1	STATE OF NEW HAMPSHIRE
2	SITE EVALUATION COMMITTEE
3	
4	September 15, 2016 - 1:05 P.M.DAY 2Public Utilities Commission.
5	21 South Fruit Street, Suite 10 Afternoon Session Concord, New Hampshire ONLY
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7	NHPUC SEP22'16 PM12:51 IN RE: SEC DOCKET NO. 2015-02
8	ANTRIM WIND ENERGY, LLC; Application of Antrim Wind
9	Energy, LLC for a Certificate of Site and Facility.
10	(Hearing on the merits)
11	
12	PRESENT FOR SUBCOMMITTEE: SITE EVALUATION COMMITTEE:
13	Cmsr. Robert R. Scott Public Utilities Commission
14	(Presiding as Presiding Officer)
15	Cmsr. Jeffery Rose Dept. of Resources & Economic Development
16	Dr. Richard Boisvert Dept. of Cultural Resources/ (Designee) Div. of Historical Resources
17	John S. Clifford Public Utilities Commission (Designee)
18	Dir. Eugene Forbes Dept. of Environmental (Designee) Services/Water Division
19	Patricia Weathersby Public Member
20	Also Present for the SEC:
21	Michael J. Iacopino, Esq. (Brennan
22	Pamela G. Monroe, SEC Administrator Marissa Schuetz, SEC Program Specialist
23	COURT REPORTER: Cynthia Foster, LCR No. 014
24	
	8 - S.

NORTH COUNTRY COURT REPORTERS West Lebanon, New Hampshire 03784 northcountrycr@gmail.com (603) 443-1157

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1				
2		INDEX		
3	WITNESS PANEL:	JACK KENWORTHY HENRY WEITZNER		PAGE NO.
4	(Resumed)	DARRELL STOVALL ARTHUR CAVANAGH		
5		DON MARCUCCI		
б	QUESTIONS FROM SUB MEMBERS & SEC COUN			
7		Mr. Forbes	6	
8		Dr. Boisvert	14	
9		Cmsr. Rose	24	
10		Mr. Clifford	27	
11				
12		Cmsr. Scott	36	
13		Mr. Iacopino	59	
14		Cmsr. Scott	77	
15	Redirect by Mr. Ne	edleman		80
16	WITNESS PANEL:	DANA VALLEAU ADAM GRAVEL		
17	Direct Examination	by Mr. Needleman		86
18	Cross-Examination	by Mr. Enman		88
19	Cross-Examination	by Ms. Berwick		91
20	Cross-Examination	by Mr. Block		95
21	Cross-Examination	by Mr. Ward		97
22	Cross-Examination	by Ms. Lenowes		99
23	Cross-Examination	by Ms. Foss		133
24				

i i		
1		
2	INDEX (continued)	
3		
4	QUESTIONS FROM SUBCOMMITTEE MEMBERS & SEC COUNSEL BY:	
5	Ms. Weathersby 141	
6	Cmsr. Scott 142	
7	Mr. Iacopino 150	
8	WITNESS PATRICK MARTIN	
9	WIINESS PAIRICK MARIIN	
10	Direct Examination by Mr. Needleman	159
11	Cross-Examination by Ms. Berwick	161
12	Cross-Examination by Mr. Block	161
13	Cross-Examination by Mr. Ward	164
14	Cross-Examination by Ms. Lenowes	165
15		
16		
17		
18		
19		
20		
21		
22		
23		
24		

1		EXHIBITS	
2	EXHIBIT ID	DESCRIPTION	PAGE NO.
3	App. 36	Best Management Practices	
4		Doc from DES for proper use of crushed concrete	0.4
5		in demolitions	84
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			
16			
17			
18			
19			
20			
21			
22			
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24			
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(Hearing resumed at 1:05 p.m.)

3 PRESIDING OFFICER SCOTT: Okay. We're back on the record after our lunch break. I do want 4 5 to mention an administrative item. So perhaps 6 we won't need them, but we've scheduled some extra days for hearings in case they're needed, 7 and the days are as follows. These are three 8 days in October. So the 3rd, the 18th, and the 9 10 20th. As I mentioned on day 1 on Tuesday, my 11 intention generically is to start at 9 o'clock. 12 However, on the 3rd I'm going to propose we 13 start at 10 o'clock. Does anybody have any 14 issues with that? Okay.

The other component of this is the 15 16 locations. We're not positive yet where they're 17 going to be. They may be here or they may be 18 in -- Marissa? We'll find out. We'll basically 19 publish a notice and make sure you get that 20 notice, but if you could at least be aware of 21 those dates as we move forward. So any 22 questions on that? Mr. Richardson? 23 MR. RICHARDSON: Just a comment in that I'm

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all fully supportive of the 9 o'clock start

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1	time. It will be a struggle for me to make it
2	by, because I drop the kids off at school at 8
3	a.m., and it takes me exactly an hour to get
4	here so like today I think I came with 30
5	seconds to spare, and I just want the committee
6	members to know I'm not showing up late out of
7	disrespect, but I'll do my best to be here at
8	nine, but it might be 9:04 a couple times.
9	PRESIDING OFFICER SCOTT: Okay. Thank you
10	for that. Your comment is noted. Thank you.
11	Anybody else? Okay. So where we left off was,
12	again, we were still on the technical and
13	managerial capability panel, and they're still
14	here. We're now at the point where if any of
15	the subcommittee members have any questions of
16	the panel on this topic or these topics, now
17	would be the time. So do you have any
18	questions?
19	BY MR. FORBES:
20	Q I have a question for Mr. Cavanagh. I realize
21	you're not under contract yet for the
22	construction phase of the project, but I'd like
23	to hear a little bit from you about your
24	perspective on hiring local contractors and

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construction workers. Based on your experience on other projects of this nature, what are your expectations at Antrim?

MR. CAVANAGH: On any of our projects we 4 5 try to hire as much local help as possible, and 6 it's from a, just, it's good practice, first of all, but it also most cost effective so that's 7 what, that's our goal is to hire, and we on all 8 9 of our wind projects, prior to the start, when 10 we're mobilizing the site, but even prior to 11 that, we'll hold employment seminars and request 12 people come in and meet with us and meet with 13 our managers and fill out applications, and so 14 it's our common practice to hire as much local 15 content as possible.

16 Q Can you give me any quantitative idea what that 17 means? Or how many people generally through the 18 project?

19MR. CAVANAGH: Through the project from a20percentage standpoint I would say on average we21try to hire 20 to 30 percent local people to22integrate with our crews.

Q And a question for Mr. Marcucci, Siemens will,
of course, have some oversight on the erection

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1		of the turbines. Could he elaborate on what
2		that is exactly? Would you have representatives
3		there for every day of construction or is it
4		something they just show up at the beginning,
5		end and middle or something like that?
6		MR. MARCUCCI: No, we will have experienced
7		people to have Reed & Reed provide advice and
8		guidance throughout the whole construction
9		process starting with the unloading of turbine
10		components at the site running through
11		mechanical completion by Reed & Reed, and then
12		we will have our commissioning people at the
13		site doing the commissioning and the turbines,
14		and then when we get into the service and
15		maintenance phase, we will have at least two
16		people at the site basically every workday.
17	Q	So until the startup, it's somewhat
18		intermittent?
19		MR. MARCUCCI: No. It's every day. Until
20		the startup there will be advisors, what we call
21		technical field assistants, representatives, who
22		will be there every day.
23	Q	Thank you. I have no more questions.
24		PRESIDING OFFICER SCOTT: Ms. Weathersby?
		(2016.02) [Dev. 2/Aftermoon Goardon ONLV] [00.16.16]

	[WIINESSES]Kenworthy-weitzher-Stovall-Cavanagh-Marcucci]
1	BY MS. WEATHERBY:
2	Q Thank you. Mr. Cavanagh, you indicated that in
3	your Prefiled Testimony that you were doing a
4	constructability review. Has that been
5	completed, and, if so, have any issues been
б	identified?
7	MR. CAVANAGH: We've been involved, I've
8	been involved in the Antrim project early on. I
9	think it was 2009 I first visited the site, and
10	I've done multiple construction reviews, and we
11	provided insight on helping develop the
12	infrastructure, and what we try to do, what Reed
13	& Reed tries to do is we try to help minimize
14	the footprint of the project. So that's what we
15	do. It drives the cost of the project down and
16	it's good for the overall project and the
17	environment so yes, I have, I've done quite a
18	few constructability reviews.
19	Q So it's complete for this project, and you're
20	comfortable that there are no issues that can be
21	worked through.
22	MR. CAVANAGH: I wouldn't say it's complete
23	because we'll continue to refine and try to
24	reduce the footprint, you know, as we worked
	{SEC 2015-02} [Day 2/Afternoon Session ONLY] {09-15-16}
	(DIC 2010 02) [Day 2/ALCELHOON DEBETON ONLI] (09-10-10)

1		with Siemens. We finalize delivery schedules
2		and early on, we can hopefully reduce the
3		footprint of the turbine pad in order but a
4		lot of that is dependent on the delivery
5		sequence of the turbine components. So we can
б		really focus on that. We can continue to
7		improve. That's what we're always trying to do.
8	Q	Have you and perhaps Mr. Marcucci, have you
9		determined the route the turbines and things are
10		coming from, and if you could describe that to
11		us, and if there's going to be road closures and
12		how that process works?
13		MR. MARCUCCI: We do a route survey study
14		on all of the planned transportation routes like
15		the towers will be coming from Canada and the
16		blades will be coming from our facility in
17		Canada which helps reduce the transportation
18		cost because they're close to the site, and then
19		the nacelles will be coming from the port at
20		Searsport, Maine, so we have a transportation
21		group that goes and studies the proposed routing
22		of those components, the bigger components to
23		the site, and make sure that there is nothing
24		that will prevent that from happening or if a
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1		sign has to be moved or something like that,
2		then that will be taken care of ahead of time
3		working with the local governmental entities to
4		get the necessary permits.
5	Q	Thank you. So you don't anticipate having to
6		close the road? You'll be able to go on roads
7		that will support some of these larger
8		structures?
9		MR. MARCUCCI: We don't to my knowledge
10		actually end up closing roads. There may be
11		some slow intersections or curves that would
12		slow traffic down a little bit, require escorts,
13		heavy load escorts or oversized load escorts but
14		not really closing of the roads.
15	Q	Mr. Marcucci, could you tell me the status of
16		services and maintenance agreement and whether
17		the services that were outlined in your Prefiled
18		Testimony, there's a number of things listed
19		that you said would be in there, are they all
20		anticipated to be in the signed agreement?
21		MR. MARCUCCI: The status is that
22		Mr. Kenworthy is probably even more familiar
23		than me because I have not been involved in the
24		day-to-day negotiations, but the SMA final

	L	WIINESSES [Kenworchy-weitzher-Stovarr-Cavanagh-Marcutt]
1		agreement is fairly close to being ready, and
2		yes, the services that were outlined would all
3		be in there.
4	Q	Thank you. Does staff that's on the site, will
5		there be somebody there 24 hours a day, 7 days a
6		week? Is there someone on site at all times
7		during the operation of the facility?
8		MR. MARCUCCI: During the operation there
9		is not a Siemens person who will be on site 7
10		days a week, 24 hours a day. However, we will
11		be monitoring the operation of the turbines
12		remotely 24 hours a day, 7 days a week. The
13		plan normally is that the people responsible for
14		the normal service and maintenance of the
15		turbines are there from like 7 a.m. to 7 p.m.
16		daily, and if there's a problem that develops
17		that needs attention immediately, they would be,
18		at least one of those people would be on call
19		and they would be contacted by the people doing
20		the $24/7$ remote monitoring if they see a problem
21		that needs immediate attention.
22	Q	So if there was an issue that was detected,
23		someone could be in there within a very short
24		amount of time?

1		MR. MARCUCCI: Depending on how far they're
2		located from the site when they establish a
3		residence and clearly Siemens' intent would be
4		to hire those people locally if they could get
5		them trained in time to be ready to operate and
6		maintain the facility so however they live ten
7		miles from the site or something, it would be
8		whatever time that would take them to come from
9		home and get to the site.
10	Q	Mr. Kenworthy, your team here, you're relying
11		very heavily on your contractors to have this
12		all work successfully. Do you fully anticipate
13		that you will end up signing agreements with
14		each of the folks that you presented as the
15		ideal package here before us and what will be
16		the likelihood that you would perhaps utilize a
17		different contractor?
18		MR. KENWORTHY: So I think the answer to
19		the first question is yes, we fully intend to
20		enter into final definitive agreements with all
21		the parties who you see up here. DMG-VL as our
22		owner's engineer, Siemens as our turbine
23		supplier and service and maintenance provider
24		and Reed & Reed as our BOP contractor. I think

1	the likelihood that we would go any other route
2	is extremely small.
3	Q Thank you. No further questions?
4	PRESIDING OFFICER SCOTT: Dr. Boisvert?
5	BY DR. BOISVERT:
6	Q This would be for Mr. Cavanagh and
7	Mr. Kenworthy. In looking at this estimate, the
8	decommissioning cost, the letter from Reed $\&$
9	Reed dated April 1st of this year comes to a
10	total of \$2,775,000. Is that in contemporary
11	dollars or is there an inflation built into the
12	system insofar as it could be no sooner than 20
13	years after the construction that it would be
14	decommissioned and quite possibly from your
15	point of view as I understand it hopefully
16	longer than 20 years?
17	MR. KENWORTHY: Why don't I take the first
18	stab at answering that question, and, Art, if
19	you have anything to add please do so. This is
20	a current dollar estimate as of April 1, 2016.
21	Our expectation and what is contained in the
22	agreement that Antrim Wind Energy has signed
23	with the Town of Antrim is that we will
24	periodically update the decommissioning estimate

1		and also, therefore, update the decommissioning
2		funding assurance so that it is continually not
3		just adjusted for inflation but any other
4		potential variations that might occur in the
5		cost of decommissioning the facility, and in
6		that way, we expect the actual estimate itself
7		and the funding assurance as posed to cover that
8		estimate to be current up until decommissioning
9		occurs.
10	Q	And forgive me. I'm not familiar with the
11		rules. Is that required in the rules or is it
12		just your estimated business practice?
13		MR. KENWORTHY: I don't think it is
14		specifically required in the rules so I have
15		actually here the rules and cite 301.08(a)(8)(b)
16		which says that the decommissioning plan shall
17		include each of the following, and B says the
18		provision of financial assurance in the form of
19		an irrevocable standby letter of credit,
20		performance bond, surety bond or unconditional
21		payment guarantee executed by a parent company
22		of the facility owner maintaining at all times
23		an investment grade credit rating. So that
24		doesn't specifically require for a periodic

renewal.

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2		However, in our agreement with the Town of
3		Antrim, which is Appendix 17 A of our
4		application, Section 14.2 of that agreement,
5		trying to find the precise language here. Says
6		that the owner shall adjust the amount of
7		decommissioning funding assurance to reflect the
8		updated decommissioning costs and salvage value
9		after each update of the decommissioning
10		estimate in accordance with Section 14.1.1, and
11		that section requires us to update it every
12		three years.
13	Q	Okay. So it's embedded in your agreement with
14		the town. Good.
15		MR. KENWORTHY: That's right.
16	Q	I was concerned because it is a long time, and
17		by the time it comes around to happening, most
18		of us will not be on the job.
19		Second question goes to the proposal to
20		dispose of the concrete that's been crushed up
21		after you remove the tables and so forth. As I
22		understand it, are you going to excavate a pit
23		to put in at least some of the concrete that is
24		not used for other backfilling? Is that

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correct? This is, this concerns the disposal of what you referred to as rubble.

MR. KENWORTHY: I may ask Mr. Cavanagh to talk a little bit more specifically about the process of how that works from a construction perspective and I'd be happy to discuss how that's consistent with our interpretation of the rules.

9 Q Whoever is most familiar.

10 MR. CAVANAGH: So when we demolish concrete which we've done for years and years on bridge 11 12 work and wind work, you get a swell factor. So 13 typically the swell factor of concrete 14 demolition is 20 to 25 percent. So that's why 15 we're excavating a trench or whatever, whatever 16 the terminology was used earlier today, and so 17 you have additional swell factor, but concrete 18 disposal, we've been disposing concrete on all 19 of our projects, whether the state projects here 20 in New Hampshire, wind projects that we built 21 that's inert material that's just standard 22 practice in construction so we're doing it here 23 in New Hampshire, we're doing it in Maine, 24 Vermont and Massachusetts, but that's what we

		WIINESSES [Kenwortiny-wertziler-Stovarr-Cavallagii-Martuccr]
1		would do.
2	Q	So this would be additional ground disturbing
3		activity that would be associated with the
4		decommissioning of the facility.
5		MR. CAVANAGH: Yes.
6	Q	Okay. My concern isn't primarily with the
7		nature of the rubble and whether or not it
8		qualifies as solid waste or not. I'm actually
9		more interested in creating more ground
10		disturbance, and I don't really have a sense of
11		where that would be. Would you have nine
12		different places where you would dispose of it
13		to go with each of the turbines or would you
14		have one place you would take it? How large an
15		area do you anticipate would be necessary to
16		excavate to dispose of this concrete?
17	А	So when we develop a project like Antrim, we
18		blast the pad so these foundations are going to
19		be 24-foot diameter foundations, five feet deep,
20		and so when we blast those foundations, and
21		there's only, five, four and a half feet of
22		backfill. So if you envision you're going to
23		have a cone here anyway. So then we'll backfill
24		that so what we'll do is we'll pull out, we'll

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excavate out around the foundation in order to demolish it, and then when we, we'll demolish it, and in that cone that's already there that we've excavated, we'll disperse the rubble and then take the backfill material that we excavate and level that off and then we'll distribute organics over that. That's how we would deal with that.

9 Q So what I hear you say then is different than 10 excavating a trench nearby or separate from the 11 pit that's created by removing the concrete by 12 the turbine pad.

13 MR. CAVANAGH: I didn't develop that trench 14 language. Is that in the decommissioning, when you read through that, it says excavate an 15 16 8-foot trench, and I can't imagine doing that. 17 We would just excavate around the cone that was 18 created originally when we poured the foundation 19 and use that area because that area's going to 20 be restored anyway with organics. So we would 21 pull off all the organics and excavate the 22 crushed rock or the rock that we use for 23 backfill to create an area that we can dispose 24 of the concrete, the rubble concrete.

1	Q	It's sounds to me as though you're going to end
2		up with a mound at that place because you said
3		there's an expansion factor so there will be a
4		raised-up mound at each of the
5		MR. CAVANAGH: Well, we would have to
6		create an area, there's organics that we've
7		spread out in the restoration and the
8		postconstruction restoration that we will
9		reclaim and create a stockpile of the organic
10		material.
11	Q	Just to be clear, I don't really mean to
12		interrupt, but when you say organics, are you
13		referring to topsoil and forest stuff?
14		MR. CAVANAGH: Yes. So we'll scrape that
15		off, reclaim and save that to use as reclaim
16		once we, once we demolish and fill in the waste
17		from the foundation, and then we'll use that
18		reclaim that we've scraped off to cover that and
19		reseed it. That would be the approach.
20	Q	And presumably when you put the turbine in,
21		you've excavated out this place to put in the
22		concrete and that material has been spread on
23		site?
24		MR. CAVANAGH: Yes. On the Antrim site, we
	{ S	SEC 2015-02} [Day 2/Afternoon Session ONLY] {09-15-16}

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1		anticipate having quite a bit of organics that
2		there's anywhere on average of 12 to 18 inches
3		of organics, and so we're going to, we would
4		windrow those organics and seed those and we
5		wouldn't use all of those in the
б		postconstruction restoration so those will be
7		there in the final restoration when the project
8		is decommissioned.
9	Q	Okay. Just trying to get my head around the
10		amount being brought into the site, the
11		excavations that will take place and the amount
12		of extra volume that will be present. Is it,
13		and perhaps this is a question for
14		Mr. Kenworthy, is it a matter that it's less
15		expensive to leave that crushed concrete on site
16		as opposed to hauling it off some place?
17		Because it does seem like there is going to be a
18		net increase in volume in some fashion at each
19		of these turbine sites.
20		MR. KENWORTHY: I can say that certainly
21		cost is not the only factor. I think it's a
22		matter of common practice and practicality. I
23		don't think, and perhaps Mr. Cavanagh can
24		clarify, that we would actually end up with any

1	mounds. I mean, we would ultimately grade this
2	all at the very end, and then, of course, cover
3	with the organics that Mr. Cavanagh's been
4	describing and reseed it so that what you see is
5	kind of a uniform grade that's been reseeded,
6	whether it's the shoulders postconstruction or
7	ultimately the entire site up to the Antrim Wind
8	Partnership boundary postdecommissioning.
9	So the fundamental goal during
10	construction, and, again, Mr. Cavanagh can go
11	into more detail about this, is to balance the
12	site so that we are using material that we
13	excavate during construction, not importing
14	aggregate to the site. Obviously, there are
15	materials that we're going to use for
16	construction that we bring on to the site, and
17	then same thing during decommissioning. That
18	the materials that we decommission are, if
19	they're not removed from the site, they're not
20	kind of facilities that are removed, that that
21	rubble becomes part of what is regraded and
22	covered with organics and seeded.
23	And I think to some extent there may be,
24	there's nine turbines. Not every foundation may

1		be identical. There's geotechnical work that
2		we're ultimately going to have to do on the site
3		to determine final foundation designs like Mr.
4		Cavanagh has described a rock anchor foundation
5		and we expect most of them to be rock anchor
б		foundations. There could be more of gravity
7		foundations if we have very deep glacial soils
8		in some places which may slightly alter the kind
9		of very specifics of how we're going to break
10		that up decommissioning and whether we need to
11		trench to be able to put some of that demolished
12		material as we are breaking it up, but I think
13		generally what we've described is how we would
14		intend to do it which is to break all this stuff
15		up down to four feet below grade, remove all of
16		the materials from it and leave that concrete
17		rubble in place.
18	Q	And these plans are all created before you
19		receive the certificate so that those plans are
20		ready and waiting 25, 30 years down the road.
21		These are not plans that are created by other
22		people at a later time?
23		MR. KENWORTHY: We have provided as, I
24		believe it is Antrim's Appendix 21, a

	[WIINESSES]Kenworchy-Wertzher-Stovarr-Cavanagh-Marcuccr]
1	decommissioning plan, and this decommissioning
2	plan describes the activities that we intend to
3	undertake as part of our application, and then
4	again, that was amended by our letter of
5	February 19th which went from two feet depth to
6	four foot depth consistent with the new SEC
7	rules.
8	Q Thank you.
9	PRESIDING OFFICER SCOTT: Off the record.
10	(Off-the-record discussion)
11	PRESIDING OFFICER SCOTT: Back on the
12	record. Commissioner Rose, do you have any
13	questions?
14	BY COMMISSIONER ROSE:
15	Q Thank you. I do have just one or two questions.
16	I have one for Mr. Cavanagh, and following up a
17	little bit on Ms. Weathersby's question as it
18	contains to the constructability review of the
19	site, and you indicated that that has already
20	been completed which included the preferred
21	route for the roads for connecting the different
22	towers; is that correct?
23	MR. CAVANAGH: Our constructability review
24	is limited to the site. Siemens is going to

deliver the turbines to the site.

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2 Q Thank you. I was interested in the route of the 3 roads that would then be constructed to connect 4 the different turbines.

MR. CAVANAGH: Yes.

Q I guess the question I had was Mr. Block in his
testimony today provided some provocative photos
of some fairly large boulders, and I was just
curious as to whether or not those were in fact
along the preferred site for that road
construction.

MR. CAVANAGH: I don't know. I've been to the site, but the road centerline of road layout was not complete so I don't know if those large cobbles are in the road or not, but I mean some of those you could move or you may be able to move or you would have to demolish.

Q I did have a question for Mr. Marcucci as well. There was discussion earlier regarding ice throw, and I believe I heard the statement that during many of the severe icing conditions the turbines would likely not be running or in operation, and looking through your Supplemental Testimony, you referenced something called the

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SCADA system, and I'm assuming that's something that would then be able to monitor conditions that would not be safe in an icing event, and I was curious if you could elaborate a bit more for the benefit of the committee.

6 MR. MARCUCCI: The SCADA system, S C A D A, is basically the brains of the whole turbine 7 control and operation. It collects multitude of 8 9 data including wind speed, temperature and all 10 of that throughout the whole operation and 11 actually when the turbine is not operating, 12 period, and there are two mechanisms built into the turbine concerning ice basically trying to 13 14 eliminate or mitigate any potential of ice throw 15 when you happen to get icing of the turbines.

The first is the anemometers that sense the 16 17 wind speed, send that to the data acquisition 18 system and if they start icing up, that signal 19 gets to the SCADA which then actually shuts down 20 the turbines. The second part of the built-in 21 systems is the turbine condition monitoring 22 system so if you had ice buildup on the blades, 23 this system actually monitors abnormal, actually monitors the vibration, and if it detects from 24

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1	the operation, if it detects abnormal vibration
2	because there's ice building up on blades, it
3	will also send a signal to the SCADA which would
4	shut down the turbines.
5	Q Thank you.
6	PRESIDING OFFICER SCOTT: Mr. Clifford?
7	BY MR. CLIFFORD:
8	Q Yes. I have a few. I do have a few questions
9	for Mr. Marcucci, while we're on the topic of
10	the deicing. I just had some questions about
11	that. Are there systems where you would apply
12	or are there applications to the turbines in
13	advance of icing conditions? I'm thinking of
14	things such as we do during snow events on
15	planes where you know in advance that a problem
16	may occur so you take advantage of the situation
17	on site ahead of time.
18	MR. MARCUCCI: There are systems that have
19	been developed or in development that would
20	actually sense icing conditions and could
21	actually heat the blades enough to prevent ice
22	from forming on the blades. Those systems are
23	not widely used presently.
24	Q Okay. And you talked about earlier the Siemens

		MTINESSES [Kenworting - Wertziner - Stovarr-Cavanagii-Martuccr]
1		SWT-3.2-113. How many of those are now in
2		service worldwide?
3		MR. MARCUCCI: Worldwide there are about
4		1050 of those installed.
5	Q	Do you happen to know off the top of your head
6		how many are in place in similar latitude/
7		longitude of the proposed siting in New
8		Hampshire within the bandwidth?
9		MR. MARCUCCI: I don't know exactly, but
10		clearly there are turbines of this model in
11		places like Norway and Sweden, Denmark, places
12		where it does get cold and does have freezing
13		conditions, but I couldn't tell you right
14		offhand. I can find out, but I couldn't tell
15		you right offhand exactly the numbers in each of
16		those places.
17	Q	Well, in your experience, I assume you have
18		general knowledge of this particular wind
19		turbine system, correct? Of these turbines that
20		are in place in these, I'll call them snow prone
21		areas, have you received any information or
22		complaints about property damage or damage to
23		abutting structures or persons due to ice throw?
24		MR. MARCUCCI: I am not aware of any

1		situation where ice throw has caused injury
2		damage to property or people.
3	Q	In your testimony there was some discussion that
4		the potential service management agreement is 2
5		to 5 years?
6		MR. MARCUCCI: It's actually, as we've
7		talked here, it could be 2 to ten. There could
8		be, the original, the plan right now is it's
9		originally for two years, but Antrim would have
10		the right to extend that up to 8 additional
11		years.
12	Q	And in your experience, are there any wind
13		turbine installations where the SMA has been
14		handed off to a, I'll call it a nonSiemens
15		service provider for a period postoperation
16		greater than three years? The point is, I'm
17		just wondering, what is your experience with
18		third party operators working on the Siemens
19		turbine system after you all have installed it?
20		MR. MARCUCCI: I am not aware of any
21		situation where a third party operator has taken
22		over. You have a lot of turbine developers, the
23		big utilities who have fleets of such a size
24		that they have developed their own service and

1 maintenance teams, and what happens in those 2 cases is that we will provide the service and 3 maintenance during the warranty period for the 4 units and once that period is over, the bigger 5 customers will then take over and do the service 6 and maintenance themselves.

7 Q As a followup I'm just interested in knowing, is 8 there any instances where Siemens has become the 9 third service, third party service provider for 10 another wind turbine manufacturer? Is that 11 commonplace?

12 MR. MARCUCCI: That's one area where our 13 Siemens service group has not treaded yet. Thev 14 have not tried to do service and maintenance on other manufacturers' wind turbines. 15 It's an 16 area they probably need to get into, but they 17 have so far have not chosen to try to service and maintain other suppliers wind turbines. 18 19 And then, Mr. Kenworthy, you want to jump in? 0 20 If I could just add to MR. KENWORTHY: 21 that, I think the type of companies that we look 22 to to take over the service agreement after the 23 initial two-year period are, so just two 24 examples, EDF Renewable Services or UpWind.

	Both have about the same amount of experience
	operating wind plants in the United States.
	They both operate about three gigawatts or 3000
	megawatts of wind energy facilities of a variety
	of different types of manufacturers here in the
	US. UpWind was founded as its own independent
	company. It's actually since been acquired by
	Vestas. They still operate many different OEMs,
	wind turbines. EDF is itself a large utility,
	and they have their own renewable services
	branch that operated their wind farms as
	Mr. Marcucci referenced but then expanded that
	company to be its own branch that also operates
	and provides service and maintenance for IPPs
	like Antrim Wind. Duke Renewable Energy
	Services is another example of that type of a
	company. So when we talk about whether we might
	bring in another third party after year two,
	it's those types of organizations that we're
	looking at that have a vast amount of experience
	here in the US with operating wind farms,
	including Siemens turbines.
Q	So your testimony would be that those types of
	third parties have direct experience with the
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types of turbines that are being installed on this or potentially being installed on this facility?

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MR. KENWORTHY: I actually, I don't know 4 5 that there's been 3.2-113s in the U.S. operating 6 long enough to be out of the warranty period so I can't say that for sure, but I can say that 7 and maybe I could ask Mr. Stovall to talk about 8 9 this a little bit, too, that there is constantly 10 new evolutionary wind turbine models that are 11 coming on to the market. You know, this is one 12 of the reasons why we're seeing the growth of wind in the United States that we are is that 13 14 primarily evolutionary changes in wind turbine 15 technology have led to very significant cost 16 So a one-to-two-year cycle we're seeing drops. 17 new turbine types, and just because an operator 18 may not have experience with this specific model 19 doesn't mean that there's anything new or unusual about it that would make it difficult 20 21 for them to operate. You want to add to that, 22 Darrell?

MR. STOVALL: Sure. First of all, the service provider situation to wind is in

1 transaction. It's pretty dynamic right now. 2 There have been acquisitions and new players 3 that have come into play. But in general, has as been mentioned, there are three options for 4 5 service postwarranty. The service can continue 6 with the turbine supplier, in this case Siemens. There are a number of independent service 7 providers, third parties, and there's also the 8 self-perform where the owner with sufficient 10 size and number of projects could take on service and maintenance. 11

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12 I will say that I am familiar with the 13 companies that Antrim has talked to for third 14 party postwarranty service. They're very qualified companies, and there's others that you 15 16 probably haven't talked to, but third party 17 postwarranty service is a viable option. 18 I have another question of Mr. Kenworthy, of Q 19 you, on the decommissioning aspect. What's your 20 definition of the site? What would you include 21 in the site under say 301.08 A 8 F? 22 MR. KENWORTHY: I think the site would

include the infrastructure that we're building so from the project site entrance to all of the

1		infrastructure that's required for the operation
2		of the facility. So the site would include our
3		roads, it would include our substations, it
4		would include our above ground and below ground
5		electrical collection infrastructure. It would
6		include our operation and maintenance building
7		and storage yard. It would include the turbines
8		themselves, the turbine pads. It would include
9		the meteorological tower and its equipment, the
10		ADLS system that's installed on the site. All
11		would be part of what we would consider to be
12		the facility on the site. Does that answer your
13		question?
14	Q	That answers my question. I just took a read of
15		301 8 A and I didn't seem to find any definition
16		of site in our rules so I'm happy to hear your
17		definition.
18		I also want to just bring up this, the
19		exhibit that was introduced earlier. WA-19-X.
20		Do you still have that?
21		MR. KENWORTHY: Yes, I do.
22	Q	There was some discussion about throw and
23		setback, but I just wanted to, this wasn't
24		pointed out earlier, and I think it's pretty

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1		important. Can you just look on the left side
2		of this document and tell me where its says, you
3		see where it says Environmental Protection
4		Agency?
5		MR. KENWORTHY: Yes.
6	Q	This is a notice from where? What's the top
7		say? At the top line on this document next to
8		page 22129? There it says Federal
9		MR. KENWORTHY: It says Federal Register,
10		Volume 75, Number 80, Tuesday, April 27th, 2010.
11	Q	So what's the title of this Federal Register
12		provision or issue? What's going on here?
13		MR. KENWORTHY: Says it's a Notice of a
14		Regional Project Waiver of Section 1605, the Buy
15		American of the American Recovery and
16		Reinvestment Act of 2009 to the Town of
17		Falmouth, Mass.
18	Q	So and you see in the summary there that the,
19		this issue here is about Buy American
20		requirements, is it not?
21		MR. KENWORTHY: It seems to be, yes.
22	Q	Do you have any familiarity with that Act?
23		MR. KENWORTHY: I have some familiarity
24		with the American Recovery and Reinvestment Act

1	of 2009 and particularly as it relates to
2	renewable energy projects but not specifically
3	the Buy American provisions.
4	Q Thanks. I have no further questions.
5	BY PRESIDING OFFICER SCOTT:
6	Q I'll start with Mr. Kenworthy but I feel
7	confident if you need to have somebody else
8	supplement or answer instead, please do so from
9	the panel.
10	MR. KENWORTHY: Sure.
11	Q So there's been a lot of discussion. I think at
12	one point you were asked about timing on
13	assuming you got a certificate, I think if you
14	remember right you said it might be a couple
15	months and then you'd would be ready to
16	construct, does that sound right?
17	MR. KENWORTHY: Yes.
18	Q Are there any limitations, for instance, if it's
19	the dead of winter, are you going to start
20	construction then or do you have to wait until
21	warmer weather?
22	MR. KENWORTHY: There are some time of year
23	considerations that we'll need to take into
24	account, and in fact, there's a number of them

for a variety of different reasons. The first constraint that we have is a site clearing restriction that restricts us from clearing trees on site between October 1 and March 31. Certainly we'd like to be able to start that clearing this winter, and that's the best time to do it. Hard frozen ground, least amount of impact, and I think the particular reason for that is to avoid potential impact to ground nesting birds.

11 Beyond that, certainly transporting heavy 12 equipment over roads, there's going to be, there may be restrictions on some roads. 13 We're 14 fortunate here to have mainly federal and state 15 highways that may not have posting requirements 16 for us to meet, but there may be some that we 17 need to take into account, but I think what we 18 would do is after a certificate was issued, we'd 19 get right down to work with Reed & Reed and 20 Siemens and look at what the most kind of 21 efficient and realistic schedule was that we 22 could achieve, and we'd look to set that 23 schedule in motion.

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Q Thank you for that. We talked a lot about or

1		you talked a lot about restoration and
2		revegetation so you mentioned effectively there
3		would be, once you have the site prepped to put
4		the roads back to 16 feet, you'd be reseeding.
5		The seeds come from where? How do you know
6		they're going to be appropriate for that area?
7		MR. KENWORTHY: That's a good question.
8		I'd have to check with Adam and Dan as to where
9		they come from. They are, what we've agreed to
10		do is to use an approved New Hampshire native
11		seed mix. I think we may have a specific
12		reference to exactly what the approval is for
13		that seed mix. I know that we in our
14		discussions with in the Fish & Game department
15		have kind of agreed upon language that refers to
16		what that material is, but I would need to check
17		exactly as to who approves it, but it's really
18		whatever is approved by the State.
19	Q	To be fair to you, I wasn't really asking for
20		the exact seed names and whatnot. What I really
21		wanted was an affirmation that you wouldn't be
22		planting something that wasn't currently in that
23		particular local environment.
24		MR. KENWORTHY: I don't know that I can say

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1		that we won't be planting anything that doesn't
2		currently exist there. You know, we're talking
3		about a forested environment now and we're going
4		to be clearing it and then revegetating it which
5		may include some grasses that are native New
б		Hampshire glasses and certainly wouldn't be
7		considered invasive species but are not
8		necessarily grass species that you would find on
9		the site today.
10	Q	As you mentioned, perhaps the next panel can
11		address that more.
12		MR. KENWORTHY: I'm sure they can talk in a
13		bit more detail about it.
14	Q	Sure. Assuming you have the certificate and you
15		build, if there are concerns or complaints from
16		the public who do they talk to? We have a team
17		here, but who's the belly button?
18		MR. KENWORTHY: So we have in our Town of
19		Antrim Agreement, again, we have committed to
20		provide prior to the start of construction on
21		the site the contact information, name, address,
22		phone number, email for the point of contact for
23		Antrim Wind Energy, LLC, who should be contacted
24		in the event of any inquiries or complaints. So

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1		certainly for the time being it's me, and it may
2		continue to be me, but whoever it is, that
3		information will be provided to the Town of
4		Antrim prior to construction for any complaints
5		or inquiries.
6	Q	And that would be somebody local?
7		MR. KENWORTHY: It likely would, yes.
8	Q	So assuming the SEC issues you a certificate and
9		you build, again, as I assume you were by
10		looking at other certificates for wind projects
11		in New Hampshire they have different conditions.
12		Got to do this, got to do this, can't do this.
13		Do you have a process in mind and how do you
14		plan on ensuring compliance? Are you developing
15		a checklist or can you explain a little what
16		your plan is?
17		MR. KENWORTHY: Yes. I expect that there
18		are going to be a wide variety of conditions
19		that fall into a number of different categories
20		and for which responsibility may flow directly
21		to us or through us to some of our
22		subcontractors. I think it will be important to
23		have, and I'm going to ask Mr. Cavanagh to talk
24		a bit about how Reed & Reed approaches this

1	issue from a construction perspective. We also,
2	from an environmental perspective, we have a
3	monitor on site during construction doing weekly
4	inspections of the site, and also going to the
5	site any time within 24 hours of a significant
6	rainfall to determine that the project is being
7	constructed in accordance with the conditions of
8	the certificate from an environmental
9	perspective. There are many things that are in
10	the rules already about requirements that we
11	must achieve like postconstruction sound
12	monitoring which we are aware of and have
13	already contemplated will need to be done and
14	talked about that with our acoustic experts.
15	So yes, I think once we see what all those
16	conditions are we will sit down as a team and
17	review them and identify who is going to have
18	responsibility for them. At the end of the day,
19	the buck stops with Antrim Wind so we're going
20	to be making sure that our subcontractors are
21	clear on what their responsibilities are and
22	that will flow back to us, but I would like, I

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{SEC 2015-02} [Day 2/Afternoon Session ONLY] {09-15-16}

think it would be helpful to have Art talk about

from a construction perspective how Reed & Reed

does that process.

2 Q Please.

MR. CAVANAGH: What Reed & Reed does on all 3 4 of our projects, understanding that there's all 5 types of compliance requirements on these 6 renewable energy projects, we develop a matrix day one to track, and then anything that's 7 required prior to construction we put that right 8 9 in our overall schedule, so the day to day and 10 the weekly and the yearly and the monthly 11 updates so activities cannot start until those 12 items are checked off and completed, and then 13 items have to be completed as you continue. We 14 have comprehensive quality control inspection 15 plans that we've developed, and we assign 16 personnel to inspect that on a daily and weekly. 17 And then weekly our project managers review that 18 and myself and so we have, we're pretty good at 19 complying with all the permit requirements. We 20 haven't gotten into much trouble to date. 21 So along the same lines, the latest changes to 0 22 the RCA 162 H and our rules from that, one 23 activity that was focused on that perhaps wasn't 24 before was the Administrator that we now have.

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1		One of the tasks when we're not doing this is to
2		go out and inspect facilities, make sure
3		compliance is happening. Do you see any road
4		blocks to site entry or any of those types of
5		issues?
6		MR. KENWORTHY: No. Not at all.
7	Q	So she'd be able to call you up and come in any
8		time and see these plans; is that a fair
9		assessment?
10		MR. KENWORTHY: Yes. Absolutely. I think
11		we would just want to make sure that we were
12		aware of any visits to make sure there were no
13		safety concerns and that we were able to kind of
14		give a proper safety briefing, but certainly no,
15		no issues with the SEC Administrator being able
16		to inspect the site to determine compliance.
17	Q	Okay. There's been a lot of talk about
18		decommissioning. Did Mr. Cavanagh want to
19		speak?
20		MR. CAVANAGH: I can add to that. We
21		develop, once the construction starts, Reed $\&$
22		Reed will control the site and we'll have a site
23		specific safety plan, and so any regulator that
24		wants to come, we'll take them through the

1		safety plan and then normally they just contact
2		our site supervisor and make arrangements to
3		come to the site, and we'll escort them and show
4		them all the conditions. We welcome that.
5	Q	I would presume from that if members of the
6		public happen to be wandering around getting
7		close to the site there would be controls on
8		site to keep them from endangering themselves?
9		MR. CAVANAGH: Yes. We'll control the site
10		so we won't have unauthorized or unoriented
11		people out on the site while construction is
12		under way.
13	Q	Okay. Thank you. As I was saying, there's been
14		a lot of talk about decommissioning. I was
15		curious. Are you aware of anybody in the panel,
16		any situations where a wind farm has been
17		decommissioned? Does anybody have experience
18		with that? Or maybe I'll ask it a different
19		way. Mr. Cavanagh. Sorry.
20		MR. CAVANAGH: We built the Berkshire Wind
21		Project and that project had started
22		construction years prior to when we, when it got
23		restarted and there were foundations in place so
24		we went in and demolished all those before we

1		got started. And then as far as turbine
2		removals, we've removed a few turbines over the
3		course of the, since 2006 on projects in the
4		northeast. So we haven't decommissioned a
5		complete project, but we've done a lot of
6		decommissioning of substations. We build
7		substations, stand alone for utilities, and
8		we've done complete renovations of existing
9		substations so we have a lot of experience with
10		demolition and removal of that type of thing,
11		but we haven't decommissioned a complete wind
12		farm yet.
13	Q	Okay. Thank you. Is anybody on the panel aware
13 14	Q	Okay. Thank you. Is anybody on the panel aware of any wind farm being decommissioned?
	Q	
14	Q	of any wind farm being decommissioned?
14 15	Q	of any wind farm being decommissioned? MR. KENWORTHY: I think we're really at the
14 15 16	Q	of any wind farm being decommissioned? MR. KENWORTHY: I think we're really at the stage in the wind industry in the US where that
14 15 16 17	Q	of any wind farm being decommissioned? MR. KENWORTHY: I think we're really at the stage in the wind industry in the US where that question is starting to come up, and I think a
14 15 16 17 18	Q	of any wind farm being decommissioned? MR. KENWORTHY: I think we're really at the stage in the wind industry in the US where that question is starting to come up, and I think a lot of times the answer is repowering. So I
14 15 16 17 18 19	Q	of any wind farm being decommissioned? MR. KENWORTHY: I think we're really at the stage in the wind industry in the US where that question is starting to come up, and I think a lot of times the answer is repowering. So I think more often than not, rather than

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{SEC 2015-02} [Day 2/Afternoon Session ONLY] {09-15-16}

that's there to continue to get some additional

operational life out of them. I can't say that

1		that's universally the case and that no wind
2		farm has been decommissioned, but I can't name
3		one sitting here today that has.
4	Q	You anticipated my next question. I was
5		wondering what would cause you to totally
6		decommission, and to me, I guess, I'm guessing
7		now, if there's a problem with the foundation or
8		the tower itself? Sounds like you don't know
9		that either.
10		MR. KENWORTHY: Well, I think in our case
11		there is a specific reason why we would
12		decommission. Certainly as Mr. Weitzner talked
13		about in his testimony, our expectation for the
14		operational life of this facility is 25 years.
15		Siemens make very high quality turbines, and
16		with good maintenance we expect them to last at
17		least 25 years. Whether it is repowered at that
18		time I think is, candidly, purely an economic
19		decision. Is it economical to reinvest and put
20		new turbines up there to continue to operate for
21		another 20 years or so, but in any event, we
22		have, I think, as the subcommittee knows, we
23		have negotiated with a lot of stakeholders as a
24		part of this process including many in the

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conservation community and as a result of that we have entered into these conservation easement LOIs which include some portion of the land from each of the land owners that we lease property from.

6 So while our leases would allow us to go to 50 years from the date the original lease was 7 signed and could be negotiated for an extension, 8 9 the conservation easements and our right to 10 operate the wind farm inside those conservation 11 easements stops at the end of the expiration of 12 the first lease which is 50 years from 2009. So 13 there is a hard stop to the facility in this 14 So even if we repowered some time 20, 25 case. 15 years out, it would need to be decommissioned at 16 that time.

17 Thank you. Same caveat. I think I'll move to Q 18 Mr. Marcucci, but, again, if there's somebody 19 else better, the intent here is to get the 20 answers on the record. So there was some 21 discussion about traffic and roads to get 22 equipment in. I'd like to bring that a lot 23 closer to the site though that the local 24 community, are there going to be times when if

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you're allowed to construct that local roads are closed even for a short time that residents will be impacted?

MR. MARCUCCI: I don't believe, like I said 4 5 before, that you're actually going to have a 6 road closure. You may have some delays getting through intersections if there's half of a 7 113-meter wind turbine blade being driven 8 9 through that intersection because usually 10 they're not going very fast through there. So 11 it's not going to be the normal time to get 12 through an intersection if there is a blade 13 coming down the road the other way, but I think 14 there are also limitations on, and I believe, 15 and Mr. Kenworthy can talk to it better than me, 16 but in the agreement with Antrim on wind things 17 can be transported in the area.

18 Yes. I think the first MR. KENWORTHY: 19 important point is that we don't anticipate 20 using any local roads for the delivery of 21 turbine components. So we have, as Mr. Marcucci 22 referenced, we have the blades and the towers 23 coming from Canada on trucks and the nacelles 24 coming from Searsport, Maine, by truck, all of

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which will ultimately be delivered coming south on Route 9 which is state highway and directly off that state highway into our project entrance.

5 I believe, and Art can tell me if I'm 6 wrong, but I believe that in general, our 7 turbine component delivery is going to be a period of about five weeks over which we're 8 9 taking components and it should be somewhere 10 between 2 and 4 loads per day. That's a total 11 of 80 loads to deliver all components of all 12 nine turbines, and so you're talking about a 13 couple of loads a day coming down state 14 highways. We don't anticipate that that's going to require any road closures. Certainly not on 15 16 local loads because we won't be using them.

17 Whether or not as Reed & Reed kind of gets 18 involved in looking at what is available for 19 local subcontractors, there may be some local 20 equipment that comes across town roads, but 21 there again, we wouldn't expect that to cause 22 any significant traffic issues or road closures. 23 So inherent in what you just said also I assume 0 24 there's no residential property that would

1		suffer from any, you know, I need to get to work
2		at 8 and there's a flatbed drive in front of my
3		driveway for 30 minutes I don't know was going
4		to happen. You don't anticipate that type of
5		thing?
6		MR. KENWORTHY: We have, no. I don't
7		really. I think we have, so our, there is a
8		location about a half mile west of the main
9		project entrance where we have kind of a
10		temporary construction staging area that will be
11		utilized by both Reed & Reed and Siemens and
12		there will be equipment there. It really,
13		there's not residences in very close proximity
14		to that area, and in our agreement with the Town
15		of Antrim we have negotiated hours during which
16		construction can occur and kind of startup and
17		idling requirements that the Town of Antrim has
18		agreed to.
19	Q	Thank you. Mr. Marcussi. Again, Mr. Marcucci,
20		obviously, there's talk about deicing and the
21		mechanisms for, you mentioned the SCADA systems
22		and whatnot. Are there similar, my
23		understanding is there are similar mechanisms on
24		shadow flicker. If flicker is detected, there's

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a mechanism to mitigate that. Can you talk about that, please?

MR. MARCUCCI: Basically, there's a system 3 composed of software and hardware and sensors 4 5 that is in place on the turbines that can shut 6 those turbines down in the event there's any chance that the shadow flicker caused by those 7 turbines would get close to exceeding the 8 8 9 They would shut the turbines down before hours. 10 that happened. It's just a system composed of 11 pieces of hardware and software and light 12 sensors and that that would automatically shut 13 the turbines down. Measures the amount of 14 flicker and then doesn't let it exceed the 15 limit. Exactly how that works is a little bit 16 beyond me, but we have experts who could talk 17 about that if we had to.

18 Q I would say as an engineer I was curious to
19 understand where the measurements would be taken
20 to cause that to happen.

21 MR. MARCUCCI: It actually taken, sensing 22 the sun shining and the wind blowing and the 23 speed that the turbine blades are going to be 24 going around and sensing how much shadow flicker

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1		could come from that, and if it's, if the system
2		senses it's going to exceed the 8 hours then it
3		would shut the turbine down so that doesn't
4		happen, the offending turbine down.
5	Q	And that system exists in other installations
б		now?
7		MR. MARCUCCI: Actually, the system that
8		we're talking about right now is something that
9		Siemens has developed specifically for this
10		site.
11	Q	And begging the obvious question, what if it
12		doesn't work?
13		MR. MARCUCCI: It's Siemens. It will work.
14		MR. KENWORTHY: Just to maybe add I
15		agree with that, but I would also say that this,
16		there are other technologies that have been
17		employed that operate in a similar type of
18		fashion. There's nothing that's magical or
19		mysterious about this. It's actually I think a
20		fairly straightforward operation even though no
21		disrespect to Siemens engineers who I'm sure
22		have worked very hard to figure this out, but it
23		really, it's a function of and we've looked at
24		this.

1 I mean, each of the nine turbines on the 2 site can contribute some amount of flicker to 3 one, at least one of the 24 receptors that we've 4 identified that could exceed 8 hours per year, 5 and I would start by saying that that kind of 6 estimate we believe is conservative because it 7 doesn't account for vegetation. I think the question came up on the site tour the other day 8 how can you not have visibility from an 9 10 aesthetics perspective and yet have shadow 11 flicker in a location, and the answer is because 12 when we talk about visibility, we account for 13 vegetation. When we talk about shadow flicker, 14 we do not.

So when we model this, we believe it's 15 16 conservative. The control system won't account 17 for vegetation either so it's also conservative, 18 and we know how the sun moves across the sky at 19 every hour of every day of the year. It's perfectly geometric. We know where the turbines 20 21 are in space. We know how high the nacelle is. 22 We know where the receptors are in relation to 23 those turbines. And so when the sun is moving 24 across the sky such that there is a line between

1		that receptor and the sun that passes through
2		the rotor of the turbine, and that turbine is
3		operating, and there's enough sunshine to cast a
4		shadow, we're creating flicker, and we will log
5		that for each of the locations and to the extent
б		that it exceeds or would exceed 8 hours per year
7		we will shut down one or more of the offending
8		turbines until that condition that gave rise to
9		the flicker is no longer present. So that's the
10		way I think it works generally, and we will be
11		able to produce a report each year that
12		demonstrates the compliance.
13	Q	Thank you for that. Back to the gentleman from
14		Siemens, as you just remember there was a lot of
15		discussion over contracting for service after
16		your first initial contract. Am I correct if
17		the project were to hire a third party, that
18		doesn't mean Siemens is not available. I assume
19		you'd charge something, but Siemens would still
20		be there if there's work required that a third
21		party couldn't do. Is that not correct?
22		MR. MARCUCCI: That's something that would
23		be worked out with Antrim. Normally, if, we
24		haven't had any real occurrences that I'm aware

1		of where a third party has taken over, but where
2		a customer has decided he's going to do it
3		himself, we only get involved if they ask us to
4		come back. We don't have people standing by at
5		the site to see if there's a problem, but if the
6		customer is having a problem and needs some help
7		in resolving it, we are available.
8	Q	And you just mentioned, kind of went to my next
9		question. Back to the discussion about having
10		people on standby available to come to the site
11		if there's a problem. I think your intent was
12		somebody would hopefully be local and living
13		close. Do you have a target response time by
14		which what's acceptable and what's not
15		acceptable?
16		MR. MARCUCCI: I don't know that there's,
17		and maybe Mr. Kenworthy knows better than me, an
18		actual "we will be there in 10 minutes" kind of
19		response thing, but normally when the employees
20		are not at the site during normal working hours,
21		one of those is on call the remainder of the
22		evening or on the weekend that if, like I said,
23		we're doing 24/7 monitoring remotely that if a
24		problem is discovered that seems to require a

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prompt response the people doing the monitoring will get ahold of the person who's on call so they will be, by being on call means they will be in the area. They're not going on vacation in Florida or something like that. They will be in the area and may be out shopping or something, but they'll be nearby so that they can get to the site when they get the call.

9 MR. KENWORTHY: So I think one of the 10 things we've committed to is to develop a comprehensive energy response plan together with 11 12 Siemens coordinating with the Town of Antrim and the State Fire Marshal's office prior to 13 14 starting construction of this project, and we've 15 identified what the major components of that 16 plan would be. I think to the extent that there 17 were circumstances that would require something 18 like a minimum response time, that would be when 19 we would identify them.

I also think it's probably worth noting that the 24/7 monitoring is obviously going to monitor and be able to detect when there are faults, but for the vast majority of circumstances, their job when a fault occurs is

1		to restart the turbine, not to shut it down.
2		The turbine will shut itself down automatically
3		in a whole variety of situations without any
4		user interface at all, and so I think really
5		it's, when you would need to call somebody to
6		the site in an after-hours type of circumstance
7		is really where you had some very unlikely type
8		of catastrophic failure in which type other
9		emergency response protocols are going to be
10		triggered as well, including the notification of
11		emergency response personnel.
12	Q	Thank you. Also earlier discussion it was
13		mentioned of two other projects. I don't know
14		if concurrent is the right word or not but
15		potentially happening at the same time in
16		Pennsylvania. Is that correct?
17		MR. KENWORTHY: Yes. One is concurrent.
18		The second one is a little bit earlier stage.
19	Q	So my question is, assuming they happen at the
20		same time, does that impact your construction
21		schedule and your resources?
22		MR. KENWORTHY: No. I mean, we are
23		prepared, and we are fully planning as a team
24		and not everybody necessarily who's sitting on

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1		this panel is as involved in Pennsylvania as
2		they are up here in Antrim, but we are fully
3		prepared to move forward with both projects on
4		the schedule we currently have planned.
5	Q	So those projects do not detract from this
6		project going forward?
7		MR. KENWORTHY: No, sir.
8	Q	Okay. I think my last question is for Mr.
9		Weitzner. Is this the largest project that
10		you've been involved with?
11		MR. WEISELBERG: In my time at Walden
12		Renewables and Walden Green Energy, yes. In my
13		previous job running energy trading for
14		Barclay's, I would say this was the smallest,
15		this is smaller than the smallest project I was
16		involved in. So the natural gas facilities that
17		we helped finance and set up the infrastructure
18		for safely storing and withdrawing gas were many
19		multiples larger than this. Similarly,
20		refineries, much larger, and then also projects
21		for valuing and financing the safe extraction of
22		oil and gas within ground, many, many, many
23		times larger.
24	Q	So similar question that I asked about

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1	Pennsylvania, for instance, do you have any
2	other projects that may interfere with this
3	project if we grant this certificate?
4	MR. WEITZNER: No. No.
5	Q Thank you.
б	PRESIDING OFFICER SCOTT: Mr. Iacopino, did
7	you have any questions?
8	BY MR. IACOPINO:
9	Q I do. I'm going to start off with the question
10	that Commissioner Scott had asked before, just a
11	little bit more detail, and let me start with
12	Mr. Cavanagh from Reed & Reed. How does Reed &
13	Reed manage its projects? Do you have some kind
14	of computer-assisted software that you use in
15	order to control your project management?
16	MR. CAVANAGH: We do. Reed & Reed utilizes
17	state of the art construction software for our
18	scheduling, for our job costing. We use
19	ShareFile for file transfers. I mean, so we
20	have, we utilize all state of the art systems.
21	Q Mr. Stovall, what does DVG do along those lines?
22	MR. STOVALL: I think our role is a little
23	bit different.
24	Q You're the owner's engineer.

1		MR. STOVALL: That's correct. We're
2		serving as owner's engineer at this time. I
3		think it's also relevant to mention that much of
4		our work is independent engineering where we
5		represent developers and lenders as a project
6		get financed, and in that capacity, construction
7		monitoring is a significant part of that
8		activity, and just as an aside, we have done
9		independent engineering on close to 30 projects
10		in New England, and probably two thirds of those
11		projects have involved construction monitoring
12		on site where we'll be on site periodically to
13		monitor key milestones in our project so I
14		think
15	Q	The question is what tools do you use to do
16		that.
17		MR. STOVALL: There's no structure tools
18		that we use. It's more reporting process where
19		every time there's a site visit, we would do a
20		detailed report identifying progress and any
21		issues that need to be addressed. So I think in
22		our role, you know, we obviously, DNV-GL
23		obviously has state of the art software that
24		applies to other activities, but in this role as

1 owner's engineer, I'm not certain that the 2 software we would use is overly relevant. 3 Q Thank you. Mr. Marcucci, with respect to Okay. the turbines that you supply to the project, I 4 5 got the impression from your testimony that 6 you're sourcing them from different places. That nacelles from somewhere in Europe, your 7 steels somewhere in the United States or in 8 9 Canada, and your blades somewhere in the United 10 States and Canada. Am I correct in that 11 assumption?

12 MR. MARCUCCI: That's correct. One of the 13 important cost elements on projects is the 14 transportation costs because you're talking 15 about very big components that cost a lot of 16 money so the closer you can source these 17 materials to the actual site is a benefit to 18 both the developer and Siemens. 19 So then, my question doesn't really go to your 0 20 cost though. It goes to is each turbine then

constructed on site or is it taken somewhere else to be constructed?

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23 MR. MARCUCCI: The turbines are actually
24 assembled on site. It comes in basically in 8,

1		9 major components, being a power unit, three or
2		four depending on the size of the tower, three
3		or four sections of tower, and then a nacelle
4		and then a rotor hub and then three blades. So
5		that basically Reed & Reed would install the
6		power unit on the foundation and then the tower
7		sections are built over top of that on the
8		foundations, and then the nacelle is assembled
9		to the top of the tower and the, I mean, on the
10		ground, normally the three blades are then
11		assembled to the hub and then the hub is flown
12		up and assembled to the nacelle.
13	Q	Okay. And in doing that, what's the largest
14		piece that comes in? Is it the nacelle?
15		MR. MARCUCCI: Large in terms of length or
16		weight?
17	Q	Well, I guess for getting along the roadways.
18		What's the heaviest?
19		MR. MARCUCCI: The heaviest is the nacelle
20		which is about 92 tons. The longest would be
21		the blades which are roughly 55 meters.
22	Q	In transporting the nacelles along whatever
23		roadways you use, is it necessary to use tracked
24		vehicles or do you use wheeled vehicles?

	L	WIINESSES [Kenworthy-Weitzher-Stovall-Cavanagh-Marcucci]
1		MR. MARCUCCI: It's normally wheeled
2		vehicles. Could be 19 axles depending on which
3		part is being moved.
4	Q	And the same thing with the nacelles; is there
5		any special type of vehicle that's used because
6		of their length?
7		MR. MARCUCCI: No. Just again, the number
8		of axles depends on the weight and length of the
9		component.
10	Q	Now, if I understand these Services and
11		Maintenance Agreement correctly, it's two years
12		followed by a potential 8-year option, is that
13		correct?
14		MR. MARCUCCI: I'm not sure when the
15		agreement says Antrim would have to exercise the
16		8 years. It wouldn't wait until the end of the
17		two years and then the 8 years be there left
18		open so you have a, if the people are going to
19		stay we'll know ahead of the end of the two
20		years.
21	Q	But it is 2 and 8.
22		MR. MARCUCCI: Right.
23	Q	And there's a warranty in that first two years?
24		MR. MARCUCCI: There's a warranty in all of
	ſc	SEC 2015-02} [Day 2/Afternoon Session ONLY] {09-15-16}
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1		the years if the 8 years is exercised.
2	Q	That was going to be my question. Does the
3		warranty then extend into the extension period?
4		MR. MARCUCCI: Yes. Both the defects
5		warranty and the availability guarantee.
6	Q	When you say availability, you mean the
7		availability of personnel?
8		MR. MARCUCCI: No, the availability of the
9		turbines running. The TSA has an available
10		guarantee that the turbines will be running so
11		much of the time, and if it's not due to the
12		fault of Siemens, then Siemens would actually
13		pay damages to Antrim.
14	Q	And does the on-site personnel extend through
15		that 8 years as well?
16		MR. MARCUCCI: The on-site personnel would
17		be there for that whole duration of the SMA.
18	Q	All right. Mr. Weitzner, one question for you.
19		You were questioned about the managerial
20		experience of Walden Green, and I note that
21		you're majority owned by RWE which you've
22		testified is a pretty large company. Is there a
23		method for managerial support from RWE to Walden
24		Green and what does that look like if there is?

1		MR. WEITZNER: In terms of managerial
2		support, I think we can divide this project into
3		three sections. There's a development stage, a
4		construction stage and then there will be an
5		operation stage, and the manner of managerial
6		support is the same through each of those
7		stages, and I would say that that is that the
8		Board is 50 percent RWE, and so we are in
9		constant contact with them, and they're
10		constantly aware of what we're doing, and in
11		addition, because of our relationship with RWE,
12		numerous other RWE employees have already been
13		involved in this project. In terms of direct
14		management support, it comes from the Board
15		which is 50 percent RWE, 50 percent Walden.
16	Q	So you get the benefit of their education, skill
17		and wisdom?
18		MR. WEITZNER: Yes.
19	Q	But is it more just an investment for RWE or,
20		for instance, if you needed, say, somebody to,
21		say you lose the owner's engineer at some point,
22		is there a mechanism for some employee or some
23		division of RWE to come in and support you, if
24		necessary?

1		MR. WEITZNER: Within RWE Principal
2		Investments there are numerous employees that
3		could be made available to us, but I would say
4		more the paradigm thus far has been we have
5		simply been able to tap into their expertise.
6		One example was early on we had some issues with
7		exactly as you mentioned, we had some issues
8		dealing with some vendors so we contacted the
9		head of procurement for RWE who has a
10		significant amount of, I would say, purchasing
11		power in the industry, and he was incredibly
12		helpful. Similarly, when we had some questions
13		about site and constructability early on, there
14		were RWE employees that walked the site and
15		provided their advice and gave their opinion.
16	Q	Okay. Thank you. Mr. Kenworthy, you were
17		questioned about the ADLS system early on in
18		your direct testimony, and I think there might
19		have been some confusion left. The agreement
20		with the AMC, the 60 days triggered by the
21		commencement of construction, if I understood
22		correctly, is that right?
23		MR. KENWORTHY: Sorry. Let me just pull
24		this up again. Yes. So this is in Section 1 B

	L V	NTINESSES [Kenworthy -wertziner-Stovarr-Cavanagii-Marcutt]
1		I of Appendix 10 A which is the AMC agreement,
2		and it says if the FAA has issued the advisory
3		circular 60 days or more before the commencement
4		of construction for the project that allows for
5		the radar system to be operated, then Antrim
6		Wind shall install and operate the radar system
7		
		simultaneously with the commissioning of the
8		projection.
9	Q	So we know that the circular has been issued,
10		correct?
11		MR. KENWORTHY: Yes.
12	Q	Now, I understand you might not have had the
13		same interpretation that the questioner had, but
14		the circular has been issued by the FAA; is that
15		correct?
16		MR. KENWORTHY: Yes, it has.
17	Q	So today folks can use ADLS. It's not like
18		where we were first time around where we didn't
19		know if the FAA would allow it.
20		MR. KENWORTHY: No. It's very different
21		from the first time around when it was a
22		question as to if and when the FAA would
23		ultimately issue guidance or if that guidance
24		was likely to be guidance that Antrim wind could

1		in fact meet in order to be able to operate that
2		type of a system at this type of a facility.
3	Q	And those questions have been answered for you
4		through the present circular.
5		MR. KENWORTHY: Correct. The circular
6		provides the guidance. It's clear. It could be
7		amended at some point, but nobody really
8		envisions that. Since that circular has been
9		issued, I believe at least one wind project has
10		been approved for ADLS use. That's a project
11		out in Wyoming, and numerous others have filed,
12		and so based on our interpretation of the
13		requirements of the revised circular, we believe
14		that with the two installed radars at our site
15		we can meet those requirements, and we've
16		submitted an application to the FAA that
17		demonstrates evidence that supports those
18		arguments, and we're hopeful that in 45 or 60
19		days that the FAA concurs.
20	Q	So you expect the FAA decision before you expect
21		the Site Evaluation Committee decision. Or
22		roughly around the same time. I mean, you
23		already know we're going through to October
24		20th.

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1		MR. KENWORTHY: Yes. It seems like they're
2		on a similar time frame.
3	Q	Okay. Mr. Cavanagh, sorry to jump around, but I
4		want to get back to you looking at the revised
5		decommissioning cost estimate and the cost
б		between the letter that was filed with the
7		decommissioning plan and the letter of April 1,
8		2016, that you signed, it's about \$250,000, and
9		the difference in the cost, the increase in the
10		cost appear to be in the turbine removal
11		category and in the site scarification category.
12		Is the increase in each of those categories
13		solely due to the increase from two feet to four
14		feet that must be removed at the turbine pads?
15		MR. CAVANAGH: Yes, but not only at the
16		turbine pads. The site scarifications, that
17		portion is for the underground collector.
18	Q	So that increased because you have to take that
19		out as opposed to leave it in?
20		MR. CAVANAGH: Correct.
21	Q	Okay. Thank you. How deep do you have to dig
22		or how deep and how wide around a turbine pad
23		would you have to dig to then jackhammer or
24		hammer, whatever you call it, down to the, so

1		that its four feet is removed?
2		MR. CAVANAGH: Well, in that process, we
3		probably most likely wouldn't dig anything
4		around it. We'd pulverize it and cut the steel
5		out and then excavate around to disperse the
6		concrete because you, in order to pulverize
7		concrete it's good to have it contained.
8	Q	All right. Mr. Kenworthy or Mr. Marcucci, one
9		of you, this is about shadow flicker. You
10		mentioned they'll be a report that comes out
11		each year. First of all, Mr. Kenworthy, any
12		objection to a condition that you be required to
13		file that with the committee?
14		MR. KENWORTHY: No.
15	Q	Secondly, what's the report going to look like?
16		Am I going to be able to read it or is it going
17		to be just a bunch of numbers on a spreadsheet?
18		MR. KENWORTHY: Both, I think.
19	Q	Well, I can't read a bunch of numbers on a
20		spreadsheet, just so you know.
21		MR. KENWORTHY: I mean, I can tell you that
22		the types of information that it would contain,
23		and, obviously, I don't think we're talking
24		about trying to show, although the data would be

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1		there, you know, 8,760 hours a year for each of
2		those 24 locations. I mean, that is what the
3		system will log. And so our intention is that
4		it will be able to show, again, for each of
5		those 24 locations that have the kind of
6		theoretical possibility of exceeding 8 hours per
7		year, it would show for each hour of the year
8		whether there was or was not shadow flicker, and
9		it would also show any time during which
10		turbines were shut down to prevent shadow
11		flicker from exceeding that 8 hours per year.
12		Ultimately, this would all be summarized in
13		a very nice neat little table that contains the
14		24 receptors, how many hours of shadow flicker
15		they experienced in that year, and how many
16		hours turbines were curtailed in order to avoid
17		exceeding the maximum amount of shadow flicker
18		allowed under the rules.
19	Q	And I asked you if you had any problem with the
20		condition of providing it to the committee.
21		What about providing it to the town so that it
22		could be a public document?
23		MR. KENWORTHY: I don't have any objection
24		to that either.

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1	Q	Let me then turn to ice throw. There was a,
2		Mr. Marcucci, you provided a specification that
3		the turbines will turn between 6 to 15.5 rpms.
4		And would I be correct, first of all, what's the
5		cut-in and cutout speeds of the turbines, wind
6		speeds.
7		MR. MARCUCCI: The cut-in is about three
8		meters per second. The cutout is about 25
9		meters a second. The cut-in kind of varies
10		between 3 and 5. Just depends on what it takes
11		to give it the oomph to start.
12	Q	Would I be correct in assuming that the 6 rpms
13		is going to be during a time when you're down
14		near the three meters per second wind speed, and
15		the 15.5 rpms will be at a time when you're
16		closer to the cutout wind speed?
17		MR. MARCUCCI: Correct.
18	Q	And those are automatic. You don't, somebody is
19		not out there manually measuring the wind and
20		turning the turbine on and off?
21		MR. MARCUCCI: This is all controlled by
22		what we talked about before which is the SCADA
23		system, the brains of the turbine.
24	Q	Where is that SCADA system located?

	L	WINESSES [Kenworthy werezher Stovarr Cavanagh Marcucci]
1		MR. MARCUCCI: It's in a separate control
2		room. It could be in the service and
3		maintenance facility or it could be in a
4		separate room, and I'm not sure what the plan is
5		here. It's built on the site to contain this
6		system because it has to be climate controlled
7		and all that.
8	Q	Does Siemens have a redundant SCADA system
9		somewhere that you have that monitors these
10		turbines?
11		MR. MARCUCCI: We have a system in Denmark
12		right now that monitors 24/7 all the turbines
13		that we have under Service and Maintenance
14		Agreements or warranty obligations, and there
15		are people manning that 24/7 able to monitor
16		each turbine.
17	Q	Are they able to shut a turbine off if they need
18		to from Denmark?
19		MR. MARCUCCI: They could if they had to,
20		yes.
21	Q	You talked a lot about, there was a lot of talk
22		about ice throw. Have you ever heard of ice
23		slough?
24		MR. MARCUCCI: No. That's the first time
	ſc	SEC 2015-02} [Day 2/Afternoon Session ONLY] {09-15-16}
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1		I've heard that term. Is that like sliding off?
2	Q	Yes. Actually where it slides off and
3		accumulates around the base of the turbine.
4		MR. MARCUCCI: Okay.
5	Q	Do you see that? I mean you have more
6		MR. MARCUCCI: I, again, have not
7		personally seen that. I assume that's a
8		possibility because if the turbine is shut down,
9		it's going to stay shut down until that ice kind
10		of is gone, at least off the anemometer, and so
11		I assume that the ice on the blades would also
12		be melted and slide off.
13	Q	Mr. Kenworthy, are you participating any kind of
14		metal structures at the base of these for access
15		to the turbines?
16		MR. KENWORTHY: No. We're not. I mean, we
17		anticipate that the turbine towers themselves
18		have got doors, and those doors will be locked
19		to prevent any unauthorized access to the
20		turbines, but we don't anticipate any fencing
21		around turbine bases.
22	Q	What about stairs or anything like that?
23		MR. KENWORTHY: Stairs to access the
24		turbines?

1 0 Yes. 2 MR. KENWORTHY: Do you know if there's a 3 couple stairs at the base? MR. MARCUCCI: There's usually two or three 4 5 stairs at the base to the turbine door which you 6 go in and get inside the turbine, and then 7 there's lots of stairs taking you up to the stop or actually a ladder taking you up to the top. 8 9 Mr. Cavanagh, you were shaking your head when I 0 10 had the question about the ice slough. Have you 11 seen ice slough on any of the projects that you 12 worked on? 13 MR. CAVANAGH: I have. 14 Have you seen it cause damage to equipment on Q the site? 15 MR. CAVANAGH: We've had it crack the 16 17 anchor bolt caps so we've had to replace those 18 on projects, and the industry went, that was 19 back five or so years ago, and then the industry developed a cap that's indestructible. 20 21 Have you seen any damage to trucks or vehicles 0 22 or other types of question that was left in sort 23 of the slough path of a turbine? 24 MR. CAVANAGH: I have not.

1		MR. KENWORTHY: Mike? I'm sorry. Could I
2		just add to that? I think in terms of vehicles
3		and access to the site during times when icy
4		conditions may occur, obviously there will be no
5		public access with vehicles to the site. We've
6		got a single entrance, it's gated and kept
7		closed. So neither normal vehicular traffic or
8		off-road vehicles are allowed to be on the site.
9		And, of course, during the development of the
10		onset environment health and safety plan and
11		emergency response plan, all the protocols
12		around keeping workers safe in icy conditions
13		will be fully developed and articulated.
14	Q	Mr. Marcucci, you mentioned there could be
15		systems set up. I've heard of things like cold
16		weather packages for wind turbines. Are you
17		familiar with those?
18		MR. MARCUCCI: There's basically two
19		packages, cold weather and hot weather, and
20		depends on your ambient site conditions, and it
21		just affects the cooling or heating that may be
22		inside the nacelle for the various components.

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{SEC 2015-02} [Day 2/Afternoon Session ONLY] {09-15-16}

may have heaters that will keep the oil and

If you're going to get cold weather, then you

1	things from getting too cold. If you're on the
2	hot weather side, you may have cooling fans that
3	will keep the operating components cooler than
4	normal. So the package usually depends on the
5	ambient conditions of the site, whether it comes
6	with a cold weather package or a hot weather
7	package?
8	Q Which package is specced for these turbines?
9	MR. MARCUCCI: I would assume cold weather
10	package.
11	MR. KENWORTHY: Cold weather.
12	Q That doesn't contain any kind of thermal heating
13	or anything for the blades?
14	MR. MARCUCCI: Not for the blades.
15	Q I don't have any other questions, Mr. Chairman.
16	BY PRESIDING OFFICER SCOTT:
17	Q Thank you. I'm going to exercise my prerogative
18	here as Presiding Officer and ask a couple more
19	questions before we go to redirect.
20	You started talking about site control a
21	little bit with Mr. Iacopino. I assume there
22	will be appropriate signage also?
23	MR. KENWORTHY: Yes. There will be. The
24	agreement that we have with the Town of Antrim

1		really describes our commitments to signage, and
2		there's really kind of two categories. I think
3		there's one for any electrical equipment, and
4		then the other one is for all roads and informal
5		trails in the area. So our commitment is that
6		on all project site roads we'll have signs
7		warning of potential hazards associated with
8		winter icing conditions within 750 feet of the
9		base of any turbine and on informal trails in
10		the area within 500 feet.
11	Q	In dealing with the municipal authorities you
12		mentioned developing some plans. Whose
13		responsibility, hopefully this never happens but
14		a worker gets hurt on site, who's responsible
15		for accessing the site, getting the person to
16		where they need to be and all that type of
17		thing?
18		MR. KENWORTHY: So usually, in these types
19		of circumstances, if a worker is hurt up in the
20		turbine, it is going to fall to the technicians
21		to get that worker down to the ground who have
22		the training on, kind of high degree of training
23		for emergency rescue and inside structures like
24		wind turbines and energy response personnel

1 would be responsible for talking them to the 2 base of the tower to whatever medical care they 3 So I think that's the general program. needed. 4 It's our responsibility to keep the site 5 accessible throughout the year so whether that's 6 plowing in the wintertime or removal of downed trees or vegetation or road repair after a heavy 7 rain, that all falls on us to do. We don't 8 9 anticipate the need to, but we have a provision 10 in our agreement with the Town of Antrim to 11 provide any specialized equipment that might be 12 needed for emergency response personnel to be able to access the site in a safe manner in 13 14 order to be able to get folks from, again, the base of the turbine to medical care if it was 15 16 required. 17 Sounds like inherent in that first part, if Q somebody's up in the heights and gets hurt so 18 19 there will be at least two people on site 20 qualified to climb, is that correct? 21

MR. KENWORTHY: That's correct. Yes. 22 There's, actually, there's a requirement whenever there's any work being done uptower that there are three people on site who are

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1	trained in rescue because you're going to have
2	two up the tower and you may need a third on the
3	ground to be able to assist.
4	PRESIDING OFFICER SCOTT: Thank you.
5	Mr. Needleman, do you have any redirect?
6	MR. NEEDLEMAN: I do. Just a couple of
7	things.
8	REDIRECT EXAMINATION
9	BY MR. NEEDLEMAN:
10	Q I'm going to hand, for everyone's reference, I'm
11	going to hand Mr. Kenworthy a copy of Appendix
12	12 F as in Frank and I'm going to ask him to
13	look at page 48. So Appendix 12 F is the Bird
14	and Bat Conservation Strategy. Within there on
15	page 48, part of Section 6.1.2, which is project
16	construction and maintenance, and earlier Ms.
17	Maloney had expressed a concern about how
18	revegetation after construction would be managed
19	and overseen, and I believe this is the section
20	of the Application that actually addresses her
21	concern.
22	Could you just read the portion on the
23	bottom of page 48 that's in the brackets there?
24	MR. KENWORTHY: Yes. It says construction

1		clearing, storage yards, staging areas or
2		temporary roads that are not needed for
3		long-term operation of the project will be
4		allowed to revegetate after commissioning of the
5		project. Best management programs that limit
6		erosion including revegetation are proposed as
7		part of the New Hampshire Department of
8		Environmental Services Alteration of Terrain
9		Application. Annual vegetation surveys will be
10		performed by project operations personnel in
11		conjunction with regular balance of plant
12		inspections and will document revegetation
13		progress. Reports will be submitted to New
14		Hampshire DES and New Hampshire Fish & Game for
15		a period of three years following construction.
16	Q	And those are conditions that actually came from
17		DES, if I understand correctly; is that right?
18	A	Yes. There was a request or the recommendations
19		that came in the final either DES or Fish & Game
20		comments in the 2012 docket requested this
21		change and so we've included it as part of our
22		Bird and Bat Conservation strategy in this
23		application.
24	Q	And then I've got one other question. I'm

1 handing out a copy of a set of Best Management 2 Practices from the New Hampshire Department of Environmental Services. This relates to the 3 issue we've been talking about regarding the 4 5 proper management or the use of concrete, 6 crushed concrete in demolition. 7 Now, these Best Management Practices govern solid waste facilities and they relate 8 9 specifically to the management of something 10 called construction and demolition debris, and 11 right at the top there's a definition of construction and demolition debris or C&D debris 12 that includes waste building materials and 13 14 rubble which is waste from construction, 15 remodeling, repair, demolition, et cetera. 16 I'm interested in the third paragraph down. 17 And if I'm reading this correctly, this is DES 18 giving guidance to these facilities about how to 19 manage a portion of this C&D stream, and it 20 says, if you could read the first couple of 21 sentences of that third paragraph beginning with 22 various materials? It says various materials in C&D which is 23 А Yes. construction and demolition debris can be 24

1		separated for reuse and recycling. For example,
2		concrete, brick and other inert masonry waste
3		can be processed and used as general fill or
4		other construction material without a permit.
5	Q	So that's the part I was referring to, and we
б		had a discussion before about whether this type
7		of material could in fact be used on a site like
8		yours as backfill and if it could be done
9		without a permit. Is it your understanding, at
10		least based on this DES guidance, that that is
11		an acceptable practice in New Hampshire?
12	A	Yes. That's my understanding.
13	Q	Is this the kind of backfill that you had in
14		mind when you were talking about putting the
15		crushed concrete back in the trenches?
16	A	Yes. Exactly. It's inert, broken-up concrete
17		rubble.
18	Q	Thank you. Nothing further. We didn't actually
19		mark that, but what are we on now?
20		So this will be Applicant's 33.
21		MR. IACOPINO: Hold on one second. I don't
22		think that's right. It will be Applicant's 36.
23		What we've done is we've marked the Application
24		itself as Applicant 33. The February 19

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1	Supplement to the Application as Applicant 34,
2	and March 3, Second Supplement to the
3	Application as Applicant 35. So this BMP
4	document will be Applicant 36.
5	MR. NEEDLEMAN: Okay. Thank you.
6	PRESIDING OFFICER SCOTT: That's all you
7	have?
8	MR. NEEDLEMAN: Yes.
9	PRESIDING OFFICER SCOTT: Yes, Ms. Lenowes?
10	MS. LINOWES: I'm sorry to interrupt. I
11	just want to say I know there's a lot of
12	discussion with the question of what to do with
13	the foundation and whether it could be buried.
14	The Site Evaluation Committee and the public
15	went through an extensive two-year process to
16	develop the rules, and I want to say that if
17	this committee is leaning towards interpreting
18	the word "infrastructure" to mean to not include
19	foundation or concrete, it would create, I
20	believe, a tremendous backlash from the public.
21	I think that if I could say to avoid that, you
22	could recommend a waiver be submitted by the
23	Applicant, let's handle it that way and come
24	back to the full committee and discuss how to

handle the definition of in infrastructure. 1 Т 2 think it would be a prudent thing to do. Thank 3 you. PRESIDING OFFICER SCOTT: Your comment is 4 5 First of all, for the panel, we'll noted. 6 dismiss the panel. I apologize for the close quarters there, but we're not quite set up for 7 large panels and the SEC at the same time. 8 9 My understanding, based on what we did on 10 Tuesday, is that as originally posted we would 11 go to Panels 3 and 4 which were Economic Impacts 12 and Archeological/Historical Resources has been 13 moved to the 28th upon request. 14 MR. NEEDLEMAN: Correct. 15 PRESIDING OFFICER SCOTT: So the next panel would be on Avian/Bat/Environmental issues. 16 17 MR. NEEDLEMAN: Correct. 18 PRESIDING OFFICER SCOTT: What we'll do is 19 we'll take a short recess to allow everybody to 20 get situated. 21 (Recess taken) PRESIDING OFFICER SCOTT: We're back on the 22 23 record, and we're on our third panel which is to discuss avian, bat and environmental issues. 24

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1	Mr. Needleman.
2	DANA VALLEAU AND ADAM GRAVEL, DULY SWORN
3	DIRECT EXAMINATION
4	BY MR. NEEDLEMAN:
5	Q Thank you. Mr. Valleau and Mr. Gravel, you have
6	a copy of both your initial testimony and your
7	Supplemental Testimony in front of you, is that
8	correct?
9	MR. VALLEAU: That's correct.
10	MR. GRAVEL: That's correct.
11	Q Starting with Mr. Valleau, could you state your
12	name for the record?
13	MR. VALLEAU: My name is Dana Valleau.
14	Q Mr. Valleau, where do you work and what is your
15	position?
16	MR. VALLEAU: I work for TRC Environmental
17	in Augusta, Maine.
18	Q And what's the, very briefly, what's the purpose
19	of your testimony today?
20	MR. VALLEAU: The purpose of my testimony
21	is to provide information on avian and bat and
22	environmental studies performed at the Antrim
23	Wind Energy Project.
24	Q And are there any changes to the testimony?
	{SEC 2015-02} [Day 2/Afternoon Session ONLY] {09-15-16}

1		MR. VALLEAU: No.
2	Q	Let me jump over to Mr. Gravel. Could you
3		please state your name for the record?
4		MR. GRAVEL: My name is Adam Gravel, and I
5		work at Stantec Consulting.
6	Q	And what is the purpose of your testimony today?
7		MR. GRAVEL: The purpose of my testimony is
8		to answer any questions that folks have
9		regarding the studies that we conducted at the
10		site. Bird and bat studies.
11	Q	And do you have any changes to your testimony
12		today?
13		MR. GRAVEL: No, I do not.
14	Q	Do both of you then swear to and adopt this
15		Joint Testimony that you have in front of you?
16		MR. VALLEAU: Yes.
17		MR. GRAVEL: Yes.
18		MR. NEEDLEMAN: They're available.
19		PRESIDING OFFICER SCOTT: Before we go on,
20		make sure your mikes are closer because you've
21		both gone in and out quite a bit, and make sure
22		they're on when you talk, obviously.
23		So we'll start with the Town of Antrim,
24		please.

	[WITNESSES]Valleau - Gravel]
1	MR. RICHARDSON: The Town has no questions.
2	PRESIDING OFFICER SCOTT: That was a big
3	leadup. Okay. Thank you. Is Mr. Enman here?
4	MR. ENMAN: Yes.
т 5	
	PRESIDING OFFICER SCOTT: Do you have any
6	questions?
7	MR. ENMAN: Yes, I do. Just a couple.
8	BY MR. ENMAN:
9	Q I apologize for not having read everything that
10	you've done, but we're entering what I believe
11	is raptor season with the migration. In your
12	studies or just in general, what elevation do
13	these birds fly at? I mean, I understand that
14	they go up in the morning, but what elevation do
15	they actually travel at? Do you know?
16	MR. VALLEAU: Yes. Roughly, they're
17	traveling several hundred to several thousand
18	feet above the ground depending on development
19	of thermals and also the species. So some
20	species rely heavily on thermals, and, on, say,
21	a warm day they will be quite high off the
22	ground. Other species are using wind and
23	updrafts from wind and they'll be lower, but
24	they're still generally several hundred feet off

1		the ground.
2	Q	When they're down at night when they're not
3		flying or do they fly 24/7 or do they?
4		MR. VALLEAU: Raptors are generally daytime
5		migrants.
6	Q	So where do they perch at night?
7		MR. VALLEAU: The typical pattern is that
8		as nightfall comes on, the thermal development
9		decreases so that they actually will come down
10		and they'll find suitable hunting areas, and
11		quite often they will spend the last few hours
12		of daylight looking for food. They'll forage,
13		and then they'll roost somewhere, and then in
14		the morning they may forage again, and then as
15		thermals and wind develops, then they'll move on
16		their way south. And if they find a really good
17		food source they might stay there for a while.
18	Q	And bats, what, I know we have an issue with
19		bats because I used to have them in my house,
20		and I don't anymore, but where do they generally
21		nest and when where do they generally nest?
22		MR. GRAVEL: For bats, it depends on the
23		species. So in the season that we're speaking
24		of so during the summer that's the resident

1		period, that's when they're stationary. They're
2		at the site that they're occupying. They roost
3		in trees or will also roost in manmade
4		structures like your house or attic, and then
5		during the migration season, they move long
6		distances so they'll, that's where you can break
7		these two species groups, you have long distance
8		migratory species that tend to fly much higher.
9		They're usually bigger bodied bats, and they can
10		fly up to a couple hundred miles during
11		migration, and then you have the smaller bats
12		which are the bats that have been impacted by
13		white nose syndrome which is the disease that
14		you're speaking of that probably knocked
15		populations down near your home, and they travel
16		shorter distance, but they travel to local
17		hibernaculas like caves, abandoned mine shafts,
18		and sometimes people's attics. If your house
19		doesn't heat well, they might occupy your attic
20		in the winter.
21	Q	Do we have both kinds of bats in this location?
22		MR. GRAVEL: Yes. You have 8 species of
23		bats in New Hampshire.
24	Q	Interesting. Didn't know that either. I'll all
	{ S:	EC 2015-02} [Day 2/Afternoon Session ONLY] {09-15-16}

1	good. Thank you.
2	PRESIDING OFFICER SCOTT: Thank you. The
3	anybody from the Giffin/Fratt Intervenors?
4	Nobody? How about the Harris Center?
5	MR. FROLING: No questions.
6	PRESIDING OFFICER SCOTT: The abutting
7	landowners.
8	BY MS. BERWICK:
9	Q I just have a few questions because I feel that
10	the Audubon Society is more qualified to ask
11	questions than me.
12	Mr. Valleau, to quote your pretrial
13	testimony, TRC which is the company you work for
14	serves a broad range of clients in government
15	and industry implementing complex projects from
16	initial concept to operation. Your company is
17	doing a lot of work for Antrim Wind, is it not?
18	MR. VALLEAU: We did some of the
19	environmental studies and also engineering.
20	Civil engineering.
21	Q Does that not make your company have a vested,
22	extremely vested interest in the results of your
23	environmental, bat, avian studies?
24	MR. VALLEAU: Well, sure. I mean, we're in
	{SEC 2015-02} [Day 2/Afternoon Session ONLY] {09-15-16}

1		the consulting business to help clients whether
2		they're a wind developer or somebody who wants
3		to put a seasonal dock in at their waterfront
4		home. We provide services for a wide range of
5		people and industry, and so I mean that's our
6		business.
7		MR. GRAVEL: I'd like to clarify that
8		though that when you say vested interest, our
9		vested interest is in our reputation. That's
10		what makes us good consultants is reliable,
11		well-rounded and diverse scientists. So our
12		vested interest is in the quality of work and
13		data that we collect.
14	Q	So can you tell me, is there any project that
15		you have worked on that you have found that the
16		detrimental effect to avian bats or environment
17		was so great that the project could not go
18		forward?
19		MR. GRAVEL: We have, I'm speaking for
20		Stantec Consulting. We have definitely turned
21		down projects that we did not want to be
22		associated with for those reasons, but what
23		we've found with our work with wind energy and
24		meeting the standard of no unreasonable adverse

1		effect, we have not found a wind project that
2		has produced an unreasonable adverse effect to
3		populations.
4	Q	How about you Mr. Valleau?
5		MR. VALLEAU: We've had projects where we
6		did find adverse effects and Applicants withdrew
7		applications.
8	Q	Okay. That's the end of my questions. Thank
9		you. I have one more. Sorry.
10		PRESIDING OFFICER SCOTT: Go ahead.
11	Q	What would be the effect of the bears on the
12		mountain if their habitat is destroyed during
13		the time that they're hibernating?
14		MR. VALLEAU: Pardon me? I didn't hear all
15		of that?
16	Q	What would be the effect of the bears that are
17		on the mountain if their habitat is destroyed
18		during the time that they're hibernating?
19		MR. VALLEAU: So during hibernation season
20		if they're disturbed?
21	Q	Yes.
22		MR. VALLEAU: So bears are generally not a
23		deep hibernator and they would probably relocate
24		to another spot if they got disturbed, and I'm
	(
	{ S	EC 2015-02} [Day 2/Afternoon Session ONLY] {09-15-16}

1	familiar with that through work that Maine
2	Inland Fisheries & Wildlife does with collared
3	bears. So they actually go in in the winter to
4	bears that they have radio collars on and pull
5	the bears out and change their collars.
6	Q But then they go back in the safe cave?
7	MR. VALLEAU: And they have had bears
8	they sedate them, right, but they have had bears
9	which spook out of the hibernacula and relocate,
10	and they've been able to relocate those bears.
11	Q Do they go far from their original location?
12	MR. VALLEAU: Generally, I don't think they
13	would, but it depends on what habitat is
14	available to them. They're wide-ranging species
15	so they could move fairly far, sure.
16	Q Okay. That's the end of my questions. Thank
17	you.
18	PRESIDING OFFICER SCOTT: Thank you. We'll
19	move to the Non-Abutting Land Owners. Mr.
20	Block?
21	BY MR. BLOCK:
22	Q Just a couple of questions. I find in the
23	general application a lot of information about
24	breeding birds, raptors, and bats, but I can't

1		find an awful lot in there about the study of
2		land-based wildlife such as amphibians and
3		mammals, bear, moose and bobcats. Has there
4		been much study done for that for this
5		Application, and if so, where is it.
6		MR. VALLEAU: So early on in the process
7		before we set foot on the ground anywhere, we
8		sat down with New Hampshire Fish & Game and U.S.
9		Fish & Wildlife to talk about whatever range of
10		studies they may be interested in, and among
11		those studies they're interested in, one did
12		include amphibians, vernal pool surveys, and we
13		did perform a vernal pool survey, but at no time
14		did they request any other survey for land
15		mammals or animals.
16	Q	So there's been no on-site surveying of the
17		presence of land-based mammals by you or anybody
18		on your team; is that correct?
19		MR. VALLEAU: Other than vernal pool
20		surveys, no. We followed the guidance of the
21		agencies on what surveys they're interested in.
22	Q	So then the habitat that these land-based
23		mammals use right now, things like, again, I
24		bring up those boulder fields up there as Ms.

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Berwick mentioned, the bear hibernation dens and things so none of that or the effects on those habitats have been looked into or examined, have they?

MR. VALLEAU: New Hampshire Fish & Game which is the agency that's tasked with managing black bears in the State of New Hampshire didn't ask us to perform those studies, and the project footprint is relatively small and not likely to have an adverse effect on bears on this site.

11 MR. GRAVEL: That's because the bears, for 12 example, have a home range of 50 square miles so 13 what we're talking about at Antrim is that bears 14 may use Antrim as a portion of their habitat, but their habitat is very large, and it would 15 16 only be a small portion of their habitat. 17 So, likewise, I assume there's been no Q 18 examination into the effect of the project on 19 migration paths for various animals, has there, 20 such as moose or anything else? 21 We didn't survey for MR. VALLEAU: No. 22 that. 23 All right. Thank you. No further questions. 0

PRESIDING OFFICER SCOTT:

{SEC 2015-02} [Day 2/Afternoon Session ONLY] {09-15-16}

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	[WIINESSES]Valleau - Gravel]
1	Conservation Commission, are they here? Okay.
2	They're still not here. Then we'll move on to
3	the Levesque-Allen Intervenors.
4	MR. LEVESQUE: We have no questions,
5	Mr. Chairman.
6	PRESIDING OFFICER SCOTT: Okay. It's an
7	easy crowd today. Mr. Ward, do you have any
8	questions?
9	BY MR. WARD:
10	Q I may or may not. I have a question that
11	determines will I have questions.
12	PRESIDING OFFICER SCOTT: Okay.
13	Q This is supposedly
14	PRESIDING OFFICER SCOTT: Use your
15	microphone.
16	Q I apologize again. There's the word
17	environmental in here. Is TRC what used to be
18	or was originally Travelers Research
19	Corporation?
20	
	MR. VALLEAU: Correct.
21	Q They were originally a weather office. Tom
22	Malone set them up.
23	MR. VALLEAU: Yes, in the '50s. Yes.
24	Q Are they still doing that?
	$\int GEC 2015-02 \left[Day 2/Afternoon Section ONLY \right] \int 0.09-15-16 \left[Day 2/Afternoon Section ONLY \right]$

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	MR. VALLEAU: They still have some
	meteorologists, sure, but it's a much larger
	group now that includes many different
	disciplines. We do have a small meteorology and
	air group.
Q	Okay. So then my questions are and you may say
	no to all of them. Were you asked to and did
	you do anything, for example, about noise? Its
	generation or propagation, the meteorological
	effects.
	MR. VALLEAU: That's outside of our scope.
Q	Well, maybe you could save a lot questions if
	you tell me what your scope was, especially as
	regards to meteorology.
	MR. VALLEAU: Sure. We didn't have any
	meteorology in our scope. Our scope was
	wildlife studies, wetland surveys, vernal pool
	surveys and assisting with assembling the
	application. We also had civil engineering and
	storm water engineering in our scope. So we
	didn't have anything outside of that.
	MR. GRAVEL: The detail studies that are
	included in our scope of work are on page 6 of
	our Prefiled Testimony where we list out each of

1	the studies.
2	Q I didn't see anything in there, but when I see
3	environmental, I'm asking the question.
4	MR. VALLEAU: Sure.
5	Q So you didn't have anything you didn't get
6	involved in shadow flicker or anything like
7	that?
8	MR. VALLEAU: No.
9	Q Or icing on the blades?
10	MR. VALLEAU: No.
11	Q Okay. Then I have no questions.
12	PRESIDING OFFICER SCOTT: Okay. I believe
13	that leads us to Wind Action. Ms. Lenowes?
14	BY MS. LENOWES:
15	Q Thank you, Mr. Chairman. I would like to follow
16	up on some of the questions you were asked by
17	Mr. Block. Before I start though, I just want
18	to set the stage and tell you what the rules are
19	under the New Hampshire site rules for this.
20	Under Section 301.14 which is criteria relative
21	to findings of unreasonable adverse effects,
22	there's a list here, if you go down to, okay,
23	it's E. E says in determining whether
24	construction and operation of a proposed energy

1 facility will have an unreasonable adverse 2 effect on the natural environment including 3 wildlife species, rare plants, rare natural communities and other exemplary natural 4 5 communities, the Committee shall consider, and 6 the first one I want to read is number one, the significance of the affected resident and 7 migratory fish and wildlife species, rare 8 9 plants, rare natural communities and other 10 exemplar natural communities including the size, 11 prevalence, dispersal, migration and viability 12 of the population in/or using the area. And then, the second one, the nature, 13

14 extent and duration of the potential effects on the affected resident and migratory fish and 15 16 wildlife species, rare plants, rare natural 17 communities and other exemplar natural 18 communities. So it goes on like that. So to 19 that, if you're saying that you did not do any 20 studies on natural resources other than avian 21 and bat, is that correct?

22 MR. VALLEAU: No. We also did vernal pool 23 surveys, wetland surveys and I didn't include 24 the rare plant and natural community surveys

1		which we also did. We also consulted with New
2		Hampshire Natural Heritage Bureau.
3	Q	But so nothing on moose, nothing on bobcat,
4		nothing on fox, nothing on bear, correct?
5		MR. VALLEAU: No. So, you know, initially
6		we consulted to determine what New Hampshire
7		Fish & Game, U.S. Fish & Wildlife and Natural
8		Heritage Bureau were interested in, and they
9		gave us their wish list, if you will, and we
10		studied everything that they requested.
11	Q	Okay. And I want to ask you, you referenced, I
12		don't know if it was you or whether it was the
13		earlier panel, but there was a letter from
14		October 26th, 2012, that Fish & Game had written
15		regarding the prior docket on this application,
16		and I wanted to ask you a question that they
17		were asking because we were told that everything
18		that was requested by Fish & Game was taken care
19		of so this, I'll read it because not everyone
20		may have it in front of them, but on adaptive
21		management. These are their general comments
22		with regard to avain/bat protection plan.
23		They're referring to page 64, and they say this
24		section refers to consultation and evaluation of

1 wind data from other wind projects in the 2 However, we would like to emphasize region. 3 that AWE used data from wind projects already established in the northeast for more 4 5 comparative information. Although this may be 6 inferred in the ABPP, we would like it to be 7 clear that data from the other New England states and local projects should be utilized for 8 comparison purposes on this project. Was that 9 10 done?

Yes. 11 MR. GRAVEL: It was done for 12 preconstruction radar and bat survey work. I'm 13 trying to think. As well as, I think, the 14 Cumulative Assessment, document two that we 15 included as part of the application. 16 So where was that put into then? Did you call Q 17 it out or is it just in the document? The new 18 documents. Is it called out where this is where 19 we are addressing Fish & Game's requests? 20 MR. GRAVEL: Oh. Actually, we updated that 21 in the BBCS based on Fish & Game's request. 22 Q I'm sorry. On what document was that? 23 The Bird and Bat Conservation MR. GRAVEL: 24 Strategy.

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1	Q	Is that different from the ABPP?
2		MR. VALLEAU: Yes. So in the interim
3		between when we developed the original Avian Bat
4		Protection Plan, the U.S. Fish & Wildlife
5		Service changed the terminology they used to
б		define those plans, and they now call them a
7		Bird and Bat Conservation Strategy. So any
8		place you use ABPP, you can just use BBCS.
9	Q	Okay. All right. Now so in your Prefiled
10		Testimony, this would be on page 1, Supplemental
11		Testimony. This is Supplemental Testimony which
12		is App. 22. Now, on page 1, lines 5 through 7,
13		you ask the question. Do you agree that the
14		construction and operation of the project will
15		result in habitat fragmentation that may be
16		harmful to wildlife or other ecological values.
17		Do you see that?
18		MR. VALLEAU: Yes.
19		MR. GRAVEL: Yes.
20	Q	And you say no, we do not? Correct?
21		MR. VALLEAU: Yes.
22		MR. GRAVEL: Yes.
23	Q	If I may, I'd like to refer to the Non-Abutters
24		Supplemental Testimony. This would be NA 13.
	{ SI	EC 2015-02} [Day 2/Afternoon Session ONLY] {09-15-16}

	r	[WIINESSES]Valleau - Gravel]
1		Do you have that?
2		MR. GRAVEL: Who's the author of this
3		testimony?
4	Q	This would be the Non-Abutters Intervenors, the
5		Blocks, Cleelands.
б		MR. IACOPINO: How many are you referring
7		him to? Is there a particular Prefiled
8		Testimony you want him to look at?
9	Q	Well, actually it's an attachment. Excuse me
10		just one second. I'll just ask Mr. Block if I
11		may. This would be NA 13.
12		MR. IACOPINO: She's referring to
13		Mr. Block's Supplemental Testimony.
14	Q	And specifically, Exhibit RB Supplement-6.
15		MR. GRAVEL: I'm sorry. I don't have all
16		my papers labeled that way.
17	Q	It's actually attached to
18		MR. VALLEAU: Excuse me. What is it
19		attached to?
20	Q	It's attached to Mr. Block's Supplemental
21		Testimony which is NA 13.
22		PRESIDING OFFICER SCOTT: We'll go off the
23		record while he finds it.
24		(Off-the-record discussion)
	[[SEC 2015-02} [Day 2/Afternoon Session ONLY] {09-15-16}
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		[WITNESSES]Valleau - Gravel]
1		PRESIDING OFFICER SCOTT: Back on the
2		record.
3	Q	Thank you. Now, these photographs were taken
4		while following a flagged area, and it was
5		believed at the time that they were following
6		the road, but there's no confirmation from the
7		Applicant about that, but this is creating a
8		photo dialogue, if you will, of evidence of bear
9		activity at the site. You see that?
10		MR. VALLEAU: Which photos in particular?
11	Q	This would be on the first page of that.
12		MR. VALLEAU: First page.
13	Q	The first page. So do you at least agree in
14		looking at the pictures that that looks like
15		bear activity?
16		MR. VALLEAU: Yeah. Sure. I see that all
17		the time.
18	Q	Are you a bear biologist?
19		MR. VALLEAU: No. I'm not.
20	Q	Have you worked with bear at all?
21		MR. VALLEAU: If you consider hunting bears
22		working with bears, sure.
23	Q	So you're not experienced, you don't track bears
24		other than for hunting?

[WITNESSES]Valleau - Gravel] 1 MR. VALLEAU: I camera-trap bears. So I've 2 gotten quite a few good photos of bears. 3 Okay. And now --Q MR. VALLEAU: I haven't actually shot one. 4 5 That's good to hear. Now, on page 6 of your 0 6 Supplemental Testimony, on line 18, it says here 7 what you have already stated, that AWE has consulted with New Hampshire Fish & Game since 8 9 the beginning, presumably back before 2012? 10 MR. GRAVEL: That's correct. 11 Q Were you part of those consultations? 12 MR. VALLEAU: Yes. I was in that meeting. 13 0 In almost all cases -- one meeting? It was one 14 meeting? 15 MR. VALLEAU: I was in the initial, and 16 then we've had other meetings with them. I've 17 been on site with New Hampshire Fish & Game, 18 too. 19 When was the last time you met with Fish & Game? 0 20 MR. VALLEAU: Last time I spoke with Fish & 21 Game, it's within the last few months, but let's 22 I can't place the date exactly, but we've see. 23 been talking to New Hampshire Fish & Game all 24 along.

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1	Q	So was your last communication before we had a
2		technical session in April?
3		MR. VALLEAU: No. I've talked to them
4		since them.
5	Q	Do you remember what that conversation was
6		about?
7		MR. VALLEAU: We had a discussion about
8		some comments that they provided to New
9		Hampshire DES and requested information about
10		three specific species that potentially occurred
11		in the area, and then we provided an assessment
12		of habitat for those species and then
13		subsequently agreed to monitor for a wood
14		turtle, and New Hampshire Fish & Game agreed
15		with us that two of the species wouldn't be
16		there. One of them is a dragonfly and the other
17		is marsh wren.
18	Q	Okay.
19		MR. VALLEAU: And that we're going to
20		subsequently agree to monitor for wood turtle.
21	Q	Thank you. So, and I did see, I think everyone
22		involved has seen those documents from DES and
23		communications. So you did not speak to them,
24		okay. Other than that, other than responding to

1		the permits that they were issuing or the
2		commentary that they were issuing, when was the
3		last time you had a, sat down and actually
4		discussed types of studies to conduct?
5		MR. VALLEAU: When we were initially
6		considering reopening the application process
7		and putting together a new application, I called
8		Carol Henderson and talked to her about whether
9		we needed to refresh any of the sightings and
10		she indicated that we did not.
11	Q	Is that a phone conversation or is that, do you
12		actually have a letter?
13		MR. VALLEAU: It was a phone conversation.
14	Q	So you don't have any written documentation
15		where Ms. Henderson has said don't worry about
16		it, we're good? My paraphrasing.
17		MR. VALLEAU: Sure. No. But there was
18		plenty of opportunity for her to put something
19		on the record, especially through the DES
20		process where that required some additional
21		consultation with New Hampshire Fish & Game.
22	Q	Okay. So the last, I don't know how to
23		characterize it, material meeting, where you
24		actually

		[WIINESSES]Valleau - Gravel]
1		MR. VALLEAU: I think they're all material.
2		When I talk to a state agency that I have
3		respect for, I think they're all material.
4	Q	Okay.
5		MR. VALLEAU: So we've had several
б		conversations and interactions over the last
7		several years.
8	Q	And what I'm trying to understand is the
9		direction to not conduct studies addressing bear
10		or moose. That's what I'm trying to understand.
11		And how long ago was that decision made?
12		MR. VALLEAU: It's just never come up. I
13		think the initial decision was what they
14		followed through with, and, you know, it's
15		something that really has never come up.
16	Q	And now, who other than Ms. Henderson did you
17		speak with at Fish & Game?
18		MR. VALLEAU: I talked to Kim Tuttle.
19	Q	When was that?
20		MR. VALLEAU: That was some time in the
21		spring, probably immediately after getting
22		comments from New Hampshire DES. She's a rare
23		species specialist.
24	Q	Rare species. Is it primarily bat or all rare
		$\mathbf{E} = \left\{ \begin{array}{c} 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 $
	{ S	EC 2015-02} [Day 2/Afternoon Session ONLY] {09-15-16}

1		species?
2		MR. VALLEAU: My understanding is it's rare
3		species in general, but also she had knowledge
4		about the dragonfly and the marsh wren in
5		particular and the wood turtle.
6	Q	Okay. And who else?
7		MR. VALLEAU: It's been Carol Henderson.
8		And John Cantor as well.
9	Q	And John Cantor. He is, what is his role at
10		DES? Or Fish & Game? Is he nongame?
11		MR. VALLEAU: I'm not sure of his exact
12		title. I know that he works with Carol. Carol
13		is an Environmental Review Coordinator and
14		pretty much everything that the department puts
15		out for response documents also goes through
16		John Cantor.
17	Q	So it would, would it sound reasonable that he
18		is nongame as well as state-threatened and
19		endangered species? Does that ring a bell?
20		MR. VALLEAU: He may be a supervisor of
21		that group. That's my recollection, but I'm not
22		exactly sure of his title.
23	Q	Kim Tuttle, her name, if I remember correctly,
24		was her name mentioned in the DES permit?

		[WITNESSES]Valleau - Gravel]
1		MR. VALLEAU: Yes. DES recommended we call
2		and talk to Kim Tuttle.
3	Q	Other than that recommendation by DES, you had
4	ž	not had, you did not have conversations with
5		her? Is that correct?
6		MR. VALLEAU: With Kim? I might have
7		actually had a conversation with her before that
, 8		through my work with Carol, but I can't recall.
9	Q	Pertaining to this project or other projects?
9 10	Q	
		MR. VALLEAU: Yes. Pertaining to this
11		project.
12	Q	Okay. So let me ask you this question. You
13		said that the State of New Hampshire agencies
14		did not ask you, recommend or require that you
15		do any studies on large game, I'll just call it
16		generically, mammals?
17		MR. VALLEAU: Yes. Correct.
18	Q	Is that your experience in working with other
19		states in New England?
20		MR. VALLEAU: Yes.
21	Q	So Vermont
22		MR. VALLEAU: Other than Vermont. Vermont
23		is one exception where they do ask for large
24		mammal work, but in Maine, they do not.

1		MR. GRAVEL: It's specific to whether they
2		have habitats present that are important to
3		their survival like winter habitats, winter deer
4		yards and moose yards, if you have it, and
5		that's known habitat that the State keeps track
б		of. If you have that habitat on site, those are
7		the circumstances that you would look for that.
8	Q	If I remember correctly and I won't bring it up
9		here but it's in the application, it shows that
10		a large part, much of this area where the
11		project is sited, perhaps not exactly where the
12		turbines are but much of it is designated as the
13		highest level of habitat under New Hampshire's
14		Action Plan. Do you know why that is the case?
15		MR. VALLEAU: So that, what I know about
16		the Wildlife Action Plan mapping was developed
17		based on a variety of data sources including
18		aerial photo interpretation and potential
19		habitats. So as far as I know, I don't know the
20		specifics of that particular block.
21	Q	Okay. So did anyone ever say to you that area
22		is high value habitat area and be careful? You
23		never heard any wording along those lines?
24		MR. VALLEAU: Well, part of the reason why

1		we addressed wildlife and at that time the last
2		time we were before the SEC and this time was
3		due to having some high-ranked wildlife habitat.
4		If it wasn't ranked, we wouldn't necessarily
5		have addressed it, and, actually, Carol asked us
6		to address wildlife habitat, and the last time
7		we did. We provided a wildlife habitat
8		assessment, and New Hampshire Fish & Game
9		offered some recommendations to the committee
10		and Antrim Wind Energy agreed to incorporate all
11		of those recommendations, and the committee also
12		found that there was no undue or unreasonable
13		impact to wildlife habitat through the hearings
14		the last time around. So I think we've
15		addressed it.
16	Q	Okay. Well, now, looking so you looked at
17		the pictures that I was referencing that was
18		attached to Mr. Block's testimony.
19		MR. VALLEAU: Sure.
20	Q	I sent those documents to Andrew Timmins. Do
21		you know who Andrew Timmins is at Fish & Game?
22		MR. GRAVEL: Yes.
23		MR. VALLEAU: I don't know him personally.
24		MR. GRAVEL: I went to college with Andrew.
	{SI	EC 2015-02} [Day 2/Afternoon Session ONLY] {09-15-16}

1	Q	Okay. So you know who he is.
2		MR. GRAVEL: Yes, I do.
3	Q	Do you know what he is?
4		MR. GRAVEL: Yes, I do.
5	Q	His role?
б		MR. GRAVEL: Yes, I do.
7	Q	Just for anyone else, he's the bear project
8		leader here in the State of New Hampshire. He's
9		the "bear man," I think he would call himself
10		here in New Hampshire.
11		So I sent him the documents, and he wrote
12		back to me by email. This would be Exhibit
13		WA-09 that was submitted as part of my
14		testimony, and the person who took the
15		photographs is Sue Morris. So he wrote, based
16		on Sue's photos, it is clear that bears
17		occupy/utilize the habitat within the proposed
18		project area. All sign in the photos was
19		typical of feeding, mating and cubrearing
20		activities by bear.
21		So clearly there's bear activity. And then
22		I asked him about John Cantor and also spoke to
23		John Cantor, and I just wanted to tell you what,
24		I'm reading to you what I wrote to Andrew so you

1		could hear this. And I wrote, I spoke to John
2		Cantor today, and he confirmed, this was on May
3		2nd, and he confirmed what you and I surmise;
4		that his focus was on nongame as well as state
5		threatened and endangered species. His comments
6		which date back to 2011-'12 did not consider,
7		for example, impacts on bear.
8		PRESIDING OFFICER SCOTT: And you're
9		getting to a question again, right?
10	Q	Yes. I am. So based on what Mr. Cantor told
11		me, this email was written almost the same time
12		that I spoke with him, would you have expected
13		Mr. Cantor to recommend you do moose, bear
14		studies?
15		MR. VALLEAU: Not necessarily. I mean, I
16		think what you read was that when he reviewed
17		the project, he didn't consider those habitats.
18		MR. GRAVEL: And we've also heard from Fish
19		& Game in a letter dated July 1, 2016, that also
20		didn't include any mention of black bears, and
21		that was from Glenn Normandeau, the Executive
22		Director of New Hampshire Fish & Game, and it's
23		not our role to organize what types of studies
24		are required by the state's experts and that's

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why we consult the state's experts.

Okay. Then let me ask you a different question, Q turn around, bring it back to the SEC. When you say the habitat fragmentation will not be harmed nor will wildlife be harmed as a virtue of building the project, what is the basis of your claim?

MR. VALLEAU: If you're talking about 8 9 fragmentation, so fragmentation, to define it, 10 is that you're breaking a piece of habitat into 11 separate pieces so they're not connected in any 12 way and just like you would picture a fragment. 13 It's a separate piece. And this project, while 14 it causes some disruption, it's a relatively small disruption, and it doesn't break the 15 16 habitat into two pieces that create separate, a 17 separation that would stop bears or large 18 mammals from moving back and forth or birds from 19 moving back and forth, and it's actually a 20 relatively small gravel road. So it's not, it 21 doesn't meet the strict definition of 22 fragmentation, looking at it from 23 two-dimensional view but also functionally it 24 doesn't rise to the level of fragmentation.

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1	Q Let me ask you this question si	nce you've worked
2	on a number of wind projects, b	oth of you. Are
3	you aware of the fact that buil	ding a road
4	through an undeveloped, unfragm	ented area does
5	actually invite the public to t	he site no matter.
б	how much you put signs up to pr	ohibit it? Are
7	you familiar with that?	
8	MR. VALLEAU: Sure.	
9	MR. NEEDLEMAN: I'm going	to object to the
10	question. If there's some docu	mentation that
11	Ms. Lenowes has to support that	assertion, she
12	should put it in front of the w	vitnesses.
13	MS. LENOWES: Mr. Chairman	, they have
14	testified that they have worked	on projects like
15	this. They're environmental ex	perts. So I'm
16	asking them if they're aware th	at that's been
17	happening in other projects. I	f I poorly
18	phrased it, I apologize, but th	at's
19	PRESIDING OFFICER SCOTT:	Why don't you go
20	ahead and try to answer.	
21	MR. VALLEAU: It does, it	creates some sort
22	of an attraction to come take a	look at a
23	project, but in this project it	's going to have
24	a gate on the road. There's go	ing to be signage

1		discouraging people. There are other projects
2		that have no gates, no signs, open access. So
3		they're actually trying to control the access on
4		this site to minimize the amount of traffic that
5		are on these roads.
6	Q	But even with the gate, however, you have
7		trails, it was already mentioned earlier today
8		by Mr. Kenworthy that there are trails that will
9		have signage. Will those have gates as well?
10		MR. VALLEAU: No. But they're existing
11		trails that are there today so if those are a
12		problem they're a problem whether there's a
13		project or not.
14	Q	No, what I'm saying is that okay. But let me
15		ask the question. Will this be road be plowed?
16		MR. VALLEAU: That's part of the plan, but,
17		you know, I'm not a hundred percent sure of
18		that. I'm not a construction or operations
19		expert.
20	Q	Okay. So and also to the question that
21		Mr. Block had asked, it was also in the rules,
22		you did not do any study on migratory bats other
23		than what birds or bats might be doing, is that
24		correct?

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1		MR. VALLEAU: Correct.
2	Q	Let me ask you this then. Is if there is no
3	×	information in the docket today regarding these,
4		and I understand that you didn't do the studies,
5		but how could the SEC arrive at an unreasonable
6		or not unreasonable adverse effect without
7		having information in the docket? Can you
8		comment on that?
9		MR. NEEDLEMAN: I'm going to object to that
10		characterization. I thinking they've been
11		testifying to this for quite a while, and
12		there's ample information about these issues.
13		MS. LENOWES: Specific to mammals, bears,
14		and other wildlife that they have testified
15		today they did not do any studies on.
16		MR. RICHARDSON: I'm going to have a
17		similar objection. I think what's happening
18		here is whether or not they did a specific study
19		for bears, I think they've testified that there
20		isn't any impact on them so that their testimony
21		is evidence in the record. It doesn't
22		necessarily their scientific opinions don't
23		have to be supported by a detailed study so I
24		think that the question needs to be a bit

[WITNESSES]Valleau - Gravel] rephrased and explored because we're just going over kind of the same conclusions. MS. LENOWES: Mr. Chairman, I'd say that they said that they didn't think the fragmentation would cause a problem, but they did not say that the project would not cause a problem on these animals. MR. RICHARDSON: I think they did when they talked about the fact that the bear habitat is

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50 miles and this is a very small portion and even if it may have some use it's not their whole habitat. I thought that was clear.

13 MS. LENOWES: I can move on. 14 PRESIDING OFFICER SCOTT: You want to move 15 on?

> MR. LENOWES: Yes.

17 With regard to bats, you've been involved with Q 18 bat studies for a long time. I'm not sure if 19 this is Mr. Gravel more so then is that the 20 So now you're on the hot seat. You've case? 21 been involved with bat migration and mitigation, rather, in Vermont for a number of projects, is 22 23 that correct?

MR. GRAVEL: Vermont, Maine, New Hampshire,

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1		Pennsylvania, New York, West Virginia.
2	Q	And now, one thing that is a little bit
3		different, I want to ask you if it's different
4		here in New Hampshire versus Vermont is that the
5		Agency of Natural Resources is more publicly
б		involved in these wind reviews. Would you say
7		that's true? They testify during these
8		hearings. Equivalent hearings.
9		MR. GRAVEL: Not every project, but yes,
10		the past wind projects they were, yes.
11	Q	Okay. And you negotiate and discuss and have
12		MOUs between ANR scientists?
13		MR. GRAVEL: It's a very similar process as
14		New Hampshire except Vermont formalizes it and
15		New Hampshire doesn't.
16	Q	So in that process it ends up being a little bit
17		more public than I have not been able to sit
18		in, for instance, in meetings that you've had
19		with DES.
20		MR. GRAVEL: You wouldn't be sitting in in
21		the meetings that they have with Vermont Agency
22		of Natural Resources either until the hearing.
23	Q	But they then would come to the hearing and
24		discuss what happened.

[WITNESSES]Valleau	_	Gravel]
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		[WIINESSES]Valleau - Gravel]
1		MR. GRAVEL: In some cases, yes.
2	Q	Okay. So you're aware that Vermont has
3		established mortality thresholds for bats at its
4		projects?
5		MR. GRAVEL: Yes, I am.
6	Q	And were you involved in some of that?
7		MR. GRAVEL: Yes, I have, and I guess just
8		speaking to those thresholds, not one project
9		has had a take of a listed bat even though the
10		thresholds have been set and then no projects
11		have even come close to meetings those
12		thresholds.
13	Q	Well, let me, I have in front of me, and I'll
14		read this to you, and you can tell me if it's
15		accurate or not based on your understanding, but
16		this is an endangered and threatened species
17		takings permit that was issued by the ANR, and I
18		just want to read to you the list of bats that
19		in there.
20		MR. GRAVEL: To what project?
21	Q	This is Georgia Mountain.
22		MR. GRAVEL: I think I wrote that
23		application.
24	Q	Okay. So the authorized species that for which
		$FC = 2015 - 02 $ [Day 2/Afternoon Session ONLY] $\begin{cases} 0.0 - 15 - 16 \end{cases}$

1		they from established thresholds for mortality
2		and if I'm misunderstanding that, correct me,
3		but they are eastern small-footed bat, little
4		brown bat, northern long-eared bat, tri-colored
5		bat, eastern whippoorwill, common nighthawk,
6		grasshopper sparrow, black tern, common tern,
7		and upland sandpiper. So birds and bats in
8		there. So you're familiar with that list then?
9		MR. GRAVEL: Yes. That is basically the
10		state, the list of state species, state listed
11		species that could migrate through that project
12		area so it's comprehensive of the state-listed
13		species.
14	Q	Now, of those species that you heard listed,
15		what are you, what do you expect to be the case
16		in Antrim? Many of those, none of those, few of
17		those?
18		MR. GRAVEL: I would, the only one I would
19		think that might have, we might find which is
20		commonly found at wind projects in very, very
21		low numbers is tri-colored bat.
22	Q	Now, well, according to documentation that ANR
23		has put out, Agency of Natural Resources, and I
24		believe that you have also stated this, and I'll

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1		tell you and you can tell me if I'm wrong, but
2		according to their data, little brown bats have
3		been killed at 19 of the 20 wind energy
4		facilities in the northeast. Does that sound
5		right?
6		MR. GRAVEL: That was prior to white nose
7		syndrome affecting little brown bat populations.
8	Q	So you're saying that they were, there were a
9		lot of those bats and now there are very few of
10		those bats; is that what you're saying?
11		MR. GRAVEL: Yes, they were the most common
12		bat we had on our landscape.
13	Q	Okay. And I have in front of me, this is
14		Appendix 12 G from the application, and this is
15		the Stantec Consulting Summary of Northeast and
16		Midwest Avian and Bat Fatalities. Is that your
17		document?
18		MR. GRAVEL: If it says Stantec, I believe
19		it is.
20	Q	Yeah. Yeah. It is. This should be App. 33.
21		Appendix 12 G. I'm on page
22		MR. GRAVEL: Could you show me what that
23		list is that you're looking at?
24	Q	Yes. Show it to you?

		[WITNESSES]Valleau - Gravel]
1		MR. GRAVEL: My stuff is not matching your
2		coding so I'm having a hard time.
3	Q	Let me tell you the name of the document. Would
4	~	that help? The document is, it's the Summary of
5		Northeast, okay. Let me
6		MR. GRAVEL: Summary of Documented Avian
7		Fatalities by Group, by Bird Group in the
, 8		Northeast as of 2011 summarized by Stantec?
9	0	-
	Q	That is the first table. I wanted to go to the
10		last table.
11		MR. IACOPINO: For the Committee's
12		standpoint, if you're looking on the electronic
13		version, there are two 12 Gs. It's the one,
14		obviously, that says avian after the designation
15		of 12 G.
16	Q	Do you have that?
17		MR. GRAVEL: Yes, I do.
18	Q	Okay. So now this was, this was what you found
19		in 2011. Is that correct? I'm sorry. The last
20		page of the document has Summary of Documented
21		bat Fatalities by Species in the Northeast as of
22		2011.
23		MR. GRAVEL: And that spans a time period
24		of 2007 to 2011.

		[WIINESSES]Valleau - Gravel]
1	Q	So of the, so the big brown bat, obviously there
2		weren't that many killed, and many of the quarry
3		bat and little brown bat, and so where do things
4		stand now with regards to bats? I mean, are all
5		of these now endangered? May not state in state
6		designated as such or federally designated, but
7		are all of them very low in populations at this
8		point?
9		MR. GRAVEL: No. Just Myotis bats are
10		affected by white nose syndrome.
11	Q	Which of those would be here?
12		MR. GRAVEL: Little brown bat, northern
13		long-eared bat, and unidentified Myotis. That's
14		it.
15	Q	That's it. Okay. So now, what is Vermont doing
16		with those bats? What does that mean that they,
17		in terms of establishing thresholds of
18		mortality, is it a zero take? Is it, does it
19		depend on the bat and they've established
20		certain numbers per year?
21		MR. NEEDLEMAN: Mr. Chairman, I'm going to
22		object. I'm not sure why we're talking about
23		Vermont standards at this point.
24		PRESIDING OFFICER SCOTT: You're changing
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	{ 5.	EC 2015-02} [Day 2/Afternoon Session ONLY] {09-15-16}

1		the topic now then?
2	Q	No. I'm only talking about bats. I'm not
3		changing the topic.
4		PRESIDING OFFICER SCOTT: Okay. Are you
5		responding to Mr. Needleman's objection?
6	Q	Oh. Yes. I am going to bring it back. What
7		I'm ultimately getting to is the mitigation plan
8		that is being proposed by Antrim Wind. That's
9		where I'm going with that. With this.
10		PRESIDING OFFICER SCOTT: Why don't you go
11		there then.
12	Q	Okay. That was sort of the buildup. Okay. So
13		then you're aware that the operating wind
14		projects in Vermont do have mitigation plans in
15		place.
16		MR. GRAVEL: I could use some help with
17		clarification on what you're calling mitigation
18		plan.
19	Q	The increased cut-in speed for the operating
20		wind turbines.
21		MR. GRAVEL: Yes, like the one we're
22		offering at this project?
23	Q	It's different. I want to talk about what
24		Vermont has and then come back to the one you're

	[WITNESSES]Valleau - Gravel]
	offering on this project. So in terms of, say,
	the Lowell wind project, what is their, what is
	their mitigation plan on bats?
	MR. GRAVEL: They're curtailing turbines
0	from June 1 to September 30th.
Q	All turbines?
	MR. GRAVEL: Yes.
Q	How many turbines are there?
	MR. GRAVEL: I don't remember off the top
	of my head.
Q	I believe that's a 63-megawatt project.
	MR. GRAVEL: How many turbines is that?
Q	It's three megawatts each so
	MR. RICHARDSON: 21.
Q	Are you familiar with the Deerfield wind project
	and the mitigation plan that's been imposed on
	that project?
	MR. GRAVEL: Yes, I am.
Q	And what is that one?
	MR. GRAVEL: That project hasn't been built
	yet, and the mitigation plan hasn't been
	finalized, but it's based off the Lowell
	project.
Q	So from June 1 to September 30th?
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[WITNESSES]Valleau - Gravel] 1 MR. GRAVEL: Yes. 2 And it's a 6 meter per second cut-in speed? Q 3 MR. GRAVEL: Yes. All turbines? 4 0 5 MR. GRAVEL: Yes. б And there are 15 turbines in that one, right? 0 7 Do you know that? MR. GRAVEL: I can't remember numbers, but 8 9 I will say that all of the projects that you're 10 talking about do not have an adaptive management 11 plan attached to those mitigation. They're 12 required to monitor for two years only. In the case of the Deerfield project, isn't that 13 0 14 subject to a Forest Service decision? Because it's located in Green Mountain National Forest? 15 16 MR. GRAVEL: Yes, but I sat on a meeting 17 with them, Forest Service and ANR, and the 18 Forest Service does not have the bat expertise 19 that ANR has so they're relying on Scott 20 Darling's expert opinion. 21 And how is that relevant? What does that mean? 0 22 MR. GRAVEL: It means that Scott Darling is 23 the State Bat Biologist for Agency of National 24 Resources, and the Forest Service is consulting

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1		him for Best Management Practices for bats.
2	Q	Okay. Can you cycle back to what you said just
3		before you mentioned that though. You said it
4		doesn't have an adaptive management plan in
5		place?
6		MR. GRAVEL: That's correct.
7	Q	What does that mean?
8		MR. GRAVEL: It means that they have to,
9		they only have to monitor for two years and
10		they're done, regardless of findings.
11	Q	Okay. But the curtailment requirement is not
12		for just two years. Isn't that ongoing for the
13		life of the project?
14		MR. GRAVEL: No. It's renewed, it's
15		renewed every five years.
16	Q	Okay. That's fine. But it's not something that
17		is just for two years and it goes away.
18		MR. GRAVEL: Could be.
19	Q	But you said it's reviewed every five years.
20		MR. GRAVEL: The permit is reviewed every
21		five years, but it depends on the results.
22		Every plan has built in a provision that states
23		there's flexibility in this plan pending the
24		results of the studies. So if you're not having

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1		an impact, you know, it's not necessary to shut
2		all the turbines off.
3	Q	Okay. Then that is reasonable. But if you were
4		to bring a wind project to Vermont today, what
5		would you expect ANR to do now as a requirement
6		for cut-in speeds to protect for bat mortality?
7		PRESIDING OFFICER SCOTT: Ms. Lenowes,
8		you're still losing me on why we're continuing
9		to talk about Vermont.
10	Q	The reason I'm bringing it up is because their
11		curtailment plan right now only asks that half
12		the turbines be turned off or at least raise the
13		cut-in speed and to go through a test, if you
14		will, to see if the project is having a negative
15		effect on bats, just on those, and Vermont has
16		already done all the studies on that and it has,
17		is now imposing that on all of the projects so
18		I'm
19		PRESIDING OFFICER SCOTT: Perhaps you could
20		cut to the chase and just ask the witness if
21		that is true and his understanding perhaps and
22		then you could
23	Q	I think that was what my last question was.
24		Maybe I wasn't clear.

		[WIINESSES]Valleau - Glavel]
1		If Vermont were to take a wind project
2		today, would they impose the same restrictions?
3		MR. GRAVEL: They would yes, they would.
4		And part of the reason they would is because
5		they also have federally listed Indiana bats in
6		Vermont which adds a different layer of
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7		complexity to the issue.
8	Q	In that Georgia Mountain list of bats, did I
9		mention the Indiana bat? Did you hear?
10		MR. GRAVEL: I did not.
11	Q	So they're not, that doesn't seem to connect.
12		MR. GRAVEL: It's not ANR'S authority to
13		regulate the federally listed species which is
14		Indiana bat. That's the Fish & Wildlife
15		Services requirement, and that was vetted prior
16		to permitting, and they didn't require
17		curtailment or mitigation or anything for that
18		species based on the on-site preconstruction
19		results.
20	Q	Okay. But, again, that's not what's listed
21		here. Then one last question and I'll be done,
22		and that is it was stated earlier today or
23		earlier this week that the revenue for the
24		project or the modeling for that was based on

i		[WIINESSES]VALLEAU - GLAVEL]
1		curtailment of all the turbines for bats. Not
2		curtailment but the increase in the cut-in
3		speed. Were you involved in that assessment?
4		MR. GRAVEL: In the financial assessment?
5	Q	No. Just evaluating the number of hours that
6		could potentially not be, the project would lose
7		in production if the
8		MR. GRAVEL: No. I was not.
9	Q	Okay. Fine. Thank you Mr. Chairman.
10		PRESIDING OFFICER SCOTT: Thank you. The
11		Audubon Society.
12	BY M	IS. FOSS:
13	Q	I'd like to start with some questions on the
14		invasive features monitoring program. My first
15		question is what was the rationale for selecting
16		three years as the duration of postconstruction
17		monitoring for invasive species?
18		MR. GRAVEL: The rationale for that is that
19		your greatest risk of exposure for invasive
20		species happens right at construction with soil
21		disturbance. Once you have vegetation in place
22		and the site stabilized, it's harder for those
23		invasive species to colonize.
24	Q	Okay. So page 1 of the plan states that the

overall goal of the ISNP is to control the introduction and spread of invasive plant species as a direct result of project construction.

So my question is, does the direct result or does direct result include creation of suitable seed bed for seeds of invasive plants that are dispersed by wildlife or does it focus only on transport to the site in imported soil or on construction equipment?

11 MR. GRAVEL: So there's two phases to it. 12 The during construction piece of it is on page 13 52, I think, in the Bird and Bat Conservation 14 Strategy. Is it 52? And that speaks to cleaning construction vehicles as they arrive to 15 16 the site to avoid the transportation of invasive 17 species from wherever that equipment was prior 18 to the site now.

19 Q Right.

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20 MR. GRAVEL: And then the second phase of 21 it is the postconstruction piece which is going 22 to start with monitoring so early detection is 23 the key to successful mitigation of invasive 24 species. So following construction, we would

1		have a series of three years of monitoring for
2		those invasive species, and then the appropriate
3		control if an invasive species is found which
4		we're expecting could be more related to
5		potential wildlife transmittal of those species.
6		You monitor early, right from first year after
7		construction. If you identify anything, you
8		have a series of controls that you can use to
9		eradicate that species. And then the controls
10		depend on the species that's detected. And then
11		most often it ends up with a targeted plant,
12		stem by stem basis, herbicide application to
13		limit any herbicide spreading of anywhere else,
14		and it's at a small localized level.
15	Q	Okay. You anticipated my next question so I
16		won't go there. The plan includes the New
17		Hampshire prohibited invasive plant species
18		listed at Table 1 on Page 3. Do you have that?
19		MR. GRAVEL: Yes.
20	Q	Okay. Which of these species would you consider
21		to have the greatest potential for introduction
22		to the project site?
23		MR. GRAVEL: That's a good question. It
24		really, I mean, it depends. It depends on the

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1		habitat that it could occur in so you have some
2		wetland species here and you have some upland
3		species here. Common ones that we've seen at
4		other projects certainly from the construction
5		activities is purple loose strife is one of them
6		or the buckthorn is another upland species that
7		we've seen colonize sites and multiflora rose.
8	Q	Have you had issues with oriental bittersweet at
9		other sites?
10		MR. GRAVEL: We have at some of the
11		transmission corridors up at some of our main
12		sites.
13	Q	So what do you consider the likelihood that some
14		scattered areas of suitable seed bed for
15		invasive species, particularly bittersweet,
16		could exist after the three years?
17		MR. GRAVEL: I mean, it's hard to speak to
18		what I think the likelihood is. I think that
19		the multiple-year monitoring following
20		construction is probably what would indicate
21		that likelihood moving forward. I think, what
22		we found is the most critical point is that
23		first year right after construction or during
24		construction where the ground is opened up and

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1		being reseeded.
2	Q	Have you considered any kind of ongoing invasive
3		species monitoring by project staff like what
4		goes on for bird and bat mortality with the
5		local personnel just kind of checking on an
6		ongoing basis?
7		MR. GRAVEL: Again, I think it would be
8		pending the results of the first few years of
9		monitoring, but it could be something that we
10		could teach on-site staff to do easily with a
11		key.
12	Q	Wouldn't it make sense to do that sort of as
13		part of our overall adaptive management
14		approach?
15		MR. GRAVEL: Yeah. I mean it's, I don't
16		see why not. After it's, as part of the
17		adaptive management approach and onsite staff, I
18		don't think that it would be additional burden
19		on the project necessarily, and it's something
20		that you can see from the road.
21	Q	Okay. Thank you. Have you had an opportunity
22		to review my Supplemental Testimony regarding
23		risk to common nighthawk?
24		MR. GRAVEL: Yes, I have.
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1	Q	And, presumably, you have not had an opportunity
2		to review a subsequent letter from Fish & Game
3		because to my knowledge it hasn't been received
4		yet, although I have assurance that it has been
5		sent, but Mr. Chair, do you have any clue to the
6		status of that letter? It hasn't come around
7		through email to intervenors.
8		PRESIDING OFFICER SCOTT: I'm not aware of
9		it. Mr. Iacopino, are you? We haven't seen it.
10		MS. SCHUETZ: I think it may have just come
11		in this morning, but it hasn't been processed or
12		anything yet.
13	Q	Okay. So I don't expect you to have seen that.
14		Have you had an opportunity to discuss the
15		recommendations in my Supplemental with the
16		Applicant at all?
17		MR. GRAVEL: No, we haven't, and I guess my
18		feeling is a little bit different on risk to
19		nighthawks. I'm aware of the nighthawk
20		fatalities at Lempster, but I think that that
21		project is a very, very different situation than
22		what we've seen elsewhere. I personally found a
23		nighthawk nest at the Lempster project during
24		preconstruction surveys prior to the

1 construction of the project. It had two, it had 2 produced two fledglings that year and that nest was located about 300 feet from the nearest 3 proposed turbine which happens to be, from what 4 5 I understand, I'm not doing the work at Lempster 6 but from what I understand it happens to be the same turbine that's impacted the nighthawks at 7 Lempster. I think that there's talk about 8 9 nighthawks nesting. They like that cobble 10 substrate or bald bedrock or lichen-matted 11 bedrock to nest in, but what we've found is, so 12 if we're thinking about wind projects and the 13 possibility of creating nesting habitat, I feel 14 really confident that if we were to be creating 15 habitat, we would have seen nesting nighthawk 16 activity at other projects in New England, and 17 Lempster is the only project that nighthawk 18 facilities have occurred and the only project 19 that nighthawk nesting activity was observed. 20 Has there been nighthawk observation in the 0 21 vicinity of other projects in New England? 22 MR. GRAVEL: Yes. We've seen them foraging 23 at other projects in New England. 24 Okay. And I guess just one other question, more 0

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1		as a matter of curiosity. In your Attachment A
2		that Ms. Lenowes was referring to a short time
3		ago, you provided the list of avian and bat
4		fatalities as of 2011. How many wind facilities
5		does that data include?
6		MR. GRAVEL: I didn't include that on here.
7		Just looking at the citations and knowing a
8		little bit about them, I think it's five, no,
9		six projects, but I'd have to confirm. I don't
10		have that count right now.
11	Q	Okay. Well the more important question is
12		approximately how many additional projects have
13		come online since then?
14		MR. GRAVEL: Another ballpark off the top
15		of my head, I think four or five in New England.
16	Q	So I'm just curious. Has there been any update
17		of the fatality summary reflecting the
18		additional?
19		MR. GRAVEL: We have the information, but
20		we have not put an update out yet, but I'm very
21		familiar with the information that we have
22		produced, and we haven't found any nighthawks in
23		that data set either.
24	Q	Okay. Okay. Thank you.

[WITNESSES]Valleau - Gravel] 1 PRESIDING OFFICER SCOTT: Ms. Malonev? 2 MS. MALONEY: I don't have any questions for these witnesses. 3 PRESIDING OFFICER SCOTT: Okay. Members of 4 5 the committee? Ms. Weathersby? 6 BY MS. WEATHERSBY: 7 Just getting back to the invasive species. Q Ι understand there's a monitoring program in place 8 9 after the construction. What about after 10 decommissioning when the roads are again 11 disturbed and ground is disturbed, is there 12 going to be an invasive species management plan as part of the decommissioning? 13 14 MR. VALLEAU: I would think that would be 15 part of the decommissioning plan that could be 16 agreed to. You know, there's going to be 17 followup on the revegetation status through decommissioning so that could easily be added if 18 19 it's not part of the plan right now. 20 Do you think that would be a wise thing to do? 0 21 MR. VALLEAU: Sure. It's following along 22 the same lines as the current plan, sure. 23 PRESIDING OFFICER SCOTT: Thank you. 24 Anybody else? I will have a few questions, and

[WITNESSES]Valleau	_	Gravel]
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1	I'll go to Mr. Iacopino.
2	BY PRESIDING OFFICER SCOTT:
3	Q I want to talk a little bit more about
4	postconstruction monitoring. If that finds an
5	issue, can you explain what kind of mitigation
б	you would do? Are you talking curtailment of
7	the turbines at certain times of the year? Can
8	you elaborate on that for me?
9	MR. GRAVEL: Yeah. It can vary based on
10	the species or issue so, you know, while I think
11	it's very unlikely in the case of the nighthawk,
12	for example, at Lempster, they curtailed during
13	the periods that nighthawks were active. So
14	there's, you have to target your management
15	action based on the issue that occurs and
16	that's, to me that's the glory of an adaptive
17	management plan is that we can study the site
18	thoroughly. We certainly have a really good
19	handle on what's going to happen with habitat
20	impacts and species that utilize those habitats,
21	but there's always some uncertainty with what
22	may collide with wind turbines. We have good
23	data postconstruction at operational sites in
24	New England that haven't caused any red flags or

1 huge issues, so to speak. 2 So I feel like there's -- it really 3 depends. We don't think that we're going to find any surprises, but adaptive management 4 5 allows for the uncertainty to adjust operations б or even monitoring based on what we might find, and I will say, I mean I've worked on, for 7 better or worse, I've worked on every project in 8 9 New Hampshire, Vermont and most of them in 10 Maine, and I haven't seen a postconstruction 11 plan that matches this. This plan is the best 12 plan out there today. Why don't we go there, too. Obviously, you had 13 0 14 a lot of discussion with Ms. Lenowes about what 15 happens in Vermont, and what I think you're 16 saying is you feel this plan is better than what 17 would, if we were in Vermont? Can you give me 18 some of the salient plans on why it's better? 19 MR. GRAVEL: Yes. We're looking at making 20 management decisions based on a result as

21 opposed to just saying, okay, you're going to do 22 this. Curtail which costs loss power generation 23 which may or may not have a benefit at this 24 project. We have seen every project be somewhat

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different. They've all been within a similar range of fatalities, for example, but they've all been different as well. So, you know, I'm of the mindset that you make the right decision for the issue that you find instead of start out with everything, this wide window, that you may find doesn't help push the knowledge base forward.

And that's the other piece about this 9 10 adaptive management plan is that you can learn 11 from it and adapt to what you learned, whereas 12 past projects that I've worked on, you 13 basically, you do your monitoring, you report 14 your result, and then the box is checked, your condition is satisfied and you're moving on 15 16 whereas this project's willing to look a little 17 bit closer at it and provide more collaboration 18 with the agencies to really address any 19 potential issues that might come up. 20 So on that same topic, you may remember asking 0 21 the last panel about to some extent the role, 22 the fact that the SEC now has an Administrator 23 that as she gets time will come and check on 24 things hopefully. How would that work? So an

1		SEC representative comes, and you'd show them
2		the plan, and how would they know you're
3		following the adaptive management plan?
4		MR. GRAVEL: Well, I think we have, in our
5		adaptive management plan, our goal is to
6		collaborate with the state resource agencies and
7		experts and that's Fish & Game. And so the only
8		way, I guess, that I think we'd be looking for
9		the SEC is if there's a disagreement between AWE
10		and New Hampshire Fish & Game on what's next.
11		Then we'd need some help with resolution. But I
12		think the answer would be the same if the
13		administrator wanted to come on the project to
14		see how we search or how we monitor, I don't
15		think that that would be an issue.
16	Q	Okay. Ms. Lenowes has also pointed you to the
17		rules. Hopefully, you don't have to go there
18		yourself, but, basically, it requires us to
19		consider significance of wildlife from the
20		project on wildlife species, rare plants, lot of
21		factors that we're required to consider, and
22		interpolating, I think one of the things she's
23		trying to get at is if you didn't study those
24		particular things that are listed, all of them

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that are listed in the rule, on what basis would the Site Evaluation Committee say okay, it's not a problem.

MR. GRAVEL: I quess the rule is vaque 4 5 enough in that it includes everything and 6 anything and whether it could be an issue, could be impacted or not, so I think that that's where 7 the resource agency has to have a role in their 8 9 state's resources. They're the ones responsible 10 for managing the state's wildlife populations, and that's who we look to to make sure that 11 12 we're evaluating the site properly based on the 13 concerns they may have.

14 And speaking of bear, or even moose for 15 that matter, I mean, they're not rare species. 16 They're, they have stable populations or 17 increasing populations, and they're managed for 18 I mean, I can buy a New Hampshire harvest. 19 license and go bear hunting. So I think that if they were concerned about those species, we 20 21 would have heard about it.

Q So I don't want to put words in your mouth, but
I want to make sure I understand your position.
The fact that you've consulted with the state

1		agencies, the responsible state agencies, and
2		they've said go look at these things, they
3		didn't say these other things, that implies we
4		should take that as an implication that those
5		things that weren't looked at, they didn't ask
6		you to look at, are not a problem. Is that a
7		fair assessment? Is that your position?
8		MR. GRAVEL: That's my position.
9		MR. VALLEAU: Yes.
10	Q	Thank you. You mentioned harvesting. I have a
11		different take on maybe the word at the moment,
12		but a lot of the site area we're talking about
13		has been logged in the past. Is that not
14		correct?
15		MR. GRAVEL: Yes. That's correct.
16	Q	With the exception of birds and bats, is the
17		project development, assuming it happens is,
18		that much of an impact different than logging
19		would have?
20		MR. GRAVEL: I mean, it certainly is in
21		that logging creates a temporary loss of habitat
22		or conversion of habitat whereas the road and
23		turbine pads itself would be permanent for the
24		life of the project. So that would be different

1		there. However, I do view logging, large scale
2		logging activities as very similar in that the
3		logs have to come out of the woods so they're
4		cut down, hauled out of the woods to a road
5		system that's built in these areas to get the
6		wood out of the woods and to the mills.
7		So when we're looking at that comparison,
8		while the physical habitat of the cut itself may
9		not be similar to the wind project, the network
10		of roads that are created to get to that wood is
11		very similar, and we haven't, certainly for
12		large mammals, haven't seen those road systems
13		impact wildlife populations.
14	Q	Okay. Thank you. Hopefully you've read, we
15		have some written testimony and supplemental, I
16		think, too, which talks about a SuperSanctuary.
17		Are you familiar with that?
18		MR. GRAVEL: I saw the term, yes.
19	Q	I was curious, just if I could get you to give
20		an opinion, would this cause some permutation
21		that would be a concern for that type of thought
22		process or that type of big picture?
23		MR. VALLEAU: This project, like I said
24		earlier, while it does cause a disruption in the

1		larger landscape, it's relatively small.
2		Doesn't create a fragment that would preclude
3		movement of animals through that SuperSanctuary.
4		There's, you know, over a million acres of that
5		top-ranked habitat in the State of New
6		Hampshire, and this impacts a very small
7		proportion of that, and also the project will
8		conserve over 900 acres which includes over 600
9		acres of that top-ranked habitat, and some of
10		the Tier 2, the next rank down in habitat, so it
11		provides a great deal of benefit for relatively
12		small footprint without really creating a large
13		impact or significant impact to that
14		SuperSanctuary concept.
15	Q	Were you about to say something?

I was going to say I'm not 16 MR. GRAVEL: aware that the Antrim Wind project was part of 17 18 that SuperSanctuary or at least it wasn't under 19 conservation. So I think that the story here is that one Tier 1/Tier 2 habitat is not uncommon 20 21 in the state, and there's over a million acres of this, but this project is probably providing 22 23 a benefit that might not have been realized without it. The 900 acres of additional 24

> [Day 2/Afternoon Session ONLY] {SEC 2015-02} $\{09-15-16\}$

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1	conservat	ion, I think, is pretty substantial
2	when you'	re considering, you know, what are we
3	at? Twel	ve acres? Less than 12 acres of
4	permanent	impact to the habitat.
5	Q Thank you	for that. Mr. Iacopino, do you have
6	anything?	
7	BY MR. IACOPIN	10:
8	Q Yes. Mr.	Gravel, you mentioned, I think it was
9	you durin	g your cross-examination by somebody
10	the lette	r from Fish & Game from Director
11	Normandea	u. Was that the July 1 letter you're
12	talking a	bout?
13	MR.	GRAVEL: Yes.
14	Q And that	is in the record as Applicant's 19.
15	That lett	er, though, isn't that just specific to
16	certain s	pecies?
17	MR.	GRAVEL: Yes. I guess what I'm saying
18	that is i	f they had additional concerns about
19	other spe	cies that we would have expected to see
20	that in t	hat letter.
21	Q The first	sentence says the New Hampshire Fish &
22	Game Depa	rtment have received your Biological
23	Assessmen	t Summary for the Wildlife Species of
24	Concern i	dentified in the updated Natural

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Heritage Bureau report for this project, and he's capitalized Wildlife Species of Concern. I assume that's some kind of defined term in your industry?

MR. GRAVEL: Yes. So TRC consulted Natural Heritage Bureau.

MR. VALLEAU: So Wildlife Species of 7 Concern would include state-listed species so 8 9 threatened, endangered and also species of 10 special concern. So out of these species, two 11 of them are listed formally as, I'd have to 12 double-check the exact designation, but the wood 13 turtle I know is Special Concern. So that term 14 encompasses those three categories of animals.

MR. GRAVEL: 15 Just, I guess the other reason 16 why I brought it up is I look at these projects 17 or consultations as an iterative process in that 18 we meet with them, figure out what studies that 19 are needed. We then meet with them to go over 20 the results of those studies and look at the 21 potential areas that need additional 22 investigation, and so it kind of builds that 23 way, and this is the latest communication from 24 them, and throughout that process those black

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1		bears weren't brought up.
2	Q	So in our rules you are required, well, not you,
3		but the Committee is required to consider
4		analysis and recommendations of any of the Fish
5		& Game, U.S. Fish & Wildlife and other agencies
б		and the Natural Heritage Bureau and other
7		agencies. Are you comfortable that all of the
8		important documentation with respect to
9		communications with those agencies is in our
10		record?
11		MR. GRAVEL: Yes.
12	Q	Okay. You also mentioned that the rule is
13		vague.
14		MR. GRAVEL: Can I correct that? It's
15		vague in the way it was read to me in wildlife
16		species.
17	Q	The Rule, subsection E 1, talks about that
18		you're supposed to, the Committee, actually, is
19		supposed to determine the significance of the
20		affected resident and migratory fish and
21		wildlife species, rare plants, rare and natural
22		communities and other natural communities, et
23		cetera. I think, well, I think you may have
24		answered this with respect to Commissioner

		[WIINESSES]Valleau - Gravel]
1		Quettle meetice but we understanding of what
1		Scott's question, but my understanding of what
2		you're telling the committee is that you've
3		determined which populations were affected
4		through your consultations with these agencies.
5		Fish & Game and
6		MR. VALLEAU: Correct.
7	Q	Did you do any independent analysis of what
8		populations might be significant?
9		MR. GRAVEL: Populations is a hard word
10		because it's hard to get your arms wrapped
11		around populations, but we did do wildlife
12		habitat assessment and potential impacts to
13		wildlife as well as a cumulative impact
14		assessment that covered a suite of species that
15		constitute wildlife.
16	Q	I understand that, and all that is in the
17		record.
18		MR. GRAVEL: Yes.
19		MR. VALLEAU: Sure.
20	Q	So I guess what I'm saying is what weight did
21		you give to what the agencies told you as
22		compared to those independent assessments?
23		MR. GRAVEL: I mean
24	Q	In coming to your opinions.

	1	[WIINESSES]Valleau - Gravel]
1		MR. GRAVEL: What weight.
2		MR. VALLEAU: We gave it all due
3		consideration. You know, they are the state
4		agencies that manage resources and have that as
5		one of their primary goals, and so if they were
б		concerned about something, we would expect that
7		they would recommend it, but then, you know, you
8		do have to, as a wildlife professional, you do
9		have to balance that against what you know about
10		a site, and if anything that we saw independent
11		of their guidance would rise to a level that was
12		of a concern, we would probably talk to them
13		about it, and then see what our course of action
14		should be. So I mean, as professionals, we
15		would have that obligation to do that.
16	Q	Did any of those situations occur in your work
17		on this project?
18		MR. VALLEAU: No.
19	Q	So the opposite. Instead of finding from the
20		state what you should be looking at. Where you
21		saw something you recommended to the state that
22		there be a review and assessment or some form of
23		study?
24		MR. GRAVEL: Yes. So in the case of bats
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	{ 51	EC 2015-02} [Day 2/Afternoon Session ONLY] {09-15-16}

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1		we did. We knew that white nose syndrome was
2		impacting bat populations, and we knew that the
3		Fish & Wildlife Service were petitioning to list
4		the northern long-eared bat so that was a case
5		where we felt that we needed to do additional
6		bat work beyond our typical acoustic work. So
7		we met with the Fish & Wildlife Service and New
8		Hampshire Fish & Game to design a study. We
9		took it to the next level. We thought that it
10		was worth investigating to make sure that we did
11		not have presence of listed bats on site because
12		acoustic detections aren't always reliable at
13		determining species. We're getting better at it
14		every year, I feel like, but it's not crystal
15		clear. So we decided it was responsible and
16		appropriate to take the next step and actually
17		go out and try to catch bats on site to see
18		because once you have them in your hand you know
19		what you're looking at, and that was an
20		additional study that we did that was not
21		necessarily a question.
22		MR. VALLEAU: Fish & Game didn't ask for
23		that.
24	Q	That came from you, not from the agencies? In

1		other words, you suggested it to them?
2		MR. GRAVEL: Yes. Obviously, we had to
3		convince AWE that that was the right thing to do
4		and that's what we did after that. Yes.
5	Q	I have one question about the Vermont because I
6		think I'm confused about it. On the Vermont
7		curtailment program, is that sort of just a set
8		of regulations that applies across the board
9		that from, to all projects that are operating
10		from whatever the date was? July 1 through
11		September 30?
12		MR. GRAVEL: June 1.
13	Q	June 1. That the cut-in speed is 6 meters per
14		second?
15		MR. GRAVEL: It's not rule or policy, but
16		it's a recommendation by the State Agency of
17		Natural Resources.
18	Q	And what is the, in the plan that you have
19		there's a curtailment testing period. Is that
20		correct?
21		MR. GRAVEL: Yes.
22	Q	What's the initial cut-in speed for that?
23		MR. GRAVEL: I think it was, before I open
24		my mouth I want to check actually.

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1		PRESIDING OFFICER SCOTT: I'm going to ask
2		you again to get a lot closer to the microphone.
3		You can move it closer to you, but that may be
4		better.
5		MR. GRAVEL: I feel like I'm almost eating
6		this thing. Five meters per second.
7	Q	And that's for half of the turbines?
8		MR. GRAVEL: Yes.
9	Q	Why did you choose half?
10		MR. GRAVEL: Trying to get as even as a
11		test as you can so that you can test treatment
12		versus no treatment.
13	Q	Sort of a control group type of thing?
14		MR. GRAVEL: Yes.
15	Q	I have no further questions.
16		PRESIDING OFFICER SCOTT: Either one of you
17		have redirect?
18		MR. NEEDLEMAN: I don't. Thank you.
19		PRESIDING OFFICER SCOTT: So procedurally,
20		if I figure where we are in the schedule. So I
21		think Mr. Martin is your next is he here?
22		So we have a hard stop at 5. At least
23		three of us need to leave pretty soon after five
24		just so you can plan on that. So why don't we

	[WIINESSES]Valleau - Gravel]
1	try to quickly get your panels changed out here.
2	MR. NEEDLEMAN: Thank you.
3	PRESIDING OFFICER SCOTT: We'll go off the
4	record while it's happening.
5	(Recess taken)
б	PRESIDING OFFICER SCOTT: Some discussion
7	during recess about, again, that the time we
8	expect to go. So again, Tuesday which is the
9	20th our next time we come back together, the
10	expectation is we will start at 9 o'clock. I
11	think we discussed that. My intention generally
12	is to go roughly to five o'clock on most days
13	and try to seek plus or minus a little bit
14	sensible breaking point where we're not
15	interrupting somebody's questioning or flow.
16	So if you can plan on that. If there's
17	somebody who has something going on, we can
18	discuss that. Ms. Lenowes, you said you had an
19	issue?
20	MS. LENOWES: Yes, Mr. Chairman. I can't
21	stay until 5 in 15 minutes. I just don't want
22	to lose my opportunity to I'm not really, you
23	know
24	PRESIDING OFFICER SCOTT: So we have on the
	$\left(\frac{1}{2} \right) = \left[\frac{1}{2} \right] = \left[\frac{1}{2} \right] \left[\frac{1}{2} \left[\frac{1}{2} \right] \left[\frac{1}{2} \right] \left[\frac{1}{2} \left[\frac{1}{2} \right] \left[\frac{1}{2} \left[\frac{1}{2} \right] \left[\frac{1}{2} \left[\frac{1}{2} \left[\frac{1}{2} \right] \left[\frac{1}{2} \left[$
	{SEC 2015-02} [Day 2/Afternoon Session ONLY] {09-15-16}

158

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1	schedule based on the Prehearing Conference
2	people had indicated roughly two hours total for
3	questioning of Mr. Martin. How many did you
4	have, Ms. Lenowes?
5	MS. LENOWES: I'll tell you in a sec. I
6	had 30 minutes.
7	PRESIDING OFFICER SCOTT: Assuming other
8	people had said they need 90 minutes,
9	collectively, and we only have 20 minutes left,
10	I think you'll be able to get your part in. You
11	won't be able to go before Tuesday anyway is
12	what I'm suggesting so I think you'll be okay.
13	MS. LENOWES: Thank you, Mr. Chairman.
14	PRESIDING OFFICER SCOTT: With that, if you
15	could swear in the witness, please.
16	PATRICK MARTIN, DULY SWORN
17	DIRECT EXAMINATION
18	BY MR. NEEDLEMAN:
19	Q State your name for the record, please.
20	A My name is Patrick Martin.
21	Q And where do you work?
22	A I work with TRC.
23	Q And you have joint testimony with Daniel Butler.
24	Is that correct?

		[WITNESS]Martin]
1	A	That's correct.
2	Q	Have you adopted Mr. Butler's testimony here
3		today?
4	A	Yes. That's correct.
5	Q	And can you briefly summarize the purpose of
6		your testimony?
7	A	I'm here to answer any questions regarding the
8		civil engineering design of the Antrim Wind
9		Project.
10	Q	Do you have any changes today to the Prefiled
11		Testimony that you submitted?
12	A	No.
13	Q	So do you swear to that testimony and adopt it
14		today?
15	A	Yes.
16		PRESIDING OFFICER SCOTT: Thank you. This
17		is not picking on you. I say this to all many
18		panelists. Make sure you bring the microphone
19		close you to so we can hear you well.
20		Mr. Richardson?
21		MR. RICHARDSON: No questions.
22		PRESIDING OFFICER SCOTT: Mr. Enman. I
23		don't see him here but if he's here? Okay.
24		Anybody from the Giffin/Pratt intervenors?

1 Okay. How about the Harris Center for 2 Conservation? 3 MR. FROLING: No questions. PRESIDING OFFICER SCOTT: All right. 4 Ι 5 will, Ms. Berwick? The Abutting Landowners? б BY MS. BERWICK: 7 I just have a question first. Do you have Q anything in to deal with the safety of like how 8 9 the citizens if they have complaints regarding 10 noise, how that would be monitored or safety 11 other than the building of the project? 12 А No. You're a civil engineer? 13 0 14 My role was strictly with the civil engineering. А I had nothing to do with noise studies. 15 16 I have no questions then. Q 17 PRESIDING OFFICER SCOTT: Okay. Mr. Block. 18 Do you have questions? 19 BY MR. BLOCK: 20 Just a few. Primarily, I want to ask right now 0 21 about blasting during the construction, and I 22 believe I read there's an approved blasting plan that will be provided to the Town of Antrim; is 23 24 that correct?

[WITNESS]Martin]

1	A	I don't believe that plan has been developed
2		yet.
3	Q	I realize it hasn't been yet, but there will be,
4		I assume, yes?
5	A	Yes. That's a requirement.
б	Q	And part of that, I'm not sure where I read it,
7		but it said advanced notice is part of that
8		plan; is that correct, to the town?
9	A	I believe so.
10	Q	Do you know if there's any advanced notice
11		required to individual residents in the
12		vicinity?
13	A	I don't. I'm not familiar with the details of
14		the requirement. That's not something that I'm
15		going to prepare. That will be prepared by the
16		contractor or the blasting subcontractor.
17	Q	Okay. In terms of advanced notice to the town,
18		do you have any idea how far in advance they
19		will have the plans so that the town can plan
20		for it?
21	A	I don't. I'm not familiar with the details of
22		the requirements.
23	Q	Do you know when blasting starts, how long, how
24		often will it occur?

1		[WITNESS]Martin]
1	A	No, I don't know that.
2	Q	Okay. Do you have any idea what the impact of
3		blasting operations will be on nearby residents?
4	A	No. I don't, other than that that a monitoring
5		plan will be required.
6	Q	I'm concerned, for instance, I have a kennel
7		with 30-plus animals, and I'd like to know if
8		the blasting will be such that I need to worry
9		with those animals and maybe make arrangements
10		to move them off premises on the days when
11		they're blasting. Do you know if there's any
12		impact that would affect domestic animals or
13		farm animals?
14	A	I'm not familiar with the details of the
15		requirements. I'm sorry. I can't answer your
16		question.
17	Q	Do you know who is familiar with it?
18	А	Again, that would be either the contractor or
19		the contractor's blasting subcontractor.
20	Q	Okay. Are you involved at all in public safety
21		after the commissioning of project?
22	A	I don't believe so, but I'm not exactly sure
23		what you considered public safety.
24	Q	I'm referring to, for instance, details about

		[WIINESS]MartIn]
1		potential fire hazard and that kind of thing.
2		Is that something that you're involved with at
3		this stage?
4	A	No, sir. It's not.
5	Q	Okay. So you wouldn't know, for instance, is
6		there a fire suppression system to be installed
7		in the nacelles or anything like that? Do you
8		know anything about that?
9	A	That would be a mechanical question for the
10		provider.
11	Q	I guess I have no further questions. Thank you.
12	A	You're welcome.
13		PRESIDING OFFICER SCOTT: Thank you. And
14		again, Stoddard Conservation Committee.
15		Mr. Jones is not here? Mr. Levesque?
16		MR. LEVESQUE: No questions.
17		PRESIDING OFFICER SCOTT: Mr. Ward?
18	BY I	MR. WARD:
19	Q	I just have one quick question. You're not
20		going to change the weather with this, are you?
21	A	Not intentionally, no.
22	Q	That's all I have.
23		PRESIDING OFFICER SCOTT: Ms. Lenowes, I
24		might have lied. I don't know where the two
	L,	
	{ ;	SEC 2015-02} [Day 2/Afternoon Session ONLY] {09-15-16}

1	hours come from.
2	MR. LENOWES: Mr. Chairman, I just have a
3	question.
4	BY MS. LENOWES:
5	Q This is Mr. Martin. Correct?
б	A Yes. That's correct.
7	Q And you are, I am reading the letter that was
8	submitted by the attorney for the Applicant
9	dated September 7th. It said that the
10	above-referenced matter, Prefiled Testimony
11	relating to Construction, Public Health and
12	Safety and Water Quality which was Daniel
13	Butler. You are replacing Mr. Butler; is that
14	correct?
15	A I'm adopting his testimony. Yes.
16	Q Now, we were led to believe that this
17	cross-examination was related to Construction,
18	Public Health and Safety and Water Quality. Why
19	is it you can't answer anything regarding
20	blasting?
21	MR. NEEDLEMAN: I'm going to object to
22	that. His testimony had been made available to
23	everybody, and you know precisely what the
24	nature of the testimony is.

		[WITNESS]Martin]
1		MS. LENOWES: Then maybe I missed
2		something.
3	Q	What is it that if you can characterize your
4		testimony, please.
5	A	My testimony is in regards to civil engineering
6		design. I'm not a blasting expert, and I would
7		never presume to be one. You don't want to ask
8		my advice about blasting.
9	Q	So who was it that we would ask those questions
10		of? I guess I would ask procedurally. Is that
11		the first panel today?
12		MR. NEEDLEMAN: There was a construction
13		panel.
14		MS. LENOWES: What was that construction
15		panel? Technical and managerial?
16		MR. RICHARDSON: We did ask questions about
17		blasting today. Did I imagine that?
18		MR. IACOPINO: There was a representative
19		from Reed & Reed who was on panel number 2 with
20		Mr. Kenworthy, Mr. Weitzner, and it was
21		Mr. Cavanagh. He is from the contractor is my
22		understanding.
23		MR. NEEDLEMAN: Correct. That's
24		Mr. Cavanagh, and I think this witness's

1	testimony at page 10 line 19 specifically talks
2	about blasting will be done by the licensed
3	contractor. We had the contractor here this
4	morning. He even spoke, I think, briefly about
5	the subcontractors. I don't understand what the
6	confusion is.
7	MS. LENOWES: The confusion is today's
8	panel earlier today was on Technical and
9	Managerial Ability, and I understand that we
10	were asking questions about other things, but
11	that was not, the understanding was there was a
12	topic this afternoon called Public Health and
13	Safety and Water Quality and Construction. So I
14	held those questions.
15	MR. NEEDLEMAN: Mr. Chair, if you could
16	look at page 7 of this witness's testimony at
17	line 12.
18	MS. LENOWES: Would this be App. 08?
19	MR. NEEDLEMAN: If you look at the
20	testimony from the witnesses this morning,
21	Cavanagh and Marcucci, at page 7, line 12, it
22	specifically asks the question, will Reed & Reed
23	assist in the development of a blasting plan,
24	and there's an answer. It says yes. Reed &

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1	Reed will engage and contract with a competent
2	blasting company who will develop a
3	comprehensive blasting plan in conformity with
4	all applicable state and federal rules and
5	regulations, as well as AWE's agreement with the
6	Town of Antrim.
7	So it was clearly indicated that Reed &
8	Reed was going to engage the blasting contractor
9	as parts of the construction process.
10	MS. LENOWES: I think there's a little
11	confusion here, too, with the way it was listed
12	because and I didn't intend to ask Public Health
13	and Safety questions of this witness, but that
14	was what was listed. I wonder if that was clear
15	to all of the Intervenors.
16	PRESIDING OFFICER SCOTT: And you had an
17	interjection, too, Mr. Block?
18	MR. BLOCK: Yes. I'm confused also because
19	page 9 of the Prefiled Testimony of Daniel
20	Butler and Patrick Martin has a section on
21	Public Health and Safety during construction.
22	Specifically talks about the blasting plan and
23	all of that so I assumed that this would be the
24	opportunity to ask about that at that point

	[WITNESS]Martin]
1	since it is part of their testimony.
2	PRESIDING OFFICER SCOTT: I'm looking at
3	page 9 now. You're saying that talks about
4	blasting?
5	MR. IACOPINO: The first reference to
6	blasting in the combined testimony of Mr. Butler
7	and Mr. Martin is on page 10. Begins with, any
8	blasting that is necessary will be done by an
9	experienced licensed contractor.
10	MR. WARD: Can't hear you.
11	MR. IACOPINO: Go to page 10 of the
12	testimony of Martin and Butler, and at line 19
13	is the first indication of the word blasting.
14	It says that any blasting that is necessary will
15	be done by an experienced licensed contractor.
16	That's where any discussion of blasting in the
17	Butler/Martin testimony begins and ends two
18	sentences or three sentences later. I just
19	point that out for the Committee and for you,
20	Mr. Chairman.
21	PRESIDING OFFICER SCOTT: So, again, maybe
22	Mr. Iacopino can help me. I think that the
23	confusion for the, especially the pro se
24	Intervenors, is we have these groupings in our

1	order of presentation, but as Attorney Needleman
2	points out, what we should be looking at as we
3	bring the witnesses up is their testimony which
4	is the driving factor. Less so than the general
5	topic and the order of presentation. Is that
б	effectively what you're saying, Mr. Needleman?
7	MR. NEEDLEMAN: Mr. Chair, I think that's
8	exactly what I'm saying. I mean, I could
9	understand if this were a courtroom and we
10	didn't have Prefiled Testimony, labels like that
11	could be very confusing, and I do appreciate
12	that there's a little bit of confusion with this
13	label, but the Prefiled Testimony contains
14	everything that the witnesses are testifying to
15	and adopting, and I don't think it,
16	Mr. Cavanagh's testimony and Mr. Marcucci's
17	testimony was explicit on this topic, and I
18	think substantively the notion that there's a
19	panel out there to talk about construction soup
20	to nuts would made clear that any blasting
21	that's going to go on is going to go on with
22	respect to construction, and it was, I think,
23	clear in that testimony as well.
24	MS. MALONEY: If I may, I understand it's

1	difficult. Mr. Cavanagh is not here, but just
2	looking at the Prefiled Testimony, for example,
3	Mr. Kenworthy's testimony just ran the gamut,
4	and we were instructed only to ask him certain
5	questions regarding the topic. So I think
6	that's where the confusion stems from. There
7	was quite a bit of confusion from that.
8	PRESIDING OFFICER SCOTT: And Mr. Ward.
9	MR. WARD: I had to interrupt a number of
10	times to find out for sure where the weather was
11	going to be involved since it affected many
12	things, and I'm not blaming Attorney Iacopino
13	because these things are very interrelated, but
14	at the same time it's always difficult to know
15	how many times you can interrupt, and I
16	certainly never hesitate to interrupt.
17	MR. IACOPINO: Look, I can't, you can blame
18	Attorney Iacopino if you want, but everybody had
19	Prefiled Testimony. You did have the testimony
20	of the witnesses. Your cross-examinations have
21	to be based on the testimony of the witnesses.
22	So I mean, I'm just going to put that out there.
23	Whether the titles were confusing in the sheet
24	that we put out, I'm sorry if they were

1	confusing, but if you've read the testimonies,
2	then you know which each witness testified about
3	and what questions you should be asking them on
4	cross-examination.
5	MR. RICHARDSON: Mr. Chairman, on that
6	point, I'm looking at the Cavanagh testimony,
7	the Reed & Reed testimony, and I see on page 8,
8	I don't know what the Applicant's Exhibit number
9	is, but there's the question, will Reed & Reed
10	assist in the development of a blasting plan.
11	The answer is A, yes, Reed & Reed will engage
12	and contract with a competent blasting company
13	who will develop a comprehensive blasting plan
14	and it goes on. I believe that testimony was
15	actually read to the Reed & Reed witness on
16	cross-examination which is why I remembered
17	hearing it today. I mean, I think we went over
18	what the blasting was. I don't know what else
19	there was to say about it.
20	PRESIDING OFFICER SCOTT: Okay. I remember
21	that, too.
22	MS. LENOWES: Mr. Chairman, if I could add,
23	the only statement in this document, in this
24	Prefiled Testimony, is they will work with a

1	competent blasting company. There is no
2	blasting plan in this docket to my knowledge.
3	So there is no name to a docket, and there's not
4	to my knowledge. So I think it's a little
5	unfair, even those who have read the testimony,
6	to say, which I did, to say that we should have
7	known.
8	MR. NEEDLEMAN: Mr. Chair, I might mention
9	one other point. Again, my memory is not
10	perfect, but I think Mr. Cavanagh got specific
11	questions on cross-examination about blasting.
12	I think he was asked things like checking for
13	cracks in wells. I think he talked about damage
14	to plaster from blasting. I think people went
15	into this with that witness.
16	PRESIDING OFFICER SCOTT: Perhaps. Let me
17	ask two questions that I'm not saying I'm going
18	to do this yet. Is Mr. Cavanagh available if we
19	wanted to bring him back?
20	MR. NEEDLEMAN: Where does he live?
21	MR. KENWORTHY: He's up in Maine.
22	MR. NEEDLEMAN: If he was here now, I'd
23	bring him back up, but he's not.
24	PRESIDING OFFICER SCOTT: And he does have
	$\left[\left(\frac{1}{2} \right) \right] = \left[\left(\frac{1}{2} \right) = \left[\left(\frac{1}{2} \right) \right] = \left[\left(\frac{1}{2} \right) = \left[\left(\frac{1}{2} \right) \right] = \left[\left(\frac{1}{2} \right) = \left[\left(\frac{1}{2} \right) \right] = \left[\left(\frac{1}{2} \right) = \left[\left(\frac{1}{2} \right) \right] = \left[\left(\frac{1}{2} \right) = \left[\left(\frac{1}{2} \right) \right] = \left[\left(\frac{1}{2} \right) = \left[\left(\frac{1}{2} \right) \right] = \left[\left(\frac{1}{2} \right) =$
	{SEC 2015-02} [Day 2/Afternoon Session ONLY] {09-15-16}

1	written testimony. I think the testimony in
2	his, Ms. Lenowes says that the testimony, I
3	believe, if I was to paraphrase, says you're
4	going to develop a plan, correct? You'd hire
5	the appropriate people and would develop a plan;
6	is that not correct?
7	MR. NEEDLEMAN: Yes, and maybe the easy
8	thing to do is put Jack up there for two
9	minutes, and he can describe I think what
10	he's going to tell you is that the way this
11	works is that as the contractor they will hire a
12	subcontractor who I think he said is a licensed
13	blaster in the State of New Hampshire, and they
14	will develop a plan that is approved by and
15	consistent with New Hampshire Department of
16	Safety standards, and they will do the blasting
17	consistent with that plan.
18	PRESIDING OFFICER SCOTT: Why don't we do
19	that? Mr. Kenworthy?
20	MS. LENOWES: Mr. Chairman, I have to say
21	that there a lot of questions related to
22	blasting, and I've been through proceedings
23	similar to this, and it's not enough to hear a
24	boilerplate response.

		[WITNESS]Martin]
1		PRESIDING OFFICER SCOTT: Would you swear
2		Mr. Kenworthy in?
3		MS. LENOWES: Before she does that, I would
4		like in anticipation of the testimony next week
5		of Mr. Martin, could Mr. Martin at least say if
6		he is going to be able to address any Public
7		Health and Safety questions so we can make sure
8		the questions are appropriate.
9		MR. MARTIN: Yes, I will address anything
10		related to civil engineering design, including
11		Public Safety and Health.
12		MS. LENOWES: What would that be though?
13		Can you kind of characterize
14	А	I was going to ask you. I don't know what your
15		questions are.
16		PRESIDING OFFICER SCOTT: So it would be
17		anything related to his testimony, correct?
18		MR. NEEDLEMAN: I think the answer is if
19		it's in his Prefiled Testimony, he will answer
20		questions about it.
21		MS. LENOWES: Okay. All right. Thank you.
22		MR. IACOPINO: Just so that everybody's on
23		the same page, to the extent that there is not
24		something presented by the Applicant, to the

1	extent there's not something, you're free to
2	argue what effect that should have on what the
3	Committee's ruling should be. So, I mean,
4	there's a fine line here. I don't know if
5	you're trying to say well, there is no
6	information about blasting available or if
7	you're trying to say that somehow the process
8	has not permitted you to ask questions because
9	it has because you had the testimony of both of
10	these witnesses. So you could cross-examine
11	both of them. You've had their testimony for
12	weeks. There's a difference between those two
13	arguments is all I'm saying.
14	MS. LENOWES: Okay. I think I'll just
15	think about that. Thank you.
16	PRESIDING OFFICER SCOTT: Mr. Block?
17	MR. BLOCK: I know that there are residents
18	of the North Ridge area who are very concerned
19	with what the effects of the blasting will be,
20	and I was hoping to be able to get some answers
21	about that. I apologize if I thought that the
22	second panel because it's listed as Capability
23	was more about their qualifications and what
24	they do and that this panel because it said

1	Construction, Public Health and Safety was more
2	about the operation, what will actually happen,
3	and that's why I dealt with it the way I did,
4	but I feel I don't have any answers to bring
5	back to the rest of my Intervenors after this.
6	PRESIDING OFFICER SCOTT: So it's just
7	about five o'clock now. Mr. Kenworthy, I'm
8	pretty sure you'll be back.
9	MR. KENWORTHY: Every day.
10	PRESIDING OFFICER SCOTT: So what I'm going
11	to suggest is that we come back on Tuesday at 9
12	o'clock with an expectation that we'll go to
13	five o'clock on Tuesday, the 20th, and then
14	we'll bring both Mr. Kenworthy and Mr. Martin
15	and we'll let them testify clearly, but, again,
16	the testimony says the plan will be developed so
17	I'm not, I think you can ask a lot of questions,
18	but I think you'll get the same answer, but
19	let's find out on Tuesday.
20	MR. BLOCK: Will I have any opportunity or
21	can I have an opportunity on Tuesday to ask a
22	couple of questions again?
23	PRESIDING OFFICER SCOTT: Yes, I'll allow
24	that.

	[WITNESS]Martin]
1	MR. BLOCK: Thank you.
2	PRESIDING OFFICER SCOTT: And with that,
3	we're done.
4	(Whereupon the hearing was adjourned at 4:58 p.m.)
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