In Re:

SEC 2021-02 - ANTRIM WIND ENERGY FACILITY
SUBCOMMITTEE INVESTIGATION OF COMPLAINTS

Public Hearing
June 17, 2021

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STATE OF NEW HAMPSHIRE

SITE EVALUATION SUBCOMMITTEE

June 17, 2021 - 1:00 p.m.
N.H. Department of Transportation
7 Hazen Drive, Concord, NH - Room 114

IN RE: SEC DOCKET NO. 2021-02
ANTRIM WIND ENERGY FACILITY
Subcommittee Investigation of Complaints
(Public Hearing)

PRESIDING OFFICER: Jonathan Evans, NH DOT

SUBCOMMITTEE MEMBERS: John Duclos, NH DES
Thomas Eaton, Public Member

ALSO PRESENT: John-Mark Turner, Esq. (Sheehan...)
Subcommittee-retained counsel
Michael Haley, Esq. (NH DOJ)
SEC counsel

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

I N D E X

P R O C E E D I N G S

PRESIDING OFFICER EVANS: All right. The time is 1:00, so I'd like to get the meeting started.

All right. Before we begin, just a few housekeeping items. First we'll do a roll call. My name is Jon Evans. I'm the presiding officer for the SEC Subcommittee in Docket 2021-02.

Start this way.

MR. DUCLOS: My name's John Duclos. I serve on the Subcommittee as a representative of the Department of Environmental Services.

MR. EATON: Tom Eaton, I serve as a public member to the SEC.

PRESIDING OFFICER EVANS: To my left.

MR. TURNER: John-Mark Turner, counsel for the Subcommittee.

MR. HALEY: Michael Haley, attorney, DOJ. I'm an advisor to the Subcommittee.

PRESIDING OFFICER EVANS: All

right. Before we begin, also just take note of the emergency exits. There's one there, one there and one there. Restrooms are out that door to either side, on the left or right.

This meeting is being recorded both electronically and by a court reporter. Please speak clearly into the microphone so that everyone can hear you. Before speaking, please state your name and, if you wish, provide any other information you believe to be relevant, such as your address or organizational affiliations. If you have a written version of your comments, please provide them to the court reporter prior to leaving to assist in the preparation of the meeting transcript.

All right. The next item is I do want to -- we had draft meeting minutes from both the April 20th and May 21st public meetings. We did -- we weren't able to finalize the meetings [sic] from the April 20th meeting. So with that, I'd like to finalize the minutes.

I know that, Tom, you weren't at the meeting. But John, I didn't know if you had any concerns with finalizing the minutes as they were written.

MR. DUCLOS: No, I don't have any issues with those minutes.

[Court Reporter interrupts.]

MR. DUCLOS: Is this on? Yeah, I have no issues with those minutes, Jon.

PRESIDING OFFICER EVANS: Okay. Perfect. Tom.

MR. EATON: I'm going to abstain because I was not a member of the Committee at that point.

PRESIDING OFFICER EVANS: Okay. Perfect. All right.

With that, I'd like to move that the minutes from both of those meetings, April 20th, 2021 and May 21st, 2021, the meeting minutes be adopted.

MR. DUCLOS: Second it.

PRESIDING OFFICER EVANS: All right. We don't need to do roll call, do we? All right.

Jon Evans, I vote yes.

MR. DUCLOS: John Duclos, I vote yes.

PRESIDING OFFICER EVANS: And Tom.

MR. EATON: Tom Eaton, I'll abstain.

PRESIDING OFFICER EVANS: All right. With that, the motion is adopted.

All right. A few rules of the meeting as we move forward. Each individual who registered to provide public comment in advance of the meeting will be allowed five minutes to speak, followed by an opportunity for the Subcommittee to ask questions of the speaker. The question-and-answer period will not count towards the speaker's five-minute comment period. Public comments shall be limited to discussion -- discussing the Subcommittee's first charge, namely, the appropriate methodologies for measurement and analysis of sound and procedures for validating noise complaints. As the presiding officer, I will enforce the time and discussion limits to ensure a fair,

efficient and orderly meeting.

Written comments to the Subcommittee's first charge will be accepted for a period of two weeks and must be submitted via the docket distribution list no later than 5 p.m. on July 1st, 2021 for consideration.

The Subcommittee did receive a request from Attorney Thomas Getz to register two speakers on behalf of Antrim Wind, as well as we also do need to figure out the order for which we're going to allow the speakers to speak. My recommendation would be to do the order of the speakers alphabetically, just to keep it fair.

And then as far as the request from Attorney Thomas Getz to allow two speakers for Antrim Wind, on behalf of Antrim Wind, my feeling is that they're members of the public and we should allow both of those speakers. But I'd like to hear if there's any concerns with that approach for both of those items.

MR. DUCLOS: John Duclos. I don't have a problem with having as many speakers

that want to speak as possible for a full accounting of the issues that we have of concern.

PRESIDING OFFICER EVANS: With that, so I think -- do we need a roll call or --

MR. TURNER: No.

PRESIDING OFFICER EVANS: All right. With that, I think we will allow both of the speakers. And I do think what I would like to do then is we'll do them alphabetically. So it does look like we have one question, but --

MS. LINOWES: I do, Mr. Chairman. I apologize. My name is Lisa Linowes. If they're representing a single company, are they going to get ten minutes or five minutes total?

PRESIDING OFFICER EVANS: Each speaker will get five minutes.

MS. LINOWES: So that Antrim Wind will get ten minutes to present.

PRESIDING OFFICER EVANS: Again, we're looking at that as two members of the

public. There could be multiple members. Anybody could have brought multiple members to the -- and they could have had two separate speakers to get additional time. But that's what we're going to do here today, so we'd like to keep it at that.

All right. So alphabetically, the first registered speaker is Richard Block.

MR. BLOCK: Can I wait a couple and go a couple -- I'm not quite prepared yet. So if you let one or two people go ahead of me, I'd appreciate that.

MR. WARD: Can I suggest that the two people Attorney Getz is bringing in be first, since we have never met any of them, whereas we all pretty much, the rest of us, know what's going on. And if they're going to come in, we don't know much about them, it would be well to let them speak first.

PRESIDING OFFICER EVANS: I would prefer not to. Again, I'm trying to keep it as equitable as possible. So I'm going to go alphabetically. I understand Mr. Block has

a -- is working on just getting himself ready, so we'll move to the next one. And then I think after that next speaker, then I would ask to be Mr. Block.

Would that be all right with you?

MR. BLOCK: I'm somewhat hard of hearing, so I'm not catching everything in the room. I'll do the best I can.

PRESIDING OFFICER EVANS: So it would be -- the next one would be Lori Lerner. And then after Lori, yourself.

MR. BLOCK: That will work, yes.

PRESIDING OFFICER EVANS: All right. I think I'd like to just get started with the actual testimony. So with that, Lori Lerner.

(Ms. Lerner distributing handout to Subcommittee members.)

MS. LERNER: Good afternoon. Can you hear me okay?

PRESIDING OFFICER EVANS: Bring that a little bit closer to you.

(Pause in proceedings)

MS. LERNER: Can you hear me now?

How's that? I'll do my best.

Well, thank you, everybody, for the opportunity to speak here today. My name is Lori Lerner, and I'm a resident at Bridgewater -- in Bridgewater, New Hampshire. And for those of you who I may not have met before, I have been very much involved in this topic since 2012. I was working very closely with the Legislature when we passed Senate Bill 99, Senate Bill 245, and Senate Bill 281.

For those of you -- that happened around the 2013 time frame and on. For those of you who may not be familiar with this, it's been a long-going process, where we started with a recognition, recognizing that the Site Evaluation Committee did not have very thorough rules and regulations to provide the public the opportunity to understand what these projects were being judged based on, as well as what the compliance standards were to be once they were implemented or into an operational status.

I worked very closely through getting the passing of the legislation. That went on to a whole stakeholder group related to SB 99, which incorporated SB 281. SB 281 was specific to industrial wind.

We had a stakeholder group process that included meetings across the entire state to get feedback from folks. From there we went into a rulemaking process, where that group was narrowed down into a number of different subject topic areas, and one was very specific to noise emissions related to industrial wind turbines, as well as other energy facilities. I participated in that group. That group was being led by Lisa Linowes. And it incorporated a number of other members of the public, as well as four noise experts. The result of that is the rules that we have before us right now.

So we all met, we all agreed, and we brought forward through the rulemaking process, that went through JLCAR, to where we are today, very specific rules.

The purpose of the rules in general

were to increase public participation, provide transparency, to provide certainty to folks what could be expected when these facilities were being built. It was industrial wind. It was transmission. It went across the board. However, because of SB 281, we had very specific additional requirements which must be met for industrial wind purposes. A big part of that was more protective siting, as well as compliance regulations. This is where we come in today.

Antrim Wind was the first industrial wind facility to go into operation following the adoption of these rules. Antrim Wind went into operation on December 24th of 2019, and by December 28th there were complaints about the noise being created by this.

I do want to say, and some of you may have learned, there's a robust record of evidence regarding all of what will be discussed today. However, unfortunately, it's all over the place. So, for those of you that may not be aware, it's somewhat of a

challenge to find information, as I've been seeing. Some information is being put within the new docket, some within the old docket. Other information is just put in a general SEC area. So good luck trying to really understand and get your arms around the full record of this. But what I'm going to discuss today is within the record, and it can be found in various places.

So going back to the rules and the noise. So the plane language of the SEC rule regarding noise is very straightforward. It says, "it shall not exceed." "Shall not exceed." The only time within the -- so today what we're here -- this conversation has been going on basically since the first complaint. Since some initial review was done, there was a suggested protocol put together. Somehow, this noise threshold of "shall not exceed" has devolved into a one-hour averaging, which, in the plane language of the rule -- I provided that in the first attachment that I gave to you -- you can read for yourself there's nothing

that says there's any one-hour averaging at all. The standard is very clear. The standard states, with respect to the sound standard, the A-weighted equivalent --

[Court Reporter interrupts.]

MS. LERNER: Sound levels produced by the Applicant's energy facility shall not exceed the greater of 45 dBA or 5 dBA above background levels measured at the L90 sound level between the hours of 8 a.m. and 8 p.m., which would be the daytime hours, and the greater of 40 [sic] dBA and 5 dBA --

PRESIDING OFFICER EVANS: Okay. Unfortunately, you've hit your five minutes, so...

MS. LERNER: That's fine. Okay.

PRESIDING OFFICER EVANS: Finish your one thought there --

MS. LERNER: Sure. So if I could take you very quickly to the attachment, the TransAlta attachment, I have put my own comment in. Hopefully the comments speak for themselves. But they're identifying that the rules are not properly defined. Those rules

went through a very extensive process and also incorporate some of the prior precedence. To now say that they are not properly defined is incorrect, and it feels they're using it to their advantage. Their one-hour -- the reference to "at least one nighttime hour," suggesting that that means they should average over an hour, I have no idea. What that rule is saying is during the night, at one point -- at some one-hour time frame you're to do a noise test. It does not say anything about averaging.

PRESIDING OFFICER EVANS: Okay.

MS. LERNER: I apologize. That time went by very fast.

PRESIDING OFFICER EVANS: It's a tight time. But like I said, we're trying to keep things moving.

So I guess now the Subcommittee can ask some questions, if we have any questions. I know that I kind of do want to know one question, anyway. The rules do say "A-weighted equivalent sound." Do you have any idea what the word "equivalent" means?

MS. LERNER: So A-weighted equivalent -- so there's the A-weighting and a C-weighting, which is identified within the rules. The A-weighting is the ambient, the normal type of noise. And the equivalent, I can't speak to that particular word. But the only equivalent identified in there is the interval for the 1/8th of a second, which is the .125-second interval. So if there's any equivalent in terms of an interval being suggested there, then it would be the 1/8th of a second.

PRESIDING OFFICER EVANS: So if you do it at 1/8th of a second, which is the period that also the meter is measuring, taking measurements, how would you -- how would you take out certain -- say there's a -- somebody slams a door or something like that. Do you just disregard that? How -- what's the process for that?

MS. LERNER: If it's an attended monitoring, those noises should be removed from that.

In response to that, as I see, and

as was the expectation with the rules, there was never a discussion about any one-hour averaging during any of our legislative process or rulemaking process. As we all understood this rule to be, it would be as though you're a driver in a car going down Route 93 and you're told that there's a 70-mile-an-hour speed limit. You get pulled over for going 100 miles per hour. The officer says, "Excuse me, you've exceeded the speed."

Do you think it's reasonable to say, "But if you looked at my speed over the last hour, you will find that I average below 70?" No. This is a "shall not exceed."

PRESIDING OFFICER EVANS: Would you disagree that the rules say that you need to measure the L90?

MS. LERNER: I do not disagree that it says the L90.

PRESIDING OFFICER EVANS: L90 requires you to remove certain, again, transient noise without -- if you're doing it at 1/8th of a second, how do you do that if

you're measuring 1/8th of a second, and that is your measurement, and L90 is essentially requiring you to take it over a period of time, and the L90 will essentially remove -- or the LEQ, I should say -- LEQ or other measurements, if it is an average? You can't do that; correct?

MS. LERNER: If you're attending to that and you hear that there's that, you can note that that had occurred during that time. If you're measuring this noise, and there's outside noise to filter out, then it should be the full -- use that 1/8th measurement over the course of whatever period of time. But there's nothing that says to average. So if the sound should go from 40 dBA to 100 dBA, or to 60 dBA, there's -- you're going to have peaks and valleys. So the difference between industrial wind and most other sources is that you're going to have peaks and valleys. You've got that "whoop, whoop, whoop." So depending on when you take that is whether you're going to get that actual sound or not. If you average that, you're

averaging the sounds in between the "whoops," between the actual sound of the wind turbine. You're never going to have a compliance issue, but you're going to have a lot of complaints because people are hearing the "whoop" part of it. They're not hearing the silent part. So if you've got somebody that's attending this noise study, and there's nothing interfering with it, then I don't see why you would need to even be concerned with that.

Any other question? Thank you.

MR. DUCLOS: You said you were involved in the rulemaking process of this?

MS. LERNER: Yes.

MR. DUCLOS: Okay. Why didn't they use an Lmax standard?

MS. LERNER: An Lmax? So an Lmax is similar to what was used in all of the others. The decision was made to go with something that was more specific, which is why we're using the 1/8th-of-a-second standard within there. That's why the 1/8th of a second, it has its own place in the

rule, because that was to be the highlight of this, to give people the knowledge that they're being protected by 1/8th-of-a-second sound study versus Lmax.

MR. DUCLOS: Isn't there usually a time standard that's built in, like an Lmax one second or Lmax .8 seconds?

MS. LERNER: So this should be interpreted as the Lmax 1/8th second. If you put the time interval which is identified in the rules along with the Lmax, this is what you would get.

MR. DUCLOS: Do you see that in the rules someplace as actually stating that?

MS. LERNER: I do not see that stated. I see -- what I see stated is the interval for capturing the sound. And the interval to capture the sound is that 1/8th of a second. And from there, the sound shall not exceed at any 1/8th of a second the 40 dBA during the nighttime hours and the 40 dBA [sic] during the daytime.

MR. DUCLOS: It says shall not exceed the greater of 45 dBA or 5 dBA above

background --

[Court Reporter interrupts.]

MR. DUCLOS: Or 5 dBA above background noise measured at the L90 sound level between the hours of 8 a.m. and 8 p.m. instead. I don't see a time requirement there at all. It doesn't say anything about, you know, .125 seconds or anything about a time standard. So I'm confused how that could --

MS. LERNER: So if you --

[Court Reporter interrupts.]

MR. DUCLOS: -- how you believe that the standard is set at 1/8th of a second.

MS. LERNER: Okay. If you should look to the second page, it would be (e)(6) -- let's see. Second page. "All sound measurements during post-construction monitoring shall be taken at .125-second intervals, measuring both fast response and LEQ metrics."

So we're specifically calling out -- that was the intent there, was to call

out 1/8th of a second. And so no sound at 1/8th-of-a-second interval should be exceeding the 40 dBA or the 45 dBA. Do you see that on the second page, bracketed in six? So that would be Site 301.18(e)(6). And to that point, as Antrim is arguing, I don't see anywhere where it calls for one-hour averaging. There's nowhere in this rule that specifies one-hour averaging. The only interval identified was .125 seconds.

Again, when we look at the intent of all of the work that's gone for the past nine years, we'll call it eight, nine years, it was all to provide more protective measures to these people that live in rural areas that are now going to have this massive energy facility in their back yard.

PRESIDING OFFICER EVANS: All right. Tom, did you have any questions or are you all set? You're good? Okay.

I think I'd like to move on to the next speaker now.

MS. LERNER: Thank you very much for this opportunity.

PRESIDING OFFICER EVANS: Thank you.

MS. LERNER: I appreciate it.

PRESIDING OFFICER EVANS: All right. Mr. Block.

MR. BLOCK: Yes. My name is Richard Block. I live on Loveren Mill Road in Antrim, directly across from the wind turbines. For the last how many years it's been, I've served as a spokesperson for many of the people in Antrim who are particularly the non-abutting intervenors. So thank you for this opportunity to speak. I just wanted to make just a few remarks. Where am I starting? Here, okay.

I myself am hard of hearing. I have suffered quite a lot of hearing loss. That's due to transient high levels of sound experienced when I was young. It's the one lesson that I wish I could give a lot of young people now. I did -- I worked rock concerts a lot when I was in my teens and twenties. I'm suffering from that now and need to wear hearing aids. It's transient

high-level sound that's dangerous. It can be harmful. I know that personally. And at minimum, it can be very annoying and disruptive.

Turbine noise is not steady. If you've ever gone to a wind facility and stood there and listened, you know it's not a steady hum. It's a "whomp, whomp, whoosh, whoosh" sound. There are highs and lows. The turbines in Antrim, I read the blades average 15 revolutions per minute rotation. With three blades, that means that those -- what I've also read is that the "whomping" and "whooshing" sound comes when the blades pass in front of the towers. So with three blades, 15 revolutions per minute, that means 45 blade passes per minute pass the towers. That simple arithmetic shows that it's about a one and a third seconds apart each one of those intervals. So testing in any form that uses a longer interval than that is going to miss all those transient hums. So it's very important to be able to test in some way that you can hear the variations in there.

An example is a shooting range. My son is a firearms instructor, so I know a lot about this. I've been to the range with him many times. If you were to average sound at a shooting range over an hour or two, it's often -- probably would be very low because there are long periods in between shots. The individual shots, though, are the ones that are dangerous. If you do not have very good hearing protection, it's quite a dangerous situation because those transient highs are really very dangerous. I'm not saying that wind turbine highs are that dangerous, but there's definitely a difference between the highs and lows, and that needs to be measured and seen.

The human ear does not hear averages. It responds to those transient highs and hears them, and that's what we react to. People who live near wind turbines and hear these noises and "whomps," it's those high levels that interrupt their sleep or whatever they're doing. That's what they're hearing. They're not hearing an

average on an hour. They're hearing -- if I'm trying to talk and there's a loud noise every now and then, that's the part we respond to.

I don't think that it takes any sophisticated equipment or technology for a resident to know that turbine sounds nearby might be excessive or disruptive. Either they are or they're not. If the sound is low enough that it doesn't disrupt life, fine. If the sound is high enough that they -- it wakes them up or they can't hear what they're doing in their own house, then it's disruptive.

The residents of Antrim and other areas expect protection from noise, not from numbers, okay. The people of Antrim, the residents of Antrim, were promised by the State of New Hampshire via the issuance of the certificate of operation that the residents would not have to endure disruption to their lives from turbine noise. That's what we took away from the certificate. By you granting the certificate, we assumed that

meant that you were going to be watching out for us. I believe that the SEC has always intended to protect residents from disruption of lives by turbines, whether it's the noise or the lighting or whatever. And I think the SEC specifications, the rules and regulations that were set up, were established with that goal in mind. So what I'm urging is that you don't bypass, waive, or change procedures at this point. It's there. It's fairly thoroughly written out. I'm not a technician in terms of sound, but even I can understand when I look at the rules and procedures, I can understand basically how it seems to go.

So more importantly, I think it's important not to allow applicants to challenge or ignore established procedures at this point.

PRESIDING OFFICER EVANS: Okay.

MR. BLOCK: I think what we've got makes sense. Please stick by it. Look out for the people who are living by the turbines.

PRESIDING OFFICER EVANS: Okay.

Thank you, Mr. Block.
MR. BLOCK: Any questions?
PRESIDING OFFICER EVANS: I don't think I have any questions.
Do you?
MR. BLOCK: Thank you for this opportunity.
PRESIDING OFFICER EVANS: Okay. We don't have any questions.
MR. BLOCK: Thank you again.
PRESIDING OFFICER EVANS: Thank you.
All right. Next, Lisa Linows [sic]. I hope I pronounced that right.
MS. LINOWES: It's Linowes. Thank you, Mr. Chairman. I have some handouts that I'll be referring to.
(Ms. Linowes distributing handouts to Subcommittee members.)
PRESIDING OFFICER EVANS: All right. Could you, just for the record, just state your name, please.
MS. LINOWES: Yes. My name is Lisa Linowes. I'm a resident of the state of New

Hampshire. I am executive director for the Wind Action Group --
[Court Reporter interrupts.]
MS. LINOWES: I have been around this issue for 14, 15 years, particularly with regard to noise, nationally, and I've been an intervenor in the SEC on all of the wind proceedings.
I am not going to read my testimony because I'm going to jump right to the facts. There are three points that I want to make today. One, the SEC has always had a standard. The idea that the SEC --
[Court Reporter interrupts.]
MS. LINOWES: The idea that the State of New Hampshire does not have a New Hampshire sound standard for turbines is inaccurate. And that seems to be the perception out there. We have had an Lmax standard up through till 2015 when the turbine rules were adopted. I was involved with the stakeholder process. I can tell you why every word is in that standard. And I would hope that you would ask me the

questions that you asked Lori Lerner because I'd like to clarify what was going on.
Second point I want to make: When the rulemaking went through the process, 301.18 was largely the wording that came out of the stakeholder process. It does not change the concept of Lmax significantly. It goes to an LEQ standard with a 1/8th-second interval. That's what it does. And I'll explain how that is when you ask me questions.
And finally, I'm going to show you the practical effect of when you go to a one-hour averaging, LEQ one hour, versus an LEQ 1/8th second or an LEQ one second, or one minute. It's significant when you stop to think that the purpose of the SEC rule is to protect public health and safety. We do not want wind turbines elevated -- erected in the state of New Hampshire where it's going to negatively affect or have an unreasonable adverse effect on health and safety. That is the point of the rule. And if I could just comment that, if you look at the first slide,

there you can see the four projects that had -- the three projects, rather -- Lempster, Groton, Granite Reliable and Antrim Wind. Those all had sound standards. Antrim Wind I. These all predated --
[Court Reporter interrupts.]
MS. LINOWES: 2012-01. They all had an Lmax standard that was consistent with the state.
When you went to the SEC deliberation -- if you looked at Antrim I, 2012-01, the Committee spent a considerable amount of time deliberating over whether or not it should trash the Lmax standard to go to an LEQ standard, a long-term average. It opted not to. Why? Two reasons. One, it was concerned about its ability to enforce a long-term average; two, it was concerned that there would be enough quiet times, given the variability of turbine noise, that it would offset the loud times when people were suffering through the loud times. And they didn't want that to happen. So they said it was safer to stick with an Lmax standard.

That's why that was done.
I want you to turn now to Slide 3.
This is the direct effect of an LEQ standard.
This is changing when you expand the size of
the compliance interval. You each have this
slide here. This is from Falmouth,
Massachusetts, a 1.65-megawatt turbine. And
these were -- this was an on/off test that
happened. Turbines on were measured,
turbines turned off --
[Court Reporter interrupts.]
MS. LINOWES: Turbines on and then
off. And you can see in that first image,
that is a 1/10th-second LEQ. That is
effectively what New Hampshire has. Ours now
reads a 1/8th second because it was written
in 2014. If it were written in 2000 --
today, it would have done 1/10th because
that's what the meters were -- are today.
In any event, you can see that the
turbine noise is going up above 45. See
that? Then you go to an LEQ one second.
It's about the same, but it's flattened. You
don't see anything going over 45. You go to

ten seconds, flatter still. You go to one
minute, considerably flatter. You go to one
hour, it's very quiet. You're meeting
compliance with a one-hour LEQ. But people
are experiencing the 1/10th-second effect.
That is the point of a short interval. If
you don't believe my graphs, I would like you
to look at Epsilon Associates' co-authored
second graph that you're going to see there
if you go to this graph.
Epsilon Associates is the
gentleman, Mr. O'Neal, who's here today.
This is from Alma Township in Michigan. I
want you to see what happened was Alma
Township in Michigan has a -- had an Lmax
standard as part of the local ordinance. The
company came in and said, oh, Lmax standard,
we can't work with that. That doesn't work,
right. So they --
[Court Reporter interrupts.]
MS. LINOWES: They said we want to
go to LEQ. That really means LEQ one hour.
So what you would look at, if you see the
turbines, they're situated in the T and then

a number associated with it --
PRESIDING OFFICER EVANS: You got
your five minutes.
MS. LINOWES: Oh, my God. Come on.
There's so -- can I just finish --
PRESIDING OFFICER EVANS: You can
finish your one thought, yes.
MS. LINOWES: The slide shows that
when you go to an LEQ one hour, you see the
contour is very close to the turbine. When
you go out to the 1/8th second or Lmax
standard, it goes significantly further.
That's the green line. And it's encompassing
homes. As a result, you have a project that
is not going to meet compliance. It's
denied. It's not going to meet the standard.
It was denied. They went to court. Lmax
standard -- they actually took the town to
court over that Lmax standard.
Last thing I want to show you is --
five minutes is impossible to discuss this
point. I do want to show you the last two
slides, Antrim Wind. These are LEQ 1/8th
second and 1/10th second, actual sound levels

taken at Antrim Wind --
[Court Reporter interrupts.]
MS. LINOWES: -- taken at Antrim
Wind at Location 4.
PRESIDING OFFICER EVANS: All
right. Thank you.
MS. LINOWES: Can I just say that
if you did an LEQ one hour on this, the
project would be in compliance.
PRESIDING OFFICER EVANS: I do have
one question. How do you get -- I mean,
ultimately you need to figure out if the
facility is above a certain level. And if
they hit that level, you need to have a
single unit. And I get what you're saying
about the Lmax. But the unit that we have
here is that, one of them that's listed
anyway, is the L90. And how do you get that
L90 --
MS. LINOWES: No, you're
misunderstanding what L90 means in this
context. L90 in the rule, under
post-construction sound monitoring, we asked
the developer to provide an L90 because we

want to know what the background noise is for the area generally. L90 is not what's subject to 1/8th second. LEQ is what's subject to 1/8th second. The proper term -- and Mr. O'Neal knows this. Mr. O'Neal has read the standard on which our rules are based, 12.9, Part 3. And it says when doing a background sound study, you're generally going to use ten minutes. But that's not LEQ. If you read (e)(6), what does (e)(6) say? Under 301.18, (e)(6) says -- sorry. (e)(6) says all measurements --

[Court Reporter interrupts.]

MS. LINOWES: Okay. That's a confusion. But that's not intended to reference L90. We're talking about the LEQ with regard to the 1/8th second.

PRESIDING OFFICER EVANS: Would you agree that -- well, can you explain what "equivalent" means --

MS. LINOWES: Yes.

PRESIDING OFFICER EVANS: -- in the rules?

MS. LINOWES: Yes. We're talking

about the sound power level that is basically averaged over a period of time. That's what we're talking about. And I agree that (f)14) -- that 301.14 does not specify a time frame. But I will tell you that the time frame is in 301.18. And the reason I know that, and the reason there was no confusion with regard to the rulemaking, if you look on my Slide 4, which is the one that says "SEC Rulemaking," Chairman Honigberger [sic], who was running the process under the rulemaking, stated in the middle column, said -- he was talking about the layout of the rules, okay. And he said I get -- he understood the reliance on NH 301.18 and 301 -- the common -- connection between 301.14 and 301.18 and said this, meaning he was referencing the 14, is where the standard is set, and 18 is where you explain how and where you test. Okay?

I know that Antrim Wind is complaining that there's no time frame. They're arguing that the meter speed -- somehow we decided 1/8th second -- we're going to specify the meter speed in the rule.

We're going to waste our time in a rule defining a meter speed. That's not what we're doing. They may not like the way the rule is written. They may not like the fact that the time interval is in one location but the standard is somewhere else. Fine. I don't take responsibility for that. The rule is written the way the rule is written. But that is the effect of it, that there is no other place in the entire rule where an LEQ time frame is defined.

And I get that Lmax should have a time frame. They went to court over the fact that Lmax, in the Almer Township Project, didn't have a time frame associated with it. And the court said, yeah, they really should have put a time frame in there. But they still said Lmax, even without a time frame specified, is a reasonable standard. Anytime you have L, you have to have a time frame associated with it, Lmax, Lmin, LEQ or whatever. You should have a time frame associated with it...(indecipherable).

But L90 and L10, those aren't the

same things. Those are statistical -- to put so much emphasis on L90, by the way, I just want to make that point, the standard isn't L90. The standard is LEQ. That's what New Hampshire's standard is for noise limit. L90, that's informational information so that the person reading the documentation in the rest of the report could understand what the general acoustical environment was at the time the post-construction sound monitoring was done.

One other point. Since you're tasked with figuring out complaint validation, the L90 is not really even relevant. And you'll notice that is not -- that's not part of the complaint validation. That is post-construction seasonal monitoring. Different thing.

PRESIDING OFFICER EVANS: I'd like to -- do either of the other members have any questions?

MR. DUCLOS: I'll just ask a couple. Ms. Linoise?

MS. LINOWES: Linowes.

MR. DUCLOS: Linowes. Thank you.
So one of the areas that you said is that the standard that's in the Certificate of Site and Facility is taken right out of 301.14(f)(2); right?
MS. LINOWES: Hmm-hmm. Correct.
MR. DUCLOS: And that's determining whether the proposed energy facility will have an unreasonable adverse effect on public health and safety and shall -- and that's where we get into the same thing we said before -- "shall not exceed the greater of 45 dBA or 5 dBA background levels."
I still don't see a time. The time element you said was in 301.18(e)(6).
MS. LINOWES: (e)(6), correct.
MR. DUCLOS: That's the sound measurements during post-construction monitoring shall be taken at that 1/8th-of-a-second interval, measuring both fast response, which is the fast response, and LEQ metrics.
So you also talked a little bit about the Lmax standard. So I'm confused.

301.14 was a standard that the SEC used to determine adverse effects. Why didn't they use the term "Lmax" or even put in a LEQ with a time limit or time period --
[Court Reporter interrupts.]
MR. DUCLOS: With a time period. To be clear, I said "limit," but I'll correct it.
MS. LINOWES: I agree. If I were writing this as a technical person, I would have established -- and you would typically see in ordinances that are written around the country, it would have said not to exceed an LEQ -- 45 decibel LEQ and then a time frame associated with it. It could be that the Committee was avoiding that. I don't know. I don't know why they didn't write it that way.
We were aware -- the reason -- to your question, and maybe this will help explain, the reason we went to an LEQ standard over an Lmax standard was because back in the 2014-2015 time frame, the wind industry, people like Mr. O'Neal, were out

around the country telling people Lmax made no sense; you cannot do a measurement based on Lmax. And as I mentioned, they went to court and cited in the record --
[Court Reporter interrupts.]
MS. LINOWES: They went to court over the fact that Lmax -- they argued Lmax didn't make sense. So the State of New Hampshire wanted to avoid that fight. That actual court case actually came after. It was 2016-2017, I believe, when that -- but the point being, yes, you're right. It would be better written if the language had been coincident with the limit, 40 decibel, not to exceed 40 decibel, LEQ 1/8th second. But it's not written that way. And that's fine.
But that does not cancel the fact that the only place in the rule where a time frame is specified for LEQ is in 301.18. Chairman Honigberg recognized the connection between 301.14 and 301.18. It is written that way. And right now, Antrim Wind is reaching to try and find a one-hour standard in there somewhere and can't. They're out

pointing to the ANSI standard. The ANSI standard -- do you know the one hour they keep referring to, this basic measuring period? I have the definition. I put the definition -- this second document that I provided for you is a point-counterpoint. I have all of their arguments that they made and why their arguments do not stand up. If I could -- if you would indulge me for a moment --
PRESIDING OFFICER EVANS: Well, I think in the interest of time, I think I can -- we'll make sure that these get into the docket, these slides --
MS. LINOWES: Okay.
PRESIDING OFFICER EVANS: -- and that would all be part of our consideration.
MS. LINOWES: Okay. But that basic measuring period is simply the time frame that you're going to go out. You're going to plan to go out and do a measurement. 301, Part 3 -- I'm sorry -- 12.9, Part 3 --
[Court Reporter interrupts.]
MS. LINOWES: 12.9, Part 3, is a

standard based on an observer present. An observer present. And you're generally not out there more than an hour if you -- you can get your job done in an hour if you pick the right time. And that's what that one hour is. And to try and introduce more meaning to that, like Antrim is trying to do right now, is just they're trying to confuse you. The rule is what matters, not the standard, even though the standard references the rule. This rule is specific.

PRESIDING OFFICER EVANS: Thank you.

One more follow-up for her? Okay.

MR. DUCLOS: I just have a question. Why do you think the 1/8th of a second is a reasonable period?

MS. LINOWES: Because it has everything to do with the slide that I just showed you. Let's go to their slide, the Antrim -- the Almer Township slide, because that says it all.

MR. DUCLOS: Well, I see it, .125 seconds, or 1/8th of a second, you have a lot

of noise. The longer you put a time period in it, the more it flattens out. I agree with that. But why is it reasonable in your mind to do it at an eighth of a second versus one second, ten seconds, a minute an hour?

MS. LINOWES: This map shows you. People hear the noise whether -- okay. I'm out there. I'm hearing this noise. This is what I hear. But what I'm -- if I'm Antrim Wind and I'm reporting what I measured to the Site Evaluation Committee to try and prove that I'm compliant with their 45 day, 40 at night, I'm recording something closer to this.

So Antrim Wind -- complaints are coming in all over the place from the project at Antrim. And the SEC is sitting there saying they don't know what they're measuring and they're telling me it's in compliance. I don't know what your problem is. The Committee is -- that's what you're trying to figure out right now: Why are there complaints when Antrim Wind is telling you they're in compliance?

By the way, there are other issues. We have raw data right now -- thank you, Antrim Wind, for providing the raw data -- that they collected, which was done in 1/10th-second intervals. And we're analyzing that right now to see if we're going to find exceedances. We're not going to analyze it based on one-hour averaging. But we'll show you the results of it, one-hour averaging and 1/8th seconds, so you can see the difference. We know why. We know that there are exceedances at that project. Did I answer your question?

MR. DUCLOS: Good enough for me.

MS. LINOWES: Enough for you?

MR. DUCLOS: Good enough for me.

MS. LINOWES: Oh, okay.

PRESIDING OFFICER EVANS: Thank you.

Tom?

MS. LINOWES: Wind energy is very, very -- it's very, very low noise up to 11 decibels, unlike traffic noise, by the way, which one hour is totally fine. A LEQ one

hour is totally fine with traffic noise. It doesn't work for wind turbines.

PRESIDING OFFICER EVANS: All right. Thank you.

MS. LINOWES: Thanks.

PRESIDING OFFICER EVANS: All right. Next, Barry Needleman.

(Mr. Getz distributing handouts to Subcommittee members.)

PRESIDING OFFICER EVANS: All right. Go head.

MR. NEEDLEMAN: Thank you. My name is Barry Needleman, from the law firm of McLane Middleton. I represent Antrim Wind, and I also represent Antrim Wind in the underlying certificate proceeding.

What you're being asked to do here today is to move the goal post, essentially, and to declare that 1/8th of a second is the new sound standard, and by doing so, essentially render this facility, and most likely other New Hampshire wind facilities, not in compliance. If this were actually the standard, this project never would have been

built. And that's what you'll hear from Mr. O'Neal shortly. There's nothing in the Antrim Wind decision, there's nothing in the Certificate, there's nothing in the rules or SEC precedent to justify this kind of extreme interpretation of the rule.

Mr. Duclos, you've asked several times about Site 301.18 and the 1/8th-of-a-second intervals. Those are intervals, not compliance periods. The 1/8th-of-a-second interval is meant to be a snapshot to collect data points. And I think I can give you a simple example that demonstrates the fallacy of the different interpretation offered by Ms. Linowes.

When you look at the Winter 2020 sound report, there were 60 -- over 60 million 1/8th-of-a-second intervals included in that sound report by Acentech. If every one of those 1/8th-of-a-second intervals were a compliance period, can you imagine what that would look like? The report would be over a million pages long. As a very practical perspective, it just makes no sense

to interpret the rule that way.

Now, it's not lost on me or anybody else that this is complicated stuff. And so let me pull back for a minute and ask you to think for a minute about what the actual experts have said about this.

First of all, Acentech prepared that 2020 report. They used the one-hour averaging, and it was their expert opinion that that was what was appropriate. The SEC then hired its own expert to peer-review that work, Mr. Tocci. And what did he say? He concurred with what Acentech did.

Antrim Wind also engaged Rob O'Neal, who you'll hear from shortly, and Ken Kalisky of RSP to look at this issue. There's probably no expert that knows more about wind issues in New Hampshire than Mr. O'Neal. He was involved in three of these four dockets as an expert. He testified in Antrim, and he testified in Groton on behalf the Applicants. And he actually peer-reviewed the reports in Lempster for Counsel for the Public.

You'll also have a report from Mr. Kalisky here, who was involved in the working group that Ms. Lerner referenced. And when you look at that report, he's going to provide you with a very different description of what happened in that working group from what you heard from Ms. Lerner.

In their technical assessments, both Mr. O'Neal's and Mr. Kalisky's, they confirmed what Acentech and what Tocci said, that the way in which these measurements were done was correct and that a 1/8th-second approach to this is not only inconsistent with the rules and the national standards they derived from, it's functionally unworkable.

So let me conclude by pointing out, as far as I know, Ms. Linowes apparently has no technical training and no experience with actual sound monitoring. The one expert she did rely on here is Mr. Rand, who produced a report that Mr. O'Neal responded to in his June 7th letter and discussed the fatal flaws with that report.

I'm tempted, as I conclude here, to just state the obvious with what's going on. This is an effort to shut this project down. But don't take my word for it. Look at Mr. Rand's report. He wrote it on May 11th. And on Page 12 of the report, he used the incorrect 1/8th-second compliance period. He drew mistaken conclusions about Antrim Wind's supposed exceedances. And then, in his words, he said the only viable way to deal with this was, quote, "shut down." That's the goal here.

By contrast, you have in the record four different experts, all of whom have a vast amount of experience with these issues, working for applicants, Counsel for the Public, and the Committee. And every one of these experts says that the 1/8th-of-a-second approach is unworkable, it's internally inconsistent with other aspects of the rules, and it's just simply wrong.

Thank you for your time.

PRESIDING OFFICER EVANS: Thank you.

MS. LINOWES: Mr. Chairman, will there be an opportunity for rebuttal at all?
PRESIDING OFFICER EVANS: No.
MS. LINOWES: Well, could I comment on something that --
PRESIDING OFFICER EVANS: No. I'd like to allow Mr. -- I'd like to give Mr. Needleman the same opportunity that you had.
So with that, I think I have the same question that I consistently have been having with what does "equivalent" mean to you.
MR. NEEDLEMAN: I would love to tell you. I'm not a sound engineer, and I'm not going to wade into that. I'm sure Mr. O'Neal could tell you all you want to know.
MR. DUCLOS: Hello, Mr. Needleman. How are you today?
MR. NEEDLEMAN: Good. How are you, Mr. Duclos?
MR. DUCLOS: Very good. I agree that the sound study methodology goes on the 1/8th of a second, and I agree that that is a standard for collecting data and you're going

to have a lot of data points. The compliance period is different. What's in the Certificate of Site and Facility is also different. But it doesn't say an hour and it doesn't say an eighth of a second is the compliance monitoring standard to meet the 45 -- or shall not exceed the greater of 45. So where do you get the hour from as a legitimate compliance measuring period?
MR. NEEDLEMAN: Sure. I think you're going to hear from O'Neal on that. I think there are a couple of answers to that question. I think the primary one is that in this context, it's left to professional judgment to determine that period. My understanding is that, to some extent, the one hour does derive from those ANSI standards. But I know, for example, that when Mr. O'Neal did the post-construction sound monitoring for the Groton Wind project, there was a ten-minute compliance interval. So I do know that one hour is not necessarily the only way to do it. Groton did predate the particular rules at issue here, but I'm

not sure that there is a material difference in the context.
MR. DUCLOS: And Groton obviously wasn't -- didn't get their Certificate of Site and Facility under this rule. This is the first facility to be issued a certificate under this rule.
MR. NEEDLEMAN: Correct.
MR. DUCLOS: Okay. I'm just surprised that no time limit was put in there, in all fairness.
And I don't have any further questions. Thank you.
PRESIDING OFFICER EVANS: Tom, did you have any?
MR. EATON: I am all set.
To the people, I was appointed last week, and I'm still drinking from the fire hose to catch up.
PRESIDING OFFICER EVANS: Well, I am going to continue to just check with you and make sure that you are -- that if you have any questions that pop up, you get them answered.

MR. EATON: Thank you.
PRESIDING OFFICER EVANS: I think that's all I have for questions.
MR. NEEDLEMAN: Thank you for your time.
PRESIDING OFFICER EVANS: Thank you.
All right. Next, again keeping in alphabetical order, would be Rob O'Neal.
MR. O'NEAL: Good afternoon, members of the Subcommittee. My name is Rob O'Neal from Epsilon Associates. I'll try to speak slowly. Thank you for having me to make some remarks today.
I've been measuring wind turbine sound for 15-plus years, doing general sound for 34 years. I've measured wind turbine sound here in New Hampshire, as well as other places in the country. I am board-certified by the Institute of Noise Control Engineers. So I just put that out there for background.
I'm going to start with my conclusion and go right into the reasons why I can offer this conclusion. The premise

that an operating wind turbine facility can meet an instantaneous 1/8th-of-a-second standard somehow is not true. No wind turbine facility is going to meet that kind of a standard. That's why there are no wind turbine projects built in areas where the jurisdiction that interprets "shall not exceed" does that. So if you interpret that "shall not exceed" as an eighth of a second, there would be no wind farms. There are no wind farms built in those places.

Averaging over time makes sense. There's really two fundamental issues with regard to the time element of sound measurements. Number one we've already heard and talked about; that's the speed that the sound meter is set to record the data. That's the one that's set in the SEC rules.

The second one is the actual measurement period that's used to assess compliance with whatever the standard is, in this case the 45 day, 40 night LEQ. The SEC rule requires that fast response of .125 seconds, that eighth of a second, for

post-construction sound testing. That's the response of the meter. That's how fast it collects the data. And we generally have two settings on our meters we can use, either for fast response of an eighth or a slow response, which is one second. And very often jurisdictions will put that in the rules, that they'd like you to use one or the other. Fast is probably the most commonly used one we see.

However, the response speed of the instrument, though, is not the same as the time period used to evaluate compliance with the standard. That's a really important point. Generally you have a sound regulation limit that follows four basic principles. Number one is relevant impact on people. Number two, it should be repeatable; in other words, when we go out and take measurements under similar conditions, we should get similar results. Number three is it should be predictable. You should be able to predict what the sound levels are going to be in the future based on the data we have from

wind turbines. And number four is it should be easy to implement; in other words, we should be able to test without a substantial burden to the public, the regulators or the operator of the wind farm.

Using a one-hour time period, for example, checks all four of those boxes. Trying to use a 1/8th-of-a-second time frame as a compliance period does not. I'll give you a quick example. You know, if you think about New Hampshire DOT or FHWA, their noise abatement criteria, or NAC, are one-hour LEQs. They've defined the time period as one-hour LEQ. You know, the NAC for a residential area is 67 decibels. Now, I would suggest that the highway department's not going to say we need to build a sound barrier on this road if the NAC goes over 67 for 1/8th of a second and use a more robust time period than that.

The second point I wanted to make is about post-construction compliance monitoring. In the rules, it does reference the ANSI S12.9, Part 3 standard which you

heard about. A couple sections in that standard describe the basic data collection procedures which were part of measuring continuous background for at least ten minutes or more -- you've heard that already -- and measurement with a sound in operation for a basic measurement period. Now, the ANSI standard doesn't define what that is. It's left to jurisdictions to pick that out. They use one hour as a typical example. But just to be clear, the ANSI standard doesn't say thou shall/must use one hour. It's an example. And that basic measurement period's broken up into smaller chunks of time in the aggregate to understand what's going on. And those blocks of time can never be less than one second, according to the ANSI standard. So, again, using an eighth of a second would be improper.

The third point I want to make is about post-construction compliance monitoring here in New Hampshire. As you know, the rules require in that post-construction evaluation measuring L10 and L90, both

A-weighted and C-weighted. Those are statistical sound levels. I'll be happy to explain them once my five minutes are over if you want. But they're derived, again, from a basic measurement period such as the one-hour example. Trying to calculate a L10 or L90 from 1/8th-of-a-second intervals is not possible. That would be like looking at the highest 1/80th of a second for your time period. Just one more quick thought?

PRESIDING OFFICER EVANS: Yeah, finish your thought.

MR. O'NEAL: Okay. So I'm just going to conclude with the SEC rule is consistent with ANSI standards and other jurisdictions. Exact time period is not specified. Using professional judgment, we would recommend and often use ten-minute or hour periods as the basic measurement period. And that's what has been used here in the SEC compliance evaluation.

With that, I'll conclude and take any questions you might have.

PRESIDING OFFICER EVANS: My first

question is do the ANSI standards have -- do they list -- and particularly that Part 3 standard, is there any mention of an Lmax in there that you're aware of?

MR. O'NEAL: Not that I'm aware of, no. And that ANSI standard that we're talking about, this 12.9, Part 3, is really geared toward when an observer is present, in terms of how do you collect the data; what you do for the total sound, which is, you know, your source running plus the background; how do you shut it down; how do you get background only, et cetera. And it goes through all the procedures and --

[Court Reporter interrupts.]

MR. O'NEAL: All the procedures and the equipment that you would use.

PRESIDING OFFICER EVANS: But it does -- the ANSI standard itself does define how you would, say, calculate an L90 or an LEQ or something to that effect; correct?

MR. O'NEAL: I don't believe that standard actually tells you how to calculate an L90. And L90 is defined as a statistical

period. So, for example, if you take a measurement for an hour, the L90 is going to be the quietest six minutes. So 6 divided by 60 is your quietest 10 percent of the hour. So in other words, the L90 means that 90 percent of the time the sound level is higher than whatever your L90 is. So that's not defined in the ANSI standards. It's defined in other standards, in terms of basic terminology.

PRESIDING OFFICER EVANS: But does it say -- how do I put this? You know, essentially, how can you even calculate an L10 or an L90 if you're only using a single, essentially a single data point? Is that possible at all? Like 1/8th of a second, which is going to be, if I'm understanding you correctly, it's going to be one data point that you'll get out of that; correct?

MR. O'NEAL: Under I think the claim that Ms. Linowes is making, yes, you would have that 1/8th-second data. So trying to calculate an L10 on that 1/8th-second data point is meaningless. You don't do that.

You calculate an L10 or an L90 over a broader measuring period, ten minutes, an hour, something like that. Doing it on 1/8th of a second is non-sensical. I've never seen it done.

PRESIDING OFFICER EVANS: 'Cause it's essentially just going to be one data point that it will give you. You don't have to do a calculation. There is no calculation; correct?

MR. O'NEAL: Correct.

PRESIDING OFFICER EVANS: I know you have some good questions.

MR. DUCLOS: Well, thank you, Mr. O'Neal, for your testimony. It's nice to get an expert on the other end of the microphone who can explain some of this to me. I think that will be helpful.

In the standard, 301.14 (f)(2), it talks about the A-weighted equivalent sound level. What does the "A-weighted" mean?

MR. O'NEAL: So A-weighted is just a weighting scale that's defined by standard again. So an A-weighting really

characterizes how we as people respond and how our ears do. In other words, our ears don't hear low frequencies very well, so the A-weighted scale discounts those, if you will. But we hear middle frequencies very well. So the middle frequencies make up a lot of the A-weighted energy. So the A-weighted scale takes all the different octave bands, different frequencies, and weights them according to this A-weighted scale, which, again, is defined by standard and gives you one number. So it gives you that 40 dBA or 45 dBA number that's in the SEC rules.

MR. DUCLOS: Okay. And it says "shall not exceed the greater of 45 dBA." What does that mean to you?

MR. O'NEAL: So in other words, you have a compliance period, whether it's ten minutes or whether it's an hour. And if I'm measuring sound from a wind turbine for, you know, an entire week, that's 168 hours. So those hours that I know the turbine is really the dominant source of sound, during the day

it can't be over 45 during any of those hours, and at night it can't be over 40. That's what "shall not exceed" means. You can't go over those limits.

MR. DUCLOS: Okay. We understand we can't go over those limits. We understand what the A-weighted equivalent means.

So, really, in your opinion, is there a compliance period written into this rule?

MR. O'NEAL: There is not, and that is probably one of the reasons we're sitting here today is because there is none.

If I may go back to the second part of your question. You asked me about an A-weighted equivalent. I only answered the A-weighted part --

PRESIDING OFFICER EVANS: I was about to ask that. What does "equivalent" mean to you?

MR. O'NEAL: I think that's the question I've heard a few times now, so I want to make sure I give you an answer for that.

So equivalent sound is the LEQ. That's the descriptor that you see. And it can be LAEQ, which is an A-weighted equivalent sound level, or LCEQ, which is just a C-weighted equivalent sound level.

So equivalent sound level is basically taking all the sound energy over a defined period of time. Again, you got to have some defined period of time. It can be one minute, can be ten minutes, can be whatever, eight hours. But over that time period of time, the sound levels are going to vary somewhat. Any source of sound will have some variation in them. And the equivalent sound level takes all that energy. And thankfully, the sound level meters do this now internally with computer code. You don't have to go back to our calculus textbooks and try to integrate the area under a curve. It takes all that sound energy and gives you an equivalent one number as if that sound was steady the entire time.

And the thing about equivalent sound level is it weights the higher sound

levels greater. That's what the LEQ does. And I didn't sit in through the hearings on the rule adoption, but my guess is that's probably why the LEQ was chosen as a metric, because it does weight those higher sound levels. So like a 40 dBA LEQ at night, any higher sound energy from the turbines is going to get counted in that LEQ calculation. It's not discounted. So even though it's -- I know I've used the word "average." It's really an integration of energy over the entire time period. But it's a one-number equivalent calculation, if you will, for that time period. Does that make sense?

MR. DUCLOS: When the 1/8th-of-a-second meters pick up a data point, is there a reason why 1/8th of a second is used versus one second?

MR. O'NEAL: I'm just old enough to remember having used the old analog sound level meters when I started my career. And the thinking back in the day was you use a slow response so the needle wouldn't jump around so much. It would slow it down. If

you used a fast response, there's a little bit more wiggle because you're sampling basically eight times a second, if you will, a 1/8th-of-a-second sample rate.

So, again, now with digital technology, pretty much the fast response is what we see today for any kind of testing programs.

MR. DUCLOS: Let me ask it a different way. How quickly does a human ear pick up sounds?

MR. O'NEAL: Again, it all depends on the individual's hearing and how good it is. I don't honestly know if I could tell an eighth of a second, if you get any different gave -- if you get different sounds over a one-second period. I don't think I could tell that. I've never been tested for that kind of refined ability, so I don't have a good answer for you on that one. But I think we'd be hard-pressed to know how sound is changing, you know, unless, of course, it changed dramatically. And when I say dramatically, you know, we're talking a very

large change, 10, 20 decibels over a very short period of time. You know, a decibel or two change, we're not going to really pick that up.

MR. DUCLOS: Okay. So the eighth of a second is based on the accuracy of picking up data points because we have the technology to do that now with digital equipment; correct?

MR. O'NEAL: Correct. Correct.

MR. DUCLOS: So it's kind of a very specific monitor to get as many data points as possible; right?

MR. O'NEAL: That's fair, yes.

MR. DUCLOS: And to average that for an LEQ, 'cause usually an LEQ has some time period set to it. Is that the way the standard works?

MR. O'NEAL: That's the way all the regulations -- well, I shouldn't say all. Most of the sound level regulations that are written try to incorporate a time period in them. Not all of them do. Some of them omit it. Just for whatever reason they omit it.

But most of them do a time period, yes.

MR. DUCLOS: And you said the LEQ could be LAEQ of T, which would be .125, is unreasonable; it doesn't make any sense whatsoever because the data point then can't be split.

MR. O'NEAL: Yes. Correct.

MR. DUCLOS: How would that be different than an Lmax standard? Is Lmax just a blip in time, or is it an average type of a standard?

MR. O'NEAL: So an Lmax is not that different than the 1/8th-of-a-second measurement. Lmax is going to be what is the highest sound level that you measured, again, over some period of time. You know, the Lmax over one hour might be different than Lmax over an entire day. Could be different hours during the day. But it would be Lmax over a defined period of time, right. Again, it's a very short, instantaneous sound level which, again, goes against some of those four criteria I gave you before, in terms of trying to have a reasonable sound standard,

because Lmax is a very -- it can be very variable, whether it's a gust of wind, whether it's a -- you know, any type of source sounds that might intrude that are not necessarily the source that you're trying to measure specifically, that Lmax will pick it up. And it just may obfuscate what you're really trying to measure, which is another reason the L10 and the L90 are very, very useful statistical metrics in wind turbine compliance testing. I've tested dozens and dozens of wind farms post-construction. And if I see the L10 and the LEQ and the L90, those three numbers, I can know right away if that sound is really wind turbine sound or not. They should be very, very close together. They should not be that much different.

MR. DUCLOS: All right. So you said the LAEQ .125, in your mind, were equivalent to an Lmax standard, and that's an unreasonable standard for a wind farm.

MR. O'NEAL: I'm agreeing with you, yes. The Lmax and the 1/8th-of-a-second LEQ,

they can be a little bit different, but they're not wildly different.

MR. DUCLOS: And you also agree that the compliance standard that's in the rule and in the certificate don't have a compliance period assigned to the "shall not exceed the greater of 45 dBA."

MR. O'NEAL: They did not include a time period in there. Correct.

MR. DUCLOS: What is a reasonable time period that they should have considered in the rule, from your wind farm experience?

MR. O'NEAL: Sure. I would say a minimum of ten minutes would be the absolute smallest time period that you would consider. We see that a lot in other jurisdictions, ten minutes. A lot of the jurisdictions make you collect multiple ten-minute periods and then take them and do some further calculations with them. Most, or a lot of the jurisdictions that do put a time period in there put in the one-hour.

But if you're asking my opinion, I'd say ten minutes would be the absolute

minimum time duration that I would say, based on anything I've measured.

MR. DUCLOS: Would you then extrapolate that out to an hourly, say? I mean, I'm coming from the transportation side. That's what we do. I can take measurements at ten minutes or up to 30 minutes or whatever, but it gets extrapolated out to an hour. So would you recommend -- is that what you're saying here? Or would it be at, say, an LEQ for ten minutes?

MR. O'NEAL: As a practical matter, we're going to have six ten-minute periods because we're going to measure, you know, for many, many days. So you're going to end up with six ten minutes in every hour.

And you could do it either way. You could make the ten-minute period itself the compliance period, or you could make them aggregate and take those six ten-minute periods -- because the LEQ, if you have six ten-minute LEQs, for example, you could very easily calculate a one-hour LEQ. The math is very straightforward. It's fine. You can do

that. The beauty of that is, say, for example, you had one of those ten-minute periods contaminated for whatever reason, bunch of trucks went by. You throw that time period out. You could use the other five ten-minute periods and come up with, as you say, an extrapolated one-hour LEQ.

In general, the research has shown -- this report came out right after the standards were adopted. But the Massachusetts Clean Energy Center sponsored a wind turbine acoustic study. And the research -- and I was involved in that, actually. And the research showed that, you know, the shorter the time period is, the more unreliable any kind of standard or metric is going to be to try and show compliance with any type of source, wind turbines or something else. They showed in the research that a one-hour standard showed good agreement with pre-construction modeling, which is really what you're trying to get here. You're trying to have somebody who's proposing a project. They know the

rules, and they know the rules about how they have to meet the standard. Then having that one-hour time period is going to give them a lot of confidence that if my modeling shows I'm in compliance, I would expect to go out there post-construction and be very confident that it will show compliance.

MR. DUCLOS: Thank you. I got a few others, but I can hold them for now.

MR. O'NEAL: Okay. I could submit some written comments to sort of expand on this, and you'll have plenty to read.

PRESIDING OFFICER EVANS: Sure. That would be helpful. Thank you.

MR. O'NEAL: Thank you. Thank you for your time.

PRESIDING OFFICER EVANS: All right. Dr. Fred Ward.

MR. EDWARDS: Mr. Chairman --

PRESIDING OFFICER EVANS: Yes.

MR. EDWARDS: Point of order, if I may. I'm not very good with the alphabet. I'm Bob Edwards from the Town of Antrim, and I had an acknowledgment that I could speak.

And I'm just not good alphabet, but I believe --

PRESIDING OFFICER EVANS: I am sorry if --

MR. EDWARDS: No, it's not your fault, because I mistyped your e-mail address. But I did get it from --

MR. WARD: I'd be perfectly happy to let E go before W.

MR. EDWARDS: And I can't go after Dr. Ward. I don't have the time. I'm only kidding. So if it pleases the Committee --

PRESIDING OFFICER EVANS: All right. We just had -- like I said, I didn't -- because it didn't -- the e-mail didn't come to me, so I didn't have you on the list. So with that, we are -- I am trying to wrap this up by 3:00. So with the five-minute periods, no, we should be able to do it. We'll just have to take --

MR. EDWARDS: My comments are not technical in nature, so I yield to whatever you want.

PRESIDING OFFICER EVANS: Well,

since you alphabetically are -- it should have already happened. So by all means, go ahead.

MR. EDWARDS: Thank you, Dr. Ward.

MR. WARD: You're very welcome. I'll get it back out of you someday.

PRESIDING OFFICER EVANS: All right. Since I don't have you on my list, if you could state your name, that would be very helpful.

MR. EDWARDS: Yes. My name is Bob Edwards, and I'm one of the selectmen from the Town of Antrim. And I'm not here to define the word "equivalent" or anything close to it. But my -- our comments are general in nature.

When we first read the charges for this Subcommittee, the first charge was a bit alarming to us. And I apologize to the Committee if we misunderstood the intent of the language in that. But what we heard and read, and what we heard on the Zoom meetings that you conducted, it seemed to me that you were going outside the scope of what we

thought was going to be included under the first request. And when you started speaking about best procedures in New York and Vermont and so forth, we wanted to just make sure that our interpretation was correct, and that is that you're trying to ensure compliance with the certificate as it relates to measuring and analyzing sound.

So the board of selectmen have relied on the SEC expertise when it developed both the operational standards and compliance monitoring procedures, that they were fair and they were equitable to all interested parties, to the Antrim Wind initiative that originated in my time back in 2008, when it all began.

And I hope, and I apologize if I am, but I hope I am not oversimplifying this matter. But the Town expected then and continues to expect that the methods utilized to collect and analyze sound data will adhere to the requirements already defined in detail in the terms and methods previously approved and in place as an integral part of Antrim

Wind Energy's certificate. There must be no effort on behalf of the Subcommittee or the full Committee as part of its charge to deviate from or seek alternative methodologies for measurement standards for analysis of sound procedures for this particular wind farm. And should the full Committee feel that such an exercise is justified, we suggest that be a separate and distinct initiative to be undertaken, that may result in future rules standards changes. But it is clearly outside the scope and intent of the Subcommittee's first charge, in our opinion.

We at the Town level feel that we are spending too much time unnecessarily with complaints from the public, phone calls at night and so forth regarding violation potentials. And so we also feel that the matter may be -- I don't want oversimplify it, but we just ask that the Committee follow those approvals and guidelines that are already in the certificate.

One of the things that I think was

troubling to the Committee was that we -- some of the residents didn't allow measurements on their property. And I think our opinion is that if you're going to abide by the initial rules of the SEC when they approved that certificate, it will have a hundred percent cooperation from the landowners. And I understand the waiver is perfectly legitimate, but I'd like to see it done in the same fashion as it was approved. And we asked for their cooperation, as long as we're doing it the way it was approved.

So we ask that you let the results be what they are. They will -- either Antrim Wind is compliant or they are not. And if not, we ask that a timely corrective action be undertaken and bring any sound violations compliant with the certificate. If they are found to be compliant after collecting the sound data, and analysis performed in accordance with the certificate requirements, then please let's move forward. Thank you.

PRESIDING OFFICER EVANS: Thank you.

MR. EDWARDS: Probably no questions for me.

PRESIDING OFFICER EVANS: Well, I do have kind of one question. If you -- do you have concerns with the measurement period? Does the Town? 'Cause I mean ultimately it's your agreement that is in the certificate.

MR. EDWARDS: Yes.

PRESIDING OFFICER EVANS: So do you have concerns with that agreement now at all?

MR. EDWARDS: We have concerns, only that we see and hear feedback from people. We don't have the technical knowledge to interpret that properly. And that's one of the prime reasons that we forwarded it on initially and supported the Committee to do the application. But we understand that potentially if it isn't done in the measurements as we understand it to be, then it distorts it, and it can be construed in people's minds as just trying to circumvent the original measurement standards so that it's compliant. But we have no --

we're looking for you and your experts to tell us whether that's in compliance. So I don't know if it's right or wrong. It may be 21st Century standards will be such that you redesign the different requirements on it. But what we're trying to suggest is that we spent a lot of time getting the application discussed and approved, and a lot of detail went in and analysis and expert testimony, and we wonder why it isn't a simpler process to merely go in with your experts and say is it being done in accordance with the terms of the certificate, yes or no.

PRESIDING OFFICER EVANS: That's what we're trying to figure out.

MR. EDWARDS: And we thank you for all you're doing, yeah.

MR. DUCLOS: No questions.

PRESIDING OFFICER EVANS: All right. Thank you.

All right. I think now the next one would be Dr. Fred Ward.

MR. WARD: I want to start off with something that I've said to you in writing --

meant to go to you, it went to the old SEC. But this is on point, which you all seem to worry about, which is the question of the averaging interval or no of the sound. Now, you heard all kinds of stories from everybody as to what they might prefer or what these things all mean. And I think you would agree that it's a little bit confusing. Let me just unconfuse it.

Neither the human brain nor the human ear averages sound. Let me repeat that. Neither the human brain nor the human ear averages sound. Now, let me give you three examples. It's pretty easy to understand.

Let's say that you're somebody who's coming in, they want to put in a rifle range, a pistol range next to a church. Now, you could say that, well, we want the average to be over 40dB. Now, if you're sitting in the church and the rifle range is operating, you go over a 100 dB for a fraction of a second and then it's zero. Maybe another second or ten seconds later you get another

over 100 dB and then zeros. So if you average out all those 100 dBs and zeros, it's around 5 maybe, easily meeting the 40 dB standard, but a total -- a portion of misrepresentation, deliberate, whatever you want to call it of what that 40 dB is supposed to mean. We have the same thing here. We have loud sounds and very little sound, ups and downs.

Let me give you this one other example. Supposing you'd like to listen to a classical orchestra or maybe a jazz band. Now, most of these have music that goes up, down and sideways. It gets loud, it gets soft. And most of these orchestras have a drum. Well, the drum sound is a fraction of a second. In between, it cannot beat the damn drum fast enough to put in more than maybe one or two beats in a second or less. So if you average the sound of the drum, there's no drum. The orchestra -- the violin is coasting along and the horns are going along, and the drummer is sitting there ready to beat the damn drum again, kick it,

whatever he's going to do. They're short, sharp things, but you damn well hear them. The average is irrelevant.

Let me just make something that you might understand even easier. Let's say we're out on a country road and that country road has cement trucks and great big trucks, but they only go by once, oh, maybe every minute or two minutes or hour, and loud as hell, 100, 150 decibels. The average, what's it going to be? A couple of hundred or 150 and a mess of zeros. What does a 40dB average mean over more than a few seconds? What the human ear hears and what the human brain does is meant to be the peaks. It doesn't hear the zeros. It's not set up for that.

If you go on a trip, for example, and you go rolling down, you'll see the waves and the things or whatever you want to do. You don't average that out and say, boy, that was a nice average. The average is irrelevant. It has nothing to do with what the human ear is hearing. So all of the

discussion about averaging out is what we call in polite language "BS."

Now, I have one other point I want to make, and I'm hoping I can get it in. I'm a meteorologist. What you hear from the Antrim Wind facility is totally dependent on the meteorology. The wind speed determines how loud the sound -- how fast things are going and how loud the sound is going to be. Slow-end speeds, low sounds. High-end speeds, high sounds.

The second part of meteorology that comes into it is everybody knows, even Mr. O'Neal, that a temperature inversion at night will make an enormous difference. Most of the time, even if it's called an inversion, it implies that there's some other thing, which is the version. Well, that's daytime. In daytime, all the sound goes up and out. Doesn't affect anybody. At night, the ground cools, and it cools the air near the ground. And if you pool the cooler air and it goes up to the level of Antrim Wind, all the sound from the Antrim Wind is trapped

in that. So high winds on the thing, a meteorological phenomenon. And inversion from temperature, another meteorological phenomenon. That's when you get your loud sounds. So talking about anything of these things and talking about, as somebody said, 65 million, well, nobody gives a damn about the 65 million. There's only some times. And that's where this should focus: High winds to make louder sound, inversion to trap it. That will always give you the most sound. Thank you.

PRESIDING OFFICER EVANS: All right. Thank you. I don't have any questions.

Do you, John or Tom?

MR. EATON: No.

MR. DUCLOS: Dr. Ward, nice to know that you're a meteorologist. That's one thing we didn't bring up is the temperature inversions and how that applies to sound. None of that's in the compliance standard either; right? So wind --

MR. WARD: I didn't hear you. None

of that what?
MR. DUCLOS: None of that temperature, meteorological information, is in the compliance standard --
MR. WARD: Everything meteorological is in every compliance standard because there's only sometimes when the towns are going to be loud. Nobody's sitting here saying that they're always loud. They're loud at certain times. And when you have those things, then you have to make your measurements when the sound levels are the loudest, meteorologically speaking.
MR. DUCLOS: Okay. I understand your position.
MR. WARD: And that's the reason there are two different standards, day and night, too.
MR. DUCLOS: Right. The human ear and the human brain, as you said, picks up, you know, peaks. But we're not dealing with the human ear here or what the brain translates it to. It's what the compliance standard is.

MR. WARD: What do you mean we're not here for the human ear? This all has to do with the human ear.
MR. DUCLOS: You hear sounds. Do you think of any fan or the wind farm or --
MR. WARD: Say it again? Ask me --
MR. DUCLOS: Would you think that any fan that you have in your home or the wind farm you wouldn't hear at all, ever?
MR. WARD: Oh, you could certainly make enough noise in your house to cover everything. Is that what you're asking?
MR. DUCLOS: No. I'm asking whether when they sited this facility here, did you think it would be silent, like a Dyson fan versus an electric-generating wind farm?
MR. WARD: Well, most of the time the winds would be -- the sounds from the wind farm would be below, well below 40 dB. Most of the time. The winds are not strong all the time. They're strong some nights, some nights they're not. So maybe some nights you'd hardly know they were there and

then other nights you damn well know it was there.
MR. DUCLOS: Okay. No further questions.
PRESIDING OFFICER EVANS: All right. Tom, you all set?
MR. EATON: All set. Thank you.
PRESIDING OFFICER EVANS: All right. The last speaker is Joe Wilkas.
MR. WILKAS: I have handouts that I'm going to refer to... I'm not going to -- the words I'm going to say are not in there.
(Mr. Wilkas distributing handouts to the Subcommittee members.)
MR. WILKAS: Thank you for the opportunity to speak to you today. I guess just listening to all the other testimony --
PRESIDING OFFICER EVANS: Can you pull the microphone just a little bit closer to you?
MR. WILKAS: Okay. Yeah. I had a question. Would Mr. O'Neal choose to live near a wind turbine?
PRESIDING OFFICER EVANS: Well, I

don't think -- I don't want to take questions for other people. Questions will come from here.
MR. WILKAS: I just brought it up.
Okay. We're supposed to be helping with you folks learning sound regulations and things. So what I've done here is I have a list of links and information that are found in those links that are all on the SEC site. The first one is where the sound regulations are, which is Site 301 on the SEC site, which is the regulations. And I've highlighted in little red marks some of the interesting information that I've copied and pasted in here.
The first one is for wind energy systems, apply the following standards, and it says that the sound shall not exceed the greater of 45 dBA or 5 dBA above background levels measured at the L90 sound level and -- okay. The background -- above background sound levels. 45 dBA or 5 dBA above background levels measured at the L90 sound level between the hours of 8 a.m. and 8 p.m.

each day and 40dB or 5 dB above at night. You guys have all heard that. This is where it's easy to find. But again, I'm emphasizing "shall not exceed."

Now, the second page is just more of a spec, but nothing highlighted. The third page, all sound measurements during post-construction monitoring shall be taken at 0.125-second intervals, measuring both fast response and LEQ metrics. We've all discussed that, too, but there's the link to finding that information when you want it.

The next page, on Page 4, is some information from some of the sound reports that are on your sites. It's including the link to them. This one on Page 4 is the Rand sound report. And included in there is a graph showing, you know, ten minutes of sound collection at the proper sampling rate. And as you can see, much of it above the red line exceeds the limit. And if you averaged that sound level, which people have been proposing to do, then you would not be exceeding the sound levels; you'd be at the sound level.

So measuring the peaks not to exceed is the important, significant fact here. And there's a visual indication of it.

On Page 5, from another sound report on your site, Tocci's sound report on September 2nd, it says that in this sound report, Column 7 or 8 are measured five-minute, 10th and 90th percent A-weighted sound levels. In other words, the information in this sound level, they're taking five-minute average samples instead of peaks. And that's, again, just for your reference.

And there's another statement there, many five-minute samples were noted to be below the 40 dBA after the wind subsided. So once again, they're saying, okay, we're taking five-minute samples, not just -- I mean they're sampling at the proper rate and averaging five minutes, which of course will lower the level that they're recording.

And then there's the Acentech post-construction sound report, which I'm highlighting again where they stated the

compliance in this study, the one-hour LEQ metric, as compared to the appropriate daytime and nighttime limits. Once again, we're averaging over an hour, not taking the peaks.

And then the final, on Page 6, is a two-minute sample from, actually a posting on our site by Lisa Linowes. And it's showing, once again, that even over two minutes, if you're following the peaks, you can see it exceeding the limit. But if you're averaging, you'd see that you would not be exceeding the limit.

PRESIDING OFFICER EVANS: All right. Thank you.

MR. DUCLOS: I have no questions.

PRESIDING OFFICER EVANS: I think I'll just ask my same question. Do you have any idea what "equivalent" means?

MR. DUCLOS: You know, I'm an engineer. And when I get into the acoustics of all this stuff, every time this comes up I have to go looking and researching, and then I finally figure out what I'm looking it. Do

I remember it months later? Not necessarily. I have to go through it again.

So you have my thanks for trying to do what you're doing, and my sympathy for trying to do what you're doing, too.

PRESIDING OFFICER EVANS: We appreciate that. Thank you.

All right. That was -- that's the end of our speakers. And I don't know if anybody on the Committee had any additional items or anything else that either of you two want to discuss. I don't think I have anything.

MR. EATON: No.

MR. DUCLOS: I'm good.

PRESIDING OFFICER EVANS: I forget where we left off when our next meeting will be.

MR. TURNER: I think the investigation plan is August, if you want to highlight it.

PRESIDING OFFICER EVANS: Yes. Yes, I should do that.

So, again, we'll be allowing...

(Discussion off the record among Committee members.)
PRESIDING OFFICER EVANS: I don't think we need to rehash that. At least my opinion is that we've done that. We've talked about the ADLS. It was just a --
[Court Reporter interrupts.]
PRESIDING OFFICER EVANS: I'm sorry. I misinterpreted you. So just go ahead and say it.
MR. DUCLOS: I'll just ask.
I asked Jon, as the presiding officer, whether he wanted to ask Allen Brooks if he had anything to offer at this public meeting or not, given that -- afford him the opportunity while he's in the audience, as he has represented the Counsel for the Public in a letter on the ADLR system. I would offer him a chance to speak at this public meeting if he so chooses.
MR. BROOKS: May I, just very briefly?
PRESIDING OFFICER EVANS: Yeah, absolutely.

MR. BROOKS: Hi, my name is Allen Brooks. I function as Counsel for the Public. I work at the New Hampshire Department of Justice. Thank you.
I have nothing further to add at this time. I'm happy to answer any questions that you have. I would like to consider everything I've heard today, as well as all the written material, and maybe provide my own written comment. I don't want to be disruptive by doing that. I think that you're open to that type of thing happening, but I just want to make sure that that is something that's going to provide some benefit to the Subcommittee and not disrupt whatever process that you have.
PRESIDING OFFICER EVANS: Correct. Yeah. Absolutely. If there's any comments -- and again, that's actually what I was just looking up. I just needed to find what I said so I didn't contradict what I said earlier.
Any comments that anybody else would like to submit, please just submit them

via the normal docket distribution list. We're just looking for comments by 5 p.m. on July 1st, just so that we can have enough time to get to everything, you know, as we start to make our decisions on the first charge that this Subcommittee has been tasked with.
MR. BROOKS: Well, thank you. any questions for me?
MR. DUCLOS: I guess we can go to Jon's question.
On the standard for measurement, which is 301.14 (f)(2), do you have an opinion what the equivalent sound level is?
MR. BROOKS: I've read that standard. The word "equivalent" I'm not sure is going to help you one way or the other to figure out what the standard means. I think you've gone over this very well, which is that your task is to apply that standard. And to do so, you have to figure out how an L90 is going to be applied with the time interval. And in my reading -- I have not gone through this with my office, and I'd

like to. But in my reading so far and listening to it, there is no time interval either stated or implied in the rule. I don't believe it's implied to be 1/8th of a second. I don't believe it's implied to be an hour. It's not stated. So that time interval that's needed is missing from the rule. And the next task would be to figure out what are you going to do to fill in that hole. I think you suspected as much as you were asking some of these questions.
MR. DUCLOS: I have no further questions of this person.
MR. BROOKS: Thank you.
PRESIDING OFFICER EVANS: Thank you, Mr. Brooks.
All right. It probably would be helpful for us just to remind everybody of some of the next deadlines.
Following the public meeting, the Subcommittee will publish by July 15th a draft recommendation for the appropriate methodologies for measurement and analysis of sound procedures for validating noise

complaints. And then the Subcommittee will be accepting written comments, arguments and testimony on the draft recommendation from all parties, which must be filed by July 29th. And then the Committee will hold a public meeting on August 16th to decide whether to adopt the draft recommendation as written or as modified.

I will say that we do have to -- when we wrote this dispersion of the work plan, we had a different member of our Subcommittee. So I do need to still confirm some of those dates with him, particularly the August 16th, just to make sure that that works into your schedule. So it is possible that that August 16th date may slide a little bit, depending on the schedule of the Subcommittee and whatnot. But that's the rough time frame for likely when our next public meeting would be.

So with that, I would like to -- I think we can end the meeting, unless either of you had any other points of discussion.

MR. EATON: No.

MR. DUCLOS: I'm good.

PRESIDING OFFICER EVANS: Okay. All right. With that, thank you everybody for coming today. And we'll keep doing our investigation. Thank you.

(WHEREUPON the Public Hearing was adjourned at 2:54 p.m.)

C E R T I F I C A T E

I, Susan J. Robidas, a Licensed Shorthand Court Reporter and Notary Public of the State of New Hampshire, do hereby certify that the foregoing is a true and accurate transcript of my stenographic notes of these proceedings taken at the place and on the date hereinbefore set forth, to the best of my skill and ability under the conditions present at the time.

I further certify that I am neither attorney or counsel for, nor related to or employed by any of the parties to the action; and further, that I am not a relative or employee of any attorney or counsel employed in this case, nor am I financially interested in this action.

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