman, I have to  
11 object to this. I mean, the witness is now reading his  
12 prefiled testimony as a form of redirect? This is really  
13 strange.

14 MR. PATCH: He doesn't have to read it  
15 into the record, if the Committee would prefer not to. I  
16 just wanted to make sure the Committee was aware that he  
17 had discussed that in his testimony. So, I can move on to  
18 another question.

19 MS. BAILEY: Okay. Thank you.

20 **BY MR. PATCH:**

21 Q. In response to various questions you've received on  
22 either cross or questions from the Committee, Mr.  
23 O'Neal, I think you've talked about, at one point or  
24 another, different ways in which the pre-construction

[WITNESS: O'Neal]

1 study that you have done is "conservative". And, I  
2 wonder if you could explain what you mean by  
3 "conservative", and then summarize the ways in which  
4 you think that it is?

5 A. Yes. The pre-construction, the modeling -- the  
6 modeling side that was done, which the results are  
7 shown up here in AWE 41, assumes several things which  
8 are conservative. And, I think generally may tend to  
9 overestimate a little bit the sound levels. Number one  
10 is that all ten turbines are operating simultaneously  
11 at their maximum sound power. Number two, that they  
12 are all blowing in the same direction towards the  
13 residence at the same time. Number three, we did not  
14 include any vegetation in the model as a potential  
15 factor that could reduce sound levels a little bit. We  
16 did not take any credit for that. So, I think those  
17 are kind of the three primary factors that went into  
18 the level of conservatism. Oh, and I guess the fourth  
19 one is that we included the plus two dBA uncertainty  
20 factor as well to give it that maximum sound level.

21 Q. Yesterday, Ms. Linowes asked you a number of questions  
22 about a report that she showed you, she had indicated  
23 she would bring copies in this morning, and it was the  
24 report with regard to "wind screens". Do you recall



[WITNESS: O'Neal]

1       those questions?

2   A.   Yes.

3   Q.   Did you have a chance to look at the report a little  
4       more thoroughly last night?

5   A.   Yes, I did.

6   Q.   And, could you tell the Committee what the conclusion  
7       of the report was?

8   A.   Yes.  The conclusion of the report, after they go  
9       through a lot of technical detail on a bunch of  
10      different wind screens, is that the type of wind screen  
11      that we use, and other acoustical consultants routinely  
12      use for collecting long-term data, does a reasonably  
13      good job under low to -- low to moderate wind speed  
14      conditions of measuring the background sound level.  
15      That was the conclusion of the report.

16  Q.   Now, I want to direct your attention to AWE 41, which I  
17      believe is up on the easel behind you.  And, could you  
18      just describe for the Committee exactly what that, that  
19      particular figure from your pre-construction report  
20      that is included, you know, in the Application to the  
21      Committee, exactly what that represents?

22  A.   Right.  And, I apologize for not being clear about this  
23      before.  And, I think some of the questions, there may  
24      have been some confusion.  These are project-only sound

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[WITNESS: O'Neal]

1 levels that we're looking at here. So, in other words,  
2 this is the predicted future sound levels from the wind  
3 turbines only. So, it does not take into account, does  
4 not include anything from the background  
5 pre-construction ambient monitoring that we did. That  
6 was not. And, it's not meant to be included in this.  
7 This is just project-only on this. I just wanted to  
8 make sure that was clear to the Committee.

9 Q. And, so, do the pre-construction measurements that you  
10 have taken influence the modeled project level noise  
11 projections?

12 A. No. No, they don't.

13 Q. And, would the process of removing insect noise from  
14 the pre-construction measurements, again, the ones that  
15 you have taken, change the expected project noise  
16 levels?

17 A. No. In other words, this graph you're looking at here  
18 with the contour lines would not be affected by whether  
19 or not the insects were removed from the  
20 pre-construction measurement data.

21 Q. You were asked some questions, I believe, by the  
22 Committee about noise reduction potential with the  
23 turbines that are being proposed for this particular  
24 project. Do you recall those questions and your

1 responses?

2 A. Yes.

3 Q. Would you explain to the Committee whether you think  
4 that, and I think you indicated that that is  
5 essentially a software adjustment that could be made to  
6 these particular turbines, is that correct?

7 A. That's correct. And, I confirmed that during the break  
8 with Mr. Kenworthy. That it's just a software  
9 adjustment. There's no hardware, additional hardware  
10 that needs to be purchased.

11 Q. And, could you explain to the Committee whether you  
12 think that would be necessary in this case, if the  
13 Project is approved, and if the noise or the sound  
14 levels that are -- that you're proposing, essentially  
15 the sound levels that have been adopted in the Lempster  
16 and Groton case, would be -- whether it would be  
17 necessary to exercise that kind of noise reduction  
18 here?

19 A. I don't think it would be necessary. And, for the  
20 reason that we have a reasonably good buffer already,  
21 with all the conservative assumptions that I've already  
22 went over, and showing that the expected maximum impact  
23 level from the -- to the closest towers is already  
24 4 decibels or more below sound levels that were

[WITNESS: O'Neal]

1 previously permitted for other wind turbine projects in  
2 the State of New Hampshire.

3 So, I think, with that, that buffer, due  
4 to the conservatism already built in, we probably would  
5 not need any type of noise reduction option from the  
6 machines. That noise reduction option, however, is  
7 always there as an additional up to a 4-decibel option,  
8 should it be needed down the road on a case-by-case or  
9 turbine-by-turbine basis.

10 Q. In response to various questions on cross and questions  
11 from the Committee, there has been some discussion  
12 about the conditions that the Committee has imposed in  
13 the prior cases of Lempster and Groton with regard to  
14 noise. Do you recall discussions on that issue?

15 A. Yes.

16 Q. And, isn't there a place in your testimony, your  
17 original prefiled testimony in January, where you had  
18 talked about what those noise conditions are? And, I  
19 just thought it might be helpful for the Committee, if  
20 you sort of, if the Committee were to direct its  
21 attention to Page 7 and 8 of the January 31st  
22 testimony, which I believe is part of AWE Exhibit 1,  
23 and I think it's Tab 10. And, is that -- do you recall  
24 in your testimony where you described exactly what

[WITNESS: O'Neal]

1           those noise conditions are?

2   A.    Yes.  They are all described on those two pages.

3   Q.    And, are you familiar with post-construction testing  
4           that was done at Lempster?

5   A.    Yes.

6   Q.    Do you have any idea how many noise complaints there  
7           have been?

8   A.    From my understanding, in reading the reports at  
9           Lempster, there have been two noise complaints.  One of  
10          them turned out to be a faulty hearing aid.

11   Q.    And, do you know what the setback distance is in  
12          Lempster, as compared with this proposed setback  
13          distance?

14   A.    The nearest residence in Lempster is approximately  
15          1,500 feet to a wind turbine, as compared to this  
16          Project, where it's 2,800 feet.

17                   MR. PATCH:  That's all the questions I  
18   have.  Thank you.

19                   MS. BAILEY:  All right.  Mr. Neal -- oh,  
20   I'm sorry, Mr. O'Neal, thank you for your testimony.

21                   WITNESS O'NEAL:  Thank you.

22                   MS. BAILEY:  Okay.  I think we are going  
23   to hear from Mr. Will and Mr. Stevenson next?

24                   MS. GEIGER:  Correct.

[WITNESS PANEL: Will~Stevenson]

1 (Whereupon **Richard T. Will** and  
2 **Russell Stevenson** was duly sworn by the  
3 Court Reporter.)

4 MS. GEIGER: I'm waiting for Dr. Will to  
5 get situated. I believe he has a back injury, and it may  
6 be difficult for him to sit for a while.

7 **RICHARD T. WILL, SWORN**

8 **RUSSELL STEVENSON, SWORN**

9 **DIRECT EXAMINATION**

10 BY MS. GEIGER:

11 Q. So, why don't we start with you, Dr. Will. Could you  
12 please state your name and address for the record.

13 A. (Will) Yes. My name is Richard Will. And, I live at  
14 149 Stackpole Way, in Ellsworth, Maine.

15 Q. Okay. And, by whom are you employed and in what  
16 capacity are you employed?

17 A. (Will) I am employed by TRC Environmental Corporation.  
18 And, I am identified variously as a Senior Scientist,  
19 as well as the Cultural Resource Manager for the  
20 Northeast Sector.

21 MS. BAILEY: Is your microphone on?  
22 Press the button.

23 WITNESS WILL: It's on now.

24 MS. BAILEY: That's better. Thank you.

1 BY MS. GEIGER:

2 Q. Could you please give the Committee a very brief  
3 summary of your qualifications.

4 A. (Will) I've been a practicing archeologist in New  
5 England for the last 30 years. My specialty has been  
6 on a variety of different power sorts of projects,  
7 including transmission, hydropower, and wind power.

8 Q. And, what is your role in the Antrim Wind Project?

9 A. (Will) I was responsible for reviewing the  
10 archeological potential of the Project for its  
11 Precontact period, in other words, Native American,  
12 context, as well as the Euroamerican/Historic  
13 archeological context.

14 Q. Thank you. Mr. Stevenson, could you please state your  
15 name and address for the record.

16 A. (Stevenson) Sure. My name is Russell Stevenson. I  
17 live at 251 Lismore Avenue, in Glenside, PA. And, my  
18 business address is 375 East Elm Street, Conshohocken,  
19 PA.

20 Q. By whom are you employed and in what capacity are you  
21 employed?

22 A. (Stevenson) I'm employed by A.D. Marble & Company.  
23 And, I'm an Architectural Historian.

24 Q. Could you please give the Committee a brief summary of

1 your qualifications.

2 A. (Stevenson) Sure. Did my undergraduate in History in  
3 Penn State, graduate work at University of Delaware.  
4 And, I've been involved in historic preservation in one  
5 aspect or another for about the last ten to eleven  
6 years.

7 Q. And, what is your role in the Antrim Wind Project?

8 A. (Stevenson) My role is to evaluate historic resources'  
9 above-ground structures, and guide the client through  
10 the Section 106 process.

11 Q. Okay. And, are you the same Richard Will and Russell  
12 Stevenson who jointly submitted prefiled testimony on  
13 January 31st, 2012 in this docket, which is contained  
14 in what's been marked "AWE 1", and I believe it's under  
15 Tab 5?

16 A. (Will) Yes.

17 A. (Stevenson) Yes.

18 Q. Did you also jointly submit supplemental prefiled  
19 testimony, which was filed on October 11th, 2012 in  
20 this docket?

21 A. (Will) Yes.

22 A. (Stevenson) Yes.

23 MS. GEIGER: And, for the Committee's  
24 reference, I believe that that's been marked as "AWE 9",



1 under Tab 5.

2 BY MS. GEIGER:

3 Q. Do either of you have any updates or corrections to  
4 your prefiled or supplemental prefiled testimonies?

5 A. (Will) No.

6 A. (Stevenson) I have a minor update to the supplemental  
7 prefiled testimony. Let me just see where -- well,  
8 about last week, we received final determinations on  
9 all of the properties from New Hampshire Division of  
10 Historical Resources. And, we had a conference call  
11 with them to discuss the -- beginning the "Assessment  
12 of Effects" stage of Section 106. As it stands now, we  
13 just supplied one tiny bit of last additional  
14 information to them for the Historic District at Antrim  
15 Center. But that district has already been determined  
16 eligible for the National Register. So, the additional  
17 information has no bearing on that eligibility.

18 Q. Okay. And, with the updates that you just gave to your  
19 testimony, if both of you were asked the same questions  
20 as those contained in your prefiled and supplemental  
21 prefiled testimonies today under oath, would the  
22 answers be the same as in your written testimonies?

23 A. (Will) Yes.

24 A. (Stevenson) Yes.

[WITNESS PANEL: Will~Stevenson]

1 MS. GEIGER: These witnesses are  
2 available for cross-examination.

3 MS. BAILEY: Thank you. Mr. Will, I'll  
4 just let you know that, if you need to stand up, to --

5 WITNESS WILL: Thank you.

6 MS. BAILEY: -- feel free to do so.  
7 And, when you're answering questions, maybe you have to  
8 pick up the mike, I don't know. But whatever you need to  
9 do to make yourself comfortable.

10 WITNESS WILL: Okay. I am able to bend  
11 forward. Sitting down is the problem at the moment.

12 MS. BAILEY: Okay. All right. That's  
13 fine. Okay. Mr. Harris -- I'm sorry. Mr. Froling?

14 MR. FROLING: No questions today.

15 MS. BAILEY: Is Mr. Beblowski here  
16 today?

17 MS. PINELLO: No.

18 MS. BAILEY: How about Mr. Jones?

19 (No verbal response)

20 MS. BAILEY: Ms. Sullivan?

21 (No verbal response)

22 MS. BAILEY: Ms. Osler?

23 (No verbal response)

24 MS. BAILEY: Ms. Longgood?

[WITNESS PANEL: Will~Stevenson]

1 MS. LONGGOOD: No questions.

2 MS. BAILEY: Mr. Stearns?

3 MR. STEARNS: No questions.

4 MS. BAILEY: Ms. Pinello?

5 MS. PINELLO: Yes, I do have questions.

6 Good morning. My questions this morning -- Good morning.

7 My questions this morning are directed primarily to

8 Mr. Stevenson. So, Dr. Will, you may rest easy or at

9 least relax a bit. I have a series of questions for you

10 Mr. Stevenson.

11 WITNESS STEVENSON: Sure.

12 **CROSS-EXAMINATION**

13 BY MS. PINELLO:

14 Q. First, let's talk about your firm. I also -- I'm from  
15 the Antrim Planning Board. I'm sorry, I may not have  
16 introduced myself directly. I understand your firm is  
17 based in the Philadelphia area?

18 A. (Stevenson) Yes. Our main office is just outside of  
19 Philadelphia.

20 Q. Sorry for my New England approach.

21 A. (Stevenson) No.

22 Q. And, the report you have submitted is authored by  
23 Barbara Frederick, Emma Diehl, I believe, and then  
24 yourself?

[WITNESS PANEL: Will~Stevenson]

1 A. (Stevenson) Correct.

2 Q. Okay. And, are you -- has your firm worked in rural  
3 New England before?

4 A. (Stevenson) Yes, we have. We've worked in different  
5 projects, at Portsmouth Naval Shipyard, in Maine.

6 Q. Sorry, my approach, my thought is Portsmouth Naval  
7 Shipyard is not in the rural sector.

8 A. (Stevenson) Oh.

9 Q. But, perhaps, from Philadelphia, it might seem that  
10 way.

11 A. (Stevenson) Well, yes. I mean, I personally, you know,  
12 specific project names and things, I would have to  
13 check. But I know we've had several projects in  
14 different areas of New England.

15 Q. Okay. And, you, yourself?

16 A. (Stevenson) No, I haven't.

17 Q. Okay. Thank you. Are you familiar with the New  
18 Hampshire Department of Historical Resources'  
19 Consultant List?

20 A. (Stevenson) Yes, I am.

21 Q. And, as I understand it, members of your firm list as  
22 "architectural historians" Shauna Hass, Elizabeth  
23 Amisson, and Emma Young?

24 A. (Stevenson) Correct.

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[WITNESS PANEL: Will~Stevenson]

1 Q. Did any of those people work on this Project?

2 A. (Stevenson) Emma Young did. And, actually, --

3 Q. Thank you.

4 A. (Stevenson) -- I should also be on that list. I  
5 actually attended the New Hampshire Division of  
6 Historical Resources Section 106 consultant training --

7 Q. Okay.

8 A. (Stevenson) -- prior to my start of the Project.

9 Q. All right. Thank you. Can you please describe the  
10 role of Drew Kenworthy, a member of AWE, LLC, in this  
11 Project?

12 A. (Stevenson) Yes. He oversees cultural resources for  
13 AWE.

14 Q. Okay. And, are you aware that Mr. Kenworthy has a  
15 degree in Anthropology and graduate professional  
16 training in GIS mapping?

17 A. (Stevenson) Sure. I am now, if that's the case.

18 Q. Thank you. Okay. Is your report final or are there  
19 opportunities to correct errors and omissions?

20 A. (Stevenson) Which report are you referring to?

21 Q. Excuse me. The information that you submitted for  
22 this, Appendix -- the Application, Volume 3, Appendix D  
23 -- 9D, excuse me, PAF. Yes. Okay.

24 A. (Stevenson) Yes. The Project Area Form is the first

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1 form that's submitted upon initiation of the Project.

2 So, that form is complete. It's been concurred upon by  
3 DHR. And, that's kind of the first step. So, that  
4 step's completed.

5 Q. That step's completed?

6 A. (Stevenson) Correct.

7 Q. Okay. What I'd like to do is now direct your attention  
8 to AWE Application, it's Volume 3, Appendix 9D, PAF.  
9 And, it would be the "Area Form".

10 MR. IACOPINO: And, in Exhibit 3, that's  
11 Electronic Document 12.

12 MS. PINELLO: Thank you.

13 BY MS. PINELLO:

14 Q. And, this is a long document. And, we'll be going back  
15 -- the questions I have are going back and forth  
16 through that.

17 A. (Stevenson) Yeah. I have my copy. I'm just not sure  
18 if it's set up the same way.

19 Q. Okay. And, certainly, --

20 MS. PINELLO: Excuse me, but maybe I  
21 need to move. Ms. Geiger's head and my head and your head  
22 are all in the exact same line.

23 MR. IACOPINO: Ms. Pinello, maybe if you  
24 moved one table further, --

[WITNESS PANEL: Will~Stevenson]

1 MS. PINELLO: Yes. I'll move up.

2 MR. IACOPINO: -- it would be easier to  
3 hear you, and you could see the witness better.

4 MS. PINELLO: Much better. Thank you.  
5 Habit, I suppose.

6 MS. GEIGER: Excuse me, Ms. Pinello. Do  
7 you have a page number?

8 MS. PINELLO: I haven't gotten to a page  
9 number yet. I was hoping people could at least get to the  
10 document, because it is quite cumbersome.

11 BY MS. PINELLO:

12 Q. I'm going to start with Page 4, the map. There's a map  
13 that would be the first part of that. That's in the  
14 electronic copy. I'm not sure of the pagination [sic]  
15 for the hard copy. But, for anybody who wants to look  
16 along, we're going to go to the map that is entitled  
17 "Area Form Area Name: Antrim Wind Project Page 4 of  
18 127". Could you explain on this map the dash lines?  
19 What do the dash lines designate, Mr. Stevenson?

20 A. (Stevenson) I believe this map, the dashed kind of oval  
21 line is the 3-mile APE.

22 Q. Okay. Thank you. Can you please describe what the  
23 solid triangles -- rectangles represent?

24 MR. BOISVERT: Excuse me. Could you

1 define what is an "APE"?

2 WITNESS STEVENSON: Area of Potential  
3 Effects.

4 BY MS. PINELLO:

5 Q. And, now, could you describe what the solid line  
6 rectangles equal?

7 A. (Stevenson) Those are areas of the following inset  
8 maps.

9 Q. Okay. And, can you tell me the criterion that was used  
10 for those inset maps?

11 A. (Stevenson) Sure. Part of the process with the Project  
12 Area Form, specifically, within the 3-mile APE, is to  
13 identify any properties that, you know, may need  
14 further survey to evaluate their potential eligibility  
15 for the National Register. So, those inset map areas  
16 contain properties based off of a very basic survey  
17 level that we identified, that could be 50 years or  
18 older, and may retain enough integrity to potentially  
19 be considered for the National Register.

20 Q. And, I believe you recorded, and this again is going to  
21 be some jargon, you recorded various areas using the  
22 UTM's, which are Universal Trans Mercator system, which  
23 is a geographical coordinate system for your area maps.  
24 You cite for your -- at the beginning of the document,



[WITNESS PANEL: Will~Stevenson]

1       you cite some using UTMs, which is standard practice?

2   A.   (Stevenson) Yes.  That's required --

3   Q.   Right.

4   A.   (Stevenson) -- per the Form's requirements.

5   Q.   Okay.  Were any of your structure locations recorded  
6       using GPS?

7   A.   (Stevenson) No, they were not.  Not at this level.

8   Q.   Okay.  Can you tell me how you correlated your  
9       photographs to your inventory forms within those plots?

10  A.   (Stevenson) Within the PAF?

11  Q.   Yes.

12  A.   (Stevenson) We tried to select a representative range  
13       of photographs.  DHR, you know, made it clear they  
14       didn't want 300 photographs of properties.  So, it was  
15       meant to be representative.

16  Q.   Okay.  If you look on the area map, Page 4, and you see  
17       the rectangles that are labeled, they're going to be on  
18       the right-hand side of the page.  There is, if you  
19       start at the top, there's "A", "16A", "16B", "16I", is  
20       that correct?  You're getting yourself --

21  A.   (Stevenson) Yes.

22  Q.   Okay.  Now, can you tell me, as you travel along Smith  
23       Road and Elm Avenue, between those two rectangles, does  
24       that lack of rectangles mean that there were no

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1 structures older than 50 years old with integrity?

2 A. (Stevenson) What two rectangles are you? 16A and B?

3 Q. Sorry. Okay. They would be 16B to 16I. The words on  
4 the map that would help you locate that are  
5 "Meetinghouse". Okay, got it?

6 A. (Stevenson) Uh-huh.

7 Q. Okay. So, you see, as you travel along, it's a town  
8 road, and there is an area there with no buildings?

9 A. (Stevenson) Right. No inset map.

10 Q. Right. Is that because there were no buildings older  
11 than 50 years or none that you recorded in the Area  
12 Form?

13 A. (Stevenson) None that we recorded in the Area Form.

14 Q. So, then, you did not locate any buildings older than  
15 50 years on that stretch of road?

16 A. (Stevenson) We may have, you know, seen buildings that  
17 we thought were older than 50 years. But you have to  
18 use, you know, you have to make sure that you're only  
19 identifying properties that maintain their integrity to  
20 be considered for a future survey. So, I would say, if  
21 we did not identify any properties along that stretch  
22 of road, they may be 50 years old, but, in our  
23 assessment, they did not retain their integrity.

24 Q. Okay. Thank you. Next, I have another -- a series of

[WITNESS PANEL: Will~Stevenson]

1 questions to ask you in regards to -- just a minute,  
2 let me -- would you review your criterion for 50 years  
3 or older and integrity based on what you saw in Antrim?  
4 Kind of what some of the -- I understand that every  
5 community is a bit different and every building is a  
6 bit different.

7 A. (Stevenson) I'm sort of unsure of the question. Could  
8 you repeat it or rephrase it.

9 Q. Do you have in your -- I'm going to start again in a  
10 different way to help you.

11 A. (Stevenson) Sure.

12 Q. Do you have any records for 301 Elm Avenue? Do you  
13 have any way that you can check that in your records  
14 today?

15 A. (Stevenson) If it's not contained in the PAF report --  
16 PAF report, I wouldn't have any way to check that today  
17 here.

18 Q. Okay. Would you be surprised to say that there are  
19 buildings that are within that section, approximately  
20 two miles of road, that do have integrity that you were  
21 not able to -- that you did not include?

22 A. (Stevenson) Would I be surprised?

23 Q. Uh-huh.

24 A. (Stevenson) Of all the roads we drove, I'm fairly

[WITNESS PANEL: Will~Stevenson]

1 confident in the properties we identified, and that we  
2 concurred with DHR on.

3 Q. Are you familiar with the hops industry in 19th century  
4 Antrim?

5 A. (Stevenson) The hops industry?

6 Q. Yes.

7 A. (Stevenson) Vaguely.

8 Q. Do you understand that 301 Elm Avenue was one of the  
9 primary farms for growing and processing hops in  
10 Antrim?

11 A. (Stevenson) I was not aware of that.

12 Q. Thank you.

13 MS. PINELLO: I have another series of  
14 questions, and those, for the Committee who wants to  
15 follow along, it's going to be a little -- it's sort of a  
16 "look at a photograph/look at an address" sort of thing.  
17 And, the "find" item in the electronic system is a really  
18 helpful way for you to be able to find that.

19 BY MS. PINELLO:

20 Q. So, next, we're going to look at -- excuse me. I have  
21 another question before we get to the map that I'm  
22 going to ask. Do you know who William -- who Reverend  
23 Cochrane was?

24 A. (Stevenson) Yes.

[WITNESS PANEL: Will~Stevenson]

1 Q. Can you tell us what you know about Reverend Cochrane?

2 A. (Stevenson) Well, I know he wrote a 19th century  
3 history of Antrim. He also lived in Antrim. So, you  
4 know, I've reviewed his history. That appears as a  
5 reference in numerous forms.

6 Q. Yes, it does. Yes. Have you ever heard of the  
7 "Scots-Irish"?

8 A. (Stevenson) Yes, in his -- in his histories.

9 Q. Are you familiar with the fact that Mr. -- that  
10 Reverend Cochrane is the person who coined that term  
11 that's used throughout the globe today?

12 A. (Stevenson) I was not aware of that.

13 Q. Are you familiar with the New Hampshire Division of  
14 Historic Resources' Context List with the section that  
15 lists "Ethnic Heritage"?

16 A. (Stevenson) I'm familiar with their Context List. As  
17 part of the Project, you're required to do a file  
18 review. So, I have looked through some of those  
19 contexts.

20 Q. Can you tell me what you know about New Hampshire and  
21 Scotch-Irish?

22 A. (Stevenson) Other than there were people of Scotch and  
23 Irish descent that settled here, that would probably be  
24 --

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[WITNESS PANEL: Will~Stevenson]

1 Q. Do you understand the name of "Antrim" as being part of  
2 that history?

3 A. (Stevenson) Generally, yes.

4 Q. Generally. Have you reviewed the context for number  
5 125 for Scots-Irish/Scots-Ulsters New Hampshire  
6 Settlement?

7 A. (Stevenson) I would have to check my notes back at the  
8 office to see, you know, my original research notes.

9 Q. Would it surprise you to know that Londonderry, New  
10 Hampshire, and Antrim, New Hampshire, are the center of  
11 those?

12 A. (Stevenson) No, that wouldn't surprise me.

13 Q. I guess my question is, if that doesn't surprise you  
14 and if you're aware of that, why wasn't that included  
15 on your Area Form?

16 A. (Stevenson) The purpose of the Area Form is to identify  
17 the structures and general historical trends that you  
18 would kind of evaluate those buildings against. It's  
19 not to compile a complete history of the state or  
20 anything along those lines.

21 Q. Certainly understand that. And, I think --

22 A. (Stevenson) A lot of what we based off -- in the form  
23 was based off what we did find as existing resources in  
24 DHR records. That's the first step.

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[WITNESS PANEL: Will~Stevenson]

1 Q. Can you tell me how long you worked in Antrim on this  
2 Project?

3 A. (Stevenson) In total? Several weeks.

4 Q. Thank you. You have listed the Bass Farm in many of  
5 your photographs?

6 A. (Stevenson) Yes.

7 Q. Can you describe the property south of Bass Farm? Do  
8 you have any of your notes with you or anything like  
9 that that might help you?

10 A. (Stevenson) On which side of the road?

11 Q. South. Oh, thank you. On the same side of the road,  
12 that would be the west side, if you're sort of thinking  
13 31 is going north.

14 A. (Stevenson) I know we did not include that within the  
15 proposed boundary for Antrim Center. But I couldn't  
16 give you, you know, without looking at things,  
17 particular details about that property.

18 Q. Are you familiar with the company "Weyerhaeuser  
19 Manufacturer"?

20 A. (Stevenson) Not off the top of my head.

21 Q. For those who are involved in forestry and wood  
22 products, they may be familiar with that. Are you  
23 familiar with chipboard?

24 A. (Stevenson) The actual product of pressed chips?

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1 Q. Yes.

2 A. (Stevenson) Yes.

3 Q. Can you describe what chipboard did for the building  
4 industry, residential building industry?

5 A. (Stevenson) Well, it made building materials less  
6 expensive. So, you know, it would have benefited the  
7 building industry and development in that way.

8 Q. Would you be surprised to know that the house that's  
9 directly south of the Bass Farm, in its pristine 19th  
10 century condition, is the first house built in the  
11 country of chipboard?

12 A. (Stevenson) I would be surprised to hear that.

13 Q. Would you be surprised to know that the chipboard  
14 industry's was -- research center for Weyerhaeuser was  
15 in Antrim?

16 A. (Stevenson) Not based on the information you're giving  
17 me.

18 Q. I guess my point is, there are some aspects that are  
19 not necessarily --

20 A. (Stevenson) You're correct. And, I think the purpose,  
21 again, the purpose of the Project Area Form is to  
22 identify resources from the public right-of-way.

23 Q. Okay.

24 A. (Stevenson) You know, I can't go into people's homes



[WITNESS PANEL: Will~Stevenson]

1 and start doing investigations.

2 Q. But that you do go to areas of public record?

3 A. (Stevenson) Yes.

4 Q. Thank you. Next, I'd like you to look, and I'm going  
5 to have you go to the property that's listed as "Antrim  
6 Grange".

7 MS. GEIGER: Ms. Pinello, could you  
8 point me to the place within the --

9 MS. PINELLO: The document that that is?  
10 Yes, and I'm going to do just that for you.

11 BY MS. PINELLO:

12 Q. Okay. It's going to be Photograph 53, excuse me, and  
13 it is going to be Page 106. I'm going to have you look  
14 at that photograph, but also in your text, you report  
15 that that building of was "moved downhill", correct?

16 A. (Stevenson) Correct.

17 Q. Okay. Would you look at that building. You have a  
18 couple of -- you have a photograph of it there.

19 A. (Stevenson) Uh-huh.

20 Q. Are you familiar with the report, the architectural  
21 report that is in the State Historic Preservation  
22 Office, written by State Architectural Historian James  
23 Garvin about that building?

24 A. (Stevenson) I would have to check my notes back at the

1 office, if I have that report.

2 Q. Would you be surprised to know that he said that  
3 building "was not moved downhill"?

4 A. (Stevenson) Yes, because that would have been in  
5 contradiction to every other resource I've checked.

6 Q. Would you be -- would you -- so, you feel that perhaps  
7 the State Architectural Historian James Garvin was not  
8 accurate in terms of his description of that building?

9 A. (Stevenson) Not at all. I would just have to read his  
10 report to understand how it differed from the histories  
11 and other accounts that have been published.

12 Q. And, you reviewed the records in DHR?

13 A. (Stevenson) Yes. I went to DHR to do a file review.

14 Q. In your report, you discuss briefly about various  
15 revival periods, architectural revival period. Are you  
16 familiar with Phil or Roy Baker in the Town of Antrim,  
17 and in the larger New England community of  
18 buildings?

19 A. (Stevenson) The names don't, you know, jump out at me.  
20 Did they write books on New England architecture or --

21 Q. Phil Baker -- I'll ask you, are you familiar with the  
22 Strawberry Banke Museum?

23 A. (Stevenson) I've heard of it.

24 Q. Are you familiar with -- I'm trying to think of any --

[WITNESS PANEL: Will~Stevenson]

1 many, many historic sites within -- how about -- it  
2 appears it's not fair for me to say sites that you've  
3 never seen. Would you be surprised that, in Antrim,  
4 during the 1940s to 1950s, there was a Colonial Revival  
5 period in which many houses were either changed  
6 dramatically or built brand new as part of a Colonial  
7 Revival?

8 A. (Stevenson) Not necessarily. I mean, I think that  
9 happened in lots of areas of the country during  
10 different revival periods.

11 Q. I guess my question to you was, if you saw that, did  
12 you see, if you felt that to be the case, what has  
13 happened -- how is that not reflected in your  
14 assessment of the properties?

15 A. (Stevenson) In the PAF form, you don't -- you don't go  
16 into much specific detail about specific properties,  
17 other than recommending them for a future survey. So,  
18 that would be, you know, probably more applicable to an  
19 Individual Survey Form or an Historic District Survey  
20 Form --

21 Q. And, that's at the area --

22 A. (Stevenson) -- about a specific property.

23 Q. And, to be clear, you are either close to that stage or  
24 beyond that stage right now in your study?

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[WITNESS PANEL: Will~Stevenson]

1 A. (Stevenson) The PAF report, yes, that stage has been  
2 completed. That's what fueled the next round of  
3 investigations.

4 Q. Okay. I guess what I was asking was, how far along are  
5 you in those next levels --

6 A. (Stevenson) We are -- we are finishing the  
7 "Determination of Eligibility" phase of Section 106.  
8 And, we will be starting the "Assessment of Effects"  
9 stage, once we have final concurrence from DHR.

10 Q. Now, I'd like to direct you to Photograph Number 3.  
11 And, neither one of you have electronic media available  
12 to you? Neither one of you have a laptop with you or  
13 an iPod -- iPad?

14 A. (Will) No.

15 Q. Okay. Could you read what the caption of that  
16 photograph is?

17 A. (Stevenson) "Photograph 3: 184 Craig Road  
18 (ADM-ANT-038). View facing northwest, December 2011.  
19 Digital file (photo 3.jpeg) stored at A.D. Marble &  
20 Company."

21 MS. PINELLO: For the Committee and for  
22 those who have electronic media, if you turn -- if you go  
23 to Google Map and type in "173 Smith Road, in Antrim", I  
24 believe you will find almost the identical photograph,

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[WITNESS PANEL: Will~Stevenson]

1       however, it will be in color. The Volvo is parked in the  
2       yard. The picket fence is there.

3                   MS. GEIGER: Ms. Pinello, do you have a  
4       question?

5                   MS. PINELLO: Yes, I do. I just, in all  
6       fairness, was trying to let people get to where they need  
7       to be.

8 BY MS. PINELLO:

9 Q. My question to you, Mr. Stevenson, is, this is one of  
10       several misidentified photographs that I found in the  
11       survey, just in this Area Form. I did about a 10-mile  
12       loop and found probably six like this. Can you help me  
13       to understand how that could happen and what that means  
14       in terms of our understanding of the cultural  
15       resources?

16 A. (Stevenson) Well, I mean, I guess I'd start by saying,  
17       you know, I'm not going to argue that point that it was  
18       misidentified. But I have also used Google Maps, and  
19       they have misdirected me as well on property addresses,  
20       I think. But, based on the PAF form, a  
21       misidentification of address would not really affect  
22       whether or not we would recommend that property for a  
23       future survey. And, if we would, at that point, we  
24       would be, you know, the fact that it was misidentified

[WITNESS PANEL: Will~Stevenson]

1 would come to light and that would be rectified.

2 Q. Okay. I understand that. And, also, I will tell you,  
3 I have unfair advantage, in that, for 28 years, I've  
4 walked by that house twice a day. So that there are --  
5 there is some of that. And, I understand that, to a  
6 certain extent, at this level, you were looking at "are  
7 there New England capes?" "Are there" -- "what Federal  
8 Period architecture is there?"

9 My concern is, particularly when we talk  
10 about the management and the ability for this Project  
11 to show management skill, you are a subcontractor for  
12 this company. There is a principal within the LLC who  
13 has very specific skills for locating cultural  
14 resources. And, yet, when we have your Area Form  
15 submitted, in my cursory focus on that, I found many  
16 mistakes. And, what concerns me is that how you worked  
17 with a sub -- you, as a subcontractor, worked with a  
18 firm that hired you. Can you tell me what kind of  
19 relationship you had in your -- with your client  
20 reviewing your work?

21 A. (Stevenson) Sure. I mean, any client that hires us  
22 reviews our work prior to submittal.

23 Q. It's standard, yes?

24 A. (Stevenson) Yes.

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[WITNESS PANEL: Will~Stevenson]

1 Q. Okay. So that it's not something where the client who  
2 does the cultural resources, who asks for the cultural  
3 resource report, wants to have it separate and secret  
4 until they submit it, it's open for review?

5 A. (Stevenson) Yes. Certainly.

6 Q. That's my understanding of the practice. So, you're  
7 saying -- did you ever meet with Drew Kenworthy?

8 A. (Stevenson) Yes.

9 Q. Did he review your Area Form?

10 A. (Stevenson) Yes. As did New Hampshire Division of  
11 Historic Resources.

12 Q. Right. I understand that.

13 A. (Stevenson) And, I would also just, you know, point  
14 out, too, that the comments we received back on them on  
15 this Area Form were extremely complimentary in its  
16 thoroughness.

17 Q. I understand that. I also am -- can you tell me how  
18 many people are available in the State Historic  
19 Preservation Office to review area forms?

20 A. (Stevenson) I don't know personally who reviewed this  
21 Area Form. But I know the Individual Survey Forms are  
22 met on by a group of individuals, a committee. I would  
23 think it would be similar for the PAF, but --

24 Q. Okay. Can you tell me, in your trips to the Historic

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1        Preservation Office, is that an office that is staffed  
2        with a robust staff, a medium staff, or a small staff?

3    A.    (Stevenson) I feel that's sort of relative. I mean, I  
4        would say that, on the numerous days I was there, there  
5        was anyone from 5 to 12 individuals possibly. If you  
6        want me to compare it to other states I've worked in,  
7        some have larger, some have smaller.

8    Q.    I'm not allowed to testify. Perhaps Dr. Boisvert  
9        could. So, you met with your client, reviewed that,  
10       and submitted it. Is it the -- would you expect a  
11       State Historic Preservation Office to be knowledgeable  
12       at this detailed of a level for a report, on every  
13       single property and know it? Would you expect that?

14   A.    (Stevenson) I would expect a State Historic  
15        Preservation Office to be knowledgeable of their  
16        state's historical trends and resources.

17   Q.    Exactly. Not of specific street addresses. And, if  
18        the form looks good, my question to you then is, if the  
19        form looks good, if it's complete, everything is tidy  
20        and orderly, you wouldn't expect that there would be a  
21        problem?

22   A.    (Stevenson) I don't work for a State Historic  
23        Preservation Office, --

24   Q.    Okay.



[WITNESS PANEL: Will~Stevenson]

1 A. (Stevenson) -- so I'm not -- I wouldn't want to speak  
2 on their behalf.

3 MS. PINELLO: Thank you. No further  
4 questions.

5 MS. BAILEY: Thank you.

6 MR. ROTH: Could I just have a moment  
7 with Ms. --

8 (Atty. Roth conferring with  
9 Ms. Pinello.)

10 MS. GEIGER: Excuse me. Could I just  
11 note for the record that Attorney Roth, who is Counsel for  
12 the Public, is conferring with Ms. Pinello, who is  
13 representing the Antrim Planning Board. I'd like the  
14 record just to note that.

15 MS. BAILEY: So noted.

16 MR. ROTH: I would also let the record  
17 reflect that I have often consulted with many people in  
18 this room, including the witnesses for the Applicant,  
19 members of the public, other intervenors. And, this is a  
20 common practice. So, whether she's trying to point to  
21 some nefarious purpose in this I think is completely  
22 inappropriate.

23 MS. GEIGER: I'm just -- I just want the  
24 record to note that Mr. Roth is -- excuse me -- conferring

[WITNESS PANEL: Will~Stevenson]

1 with another party in the hearing. And, since he brought  
2 it up, he has been conferring with another party to the  
3 proceeding, Industrial Wind Action Group. And, I just  
4 want the record to note that.

5 MS. BAILEY: Okay. All right. Thank  
6 you. Let's move on. Mr. Reimes, who's representing  
7 Audubon Society?

8 MR. REIMERS: No. I don't have any  
9 questions.

10 MS. BAILEY: Okay.

11 MR. REIMERS: And, it's actually  
12 "Reimers".

13 MS. BAILEY: Oh, "Reimers". I'm sorry.  
14 That's what I have, I just couldn't read my writing.

15 MR. REIMERS: That's okay.

16 MS. BAILEY: Is Mr. Edwards or Ms. Allen  
17 here today?

18 (No verbal response)

19 MS. BAILEY: No. Okay. Mr. Block.

20 MR. BLOCK: Yes. Thank you. I just  
21 have a few questions. Good morning, gentlemen.

22 WITNESS WILL: Good morning.

23 WITNESS STEVENSON: Good morning.

24 BY MR. BLOCK:

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1 Q. I guess either of you could answer these questions.  
2 I'd like to bring your attention to Exhibit NB-2  
3 electronically, which is the Block testimony, my own  
4 testimony. And, electronically, it's NB-2. And,  
5 specifically on that, I'd like to refer you to the very  
6 last page on that, when you get there.

7 Prefiled Direct Testimony of Richard  
8 Block. And, the very large last page on there is a  
9 memo dated "January 10th, 2003", to Edna Feighner,  
10 Review and Compliance Coordinator, and written by  
11 Richard Boisvert, State Archaeologist. And, if I could  
12 read the first two sentences: "It has come to my  
13 attention that some contracting archeologists have been  
14 asked to undertake fieldwork through the winter months.  
15 Clearly, it is not possible to execute a responsible  
16 and acceptable reconnaissance survey when the ground is  
17 snow-covered or frozen." And, I'll jump down to the  
18 conclusion: "Please advise the clients and agencies  
19 that reconnaissance surveys conducted on snow-covered  
20 ground", goes on to say "will be rejected, as they  
21 could not reasonably be expected to identify  
22 archaeological resources."

23 Can I ask what your interpretation of  
24 the definition of "snow-covered" as mentioned in this

1 letter would be?

2 A. (Will) Before we undertook the field component of this  
3 work, we consulted with NHDR about this sort of  
4 situation. The intent of the law is to prevent survey  
5 in situations where, number one, you couldn't see any  
6 topographic variation in the landscape. And, number  
7 two, the ground would be frozen such that you couldn't  
8 dig a hole, if you had decided that an area was  
9 sensitive for archeological investigation. In both  
10 these cases, snow cover was not continuous over the  
11 ground surface, nor was the ground surface frozen.

12 Q. Okay. Can I --

13 A. (Will) Based on that, we went ahead with the survey.  
14 And, the Division of Historical Resources reviewed the  
15 report, without concern for that particular topic.

16 Q. Could you specifically answer the question, though?  
17 What would your interpretation of the definition of  
18 "snow-covered" be in context with this letter, that's  
19 all?

20 A. (Will) My interpretation would be that snow is  
21 sufficiently deep, and continuously covering a property  
22 such that you cannot observe topographic variation due  
23 to the thickness of the cover.

24 Q. Can you define, I guess, a "topographic variation"? Is

1       that hills and valleys or is that ruts?

2   A.   (Will) We would be concerned in that kind of a  
3       situation should a house foundation or some other  
4       human-constructed structure be present, that we would  
5       not be able to define its contours based on the snow  
6       cover, because the snow would fill it to such a point  
7       that you would not see, its contours would be obscured.

8   Q.   Can you give me an estimate of how much snow you think  
9       it would take to cover a house foundation?

10   A.   (Will) I can give you that estimate based on survey in  
11       Maine. And, that would be about a foot and a half or  
12       two feet.

13   Q.   All right. I'd like to direct your attention to the  
14       Exhibit AWE 3, Number 10, which is your final report, I  
15       guess. Title is "TRC Results of Phase I Archeological  
16       Survey". And, I'm looking at your Page 12, which it's  
17       AWE 3, Number 10 electronically, and electronically  
18       it's Page 14 of 19. It is Page 12 on yours. And, I  
19       just want to read on the bottom, where it says: "An  
20       archeological walkover survey was conducted by the  
21       Project archeologist" -- "archeological APE from  
22       November 23rd to 26, 2011." That's correct, I assume?

23   A.   (Will) I apologize. I was just getting to the same  
24       page.

1 Q. Okay. Fine.

2 A. (Will) Yes. I'm with you.

3 Q. So, that was conducted on November 23rd to 26, 2011.

4 And, the next sentence says there was a "recent  
5 snowfall of about six inches." So, you don't think  
6 that six inches of snow is sufficient to qualify as  
7 being called "snow-covered"?

8 A. (Will) If I did, we wouldn't have done the survey.

9 Q. Okay. I just want to direct you to the very -- the  
10 next page, and there's a picture on the top there that  
11 shows snow. This is not "snow-covered", is what you're  
12 saying?

13 A. (Will) I can see the contours of the ground through  
14 that snow cover.

15 Q. Okay. And, let me go back -- or, just continue here on  
16 a different line of questioning. I understand it says  
17 "due to this recent snowfall of six inches and the  
18 limited amount of daylight a 100 percent walkover of  
19 the Project area could not be completed without staying  
20 overnight on the upper elevations. Therefore, walkover  
21 was conducted on the northern and southern portions of  
22 the Project area including the tops of Tuttle Hill and  
23 Willard Mountain but not along the ridge line between  
24 the two." Do you have or can you estimate

[WITNESS PANEL: Will~Stevenson]

1 approximately what percentage was walked over?

2 A. (Will) I believe, earlier, we talked about  
3 "approximately 90 percent".

4 Q. Ninety percent.

5 A. (Will) But we did consult with the Division of  
6 Historical Resources about the fact that it wasn't a  
7 100 percent walkover survey. And, they did not express  
8 concern over that. Or, we would have had to have gone  
9 back at another time and have completed that walkover.

10 Q. So, I guess -- so, has anyone from your organization  
11 ever returned to complete that? So, that was never  
12 done?

13 A. (Will) No.

14 MR. BLOCK: Okay. All right. That's  
15 all the questions I have. Thank you.

16 MS. BAILEY: Thank you. Anybody here  
17 from the Appalachian Mountain Club?

18 (No verbal response)

19 MS. BAILEY: Ms. Linowes?

20 (No verbal response)

21 MS. BAILEY: Mr. Roth.

22 MR. ROTH: Thank you. Mr. Stevenson,  
23 good morning, and welcome back.

24 WITNESS STEVENSON: Good morning.

1 BY MR. ROTH:

2 Q. When you were here for the technical session sometime  
3 ago, I asked you some questions about your experience  
4 in doing this kind of work. And, has your -- have you  
5 done historical impacts research with respect to  
6 projects involving wind power before this one?

7 A. (Stevenson) No.

8 Q. Have you done that kind of work with respect to  
9 projects involving the production of energy?

10 A. (Stevenson) Let me ask, by "impacts", do you mean  
11 effects --

12 Q. Yes.

13 A. (Stevenson) -- to projects? No.

14 Q. And, how about with projects that involve structures  
15 taller than 300 feet tall?

16 A. (Stevenson) No. But it's not typical for a consultant  
17 -- I mean, effects are determined by the Division of a  
18 State SHPO's office and whatever federal agency is  
19 involved, in this case, the Army Corps of Engineers.  
20 They meet together to discuss adverse effects to  
21 specific historic properties.

22 Q. Okay.

23 A. (Stevenson) I just provide information.

24 Q. Some questions were asked previously by Ms. Pinello



[WITNESS PANEL: Will~Stevenson]

1 about a person by the name of "Drew Kenworthy". Do you  
2 remember those?

3 A. (Stevenson) Uh-huh. Yes.

4 Q. Does Drew Kenworthy have some relationship with your  
5 firm, either past or present?

6 A. (Stevenson) Not since I've been employed.

7 MR. ROTH: Okay. Thank you. That's  
8 all.

9 MS. BAILEY: Thank you. Questions from  
10 the Committee? Dr. Boisvert. Can you take the  
11 microphone? Thanks.

12 BY MR. BOISVERT:

13 Q. Mr. Stevenson, in regard to the issues raised by Ms.  
14 Pinello about identification of resources, she's  
15 indicated that there have been a number of errors  
16 identified by her in the report. Do you plan on doing  
17 anything with that information?

18 A. (Stevenson) Well, as I said, that PAF phase of the  
19 Project is complete. Once thing I neglected to  
20 mention, that I thought of afterwards, is that the  
21 identification of the resources in the PAF form also  
22 was based on the anticipated visual impacts of the  
23 Project on properties. It was -- the guidelines, you  
24 know, basically state that "those are your anticipated

1 impacts of the visual nature." So, GIS mapping was  
2 provided, and overlaid on topographical mapping. And,  
3 that helped us zero in on areas that would be or could  
4 potential be visually impacted.

5 Q. What is the area of potential effect for this Project?

6 A. (Stevenson) Well, there's two. There's the 3-mile area  
7 of potential effects for eligibility. And, then, wind  
8 projects in New Hampshire also employ a 5-mile area of  
9 potential effects when assessing effects to properties.  
10 So, that basically means you have to identify any new  
11 properties within the 3-mile radius, and then known  
12 properties that are in the 5-mile radius have to be  
13 considered if they're listed on the National Register  
14 for effects.

15 Q. So, the area of potential effects is not the rectangles  
16 on the map?

17 A. (Stevenson) Correct.

18 Q. The properties that Ms. Pinello referenced, are they  
19 within the 3-mile or the 5-mile or beyond the 5-mile  
20 radius?

21 A. Without, you know, having them plotted on a map, I  
22 would -- I'm a little uncertain. But, if they are  
23 between those two insets she pointed out, I would guess  
24 they would be in the 3-mile.

[WITNESS PANEL: Will~Stevenson]

1 Q. In the 3-mile. And, she has indicated that there is  
2 interest in some of these properties, not for their  
3 architectural importance, but for their historical  
4 importance. Which is to say, it's what happened at the  
5 property, not how the property was constructed, is that  
6 correct?

7 A. (Stevenson) Correct.

8 Q. Do you intend to follow up on any of the information  
9 that she referenced regarding the hops industry or the  
10 chipboard manufacturer?

11 A. (Stevenson) Well, to have potential effects to historic  
12 property, the property needs to be significant and it  
13 needs to maintain its integrity. And, its significance  
14 needs to be directly tied to its setting. Its setting  
15 needs to be important, if you're going to have an  
16 adverse visual impact.

17 Q. Have you evaluated that for these properties?

18 A. (Stevenson) No, because I wasn't made aware of them  
19 until today. So, --

20 Q. So, that goes back to my original question. Are you  
21 going to follow-up on this information?

22 A. I mean, all I can say, if I'm asked to do so, but that  
23 section of the process has been completed. So, we're  
24 nearing the end or at least have crossed the halfway

1 mark of the Section 106 process.

2 Q. Are you familiar with the phenomenon in the Section 106  
3 process of "unanticipated discoveries"?

4 A. (Stevenson) Sure.

5 Q. And, might this fall into that category?

6 A. (Stevenson) It could, if the hops industry and building  
7 industry, at those locations, are directly tied to  
8 those property setting, and their setting is what makes  
9 them significant. Not for their engineering, not for  
10 their technological industrial advancements.

11 Significance has to be tied to setting in order to have  
12 an adverse visual impact to that property.

13 Q. And, as yet, they're unevaluated?

14 A. (Stevenson) Yes.

15 Q. So, we don't know if they will be affected or not,  
16 because we have not completed the identification and  
17 evaluation?

18 A. (Stevenson) Sure.

19 Q. Okay. In regard to the Grange Hall, the issue of  
20 setting is important, because, if a property has been  
21 moved from its original location, then the setting has  
22 been compromised. And, in all likelihood, that would  
23 be an evaluation against the setting being intact. So,  
24 is it not important that we know that the Grange Hall

1 was or was not moved?

2 A. (Stevenson) In regards to its significance and related  
3 to the Antrim Center -- potential Antrim Center  
4 Historic District? It's not really relevant whether or  
5 not it was moved in the early 18th century, because its  
6 significance is tied to it serving as the Town Hall of  
7 Antrim, at least in my form, from approximately 1830s  
8 to the 1890s, and then its continued use as the Grange.

9 So, I mean, it depends on what you're  
10 assessing its significance for. And, I would say, you  
11 know, it is included in the boundaries of the potential  
12 Antrim Center Historic District.

13 Q. Did you encounter the report by Dr. Garvin in the  
14 files?

15 A. (Stevenson) Again, you know, that was some years ago.  
16 I'd have to check my files to see if I have that  
17 report. I wouldn't have necessarily used that report  
18 for the PAF form, because early on in that process we  
19 had identified Antrim Center as a possible historic  
20 district, and was in consultation with DHR on that.  
21 So, that would come into play more so when you're  
22 evaluating an individual resource. When you're  
23 evaluating a district's resources, it's the compilation  
24 of all the resources.

[WITNESS PANEL: Will~Stevenson]

1 Q. I'm aware. So, you're saying that the information that  
2 would have been in the Garvin report was not relevant?

3 A. (Stevenson) It wouldn't change, if the Garvin report  
4 states that "the Antrim Grange was not moved and was  
5 constructed at its present location", it would still be  
6 included as a contributing resource to the Antrim  
7 Center Historic District.

8 Q. Might there also be additional information that you  
9 don't already have about that property that could add  
10 to or change the interpretation of the building?

11 A. (Stevenson) It could be, if you were evaluating that  
12 individual resource for its National Register status.  
13 But we identified it as part of a larger historic  
14 district. So, we evaluate it within those trends.  
15 And, within the information I have, it clearly, to me,  
16 has significance within the Antrim Center Historic  
17 District.

18 Q. So, what you're saying is that you don't need to do any  
19 additional research on that structure?

20 A. (Stevenson) Not necessarily for my purposes. It's  
21 already considered significant.

22 Q. So, you've crossed that threshold then?

23 A. (Stevenson) Yes. Like I said, DHR has concurred on the  
24 eligibility of Antrim Center. The additional

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1 information we had to provide last week was in  
2 specifically to a certain boundary area, and further  
3 information for its period of significance.

4 MR. BOISVERT: I also would like to make  
5 a statement here to clarify for other people here. Even  
6 though I'm in the Division of Historical Resources, I have  
7 had no contact with this Project after I was selected to  
8 be on this Committee. So, I have not been a party to any  
9 of the discussions regarding the Project Area Form and  
10 things of that sort. However, I was contacted prior to my  
11 appointment regarding the suitability of archeological  
12 survey on the ridge, and that question was run by me.  
13 And, I looked at the situation and determined that the  
14 survey that was conducted was, in fact, adequate. That  
15 was before I was appointed to the Committee.

16 Just to make that clear. And, I guess  
17 that's it.

18 MS. BAILEY: Ms. Lyons.

19 BY MS. LYONS:

20 Q. You said that the report was submitted to a committee?

21 A. (Stevenson) The historic district and individual forms  
22 are evaluated by a committee of people at DHR. I  
23 submitted copies of the PAF report last year to DHR.  
24 I'm not sure if a committee meets to review that report

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1 or how they review it.

2 Q. I'm not sure if you're the person to ask, but -- so,  
3 this committee, you're not familiar then with New  
4 Hampshire DHR procedure then on how they accept a  
5 report or --

6 A. (Stevenson) I mean, every State Historic Preservation  
7 Office operates differently. I'm familiar with how the  
8 individual and historic district forms go, because I  
9 receive comments from these individuals, several  
10 different names. And, that's what they said, they  
11 meet, you know, when I asked, they said they meet as a  
12 group. I believe the comments for the PAF came from  
13 two separate individuals, Nadine Peterson and Mary Kate  
14 Ryan.

15 So, I can probably say that they  
16 reviewed the report. And, I wouldn't be surprised if  
17 additional people over there also reviewed it as well.  
18 But their comments were just incorporated into one of  
19 the two that submitted.

20 MS. LYONS: Thank you.

21 MS. BAILEY: Chairman Ignatius.

22 CHAIRMAN IGNATIUS: Thank you.

23 BY CHAIRMAN IGNATIUS:

24 Q. Dr. Will, when one is undertaking an archaeological



1 survey for a project like this, do you only look at,  
2 thinking about Precontact sites, do you only look at  
3 the areas that will be disturbed by construction, if  
4 the project is approved, or do you look at a larger  
5 perimeter around the project itself?

6 A. (Will) We look at what would be defined as the  
7 "archaeological APE". In that particular context, it  
8 would be those areas that would be disturbed by project  
9 construction.

10 Q. So, I noticed in your report you talked about the  
11 importance of water as a likely place for -- well,  
12 that's the wrong way to put it, but, in finding  
13 Precontact evidence, water is an important factor  
14 because of the importance of life and transport, food  
15 and transportation. In this case, did you do any  
16 surveying of Willard Pond or Gregg Lake?

17 A. (Will) No. They're not part of the archeological APE.  
18 But you -- I just want to clarify with respect to  
19 water. That's one of several different kinds of  
20 variables you think about. And, they are ones that  
21 probably come to your mind if you're doing an  
22 archeological survey. We sort of look at the kinds of  
23 resources that are available and think through "what  
24 are some of the sorts of necessities?" So, in that

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1 case, water is one of them. But, looking at those  
2 ponds, they're not within the archaeological APE. So,  
3 we would not have looked at them.

4 Q. And, that's because there would be no disturbance of  
5 those areas if the Project were sited?

6 A. (Will) That's correct.

7 Q. Are ridgelines something that falls within that  
8 category of necessities and more likely to see  
9 development, or the opposite, you're less likely to  
10 see --

11 A. (Will) Ridgelines, what we're interested in there is  
12 thinking about "are there specialized resources that  
13 people might go after?" And, a ridgeline is not likely  
14 to be a place where Native Americans would go camping,  
15 but there may be resources there. One of those  
16 resources is lithic material, rocks, the kinds of rocks  
17 that people could turn into tools. There are two  
18 kinds. There's the kind you can chip and make into  
19 spear points and the kinds of things you typically  
20 associate with Native American sites. And, there are  
21 those kinds of rocks that you can grind, peck and  
22 polish, and make into chisels and hatchets and those  
23 sorts of things.

24 With these ridgelines, both in the

1       number of projects I've worked in Maine and New  
2       Hampshire, what we do is we look at surficial geology  
3       maps to inform us, is there a possibility these sorts  
4       of rocks, those that could be chipped or those that  
5       could be ground, might be present, in expectation that  
6       perhaps there might be quarry locations up in these  
7       ridge tops. In this case, surficial geology for this  
8       area doesn't show rocks that would have been attractive  
9       to Native Americans for toolmaking. And, certainly,  
10      rocks exposed throughout the area confirmed that  
11      they're not the kinds of things that we have seen made  
12      into tools, based on what we find in archaeological  
13      sites.

14   Q.   Thank you. Mr. Stevenson, the description of the DHR  
15       process that is now shifting from, I'm going to forget  
16       your terms, sort of findings of eligibility, into  
17       findings of possible adverse effects is where we are,  
18       is that right?

19   A.   (Stevenson) Correct. Yes.

20   Q.   And, am I right that four areas have been found  
21       eligible, the Dodge Family Farm, Pine Haven, the Antrim  
22       Center Historic District itself, and the White Birch  
23       Point Area have all been declared eligible?

24   A.   (Stevenson) Correct.

1 Q. So, the next step in looking at possible adverse  
2 effects involves what sort of analysis on those four  
3 areas?

4 A. (Stevenson) Basically, those four areas were identified  
5 as being eligible, as you mentioned, and their  
6 eligibility is tied to their setting. So, we need to  
7 do, you know, kind of in a visual analysis, visual  
8 impacts to those sites. That they were in the original  
9 GIS mapping, you know, that -- of the potential  
10 viewshed. So, I'll gather historical information, send  
11 that to DHR, and DHR will meet with Army Corps of  
12 Engineers, and they make those determinations. I know  
13 one of the requests DHR has made was additional photo  
14 simulations from some of these eligible sites. So,  
15 that's what we're in the process now of doing.

16 Q. So, give me a hypothetical example of what might be  
17 found to create an adverse effect based on setting, and  
18 one that would not create an adverse effect. I mean,  
19 is it as simple as "you can see the turbine from the  
20 location" or is it more complicated than that?

21 A. (Stevenson) It's a little more complicated. And, you  
22 know, while there is a framework, a process in place to  
23 which you evaluate things, honestly, there is some  
24 subjectivity as well. And, that's kind of why DHR

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1 meets with the Army Corps, the federal agency. And,  
2 they come to some resolution about "Do we have an  
3 effect, yes or no? If "yes", is it an adverse effect?"  
4 I mean, I could give you examples. I guess examples  
5 are a little easier to quantify or understand when it's  
6 less visual, because, you know, "is the building being  
7 destroyed or is a large percentage of the significant  
8 property being take for a project?" And, in this, you  
9 know, project, we don't have that. So, with visual,  
10 that's why the photo simulations will help DHR  
11 understand, and they will come to that conclusion with  
12 the Army Corps.

13 Q. Can you give any better sense of what the visual impact  
14 of turbines would be? I realize there's no, you know,  
15 "yes, you can see them"/"no, you can't see them", is  
16 too simplistic. But any way to help me understand what  
17 might lead to a finding of adverse effect, even in a  
18 hypothetical case, I don't mean this necessarily? You  
19 know, is it "you can see a lot of them" or "you can see  
20 a whole lot of one of them" or --

21 A. (Stevenson) Yes, I would say you're on the right track.  
22 And, at that point, you know, it would likely proceed  
23 into the mitigation phase of Section 106.

24 Q. All right. So, one other thing before we get to the

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1 mitigation issues. Did you -- are any of the areas  
2 you're studying impacted by the road to be cut? Or, is  
3 the only issue of concern the ability to see the  
4 turbines?

5 A. (Stevenson) As far as I'm aware, the only issue is the  
6 ability to see the turbines.

7 Q. All right. So, the mitigation phase, how does that  
8 work? What are the kinds of things that one does  
9 during mitigation?

10 A. (Stevenson) Well, that's -- that's an interesting  
11 phase. I mean, I've seen lots of different things  
12 happen for mitigation. Again, it depends on the type  
13 of impact or adverse effect you're going to have on the  
14 property. I think, generally, oftentimes, you know,  
15 people who have identified themselves as consulting  
16 parties to the Section 106, as part of that process,  
17 are brought in to gain ideas for possible mitigation.  
18 But it can range from anything. It could be what the  
19 local communities want. Do they have -- you know, do  
20 they want historical markers? Do they want work done  
21 on some other historical property? To gain a better  
22 understanding, I've seen people develop walking tours.  
23 It can -- it's really only left to the imagination and  
24 what the parties agree to. I mean, especially in a

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1 visual sense, when, you know, the property isn't being  
2 physically altered.

3 Q. Does it involve moving structures ever?

4 A. (Stevenson) I've never seen that option for visual  
5 impacts. I have seen it for -- or, I've heard it for  
6 physical impacts. Or, oftentimes, the project is  
7 moved, the intersection is moved, the bridge is moved,  
8 that sort of thing.

9 Q. And, is it sometimes, when you said "work on other  
10 historic properties", is the thought, if one may be  
11 impaired in its setting, you might do work on a similar  
12 one somewhere else in order to sort of preserve the  
13 sense of what you learned about the old one that you  
14 now can't quite get the same impact, but you could  
15 improve another one or protect another one?

16 A. (Stevenson) Yes, exactly. You're on the right track  
17 there.

18 Q. Is there any ballpark sense of how long it takes to go  
19 through the adverse effect phase analysis?

20 A. (Stevenson) Well, I'd hate to put a strict time frame  
21 on it, but I would imagine, within the next few weeks,  
22 we would have the needed information to submit the  
23 effects documentation to DHR. And, then, it would  
24 really be up to DHR and the Army Corps of Engineers to

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1 kind of schedule their meetings and get together and  
2 discuss the properties. Lots of times, site visits are  
3 done in those scenarios. So, you know, scheduling and  
4 things like that, it could be a few months before the  
5 effects stage is completed.

6 Q. And, then, get ready, the next question is, how long  
7 the mitigation phase tends to take?

8 A. (Stevenson) Again, that can vary a lot, depending on  
9 what you're planning to do. But, again, you know, it  
10 could -- I could see that easily -- I could easily see  
11 that taking months as well. I mean, if the consulting  
12 parties come together and a consensus can be made  
13 quickly on what they would like to see, then,  
14 obviously, that mitigation work can proceed quickly.  
15 But I don't -- I don't believe there's a strict time  
16 frame in the process for that, as, you know, there are  
17 timeframes for review and things like that, but --

18 Q. So, there's no deadlines for completion that you have  
19 to hold to?

20 A. (Stevenson) Not that I'm aware of, no.

21 Q. And, when I say "you", it's probably State DHR, as much  
22 as anyone?

23 A. (Stevenson) Yes. It would be -- it would be federal  
24 deadlines of the Section 106 process. As in, you know,



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1 we submit a report, the state agency has 30 days to  
2 review the report before providing comments, that sort  
3 of thing.

4 CHAIRMAN IGNATIUS: Thank you. I think  
5 that's it. These hearings are an opportunity for a little  
6 mini seminar on things that I don't know anything about.  
7 So, I appreciate it.

8 MS. BAILEY: Any other Committee  
9 questions? Mr. Iacopino.

10 MR. IACOPINO: Thank you.

11 BY MR. IACOPINO:

12 Q. Let's me start with Mr. Will. Mr. Will, can you open  
13 up your Phase I Final Report, which is AWE 3, Appendix  
14 9B, but it's Electronic Document 10. To the page that  
15 has the photographs that Mr. Block drew your attention  
16 to. Figure 2, "Views of the archeological APE." Do  
17 you have that?

18 A. (Will) I'm with you.

19 Q. Okay. I only have a couple questions for you. I take  
20 it these three paragraphs that are inset on the map  
21 were all taken during the same time period, is that  
22 correct?

23 A. (Will) Yes.

24 Q. So, obviously, the picture at the top of the page has

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1 more snow cover than the two on the -- the two lower  
2 pictures, correct?

3 A. (Will) Yes.

4 Q. I assume that was taken in a place that was -- is more  
5 shaded or had less sunlight to melt the snow?

6 A. (Will) I'm going to guess it was more north-facing.

7 Q. In terrain that is exhibited in that top picture, that  
8 amount of snow cover, I take it it's your opinion, you  
9 could identify a structure like a foundation with the  
10 amount of snow cover that is there?

11 A. (Will) I do.

12 Q. What about a cellar hole?

13 A. (Will) Well, that's what I meant by a "foundation", a  
14 cellar hole, yes.

15 Q. So, even if there's not much above ground, but  
16 something that's subterranean --

17 A. (Will) You can see the rectangular depression, yes.

18 Q. Okay. Mr. Stevenson, first, just a general question,  
19 in case folks on the Committee don't understand it. If  
20 I understand the process that you go through, it's sort  
21 of a, you start wide, and then you sort of narrow down,  
22 and that's the way the 106 process actually operates,  
23 is that correct?

24 A. (Stevenson) Correct.

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1 Q. And, so, that this Project Area Form is sort of in the  
2 broad phase of your work?

3 A. (Stevenson) Correct.

4 Q. And, ultimately, what happens is, there are  
5 determinations of whether or not certain districts are  
6 eligible for the National Historic Registry, and also a  
7 determination of whether individual structures are  
8 eligible for the Historic Registry?

9 A. (Stevenson) Yes. Yes, exactly. The PAF is to identify  
10 potential, potential resources that could be eligible.

11 Q. And, that's pretty much the qualitative framework in  
12 which Section 106 operates, is that sort of the  
13 standard is, "does it qualify to be on the National  
14 Historic Register?"

15 A. (Stevenson) Correct. And, not to interrupt, but, in  
16 the case of this project specifically, the DHR's wind  
17 guidelines also make it very clear about the visual  
18 impact. That's kind of the focus from the start with  
19 the PAF.

20 Q. So, in other words, even when you're out at the broad  
21 part of your work, you're keeping in mind that these  
22 visual impacts from the proposed wind turbines may be  
23 an issue, is that correct?

24 A. (Stevenson) Correct. Yes. That's why we, you know,

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1 we're provided GIS mapping of the viewshed APE. And,  
2 if you look at the inset maps in that PAF report, those  
3 dark gray-shaded areas are the "viewshed mapping", we  
4 call it. So, any structure on historic maps or topo  
5 maps that are within that shaded area are of utmost  
6 importance to, you know, to check out and evaluate.

7 Q. And, that's -- and, then, in your sort of canvas of  
8 those areas, if you see a structure that might qualify,  
9 you'd snap a picture of it, is that right?

10 A. (Stevenson) Correct.

11 Q. Okay. The pictures in your report, though, are  
12 pictures that you took, correct?

13 A. (Stevenson) Correct.

14 Q. You did not obtain or did you obtain any photographs  
15 from any third party sources?

16 A. (Stevenson) Not at all. I have all the original files.

17 Q. And, if I understand correctly, is the purpose of the  
18 photograph to preserve the structure so that you can  
19 submit it to the SHPO for them to assist in determining  
20 whether or not this may or may not be eligible for the  
21 Historic Registry?

22 A. (Stevenson) I wouldn't even -- I wouldn't necessarily  
23 say "preserve", but I would say it's to give them a  
24 representative view of the types of properties you

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1 encounter in the Project area. I mean, these  
2 photographs were narrowed down from probably thousands.  
3 I think I have close to 2,000.

4 Q. So, if a photographs is mislabeled with respect to,  
5 say, the address?

6 A. (Stevenson) Correct.

7 Q. What type of problem does that create in -- with the  
8 Project Area Form?

9 A. (Stevenson) The actual address, I don't -- I don't  
10 foresee it creating much of a problem. You're looking  
11 at the architecture of the building. Does it maintain  
12 its integrity? Meaning, does it have all modern vinyl  
13 replacement windows? Does it have modern siding?  
14 Those things detract from a property's historic  
15 integrity. Those are -- you know, the photographs are  
16 meant to show materials, to show things like that. The  
17 actual number of the street, I would say, is less  
18 important than where it is plotted or, you know, shown  
19 on a map.

20 Q. I take it you try to get your addresses correct,  
21 though?

22 A. (Stevenson) Certainly. And, yes, I would take  
23 responsibility for any error.

24 Q. You mentioned the viewshed map that you used in

[WITNESS PANEL: Will~Stevenson]

1       determining your -- well, in developing your PAF. Can  
2       you tell us where that is in your report? What page?

3   A.   (Stevenson) Sure. In the Appendix, I guess it's 3,  
4       Section 9D, it is the very last -- the very last map.  
5       And, it's on -- it's actually an unnumbered page. It's  
6       after the final photograph.

7   Q.   What's the last page number before it?

8   A.   (Stevenson) 127. However, I would -- these photographs  
9       were revised with the PAF. So that might be a  
10      difference in page numbers.

11   Q.   So, it's -- okay. I think it's 129 electronically.

12   A.   (Stevenson) Okay.

13   Q.   Thank you. You simply, with respect to whether or not  
14      either a district or a structure that is eligible for  
15      the National Historic Register is affected by the  
16      Project, is a determination, I think you said, that's  
17      made actually by the state, while, in this case, the  
18      State Historic Officer, along with the Army Corps of  
19      Engineers, who is considered the lead federal agency?

20   A.   (Stevenson) Correct.

21   Q.   Okay. So, your job is to provide them with the  
22      information, and then they tell you which projects  
23      are --

24   A.   (Stevenson) Is eligible.

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1 Q. -- eligible?

2 A. (Witness Stevenson nodding in the affirmative).

3 Q. They also tell you which projects they believe are  
4 affected?

5 A. (Stevenson) Essentially, I provide them with  
6 information. And, in the case of, say, these historic  
7 district or individual forms, my recommendation on the  
8 eligibility, based on my opinion, they either concur  
9 with that opinion or disagree, and their decision is  
10 final. I don't have any avenue to, you know, --

11 Q. So, they make the final decision, sometimes they agree  
12 with you, sometimes they don't?

13 A. (Stevenson) Exactly.

14 Q. And, then, it's a determination of, if they determine  
15 that there is an effect, how do you either avoid it or  
16 mitigate it, correct?

17 A. (Stevenson) Correct. That would be -- that would be in  
18 their hands, with the Army Corps'. They're the federal  
19 agency. And, if you -- once you get into avoidance or  
20 minimization, things of that nature, the mitigation,  
21 different aspects of mitigation, oftentimes, you know,  
22 I would have no say in that. It would be more between  
23 those two agencies, and possibly the Project team.

24 Q. Well, those are three aspects they look at: Avoidance,

1 minimization, and mitigation?

2 A. (Stevenson) Those are three -- those are some aspects  
3 of mitigation, correct.

4 Q. All right. And, if I understood your testimony  
5 correctly, is that, you know, I think what you said on  
6 cross-examine, and I'm not sure if this is in your  
7 initial testimony, is, with visual impacts, it's very  
8 difficult to avoid -- or, visual impacts, such as from  
9 a wind farm, it's very difficult to avoid the impact?

10 A. (Stevenson) Yes. I would say visual impacts, in  
11 general, you know, if the property's important,  
12 significant for its setting, yes, avoidance is -- it  
13 would be a difficult mitigation measure.

14 Q. This may sound like a really dumb question. But, when  
15 you're talking about the property and its setting, --

16 A. (Stevenson) Uh-huh.

17 Q. -- and whether a visual impact affects it or not,  
18 what's the point of view that you use? Is it that, if  
19 you look at the property, you see the windmill? Or, is  
20 it, if you're in the property, you see the windmill?  
21 Or, is it both?

22 A. (Stevenson) To be honest, I would think it would be  
23 mostly on the exterior, you know, because not all these  
24 properties are public. But I've never been in that



[WITNESS PANEL: Will~Stevenson]

1 position to assess effects. That's always done by the  
2 State SHPO and the federal agency involved. So, that's  
3 why I said, I think, you know, there comes into it some  
4 subjectivity about the severity of those impacts.

5 So, --

6 Q. Just so that I'm clear on it, I guess, and like I said,  
7 it may just be a dumb question. But, as a 21st century  
8 citizen of New Hampshire, --

9 A. (Stevenson) Uh-huh.

10 Q. -- if I wanted to go view the hops mill in Antrim, I  
11 would go and I would look at something. And, if there  
12 was a big old windmill in the back of it, obviously, I  
13 would see it, and that, I think, would be an impact on  
14 my view of the property. Another way to look at it is,  
15 is, if I was going to some historic structure, and I  
16 will put myself in the view of the colonist who used to  
17 live inside there.

18 A. (Stevenson) Uh-huh.

19 Q. And, looked out the window and, you know, on the -- you  
20 know, part of the view was wind turbines. Which,  
21 obviously, didn't exist there when the colonists lived  
22 there. Is there any standards at all as to sort of  
23 which point of view constitutes the --

24 A. (Stevenson) The adverse effect? The adverse effect,

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1           you mean?

2   Q.    Yes.

3   A.    (Stevenson) I wish I could -- I wish I could more  
4           easily answer your question.

5   Q.    Okay. Well, when you provide information to the state  
6           or federal agency, to assist them in making that  
7           determination, what approach do you use or do you use  
8           both?

9   A.    (Stevenson) Basically, it's a -- you take the effects  
10          criteria, and you -- it's basically a table, and I  
11          would input the property's information into that table  
12          for the questions it asks. And, then, that's what I  
13          give to them. You could be in many historic properties  
14          and look out and see a car, see a road. If that --  
15          and, it's kind of different to when, just as a citizen,  
16          you're going to a property to experience that property  
17          versus the federal laws that guide 106. And, that's  
18          why I wanted to make the point about, you know,  
19          especially in a Project like this, that property  
20          significance has to be tied directly to its setting.

21                    So, for a property, say, was significant  
22          for its architecture or engineering, it would not be  
23          considered to having an adverse visual effect, because  
24          it's significant for its architecture, not the setting

[WITNESS PANEL: Will~Stevenson]

1       it's in.

2   Q.   Is there ever any way to actually determine -- actually  
3       -- well, let me back up. Wind turbines, automobiles,  
4       relatively new things historically. And, I guess the  
5       question is, is how do you combine the two or how do  
6       you take one out of the setting, if you're talking  
7       about a Pre-Colonial village compared -- and you've got  
8       a highway or a wind farm or something that was going to  
9       be constructed?

10   A.   (Stevenson) I've never made those determinations  
11       myself. But, I would say that, I would think you would  
12       have to take into account, as one of the other council  
13       members said, maybe the amount that was visible, how  
14       many? Is it visible from all locations or only from a  
15       certain spot? That's the point I think of DHR going on  
16       the site visits with the Army Corps, in addition to  
17       having photo sims, so they can stand in a spot and say  
18       "Here's the photo simulated image of what this should  
19       look like." Here I am looking at it physically, what  
20       do I think?

21   Q.   And, you've already had requests for additional photo  
22       sims from either the state folks or --

23   A.   (Stevenson) Yes. DHR has initiated those requests.

24                   MR. IACOPINO: I don't have any further

1 questions.

2 MS. BAILEY: Okay. Thank you.

3 Redirect?

4 MS. GEIGER: Could I have a moment with  
5 the witnesses please?

6 MS. BAILEY: Yes.

7 (Attorney Geiger conferring with Witness  
8 Will and Witness Stevenson.)

9 MS. GEIGER: Thank you. I'll try to be  
10 brief. I don't have the mapping in front of me, because I  
11 think I gave my witness my copy of the report.

12 **REDIRECT EXAMINATION**

13 BY MS. GEIGER:

14 Q. But I'm going to ask Mr. Stevenson a question about  
15 questions he got from Ms. Pinello about some properties  
16 that were between, I believe, two rectangular squares  
17 depicted on one of your maps, that represented  
18 properties near the word "Meetinghouse" on that map.  
19 Do you recall that questioning?

20 A. (Stevenson) Yes.

21 Q. Okay. And, could you please refresh my memory, what  
22 are the numbers of those two rectangles on the first  
23 map that Ms. Pinello was directing you to?

24 A. (Stevenson) The map is on Page 4. And, I believe they

1           were 16B and 16I.

2   Q.    Okay.  And, if there were -- if there were properties  
3           between those two rectangles that Ms. Pinello says were  
4           there, but that do not appear -- photographs of them do  
5           not appear in your report.  Do you have any explanation  
6           for why that might be?

7   A.    (Stevenson) Well, that last map I directed you to, I  
8           think it was Page 129, shows all of the -- shows the  
9           visual APE of the Project.

10  Q.    And, what does that mean?  The "visual APE of the  
11          Project" means what?

12  A.    (Stevenson) Means that the Project would likely be  
13          visible from those locations on that -- on the map.  
14          So, any of the areas that are shaded in gray you would  
15          be able to see the Project from.

16  Q.    So, what you're saying is those gray-shaded areas on  
17          the last map are areas that you would be concerned  
18          about if you found properties there that made you think  
19          were of historical significance?

20  A.    (Stevenson) Correct.  Those areas are the most  
21          important areas to make sure you look for resources.

22  Q.    And, are there any gray-shaded areas between the  
23          rectangle 16B and 16I on that last map?

24  A.    (Stevenson) Again, this map does not have the names of

[WITNESS PANEL: Will~Stevenson]

1 the roads. But, if you look east of the word  
2 "Meetinghouse", which is the area where she identified  
3 16B and 16I, there appears to be one small shaded area  
4 located on the east side of the road that extends back.  
5 And, that is the only area along that roadway that has  
6 -- is visible from the Project or would be visible.

7 Q. And, do you know if there is a structure in that  
8 gray-shaded area?

9 A. (Stevenson) Doesn't look so on this map, but I would  
10 need a larger to confirm.

11 Q. I guess the last question I have is, if the Division of  
12 Historical Resources, in the current consultations that  
13 you are having with that agency, indicated to you that  
14 there needed to be more information obtained about  
15 structures within the APE or anything else that they  
16 might need to complete their work under the Section 106  
17 process, would you be willing to comply with those  
18 requests?

19 A. (Stevenson) Absolutely.

20 MS. GEIGER: Thank you. I don't have  
21 anything further.

22 MS. BAILEY: Okay. Thank you for your  
23 testimony. And, thank you for the traveling that you did  
24 to get here.

1 WITNESS STEVENSON: No problem.

2 MS. BAILEY: Okay. It's a good time for  
3 a lunch break. We're going to start after lunch with  
4 Mr. Guariglia.

5 MS. GEIGER: Yes. And, I would just  
6 ask, for the Committee's consideration, whether or not we  
7 could take less than a hour, so that we could hopefully  
8 complete our witnesses this afternoon, Mr. Guariglia and  
9 Mr. High?

10 MR. ROTH: I could ask that we get a  
11 complete hour. It's going to be a long day no matter how  
12 we do it. I need the time. And, just for the record, I  
13 know that the Applicant and their witnesses typically  
14 cater lunch for themselves here. The rest of us don't  
15 have that luxury.

16 MR. IACOPINO: Yes. Actually, is  
17 anybody going to need the phone line open for the  
18 testimony? And, has anybody heard from Ms. Linowes?

19 (No verbal response)

20 MR. IACOPINO: Okay.

21 MS. BAILEY: All right.

22 MR. IACOPINO: Thank you.

23 MS. BAILEY: We are going to resume  
24 exactly by that clock at 1:00.

1 MS. GEIGER: Thank you.

2 (Whereupon the lunch recess was taken  
3 and this **Morning Session ONLY** ended at  
4 11:59 a.m. The hearing to resume in a  
5 transcript to be filed ***under separate***  
6 ***cover*** so designated as "**Afternoon**  
7 **Session ONLY**"..)  
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