

1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24

**STATE OF NEW HAMPSHIRE**

**SITE EVALUATION COMMITTEE**

**June 1, 2017 - 1:05 p.m.** **DAY 11**  
49 Donovan Street **Afternoon Session ONLY**  
Concord, New Hampshire

*{Electronically filed with SEC 06-09-17}*

**IN RE: SEC DOCKET NO. 2015-06  
NORTHERN PASS TRANSMISSION -  
EVERSOURCE; Joint Application of  
Northern Pass Transmission LLC and  
Public Service of New Hampshire d/b/a  
Eversource Energy for a  
Certificate of Site and Facility  
(Hearing on the Merits)**

**PRESENT FOR SUBCOMMITTEE/SITE EVALUATION COMMITTEE:**

- |   |  |
|---|--|
| <b>Chmn. Martin Honigberg</b><br><i>(Presiding Officer)</i> | Public Utilities Comm.                       |
| <b>Cmsr. Kathryn M. Bailey</b>                              | Public Utilities Comm.                       |
| <b>Dir. Christopher Way, Des.</b>                           | Dept. of Resources &<br>Economic Development |
| <b>Craig Wright, Designee</b>                               | Dept. of Environmental<br>Services           |
| <b>Patricia Weathersby</b>                                  | Public Member                                |
| <b>Rachel Whitaker</b>                                      | Alternate Public Member                      |

**ALSO PRESENT FOR THE SEC:**

- Michael J. Iacopino, Esq. Counsel to the SEC  
*(Brennan, Caron, Lenahan & Iacopino)*
- Pamela G. Monroe, SEC Administrator

*(No Appearances Taken)*

**COURT REPORTER: Cynthia Foster, LCR No. 14**

1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24

I N D E X

WITNESS PANEL            NATHAN SCOTT  
                                 LYNN FARRINGTON  
                                 SAMUEL JOHNSON  
                                 KENNETH BOWES  
                                 DERRICK BRADSTREET  
                                 JOHN KAYSER

*( Resumed )*

Cross-Examination Continued by Ms. Lee	3
Cross-Examination by Mr. Kucman	17
Cross-Examination by Ms. Menard	28
Cross-Examination by Ms. Bradbury	81
Cross-Examination by Ms. Draper	130
Cross-Examination by Mr. Stamp	148
Cross-Examination by Mr. Draper	176
Redirect Examination by Mr. Needleman	241
<b>INTERROGATORIES FROM SUBCOMMITTEE MEMBERS &amp; SEC COUNSEL BY:</b>	
By Mr. Wright	188
By Mr. Way	204
By Ms. Whitaker	207
By Ms. Weatherby	210
By Commissioner Bailey	223

1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24

**P R O C E E D I N G S**

(Hearing resumed at 1:05 p.m.)

PRESIDING OFFICER HONIGBERG: Ms. Lee, you  
may continue.

**CROSS-EXAMINATION CONTINUED**

**BY MS. LEE:**

Q Thank you. To continue on the Northfield questions, I have some that were answered in consultation with some very helpful engineers, but I have some kind of general questions that would pertain to the Project, not just individually to me, such as one of the questions was I have a question regarding MOU. I know that when we have an MOU with the town, we will put certain conditions.

When normally in the process of the construction do you contact a town to put in the Memorandum of Understanding? When is the normal time frame?

A (Boves) So I would say it varies from state to state. Sometimes it is post the Certificate and prior to construction. In other states, there's a second phase of citing and permitting where you get into the detailed engineering and you

1 A apply for all of your permits, and that's  
2 usually a step when we do that, for example, in  
3 Connecticut.

4 In Massachusetts, they usually like us to  
5 have stipulations or MOUs worked out prior to  
6 going to the state citing board, and in New  
7 Hampshire I think it's the first time that we  
8 have used them extensively.

9 In the case of Northern Pass, we reached  
10 out to certain towns earlier this year and to  
11 all towns in March of 2017.

12 Q So all the towns were notified in March?

13 A (Bowes) That is correct. Yes.

14 Q For New Hampshire.

15 A (Bowes) Except for Franklin which already had an  
16 MOU in place.

17 Q Thank you. The conditions that we put on our  
18 towns' MOUs in consultation with our Selectmen  
19 or our Zoning Board or our Conservation  
20 Commission, who is it that would be committing  
21 besides you, Ken Bowes, to having all those  
22 conditions met prior to construction, during  
23 construction? Who is it that is accountable  
24 because I know you're not going to be on site

1 during the work.

2 A (Bowes) So the Project signs the document, I  
3 believe it's either Jerry Fortier or Bill  
4 Quinlan signs the document as the person  
5 responsible for the Project. We would provide  
6 those to the SEC, and they would become a  
7 condition of the Certificate. So they would  
8 have the ability to oversee those MOU documents  
9 as well.

10 Q So it should be done before the SEC actually  
11 approves this Project?

12 A Again, that's up to the individual town. The  
13 Project itself would like to execute MOUs with  
14 all of the towns. I'm not sure if that will  
15 ever occur, but that would be our intention.

16 Q Is it a percentage that you've experienced with  
17 all the work that you've done in New Hampshire?  
18 I know you mentioned several projects that are  
19 in progress all the time every day in New  
20 Hampshire. What's the percentage of towns who  
21 actually agree to put in writing their MOUs?

22 A (Bowes) I would say it's fairly rare. We have  
23 about 25 projects going on now in New Hampshire.  
24 I think there's only a couple of MOUs in place.

1 But this has a much more, it's a much larger  
2 Project than some of the others.

3 Q That's for sure. The other question I have is  
4 if you're using a set of very heavy construction  
5 vehicles in my sandy area that's, I guess you  
6 would consider it riverine soil because it's  
7 near the Merrimack River, you could walk to it,  
8 it drains very fast, and we have no hydrant in  
9 my area. And I had asked in meeting with Sam if  
10 there was available, I know I've seen water  
11 tanks that follow construction vehicles so if  
12 you're working in a no-hydrant area along the  
13 right-of-way, you can ask the crew to carry fire  
14 extinguishers and you can perhaps make sure  
15 everybody has the Fire Department's contact  
16 number before any work starts? Because I've had  
17 a fire out there just from tree trimming and  
18 clearing in drought conditions. How do you  
19 address the fire hazard when you're working with  
20 heavy machinery and diesel fuel and possibility  
21 of starting in drought conditions a fire?

22 A (Johnson) Sure. So as we discussed in the back  
23 room, effectively, we will have communications  
24 with the police, fire and emergency responders

1 during the entire construction period. There  
2 will be regular updates as to where the crews'  
3 activity will be, the duration that they will be  
4 in a certain area, so that everyone is on the  
5 same page.

6 We will require all crews to have at least  
7 one fire extinguisher with them. Typically  
8 every vehicle or every truck that transports  
9 people onto the site has a fire extinguisher in  
10 them. So we'll have at least a minimum of that.

11 If the Fire Department knows where we are,  
12 it makes it that much easier for them to get to  
13 us. I believe we've also discussed the protocol  
14 of a communication channel between, for  
15 instance, the fire headquarters or the police  
16 headquarters and the foreman of the crew so that  
17 if there was an emergency, there would be a  
18 direct conversation that would be able to  
19 happen.

20 Those things can be memorialized both in  
21 the MOU as well as in general in the Traffic  
22 Management Plan as far as the routes that these  
23 EMS responders will be taking or emergency  
24 personnel would be taking.

1 Q Okay. Since you're all over the state working  
2 on projects, have you ever had a fire?

3 A (Johnson) In my experience, in the state of  
4 Maine we did have one brush fire, and the  
5 emergency responders knew where we were and were  
6 able to get out there and put that out within  
7 half an hour of reporting.

8 Q Do you notify my neighbors up and down Fiddler's  
9 Choice Road also as to access? Because you can  
10 only pass one commuting vehicle up and down my  
11 street.

12 A (Johnson) Absolutely. There will be a plan of  
13 communication for that entire neighborhood,  
14 exactly due to that. And we talked earlier this  
15 afternoon or this morning about coordinating  
16 with you and your neighbors up and down your  
17 driveway to make sure that you have access at  
18 all times as well.

19 Q All right. And I haven't found or read the Best  
20 Management Practices that I'm sure is on the  
21 ShareFile, but you're building on sand. Because  
22 I've been out there putting a metal stake to  
23 mark out my boundary marker, and it is sand.  
24 It's soil that's sandy. I call it the dunes



1 when you pass through part of the open area.

2 In your experience, what do you do in the  
3 sandy soils when you erect tall structures like  
4 the three-pole H-frames that will be my 345 new  
5 structure plus moving the 115 line closer to the  
6 well area? It's all sand.

7 A (Johnson) So to make a stable platform, we'll  
8 put down a gravel type material, probably of  
9 different grades as we build that platform up to  
10 a level area. It will provide for the stability  
11 of the equipment that's required to erect the  
12 structures. Once this is done, we'll then take  
13 that gravel out and remove it and restore the  
14 right-of-way of way back to its original.

15 Q Or better?

16 A (Johnson) Or better. Correct.

17 Q The other question I have that, besides the Best  
18 Management, which you're committed to using Best  
19 Management Practices and restoring any disturbed  
20 area, repairing or, if possible, doing  
21 mitigation avoidance, maybe you can answer this  
22 question.

23 Right now we have 115 lines right where the  
24 dunes is in the area of what I call the dunes.

1 I'll show you back on that map. This is what I  
2 call the dunes area. And right now we have the  
3 115 line. And the tan square shows it's going  
4 to be taken out. And right now if I go out  
5 there with the current low voltage, I suppose,  
6 115 line and 115 line over here, even with this  
7 area being so sandy there's an advantage. That  
8 advantage is that when I walk out there on  
9 certain, on certain days, especially after a  
10 rain, sometimes I find like a cracked area. You  
11 know, like when you bake a pie and the top kind  
12 of cracks open in that delightful way?

13 A (Johnson) Um-hum.

14 Q Well, the sand area between the poles here is  
15 cracked. Can you explain why that happens with  
16 115 lines and what would happen if you increased  
17 the voltage to a 345 line as far as electricity  
18 and electromagnetic fields? Why does it happen?  
19 I mean, I can see it on the sand. I couldn't  
20 see it where the vegetative area is. Is there  
21 an explanation for that?

22 A (Bradstreet) So I guess I believe what you're  
23 describing is shrinkage in the actual fill  
24 material. It's not necessarily something that's

1 being caused by electricity, if I understood  
2 what you explained correctly.

3 Q Actually, for example, if you had a pole, this  
4 is going to be removed, this 115 ocher-colored  
5 square, it will go across the dunes, and,  
6 frequently, I'll go out and check it for tracks  
7 for my animals, and I'll see those cracks and I  
8 say what the heck is that.

9 A (Bradstreet) I believe it's just the soil drying  
10 out.

11 Q Okay. All right.

12 A (Bradstreet) It's a natural drying.

13 Q Isn't that kind of like a feature for the  
14 electromagnetic field?

15 A (Bradstreet) Not that I'm aware of, no.

16 Q So when you increase it to 345 it will be more  
17 dangerous as far as being electrocuted if I walk  
18 out there?

19 A (Bradstreet) There should be no concern of being  
20 electrocuted, no.

21 Q So when you build this on sand, how do you make  
22 it stable on sand besides the construction pad  
23 area you're going to stabilize with gravel and  
24 with whatever? What do you do that's different

1 when you put a 345 line in?

2 PRESIDING OFFICER HONIGBERG: Other than  
3 what they've already testified to about building  
4 on sand and gravel? Do you have anything to add  
5 to your previous answer on this question?

6 A (Bradstreet) I guess the only thing, I'll add  
7 just a little bit of clarification. So the  
8 geotech boring that we get at this specific  
9 location would provide the requirements. We  
10 would design our foundations to meet the  
11 requirements of the soil, the subsurface  
12 conditions that are there. So it might mean  
13 that the foundation is slightly larger in  
14 diameter. It might mean it's slightly deeper in  
15 depth, but our design will accommodate the soil  
16 conditions and the design would be based off of  
17 actual soil conditions.

18 Q Okay. So you do have like a precise map of a  
19 particular sandy area that would be less stable  
20 versus where the vegetative --

21 A (Bradstreet) So we will get a geotechnical  
22 boring for the structure, and the structure and  
23 foundation will be designed specific to the soil  
24 conditions at that site.

1 Q Is the geotechnical boring going to involve  
2 fluids going into a Groundwater Protection  
3 District?

4 A (Bradstreet) I guess, I don't believe, to my  
5 knowledge, this boring would be just a core  
6 boring where they would take material and  
7 analyze it and fill the material back in with  
8 approved backfill.

9 Q Okay. So you're not putting some foreign  
10 chemicals?

11 A (Bradstreet) I guess I'm not aware of drilling  
12 fluid that would be required to do the specific  
13 geotechnical boring, but that's not my  
14 specialty.

15 Q Is anybody else on the Panel who can answer  
16 that? Is there any foreign substance going into  
17 this area?

18 A (Bowes) Not that I'm aware of, no.

19 Q Okay. Thank you. Presently with the 115 line  
20 which I occasionally walk there, is two tenths  
21 of a mile from my home, from my house over here  
22 to the mailbox, and I'll see blownup ceramics.  
23 You know these insulators, the older type?  
24 They're as big as a pie, they're ceramic that's

1 dark brown, and they're blown up and shattered,  
2 and I'll pick up the shards and I'll put it  
3 around the base of the H-frame or monopole  
4 frame. I mean the pole itself. So that the  
5 animals don't cut their paws. But why does that  
6 happen? I'm thinking of the safety factor in if  
7 they blow up at 115, when you replace the 345,  
8 are you using a similar type of insulator? Will  
9 they blow up by themselves occasionally?

10 A (Bradstreet) I guess my response to your  
11 question is that there's not electrical effect  
12 that's causing them to blow up, as you say.  
13 Normally, it's from some physical impact, be it,  
14 and I don't know in this area, but in some cases  
15 people will shoot them with a gun. Normally,  
16 that's the only mechanism to cause an impact is  
17 normally the only reason why the shard itself  
18 would actually shatter.

19 Q I know there's a Fish & Game Club close by, but  
20 I don't think they're using my insulators as  
21 target practice.

22 A (Bradstreet) It's very common for people to  
23 shoot insulators.

24 Q Oh.

1 A (Bradstreet) If you shoot one, they, like you  
2 said, they explode or I mean, it's a very  
3 visible change. So sometimes people will shoot  
4 them for fun.

5 Q How do you prevent that as far as access to  
6 impromptu ad hoc target shooting? How do you  
7 prevent that? Once you clear new access roads  
8 and you make it more approachable, how do you  
9 prevent that as far as safety?

10 A (Bowes) So in general we would remove the access  
11 roads when they're done, go back to its, say,  
12 more normal state of periodic vegetation  
13 management only. There would be line patrols  
14 that would be out there, and in some cases we  
15 have installed gates and bars at roadways. In  
16 this case, that may not be a viable option with  
17 your driveway entering right on the  
18 right-of-way.

19 Q Right.

20 A (Bowes) But it's something we've done in other  
21 locations to attempt to deter. Typically, they  
22 will just go through the woods and circumvent  
23 the gate or bar, but at least it's a visible  
24 indication to stay off the right-of-way.

1 Q All right. Thank you.

2 You must be glad to hear this. I'm done.

3 PRESIDING OFFICER HONIGBERG: All right.

4 Next up we have the Deerfield Abutters.

5 MS. LEE: Oh, no. Are you going to  
6 announce Taras from my group?

7 PRESIDING OFFICER HONIGBERG: No. You were  
8 together. I'm confused. You were together for  
9 30 minutes, and you've used an hour and 25  
10 minutes of your 30 minutes. Does Mr. Kucman  
11 have additional questions? Is that what you're  
12 telling me?

13 MS. LEE: Yes.

14 MR. KUCMAN: I have my questions. Fifteen  
15 minutes is all I requested.

16 PRESIDING OFFICER HONIGBERG: What are the  
17 topics you're going to be covering, Mr. Kucman?

18 MR. KUCMAN: I'll be talking about the  
19 safety of the physical construction of the --

20 PRESIDING OFFICER HONIGBERG: You need to  
21 be speaking into a microphone or no one can hear  
22 you.

23 MR. KUCMAN: I will be speaking  
24 specifically to my exhibit, Ashland to Concord



1 Abutters 4 A, and that is a presentation or an  
2 exhibit regarding the structures of the 345 kV  
3 and the 115 kV lines in my backyard.

4 PRESIDING OFFICER HONIGBERG: So you're not  
5 going to be talking about Ms. Lee's backyard?

6 MR. KUCMAN: Absolutely not.

7 PRESIDING OFFICER HONIGBERG: All right.  
8 Why don't you come on down.

9 **CROSS-EXAMINATION**

10 **BY MR. KUCMAN:**

11 Q Mr. Chairman, thank you. Committee, thank you.  
12 I appreciate having the ability to speak to you  
13 today. Or question you today. My questions are  
14 basically for, I'm from an engineering  
15 background so my questions are primarily for Mr.  
16 Bowes regarding the two 115 kV and the one 345  
17 kV line coming through Concord.

18 Before I turn on the exhibit, I would just  
19 ask Mr. Bowes, could you please tell me what the  
20 effects are from a 115 kV line phase being  
21 thrust into a 345 kV line phase? What would be  
22 the effects of that event?

23 A (Bowes) It could vary greatly depending upon the  
24 conditions, but, in general, one phase would

1           fault the other transmission line. The  
2           protective relays would operate and probably  
3           take out both transmission lines. It's also  
4           possible a conductor could come down in that  
5           case if it burned clear.

6       Q    Um-hum. Okay. So basically, from an  
7           engineering standpoint, when you do your failure  
8           modes and effects analysis, this type of failure  
9           or what would you rate this? I assume you're  
10          very familiar with failure modes and effects  
11          analysis.

12       A    (Bowes) I would say I'm generally aware. I'm  
13           not quite sure what you're specifically getting  
14           to.

15       Q    Basically, DFMEAs are what engineers use when  
16           doing projects and doing failure modes analysis  
17           on a given product or a system and basically  
18           there's only three things that the DFMEA takes  
19           into account. One is the severity of the event  
20           that's mentioned. In this case, I'm mentioning  
21           the fault of a single phase and a single phase  
22           from two different transmission sources coming  
23           together.

24                   Three things are evaluated. Severity is

1 one of them on a scale of 1 to 10. So when you  
2 look at that event occurring, normally the  
3 highest severity of a ten would be death  
4 resulting, for example. For a complete  
5 functional breakdown, you would rate it a 6 or a  
6 7. For what would become a functional nuisance,  
7 you would give it a 1 or a 2.

8 So as an engineer, would you accept that  
9 this failure would be as little as 7 and perhaps  
10 death resulting?

11 A (Bowes) No. I would not. It's probably down  
12 towards the lower end of the scale.

13 Q So the system would not shut down in the  
14 immediate vicinity?

15 A (Bowes) The two lines would be interrupted, yes.  
16 It probably wouldn't create any stability  
17 problem throughout.

18 Q How would you have a transformer functioning  
19 with only 2 out of 3 phases?

20 A (Bowes) So the entire lines would be  
21 interrupted. The protection is three phase in  
22 nature. So both the 345 line and the 115 line  
23 would trip out of service. So they would be  
24 removed from service by the protective relays.

1 Q Just for the record, have you ever experienced  
2 or seen a 115 and a 345 kV line short out?

3 A (Bowes) Not as you've described it, I have not.

4 Q Okay. All right. Thank you.

5 What I'd like to do is open up my exhibit  
6 which is Ashland to Concord Abutters 4A.  
7 Basically, here is the baseline of the design as  
8 it stands today. And stepping through, what I  
9 have presently is the wooden frame directly in  
10 front of my house, and then on the far eastern  
11 boundary of the right-of-way is the recently  
12 erected monopole. These were erected back in  
13 2008.

14 MR. IACOPINO: Mr. Kucman, would you tell  
15 the Panel what your address is? That may be  
16 helpful to them.

17 Q I'm on the Concord/Canterbury line. And I am,  
18 let me see. I'll give you my number as to,  
19 well, I'm on the Canterbury/Concord line. I am  
20 the last map for Concord.

21 And basically the map is similar to all the  
22 other maps that you have there. Basically  
23 stating that you have a 250 foot right-of-way,  
24 and on the eastern boundary you're 50 feet

1 inboard of the right-of-way, and presently my  
2 wooden structure is 100 feet away from the  
3 right-of-way. It happens to be 55 feet tall.

4 And that's the way the things happen at  
5 least until, since 2008 when the eastern  
6 boundary, I got a letter from Northeast  
7 Utilities saying they're taking down the wooden  
8 structure that was there at the time, and a  
9 monopole is to going to be moved 20 feet out,  
10 and basically that's the way things are today.

11 Basically, you can see one service is far  
12 enough from the other service where there's no  
13 possibility of cross-electrocution, if you will.  
14 And as you have mentioned before, the eastern  
15 boundary monopole, you agree, is configured so  
16 that in the event something should happen at the  
17 base, they are configured to fall inward. Would  
18 you agree?

19 A (Bowes) Just, I'm not sure it's necessarily  
20 that's the intent of that configuration.

21 Q Well, you have two conductors on the inside and  
22 one on the outside.

23 PRESIDING OFFICER HONIGBERG: Mr. Bowes,  
24 were you done answering his questions?

1 A (Bowes) No.

2 PRESIDING OFFICER HONIGBERG: Why don't you  
3 let him finish his answer before you interrupt  
4 him.

5 A (Bowes) So if the base were unstable, it would  
6 tend to fall inward with the two phases as  
7 you've just mentioned.

8 Q Thank you. And basically, you can still see  
9 that with the arc zone of falling of the wooden,  
10 there's no possibility of real contact between  
11 the services.

12 This will be the proposed Project, and let  
13 me do this. You have an existing wood H-frame  
14 services removed. Then a monopole is erected 45  
15 feet west of the wooden frame, and it, too, is  
16 configured so that it falls in with three  
17 conductors inboard. If you agree?

18 A (Bowes) It's, again, not necessarily configured  
19 that it falls in.

20 Q Okay.

21 A (Bowes) It's probably more for electro and  
22 magnetic field mitigation.

23 Q Okay. And then you will put up an equivalent  
24 height 100 foot H-frame for the 345 HQ 345 kV as

1 shown.

2 My concern is that if there were an attack  
3 placed at the bases of each of these structures,  
4 they would fall most likely as I'm showing now.  
5 So that is my concern with the crowding of the  
6 right-of-way. You've got effectively 300 feet  
7 of uprights, structures, located within 100  
8 feet, 50 feet, of each other.

9 So that, again, brings back my question in  
10 terms of severity. When you have one 115 kV  
11 line thrust into the 345 kV line, and then take  
12 another structure, take it out from the opposite  
13 side and thrust it into the other 115 kV line,  
14 you have effectively three transmission lines  
15 that are rendered inoperable. Do you agree with  
16 that?

17 A (Bowes) Yes.

18 Q Okay. Very good. Thank you. So I would ask  
19 you, again, from the engineer's perspective,  
20 talking about the imbalances put on transformers  
21 and their ability to be repaired. Do you  
22 acknowledge that there could be a catastrophic  
23 failure of the transformers on these  
24 transmission lines?

1 A (Bowes) It's certainly possible.

2 Q Okay.

3 A (Bowes) But each one of these lines would be  
4 supplied from a separate transformer so the  
5 system is already designed. Any time there's an  
6 outage on a transmission line, which occurs  
7 quite frequently, the protective system works.

8 Q Yes.

9 A And removes the power to the transformer or from  
10 the transformer depending on whether it's 115 or  
11 345. So this is a very common occurrence.

12 Q Excuse me. I'm specifically referring to  
13 cross-entanglement with other transformers. I  
14 accept the fact that you are designed to handle  
15 outages or shorts to ground, to earth. But what  
16 I'm talking about is a line that is at 115,000  
17 volts, and there's another line at about half a  
18 million other volts intersecting it. And what  
19 are the differences of that from a regular short  
20 to ground?

21 A (Bowes) So probably the more severe case that we  
22 look at in design for is a lightning strike  
23 which is several magnitudes higher in voltage --

24 Q Yes.



1 A -- than either one of these scenarios that  
2 you've put forth. And we design what's called a  
3 BIL which is insulation level which is far  
4 above, typically 5 to 10 times above the normal  
5 operating voltage. So it will be, a more severe  
6 case than what you've portrayed in this example  
7 would be what happens 50 to 100 times a year in  
8 New Hampshire is lightning striking our  
9 transmission structures and that impulse voltage  
10 traveling down the transmission line and being  
11 interrupted at the substation. It's a very  
12 common occurrence for us to have lightning  
13 strikes which is a much higher voltage than what  
14 you've described here.

15 Q But the lightning strikes are hit by your  
16 lightning rod wiring, not necessarily your  
17 transmission wiring; is that correct?

18 A (Bowes) In some cases that is accurate, yes.  
19 It's not, they're not foolproof. The overhead  
20 ground wires. The basic transformation, the  
21 transformers, the conductors, the insulators are  
22 rated for that lightning strike.

23 Q And what would be the worst case of having all  
24 three transmissions brought together as would be

1 the case of some terrorist's attack?

2 A (Bowes) Well, I think voltage-wise, it's the 345  
3 energizing the 115 line so it would be about  
4 three times normal voltage.

5 Q And your circuit breakers are per phase? Or in  
6 an entirety?

7 A (Bowes) So they are biphasic, but they operate as  
8 a group. So if one phase were to come down, it  
9 interrupts all three phases. If one phase were  
10 to be overenergized, it operates all three  
11 phases.

12 Q Okay. And thank you very much for that. But  
13 one other question would be if I'm going to the  
14 trouble of knocking down towers, hypothetically,  
15 I would also go the distance of taking some  
16 hundred-pound satchel charges and place them at  
17 the abutments of the high Hydro-Quebec line as  
18 well as some of the abutments for the 115 kV  
19 lines.

20 Now, should such an event occur where the  
21 actual abutments are destroyed, say in February,  
22 what would you rate the severity of that event?

23 A (Bowes) So again, the Hydro-Quebec line or one  
24 of the two larger nuclear units in New England

1 is the single largest contingency that ISO New  
2 England plans for. So I would say just as a  
3 normal course of business, they have what's  
4 called spinning reserve which immediately takes  
5 place of that loss of generation, and in the  
6 case they then have half an hour to start  
7 additional generation or increase the ties from  
8 New York and Canada to compensate for that.

9 So the loss of any one of these largest  
10 units in New England would be the most severe  
11 contingency they plan for. Then they have to  
12 rebalance and plan for the second one to go out.  
13 So they're always in this continuous planning  
14 process.

15 One thing I would note is if Northern Pass  
16 is built and put into operation, it would  
17 provide a fourth large unit in effect into New  
18 England, not the three that we have today, with  
19 the HQ line and the two nuclear units. So it  
20 actually adds some diversity both in supply to  
21 New England as well as alleviating that worst  
22 case contingency.

23 Q Well, I thank you for accepting those questions  
24 and answering them the way you did. That's all

1 I have. Thank you, Mr. Chairman.

2 PRESIDING OFFICER HONIGBERG: Thank you,  
3 Mr. Kucman.

4 Now we're ready for the Deerfield Abutters.  
5 You may proceed.

6 **CROSS-EXAMINATION**

7 **BY MS. MENARD:**

8 Q Good afternoon. My name is Jeanne Menard, and  
9 I'm one of the Deerfield Abutters.

10 I'd like to start with a few questions  
11 relating to corridor width.

12 Do you agree that in order to avoid  
13 unreasonable adverse visual impact that Northern  
14 Pass Transmission attempted to lower structure  
15 heights?

16 A (Bowes) I'm not sure I can address the adverse  
17 impacts. That's probably for our visual  
18 experts, but Derrick can certainly talk about  
19 what we've done on the Project to lower  
20 structure heights.

21 Q Yet isn't it true that in reality due to the  
22 narrow corridor widths, reducing visual impacts  
23 by lowering structure heights was not achieved  
24 in Deerfield?

1 A (Bowes) So, again, I think we can go through the  
2 various things that we've done to lower  
3 structure heights and those include in  
4 Deerfield.

5 Q Okay. Great. I'd love to hear them.

6 A (Bradstreet) So I guess specifically in  
7 Deerfield, structure spans, so the distance  
8 between individual structures is one option that  
9 we've used to try and limit the overall height  
10 of the structures. You know, typically given a  
11 width of right-of-way, our structure spacing has  
12 to be coordinated such that we have horizontal  
13 clearance for everything that's required for  
14 code. And there's definitely cases in the  
15 Deerfield area where our span links are not  
16 pushing the maximum span links they could for  
17 clearance requirements. They're slightly  
18 shorter spans in order to try and minimize  
19 heights.

20 Q Okay. Could you name a few specific locations?

21 A (Bradstreet) I would have to run an analysis to  
22 give specifics, but we could definitely do that.

23 Q Okay. Mr. Bowes, in your Supplemental Testimony  
24 you listed several locations where the Applicant

1           considered alternative configuration, and  
2           specifically, such as Nottingham Road and  
3           Deerfield Center?

4           A     (Bowes) Yes.

5           Q     Is it correct to say that the structure heights  
6           could not be lowered because of the narrow  
7           right-of-way in both of these locations?

8           A     (Bowes) That is correct.

9           Q     Could you explain how narrow is too narrow to be  
10          able to achieve design changes?

11          A     (Bowes) So in this case, the right-of-way width  
12          in Deerfield Center is around 200 feet, and  
13          there's an existing or two 115 kV lines and a  
14          new 345 kV line placed in it. So in order to  
15          alleviate structure heights, we'd probably need  
16          another 25 to 50 feet of right-of-way corridor.

17          Q     I'm sorry. My head is spinning. So the actual  
18          number is what? I just want to write the number  
19          down.

20          A     (Bowes) It's either 25 or 50 feet of corridor to  
21          start to reduce structure heights.

22          Q     Okay. Great. Thank you.

23                     In Allenstown, the Deerfield Middle Road  
24          crossing, is it correct that the existing

1 right-of-way width is 150 feet?

2 A (Bowes) Just a moment. Yes, it is.

3 Q So if there's an existing 115 kV line, even a  
4 right-of-way width of 150 feet is too narrow to  
5 offer the potential visual mitigation option of  
6 lowering the structure heights by as you had  
7 suggested co-locating the structures?

8 A (Bowes) Do you mean by placing both the 115 and  
9 345 on the same structure?

10 Q Yes.

11 A (Bradstreet) No.

12 A (Bowes) No. That wouldn't change the height of  
13 the structure.

14 A (Bradstreet) Let me just -- I'll explain really  
15 quick. So if we were to, we call that a double  
16 circuit structure where they both share the same  
17 supporting structure. To fit within that 150  
18 foot right-of-way, we'd either be stacking them  
19 or putting them side-by-side. If we put them  
20 side-by-side, the proposed height would be the  
21 same height as our proposed 345 kV line because  
22 it's driven by the same clearance spacing. And  
23 if we were to stack them they would be of a  
24 similar height because you're stacking the two

1 circuits above each other.

2 Q Okay. Thank you. Would you agree that for at  
3 least half of the Northern Pass Project in  
4 Deerfield the corridor width available for  
5 Northern Pass is only 100 feet? And that would  
6 be due to the way our easements are?

7 A (Bradstreet) Yes. That's correct. So there's a  
8 run of PSNH easement that's a total of 200 feet,  
9 and it's two separate 100-foot easements. One  
10 of the 100-foot easements has a restriction.

11 Q Yes. And is it correct that the Project will  
12 share an existing 115 kV line in this corridor?

13 A (Bradstreet) That's correct.

14 Q Would you agree with Mr. Fortier's testimony,  
15 and I'll just cite page 5, lines 20 and 21, he  
16 writes that 120 feet Northern Pass corridor in  
17 the new northern section of New Hampshire was  
18 not a random width, but it was intentionally  
19 planned, and I quote, "based on the National  
20 Electric Safety Code design requirements and  
21 good utility practice"?

22 A (Bradstreet) For the horizontal configuration of  
23 the 320 kV HVDC line, that is correct.

24 Q And would you also agree that this 120-feet



1 width was designed to accommodate the operation,  
2 the construction, the maintenance and repair of  
3 this, of the Project in that right-of-way?

4 A (Bradstreet) For that specific voltage and  
5 configuration, yes.

6 Q How do constrained corridor widths affect good  
7 utility practice?

8 A (Bowes) Constrained utility corridors. I'm not  
9 sure I understand.

10 Q Narrow. For instance, in Deerfield, you were  
11 restricted by the right-of-way being narrow and  
12 so you weren't able to make some adjustments  
13 because of the -- it's constricted. You don't  
14 have all the room to spread out. So, again,  
15 going back to Mr. Fortier's, and maybe you'll  
16 need to explain to me and I may not be  
17 appreciating the difference between the northern  
18 section and the configuration due to it not  
19 being an AC line versus a DV line?

20 A (Bradstreet) So the 120 feet for the northern  
21 section, so it's driven by voltage and it's  
22 driven by structure configuration. So for the  
23 northern section where the 120 feet applies, the  
24 DC line is in a horizontal configuration so the

1 energized conductors are side-by-side.

2 Q Um-hum.

3 A (Bradstreet) Where in Deerfield we're talking  
4 about the individual circuits have conductors  
5 that are one above the other for both the 115  
6 and the 345 line. And so that vertical  
7 configuration allows you to be a narrower  
8 overall footprint, I guess, is the best way to  
9 put it.

10 Q Okay.

11 A (Bradstreet) Does that clear up the question?

12 Q Well, I'm going to try and go back and clarify.  
13 So Mr. Fortier, again, his point was he had  
14 optimal opportunity to choose a specific  
15 right-of-way width, and for reasons, for  
16 maintenance and construction that was ideal, but  
17 also he made a point of saying that this was  
18 good utility practice. So if you don't have  
19 optimal width of your right-of-way, if you are  
20 constrained, what's the reality? How does that  
21 impact that, and I know nothing about good  
22 utility practice, and this is why I'm asking the  
23 question. Is the right-of-way configuration  
24 compromise in a way as it relates to that term?

1 A (Bowes) So in this case, I would say good  
2 utility practice pertains to how much overall  
3 right-of-way clearing is needed. So in this  
4 case, it was actually 150 foot right-of-way, but  
5 by some design changes and specifically with the  
6 insulator strings and the selection of voltage,  
7 we were able to only have to clear 120 feet, not  
8 150 feet that was under easement or under lease.

9 So that was the first thing we did is we  
10 selected a voltage that was consistent with  
11 other voltages in New England which, again,  
12 drove structure heights and width of  
13 right-of-way. We selected a way to suspend the  
14 conductors and constrain them with a V-string  
15 insulator. Instead of just a vertical  
16 suspension insulator, we used two insulators at  
17 some additional nominal cost, but it also allows  
18 us to narrow the right-of-way. So those would  
19 be two things.

20 So the overall width of the right-of-way,  
21 it would be part of that good utility practice.  
22 The design considerations for the conductor were  
23 also part of that, and that was also  
24 accomplished when we went to the different type

1 of technology. We went to a voltage source  
2 converter. In the original plan, the 1200  
3 megawatt plan which was a LCC converter. That  
4 converter type eliminated a center conductor on  
5 the structures and allowed us to go a few feet  
6 shorter, five to ten feet, because we didn't  
7 have to deal with that clearance issue anymore,  
8 and we also constrained the conductors.

9 So there's three examples of good utility  
10 practice we used in the northern section of the  
11 line to both limit the size of the right-of-way,  
12 the size of the clearing of the right-of-way and  
13 also the future maintenance requirements. It's  
14 now a much smaller right-of-way to maintain in  
15 the future.

16 Q Okay. Would it be correct to say that today  
17 that the constrained corridor widths do not  
18 require higher towers? So I'm trying to make  
19 the connection between the, again, the goal to  
20 be able to reduce tower heights, to reduce  
21 visual impact, is tied directly to constrained  
22 corridor width. Is that a true statement?

23 A (Bradstreet) Again, I think as Ken said, if  
24 there was 25 to 50 feet additional right-of-way

1 available, there could be other opportunities to  
2 further reduce structure heights, if that's your  
3 question.

4 Q Would you agree that because PSNH did not  
5 acquire right-of-way width back in the 1950s and  
6 '60s to accommodate an additional Project like  
7 NPT, adverse visual impact of high towers, that  
8 there will be adverse visual impact of high  
9 towers in Deerfield?

10 A (Bowes) So again, aside from the adverse  
11 impacts, again, probably better for the Visual  
12 Impact Panel to discuss that, but the other part  
13 of the question we can certainly address is if  
14 there were more right-of-way acquired by PSNH or  
15 by Northern Pass or if those easement  
16 restrictions were different for Deerfield, we  
17 could accumulate a lower set of structures.

18 Q I'd like to ask you a few questions about  
19 maintenance and inspection activities associated  
20 with Project operations.

21 Again, from Mr. Fortier's testimony, he  
22 states that there are a well-established set of  
23 transmission procedures mandated for all  
24 Eversource energy employees and the contractors,

1 and that during operation, NPT and contractors  
2 will follow them. This is from his prefiled  
3 testimony on page 13.

4 In reading this, would you agree that  
5 well-established indicates that these mandated  
6 procedures are longstanding?

7 A (Bowes) In general, I would say yes.

8 Q One of the maintenance procedures listed is foot  
9 patrol of the line each year to visually inspect  
10 the facilities.

11 A (Bowes) Yes.

12 Q Does foot patrol literally mean foot patrol?

13 A (Bowes) Yes, it does. It means you walk the  
14 line and you look at the ground condition of the  
15 towers, and you look upward to see the hardware  
16 and conductor portion of the towers and any  
17 structural defects of the tower.

18 Q On my family's property in late December of  
19 2016, a line crew performing a line check drove  
20 a wheeled vehicle through our unfrozen wetland.  
21 Is this standard procedure?

22 A (Bowes) It is not.

23 Q So is it your testimony today that NPT and its  
24 contractors will follow all Eversource's

1 well-established policies and procedures, even  
2 though some current contractors do not?

3 A (Bowes) So that would certainly be our intent,  
4 and we can certainly follow up on the activity  
5 that occurred on your property, if it hasn't  
6 already been done.

7 Q Do you agree that when mandated policies and  
8 procedures are not enforced, even for routine  
9 maintenance and inspection activities, there is  
10 impact and damage to private property and, most  
11 importantly, wetlands?

12 A (Bowes) There certainly can be, yes.

13 Q Switching to a different topic of access roads,  
14 Mr. Bradstreet, on page 3 of your testimony, you  
15 stated that the constraints for existing  
16 transmission corridors are primarily related to  
17 terrain features, limited corridor widths and  
18 existing transmission facilities. Can we take a  
19 look at Wetlands Map 668? And this is from the  
20 Applicant's Exhibit number 3. Sheet 668.

21 So what we have here is a map of Mountain  
22 Road, and the Lamprey River is to the left and  
23 there's an access road to the right-of-way on  
24 the right. And the access road is represented

1 on the map as a straight line from Mountain  
2 Road, and it goes up to structure 296 and from  
3 there it goes on to structure 297. Does this,  
4 are you following me?

5 A (Bradstreet) Yes.

6 Q Okay. Thank you. I would like to take a look  
7 at the topo map from this same section, and if,  
8 Jo Anne, if you could just point to the arrow on  
9 the -- (indicating). So this is in between the  
10 two structures. Would you agree that this site  
11 has terrain constraints, specifically steep  
12 slopes?

13 A (Bradstreet) There is a significant change in  
14 grade, yes.

15 Q Okay. If the topo map shows that there's a  
16 40-foot gain over 200-foot horizontal distance,  
17 would you agree that this slope would be well  
18 over 10 percent?

19 A (Bradstreet) Yes. I think that's correct.

20 Q Okay. Mr. Kayser, you made a statement that  
21 access roads must be sufficiently wide with a  
22 stable base and grades that typically must be 10  
23 percent or less.

24 Why was this obvious terrain feature not



1 taken into consideration when laying out the  
2 access road?

3 A (Kayser) As Mr. Bradstreet said, the terrain, we  
4 would like the access roads to be as level as  
5 possible, but the terrain will dictate that we  
6 are going to have some steep slopes as we talked  
7 about in the previous testimony. There are some  
8 areas where we could be up towards 30 percent  
9 grade, and we wouldn't have any issues with  
10 that. The contractors, they'll use different  
11 means and methods to get their equipment up and  
12 down there. If it's too steep, they could use a  
13 bulldozer to help pull a piece of equipment that  
14 might not be able to get up a steep grade.

15 Q Okay. So thank you. You answered one of my  
16 questions. In your testimony you had ten  
17 percent, but then in the hearing that we had the  
18 other day, you had mentioned up to 30 percent.  
19 So which is it that you are comfortable with?

20 MR. NEEDLEMAN: I'm going to object. The  
21 Testimony says typically 10 percent, and the  
22 witnesses said that it was typically 10 percent  
23 but occasionally more.

24 PRESIDING OFFICER HONIGBERG: Ms. Menard?

1 MS. MENARD: I'm looking for clarification  
2 from the testimony in which, and I'll go back  
3 to, I'd like to take a look to see how it was  
4 written with his comment. It's important to  
5 know how the Applicant is going to address  
6 slopes greater than 10 percent, what's  
7 acceptable.

8 PRESIDING OFFICER HONIGBERG: I think the  
9 only issue is whether you characterized  
10 accurately what the witness just said.

11 MS. MENARD: I don't mean to  
12 mischaracterize his statement so he can clarify  
13 what he --

14 PRESIDING OFFICER HONIGBERG: Is it your  
15 view or your understanding that the written  
16 testimony is different from what he just said?

17 MS. MENARD: Yes.

18 PRESIDING OFFICER HONIGBERG: Are you  
19 planning on showing him the written testimony or  
20 reminding us of what the written testimony says?

21 MS. MENARD: I have it available if it was  
22 needed. I can -- can I clarify what you've  
23 asked me to do? I have both. I have his  
24 Prefiled Testimony, and I have the testimony

1 from the other day. And I'm just looking for  
2 clarification of what he feels is to be the  
3 accurate slope that can be handled on these  
4 grades.

5 PRESIDING OFFICER HONIGBERG: Okay. Okay.

6 A (Kayser) I think as I just stated that we know  
7 there's going to be some steep slopes, and we're  
8 comfortable with that and the contractor will be  
9 able to get their equipment up the steep slopes.

10 Q Okay. So ten percent is preferred. You can  
11 deal with grades up to 30 percent by using  
12 alternative methods.

13 A (Kayser) Yes. Obviously, a level access road  
14 would be the easiest, but we know we're in New  
15 Hampshire so you're going to have some steep  
16 slopes.

17 Q Okay. Thank you. I'd like to have Jo Anne pass  
18 out some pictures of what this site actually  
19 does look like. This will be exhibit Deerfield  
20 Abutter Number 45. We do have additional copies  
21 if people would like to have a hard copy in hand  
22 versus looking at it on the ELMO.

23 (Exhibit 45 distributed by Ms. Bradbury)

24 Q So what we have here is if you're standing --

1 I'll wait until all the maps are passed out.

2 So that the top picture is if you're  
3 standing on Mountain Road just looking to the  
4 east, looking at the right-of-way, the top  
5 picture has what would be considered the access  
6 road so that's appropriately located on the map.

7 If you step back and look at the  
8 right-of-way, because of the slopes, there are  
9 several switchbacks and because of the elevation  
10 change halfway up the right-of-way, there's  
11 actually a completely and an additional set of,  
12 I'd have to go in an airplane to get an actual  
13 view of the whole hillside. So this whole  
14 right-of-way is made up of switchbacks.

15 Would you agree that a right-of-way  
16 crisscrossed by switchbacks has greater  
17 environmental impacts and due to slopes an  
18 increased risk for damage?

19 A (Bowes) So I would say it's possible it could,  
20 yes.

21 Q Would you agree that relocating the existing  
22 line will create even further environmental  
23 impacts in the right-of-way?

24 A (Bowes) I would say yes, on a temporary basis.

1 Q Would you agree that your current maps are not  
2 accurately depicting access roads needed for  
3 construction equipment, such as cement trucks on  
4 sites that have slope constraints?

5 A (Kayser) No. I don't think I would agree with  
6 that.

7 Q Pardon me?

8 A (Kayser) I would not agree with that.

9 Q Okay. Could you, can I represent to you that  
10 this spring on the G 145 line, a  
11 Connecticut-based Eversource crew was  
12 contracted. Actually, it may not have been an  
13 Eversource crew. Eversource contracted a  
14 utility crew to come in to repair wire splice  
15 locations, and they needed heavy equipment which  
16 was brought in on tractor trailers, and this is,  
17 this picture is a result of that repair  
18 operation. So they were not able to navigate  
19 the slopes. But you feel that this impact to  
20 the right-of-way with Northern Pass construction  
21 would not result in the switchbacking? You  
22 would have alternate methods?

23 A (Kayser) I think, as we stated before, we have  
24 done the access roads that we feel are going to

1 be used for the Project, and that's what we  
2 permitted for this Project. They're shown on  
3 the maps.

4 Q Okay. Ms. Farrington, are you aware that  
5 Mountain Road is a three-mile deadend road?

6 A (Farrington) I was not, no.

7 Q Just as this utility crew that I was speaking  
8 about had to figure out, where would you expect  
9 the flatbed trailers to turn around on Mountain  
10 Road after they have offloaded their equipment?

11 A (Farrington) I believe they do their maneuvering  
12 on the right-of-way.

13 Q Would it surprise you to learn that on two  
14 consecutive days with no construction signage or  
15 flaggers, I met one of the many tractor trailer  
16 trucks on a blind "S" turn backing in from  
17 Nottingham Road? I actually live on Mountain  
18 Road so on my way to work, I was in the "S"  
19 turn, and there was a tractor trailer truck  
20 backing in with equipment on it. Is that  
21 surprising to you?

22 A (Farrington) Yes.

23 Q Would it surprise you to learn that on the last  
24 day of the Project there were two police

1 officers and enough signage to notify everyone  
2 in Rockingham County, presumably brought on by  
3 local complaints and not the initiative of  
4 Eversource policies and procedures?

5 A (Farrington) It would not surprise me that there  
6 was adequate signing and police details.

7 Q Ms. Farrington, does this example support your  
8 testimony that all Eversource contractors will  
9 abide by guidelines for work zone safety when  
10 clearly they do not? Or some of them do not?

11 MR. NEEDLEMAN: I'm going to object.

12 PRESIDING OFFICER HONIGBERG: Ms. Menard?

13 MS. MENARD: There's a disparity between  
14 the testimony of the Applicants and what we  
15 experience, and the Application is full of  
16 representations of Eversource NPT will follow  
17 well-established policies and procedures.

18 PRESIDING OFFICER HONIGBERG: Well, you had  
19 a really good exchange with Ms. Farrington just  
20 a second ago, and you asked her if it would  
21 surprise you to hear I had this experience.  
22 You're not here to testify right now about your  
23 experiences.

24 MS. MENARD: Correct.

1           PRESIDING OFFICER HONIGBERG: You're going  
2           to have an opportunity to do that later. So if  
3           you can keep yourself thinking along those  
4           lines, that this is not your chance to testify,  
5           although it is an opportunity for you to set up,  
6           as it were, what you plan to testify to later,  
7           that might help move us along.

8           MS. MENARD: Okay.

9           BY MS. MENARD:

10          Q       Since your last appearance, has Eversource had  
11               any discussions with Deerfield regarding laydown  
12               areas?

13          A       (Bowes) When you say Eversource, do you mean  
14               Northern Pass or Eversource?

15          Q       Northern Pass.

16          A       (Bowes) Hold on just a second. No. I guess we  
17               have not.

18          Q       What are your parameters for laydown areas in  
19               Deerfield, understanding that we have the  
20               substation expansion, a new AC line and movement  
21               of an existing 115 kV line?

22          A       (Bowes) So they would be similar to what we've  
23               outlined in testimony, located within five to  
24               ten miles of the work areas, 5 to 50 acres in



1 size, previously disturbed areas, that have  
2 traffic access already in place. Probably  
3 wouldn't require any additional permitting for  
4 driveway or highway access. So, in general, a  
5 large commercial or industry area that is  
6 relatively flat and previously disturbed.

7 Q Is it a possibility that Eversource will be  
8 using their Eversource own land on North Road in  
9 Deerfield? That's a main straight road, Route  
10 43?

11 A (Bowes) I don't think we've specifically  
12 identified that to the contractor.

13 Q I wasn't sure if that was a disturbed area if  
14 that would qualify anyway.

15 A (Bowes) I'm not that familiar with the site. I  
16 know it has been purchased in the last few  
17 years, but I don't know if it meets those  
18 criteria or not.

19 Q Mr. Bowes, have you been responsible for  
20 transmission line projects in Massachusetts?

21 A (Bowes) In western Massachusetts, yes.

22 Q What is your level of experience with  
23 Massachusetts Natural Heritage and Endangered  
24 Species program?

1 A (Bowes) I would say relatively limited.  
2 Projects we did when I was responsible for  
3 Projects in western Mass. I don't think  
4 triggered the siting board process in  
5 Massachusetts. They were more of the  
6 maintenance nature.

7 Q Mr. Bradstreet, would you agree that as a design  
8 engineer, balancing environmental impacts with  
9 Project costs is one of your challenges?

10 A (Bradstreet) It's definitely one of the  
11 challenges, yes.

12 Q I'd like to look at Wetland Map 669, and, again,  
13 this is in the same area. I also would like to  
14 point out for the Committee and the Panel's  
15 benefit that there are three of us Intervenors  
16 that share in the wetland complex which is  
17 easily 20-plus acres so there may be multiple  
18 questions relating to this wetland, but we all  
19 are three separate landowners.

20 Can you shift the map a little bit? Other  
21 direction. Thanks, Jo Anne.

22 Would you agree that there is an extensive  
23 temporary roadway access across this wetland?

24 A (Bradstreet) Yes. As we've provided the Permit

1 Application, I think as Sam kind of stated  
2 earlier, we've permitted sort of the worst case  
3 scenario. So there may be other means to access  
4 this, and like I think we talked yesterday about  
5 potentially when the frozen conditions are  
6 there, but, yes, what's shown right now is a  
7 large wetland map road to get over to some of  
8 those structures.

9 Q Would you agree that this long access road  
10 divides and fragments this high quality wetland  
11 that is used by many species of wildlife?

12 A (Bradstreet) I guess I don't know if I'm the  
13 appropriate witness to answer that.

14 Q I'm looking for verification that it is right  
15 down the middle of the wetland.

16 A (Bradstreet) It crosses through the wetland,  
17 yes.

18 Q Okay. I'd like to refer to a question that  
19 was -- it's Applicant Exhibit 62, and it's a  
20 response to the DES additional data request, and  
21 I'll summarize the question for you. This is  
22 question number 15.

23 The question addresses alternative access  
24 methods for locations where timber matting would

1 be ineffective, and at the bottom of page 20, it  
2 states that there are several access and work  
3 area alternatives that exist and are outlined on  
4 the next page.

5 So if, Jo Anne, if you could go to the next  
6 page. I would ask that, could somebody read the  
7 avoidance section, please, outloud?

8 A (Bradstreet) Oh. Just what you've underlined?

9 Q Yes, please.

10 A (Bradstreet) Avoidance. Several of the proposed  
11 temporary construction access crossings of  
12 ponded wetland areas may be able to be avoided  
13 by utilizing access opportunities from public  
14 roads on opposite sides of the proposed pond  
15 crossing.

16 Q Have you secured any access roads to avoid this  
17 high quality wetland in Deerfield?

18 A (Johnson) We have secured no additional access  
19 roads as whatever was in our original permit is  
20 the access roads that we have. If we go far  
21 enough to the east, there is access from that  
22 side that could be extended all the way across  
23 to this particular wetland.

24 Q Okay. Thank you. I wanted to have you consider

1           that the nearest public road access is just shy  
2           of a mile away. It's actually like three sheets  
3           down on Sheet 673. So we're in a situation  
4           where the contractor is going to have a choice  
5           here, as it says later on in this avoidance  
6           section that ultimately the decision is made in  
7           the field by the contractor based on current  
8           conditions such as weather, there may be  
9           construction constraints, there's pressure.  
10          This is a pressure situation here.

11                 So given the fact that the contractor will  
12          have a choice between a 500-foot access into a  
13          high quality wetland creating impact or, as your  
14          answer suggests, coming in a mile from the east  
15          and down over some rock ledges, it's not a  
16          picnic coming in from the other side as well.  
17          We've got slopes and other challenges. You will  
18          agree that it's ultimately the contractor's  
19          choice at that time to make a decision as to how  
20          to access this structure?

21          A       (Bradstreet) I think the contractor has the  
22          flexibility to use the permit if it's approved  
23          as proposed as best as practical they can. I  
24          mean, if they think it's more efficient to come

1 a mile away, then they would do that. If they  
2 think it's more efficient to do anything we put  
3 in the permits, they would do it that way.

4 Q Isn't it true that in order to construct  
5 Northern Pass Transmission and relocate the G  
6 146 line, even in the best of conditions, that  
7 you will not be able to avoid impacting DF 31,  
8 that wetland?

9 A (Bowes) I think we said there will be temporary  
10 impacts during construction. I don't know if  
11 we've determined there will be any permanent  
12 impacts to this wetlands.

13 Q So avoidance, are you representing that  
14 avoidance is a term that can be applied even  
15 though the impacts are temporary?

16 A (Bowes) I'm not sure I understand.

17 Q The answer to this question, I believe, and  
18 please correct me, I believe the intention of  
19 this question from DES is to demonstrate options  
20 for avoiding this high quality wetland, and they  
21 specifically named this wetland. And what I'm  
22 hearing is that the avoidance measure that  
23 you're going to prescribe to or license or  
24 permitted to is a temporary road access.

1 A (Bowes) So both access points are being  
2 permitted. Does that answer your question?

3 Q No. Let me see if I can put this a little  
4 clearer.

5 Are you representing that a temporary road  
6 access is an avoidance measure?

7 A (Bradstreet) No. I think the avoidance answer  
8 is meant more to, is what Sam said. We would  
9 come a mile out of the way and not have this  
10 temporary access road at all. That would be an  
11 avoidance measure.

12 Q And what are you avoiding? The structure is in  
13 the middle of the right-of-way. Excuse me. The  
14 structure is in the middle of the wetland.

15 A (Bradstreet) Okay.

16 Q So whether you're coming in --

17 A (Bradstreet) I think I was confused on your  
18 question.

19 Q Oh, I'm sorry. I might not have worded it  
20 correctly.

21 A (Bradstreet) So to that point, if we did avoid  
22 and come from the mile away and say we didn't  
23 use this access road, then it would be a  
24 temporary impact that was being avoided.

1 Q But how are you going to get into the middle of  
2 the wetland if you come from the east side?

3 A (Bradstreet) Through the access road that we're  
4 permitting to the east.

5 Q So you have a temporary access road no matter  
6 what?

7 A (Bradstreet) There would be temporary access  
8 roads to get to that structure. That structure,  
9 there's really nothing that we can do on this  
10 design to avoid having a structure in that  
11 wetland. It's too long. The overall distance  
12 is too long.

13 Q Okay. Thank you. Can you put up Applicant's  
14 Exhibit 4, please? And I'm in big trouble  
15 because I cannot find my question sheet.

16 Basically, this page, I was wondering if  
17 any of you were familiar with the document that  
18 is mentioned here, the Best Management Practices  
19 for Utility Maintenance.

20 A (Bowes) Yes, I am.

21 Q Can I take a quick second? She has a set of my  
22 questions. I'd like to just grab that.

23 PRESIDING OFFICER HONIGBERG: Sure. Go off  
24 the record for a minute and get yourself sorted



1 out.

2 MS. MENARD: Thank you.

3 (Discussion off-the-record)

4 PRESIDING OFFICER HONIGBERG: Back on the  
5 record. Ms. Menard, you may continue.

6 BY MS. MENARD:

7 Q Do you know when Eversource adopted this DRED  
8 Utility Maintenance BMP Manual?

9 A (Bowes) So I guess I'm maybe not familiar with  
10 this document. The document that I'm familiar  
11 with is the Best Management Practices Manual for  
12 Utility Maintenance in and Adjacent to Wetlands  
13 and Water Bodies in New Hampshire.

14 Q Yes. Exactly. It is confusing. And I wanted  
15 to make sure we were both on the same page. I  
16 believe this is the same, even though it's got a  
17 different title, I cross-referenced it with the  
18 DRED, and they haven't updated it, but it is the  
19 same document.

20 A (Bowes) Okay. Thank you. So the question I  
21 think was posed, and I've not answered it  
22 because I don't know it's the right document.  
23 When did we adopt this?

24 Q Yes.

1 A (Bowes) I believe for large scale projects soon  
2 after it was, soon after the January 2010 time  
3 frame.

4 Q Okay. Thank you. Would you agree that  
5 regardless of whether a specific permit is  
6 needed for the work, that construction and  
7 maintenance projects must follow clear and  
8 enforceable performance standards? For  
9 instance, like mowing? And this actually comes  
10 from page 2 of this manual.

11 A (Bowes) I would say, in general, that's  
12 accurate, yes.

13 Q Jo Anne, can you put on Exhibit 12, please? The  
14 Transmission Vegetative Clearances? Yes.

15 I'd like to just note the clearances that  
16 are, this comes from, as you can see, Exhibit  
17 62, and also this is the Applicant's response to  
18 a DES data request. That on 345 kV line, the  
19 side clearance for vegetation is 30 feet and  
20 under clearances is 15 feet. Does that sound  
21 right?

22 A (Bradstreet) This now is an Eversource document,  
23 not the Best Management Practices.

24 Q Oh, excuse me.

1 A (Bowes) But yes, that is accurate.

2 Q Mr. Kayser, in your Prefiled Testimony on page  
3 18, you state that desirable species will be  
4 preserved to the extent practical, and we're  
5 talking about desirable plant species?

6 A (Kayser) Yes.

7 Q Jo Anne, can you show Exhibit 5?

8 This is an exhibit from my Prefiled  
9 Testimony, and would you agree that blueberry  
10 bushes would fall under the clearance  
11 requirements?

12 A (Kayser) I'm not sure specifically if they do --

13 Q Eight to 10 feet high, typically?

14 A (Kayser) Yes, I would assume they are in that  
15 area.

16 Q Would you or anyone on the Panel know that why  
17 in the last 15 years was it not practical then  
18 to preserve the blueberry bushes in my family's  
19 right-of-way if we have procedures in place that  
20 are allowing for vegetation to be in place as  
21 long as it's not interfering with your utility  
22 maintenance requirements for a specific Project?

23 A (Bowes) Again, there's been a longstanding  
24 practice in New Hampshire to do mowing of

1 rights-of-way versus a more integrated  
2 vegetation management approach including use of  
3 herbicides so that is part of the response here.  
4 Certainly, if you reach out to Eversource and  
5 request some special conditions on your  
6 property, Northern Pass will certainly take that  
7 under consideration and modify vegetation  
8 management in the future.

9 Q I will represent to you that the Menard family  
10 has reached out to Eversource, and the first  
11 record of that goes back to 2003.

12 A (Bowes) Okay. So maybe there's additional  
13 background information that I can get acquainted  
14 with.

15 Q Do you realize that this Project testifies to  
16 BMP outcomes that should be clearly evident in  
17 the right-of-way today? And that there is a --  
18 why is there a disparity between your  
19 testimonies and our reality? Whether it be  
20 basic right-of-way vegetation maintenance,  
21 utility corridor line patrol work, these  
22 documents are referenced in your testimony. Why  
23 aren't we seeing -- and they are  
24 well-established. Why aren't we seeing these

1 outcomes in the right-of-way today?

2 A (Bowes) So you've identified a single example of  
3 where a contractor drove through a wetland. I  
4 will acknowledge that's not acceptable. As far  
5 as the vegetation management program goes, I  
6 think I just explained why the difference  
7 between the Eversource standard we use in other  
8 states and the Eversource practices we use in  
9 New Hampshire are really focused around the type  
10 of right-of-way vegetation management we do. In  
11 the case of New Hampshire, we do mowing. In the  
12 case of the other states, we do selective  
13 cutting and use pesticides or herbicides as part  
14 of that integrated vegetation management  
15 program. We don't do that same thing in New  
16 Hampshire.

17 Q Oh, I found my page. Sorry. And I'd like to  
18 just take a look at the Applicant's sheet map  
19 671. This is a property that is owned by my  
20 sister-in-law, and the current layout of this  
21 right-of-way is two 115 kV lines at the midpoint  
22 of each 100-foot easement right-of-way. And Mr.  
23 Johnson, you and I have had conversation about  
24 this so I might be able to, you might be able to

1 jump right in and follow this line of questions.

2 A (Johnson) Sure.

3 Q Would you agree that the center of the Northern  
4 Pass structure and specifically structure  
5 3132-305 and structure 304, would you agree that  
6 the middle of this structure is proposed to be  
7 35 feet from the edge of the right-of-way?

8 A (Johnson) Yes. I believe we discussed that.

9 Q Yes. How wide are the bases of these  
10 structures?

11 A (Johnson) So I believe they're 30 feet from post  
12 to post.

13 Q Okay. So you are aware that in our easement  
14 deed we have a 15-foot vegetative tree buffer  
15 that is allowed to remain on the southern edge  
16 which runs from our east boundary to the pond,  
17 correct? And I'll take a minute and leave the  
18 microphone and just point that out on the map?

19 A (Johnson) Yes.

20 Q (Indicating.)

21 A (Johnson) Yes, I agree.

22 Q So how close are the structure footings going to  
23 be from the tree buffer?

24 A (Johnson) So I think we marked off together that

1 the 15-foot tree buffer would remain and that  
2 the structure legs would start basically right  
3 at the edge or a little bit inside, couple feet  
4 inside of the tree buffer.

5 Q Are there clearances for structures and not just  
6 the conductors from the edge of the  
7 right-of-way?

8 A (Bradstreet) So let me make sure I understood  
9 your question correctly. So are you asking if  
10 there's a clearance for the footing of the  
11 structure to the edge of the right-of-way?

12 Q Correct.

13 A (Bradstreet) As long as we're within the  
14 right-of-way and in this area specifically and  
15 we have electrical clearance for the conductor,  
16 there isn't. I mean, if there was a setback  
17 requirement or a highway setback or something  
18 like that, there might be. In some cases for  
19 this, it's more driven by electrical clearance  
20 of the conductors.

21 Q So just to clarify, so we have 100-foot  
22 easement, and we're going to minus the 15-foot  
23 tree buffer so that leaves 85 feet for Northern  
24 Pass Transmission and the relocated 115 kV

1 lines. This is correct?

2 A (Bradstreet) Yes, the clearing would be with  
3 that 85 feet.

4 Q And you feel that it is possible for this  
5 configuration to not be a compromised design?

6 A (Bradstreet) Yes.

7 Q Two more topics. Can you put up the Lang Road  
8 map, please? (DRFLD-ABTR Exhibit 62)

9 This is an area in Deerfield where you have  
10 Lang Road and that deadends. And then there's a  
11 discontinued portion of an old road that is very  
12 commonly traveled by local people for cutting  
13 through up to Ridge Road, whether it be on  
14 bicycles or walking dogs or horseback, whatever.  
15 Can you commit to relocating this construction  
16 pad out of that roadway?

17 Would you like me to point to the --

18 A (Johnson) Sorry. What's the number the  
19 structure? I can't quite make it out.

20 A (Bowes) 275?

21 A (Bradstreet) 279.

22 Q There's a construction pad right at 279.

23 A (Bowes) Yes. We can move that out of the  
24 roadway.



1 Q Thank you. And Bob is just going to pull up a  
2 few maps for us because we didn't have access to  
3 the AOT Sheet Map 338. Would you, would it be  
4 helpful to identify it with the Application  
5 number?

6 PRESIDING OFFICER HONIGBERG: Off the  
7 record.

8 (Discussion off the record)

9 PRESIDING OFFICER HONIGBERG: Back on the  
10 record.

11 Q So are you all seeing this map? As you can see  
12 at the intersection --

13 A (Johnson) Sorry. Ours are blank. They're  
14 coming. One more to go. There we go.

15 Q As you can see, there are three access points.  
16 This is a state highway, the main road running  
17 through Deerfield. Why are there three separate  
18 access points? I can understand you needing one  
19 on each side of the road, but can you explain  
20 why there are two?

21 A (Johnson) So I believe the one which we'll call  
22 to the south is a very, very short access road  
23 to access the G 146-31 structure that will be  
24 demolished. And then for the crane pad, for

1           3132-291, when we're prebuilding or building the  
2           new 345 line there. So that is its unique  
3           little, just for those two structures, and then  
4           the access to the north would be to get to the  
5           remaining of the right-of-way down that way.

6           Q    Is there no way to just have one access road and  
7           then you could come in around the back side?  
8           Again, this is a very dangerous curve, and  
9           heavily traveled as far as Deerfield standards.

10          A    (Johnson) So I the believe the reason that we  
11          did the other one was to take into account the  
12          contours that are in that area. You can see  
13          that if we went off the back side of that, of  
14          that lower crane pad, we'd have a very, very  
15          steep slope, and then all of the wetlands that  
16          would be impacted just past that. So this would  
17          be a case, I think, from a traffic management  
18          perspective where there would have to be a plan  
19          put together that would have flaggers and/or  
20          police detail to warn people of traffic coming  
21          in and out of the right-of-way.

22          Q    Okay. Do you agree that the tower heights  
23          crossing this intersection are at 140 feet and  
24          130 feet? And we can pull up the map if you

1 would like to verify that, but to save that  
2 step?

3 A (Johnson) Structure 290 is 140 and structure 291  
4 is 130. Yes.

5 Q Thank you. I'd like to look at a map in our  
6 Historic Deerfield Center and this is the  
7 Revised Project Map of 177 and 178. Are you  
8 there?

9 A (Johnson) Yes.

10 Q Okay. Thank you. As folks are well aware of,  
11 yellow dots are homes west of Church Street and  
12 the senior housing, Sherburne Woods. Given the  
13 tower height increases to 110 and 130 feet in  
14 combination with vegetation clearing that we  
15 could see on the Alteration of Terrain sheets,  
16 would you agree that this will result in more  
17 visual impact of the high voltage tension line?

18 A (Bowes) Yes. There will be more visual impact.  
19 This is probably a very good place to do some  
20 vegetative screening as well.

21 Q Can you describe that? The details of possible  
22 vegetative screening?

23 A (Bowes) So we've reached out to all the abutters  
24 for the opportunity to talk about replanting

1 after vegetation is removed. In this case,  
2 you're not going to be able to cover structures  
3 that are that height, but at least at the ground  
4 level we could provide some buffer which could  
5 go across that entire area where the senior  
6 housing is.

7 Q Have you reached out to any of the property  
8 owners in this area?

9 A (Bowes) I believe we have, yes. Mr. Johnson may  
10 have more specific information or we can  
11 certainly get that.

12 Q Mr. Johnson, can you confirm if you've actually  
13 reached out to any of the specific property  
14 owners in that area?

15 A (Johnson) I believe we've reached out to the  
16 center itself. I don't know about the  
17 individual property owners. I'll have to go and  
18 find out for you.

19 Q The center itself meaning the town of Deerfield  
20 or individual --

21 A (Johnson) I'm sorry. I'm talking about the  
22 elderly housing.

23 Q Oh, right. Sherburne Woods? But you have  
24 reached out to Sherburne Woods?

1 A (Johnson) I believe we have, yes.

2 Q Okay.

3 A (Johnson) But I can go verify if you'd like.

4 Q Are there any specific, again, another concern  
5 that was raised when there was an Eversource  
6 meeting in Deerfield was any noise mitigation  
7 that could be offered in this area. Are there  
8 any opportunities for noise mitigation?

9 A (Bowes) So, again, during the construction phase  
10 are you talking about?

11 Q Actually, the residents were concerned about the  
12 noise of the lines during operation.

13 A (Bowes) So I'll start and maybe Derrick can add  
14 as well is that part of the line design of the  
15 345 does factor into using techniques and  
16 methods to reduce both the corona noise as well  
17 as any power frequency noise from the  
18 conductors. If you want to go into some of the  
19 techniques we use.

20 A (Bradstreet) Sure. So for the 345 design, it  
21 utilizes Eversource standards, and those  
22 standards were developed, like Ken said, to try  
23 to mitigate as much as practical any potential  
24 corona noise that could come from the line. So

1 an example of what we've done on this Project  
2 and what's done very commonly on other  
3 Eversource projects at 345 kV is to use a  
4 two-bundle conductor. So instead of having one  
5 single large conductor by itself on each of the  
6 phases, there's actually two separate conductors  
7 that are still fairly large, separated by about  
8 18 inches, and that overall size that it  
9 provides helps mitigate or eliminates the corona  
10 noise that could be an issue on 345 kV  
11 transmission lines. That's just one example.

12 Q Okay. And one last location. On Deerfield, the  
13 Revised Project Map, Map 176. This is located  
14 at the Haynes Road right-of-way intersection.  
15 Are you all seeing that?

16 A (Johnson) It's a little fuzzy, but yes, there it  
17 goes.

18 Q Thank you, Bob.

19 So you are aware that these houses are  
20 within 30 feet of the edge of the right-of-way?  
21 And I'll represent that the tower heights are  
22 140 feet, 125 feet, 125 feet and 130 feet. Does  
23 that sound right?

24 A (Johnson) Yes.

1 Q And you can confirm on the Alteration of Terrain  
2 Map 334 that there is also a vegetative buffer  
3 removal plan for both sides of the road?

4 A (Johnson) Both sides of the road to the south  
5 side of the corridor.

6 Q South side. Yes.

7 A (Johnson) Yes. That's correct.

8 Q Thank you. And since we're on Haynes Road, I'd  
9 like to just finish up with the questions  
10 regarding 41 Haynes Road. This is the property,  
11 the left structure on the southern side of the  
12 right-of-way. Left side of Haynes Road south of  
13 the right-of-way or actually that would be west.

14 There have been a number of questions that  
15 I'm just going to follow through with for  
16 clarification. Mr. Bowes, yesterday you stated  
17 that Eversource had a contact in Texas that was  
18 used to purchase 41 Haynes Road in Deerfield.

19 A (Bowes) I believe that is correct. Yes.

20 Q And it was purchased to deal with a concerned  
21 customer?

22 A (Bowes) Yes.

23 Q What do you mean by customer?

24 A (Bowes) A person that received electric service

1 from Eversource, and in this case the customer  
2 also is close to the right-of-way.

3 Q Are you aware that New Hampshire Electric Co-op  
4 is the electricity provider for Haynes Road and  
5 not Eversource?

6 A (Bowes) I was not.

7 Q Mr. Bowes, are you acknowledging that, you are  
8 acknowledging that Eversource was involved in  
9 this purchase?

10 A (Bowes) Yes. Or Northern Pass was. Yes.

11 Q I'm sorry?

12 A (Bowes) Northern Pass was. Yes.

13 Q Northern Pass. Who at Northern Pass was  
14 involved?

15 A (Bowes) I don't know specifically. I know part  
16 of the Project team and part of the legal team.

17 Q And I guess this is one of the points of  
18 clarification I'd like to make. So the Project  
19 team is, do you have a point of contact on the  
20 Project team that would be familiar with  
21 questions relating to the purchase?

22 A (Bowes) I'm sure there is. Yes.

23 Q Is there any way to find out who that person  
24 might be?



1 A (Bowes) I'm sure I could ask, yes.

2 Q And can that information be conveyed?

3 A (Bowes) Sure.

4 Q Thank you. Did Eversource provide the funds to  
5 purchase this property?

6 A (Bowes) Ultimately, yes. I believe it was  
7 purchased by an LLC prior to Northern Pass  
8 purchasing it or Renewable Properties purchasing  
9 it.

10 Q Actually, I think the property ownership is  
11 still in the LLC and hasn't transferred out of  
12 an LLC to Renewable as has other properties.

13 A (Bowes) That was not the information --

14 Q According to the tax card, it's still showing  
15 the LLC as the owner.

16 A (Bowes) It's not the information I have, but you  
17 may be right.

18 Q Is Eversource paying the taxes on this property,  
19 do you know?

20 A (Bowes) I believe Renewable Properties, Inc.,  
21 is, yes.

22 Q Renewable Properties, Inc. Okay. And they're  
23 maintaining the property?

24 A (Bowes) To the best of my knowledge, yes.

1 Q Would you happen, the property right now is  
2 vacant. Would you happen to know what the plans  
3 are for this property?

4 A (Bowes) I do not.

5 Q Was there a confidentiality or other side  
6 agreement such as a nondisparagement clause  
7 associated with this purchase?

8 A (Bowes) I don't specifically know, but it would  
9 not surprise me if there were. That's typical  
10 practice we use.

11 Q Okay. Once again, can I ask for a followup to  
12 clarify?

13 A (Bowes) Sure.

14 Q And have a contact person? Do you know how much  
15 was paid for this clause and whether or not that  
16 clause was covered in the purchase price?

17 A (Bowes) I do not know.

18 Q Okay. Has Eversource used third parties to  
19 purchase other properties due to owners'  
20 concerns?

21 A (Bowes) Yes.

22 Q Is there any way of finding out where these  
23 properties are located?

24 A (Bowes) I think in general we have used this

1 process to protect the confidentiality of those  
2 customers. So I'm not sure it's something that  
3 we're willing to provide publicly.

4 Q If we were to enter at some point, maybe in a  
5 Track 3 miscellaneous confidential session,  
6 would that would be a possibility to discuss  
7 those locations?

8 A (Bowes) Again, if we've signed a confidentiality  
9 with those customers I would say no.

10 Q Okay.

11 PRESIDING OFFICER HONIGBERG: Ms. Menard?

12 MS. MENARD: Yes.

13 PRESIDING OFFICER HONIGBERG: I think we're  
14 probably interested in seeing the documents you  
15 just requested from him or the information you  
16 just requested from Mr. Bowes. Let's make sure  
17 that you and he and Counsel are on the same page  
18 as to what it is he's going to provide and  
19 submit, okay?

20 MS. MENARD: Yes.

21 PRESIDING OFFICER HONIGBERG: I think the  
22 second one had to do with a nondisparagement  
23 provision in an agreement; is that right?

24 A (Bowes) At first was a person's name. I

1 believe.

2 PRESIDING OFFICER HONIGBERG: Right. But  
3 let's just make sure we've got the second one,  
4 right. If there's a nondisparagement provision  
5 in the agreement purchasing the property, you're  
6 going to provide the language?

7 A (Bowes) Yes.

8 PRESIDING OFFICER HONIGBERG: Okay. And  
9 with respect to the first, you're going to  
10 provide the names of the people who were  
11 involved in the acquisition?

12 A (Bowes) Yes.

13 PRESIDING OFFICER HONIGBERG: Okay.

14 MS. MENARD: When I speak of names involved  
15 in it, I'm talking about the Eversource  
16 resources. I don't need to know the names of  
17 the -- that's not my point.

18 PRESIDING OFFICER HONIGBERG: That was my  
19 understanding as well. I assume that was your  
20 understanding, Mr. Bowes?

21 A (Bowes) It was.

22 BY MS. MENARD:

23 Q Can you confirm that in Pembroke there was a  
24 property purchased, 447 Brush Road, and I do

1 believe that Renewable Properties purchased this  
2 from Mitigation Work. Is that correct?

3 A (Bowes) I don't specifically know.

4 Q Okay. We might add that to the list. Again, I  
5 would like to add that to our list, please.

6 PRESIDING OFFICER HONIGBERG: I'm not sure  
7 what you're asking.

8 Q Okay. Who might know the answer to that  
9 question? Would anyone else on the Panel know  
10 the question for mitigation purchases? Who was  
11 involved in purchasing properties for Karner  
12 Blue Butterfly Mitigation Work or whatever?

13 PRESIDING OFFICER HONIGBERG: That's a  
14 completely different question from the one you  
15 asked. I think you asked about a --

16 MS. MENARD: Mitigation --

17 PRESIDING OFFICER HONIGBERG: Stop. Let's  
18 make sure only one of us talks at once. I think  
19 what you asked for was information about a  
20 particular property sale, was that exposure for  
21 the purchase of mitigation, and Mr. Bowes said  
22 he did not know. Beyond that, I'm not, I think  
23 there's some other things you want to know that  
24 you haven't asked them yet.

1 MS. MENARD: I would like to know who would  
2 know the answer to that question.

3 PRESIDING OFFICER HONIGBERG: The reasons  
4 for the purchase of that particular parcel?

5 MS. MENARD: Correct.

6 A (Johnson) If it is particular to Northern Pass,  
7 in particular to Karner Blue, then the  
8 environmental Panel would be aware of that from  
9 the sense of they've been involved working with  
10 the DES to make sure that it's a suitable site,  
11 that kind of thing. If they don't know, I  
12 personally don't recall this site, so I don't  
13 know whether it's, that's the actual truth or  
14 not, that it's part of the mitigation package.

15 Q In situations where Eversource used a Texas  
16 agent to purchase properties who then turned  
17 around and sold to Renewable Properties like the  
18 transition station in Bethlehem, why did he sell  
19 to Eversource at a premium?

20 A (Bowes) To cover the cost of both legal and real  
21 estate fees that they incurred.

22 MS. MENARD: And lastly, Mr. Chairman, I  
23 was wondering if the Deerfield Abutters could  
24 reserve the right to address the Panel on any

1 new issue posed by the new maps. We've got new  
2 maps coming out, Mr. Johnson indicated maybe  
3 even as much as next week. And we have  
4 questions relating to laydown areas.

5 PRESIDING OFFICER HONIGBERG: And we're not  
6 going to make any ruling along those lines in  
7 advance. If there's something that gets  
8 produced new that causes everyone to say I need  
9 to ask more questions, we'll have to deal with  
10 that as it comes.

11 MS. MENARD: And the proper way to deal  
12 with that would be?

13 PRESIDING OFFICER HONIGBERG: Usually in  
14 writing.

15 MS. MENARD: Okay. Thank you.

16 PRESIDING OFFICER HONIGBERG: Off the  
17 record for a minute.

18 (Discussion off the record)

19 PRESIDING OFFICER HONIGBERG: Why don't we  
20 take a break. Ten minutes.

21 (Recess taken 2:50 - 3:05 p.m.)

22 PRESIDING OFFICER HONIGBERG: Let's talk  
23 about the schedule for the rest of the day and  
24 what we can get done. I understand that

1 Mr. Bradstreet and Mr. Scott can't be with us  
2 tomorrow. So, Mr. Needleman, you were going to  
3 say something?

4 MR. NEEDLEMAN: No. That's correct.

5 PRESIDING OFFICER HONIGBERG: So what we're  
6 going to try and do is get through the rest of  
7 the Intervenors which is the other Deerfield  
8 Abutters who need to ask questions plus the Pemi  
9 River Group. Then we'll see what time it is.  
10 And the Committee will start its questioning and  
11 focus on Mr. Bradstreet and Mr. Scott and then  
12 see what time it is. And it may make sense, Mr.  
13 Needleman, for you to do your redirect of those  
14 two witnesses.

15 MR. NEEDLEMAN: And I thought about that.  
16 I will have no Redirect for Mr. Scott. I've got  
17 three topic areas for Mr. Bradstreet, and if  
18 worse comes to worse, I think other Panel  
19 members can cover that.

20 PRESIDING OFFICER HONIGBERG: Then we'll  
21 see what time it is. And I kind of think at  
22 that point we'll be breaking for the day, and  
23 when we come back the Committee can then ask  
24 whatever questions it has of the other witnesses



1 and you can do your Redirect of the other  
2 witnesses. Does that make sense to folks in the  
3 room? All right. Love it when a plan comes  
4 together. Ms. Bradbury. Are you good to go?

5 MS. BRADBURY: Yes.

6 PRESIDING OFFICER HONIGBERG: You may  
7 proceed.

8 **CROSS-EXAMINATION**

9 **BY MS. BRADBURY:**

10 Q I'd like to turn to certain conditions that were  
11 relevant in southern New Hampshire this year.  
12 Are you folks on the Panel aware that southern  
13 New Hampshire has just come out of a drought?  
14 Not May, okay. We know there wasn't a drought  
15 in May but before that.

16 A (Bowes) Yes, I am.

17 Q So it went from moderate to abnormally dry. Is  
18 that your recollection?

19 And then are you also aware that much of  
20 southern New Hampshire, including Deerfield, was  
21 in a severe, pardon me, an extreme drought in  
22 2016/2017. Are you aware of that? It was  
23 extreme in southern New Hampshire including in  
24 Deerfield. Are you aware of that?

1 A (Bowes) Yes, as much of New England was.

2 Q Yes. Yes. Okay. So do you agree that those  
3 kinds of drought conditions raise the risk of  
4 wildfires at construction sites?

5 A (Bowes) I would say in general, yes, they could  
6 raise the risk.

7 Q So assuming that the extreme drought conditions  
8 we occur which we hope won't happen but assuming  
9 that they do, will Northern Pass stop or  
10 restrict construction to prevent wildfires?

11 A (Bowes) It's not something that we've considered  
12 to this point. We might consider additional  
13 mitigation measures to prevent or to fight fires  
14 on the right-of-way, if that's what you're  
15 talking about. Additional fire extinguishers,  
16 additional training, possibly even additional  
17 personnel.

18 Q So you mean additional personnel that are  
19 qualified to fight the fires?

20 A (Bowes) Exactly. Yes.

21 Q And you'd bring those people in from where?

22 A (Bowes) We would probably go out with a  
23 competitive bid or have our general contractor  
24 provide that service to us.

1 Q So are you, so you would do that if we get into  
2 a drought situation again? You would be doing  
3 that in advance to head off any difficulty with  
4 the fire, should it occur?

5 A (Bowes) That's something we might consider.  
6 That was just one of the three things I said,  
7 but yes, that is something we'd consider.

8 Q You'd consider it. Would you commit to it?

9 A (Bowes) Will I commit to considering it? Yes.  
10 I will commit to considering it.

11 Q No, that's not what I asked. Will you commit to  
12 going out and getting a bid when we get to the  
13 drought because after the fire it's too late to  
14 get the bid to do much good.

15 A (Bowes) So at this point I will not commit to  
16 it.

17 Q You won't.

18 A (Bowes) I will not.

19 Q So does anyone on the Panel, I know it's a  
20 Panel. Do you all agree that in drought  
21 conditions dust at the construction site can  
22 pose a problem? A serious problem, actually?

23 A (Bowes) Yes.

24 Q Okay. And to combat dust you would use water

1 trucks; is that correct?

2 A (Bowes) That's an effective means. Yes.

3 Q Okay. So water, you also would need water to  
4 clean your equipment, correct?

5 A (Kayser) Yes. They'll need some water to clean  
6 the equipment, yes.

7 Q I'm sorry. I can't hear.

8 A (Kayser) Yes. They would need water to clean  
9 the equipment.

10 Q Okay. Yeah. Well, I don't wash my car that  
11 often either.

12 A (Kayser) That may not be on the site. That may  
13 be back at yards. It would depend how they  
14 decide to do that.

15 Q Where will you dump the dirty water after you  
16 clean your construction equipment?

17 A (Kayser) The contractor would have to find a  
18 site to dispose of the water in accordance with  
19 all of our permit requirements.

20 Q So you'd do that, you find those spots in  
21 advance of any equipment cleaning?

22 A (Kayser) Yes, they will have to know what  
23 they're going to do with the water before they  
24 start doing the cleaning.

1 Q And they really do, that's in your plan, you  
2 have that in your plan, here's where you go with  
3 your water? Your dirty water. Or I guess what  
4 would you do? You would take the dirty  
5 equipment to the place where you're going do it  
6 and then hose it off there?

7 A (Kayser) It depends. They'd have to come up  
8 with a plan. They could do it that way. They  
9 could clean it and capture the water at the site  
10 they're cleaning it so they've got options.

11 Q Okay. They can capture the water at the site  
12 where they were hosing off their trucks?

13 A (Kayser) They can use some BMPs, and I think to  
14 avoid any runoff of the equipment, depending on  
15 what they're washing. If they're just spraying  
16 dirt in an upland area, they could just allow  
17 that dirt to go back to where it came from.

18 Q But if it was oily?

19 A (Kayser) Exactly. It would be different things  
20 to do.

21 Q You are telling us today that you will take  
22 extra care if you have some really noxious stuff  
23 coming off your construction equipment?

24 A (Kayser) Yes. Yes. Contractor is going to be

1 required to do that as part of their means and  
2 methods. Similar to if they're doing any  
3 refueling in the right-of-way, they've got to  
4 make sure they cover all of that also. So  
5 capture anything that would leak out of their  
6 vehicles.

7 Q Okay. So assuming that the drought comes back,  
8 and like I said, I hope it doesn't, but if it  
9 does, where do you intend to obtain the water to  
10 combat dust and clean the construction  
11 equipment?

12 A (Kayser) Again, at this time we don't have a  
13 specific place where we'd get that, but the  
14 contractor would have to acquire the water  
15 similar to any other construction project.

16 Q And they do that in advance? Before the -- it's  
17 a plan. It's not a reaction.

18 A (Kayser) Yes. They're going to have to get the  
19 water from somewhere. Whether we're in a  
20 drought condition or not, they've got to figure  
21 out where to get water they're going to need for  
22 the construction.

23 Q Okay. So it could be a ways away. You might  
24 not necessarily have access to easily obtainable

1 water, for example, in Deerfield, and if you do  
2 have to go get water, you agree that a full  
3 truck of water is extremely heavy, right?

4 A (Kayser) I don't know if I would say it's  
5 extremely heavy.

6 Q Moderately heavy?

7 A It's heavy, but it's similar to all the other  
8 construction equipment.

9 Q Right. It's heavy like the other construction  
10 equipment.

11 A (Kayser) Yes. Similar to that.

12 Q So that you would agree then that bringing in  
13 the water causes additional wear and tear on the  
14 local roads, correct?

15 A (Kayser) I would say it, again, it's going to be  
16 another piece of equipment similar to the other  
17 pieces of equipment that are on the road.

18 Q Right. Okay. Are you aware that for a  
19 structural fire across the street from the fire  
20 station in Deerfield this past year the  
21 Deerfield Volunteer Fire Department used every  
22 bit of water and the closest water hole to the  
23 town center and had to access water way off near  
24 the school which is a ways away. Are you aware

1 of that?

2 A (Kayser) I was not aware of that.

3 Q Have you been to Deerfield Center?

4 A (Kayser) Yes. I've been there.

5 Q So probably one time you went and there was a  
6 house there and the next time you came back it  
7 was gone. Because it's gone. Okay. So you're  
8 telling us that, just so I understand, that you  
9 will ensure or your contractors will be required  
10 to ensure that there will be enough water to  
11 fight fires during the construction process, and  
12 this will not be reaction to a fire that's --

13 PRESIDING OFFICER HONIGBERG: Ms. Bradbury,  
14 you really need to slow down.

15 BY MS. BRADBURY:

16 Q I know. I'm sorry. Okay. So it's not going  
17 to, you're going to bring in the water to fight  
18 the wildfire that could occur and you're going  
19 to do that in advance of the fire.

20 A (Kayser) I think that the water we were speaking  
21 of was for the construction, for dust control.  
22 I think Mr. Bowes said that we would consider  
23 additional measures for fighting fires, if the  
24 drought occurs.



1 Q Right. He said you would consider it. Right?  
2 But Mr. Bowes you didn't commit to it; is that  
3 correct?

4 A (Bowes) That is correct.

5 Q So you won't commit to making sure there's  
6 enough water before the fire?

7 A (Bowes) Before the drought before the fire.

8 Q Yes.

9 A (Bowes) Yes. That's correct.

10 Q No commitment there. Okay. All right. So I'd  
11 like to turn our attention to the vernal pools  
12 in general. Are you folks on the Panel familiar  
13 with the DRED Division of Forest and Lands'  
14 mission? Well, let me ask you this. Are you  
15 familiar with the document Good Forestry in the  
16 Granite State? Jeanne, would you turn to,  
17 there's the cover, turn to, there's the cover,  
18 turn to page 2. That's Deerfield Abutter's  
19 Exhibit 63.

20 A (Bowes) I am not familiar with this document.

21 A (Johnson) Neither am I.

22 Q No one is familiar with that?

23 A (Bowes) No.

24 Q Can you read that off ELMO? Would someone on

1 the Panel please read the first two sentences on  
2 the page that's displayed? It's marked off at  
3 the top.

4 A (Johnson) Good Forestry in the Granite State  
5 fulfills state law RSA 227-1.4 requiring the New  
6 Hampshire Department of Resources and Economic  
7 Development Division of Forests and Lands to  
8 provide educational tools identifying  
9 recommended voluntary forest management  
10 practices.

11 Q Continuing the next sentence?

12 A (Johnson) The mission of the Division is to  
13 protect and promote the values provided by trees  
14 and forests.

15 Q Okay. Great. Jeanne, would you turn to the  
16 next page of that document? This is page 3.  
17 Would someone on the Panel please read allowed  
18 the last two paragraphs before the heading  
19 Objective?

20 A (Johnson) Other nonamphibian species use vernal  
21 pools, fairy shrimp, small crustaceans require  
22 vernal pools for all life stages.  
23 State-endangered Blanding's turtles and  
24 state-threatened spotted turtles feed on

1 amphibian eggs and vernal pools and also use for  
2 them for basking, mating and overwintering.

3 These turtles also use vernal pools at  
4 stopover habitat when migrating because pools  
5 provide moist refuge and abundant food. Many  
6 mammals, birds and snakes also forage at vernal  
7 pools including songbirds, wood ducks, ribbon  
8 snakes, bats and raccoons.

9 Q And then next paragraph. It's a very important  
10 paragraph.

11 A (Johnson) While vernal pools offer essentially  
12 essential habitat for many wildlife species, the  
13 forests surrounding the pools is equally  
14 important. For example, wood frogs and the  
15 salamanders that breed in is vernal pools spend  
16 more than 11 months in the forests.

17 Q Thank you. So my question is, you agree then  
18 after having read this that the vernal pool is  
19 important in providing essential habitat for  
20 certain wildlife, right?

21 A (Johnson) Yes.

22 Q And that, would you also agree then that the  
23 surrounding area near the vernal pool,  
24 immediately adjacent to the vernal pool is

1           equally important?

2           A     (Johnson) I'm not an environmental expert, but  
3           I'll take your word for it.

4           Q     Well, this is DRED. This is the DRED statement  
5           about it. I, mean I agree with it, too. But it  
6           is DRED's statement, not my representation of  
7           it. So you agree with DRED's statement that the  
8           area around the vernal pool is equally important  
9           to the vernal pool?

10          A     (Johnson) I believe the statement is the forest  
11          surrounding the pools. Yes.

12          Q     Yes. Okay. Okay. So now, Jeanne, if we could  
13          curve to Deerfield Abutter 64 from the New  
14          Hampshire Wildlife Action Plan.

15                 If you could turn to page 2, paragraph 1,  
16          that's from the New Hampshire Fish & Game  
17          website. If someone on the Panel would be kind  
18          enough to read the second part of the first  
19          paragraph starting with the word some, the words  
20          "some species."

21          A     (Johnson) Some species, though, are vernal pool  
22          dependent and the loss of this habitat can  
23          result in local extinction of these species such  
24          as the fairy shrimp, wood frog, spotted

1 salamander, blue spotted salamander, Jefferson  
2 salamander and the State-endangered marbled  
3 salamander. The loss of vernal pool habitat due  
4 to development is, therefore, a huge threat, but  
5 the surrounding habitat is also just as  
6 important as the vernal pool itself.

7 Q Okay. So now we have two state regulators, the  
8 first being DRED, second being the Fish & Game  
9 folks, these folks also emphasize that  
10 development in and around vernal pools will  
11 impact the viability of the vernal pool and the  
12 wildlife, correct?

13 A (Johnson) It seems to be what the document says,  
14 yes.

15 Q It does. Yes. So can we turn to the, Bob, can  
16 we, Dawn, can we go to Apple TV? And the  
17 wetlands map, Bob, when you get it.

18 So on this wetland map, this is the new one  
19 that you folks put out in January, on January  
20 19th, 2017. It's Sheet 658. And you see there  
21 there's a vernal pool. It's on the left-hand  
22 side of my page. It's identified as DF VP 1.  
23 Correct? You don't see it?

24 A (Johnson). No. We have DF 62 or DF 63. Oh,

1 it's up top. Yes. Got it.

2 Q On that wetland map you see marked in magenta,  
3 what I call magenta, kind of purple color, a  
4 100-foot buffer that encircles that vernal pool.  
5 Do you see that? Can you see that on that one?

6 A (Johnson) Yes.

7 Q Do you agree that the 100-foot line identifies  
8 the recommended distance from the edge of a  
9 vernal pool to an area of disturbance?

10 A (Johnson) I'm unfamiliar with that standard. I  
11 think our environmental group would be the --

12 Q No. No. I need to talk about construction now.

13 A (Johnson) Sure. Okay.

14 Q I don't think they can do that. If you look at  
15 the key down there. Can you see the key on  
16 there?

17 A (Johnson) I'm aware of that. Yes.

18 Q In the second column under, up there it's got  
19 the vernal pool marked in magenta, and then the  
20 dotted line, the 100-foot buffer of vernal  
21 pools?

22 A (Johnson) I can see the line, yes.

23 Q So you included that, someone included that to  
24 demonstrate that there's a buffer, assumes that

1           you would stay outside of the buffer. Correct?

2   A       (Johnson) No. I believe that the buffer --  
3           well, again, I'm not an expert, but I believe  
4           that the Department of Environmental Services  
5           requires that you put this buffer line on. It  
6           doesn't say you have to be in or outside of it.

7   Q       Okay.

8   A       (Johnson) But it puts the buffer line on.

9   Q       Okay. But we did just read that both DRED and  
10          New Hampshire Fish & Game recommend staying away  
11          from not only the vernal pool but the area  
12          around the vernal pool, and that this 100-foot  
13          buffer would satisfy that wish of these two  
14          regulatory bodies, correct?

15   A       (Johnson) That is what the document said, yes.

16   Q       Okay. So the key role of the buffer is to  
17          protect the pool and to provide habitat for the  
18          wildlife, correct?

19   A       (Johnson) That's what the document said, yes.

20   Q       Do you believe it?

21   A       (Johnson) I'm not an environmental expert. I  
22          have no concept of this kind of document.

23   Q       Well, that's just what I'm afraid of. Despite  
24          the recommended 100-foot buffer that we have now

1           seen on the map, your own map, and also from  
2           DRED and also New Hampshire Fish & Game, you  
3           plan to build the access road right next to this  
4           vernal pool on the left southern bank. Do you  
5           see that? You can see that.

6           A     (Johnson) I do.

7           Q     Yes. And you will have excavation and heavy  
8           construction equipment within just a few feet of  
9           the vernal pool, correct?

10          A     (Johnson) Looks that way, yes.

11          Q     Yes, it is. I've been out there. And it's even  
12          closer than a few feet. It actually is right on  
13          the edge of that vernal pool, right?

14          A     (Johnson) It looks that way.

15          Q     Yes. So, Jeanne, can I get, can we go back to  
16          ELMO? Okay. Well, I can see ELMO. Back to  
17          ELMO? Tell me when we're there. I know that's  
18          there, but it is up for everyone else? It's  
19          there. Okay.

20                 That's Deerfield Abutter 71. That is that  
21          very vernal pool. It's a photograph taken a  
22          couple months ago. So you see water. You can  
23          see the power lines, right? Can I get Deerfield  
24          Abutter 72 up there? This is the other side of



1 the vernal pool. And our concern is that those,  
2 you have that access road running right there,  
3 and it's right where those two ruts are that you  
4 see there that they're right on the edge of that  
5 vernal pool. Our concern is about that access  
6 road and that crane pad. Okay. So Jeanne, can  
7 we go back to, well, would you agree that if  
8 you're running the heavy equipment that you're  
9 going to be running through there in order to  
10 build a crane pad and an access road that that  
11 would compact and cause ruts in the soil?

12 A (Bowes) I'm sorry. You'll have to repeat that.

13 Q Do you agree that the construction activity of  
14 the crane pad, building the crane pad and the  
15 access road right next to the vernal pool will  
16 cause ruts and compact the soil there?

17 A (Johnson) So if this is an identified wetland  
18 which it looks like it is and the access road  
19 goes through it, they'll be appropriate matting  
20 or other wetland crossing techniques that are  
21 used to prevent rutting and damage of that  
22 nature.

23 Q Okay. I see that, yes, I should have identified  
24 this as one of the three highest quality vernal

1 pools along the entire 192-mile line. I didn't  
2 do that. I apologize. But this is one of the  
3 three, and its quality is described in the  
4 Normandeau report of your folks. So Jeanne, can  
5 I get to DA 63, page 4? Okay. Would you,  
6 someone on the Panel, anyone, please read the  
7 two starred items on that page, and let me point  
8 out again, they are DRED recommendations.

9 A (Johnson) "The vernal pool and the surrounding  
10 forest make up the functional vernal pool system  
11 but each serves different functions. Breeding  
12 habitat includes the vernal pool basin and a  
13 forested buffer extending 200 feet from the pool  
14 edge. The pool basin is the physical breeding  
15 location for vernal pool dependent species and a  
16 nursery for their eggs and larvae. The buffer  
17 helps protect the pool's water quality by  
18 filtering sediments and pollutants, providing  
19 shade and slowing the surface runoff.

20 Q And again, then down at the bottom of the page,  
21 there's another starred sentence. Two  
22 sentences.

23 A (Johnson) "Vehicle ruts can reduce the length of  
24 time a pool holds water by directing water away

1 from the pool. Ruts at any distance from a pool  
2 can create breeding traps for amphibians since  
3 wood frogs and salamander will often deposit  
4 eggs in ruts. Most ruts dry too quickly to  
5 allow the eggs to develop completely.

6 Q Thank you. Okay. So once you install the  
7 access road, you will build the crane pad right  
8 next to it according to the map that we just  
9 looked at. Do I need to put that back up again,  
10 the map?

11 A (Johnson) No.

12 Q Okay. So that would involve pouring concrete,  
13 drilling, erection of towers and stringing of  
14 lines, correct?

15 A (Johnson) That's correct.

16 Q Do you agree that this construction is likely to  
17 destroy the vernal pool, wildlife and the  
18 surrounding habitat?

19 A (Johnson) No. But again, I'm not qualified to  
20 answer that. From our experience with  
21 construction, the pool itself will remain a  
22 viable place.

23 Q Well, based on the recommendations of DRED, New  
24 Hampshire Fish & Game, you agree they have

1 recommended stay away from the vernal pool.

2 Well away. From the vernal pool.

3 A (Johnson) No where in this document does it say  
4 you must stay away.

5 Q It doesn't say you must. It's a recommendation.  
6 Do you agree they recommend it?

7 A (Johnson) They're recommending that or they're  
8 basically stating these documents that the  
9 vernal pool and the surrounding area is a part  
10 of the ecosystem.

11 Q Yes. And each part is equally important; the  
12 pool and the surrounding area, correct?

13 A (Johnson) That's correct. That's what they say.

14 Q Thank you. Okay. So can we take a look at  
15 Applicant's Exhibit 67, Jeanne?

16 This is the response to New Hampshire DES  
17 additional data request dated 28 July 2016.  
18 Would you please read item 5 and the response  
19 that follows?

20 A (Johnson) "Sheet 689. Why wouldn't the existing  
21 road be used on the west edge of vernal pool DF  
22 94 to minimize impacts. We agree that shifting  
23 the location of the proposed access road as far  
24 away as possible from vernal pool DF 94 is

1 appropriate. We will redesign the access at  
2 this location with this goal in mind at the time  
3 of the constructability walk-downs to determine  
4 the least impacting practicable alternative at  
5 this location."

6 Q Okay. Jeanne, would you place the wetlands map  
7 up there. This was from 2015, and you may have  
8 updated it. I have looked, but I could not find  
9 an update of this particular map, but this  
10 vernal pool is DF 94 that you see there really  
11 right about the middle of that page. Do you see  
12 that?

13 A (Johnson) I do.

14 Q And they described in their data request that  
15 there is an existing access road which you can  
16 see on there. I don't believe it has the dotted  
17 red lines, but you can see that there is an  
18 access road that goes up above that pool rather  
19 than right through that. Can you see that?

20 A (Johnson) I can.

21 Q Okay. So it's not very far away from the vernal  
22 pool. But would you agree that it would be  
23 better for the vernal pool to take the access  
24 road around it rather than straight through it?

1 A (Johnson) I would agree that it would make more  
2 sense to go around it than through it, but I'm  
3 not sure this is the same picture you showed  
4 us --

5 Q It isn't. No. This is another --

6 PRESIDING OFFICER HONIGBERG: Ms. Bradbury,  
7 you can't interrupt them because if you  
8 interrupt them, the transcript is just going to  
9 be a total mess.

10 A (Johnson) I apologize. I didn't realize you'd  
11 switched vernal pools.

12 Q I did. I mentioned that. I think you were  
13 looking up something else.

14 Okay. So has the design changed from  
15 having the access road go right through the  
16 vernal pool as opposed to around it?

17 A (Johnson) At this time I don't know, but I will  
18 check, and our new maps that are coming out --

19 Q Okay.

20 A (Johnson) -- will either show this or not show  
21 it so I can go check.

22 Q Well, if your new maps don't show any change,  
23 would you be willing to commit to go around that  
24 vernal pool as opposed to right through the

1 middle of it?

2 A (Johnson) Yes, pending a discussion of the  
3 reason why it went through there in the first  
4 place so --

5 Q Whoa. That's a very good question. I agree.  
6 And that, yes, I want to ask. Okay. So let's  
7 take a look at Applicant's Exhibit 62 which is  
8 the Applicant's 12 July 2016 Responses to New  
9 Hampshire DES Data Requests.

10 Now, would you please read question 19 and  
11 the response labeled DF VP 1? They are starred  
12 on there, and let me point out we're back to the  
13 vernal pool east of Thurston Pond Road which is  
14 DF VP 1. Different vernal pool.

15 A (Johnson) "Three high quality vernal pools are  
16 proposed to be temporarily impacted by the  
17 Project. Can these temporary impact areas be  
18 avoided by making minor plan changes.

19 DF VP 1, this vernal pool is located in  
20 Deerfield in the vicinity of Haynes Road which  
21 is public and just east of Thurston Pond Road.  
22 The impacts to this pool are caused by a crane  
23 pad associated with the 345 kV lattice  
24 structure. Some minimization of impact is

1 possible but it would not substantially change  
2 the impacts based on the size of the pool and at  
3 the location of the structure and the crane pad.  
4 The only way to avoid this vernal pool would be  
5 to move the structure approximately 30 feet to  
6 the south. This would cause the structure  
7 height to increase."

8 Q All right. So it's clear from the two exhibits,  
9 the Exhibit 62, Applicant Exhibit 62, and  
10 Applicant Exhibit 67 that DES is concerned about  
11 vernal pools, and they're concerned about this  
12 particular vernal pool in particular, right?

13 A (Johnson) It seems that way. Yes.

14 Q Yes, it does. So we have DRED, New Hampshire  
15 DES, and New Hampshire Fish & Game all  
16 expressing concerns about vernal pools, right?

17 A (Johnson) In general, yes.

18 Q That's quite a triumvirate in these parts  
19 concerning themselves with vernal pools. Would  
20 you agree? Three major regulatory bodies in the  
21 State of New Hampshire. I call them the  
22 triumvirate.

23 A (Johnson) All have expressed interest. Yes.

24 Q So Dawn, can we go back to Apple TV? Is it up?



1                   So I have a question.

2       A       (Johnson) We don't see it yet. Hold on.

3       Q       You don't see it yet? Okay.

4       A       (Johnson) We're always last.

5       Q       Tell me when.

6       A       (Johnson) Okay.

7       Q       It's up?

8       A       (Johnson) Yes.

9       Q       So that is, again, DF VP 1. It is the vernal  
10       pool just east of Thurston Pond Road. That  
11       vernal pool is right smack dab in your way.  
12       Isn't it?

13      A       (Johnson) It looks like we've tried to avoid the  
14       vernal pool itself by placing the crane pad  
15       where it is and the access road where it is.

16      Q       Yes. Okay. Would you agree that the existing  
17       structures, those little yellow squares on this  
18       map, are beyond the 100-foot buffer around the  
19       vernal pool, the existing structures?

20      A       (Johnson) It looks to be that way.

21      Q       Well, yeah. I mean, I'm assuming that your map  
22       is correct. It does look to be that way. Okay.

23                   Okay. Mr. Bradstreet, in your Prefiled  
24       Supplemental Testimony of 17 April 2017 on page

1           2, lines 11 through 19, you refer to the  
2           possibility of moving structures to avoid damage  
3           to certain wildlife. In that section you were  
4           talking about the small-footed bat. Is that  
5           correct? I can put it up. I have it.

6           A     (Bradstreet) I have it right in front of me.

7           Q     Okay. So that I have characterized that  
8           correctly?

9           A     (Bradstreet) One second. Let me just get  
10          familiar.

11                 So yes. This was specific to the  
12          small-footed bat.

13          Q     Yes, but you did note that you could move  
14          structures to protect certain wildlife, correct?

15          A     (Bradstreet) Yes, and I'd have to go back and  
16          look, but I'm pretty sure that we revised this  
17          proposed structure location and pad to avoid DF  
18          VP 1 more than we originally did.

19          Q     Oh, yeah. You did. It used to be right on top  
20          of it. It used to be right on top of the vernal  
21          pool. It was as though it was aiming for it and  
22          hit its target.

23          A     (Bradstreet) I just wanted to point that out for  
24          those that didn't know there was a revision.

1 Q Yeah, and I can show the other map if you like.

2 A (Bradstreet) I'm familiar.

3 Q Okay. So Mr. Scott, I don't want to leave you  
4 out. I believe that you noted in a tech  
5 session, and correct me if I'm wrong, it may  
6 have been one of the other members of the Panel,  
7 but I believe it was you, Mr. Scott, that you  
8 said you could move things around until the  
9 shovel hits the dirt. Did I -- something to  
10 that effect? Did I hear that right?

11 A (Scott) Essentially.

12 Q Yeah. I thought so. That's one of those kind  
13 of phrases that sticks in your mind. So can you  
14 move the new towers east of Thurston Pond Road  
15 so that they are closer to the existing  
16 structures, those yellow squares, or even  
17 adjacent to the existing structures and by doing  
18 so stay much farther away from the vernal pool?

19 A (Scott) I would like to clarify that any  
20 statements I would have made would have been  
21 specific to underground and not necessarily  
22 overhead --

23 Q Okay. So --

24 A (Scott) Because that's not my area.

1 Q So you can move things around if they're  
2 underground, and you're not sure if they can  
3 move things around if they're above ground?

4 A (Scott) That's not my area.

5 Q Pardon?

6 A (Scott) That's not my area of expertise.

7 Q Above ground.

8 A (Scott) Correct.

9 Q Anyone?

10 A (Bradstreet) So I think the answer is there are  
11 various ways to peel the onion, so to speak.

12 Q To peel the -- okay.

13 A (Bradstreet) So there are, there are definitely  
14 options we could consider in this area. I know  
15 when we looked at moving 269 to the, I guess, I  
16 believe that's to the west.

17 Q Yes.

18 A (Bradstreet) It did increase the structure  
19 height.

20 Q Yes. By how much?

21 A (Bradstreet) I don't have that in front of me.

22 Q Five feet?

23 A (Bradstreet) Maybe. Maybe ten. So I think as  
24 we've said in other testimony, it's a balancing

1 act, and we're trying to limit visual impacts as  
2 well as environmental impacts. So I guess to  
3 answer your question there's, we could look at  
4 what the design change would be to match the  
5 existing structure locations. It might mean the  
6 structures get substantially taller.

7 Q Yes.

8 A (Bradstreet) It might mean there would be other  
9 environmental impacts, and it might mean we  
10 might have additional structures which would be  
11 additional impacts. So I guess to answer your  
12 question, yes, we could consider it, but from  
13 our perspective, this was the least impactful  
14 solution.

15 Q Unless you're an aficionado of vernal pools.

16 A (Bradstreet) I guess I wouldn't say -- this  
17 provides what we felt was the best balance.

18 Q Okay. Well, if someone is willing to make that  
19 trade, be willing to look at taller towers as  
20 opposed to destroying this vernal pool, would  
21 you agree to do it?

22 MR. NEEDLEMAN: I'll object.

23 MS. BRADBURY: I don't know why he  
24 objected.

1 MR. NEEDLEMAN: Because the Project is not  
2 destroying the vernal pool.

3 MS. BRADBURY: Oh, oh, oh. I have pointed  
4 out that we have three --

5 PRESIDING OFFICER HONIGBERG: Why don't  
6 you -- if there were damage to vernal pools.

7 MS. BRADBURY: Okay.

8 PRESIDING OFFICER HONIGBERG: Why don't you  
9 ask it as a hypothetical.

10 BY MS. BRADBURY:

11 Q Okay. If there was damage to a vernal pool, and  
12 someone's willing to trade off making the towers  
13 somewhat taller, would you agree to move the  
14 tower so it doesn't come so close to the vernal  
15 pool? The tower and the access road?

16 A (Bowes) So there's a condition number 14 in the  
17 New Hampshire DES Permit.

18 Q Okay.

19 A (Bowes) Which talks about the vernal pools, and  
20 it does indicate that there is one high quality  
21 vernal pool that we'll impact.

22 Q Yes. This one, right? Is it this one?

23 A (Bradstreet) Doesn't say. If this truly is the  
24 one high quality vernal pool, we will look at

1 options to relocate this structure away from the  
2 vernal pool.

3 Q What if it's one of the other -- there are  
4 three. They note that there are three in  
5 Deerfield. Not in Deerfield, along the 192  
6 miles. They note that there are three vernal  
7 pools. This is one of them. Three high  
8 quality. Not just three vernal pools but three  
9 high quality vernal pools. And this is one of  
10 the three. Highest quality along the 192 miles.

11 A (Bowes) Again, in Condition 14 of the DES permit  
12 application, they indicate there's only one. So  
13 if this is the one, we will certainly look at  
14 options to move that.

15 Q I'm going to -- if you would go back, Jeanne  
16 would you go back to Applicant Exhibit 62?  
17 Would you please read the question that the DES  
18 asked? Number 19? I don't have it. I need to  
19 go back to ELMO, Dawn. Tell me when it's up.  
20 Okay. Would you please read DES question number  
21 19? It's starred. How many?

22 A (Johnson) I understand that, but the  
23 conditions --

24 Q No, please tell me. Tell me how many. Would

1           you just answer the question I asked which is  
2           how many do they refer to?

3       A     (Bowes) They refer to three high quality vernal  
4           pools.

5       Q     Thank you. Okay.

6       A     (Bradstreet) On July 12th of 2016.

7       Q     Right. Yes. So I'm looking for a commitment to  
8           move the tower so that it's away from that  
9           vernal pool. Is there a chance that I can get  
10          it?

11      A     (Bowes) As I said before, the March 1st, 2017,  
12          conditions from the New Hampshire DES indicate  
13          one high quality vernal pool. Obviously,  
14          something has transpired in the six months or  
15          more, nine months from July of 2016 to March 1st  
16          of 2017. If this is in fact the number one high  
17          quality vernal pool on the project, we will move  
18          the structure.

19      Q     Okay. What if it isn't? Can I get a  
20          commitment? Let's say this is number 3. I'll  
21          take 3. Number 3. Would you move the  
22          structure? You've got a lot of education up  
23          there. You guys are very smart. We all know  
24          that. You have made it clear. You're very good



1 at what you do. Can you give us a commitment  
2 that you will move the tower away from this  
3 vernal pool?

4 A (Bowes) Yes.

5 Q Thank you. Okay. All right. So I'd like to  
6 took a look at Thurston Pond Road which is now I  
7 need to go back to Apple TV. Tell me when. And  
8 so I need that. Not yet, Jeanne. Well, that's  
9 okay. Same one. Is it up? Okay.

10 You see there there's a dirt road there on  
11 the far left of that map? Do you see that? Is  
12 it up?

13 A (Kayser) We've got it. Yes.

14 Q Okay. Are you aware that that is a privately  
15 maintained Class VI road?

16 A (Kayser) I was not aware of that, but I'll --

17 Q Okay. Well, I can represent to you that it is.

18 A (Kayser) Okay.

19 Q It's gravel, you can see that it's gravel and  
20 stone dust, not asphalt? Correct?

21 A (Kayser) Appears to be gravel by the picture.  
22 Yes.

23 Q Are you aware, anyone, anyone on the Panel, has  
24 anyone been out there to look at this. Any of

1           you guys? Or you, Mrs. Farrington?

2           A     (Johnson) I have not personally, no. Not to  
3           this location.

4           Q     No one? Mrs. Farrington? No one. So none of  
5           you aware that it has a privately maintained  
6           bridge either since you haven't been there. You  
7           would have seen it on your way in. No?

8           A     (Johnson) I'll take your word for it.

9           Q     Okay. Can I go back to ELMO, please. That's --  
10          are we there? Can you see it? Can you see the  
11          picture? No. Tell me when it comes up.

12          A     (Kayser) Yes.

13          Q     Got it? You got it. Okay. This is the  
14          privately maintained bridge on Thurston Pond  
15          Road. The only way in that's maintained from a  
16          paved road. If you secure a Certificate, do you  
17          intend to use this road and the bridge to access  
18          the right-of-way for construction?

19          A     (Johnson) I don't believe so. No.

20          Q     You don't intend to?

21          A     (Johnson) No.

22          Q     Okay. Are you aware that someone from, an  
23          Eversource contractor, not sure if it was an  
24          Eversource official, has been in contact with

1 the Town Administrator of Deerfield asking what  
2 this bridge is rated for?

3 A (Johnson) I am not aware of that. No.

4 Q That has transpired. I can represent to you  
5 that that happened.

6 A (Johnson) I'll take your word for it.

7 Q I was a little concerned about it because that  
8 bridge is maintained for a couple of sedans to  
9 go in and out of there. That's about it.

10 A (Johnson) I would agree.

11 Q Okay. So you, you're telling me now you're not  
12 going to try to use this bridge and Thurston  
13 Pond Road as access to the right-of-way because  
14 it's awfully tempting. So easy to get in that  
15 way.

16 A (Johnson) The current plans that we're showing  
17 which means our constructability guys have been  
18 out there, and we are not planning on using  
19 Thurston Pond Road.

20 Q Okay. Okay. I'm going to turn our attention to  
21 some Best Management Practices. We've heard a  
22 fair amount about the fact that your company and  
23 your contractors follow Best Management  
24 Practices. So is it your testimony that when

1 your workers are in the field every day they are  
2 following Best Management Practices?

3 A (Bowes) They are trained to do that. Yes.

4 Q And you agree that if the SEC issues a  
5 Certificate they are doing so with an  
6 understanding that your people will follow Best  
7 Management Practices?

8 A (Bowes) Yes.

9 Q So you're aware that everyone is relying on you,  
10 right?

11 A (Bowes) Yes.

12 Q And despite that, and recognizing that so much  
13 is at stake, why would your workers fail to  
14 adhere to BMPs now?

15 MR. NEEDLEMAN: Objection.

16 Q I have some pictures.

17 PRESIDING OFFICER HONIGBERG: The objection  
18 is sustained.

19 Q Okay.

20 PRESIDING OFFICER HONIGBERG: To that  
21 question, the objection is sustained. If you  
22 have pictures you want to pull out, let's talk  
23 about your pictures.

24 BY MS. BRADBURY:

1 Q Okay. Are you aware that the Deerfield  
2 substation has significant abutting wetlands?

3 A (Bowes) Yes.

4 Q Let's see. What am I on now? ELMO. I would  
5 like -- Jeanne, would you pass out to the Panel  
6 and to the Committee the photographs that we're  
7 going to run through on ELMO?

8 We'll run through them on ELMO and you have  
9 the copies there. You see the piece of  
10 equipment there, it's entitled Morooka. Do you  
11 see that?

12 A (Johnson) I do.

13 Q Then the next one. I'm not sure what that is.  
14 Does anybody know what that piece of equipment  
15 is?

16 A (Johnson) Looks like a mobile drill rig. Track  
17 mounted.

18 Q Oh, that makes sense. So now, Jeanne, can we go  
19 on through to the following pictures. This was  
20 last fall. It was actually December the 12th,  
21 2016, that these pictures were taken. Okay. So  
22 we've got that. And let's turn to the next one.  
23 Sorry, Jeanne. Got to flip it around. We've  
24 got that.

1           Okay. Turn to the next one. Okay. We've  
2           got that one. Last one in that packet, Jeanne?  
3           Yes. Okay. Well, picture's worth a thousand  
4           words. Would you agree, anyone on the Panel,  
5           anyone, would you agree that BMPs were not being  
6           followed when they made that, those, that mess?

7           A     (Bowes) I would agree with that.

8           Q     Okay. So why, well, let me ask you this. Are  
9           these the same workers that were out there in  
10          December that will be responsible for working on  
11          the Northern Pass Project? Do you know who they  
12          were?

13          A     (Bowes) I do not, but I can certainly find out.

14          Q     Okay, so --

15          A     (Johnson) Can I ask where this was?

16          Q     What was the question?

17          A     (Johnson) What's the location of this?

18          Q     This is out by the substation in the  
19          right-of-way. I can tell you exactly where. In  
20          the right-of-way outside of the substation. Oh,  
21          here it is. The land was not posted. He was in  
22          the right-of-way, the photos are at the access  
23          under the lines to get to the new substation  
24          boring sites. So it made sense that one of

1           those machines was a borer. And a complaint was  
2           made to the DES about all that.

3           A     (Johnson) Okay.

4           Q     DES directed the complainants to these  
5           proceedings. So here we are. So just so, well,  
6           here it is. You've asserted, you agree that  
7           they weren't following BMPs when they did that.  
8           And you have asserted many times throughout all  
9           of these proceedings, the tech sessions and the  
10          trial as well, that BMPs are followed and that  
11          permit restrictions are observed, right? You  
12          guys have told us that again and again.

13          A     (Bowes) That is true.

14          Q     Okay. Isn't it, wouldn't it be particularly  
15          important for your contractors to be minding  
16          their Ps and Qs at this time given the permit  
17          you are seeking?

18          A     (Bowes) I would say that they should be minding  
19          the Best Management Practices all of the time,  
20          not particular to any one Project. But they  
21          should be doing this every day.

22          Q     Yes. Well, thank you for that. We were very  
23          surprised. We are continually surprised to see  
24          that situations like this continue to arise and

1 I wanted to ask you about it. How will you deal  
2 with it?

3 A (Bowes) So I'll go back and share it with the  
4 Project Manager for this Project, and it will be  
5 part of the evaluation of this contractor, and  
6 if the analysis shows that they did in fact do  
7 this, then as we've done in the past they have  
8 been removed from work on the Eversource system.

9 Q Okay. So if a different contractor comes along  
10 and does something similar, if you get the  
11 permit, what should we do? We the people who  
12 live in these parts, what exactly should we do?

13 A (Bowes) So I think you followed the process.  
14 Not necessarily the process I would have  
15 followed for this, but I understand why you did  
16 it. You went right to the DES. That's always  
17 available to you.

18 I would encourage you to go right to the  
19 Project first and try to correct it immediately.  
20 So we're going to have environmental inspectors.  
21 We're going to have community relations people  
22 out for this Project, and they would be willing  
23 to accept your call, your contact, your email,  
24 however you want to get the information to us,



1 as you say. Pictures are a great way to do it.  
2 Just send the picture to us and we'll respond  
3 immediately.

4 Q Okay. So I'd like to turn our attention to  
5 beautiful scenic Nottingham Road. Mr. Bowes,  
6 this is for you because you made a statement in  
7 your Supplemental Testimony of 17 April 2017 on  
8 page 5, lines 4 to 7, and on page 6, line 20,  
9 you noted that Deerfield Center and Nottingham  
10 Road do not qualify as scenic resources. Do you  
11 remember that? I can pull it up if you need me  
12 to. Just means -- I can do that. Do you need  
13 me to do that?

14 A (Bowes) I'm just getting to it myself.

15 Q Okay.

16 A Yes. I see that.

17 Q Yes. What is your basis for this opinion?

18 A (Bowes) It's based upon our visual expert.

19 Q I've got some questions for you about Nottingham  
20 Road.

21 Are you aware that Nottingham Road connects  
22 Historic Deerfield Parade to Historic Nottingham  
23 Square? And I'll just point out in Deerfield  
24 they call it the Nottingham Road, and in the

1 Nottingham Report they call it the Deerfield  
2 Road, but it's the same road.

3 A (Bowes) Yes, I'm aware of that.

4 Q Are you aware that both the Merrimack Valley New  
5 Hampshire Bike Map and the Seacoast New  
6 Hampshire Bike Map issued by the New Hampshire  
7 Department of Transportation list Nottingham  
8 Road as a bicycle route?

9 A (Bowes) I didn't know that, but I will accept  
10 that.

11 Q Okay. You could Google it. I mean, it shows  
12 up. Are you aware that this road, Nottingham  
13 Road, provides access to Pawtuckaway Lake and  
14 the boat launch as well as hiking trails in the  
15 Pawtuckaway State Park?

16 A (Bowes) I will accept that. Yes.

17 Q Okay. When you've been to Nottingham Road, have  
18 you gone past Kate Road or just go into the  
19 substation?

20 A (Bowes) It's been awhile. So.

21 Q So given all of these things, do you still  
22 assert that Nottingham Road is not a scenic  
23 resource?

24 A (Bowes) By the definition that our consultant

1 used, I would defer to him. He'll be available  
2 for questioning.

3 Q I know, and I will question him, but let me ask  
4 you again then a different question, but so are  
5 you aware that if you ride up to Historic  
6 Nottingham Square from Historic Deerfield Parade  
7 on beautiful scenic Nottingham Road, you will  
8 find a monument dedicated to lives lost in the  
9 Indian Massacre of 1747?

10 A (Bowes) I didn't know that.

11 Q It's there. That was the Winnipесаaukee tribe  
12 responsible for that massacre. They were pretty  
13 upset. Okay.

14 Are you aware that the southern New  
15 Hampshire Planning Commission has listed the  
16 western end of Nottingham Road as part of the  
17 Upper Lamprey Scenic Byway from Historic  
18 Deerfield Parade to Meeting House Hill Road?

19 A (Bowes) I was not aware of that.

20 Q They did. Are you aware that as you ride your  
21 bike on Nottingham Road from Deerfield Parade  
22 towards Nottingham Square, you will see  
23 beautiful vistas to the north that's on your  
24 left as you ride through that area toward

1 Nottingham Square?

2 PRESIDING OFFICER HONIGBERG: Ms. Bradbury,  
3 I have a question for you. How is this relevant  
4 to this Panel?

5 MS. BRADBURY: It's relevant because Mr.  
6 Bowes asserted in his Supplemental Testimony  
7 that this is not a scenic road.

8 PRESIDING OFFICER HONIGBERG: I think he's  
9 just given you the answer as to why he testified  
10 to that.

11 MS. BRADBURY: Okay.

12 PRESIDING OFFICER HONIGBERG: And you've  
13 got a Construction Panel here to ask about  
14 construction.

15 MS. BRADBURY: Right, but -- totally agree,  
16 and I wouldn't have mentioned it to him except  
17 that it was in his Supplemental Testimony.

18 PRESIDING OFFICER HONIGBERG: Which you've  
19 already asked him about and he's provided an  
20 answer to, correct?

21 MS. BRADBURY: Yes. I'm done. It's, but  
22 you, okay. I'm done with it. It's one heck of  
23 a bike ride.

24 BY MS. BRADBURY:

1 Q Deerfield has roughly 80 miles of road. Okay?  
2 The great majority are town roads that have  
3 weight restrictions placed on them during frost  
4 season, affectionately known as mud season.  
5 Will you keep your trucks off the roads and  
6 observe those restrictions when the signs are  
7 up?

8 A (Bowes) Yes.

9 Q So that's a commitment. Thank you. All right.  
10 So earlier in the trial, I think the last,  
11 before the big break we had, the Panel referred  
12 to the potential of tower collapse due to  
13 tornados or ice storms in response to a question  
14 by Attorney Reimers for the Forest Society. Do  
15 you remember that?

16 A (Bowes) Yes. I do remember.

17 Q Are there any other reasons why the towers could  
18 collapse?

19 A (Bowes) I think we saw a presentation today that  
20 was a man-caused event.

21 Q Yeah, it was like terrorism or something, right?  
22 Or I guess it could just be someone with  
23 explosives, right? Any other reason why it  
24 might collapse?

1 A (Bowes) So extreme weather that could be  
2 different than either an ice storm or a tornado.

3 Q Right.

4 A (Bowes) There's other classes of extreme  
5 weather.

6 Q Anything else you can think of off the top of  
7 your head?

8 A (Bowes) Yes. Flood conditions.

9 Q Flood? I call it weather, but yes. Floods, ice  
10 storms, tornados, bombs. Okay. Anything else?

11 A (Bowes) Doesn't come to mind right now.

12 Q Okay. Well, it will in a second. So I want to,  
13 let's see. This is an ELMO. Jeanne, would you  
14 hand out the rest of the pictures and then put  
15 one up on ELMO? Are we on ELMO now? Yes.  
16 Okay. I need one on ELMO, Jeanne. (Deerfield  
17 Abutters Exhibit 18)

18 So the question is this. Are you familiar  
19 with what happened up in Canada in March of 2017  
20 a few months back? Are you familiar with that  
21 one?

22 A (Bowes) I was not. No.

23 Q Oh, okay. So would you agree looking at the  
24 picture, would you please just read the yellow

1 highlighted verbiage there?

2 A (Bowes) The tower collapse is a significant  
3 safety-related incident and without doubt has  
4 had very real impacts on the employees working  
5 in or near the area of the accident. There's a  
6 break. Our review of the whole situation  
7 confirmed our initial thoughts, which was that  
8 there was an error in the order of assembly of  
9 components in this particular tower says Powell.

10 Q So you agree that faulty construction can lead  
11 to a tower collapse, correct?

12 A (Bowes) Yes, that would be an additional item.

13 Q Would you agree that in instances of faulty  
14 construction, the towers could collapse in an  
15 unpredictable manner? And every which way as it  
16 appears to there? Falling onto -- yes, that's a  
17 question.

18 A (Bowes) Yes, as there's no conductors in this  
19 picture, it appears that it happened during  
20 assembly.

21 Q Um-hum. And it could fall onto private land and  
22 not in the right-of-way if it happens at that  
23 time, correct?

24 A (Bowes) It's possible. Yes.

1 Q That's enough of that one.

2 Mr. Bradstreet, on page 4, lines 24 and 25,  
3 of your Prefiled Testimony of October 16th,  
4 2015, you refer to audible noise associated with  
5 transmission lines. Correct? I can pull it up  
6 if you need me to. I thought we had it there.

7 A (Bradstreet) I've got it right there. You said  
8 24, 25. Yes. That's right.

9 Q So they hum. Right?

10 A (Bradstreet) I guess if they're designed -- if  
11 they're not designed with that in mind they  
12 could potentially hum. Our design has been,  
13 that means a proven design that Eversource uses  
14 across all their operating territory and I guess  
15 Ken can maybe weigh in, but I'm not aware of  
16 many conditions where they've had complaints of  
17 audible noise issues.

18 Q Uh-huh. Anyone heard them in hot humid weather?  
19 Anyone on the Panel?

20 A (Bowes) Yes.

21 Q They get louder, right?

22 A (Bowes) AC lines do, yes.

23 Q And they are AC lines running through Deerfield  
24 right across that vernal pool, right?



1 A (Bradstreet) Yes.

2 Q I'm going to play a recording using a  
3 microphone, and I would like to ask, the  
4 question is does anyone recognize these sounds  
5 that are in the recording that I am asking to be  
6 played?

7 (Audio playing)

8 A (Johnson) Sounds like peepers.

9 Q What else?

10 A (Johnson) Other species of amphibians.

11 Q So you heard, yes, correct, that's good. Thank  
12 you. You heard wood frogs. They are the sounds  
13 that sound like ducks and you heard peepers, you  
14 got that right, and they produce the  
15 high-pitched sound. We're all familiar with  
16 that. And that recording was made at the vernal  
17 pool east of Thurston Pond Road that we've been  
18 talking about today on April 11th of this year.  
19 The temperature was 87 degrees, and it was a  
20 record breaking temperature day. And that's all  
21 I have. Thank you.

22 PRESIDING OFFICER HONIGBERG: Let's go off  
23 the record.

24 (Discussion off the record)

1           PRESIDING OFFICER HONIGBERG: Due to the  
2 time crunch that we're under, we've confirmed  
3 with the other questioners from the Deerfield  
4 Abutters Group that they don't have questions  
5 for Mr. Bradstreet or Mr. Scott, and that they  
6 can be here tomorrow to complete their  
7 questioning of the rest of the Panel. The Pemi  
8 Group can't be here tomorrow so we're going to  
9 have them do their questions now and then pick  
10 up with the Committee for Mr. Bradstreet and  
11 Mr. Scott, and Redirect for Mr. Bradstreet and  
12 Mr. Scott.

13           Mr. Needleman, have I got that right  
14 consistent what we talked about?

15           MR. NEEDLEMAN: Yes. Thank you.

16           PRESIDING OFFICER HONIGBERG: All right.

17                           **CROSS-EXAMINATION**

18           **BY MS. DRAPER:**

19           Q Thank you very much. We are the Pemigewasset  
20 River Local Advisory Committee. I'm Gretchen  
21 Draper. This is Max Stamp who has been the  
22 Chairman. Barry Draper from New Hampton. We  
23 each cover a different area because we're  
24 working, we have three people from the Pemi

1 working as a team in this process. So I'm going  
2 to ask some questions about the construction pre  
3 and post and while it's going on. Mr. Stamp is  
4 going to cover right-of-way river crossovers,  
5 and then focus on our concerns about the Ashland  
6 waterfront. And Mr. Draper is going to talk  
7 about construction impacts on access roads and  
8 related to specific feeder streams so that's  
9 what we're going to do, and we'll be quick about  
10 it.

11 Mr. Oldenburg had talked about your roles,  
12 the Panel here. What I would like to know about  
13 the Panel is is everyone here signed on for the  
14 next two years? Or is there going to be a  
15 change? Are all of you going to be working for  
16 this project? Mr. Kayser, you're kind of the  
17 one because I remember you saying you were off  
18 in October '17. Has that changed?

19 A (Kayser) At this time, I'm not sure how long  
20 I'll be on it.

21 Q Okay. Fine. All right. Mr. Bradstreet, you'll  
22 be part of this, right?

23 A (Bradstreet) I guess I would have a similar  
24 response. I don't know that I'm leaving, but I

1           guess I can't say 100 percent. I have been on  
2           the Project since 2009 so I'm sure I will be  
3           involved to some extent.

4       Q     Right.

5       A     (Bowes) I will continue on the Project.

6       Q     Thank you.

7       A     (Johnson) I have the same answer as  
8           Mr. Bradstreet.

9       A     (Farrington) I expect Louis Berger to continue  
10          on the Project, and I do still plan to work for  
11          him.

12      Q     Thank you.

13      A     (Scott) Similar answer to the other Burns &  
14          McDonnell folks.

15      Q     Okay. Also now will you be located back at your  
16          home offices? So we have people in Kansas, we  
17          have people in Maine, one person in New  
18          Hampshire, is that right?

19      A     (Bowes) Actually, I have an office both in  
20          Connecticut and New Hampshire.

21      Q     Okay. And the rest of the people will be in  
22          their home offices.

23                   How many of you expect to be on site over  
24                   the next two years if this Certificate is given?

1 I mean, on site ever? Like?

2 A (Kayser) I would expect to be on site  
3 occasionally, but as the Project Management,  
4 you're more doing the meetings and that, and we  
5 would have, as Mr. Bowes has said,  
6 environmental, safety people and construction  
7 people on site.

8 Q Okay. Thank you. So with the day-to-day kind  
9 of construction, I'm really interested, who are  
10 the constructability experts that you have  
11 mentioned throughout this testimony?

12 A (Johnson) So those are Burns & McDonnell  
13 employees that eventually would be field  
14 superintendents watching the construction  
15 activities. They have lots of experience in  
16 overhead and underground construction and have  
17 walked the route from top to bottom identifying  
18 the constructability issues that they would  
19 consider important and then inputted then into  
20 the design.

21 Q All right. Now, were they involved in  
22 preplanning? It seemed to me that I've heard  
23 that constructability people sort of are almost  
24 like the first people who started discussing

1 where this Project was going to be or how it was  
2 going to be done, is that correct or not?

3 A (Johnson) So not necessarily. No. You would  
4 involve a routing specialist, and I mean,  
5 ultimately, in the very beginning, it's the  
6 planning and the concepts of the idea.

7 Q Okay.

8 A (Johnson) From a pure route selection, you would  
9 involve routing specialists which are  
10 particularly more environmental based, and then  
11 Mr. Bradstreet would get involved and there  
12 would be an iterative process to again refine  
13 that route. Once a definitive route is  
14 established per se, then the construction,  
15 constructability folks would get involved.

16 Q Okay. Great. So they're really more present  
17 and future people then. So do they produce  
18 reports that become part of the record for the  
19 SEC or put up on ShareFile?

20 A (Johnson) They have produced design comments, if  
21 you will. Not necessarily full-blown reports,  
22 and I believe those have been posted on the  
23 ShareFile site. I think we did that, right?

24 Q All right. I'm wondering who was responsible,

1 say, in the very beginning for going through and  
2 identifying so many of the areas that you folks  
3 are not familiar with. Conservation areas. You  
4 know, Mary Lee's water protected area. Who was  
5 supposed to do that?

6 A (Johnson) So, again, back in history.

7 Q Back in history, yes.

8 A (Johnson) I don't think any of us were involved  
9 in that.

10 Q Right.

11 A (Johnson) But it is the routing specialists who  
12 would be looking at all kinds of potential  
13 routes, and, ultimately, a route along an  
14 existing corridor was chosen because it's the  
15 least impactful.

16 Q Right, but so it was routing people that went  
17 through and then did not make a list of, say,  
18 some of the things that we've been, that  
19 intervenors have been asking you, and you  
20 haven't heard about. So was this sort of the  
21 job of the routing experts to do that?

22 A (Johnson) Could you be more specific?

23 Q And they didn't.

24 A (Johnson) Could you be more specific in what

1           you're asking about?

2       Q     I'm asking, I'm concerned that we have been  
3           hearing this forever that someone will say a  
4           bridge, do you realize that this is a privately  
5           owned bridge. Or do you realize that this is a  
6           deadend road. And many times the answer has  
7           been no, we are not aware of this. So I'm  
8           wondering whose job it was at some point over  
9           the past X number of years, whose job was it to  
10          find those and put them into some report or to  
11          let you folks know that these important issues  
12          are out there?

13       A     (Johnson) So I think we're talking about access  
14          to the right-of-way in this particular example.  
15          The Project itself, the people that would choose  
16          the route, would not be concerned with  
17          accessibility and those kinds of things.  
18          They're looking at more impacts in a general  
19          sense, environmental and that kind of concern.  
20          The constructability folks would be the ones  
21          that would then go out and ascertain access. In  
22          the example that we just had with the Deerfield  
23          Abutters on that particular bridge, clearly that  
24          was something that our folks identified and



1 that's why we're not planning on using that  
2 road.

3 Q Right. Right. But I'm talking about the things  
4 that were not identified but that have been kind  
5 of embarrassing almost to listen to. And they  
6 are environmental kind of, you know,  
7 conservation areas. So will the  
8 constructability people be identifying those  
9 missed areas? Now, will you be going into  
10 greater detail to find all of the important  
11 parts step by step or is that going to fall into  
12 the construction manager job?

13 A (Johnson) So I guess I don't understand what  
14 you're asking.

15 Q I'm asking who is going to identify these  
16 missed, what might be considered aspects of the  
17 Project route? So who is going to identify  
18 those areas that, before you get your big  
19 equipment on ground? Would this be the  
20 construction manager's job?

21 A (Bowes) So I would say yes, there's going to be  
22 another level of construction management review.  
23 But the three examples that we just talked  
24 about, a well on someone's private property, we

1 would not have ever mapped that. We would rely  
2 on our communications with the Abutter to  
3 identify that. The deadend road we talked about  
4 today, we weren't going to use it past that  
5 location so whether it's dead end or a through  
6 road, we have a plan to turn the trucks around.  
7 And the last one with the bridge that we talked  
8 about, we don't plan to use that road for access  
9 to the right-of-way.

10 Q Right.

11 A (Bowes) So each one of these cases, I understand  
12 we're talking about in many cases unique  
13 situations. It's not that we don't have a  
14 response to that. It's oftentimes we're not  
15 allowed to provide those responses in this  
16 process. You're the first person, and I've been  
17 up here now for 7 days, that's asked about the  
18 criteria for routing. And there's a whole list  
19 of criteria we use for routing. It's the length  
20 of the line, it's the length of the line in the  
21 new corridor, it's the agricultural land  
22 crossed. It's the woodland crossed.  
23 Residential index which is the number of  
24 residential people near the right-of-way.

1 Residential index for people little further away  
2 from the right-of-way. Businesses within the  
3 right-of-way corridor. Public facilities within  
4 500 feet, scenic byways, the roads crossed.  
5 Visibility index. Length of access across  
6 federal, state or local parks. Habitats within  
7 1000 feet. Wetlands crossed. Archeological  
8 sites. Heavy angles within the construction  
9 area and length of the rebuilt we have had to do  
10 for the PSNH facilities.

11 Q Right.

12 A (Bowes) No one's asked that question in 7 days  
13 of testimony.

14 Q Here I am. And I realize that there are layers  
15 upon layers of information that go into --

16 A (Bowes) So more than 500 options were looked at  
17 potential routes for this Project.

18 Q I'm not questioning the route. I'm questioning  
19 missing information. And how, who is  
20 responsible for the filling gaps now. That's  
21 all I was interested in. So let me move on to  
22 something else.

23 I'm very interested in the responsibility  
24 that the contractors have. The people on the

1 ground. These are the people that I will see  
2 day by day and will run into them on the roads.  
3 These are really your folks that are going to be  
4 the contractors and the subcontractors, and so  
5 as I understand it you've got Quanta, you've got  
6 PAR, you've got the two PAR companies that are  
7 in New Hampshire. Then they hire contractors,  
8 subcontractors, et cetera. Is that correct,  
9 that kind of a hierarchy?

10 A (Bowes) I would say in general that's correct.  
11 PAR is the general contractor responsible for  
12 all aspects of construction.

13 Q Right. Now, when contractors hit difficult  
14 conditions on the ground, we had mentioned that  
15 phrase, I think, with the very first person.  
16 This coming back up yesterday. So when they hit  
17 difficult conditions, I wonder what triggers the  
18 need for a variance or a waiver? Is it, I'm  
19 thinking of blasting, perhaps? Or wetland? Or  
20 what would trigger that need?

21 A (Bowes) So I think that's probably one thing.  
22 If we came across an underground obstruction on  
23 the underground, we'd want to evaluate what that  
24 was. Something that was never mapped.

1           Something we discover. And it could be  
2           archeological in nature or it could be just an  
3           underground utility that is unknown.

4       Q     Right.

5       A     (Bowes) That would cause us to pause and get the  
6           right department involved from the State of New  
7           Hampshire to assess what we need to do to either  
8           mitigate this or to go around it.

9       Q     Right. And how about if, I guess I've heard  
10          discussion from this Panel that if you are  
11          moving along and you find an obstruction that  
12          there would be a variance or a waiver that  
13          someone would get, and I want to know who  
14          applies for those waivers or variances?

15      A     (Bowes) So the Project would be responsible for  
16          applying for that variance. We would probably  
17          get the communication originally from our  
18          constructor, PAR. They would ask us, run into a  
19          situation in the field, we cannot proceed.  
20          Please advise on what we should do. And then it  
21          would be our job as the Project to seek the  
22          necessary variance from whichever state agency  
23          is required.

24      Q     Okay. Great, and who tracks all of these

1 variances and --

2 A (Bowes) Ultimately, we've hired Burns &  
3 McDonnell to do that.

4 Q So Mr. Johnson, that's your job.

5 A (Johnson) Among other things, yes.

6 Q All right. Would you tell me, describe, what's  
7 the difference between a variance and a waiver?  
8 Is there a difference?

9 A (Bowes) So we probably use the terms  
10 interchangeably. In my mind, a variance is we  
11 have a permit condition and here's a situation  
12 that we need to change that permit condition to  
13 go forward. A waiver in my mind is we're asking  
14 them to waive that requirement for this Project.  
15 So there is a subtle difference. We may have  
16 confused them.

17 Q So there's a subtle difference. Do they have  
18 different paperwork or not? Would a waiver look  
19 differently than a variance?

20 A (Bowes) So typically a waiver would be requested  
21 up front. For example, we want to place a  
22 structure within a wetland. The DES allows us  
23 to do that. To me, that's a kind of a permit  
24 condition, but it's also a waiver of going into

1 a wetland with some permanent disturbance, and  
2 there would have to be some compensation for  
3 mitigation because of that.

4 Q Okay.

5 A (Bowes) Where if we got out onto a site and  
6 discovered the access road has uncovered a  
7 burial ground or something like that, we're  
8 going to have to go around that. So we would go  
9 back to DES and say we want to bypass this area  
10 and preserve it for study.

11 Q Okay. Thank you. Now, contractors are charged  
12 with finding laydown and staging areas and  
13 things like that. So who do they go to if they  
14 just come up against a brick wall and can't  
15 negotiate in an area? Who's is the next, what's  
16 the next step up in resolving that?

17 A (Bowes) So if they can't secure a site?

18 Q Yes.

19 A (Bowes) They have to continue looking until they  
20 find one. They may come back to the owner and  
21 in case and say is there property available from  
22 Northern Pass or PSNH that we could use? That  
23 might be a request from the constructor, but  
24 it's really their job to find that suitable

1 location, get the owner's approval of that and  
2 then if we have to, what we're proposing is have  
3 the New Hampshire DES accept that site as a  
4 viable location to use.

5 Q All right. Thank you. All right. Now I'm  
6 interested in some of the postconstruction. So  
7 this includes things like maintenance and the  
8 presence of towers. And I'm concerned because  
9 oftentimes the proximity to the wetlands or to  
10 the river. So I'm, we've talked about  
11 maintenance before. And I'm looking at sort of  
12 the future of these towers, these structures.  
13 Are they built to be added upon?

14 A (Bradstreet) So no. All of our structures,  
15 either the DC line, the 345 kV line, or the  
16 rebuild 115 kV line are being designed for a  
17 single purpose.

18 Q Single purpose.

19 A (Bradstreet) So the Project doesn't want to  
20 spend extra money on steel capacity that we're  
21 not using as part of this Project. So we've  
22 come up with loading requirements that are  
23 specific to this Project only, and they don't  
24 have additional loading capacity designed into



1           them or attachments that could be brought in  
2           later. So, in general, the answer is no.

3           Q     And now that Eversource is becoming a  
4           transmission company, I'm thinking of cell  
5           towers. Are these going to be considered in  
6           that kind of broad definition so that would  
7           Eversource be selling to different agents that  
8           were proposing to sell more power? Would they  
9           use their transmission lines?

10          A     (Bowes) So that is a particular item that we are  
11          required to do in other states is to co-locate  
12          communication towers onto transmission  
13          structures. So we do have a, what we call a  
14          master service agreement with six of the largest  
15          cell phone providers in the country. And in  
16          other states, we do an evaluation, they will  
17          say, we would like to use one of your towers in  
18          Deerfield. We just talked about Deerfield. We  
19          would do an analysis and say can this structure  
20          support a cell tower or not. This is a yes/no  
21          threshold. If it is no, is the cell tower  
22          company willing to upgrade the structure  
23          necessary to co-locate that facility.

24                 It's a very different process, for example,

1 in Connecticut, where there's a state siting  
2 authority that sites both transmission and  
3 telecommunications. That's not the case in New  
4 Hampshire. So there have to be some local  
5 approvals, as I understand it, in New Hampshire  
6 for any telecommunication facilities. That's  
7 probably why you don't see it as common in New  
8 Hampshire is because there is not that  
9 coordination and that requirement.

10 Q Okay. How about in New Hampshire, what's the  
11 requirement for not so much as  
12 telecommunications as other energy generators?  
13 So you have somebody who's generating energy,  
14 wants to transport it to market, is Northern  
15 Pass going to offer space, as it were?

16 A (Bowes) At this point, Hydro-Quebec has  
17 exclusive rights to use the Northern Pass line  
18 for, I believe, 40 years so then there's an  
19 renewal of that so they have the sole rights to  
20 use that at this point.

21 Q My last question really has to do with, it's  
22 like state, federal and local regulations, and I  
23 want to, really would like to know when we put  
24 them, I would, this is my assumption, that

1 federal regulations outrank state and local, is  
2 that true?

3 A (Bowes) So, again, in general I would say yes,  
4 but it's not entirely accurate because in some  
5 cases, the federal government delegates to a  
6 state some responsibilities, and in some cases  
7 there are no federal regulations that govern it  
8 so the state takes over in that case.

9 Q Okay. So you would, and if I understood from  
10 discussions with this that the SEC Certification  
11 would allow Northern Pass sort of like to  
12 outrank local regulations. So you would be  
13 working with the state and then federal  
14 regulations if there were those. Is that  
15 correct?

16 A (Bowes) In general, I would say yes. And then  
17 there's a third level that we've agreed to is  
18 develop an MOU with either a town or an  
19 individual that will become part of the SEC  
20 Certificate.

21 Q Right. Now, I guess what I'm wondering about is  
22 we're in very different times right now than we  
23 were, say, five or six years ago when we started  
24 all of these meetings, and one is that there's a

1 move right now to really change the federal  
2 regulations.

3 So I'm wondering what happens if in two  
4 years, the Clean Water, well, it's not even  
5 hypothetical right now. The US House has voted  
6 to reverse a requirement to require anyone to  
7 obtain a permit before spraying pesticides in a  
8 waterway. So I look at that and I think if this  
9 in fact becomes a law, becomes federal law,  
10 where does that fall in, our concern about the  
11 quality of water in the Pemigewasset. I would  
12 assume Northern Pass would then follow the new  
13 federal law. Is that true?

14 A (Bowes) I believe so. I'm not familiar with  
15 this law or the regulation you're talking about,  
16 but, yes, we will be required to follow federal  
17 law, state law in all cases.

18 Q Right, and it would be whatever is coming down  
19 the road over the next few years.

20 A (Bowes) Yes. We're going to be responsible for  
21 staying current with any new regulation that  
22 comes out, whether it's state or federal.

23 Q All right. All right. Thank you. That's all I  
24 have to say. We're going to turn you over to

1 Mr. Stamp.

2 **CROSS-EXAMINATION**

3 **BY MR. STAMP:**

4 Q Okay. My focus will be mainly on overhead  
5 transmission issues so probably directed mostly  
6 at Mr. Bradstreet.

7 Just as a kind of an aside, managing storm  
8 water runoff in the Pemi watershed is and  
9 continues to be our number one concern, and we  
10 kind of assume you're generally aware that in  
11 our state, stormwater runoff either causes or  
12 contributes to about 80 percent of the impaired  
13 water and State surface water. Are you  
14 generally aware of that, the extent of that  
15 issue?

16 A (Bradstreet) I guess I'm not fully aware, but I  
17 understand what you're saying.

18 Q Okay. I think the first thing we want to do is  
19 put up the photo. This is Pemi Exhibit 2112.  
20 I'm not sure how long it's been in the queue.  
21 But what you're looking at is the right-of-way  
22 crossover from New Hampton and on this side of  
23 the river is Bridgewater so we're looking at  
24 that site from the Bridgewater side. Of course,

1 the emphasis is on the destabilized bank right  
2 there at the reference line.

3 This is one of five overhead crossovers on  
4 the Pemi, and that, of course, translates into  
5 ten potential shoreland issues, and they're all  
6 of varying degrees. This is a fairly serious  
7 one. There's others comparable. Some not quite  
8 this bad. All the way down to not too worried  
9 about it, but that's fairly typical of a river  
10 crossover that we're talking about. All of them  
11 are shoreland concerns.

12 A (Bowes) I am familiar with this location. I've  
13 been on the side we're looking at, that side of  
14 the river and would agree with you.

15 Q Okay.

16 A (Bowes) That this is an area that probably,  
17 again, probably a practice that was started 75  
18 years ago, 80 years ago to clear all the way to  
19 the river. And as you know, there's another  
20 location where there's an Army Corps restriction  
21 that has a vegetative buffer and there's little  
22 or no erosion when a buffer is left. So I know  
23 we've had discussion both in public meetings and  
24 in tech sessions about Northern Pass

1 reestablishing a vegetative buffer at each one  
2 of these locations. And I believe, I think I've  
3 even committed to doing that. I understand we  
4 have to get approval to do that so it's not a  
5 simple process of us agreeing and we can go do  
6 it, but putting a plan together to do that in  
7 this location and the other 9 I think is what  
8 we've already committed to as part of this  
9 Project.

10 Q Okay. Let me put up the next exhibit which is a  
11 Northern Pass, one of the Northern Pass Appendix  
12 1 Project Maps, and the site we just looked at,  
13 Barry, if you could point it out on that, is on  
14 the New Hampton side of the river. And if you  
15 follow the right-of-way back up to I-93, going  
16 up the page there, do you follow? Follow the  
17 right-of-way back up. Up to -- there you go.

18 MR. DRAPER: I'm looking at the wrong  
19 thing. I'm sorry.

20 Q There are four new towers planned for that same  
21 section of the right-of-way. Is that correct,  
22 Mr. Bradstreet?

23 A (Bradstreet) Yes, between 93, basically on the  
24 other side of 93 and the river?

1 Q Yes.

2 A (Bradstreet) Yes.

3 Q All four of them are over 105 feet tall in  
4 heighth?

5 A (Bradstreet) I would have to check, but I take  
6 your word for it.

7 Q And the one up on I-93 which is the top there is  
8 125 feet and you march down to the river and  
9 they're all 100.

10 Now, my understanding when those new  
11 towers, new structures go in, all of the  
12 structures that are resident there today are  
13 going to have to be moved.

14 A (Bradstreet) That's correct.

15 Q And my numbers indicate that's six old  
16 structures that are going to have to be moved,  
17 located?

18 A (Bradstreet) Yes, but for the same distance it's  
19 6.

20 Q Are there other structures in that right-of-way  
21 besides the two we just talked about?

22 A (Bradstreet) No.

23 Q Now, that's a 150 foot right-of-way. Am I  
24 correct with that number?



1 A (Bradstreet) Let me double-check, but -- yes, it  
2 is.

3 Q When we look at, when we look at the boundaries  
4 of the right-of-way and look at the pictures,  
5 pretty strong indication that a lot of trees are  
6 going to have to be cleared to fit those, that  
7 second line and the relocated lines in. That  
8 sound correct?

9 A (Bradstreet) I don't have it in front me, but we  
10 with have an estimated tree clearing layer on  
11 the wetland maps.

12 Q Do you have that damage in square feet, for  
13 example?

14 A (Bradstreet) Not for this specific area. I  
15 would have to calculate it. I think we have an  
16 overall Project impact but not just for this one  
17 segment.

18 Q Is there a way we could get that?

19 A (Bradstreet) Yes. We would have to go back and  
20 provide it to you, but that's something we could  
21 provide.

22 Q Okay. So clearly there's going to be a lot  
23 going on in that, what we would describe as  
24 fairly narrow right-of-way. Excavating, lot of

1 erection activity and so forth. So could we,  
2 Barry, go back to the photo? Mr. Bowes  
3 mentioned the shoreland aspect of this thing  
4 which is our primary interest. Can you, it  
5 looks to me like the existing structure there is  
6 50, 60 feet from the reference point?

7 A (Bowes) Hold on just a second.

8 Q Close enough for --

9 A (Bowes) Hundred feet to the shoreline?

10 Q That sounds a little high to me, but with the  
11 rearranged structures, new ones coming in,  
12 moving this one, I guess you're going to move it  
13 in the picture to the left of the right-of-way.

14 A (Bradstreet) The specific structure will be  
15 relocated to the left. That's right.

16 Q Will those be moved back at all? Is this an  
17 opportunity to move structures back away from  
18 the river?

19 A (Bradstreet) So looking at Sam's map, it looks  
20 like they're going to be relatively similar in  
21 position. There's an angle point at this  
22 location so our right-of-way turns. So that  
23 sort of limits how much you can move it further  
24 away from the river because the right-of-way is

1           restricted by that angle. So right now we're  
2           basically looking to place them in a similar  
3           location away from the river as the current  
4           structure is.

5       Q     Similar area.

6       A     (Bradstreet) Yes, same, basically same distance  
7           from the water as where we had planned to put  
8           the new structure because of the angle in the  
9           right-of-way.

10      Q     Now, you don't access this shoreland area from  
11           the water, is that correct?

12      A     (Bradstreet) I don't believe so.

13      A     (Bowes) That is correct.

14      Q     Yes. So what's the primary thing that  
15           determines where you position structures in the  
16           shoreland area of a crossover?

17      A     (Bradstreet) So I mean I think it would be a lot  
18           of the various things that I discussed in my  
19           testimony where it's environmental, it's  
20           right-of-way availability, adjacent transmission  
21           structures that would be in that corridor,  
22           clearances over the river itself, structure  
23           heights. So I mean, there's a quite a few  
24           variables that we try to figure out what makes

1 the most sense.

2 Q So if we were to say hey, can you get that thing  
3 back another 25 feet, and ditto on the other  
4 side, I hear you that there's an angle you've  
5 got to work with.

6 A (Bradstreet) Right.

7 Q But what prevents you from seriously considering  
8 something like that?

9 A (Bradstreet) I don't think there's anything that  
10 prevents us from considering something like  
11 that, but we would have to vet it through all  
12 the various functional groups is what I would  
13 call them. So our environmental group would  
14 have to weigh in on it, our aesthetics group  
15 would have to weigh in on it. It's not to say  
16 it can't be done, but I think from what we've  
17 put together so far, everybody feels like that's  
18 a good balance.

19 Now, it's not to say that we couldn't work  
20 with you guys and look at other opportunities to  
21 move structures to a place that you feel is  
22 more, an improvement from your perspective, but  
23 we would have to vet that through all those  
24 functional groups.

1 A (Bowes) So there are some characteristics here  
2 that could enable that. First, I believe we own  
3 the land so there's no person we have to go  
4 discuss this with. You are talking to them  
5 right now. The second is it does not appear  
6 there's any wetlands that are --

7 Q I think that's correct.

8 A (Bowes) I guess that's probably north of here.  
9 I guess that's north. So that's another  
10 indicator that's fairly positive.  
11 Mr. Bradstreet does indicate that the turning  
12 radius here so it might mean a different type of  
13 foundation, but that's probably the extent of  
14 the change. I think you probably have plenty of  
15 clearance over the river. The setback's about  
16 200 feet for the structures on the other side of  
17 the river so that's pretty good, but we could  
18 probably relocate these back away from the river  
19 a little bit more.

20 Q Where do I sign up for that?

21 A (Bowes) He's got the list so we'll take a look  
22 at it.

23 Q Not only the crossovers have this angle you have  
24 to deal with. Some of them have got to be

1 pretty straight.

2 A (Bradstreet) Right. Some of them are a lot more  
3 straightforward or simple to look into that  
4 potential move. And I believe some of them we  
5 have moved further away from the river than the  
6 current existing structures.

7 Q So if we don't start doing something serious  
8 about this destabilization, you're going to have  
9 towers a lot closer to the river than you  
10 currently anticipate.

11 A (Bradstreet) Understood.

12 A (Bowes) It's in everyone's interest, I believe.

13 Q Now, I've looked, you're familiar with the  
14 Shoreland Water Quality Protection Act, RSA 483,  
15 generally?

16 A (Bradstreet) I would say generally.

17 A (Bowes) I would say generally.

18 A (Bradstreet) Our Environmental Panel tells us  
19 what we need to do.

20 Q Okay. Well, they hang a lot of restrictions on,  
21 you know -- if it were me developing this area,  
22 I'd be paying attention to what happens in the  
23 150 feet back from the reference line. It would  
24 be some pretty serious regulations to deal with.

1 Yet the utility, and I can't find anything in  
2 that RSA 483 that exempts utilities from the  
3 Shoreland Protection regulations and  
4 restrictions. Mr. Bowes? Do you have any  
5 knowledge of why you don't have to live up to  
6 tougher regulations than this?

7 A (Bowes) I do not know. I mean, the  
8 Environmental Panel probably has that answer. I  
9 just don't know the answer to it.

10 Q Well, okay. You know, we've been to DES, and  
11 we've talked a great deal about this, and the  
12 answers from them are relatively iffy, too. So  
13 we'd like to run that down and understand what  
14 it is that allows this kind of thing to take  
15 place along a river. And our idea, of course,  
16 is since you don't have to access these towers  
17 from the water, that we would somehow come  
18 together and develop regulations in an agreement  
19 that no machinery, mowing machinery, any other  
20 machinery would go beyond that tower. Your  
21 machinery could come down to that tower. Beyond  
22 that tower would be shoreland protection. There  
23 would be vegetation that would be maintained in  
24 an unaltered fashion. No machinery allowed into

1 that area. And I understand you can't have  
2 trees. There's got to be a way to put some  
3 stuff in there that's going to hold this bank  
4 and keep mowing people and other people out of  
5 that area. Can we agree on that?

6 A (Bowes) I would say we agree on almost all of  
7 that. I would say we may need a little bit of  
8 diameter around the structure itself, but if we  
9 do move it back 25 or 30 feet, then we could  
10 clearly get a 100-foot buffer in there.

11 Q I have no more questions on that.

12 I want to move on next to, next item I've  
13 got on my list here is the Ashland waterfront,  
14 and I'm sure you're familiar with that general  
15 area, and I found it easiest to deal with it by  
16 divvying it up in three sections.

17 First section would be the aquifer itself.  
18 It resides in Ashland. Second section would be  
19 their wellhead area, and then the next section  
20 would be the sewage lagoons in that area. And  
21 we've got some maps and pictures and probably  
22 will be helpful to walk our way through those.

23 The first exhibit, Pemi Exhibit 16, and it  
24 is a US Geological Survey Map that shows the



1 aquifer. And show them, Barry, the boundaries  
2 of New Hampton and Holderness on the other side.  
3 You've got to go from top to bottom. New  
4 Hampton and the bottom, Holderness on top.  
5 Okay. That's going to occupy pretty much the  
6 entire screen. Ashland occupies pretty much the  
7 entire screen.

8 The really dark aquifer section, I've seen  
9 various numbers, but it runs for about 1.6  
10 miles, maybe a little more, and on the bottom  
11 part you're right at the Squam River and New  
12 Hampton boundary line and so forth. Can you  
13 show where the river runs through, Barry?  
14 (Indicating.) It runs along the left edge. And  
15 then can you just quickly show where I-93 runs  
16 through there? (Indicating.)

17 Q So it's sandwiched between the river and I-93,  
18 and I want to emphasize that there are  
19 apparently three ratings for aquifer. This is  
20 topnotch. This is a high potential aquifer and  
21 Ashland, Ashland is endowed with a lot of water  
22 from basically that source. And it's perceived  
23 as a very valuable element of their future which  
24 is no surprise.

1 Let's go to the next exhibit.

2 PRESIDING OFFICER HONIGBERG: Was there a  
3 question associated with that?

4 MR. STAMP: There was not. I was just  
5 trying to establish kind of the boundaries of  
6 what we're looking at.

7 PRESIDING OFFICER HONIGBERG: Okay.

8 MR. STAMP: What we're talking to.

9 PRESIDING OFFICER HONIGBERG: Okay.

10 BY MR. STAMP:

11 Q So the next exhibit is a Northern Pass Route  
12 Map. It's Sheet number 124. And Barry, if you  
13 could point out where two of the river,  
14 crossovers right-of-way crossovers come through.  
15 There's one coming in from Ashland to  
16 Bridgewater, and then one going out from  
17 Bridgewater to Ashland. The aquifer that we  
18 just showed you starts right at the Bridgewater  
19 to Ashland crossover. Follow the right-of-way  
20 over to the river. No. The other way.

21 MR. DRAPER: Starting at the top?

22 Q Yes. Starting kind of the right side of this.  
23 The aquifer that we're discussing starts right  
24 around that crossover and follows, basically

1 follows your right-of-way to the next sheet  
2 which is 125. So your right-of-way is running  
3 right down that aquifer, and it also continues  
4 on to the lagoon area which you see starting  
5 here which is Sheet number 126. So the aquifer  
6 runs all the way through there. That gives you  
7 a better picture than the US Geological Survey  
8 Map we had.

9 Let's go back to the map, 124. The  
10 transition area. From this point on, all the  
11 way down to the New Hampton line, it looks like  
12 there are 14 structures to go into that space.  
13 345, it's your DC structure line. Is that about  
14 correct, Mr. Bradstreet?

15 A (Bradstreet) Yes. I think that's correct.

16 Q And those are basically going to all reside on  
17 top of this aquifer. First of all, I'm curious  
18 as to why your planning maps and so forth don't  
19 show this aquifer. I would think that would be  
20 part of the planning process there.

21 A (Johnson) So I'll defer the question to the  
22 Environmental Panel, but it's my understanding  
23 that including aquifers is not a requirement of  
24 the Application. But again, that's my

1 understanding. So please ask the Environmental  
2 Group the same question.

3 Q I could see it with some lower levels aquifer.  
4 I mean, probably can't deal with them all, but  
5 when you've got one that's really high  
6 principled, high rated aquifer, I would think  
7 there would be a reason to have that appear on  
8 your maps. But anyway, the question should be  
9 how do you change your engineering and your  
10 construction program when you're operating on  
11 something like a highly rated aquifer.

12 First of all, are you aware of the fact  
13 that you're operating in this environment? Are  
14 you conscious of that?

15 A (Bowes) I would say we're conscious all the time  
16 of either anticipating a wetland, a river, or an  
17 aquifer on all of our rights-of-way. That's  
18 just a base assumption. We don't assume that  
19 because it's, whether it's our land or with an  
20 easement that there isn't something underneath  
21 it that has to be protected.

22 Q So are you saying there's no difference in the  
23 way you would approach construction in that kind  
24 of an area as opposed to somewhere where off

1 line?

2 A (Bowes) I didn't say that. I say in this case  
3 we have an existing right-of-way so that was  
4 probably one of the main determinants in  
5 choosing this as the location for the new line.  
6 So that was probably a higher priority of  
7 routing than, say, an aquifer is.

8 Q I guess what I was suggesting is if you were  
9 digging around in this kind of a situation,  
10 drilling, digging, possibly blasting and so  
11 forth, understanding what's underneath you, I  
12 would think, would be a large concern.

13 A (Bowes) I don't think the methods are very  
14 different whether it's an aquifer or not.  
15 Obviously, the blasting would be something  
16 that's different everywhere. So I think that  
17 the foundation types and the drilling holes here  
18 will be very similar to where they are elsewhere  
19 and the aquifer by itself doesn't trigger a  
20 different level of scrutiny.

21 Q Let's move on.

22 This is the Wetlands US Army Corps of  
23 Engineers Sheet 471, and what you see in kind of  
24 the left area of the screen is Ashland's

1 wellhead, and you can also see the right-of-way  
2 runs right through that wellhead area. And  
3 you're kind of squeezed in there between the  
4 railroad and other things, but let's put up the  
5 next exhibit, Barry.

6 This is kind of the same area. This is an  
7 outline of the Avery Wellhead Protection Act  
8 area of Ashland's wellhead, and you can see --  
9 show where the right-of-way runs through that  
10 picture, Barry, if you could. We've measured  
11 some, took the tape up and looked at things, and  
12 it looks like the edge of your right-of-way is  
13 probably around 80 feet, 90 feet, from the fence  
14 around the wellhead. And there is a second  
15 point of interest here, not only does, are they  
16 endowed with wellhead protection as outlined  
17 here, there's a second level apparently of  
18 protection called the Sanitary Protection Area.  
19 Are you familiar with those?

20 A (Bowes) I am not.

21 A (Bradstreet) I'm not.

22 Q The Sanitary Protection Area occupies a radius  
23 around the wellhead of 400 feet, and when we  
24 look at, you know, the plans to bring the

1 right-of-way through there, it looks to us like,  
2 A, you're clearly in violation of that Sanitary  
3 Protection Area, 400 square feet, or 400 feet  
4 radius, but it also looks like maybe one or two  
5 of your structures might also be overlapped by  
6 that boundary.

7 Now, I can't speak to, this is another  
8 level of protection around the wellhead. There  
9 are also like 8 monitoring wells right around  
10 that wellhead because it sits in a high risk  
11 area. You've got the sewage lagoons there.  
12 You've got a lot of other things going on that  
13 they're extremely concerned about right around  
14 the wellhead. This is the only wellhead  
15 functioning in the town of Ashland.

16 So I guess my question is you apparently  
17 are not aware of that Sanitary Protection Area.  
18 My question was going to be how are you going to  
19 avoid traffic through that area?

20 A (Bowes) Avoid traffic, you mean as in  
21 construction vehicles?

22 Q Right-of-way traffic coming through and doing  
23 your construction.

24 A (Bowes) I don't believe we are going to avoid

1 traffic through that area.

2 Q I'm not sure where that puts us. I mean, I  
3 would think there would be some consideration  
4 given to what alternatives you might try and  
5 come up with.

6 A (Bowes) We certainly can reach out to the  
7 wastewater plants in this area and look at  
8 access roads that are different than what we  
9 proposed.

10 Q In the summer of 2016, and this information came  
11 from the Conservation Commission in Ashland,  
12 there was an issue raised about 16-wheel bulk  
13 water trucks backing up to the wellhead to fill  
14 up with water. The issue was taken to New  
15 Hampshire Department of Environmental Services,  
16 and essentially to make the story, wrap the  
17 story up they were told to cease and desist  
18 truck traffic around that wellhead.

19 So I think that's an issue that we need to  
20 keep live here as to what some alternatives  
21 might be to stay out of that area. So I'm not  
22 sure how we're going to, what's, what do we need  
23 to do to maybe take that one to the next step.

24 A (Johnson) So we have had a few meetings with the



1 Ashland Water and Sewer Department and actually  
2 been on that site and toured it and identified  
3 the wells and identified the existing access  
4 roads that are used to get to the existing  
5 structures. Ashland themselves used that road  
6 to access their wells. And there's vehicular  
7 traffic up and down there on a somewhat regular  
8 basis as they go out and do their inspections  
9 and --

10 Q Yes. Pickup trucks.

11 A (Johnson) Understand. Different types of  
12 vehicles. But we have met them and explained  
13 what our construction methods will be. The type  
14 of equipment that will be used. And we seem to  
15 have answered all the questions they had at this  
16 time. We will continue to meet with them as we  
17 get closer to the construction, and we'll put  
18 forth our even more detailed plans, if you will,  
19 regarding when and how many trucks or vehicles  
20 will pass. So we are aware that this is a  
21 relatively fragile area, and we will continue to  
22 work with them to ensure that whatever we do  
23 from a construction perspective meets their  
24 expectations.

1 Q Okay. Let's put up sheet 473. We notice that  
2 new structures DC 1108 to 1113 have been  
3 oriented to the western side of the right-of-way  
4 boundary. Seemed like they started on the  
5 eastern side but now they've moved to the  
6 western side. Closest to the river. Why was  
7 that done?

8 A (Bradstreet) I guess I'd have to look back in  
9 time to see if that actually was a change, but I  
10 believe, in general, they've always been on the  
11 west side because we're not planning to rebuild  
12 the existing line in this area. If we were to,  
13 if we were to put them towards the east side of  
14 the right-of-way, we would have to rebuild the  
15 existing 115 kV line as well. So I believe in  
16 this area they've always been on the west side.

17 Q Okay. Two things jump at you from this, from  
18 this map. One, all of the blue area is 100 year  
19 floodplain, and so in fact the floodplain  
20 encroaches or you encroach in the floodplain,  
21 however you want to say it. But the floodplain  
22 encroaches into the right-of-way.

23 And if you were to look at Sheet number 474  
24 it would like similar, but to make my point, no,

1 I'll stick right here. The other thing, I mean,  
2 the structures are right out at your western  
3 boundary of your right-of-way. And when you  
4 look at the tree line running through there,  
5 it's pretty clear the tree clearing is going to  
6 be a major factor. Do you agree?

7 A (Bradstreet) There will be tree clearing here.  
8 As you the visual that you have up, there's sort  
9 of a green outline. That outline represents  
10 what we're proposing to do vegetation clearing.

11 Q Which outline is that, sir?

12 A (Bradstreet) If you look at the so DC 1110. If  
13 you look at the two foundation circles that look  
14 like they show up sort of on the west side of  
15 that structure that, proposed structure, they  
16 line right up with a green outline. I guess if  
17 you go to the legend --

18 Q I think on the Application, and it doesn't get  
19 into any detail, there will be something like  
20 98,277 square feet of tree clearing is called  
21 for in the right-of-way. That's a sizable  
22 amount of trees.

23 A (Bradstreet) The majority of that is associated  
24 with the new corridor, the 120-foot corridor

1 that runs from Dummer up to the Canadian border.  
2 Just as a point.

3 Q This was associated with the Ashland Permit  
4 Application.

5 A (Bradstreet) That's not for the total Project?

6 Q No.

7 A (Bradstreet) Okay. Sorry.

8 Q So let's go back. 98,000 square feet in the  
9 Application from Ashland, square feet of tree  
10 clearing, right in the river shoreland area,  
11 protected area, right where we don't want you.  
12 So I'm not sure what the options are here, but  
13 this is causing a great deal of concern.

14 Okay. I made my point. Any other comments  
15 on that?

16 A (Bradstreet) I have none.

17 Q You know, that's clearly one for the  
18 Environmental Group also, but since it's you  
19 guys planning these structures, it's appropriate  
20 we talk about it here, too.

21 Here's another one that we received from  
22 the Conservation Commission in Ashland. The  
23 cumulative impoundment area of the treatment  
24 lagoons is designated as a dam by New Hampshire

1 DES. Are you aware of that? It falls in the,  
2 it has some protective aspects of it supposedly  
3 are dam agency related? And have you had  
4 conversation with the dam agency of the state  
5 about this area?

6 A (Bowes) I don't know if we've had any  
7 discussions with the dam agency, and it does not  
8 surprise me that this lagoon would be part of  
9 that requirement.

10 Q Okay. Any breach of this impoundment could  
11 result in the discharge of untreated effluent  
12 and hazardous waste into the Pemi or the Squam  
13 Rivers, both in close proximity. So is there  
14 some followup necessary in terms of starting a  
15 dialogue with the state dam agency involved?

16 A (Bowes) We can verify that, and I'm sure the  
17 environmental panel can address it as well.

18 Q We were also told that in this narrow strip of  
19 land between the lagoons and the river that  
20 there are some buried solid waste and  
21 contaminated soils known to exist in that area.  
22 And this was related to construction of  
23 Interstate 93, so it's obviously been there for  
24 a while, and relocation of the B&M Railroad

1 right-of-way, and the concern is, people are  
2 very concerned about what's in that stuff. They  
3 know some of it is something they don't want to  
4 be around, but that this will, as part of your  
5 construction running through that right-of-way,  
6 will be exposed, and it's not well-documented.  
7 Nobody knows exactly where it is. They just  
8 know it got, it was used as fill in that area  
9 and that's a major concern.

10 A (Bowes) If the town or the wastewater department  
11 would like us to do environmental samples as  
12 part of our construction, we're willing to do  
13 that.

14 Q So this is water and sewage, Ashland?

15 A (Bowes) I believe it's their property, yes.

16 Q Well, it's run by a commission there. Yes.

17 A (Bowes) They would like us to do sampling when  
18 we do the foundation excavation. We're willing  
19 to do that.

20 Q I'm sorry. Go ahead.

21 A (Bowes) I was just confirming that we're willing  
22 to do the environmental sampling if the land  
23 owner would like us to do in that in this case.

24 Q Some of this concern is coming from the

1 Selectboard in terms of what might be uncovered  
2 there that would cause problem.

3 Has the Ashland right-of-way access issue  
4 been resolved? How are you going to get into  
5 your right-of-way? What's the status of that?

6 A (Johnson) We're still in discussions with the  
7 water and sewer treatment facility. It has not  
8 been resolved yet.

9 Q And this is primarily the Collin Road entrance?

10 A (Johnson) That's correct. Yes. As I think I  
11 testified to a month ago about, there are other  
12 secondary options for us to get in there, but  
13 the best available would be an agreement with  
14 the facility.

15 MR. IACOPINO: Is that about an access road  
16 or is that about the right-of-way itself?

17 A (Johnson) It's access to get to the right of  
18 way.

19 MR. IACOPINO: Okay.

20 BY MR. STAMP:

21 Q Can we go back to sheet -- I just have to ask  
22 this because having looked at the aquifer and  
23 the wellhead and the lagoons and everything  
24 that's in here that's basically high risk kind

1 of stuff, when you make the transition from  
2 underground and go overhead, was there ever, I  
3 mean, realizing what was ahead of you coming  
4 down that right-of-way, was there ever any  
5 consideration given to taking another path  
6 around that? You're on the right side of the  
7 river, right in this, right in this map, you're  
8 on the west side of the river, you're on the  
9 west side of I-93, and it looks like you had a  
10 kind of a straight 3 or 4 mile shot down to  
11 where you come back into Bridgewater south of  
12 here. Was that ever seriously considered,  
13 knowing what you were about to head into in  
14 Ashland?

15 A (Johnson) To my knowledge, no. I think Mr.  
16 Bowes has articulated that the overhead  
17 construction methodologies aren't necessarily  
18 dependent on whether there's an aquifer or not.

19 Q It's not only the aquifer, it's the wellhead,  
20 you know, you're into everything with your  
21 right-of-way and you're into a floodplain, and  
22 you're violating Shoreline Protection along that  
23 lagoon area, and I would think somebody in your  
24 level and so forth would have said hey, why



1 don't we look at a different way to get this job  
2 done here. I was just curious whether it had  
3 ever come up.

4 A (Bowes) I don't believe it had.

5 Q I think that's all the questions I have. Thank  
6 you.

7 COMMISIONER BAILEY: Thank you.

8 Mr. Draper, are you up next?

9 MR. DRAPER: I am.

10 **CROSS-EXAMINATION**

11 **BY MR. DRAPER:**

12 Q I think we're working towards the end. Those  
13 aren't supposed to be up yet. So they can be  
14 quiet. Okay. We are going to talk a little bit  
15 about vernal pools but right now I have, I've  
16 been told, am I coming across? It's hard to  
17 hear from up here if I'm coming across up here.

18 (Discussion off the record).

19 Q We've been told by the construction, by many  
20 people that the construction team will be  
21 checking for organisms in their path, even  
22 before the natural -- I've got to think for a  
23 second. Take a breath.

24 So we've been told that the Construction

1 Team will be checking for organisms in their  
2 path as they're doing their work. Here's some  
3 larvae that are from a right-of-way wetland, and  
4 I don't expect you to identify them. Can you  
5 see them clearly enough?

6 A (Bowes) Yes.

7 Q Anybody know what they are?

8 A (Johnson) They look like tadpoles to me.

9 Q Great. That's the first thing, and then do you  
10 have any idea what kind they'd be? Probably  
11 not.

12 A (Johnson) No.

13 Q These are the ones that we heard singing  
14 earlier. Most of those are wood frogs. We did  
15 have some really good ones for yesterday. And  
16 they got warm so they didn't get to show up  
17 tonight, but they are very, very hard to spot,  
18 and it is extremely difficult to differentiate.  
19 I've only got two species in there. There were  
20 three yesterday.

21 My question is from a contractor, engineer  
22 or construction person's perspective, at what  
23 point does someone ask the question is this a  
24 species of concern.

1 A (Johnson) So I believe that species of concern  
2 have been identified as part of our Application  
3 by our biologist, and as well as whatever the  
4 state regulations are as far as rare, threatened  
5 and endangered.

6 Q And so that would be only on the information  
7 that they gathered on their walk-through at that  
8 particular time?

9 A (Johnson) That's correct. As part of our  
10 Application.

11 Q And so is there any chance that they missed some  
12 organisms on their walk-through?

13 A (Johnson) I would say there's almost a certainty  
14 that they've missed something in that many miles  
15 of right-of-way.

16 Q Dr. Rick Van de Poll mentioned that there were  
17 10,000 species that were missed, and I mean they  
18 weren't endangered, but that's what I think is  
19 one of the things that I'm trying to get to is  
20 that these are in the vernal pool. They  
21 actually were rescued, they will not, they would  
22 not have made it in the vernal pool that I got  
23 it out of because they were in cuts where a  
24 contractor vehicle had been in earlier this

1 year.

2 So what I was, I'm going to say this  
3 quickly. So my question is there, is there  
4 anything we can do as landowners to mention this  
5 to contractors while they're doing their work?  
6 Can we talk to somebody and will they listen to  
7 us if we say there's something --

8 A (Johnson) Sure. So part of the initial setup,  
9 if you will, even prior to the road building and  
10 tree clearing is the wetland flagging and  
11 staking of the right-of-way edges. So that will  
12 be a group of environmental or biologists that  
13 will go out and will designate wetlands right  
14 prior to when construction is about to begin.

15 Certainly, if you as an interested  
16 landowner would like to be involved when that  
17 process happens, we can put that into our system  
18 and have them contact you so that you can  
19 accompany them while they are doing that  
20 flagging.

21 Q Great. Thank you. On a different question and  
22 concern, is the right-of-way crossing at Blake  
23 Brook. And I think you've seen this one before.  
24 Here's the map of it. You can see where it is.

1 I wanted to show you this map, but I'm not sure,  
2 it was really difficult which map I was to show  
3 you because I'm not sure if this is the most  
4 accurate. I have problems when there are  
5 sometimes three labels for a single map. There  
6 are duplicate maps at a different scale from the  
7 one that I have here, and frequently, the north  
8 is in the wrong direction. I don't know, I hope  
9 this is pointing in the correct direction for  
10 you.

11 Is there a master set of maps for the  
12 Project that is up to date, all facing at the  
13 same scale and all keeping north at the same  
14 setting?

15 A (Johnson) So in general the answer is no. What  
16 we've tried to do is put the right-of-way on the  
17 center of a 11 by 17 page that should take up  
18 the most space. Otherwise, we would have  
19 thousands and thousands of pages as we orientate  
20 all the way around. Understanding you're  
21 looking for a giant room-sized map that would  
22 give you sort of a view from north to south,  
23 but, unfortunately, when we're producing it on a  
24 two-dimensional 11 by 17 paper it just doesn't

1 work.

2 Q So I was just wondering like what maps are used  
3 when contractors are talking? I just find it  
4 hard, I'd literally be on the same page with you  
5 when you're talking about maps. I can see what  
6 you have here. But it's like when I'm trying to  
7 find something that you already mentioned at  
8 home or something, is there a certain set of  
9 maps that contractors use that when you talk  
10 you're all using the same map?

11 A (Bradstreet) So I would say the contractor will  
12 rely on an IFC drawing set, Issued For  
13 Construction. And that Issued For Construction  
14 set will show all of the specifics that apply to  
15 the work that they're going to perform. So  
16 there might be things that are shown on this  
17 environmental map that we're looking at right  
18 now that the contractor won't necessarily need  
19 to know about, and it will be sort of a filtered  
20 set that basically shows the construction  
21 requirements, the access requirements, any  
22 restrictions so they're aware of what would  
23 impact their actual work.

24 Q So, in other words, it's sort of like they have,

1 a contractor doing a certain thing has certain  
2 layers that they would get rid of so that they  
3 could have a clearer map?

4 A (Bradstreet) For the most part, that is correct.

5 Q So for us, we wouldn't have --

6 A (Bradstreet) What we're looking at here like  
7 this specific map was developed to meet all of  
8 the requirements, I believe, of DES, and then  
9 the Project maps that have less wetland  
10 information shown and more construction  
11 information shown are more to help the public  
12 understand what we're doing because a lot of the  
13 public isn't interested in honing in on a  
14 wetland or something like that specifically. So  
15 they've been kind of put together to suit or to  
16 serve a certain purpose, and the actual  
17 construction IFC drawings will be a new set that  
18 is created to serve that specific construction  
19 purpose.

20 Q And will we have access to those?

21 A (Bradstreet) I believe we can say yes. I don't  
22 see why we wouldn't allow that. They haven't  
23 been fully prepared because we haven't gone to  
24 IFC yet. So when we go to IFC I believe it will

1 be posted. I don't know if it will be posed to  
2 the website, but there will be a way we could  
3 get you access to those.

4 Q Good. Thank you.

5 A (Bradstreet) So that way I guess if you were  
6 looking at a drawing, technically if you were  
7 talking to one of our contractors or one of our  
8 foremen or whatever, you guys could be kind of  
9 looking at the same thing.

10 Q That's what I was hoping. Super. I'm ready to  
11 say I'm done. How about that. I'm glad he's  
12 not here.

13 (Discussion off the record)

14 Q So here we are. I found sheet 507 but it may  
15 not look, it might also be called map 1419 not  
16 to be confused with the elevation sheet with the  
17 same number.

18 My question, does this map indicate any  
19 worries of erosion or sedimentation to Blake  
20 Brook? Does that look like there would be  
21 any --

22 A (Bradstreet) Can you point specifically to where  
23 Blake Brook is?

24 Q Blake Brook comes right down there and goes into



1 the river, and your right-of-way goes right over  
2 that, and Brook Road is going --

3 A (Johnson) So I would say this would be a case  
4 where the environmental or the biologists or the  
5 wetlands experts that go out would certainly  
6 flag this and the appropriate silt fences and  
7 whatever other Best Management Practices would  
8 have to be installed prior to us coming through  
9 even to build roads.

10 Q That's good. Because I have seen flagging done,  
11 but it's been done so long ago people aren't  
12 paying much attention to it now, and that was  
13 where I was going to go to the next question.  
14 Here's a photo that I took, and this is Blake  
15 Brook Crossing on the first, last year, first  
16 month, January 10th, 2016, and I don't know if  
17 you can see. There's actually quite a flowage  
18 going down right where your right-of-way comes  
19 through and then that flows into Blake Brook.  
20 Would you call this a potential problem of  
21 stormwater runoff?

22 A (Johnson) I would say yes.

23 Q And I pointed that out back that time and  
24 nobody's done anything yet. What would you

1 recommend that could be done there?

2 A (Johnson) So I think, difficult question. And I  
3 think that when our contractor goes out and  
4 starts to look at constructability-type route  
5 because they'll go their own, we can certainly  
6 flag this of an area of importance that we're  
7 going to have to figure out the best place to  
8 put an access road or how to build a temporary  
9 bridge or whatever is required from their  
10 perspective to get through this area, but we can  
11 certainly flag it as an area of interest.

12 Q That would be -- because I was hoping that  
13 something would have been done during this past  
14 year because I pointed it out a year ago and  
15 yesterday I wanted to go right after our meeting  
16 because it was raining so hard but it was pitch  
17 dark. I couldn't get a picture. But it's still  
18 running very hard.

19 So wouldn't you agree with this much  
20 disturbance caused by a simple maintenance, this  
21 is probably done by the brontosaurus going up  
22 there, there's a pretty good possibility with  
23 the construction of five lattice towers to get  
24 up that right-of-way needing cranes and cement

1 using only this access that the disturbance will  
2 be greatly increased causing more of an impact  
3 to the brook and the Pemigewasset River just  
4 downstream.

5 A (Johnson) So any time there's increased traffic,  
6 there's obviously increased opportunity. I  
7 would advocate that if proper controls, it looks  
8 like there are none here right now.

9 Q Exactly.

10 A (Johnson) That if proper controls are put in,  
11 there would be a better result, if you will.

12 Q Can we get a guarantee on that?

13 A (Johnson) I will guarantee that there will be  
14 controls. No question.

15 Q Thank you very much. And I'm glad you were out  
16 of the room.

17 PRESIDING OFFICER HONIGBERG: I've just  
18 been informed.

19 Q You do need the see the tadpole.

20 PRESIDING OFFICER HONIGBERG: Actually, I  
21 was in the room next to us, and you all should  
22 know that we have audio and access to these  
23 screens in there. So I was watching the  
24 tadpoles.

1 I think we are to the Committee to focus  
2 their questions on Mr. Bradstreet and Mr. Scott.  
3 Let's take five minutes.

4 (Recess taken)

5 PRESIDING OFFICER HONIGBERG: Mr. Wright,  
6 are you ready to go?

7 MR. WRIGHT: Yes, I am.

8 **INTERROGATORIES BY MR. WRIGHT**

9 Q Thank you, Mr. Chairman. Mr. Bradstreet, I'll  
10 start with you. Couple times during your short  
11 visit with us we've talked about the  
12 interference study between the natural gas  
13 pipeline up north and the new Northern Pass  
14 line. That study is currently under way we've  
15 heard multiple times, I think, for some period  
16 of time?

17 A (Bradstreet) Yes. It's still under way.

18 Q Who is actually doing that study?

19 A (Bradstreet) So the Project has hired a  
20 subconsultant, Corrp. They're a specialist in  
21 corrosion designs. Most of their work is with  
22 the pipeline industry where they support  
23 cathodic protection design and other things.  
24 But they also help evaluate potential impact

1 between high voltage transmission and pipelines.

2 Q What is the name of that company again?

3 A (Bradstreet) Corrpor. C O R R P O R.

4 Q Can I assume that that study will be submitted  
5 as part of this proceeding?

6 A (Bradstreet) I think the answer is yes.

7 Q And when do we expect that to be done?

8 A (Bradstreet) We were hoping to have it done in  
9 May.

10 Q That's what I recall.

11 A (Bradstreet) So I did get some preliminary  
12 charts from them yesterday.

13 Q Okay.

14 A (Bradstreet) So I think maybe the next two  
15 weeks, hopefully, we can submit that.

16 Q Okay. And part of that study is to really look  
17 at, you mentioned the cathodic protection on the  
18 gas pipeline; is that correct?

19 A (Bradstreet) The study that's ongoing today is  
20 to evaluate really the AC line that exists today  
21 and how it could impact the pipeline and compare  
22 that to the relocated AC line and how it could  
23 impact the pipeline. And then, separately, how  
24 the DC line could potentially impact the

1 pipeline. And so that analysis will provide  
2 details to determine if there are further  
3 detailed studies that need to be executed before  
4 the Project is energized.

5 Q Okay. Thank you. And you actually answered my  
6 next question was it does take into  
7 consideration the existing line as well?

8 A (Bradstreet) Yes. And I guess to that point,  
9 the pipeline took into consideration the  
10 existing line when they did their design. So  
11 there's some level of cathodic protection or the  
12 AC influence, if there is any, was something  
13 that was studied before they performed their  
14 construction in the early 2000s.

15 Q And in your professional experience, have you  
16 seen situations where there is interference from  
17 pipelines?

18 A (Bradstreet) So we've worked specifically on  
19 projects with Eversource where the study was  
20 complete and we found that there may be some  
21 need for mitigation. Specifically I'm thinking  
22 of a project where we had a 345 kv AC line where  
23 there was a concern of voltage stress on the  
24 pipeline coating itself. So a little different

1 scenario is a higher voltage AC line. It was  
2 also an older pipeline so the actual coating was  
3 of a different material and somewhat  
4 deteriorated.

5 But what we ended up doing was working with  
6 the pipeline company to develop a mitigation  
7 approach where we buried a, we call it GCW but  
8 basically we bury a copper wire next to their  
9 pipeline to spread that voltage stress out so  
10 that it would not stress their actual coating.

11 Q So in cases where there is interference, is that  
12 a typical remedy, what you just described?

13 A (Bradstreet) Something similar. Typically, if  
14 there is an interference, it's a change either  
15 in our grounding design or a change on something  
16 associated with the pipeline itself.

17 Q It typically would not involve increasing the  
18 height of the structures or anything like that  
19 though?

20 A (Bradstreet) Typically, it does not. So  
21 normally these studies don't take place until  
22 our design is almost to an IFC stage so that  
23 when we're discussing the overall impacts of  
24 pipeline they know that we're sort of set in

1           what we plan to do, and it kind of avoids having  
2           multiple iterations of studies occur. So in  
3           general, high raises are not normally something  
4           that's considered in mitigation.

5           Q     Okay.

6           A     (Bowes) A couple things is that the existing  
7           Portland Natural Gas pipeline does have  
8           mitigation measures on it already.

9           Q     Okay.

10          A     (Bowes) It's mainly for worker safety. They  
11          have voltage gradients installed. And when they  
12          did install them, they did anticipate additional  
13          upgrades to the AC line. So we're anticipating  
14          there might be minimal impacts for worker safety  
15          for the Portland General system.

16                 I also did the research and found the  
17          document we talked about yesterday. It's  
18          actually from the Interstate Natural Gas  
19          Association of America. And Mr. Bradstreet and  
20          I reviewed it. And the title of it is Criteria  
21          for Pipelines Coexisting with Electric Power  
22          Lines. The final report was issued in October  
23          2015, and the exact measures that are detailed  
24          in this report is what we're going through



1 today.

2 A (Bradstreet) The analysis described in this  
3 document is exactly what we are going through  
4 right now.

5 Q And if there are mitigation steps necessary,  
6 that would be the responsibility of Northern  
7 Pass?

8 A (Bowes) Actually, with our agreement, it's the  
9 responsibility of Portland Natural Gas.

10 Q And that's through a contractual agreement you  
11 have with them now?

12 A (Bowes) That is correct.

13 Q Okay. I think this was bounced around. Does  
14 anybody actually know how deep the pipeline is?  
15 There seemed to be some question.

16 A (Bradstreet) We have plan and profile drawings  
17 for the entire pipeline really as it goes all  
18 the way up into Canada. I'm going off of  
19 memory. I could look and get you a specific  
20 answer, but I would want to say the minimum is  
21 about four feet.

22 Q Okay. Thank you. I'll shift gears a little  
23 bit, Mr. Bradstreet. Did I hear correctly, and  
24 I know it's in my notes somewhere, yesterday, I

1 can't recall who you were having a discussion  
2 with, but it was centered around the issue of  
3 leg extensions on some of the towers.

4 A (Bradstreet) Right.

5 Q And my recollection is what you stated was that  
6 potentially due to the leg extension the actual  
7 tower heights could be plus or minus two feet.  
8 Is that recollection accurate on my part?

9 A (Bradstreet) It is. And I can explain more if  
10 you would like me to.

11 Q Yes. Could you?

12 A (Bradstreet) So a leg extension is basically  
13 it's a transmission design term for that portion  
14 of the structure. So a lot of times you have  
15 what they call like a waist or like the, just  
16 the straight mast, and then normally you have a  
17 bridge is what they call it is which is what we  
18 might reference as like it looks arms but it's  
19 normally called a bridge. And the leg  
20 extensions are what gives you the flexibility.  
21 Say you aren't on a flat piece of ground, you  
22 might have one leg that needs to be six feet  
23 long, and you might have one leg that needs to  
24 be ten feet long, and one leg that needs to be

1 four feet look or whatever. Those various leg  
2 extensions are what allows us to make the feet  
3 the appropriate length.

4 And as we haven't completely finished the  
5 design with the lattice tower manufacturer  
6 those, basically the options for extension  
7 lengths haven't been set yet. We've given them  
8 a requirement. I believe we've told them that  
9 they need to be in one or two meter lengths of  
10 breakdown, but that might mean that what we're  
11 thinking is a 90-foot structure. When you  
12 actually look at the available leg extensions  
13 from the final lattice design, it might turn  
14 into an 88-foot structure as long as we still  
15 have clearance. So there's a little bit of a  
16 moving piece of the puzzle before those are 100  
17 percent finalized.

18 Q Can I ask just a clarification question? Does  
19 that mean all the heights I see in all the  
20 drawings and all the submittal, does that mean  
21 the actual tower height could potentially be two  
22 feet higher than what's listed in the  
23 Application?

24 A (Bradstreet) I think there's a chance that some

1           could be taller and there's a chance that some  
2           could be shorter.

3       Q     Is two feet the worst-case scenario?  Is it plus  
4           or minus two feet or plus or minus five feet?

5       A     (Bradstreet) I think we're landing on plus or  
6           minus three feet.

7       Q     I might have some further questions on that, but  
8           I don't think they'll be for you.  I think there  
9           will be for a later witness.

10      A     (Bradstreet) Okay.  And I think we've prepped  
11           that witness so hopefully when he gets down here  
12           he knows.

13      Q     I think I'm done with Mr. Bradstreet, but I do  
14           have questions for Mr. Scott.  Should I go on?

15                   PRESIDING OFFICER HONIGBURG:  Okay.

16      Q     Mr. Scott.  We spent a lot of time talking about  
17           the initial installation of the underground  
18           portion of the line.  That's correct?

19      A     (Scott) Yes, sir.

20      Q     I'll shift gears a little bit and focus on  
21           maintenance or repairs to the line.  I don't  
22           think we've talked much about that.  I think  
23           there was some discussion yesterday about if  
24           there were repairs necessary where you would

1           need to replace portions of the underground  
2           cable. I think we heard that it could be a 3-  
3           to 4-week period. Is that your assessment as  
4           well?

5       A     (Scott) Yes. Do you want a little bit of a  
6           breakdown?

7       Q     Yes. Just kind of what would happen during that  
8           3- to 4-week period when you're replacing a  
9           portion?

10      A     (Scott) Yes. So, I mean, Mr. Bowes talked a  
11           little bit about the scenarios that could  
12           happen. Most likely you'd have to replace a  
13           segment of cable in a failure. Most likely the  
14           failure would be occurring at a splice location.  
15           So you would need to access two splice  
16           locations, one on each end of the length of  
17           cable you're replacing. To do that, you would  
18           have to expose the lids. If it's a splice pit  
19           as we're proposing, remove the lids, remove the  
20           sand fill that's inside of that splice pit,  
21           clean the pit area, break your splice, pull your  
22           cable out, pull a new cable in and do two  
23           splices.

24      Q     It wouldn't require additional directional

1 drilling or anything like? You'd use the  
2 existing conduit?

3 A (Scott) Existing conduit. Yes.

4 Q In terms of maintenance, is there any time when  
5 you need to go into the splice boxes for any  
6 sort of ongoing maintenance for the line?

7 A (Scott) So with the splice pits themselves,  
8 there is no maintenance requirement.  
9 Essentially, they're buried, and there's no  
10 maintenance that's, there's no annual checks or  
11 anything. If a vault which is not currently  
12 proposed were to be used like is commonly used  
13 in downtown urban environments, the utilities  
14 will typically have a regulated inspection  
15 duration that they will go and they will check  
16 and see if everything is clean and in proper  
17 order.

18 A (Bowes) I would add that we do have one line  
19 that's similar to this design where it's  
20 directly, the cables are laid directly in a duct  
21 bank. It's in splice pits. They're paved over.  
22 And it went in in the late 1990s, and we have  
23 not been into those splice pits since.

24 Q I assume the failure rate is relatively small in

1 terms of needing to do repair work?

2 A (Bowes) It is very small. This happens to be at  
3 a lower voltage so we are at a higher voltage in  
4 this case and it's a longer piece of cable so I  
5 think the description that Mr. Scott, I could  
6 see that happening once or twice during the life  
7 of the cable.

8 Q I have just a couple questions on HDD operations  
9 and methods, but I think, Mr. Kayser, that was  
10 part of your testimony, correct?

11 A (Kayser) Yes.

12 Q So I could follow up with you tomorrow on that.  
13 Okay. Just, I think, Mr. Scott. I think you're  
14 probably best for this. The fluidized thermal  
15 backfill, is that a material that's currently  
16 being used in New Hampshire in any applications,  
17 do you know? Or does anybody know?

18 A (Scott) Mr. Bowes could maybe answer that better  
19 than I could. I do know that it's used  
20 nationally by multiple utilities.

21 A (Bowes) We have not used it on any distribution  
22 or transmission Projects in New Hampshire. I  
23 think we have our first regulated project in  
24 front of the SEC now that has underground

1 transmission.

2 Q Okay.

3 A (Bowes) And then this is the first electric  
4 transmission project. We have used it  
5 extensively in Connecticut, Massachusetts. I  
6 know National Grid has also used it in Rhode  
7 Island. So it's pretty common to use it with a  
8 solid Di-Electric cable. It's an efficient way  
9 to cool the cables.

10 Q That's my understanding there's certain  
11 properties of this material that help keep the  
12 cable cool so it's kind of a health and welfare  
13 component to maintaining the cable.

14 A (Bowes) And the other thing is it provides a  
15 very consistent thermal profile versus what can  
16 be inconsistent with wet areas, dry areas,  
17 things like that.

18 Q Have there been any direct discussions with DES  
19 with the use of the fluidized thermal backfill?

20 A (Scott) I don't believe so.

21 Q I know you've had discussions with DOT about it,  
22 is that correct?

23 A (Bowes) That is correct, a lot of discussions.  
24 We have a couple test areas with DOT. I don't



1 think we've had the discussion with DES.

2 Q I was just curious as to, I didn't know if --  
3 you mentioned that this material does contain  
4 coal ash which my understanding is a regulated  
5 solid waste in New Hampshire.

6 A (Johnson) It's fly ash, not coal ash.

7 Q Fly ash which comes out of the control  
8 equipment. I understand that.

9 A Right.

10 Q Is that a regulated solid waste in New  
11 Hampshire, do you know?

12 A (Johnson) Top of my head, I do not. I know that  
13 it's used in almost every state in the union.

14 Q Are you familiar with a term in New Hampshire  
15 called certified waste derived products?

16 A (Johnson) Yes.

17 Q My understanding that that's a responsibility of  
18 DES to make that determination, correct?

19 A (Johnson) Agreed.

20 Q And when I look at the website for DES, I did  
21 notice that coal ash is listed under the  
22 certified waste derived products. Are you aware  
23 of that?

24 A (Johnson) I am, yes.

1 Q Do you know if this Application falls within  
2 what has been previously approved by DES as a  
3 certified waste derived product?

4 A (Johnson) I do not know. I'm sure our  
5 Environmental Team will know.

6 Q That's where I was going to go next. The  
7 environmental panel on that.

8 A (Johnson) Yes.

9 Q Okay. Next, one more followup question, I  
10 think, on this subject. This probably ends up  
11 going to you, Mr. Bowes. I could probably hold  
12 it until tomorrow, but it is related to the  
13 fluidized thermal backfill.

14 PRESIDING OFFICER HONIGBERG: Why don't you  
15 close the loop on that with Mr. Bowes.

16 Q Okay. Just real quick. This was mentioned this  
17 material is probably going to be manufactured in  
18 New Hampshire locally by some sort of drum mix  
19 activity; is that correct?

20 A (Bowes) That is correct.

21 Q And you envision locating what I'm picturing is  
22 concrete plants, concrete batch plants along the  
23 operation of the underground section?

24 A (Bowes) We'll definitely need one in the North

1 Country for that 7-and-a-half-mile area, and  
2 probably one or two on the 52-mile.

3 Q And those locations have not been identified  
4 yet?

5 A (Bowes) They have not.

6 Q And I don't know if this requires a legal  
7 conclusion on your part, but where those  
8 facilities are located, there could be local  
9 land use or local zoning requirements for the  
10 siting of those types of facilities, correct?

11 A (Bowes) Yes.

12 Q Would those local land use zoning requirements  
13 still be applicable to those plants?

14 A (Bowes) That probably is a legal question. I  
15 know we've done this once with Merrimack Valley  
16 Reliability Project, but it was a different  
17 Application for the laydown areas. More  
18 material storage.

19 Q Okay.

20 A (Bowes) This is actually more of a manufacturing  
21 type operation.

22 Q Okay.

23 A (Bowes) I don't know the answer to it.

24 Q Okay. Thank you. I'm all set for now.

1                   PRESIDING OFFICER HONIGBERG: Anyone else  
2                   who has requests for Mr. Scott or  
3                   Mr. Bradstreet? Mr. Way?

4                   **INTERROGATORIES BY MR. WAY**

5                   Q     Just a quick question for you, Mr. Scott. I  
6                   think it was mentioned yesterday with regards to  
7                   the downtown Plymouth area that you're in talks  
8                   with the Water and Sewer Commission for the  
9                   underground portion?

10                  A     (Johnson) That is correct. Yes.

11                  Q     Does that mean that the town is actually talking  
12                  with your Project about a possible MOU or is  
13                  that just one entity?

14                  A     (Johnson) No. The Plymouth Village Water and  
15                  Sewer is the entity that's speaking with us. It  
16                  is not the municipality.

17                  Q     Separate from the municipality?

18                  A     (Johnson) That's correct.

19                  Q     The second thing is is there any concern on your  
20                  part that when you're co-locating, is there a  
21                  can of worms that's going to happen with regards  
22                  to sewer infrastructure and could that possibly  
23                  delay the Project?

24                  A     (Johnson) Not necessarily. I think the term

1 co-location may be a little misleading. I think  
2 that there will be enough offset from whatever  
3 infrastructure that they are planning that there  
4 will be no interferences between the two. I  
5 think what they're trying to do is say if  
6 Northern Pass is going to pave the road or put a  
7 subbase back in or deal with the concrete  
8 material that's in place, why don't they get  
9 some lines in, too, so that they don't have to  
10 pay for whatever that is. It's more of a "let's  
11 only disturb it once" type of thing as opposed  
12 to consecutive projects coming year and after  
13 year.

14 Q Is it something that could possibly add a delay,  
15 unanticipated delay through a season?

16 A (Johnson) Potentially if we can't get it  
17 together, so to speak, but we'll work very hard  
18 so that does not happen.

19 A (Scott) Ideally, we would be able to coordinate  
20 the construction activities with them.

21 Q And one last question, I think, to follow up on  
22 Mr. Wright's. Mr. Scott, in terms of the repair  
23 activities and I think you've all gone over it  
24 quite well, but once again in an urban setting.

1 How intrusive is the discovery process or can I  
2 assume and I guess I would assume that if  
3 there's a repair activity you probably know  
4 exactly where it's located given the  
5 infrastructure that you've laid down or is it  
6 something where you know a general area or how  
7 is that working?

8 A (Scott) When you say repair activity, are you  
9 talking about an existing utility?

10 Q So for one of the underground sections and you  
11 have a repair action that has to occur?

12 A (Scott) Oh, for a cable fault?

13 Q Um-hum.

14 A (Scott) Yes. So typically would you thump the  
15 cable to and find out where it's going to grade.  
16 I would say 99.99 percent of the time that fault  
17 will be occurring in a splice pit at a splice  
18 location.

19 Q And you have a good idea where that splice  
20 location is?

21 A (Scott) Based upon, yes. You can do the  
22 analysis to figure out where it is within the  
23 length of cable.

24 Q All right. Thank you.

1 PRESIDING OFFICER HONIGBERG: Ms. Whitaker?

2 **INTERROGATORIES BY MS. WHITAKER**

3 Q I had a couple more questions about the  
4 fluidized thermal backfill. We heard yesterday  
5 about a potential list of contaminants that's  
6 included in that backfill including arsenic,  
7 lead, mercury, and chromium. Are those always  
8 included in the thermal fluidized thermal  
9 backfill recipe, so to speak?

10 A (Scott) I believe that was slightly misleading.  
11 Those are materials that are byproducts that are  
12 developed when coal is burned essentially, and  
13 some of those in various parts per million are  
14 present in that fly ash material. So yes, some  
15 of that is present in fluidized thermal  
16 backfill. Fly ash is also used in development  
17 of structural concrete. So road bases, roads,  
18 bridges, those all use fly ash as well.  
19 Foundations of buildings use fly ash as well.

20 Q Okay.

21 A (Scott) Sidewalks. So yes, there is some  
22 presence of those materials because it's  
23 developed from coal. It's not in heavy  
24 quantities. We will be receiving mixed designs

1 with the proposed approved fly ash from specific  
2 facilities with the properties of that fly ash  
3 mixture.

4 Q Okay. And I think you had said, Mr. Scott, that  
5 there's a potential for the overall recipe of  
6 the fluidized thermal backfill to change. Who  
7 determines that and when?

8 A (Scott) So I believe I stated that there's  
9 various mix designs that are being considered.  
10 So fluidized thermal backfill was one. Mineral  
11 aggregate backfill was another. So the road  
12 base, for example.

13 Q Okay.

14 A Typically, the standard road base for roadways  
15 is not going to be ideal for thermal  
16 characteristics. There's a lot of void space  
17 between the aggregates that are not desirable so  
18 coming up with a mix design essentially which is  
19 a gravel mix design in this case that the DOT  
20 would accept as well as meet the thermal  
21 requirements that we desire to minimize the  
22 impacts to the cable rating. Additionally,  
23 thermal sand backfill like we're proposing to  
24 install inside of the splice pits and then



1 additional fill materials that come up  
2 throughout the design process.

3 Q So it could be a potentially entirely different  
4 medium?

5 A (Scott) Potentially. And if I could elaborate.  
6 So each one of those would have a specific  
7 design submitted and approved by the Project.

8 Q Okay.

9 A (Scott) Meeting the permit requirements.

10 Q Okay. And then lastly, if the fluidized thermal  
11 backfill is used, is that going to be in direct  
12 contact with the soil? I felt like I got  
13 conflicting or mixed message answers to that.

14 A (Scott) Yes.

15 Q It will be in direct contact with the soil.

16 A (Scott) Yes.

17 Q And, therefore, also potentially any percolating  
18 groundwater?

19 A Yes. As well as any concrete or thermal sand or  
20 aggregates that are placed in there.

21 Q Is there a potential for any lining to be used  
22 to be a barrier between any of those thermal  
23 components in the soil?

24 A (Scott) I would say that's extremely atypical.

1 I've never used a lining in any of my  
2 underground projects to date. Typically any  
3 lining, like a rubber, for example, would be  
4 detrimental to the operation of the cable  
5 system. It's an insulator. So it would derate  
6 your cable.

7 Q All right. Thank you very much.

8 PRESIDING OFFICER HONIGBERG: Ms.  
9 Weathersby?

10 **INTERROGATORIES BY MS. WEATHERSBY**

11 Q Thank you. Just a couple primarily followup  
12 questions to what's already been asked by the  
13 Committee.

14 Mr. Bradstreet, you indicated in your  
15 testimony that you were concerning pipeline  
16 interference that you were going to potentially  
17 bury a mitigation wire. Is that what you were  
18 discussing just a moment ago with Mr. Wright?

19 A (Bradstreet) Yes. So that's one potential  
20 option if there is a reason to do any kind of  
21 mitigation. We can work with the pipeline to  
22 mitigate it in that fashion.

23 Q And how big is that wire? And what's involved  
24 in installing it?

1 A (Bradstreet) So based on previous experience, I  
2 want to say it was around a half inch in  
3 diameter, and basically it's just trenched into  
4 the ground and I don't think it was connected to  
5 anything. So basically, it's just placed in the  
6 ground to spread the voltage across a larger  
7 surface area.

8 Q At what point in the construction process would  
9 that take place?

10 A (Bradstreet) If it's determined that there is a  
11 problem, it would need to be installed before  
12 the Project is energized. So it could happen  
13 any time between now and if the Project was  
14 energized.

15 Q Would that more construction vehicles or of a  
16 different type or would the same construction  
17 vehicles be able to install that wire?

18 A (Bradstreet) I would say it's similar to what  
19 we'll be doing for our grounding at the  
20 structures. So, I mean, at the structures  
21 typically, we'll bury a ring roughly two feet  
22 outside of the foundation diameter, 18 inches  
23 below grade. So it's very similar to that.  
24 It's just along the pipeline so it would be

1 similar equipment.

2 Q An entirely different subject, earlier, a month  
3 ago, we had, I think, a very brief discussion  
4 concerning lighting. Nighttime lighting being  
5 required by the FAA. Are there lights required  
6 on some of the towers?

7 A (Bradstreet) Yes, there are.

8 Q Is it towers of a certain height or --

9 A (Bradstreet) So it's sort of a not  
10 straightforward answer. So I'll walk you  
11 through it. We have some areas where if our  
12 Project was underground in that area, the FAA  
13 would say it needed to be lit. So what I'm  
14 getting at is there's an area in Pembroke as you  
15 head towards Deerfield where the existing G 146  
16 line was lit and our Project is matching heights  
17 of that existing G 146 line and the FAA has said  
18 that we still have to light those structures.  
19 So that's a case where really no matter how tall  
20 our Project was, it would have to be lit.

21 It's due to the flight plan for the Concord  
22 Airport. So their flight plan has certain rules  
23 and regulations on what they tell aircraft to  
24 do, and they've come back and said that the

1 existing line is lit and our line needs to be  
2 lit also.

3 Q So the only lighting will be towers in the more  
4 southern section around Manchester, Concord,  
5 Pembroke?

6 A (Bradstreet) So there's a run, like I said, from  
7 Pembroke heading towards Deerfield. There's a,  
8 I can't remember the total number. 36 lit. 31  
9 lit. I think 25 of those are basically from the  
10 main angle point where we start to head towards  
11 Deerfield right there on the, adjacent to the  
12 airport, and there's a few, I believe in  
13 Concord. It's either in Concord or the very  
14 north end of Pembroke where, again, just due to  
15 flight guide path for the runways, lights are  
16 required.

17 Q Do you know if those are radar-activated lights  
18 proposed or are they constantly blinking during  
19 the nighttime hours?

20 A (Bradstreet) So right now they would be similar  
21 to what's on the existing G 146 line which is  
22 just the red beacon at night. I don't know if  
23 it turns white during the day or not but red  
24 beacon at night.

1 Q Do you happen to know if your visual experts  
2 have taken that into account?

3 A (Bradstreet) They have, and if you have  
4 specific, they're very familiar with that. We  
5 ran through it with them in the last six months  
6 probably once we got the determinations back  
7 from the FAA.

8 Q Okay. Thank you. Just a couple questions  
9 concerning the underground section for you,  
10 Mr. Scott. I know we've gone over this, but  
11 could you just remind me. As the trenching goes  
12 on, I know you can go 20 to 100 feet a day, et  
13 cetera, but what would be the longest stretch of  
14 open trench at any given time?

15 A (Scott) I mean, it's partly driven by the  
16 traffic control so I mean, I don't have a  
17 specific answer. I haven't determined that. I  
18 don't know if -- Sam, do you have --

19 A (Johnson) I'll try and answer it a little bit in  
20 generalities. In the instance in Plymouth where  
21 we talked about very small and compact work  
22 zones that we're minimizing our impacts. You're  
23 looking at 100 to 150 feet of the work zone. In  
24 a lot of rural areas as we get farther out where

1           there's much less traffic or the type of  
2           construction, if you will, is easier because  
3           there's no obstructions, you might stretch that  
4           construction zone out so that you can get more  
5           productivity than 20 to 100 feet a day.

6           I know we're working with DOT right now to  
7           talk about some of the measures for closing up  
8           the operation overnight. Every night we're  
9           going to remove the entire operation so the  
10          question is are we filling the holes back in and  
11          covering things up or will they allow us to use  
12          a type of plating or something else that will be  
13          more efficient, if you will. If we come back in  
14          the morning we just have to lift off the cover  
15          and then get working again. In those cases it  
16          might be longer or more, and that would just  
17          speed up production in that sense.

18        Q     Okay. Thank you. I have more questions for you  
19          on that tomorrow.

20        A     (Johnson) No problem.

21        Q     Back on the thermal issues. How hot does the  
22          cable get without any thermal backfill, et  
23          cetera?

24        A     (Scott) Right. I believe we talked about this

1 to some extent. Typically, the maximum  
2 conductor temperature is not going to be  
3 occurring at your shallow installation depths,  
4 it's going to be occurring at your thermal pinch  
5 point of the cable system which is usually where  
6 you have other heat sources for your deep.

7 So for this Project it's going to be in  
8 those locations where you're going into and out  
9 of your HDDs or microtunnels will be the thermal  
10 pinch point. So that's the location where your  
11 cable system will be operating at the full  
12 temperature, and when we've talked about this,  
13 that's the conductor temperature that's  
14 operating at that temperature. By the time you  
15 get to the outside of the jacket, the  
16 temperature has already dropped by 10 to 15  
17 degrees Celsius. By the time that you get to  
18 the outside of the duct bank, it's already  
19 dropped another 10 to 15 degrees Celsius, and by  
20 the time you've gotten further and further away  
21 it's dropped dramatically.

22 Q Could you then give me the average temperature  
23 at each of those spots you just mentioned?

24 A (Scott) I believe if you look at my Supplemental



1 Testimony, ABB prepared a general study that  
2 gives you some of those thermal layer line  
3 temperature layers.

4 Q Is that something you could pull it right now if  
5 I have questions about that and if I look at it  
6 tonight?

7 A Sure. That would be Attachment A of my  
8 Supplemental Testimony. So if you look at the  
9 scenario that they in, and I'm specifically  
10 referring to Figure 1, they're showing it at  
11 this scenario that essentially the edge of the  
12 duck bank on the top, you'd be right around 47  
13 degrees Celsius. By the time you were, I don't  
14 know, a foot above it, you would be somewhere  
15 around 30 degrees Celsius. By the time you're  
16 two feet above it, you'd be in 20 degrees  
17 Celsius or less.

18 Q Okay. Thank you.

19 A (Scott) I apologize that that's all metric.

20 Q That's okay. If there's some type of thermal  
21 insulator used like the fluidized backfill,  
22 thermal sand, et cetera, various types we've  
23 talked about, does that eliminate all of the  
24 heat when it's, if it touches the soil on the

1 other side or will the soil still warm?

2 A (Scott) Yes, so essentially the path of least  
3 resistant like heat wants to flow to a heat sink  
4 so for underground transmission that's open air.  
5 The fastest path to open air is directly above  
6 the duct bank. However, you know, if you've  
7 ever been in the proximity of a hot water pipe,  
8 put your hand above it, it's hot. Put your hand  
9 to the side of it, it's hot, right? So heat  
10 will dissipate in all directions. However, the  
11 most of the heat will dissipate upwards.

12 So if you're restructuring native material  
13 that, let's say, has a thermal characteristic of  
14 100 rowe, and you replace that with 70 rowe,  
15 backfill above it, that will help the heat  
16 dissipate above it although heat is still  
17 dissipating to the sides. Does that answer your  
18 question?

19 Q It does. I guess I'm wondering, how warm,  
20 compared to ambient temperature in this room,  
21 how warm does that soil get? I'm just thinking,  
22 perhaps this is a environmental question, but  
23 the effects on water, on organisms, et cetera.  
24 So I'm just curious from you, the underground

1 expert, how warm the soil gets even using the  
2 best type of thermal backfill.

3 A (Scott) I think Figure 1 is probably going to  
4 give you the best illustration of what that  
5 would look like. I mean, the maximum conductor  
6 temperature is 70 degrees Celsius, and Figure 1  
7 is already illustrated by the time you're to the  
8 outside of the duct bank is at 47 degrees. So  
9 how warm depends upon how far away you are.  
10 Warmth will affect moisture. If it's warmer,  
11 you know, it may not be as moist. However, if  
12 you're in the groundwater layer, it will not  
13 matter. As far as organisms, yeah. I would not  
14 really be able to answer that.

15 Q Okay. Thank you. And then I think my last,  
16 just a couple more questions about maintenance.  
17 I'm trying to get a handle on, we have a lot of  
18 good information about initial construction, and  
19 I'm curious about the extent of the work for  
20 both maintenance and then decommissioning.

21 So for maintenance, you indicated 3 to 4  
22 weeks to fix a cable failure and then maybe some  
23 other maintenance done in the splice pits, but  
24 wouldn't there be other maintenance for

1 monitoring or testing or what other types of  
2 maintenance that would be required for the  
3 underground portion?

4 A (Scott) So with the use of the splice pits,  
5 maintenance would not include visual inspection  
6 or opening up of those splice pits for  
7 inspection. Really the only thing I can think  
8 of is, and you'd have to dig into the plans a  
9 little bit to find it, is the sheaths of the  
10 cables themselves are essentially bonded to  
11 ground through a separate handhole, and that's  
12 what would be accessed to test the cable system  
13 for integrity. So, essentially, if your metal  
14 sheath is still sound, your cable system is  
15 still sound. So you would access that handhole,  
16 and the circuit would have to be down but you'd  
17 access the handle and run a test on the  
18 integrity there.

19 Q How often would such a test occur?

20 A (Scott) I do not believe that that's been  
21 determined at this time. It would be pretty  
22 rare. I would not say more often than, say,  
23 five years, but I would have to verify.

24 Q Okay.

1 A (Bradstreet) Sorry. One second. Nathan, is it  
2 worth talking about the temperature sensing that  
3 will be part of the overall system? I mean,  
4 it's not maintenance, but --

5 A (Scott) Sure.

6 A (Bradstreet) -- it keeps an eye on it and can  
7 allow more information as opposed to closing the  
8 lid and moving on with life.

9 A (Scott) Mr. Bradstreet's a smart guy. So the  
10 Project's proposing digital temperature sensing  
11 or DTS. DTS is essentially a fiberoptic cable  
12 that is installed parallel to the cable system.  
13 Essentially a laser signal is sent down that  
14 fiberoptic cable. By measuring the wavelength  
15 sent and received, smarter people than me have  
16 developed, essentially, a box with computer that  
17 will be able to analyze the temperature to a  
18 specific designated accuracy with a designated  
19 link, so let's say within one degree Celsius  
20 accuracy for a one-meter length. So in that  
21 general meter it's within one degree accuracy,  
22 right, for the length of the installation.

23 So for maintenance, if you, especially once  
24 you've had a few seasons and cycles and loading

1           that you can analyze, you can see where you may  
2           have an issue developing with the cable system.  
3           So say it's getting hotter and there's no reason  
4           for it to be getting hotter, you know  
5           something's wrong, and you can go out there and  
6           preemptively do some maintenance.

7       Q     Okay. Thank you. And just on kind of a more  
8           routine basis, are there any parts or components  
9           of the pipeline that need to get replaced every  
10          so many years or is there any more routine type?

11       A     (Scott) No. The cables, splices, terminations  
12          are all 40-year life expectancy.

13       Q     I'm sorry. 40?

14       A     (Scott) Four-zero. Yes.

15       Q     Then for --

16       A     (Scott) Sorry. That's the life expectancy.  
17          They're likely operate longer than that if they  
18          are operating under the designated criteria.

19       Q     At some point, the line will get decommissioned.  
20          Whether that's 40 years or sooner or later. Is  
21          it safe to assume that pretty much everything is  
22          reversed? Other than I know you don't have to  
23          go down below 48 inches and take everything out,  
24          but the timeframes that we've heard about and

1 the vehicles, is that pretty much, would it be  
2 pretty much the same extent of time and activity  
3 for decommissioning as it was for installation?

4 A (Scott) It would be significantly less. You'd  
5 really only need to access the splice locations  
6 to be able to remove the cable. As Mr. Bowen  
7 mentioned, the duct banks would be abandoned in  
8 place so you wouldn't be opening up every linear  
9 foot of trench anymore. You'd only be accessing  
10 where the splice pits are to decommission. Or  
11 at the termination locations. So the transition  
12 stations where you're less than four feet  
13 sweeping up into the terminations.

14 Q Thank you. I think that's all I have. Let me  
15 just double-check real quick. I'm all set.  
16 Thank you.

17 PRESIDING OFFICER HONIGBERG: Commissioner  
18 Bailey.

19 **INTERROGATORIES BY COMMISIONER BAILEY**

20 Q Thank you. I think I'm going to start with the  
21 followup on your figure 1. This assumes that  
22 the ground temperature is fairly warm. The soil  
23 temperature is 60 and the surface condition is  
24 70 Fahrenheit.

1 A (Scott) Correct.

2 Q Does the soil temperature and the surface  
3 temperature change during winter?

4 A (Scott) Yes. So as the ambient temperature  
5 decreases, those temperature lines you're seeing  
6 move closer and closer to the cables. So the  
7 heat for like, say, a foot away from the cable,  
8 the temperature would be much less than is shown  
9 in this diagram.

10 Q You mean the change in the temperature would be  
11 much less?

12 A (Scott) The temperature from the center of the  
13 cable to that foot away. Yes. And part of that  
14 has to do with the conductor temperature would  
15 be operating at a lower temperature to make the  
16 same requirements.

17 A (Bradstreet) Let me add one thing. One way to  
18 think about it, the cooler the air temperature  
19 is, the more efficient the transmission cable  
20 will be because it's cooler. So that coolness  
21 helps cool our cable also. Does that help  
22 answer your question?

23 Q To a certain degree. But when it's cooler --  
24 no. The peak is in the summer so that's not



1 going to make a difference.

2 So do you know what the average temperature  
3 of the surface is during the winter?

4 A (Scott) The average temperature during the  
5 winter?

6 Q Right. I mean, in your graph you assume that  
7 the surface temperature is 70. So assume it's  
8 winter, what would the average temperature be?

9 A (Scott) I think if you looked at Figure 3, ABB  
10 went through quite a bit of analysis of the  
11 ambient surface temperatures at different times  
12 of the year.

13 Q Can you interpret it for me and tell me on the  
14 coldest day of winter what the surface  
15 temperature is and then what the temperature --

16 A (Scott) I apologize. Figure 3 is depth. Okay.  
17 Figure 4 is the temperature based upon time of  
18 year.

19 Q Okay.

20 A (Scott) And to answer your question, the surface  
21 temperature would basically be the average air  
22 temperature, and that figure is representing  
23 what the temperature would be at 43 and a half  
24 inches versus ground surface temperature. So

1           it's a little warmer, deeper than the surface.  
2           In the winter anyway.

3       Q     So in February, the average air temperature,  
4           according to this is negative 20? I can't see  
5           the whole picture all at once on my screen. But  
6           let's just take February, for an example. In  
7           February, the average air temperature is around  
8           maybe negative 18. Is that what this is  
9           showing?

10      A     (Scott) That's what it's showing.

11      Q     Is that Fahrenheit? Must be. And the soil  
12           temperature at 43 and a half inches would be  
13           about negative 10 degrees.

14      A     (Scott) Yes, degrees Celsius.

15      Q     Mr. Bradstreet, this is a question that nobody  
16           has asked yet, and I don't understand, well, you  
17           said that you've been on the Project since 2009.

18      A     (Bradstreet) Yes, ma'am.

19      Q     And have you been involved in the design of the  
20           Project since 2009?

21      A     (Bradstreet) Yes.

22      Q     Can you tell me what you did to consider putting  
23           this along the Interstate 93 corridor?

24      A     (Bradstreet) So I guess we performed a study --

1 that was provided, right? Is it somebody's  
2 Supplemental Testimony? So Mr. Bowes has a  
3 report that was prepared. I guess I wasn't  
4 specifically the one that prepared the report.  
5 I guess when I say I was involved in the design  
6 the entire time, there's normally a whole team  
7 of people that support various aspects of the  
8 design. So I guess if you have a specific  
9 question, I might be able to answer it, but I  
10 don't know. Nathan might be better to speak to  
11 that specific report. Mr. Scott. For the I-93  
12 review. Mr. Scott was heavily involved in that.

13 Q Oh, that's right. Because that, well, it could  
14 be, I guess, either underground or overhead.

15 A (Bowes) I don't think we ever considered an  
16 overhead alternative along Interstate 93. That  
17 would be why --

18 A (Bradstreet) Sorry.

19 Q So then how about you, Mr. Scott. Were you  
20 involved at all in the consideration of putting  
21 this on the I-93 corridor?

22 A (Scott) I was involved in a high level analysis  
23 and cost estimate associated with that. Yes.

24 Q And the cost was too expensive to bury the whole

1 thing?

2 A (Scott) I can't say what was too expensive or  
3 not. I can say it was more expensive than an  
4 overhead alternative, and I can't say if that  
5 was driving it or not. That was not my portion  
6 of the analyzation.

7 Q Mr. Bowes, should we talk about this with you  
8 tomorrow?

9 A (Bowes) You certainly can, yes.

10 Q Okay. Back to you, Mr. Bradstreet. Did you say  
11 yesterday that during operations you committed  
12 to a noise level outside, was it the Deerfield  
13 substation, of 30 dB to the receptor property  
14 line?

15 A (Bradstreet) So I believe Mr. Bowes might have  
16 said that, but, yes, there has been a  
17 requirement placed on the design of the SVC at  
18 Deerfield where 30 dB must be maintained at the  
19 property line, I believe, is the value.

20 Q Your written testimony said that was true, I  
21 believe, at the converter station. Is that also  
22 the case?

23 A (Bradstreet) I believe that is also the case.

24 A (Bowes) I think they're within maybe one dB.

1 One might be 29 and the other have been 30 so we  
2 may have just said 30 for both.

3 Q But the commitment is to have noise levels no  
4 more than 30 dB at a property line near the  
5 converter station and the Deerfield substation?

6 A (Bowes) Based upon the Northern Pass equipment,  
7 yes.

8 A (Bradstreet) Right.

9 A (Bowes) Deerfield is an active substation from  
10 Eversource. I believe it already meets that  
11 because the background measurements included  
12 that.

13 Q Okay. So is the noise level expected to  
14 increase when you add this? When you add the  
15 Northern Pass equipment at Deerfield?

16 A (Bowes) Yes.

17 Q So the commitment then is that the sound level  
18 won't increase by more than 30?

19 A (Bowes) No, no, no. The total would not be more  
20 than 30.

21 Q Total of both the existing and what you add?

22 A (Bowes) Correct.

23 A (Bradstreet) Correct. So they've studied that  
24 with the existing conditions and then added the

1 Northern Pass equipment and the limitations that  
2 are in my testimony would be what they had to  
3 meet.

4 Q All right. Thank you.

5 Another one for you, Mr. Bradstreet. You  
6 mentioned 121 aerial crossings across local  
7 roads. And can you tell me, do you have to get  
8 normally permits to cross a road from the town  
9 if you weren't before the SEC? Do you know?

10 A (Bradstreet) I specifically don't know. I'm  
11 assuming the answer is probable yes.

12 Q This isn't a trick question, and I'm not trying  
13 to ask a legal question.

14 A (Bradstreet) I honestly don't know. Every  
15 state's different.

16 Q Okay. At the PUC we approve crossings over  
17 water and state land. I think the Department of  
18 Transportation has jurisdiction over crossings  
19 over highways.

20 A (Bradstreet) Right.

21 Q And I'm wondering if when we grant this  
22 Certificate, if we grant it, are we granting  
23 licenses to cross local roads? Is that part of  
24 what you're asking us to do?

1 A (Bowes) I believe, yes, but I'd check with the  
2 attorney, and we can certainly talk about it  
3 tomorrow.

4 Q Okay. Mr. Bowes, can you answer questions about  
5 the required upgrades at Scobie?

6 A (Bowes) Yes, I can.

7 Q So we won't go over those today.

8 Mr. Scott, did you consider burying the  
9 line from the border at Canada down to the  
10 Wagner Forest so that you could avoid a few  
11 transition stations?

12 A (Scott) Me personally? I was not asked to  
13 analyze that. I believe the Project in the  
14 routing process looked at it, but I did not  
15 personally analyze that entire route. No.

16 Q Okay.

17 A (Scott) Do you want to add to that at all?

18 A (Bradstreet) I guess I know when we were  
19 determining where transition stations would go,  
20 it was, I think, a consideration. Due to  
21 terrain and other things, I think we decided it  
22 was not the best approach.

23 Q It wasn't? It didn't have to do just with where  
24 you had a right-of-way? I mean, it sounded like

1 from previous testimony, I think, maybe the  
2 Panel that you were on, Mr. Bowes, earlier,  
3 maybe Mr. Quinlan, the reason that, it sounded  
4 to me like the reason that it goes up and down,  
5 up and down in that area is because you decided  
6 to bury it in roads where you couldn't get a  
7 right-of-way.

8 A (Bowes) I would say that was one of the main  
9 factors, yes.

10 Q So did you consider just burying the whole thing  
11 even in your right-of-way? Is that even a  
12 possibility? Just in that section in the North  
13 Country to limit the transition stations.

14 A (Bowes) I don't believe we ever considered  
15 burying it in the right-of-way, but I think, as  
16 Mr. Scott said, there may have been some  
17 analysis done on burying that portion in the  
18 North Country. I was not involved in that  
19 either. But it would have been in state or  
20 local roads. It would not have been on the  
21 right-of-way.

22 Q Okay. Is there any reason that you can't put it  
23 in the right-of-way buried?

24 A (Scott) That's a good question. The answer is



1 typically, especially in this geographic region,  
2 it's pretty much never going to be a feasible  
3 alternative to constructing overhead within the  
4 right-of-way. In certain instances, say in a  
5 city where everything is pretty flat and maybe  
6 it's going to a viable alternative, so through  
7 this specific area we're talking about, you've  
8 got grade changes, you've got significantly  
9 increased environmental impacts. So you're  
10 impacting every linear foot of installation,  
11 opening up grade, removing materials and  
12 installing new foreign materials. And then  
13 you've got additional construction issues so  
14 steep slopes with underground cables is not  
15 really the same construction process you can do  
16 as overhead structures that don't have to go  
17 along those steep slopes. Crossing wetlands and  
18 streams and such, you know, you can't just put a  
19 mat down necessarily. You have to could a  
20 trenchless crossing. When you have, say, a  
21 valley, you can't trench that. You're going to  
22 have to do a trenchless crossing. So you would  
23 increase the trenchless installation  
24 significantly and increase the overall

1 environmental impacts significantly.

2 Q Okay.

3 A (Scott) Those are the main reasons.

4 Q That's helpful. Thank you. That's all I have.

5 PRESIDING OFFICER HONIGBERG: Mr. Iacopino,  
6 do you have questions for Mr. Bradstreet or  
7 Mr. Scott?

8 **INTERROGATORIES BY MR. IACOPINO**

9 Q Let me start with Mr. Bradstreet. I think I  
10 just have one question for you, and I think  
11 you're the right person.

12 We heard during earlier testimony from this  
13 Panel, I think from Mr. Johnson, that there may  
14 be some discussion of moving transition station  
15 number 5 to accommodate a hotel or something  
16 like that I think was the discussion. If, in  
17 fact, that were to come to fruition, what should  
18 the Committee expect to see in terms of an  
19 amendment and what types of documentation would  
20 they expect to see?

21 A (Bradstreet) So I guess I'll start and maybe Sam  
22 might fill in anything that I miss, but I mean,  
23 we would revise all the major drawings that  
24 we've been referencing in this proceeding. So

1 the plan map would be revised to show how we  
2 would get in and out of that proposed new  
3 location. The underground design would have to  
4 be updated and resubmitted. The AOT drawing  
5 would show how access might need to be changed  
6 or where specific sites are. And the site  
7 development plans, which have been submitted,  
8 would be a completely new site so we would  
9 revise that site plan for review. And wetlands  
10 maps that are submitted to DES.

11 Q Any idea how many pages that's going to be for  
12 the Committee?

13 A (Bradstreet) I mean, assuming it only goes 3 or  
14 4 structures up, I don't know how far up they're  
15 talking potentially.

16 A (Johnson) The property is only about 1500 feet  
17 in length so --

18 A (Bradstreet) I mean, I would say it's probably  
19 almost one drawing of all those I just kind of  
20 listed off. The site development package itself  
21 is probably about a 20-page package, plus the  
22 report for all the stormwater analysis so, you  
23 know, 40, 50 pages worth of stuff probably.

24 Q I guess the rest of my questions are for you,

1 Mr. Scott.

2 First of all, when you were speaking about  
3 maintenance with one of the Committee members  
4 you indicated that, I'm sorry. About  
5 decommissioning. That as long as the line  
6 underground runs under the recommended  
7 specifications, it's got that 40-year life, and  
8 I guess when you talk about what the recommended  
9 specifications are, is that running at maximum  
10 capacity 24/7 for 40 years? That's the  
11 question.

12 A (Scott) So, basically, if you were to run at  
13 maximum capacity for 40 years, you would be  
14 within that criteria. It's when you're talking  
15 about emergency operations so operating higher  
16 than that 70 degrees Celsius conductor  
17 temperature, there's specific constraints in the  
18 insulation compound that that compound will  
19 break down over time if you're operating higher  
20 than that temperature more than a designated  
21 duration each year and for the life of the  
22 cable. And all of that's essentially dictated  
23 based upon the standardized across the industry.

24 Q I think you also testified a little bit about

1 site specific plans for inadvertent releases  
2 during frack-outs?

3 A (Scott) Correct.

4 Q And I guess the question I had is when, the  
5 development of those site specific plans, where  
6 do they come along in sort of the construction  
7 schedule? Is that something that's right before  
8 you get to that particular drill or is it  
9 something that's further in advance of that?

10 A (Scott) Good question. So the general process  
11 that's followed to get there is so Brierley  
12 Associates is engaged. They're specialists in  
13 underground trenchless design. They will be  
14 developing all of the detailed design for those  
15 trenchless installations, and part of that is  
16 essentially identifying where you're going to  
17 have potential inadvertent returns, and  
18 throughout that process they will be developing  
19 site-specific specifications for each of those  
20 trenchless installations. So they'll have some,  
21 I guess, idea up front where the highest risk of  
22 inadvertent return would be, and then the  
23 contractor will be the one specifically required  
24 to meet the predesignated requirements for their

1 mitigation plan that Brierley puts together. So  
2 preconstruction, I'm not sure exactly the  
3 duration preconstruction that it would be, but  
4 it would be months before construction.

5 Q Okay. And it's actually the contractor who  
6 creates the final document as to what that plan  
7 is?

8 A (Scott) Well, they have to meet the requirements  
9 that Brierley puts together.

10 Q So they get specifications. These are the  
11 requirements. And then they've got to  
12 physically provide the plan or create the plan  
13 for this particular drill?

14 A (Scott) Correct.

15 Q Okay. I don't know if you're the best one to  
16 answer this or not, Mr. Scott. If it's a better  
17 question for Mr. Johnson, let me know, and we'll  
18 deal with it tomorrow, but there was a lot of  
19 talk about, and I'm only talking about the  
20 underground now, about variances that are going  
21 to be needed in order to meet Department of  
22 Transportation requirements.

23 I guess my question is, has anybody  
24 determined how many actual variances you are

1 going to have to seek due to the requirement  
2 that you stay as close to the right-of-way  
3 boundaries as possible and not go under the  
4 road? Has there been a quantification of that?

5 A (Scott) I think Mr. Johnson is certainly better  
6 to answer that question.

7 Q I assume, would that be the same for any other  
8 variances you seek from Department of  
9 Transportation? For instance, if there's any  
10 instances where you needed to go above existing  
11 utilities or things like that?

12 A (Scott) I think that they could probably answer  
13 that question. If you have a technical side of  
14 something you want to know about it, I can  
15 certainly address it now.

16 Q No. I just want the Committee to understand how  
17 many there are. That's's what I'm looking for.

18 And then you may not be the right person  
19 for this either, but, and I mentioned this, I  
20 think, in one of the technical sessions but in  
21 Plymouth, the underground in Plymouth. There is  
22 Green Street which is just below the Main  
23 Street.

24 A (Scott) You mean to the east? Towards the

1 river?

2 Q To the east. Yes. Which is, I know it because  
3 there's a courthouse on that street. And I  
4 oftentimes will park at the courthouse, and then  
5 come in from the highway, go park at the  
6 courthouse and then go up into downtown Plymouth  
7 to get lunch, but I'll drive up and there's a  
8 little road where you can hook up onto Main  
9 Street. And do you know why there's an aversion  
10 to using that particular roadway to go through  
11 Plymouth?

12 A (Scott) As Mr. Johnson mentioned, we did engage  
13 in some options analysis through Plymouth with  
14 the city of Plymouth and that specific, Green  
15 Street was the main option that was evaluated.

16 Q Is there a technical reason why it's not  
17 available?

18 A (Scott) Not specifically. I think it's more  
19 land rights, and then the city of Plymouth  
20 breaking off the conversation.

21 Q We'll have more discussion about that tomorrow.  
22 Thank you. I don't have any other questions.

23 PRESIDING OFFICER HONIGBERG: I don't have  
24 any questions for Mr. Bradstreet or Mr. Scott.



1 Mr. Needleman. You're up.

2 **REDIRECT EXAMINATION**

3 **BY MR. NEEDLEMAN:**

4 Q Thanks. Two quick topics. While I'm talking  
5 about the second one, if we could pull up the  
6 OneTouch for the I-93 crossing.

7 Mr. Bradstreet, earlier today Mr. Kucman  
8 raised concerns about the lines being too close  
9 to each other. Are there particular codes that  
10 govern the proximity of these lines in relation  
11 to each other?

12 A (Bradstreet) Yes, there are.

13 Q What are they?

14 A (Bradstreet) So all of our design has to meet  
15 the National Electric Safety Code.

16 Q Where is that code applicable?

17 A (Bradstreet) For all of the overhead  
18 transmission and part of the underground  
19 transmission for this Project.

20 Q Is it applicable also across the entire United  
21 States?

22 A (Bradstreet) Yes. It applies to, the National  
23 Electric Safety Code is the code that governs  
24 transmission lines in the United States.

1 Q Do the lines that you've designed here comply  
2 with that code across the entire length?

3 A (Bradstreet) Yes, they do.

4 Q And then the second question, I'm pulling up on  
5 the OneTouch system, this is the I-93 crossing.  
6 So for exhibit purposes, let's just freeze this  
7 and screenshot it, and we're going to call this  
8 Applicant's Exhibit 143.

9 Mr. Bradstreet, you were asked questions by a  
10 number of people, Ms. Pacik among them, about  
11 the crossing at I-93 and the DOT request to move  
12 away from the bridge abutment and to increase  
13 the size of the structures. Do you recall that?

14 A (Bradstreet) Yes, I do.

15 Q And as part of that discussion, this crossing  
16 was compared to Unitil's crossing which is  
17 further up but not showing on this map.

18 I have two questions for you. One, is the  
19 Unitil situation comparable to this one?

20 A (Bradstreet) I would say there's definitely  
21 differences. Voltage is one of the major  
22 differences. It's a 34.5 kV line so it has  
23 different clearance requirements than ours. But  
24 I guess the biggest difference is that that

1           Unitil project is connected to that substation  
2           that you can see under construction in this  
3           picture, and they needed to acquire right-of-way  
4           to get to that substation, regardless, whereas  
5           our Project is looking to use an existing  
6           corridor.

7           Q     Okay. And then the second question is that  
8           there's also been, I think, questions raised  
9           about Alton Woods and whether or not the Project  
10          could have conversations with Alton Woods to  
11          assist with this issue. Could you speak to  
12          that?

13          A     (Bradstreet) Yes. So I think when Mr. Johnson  
14          presented what we proposed, or what we provided  
15          to the DOT's request, we stated that we had only  
16          provided really one option for them to look at.  
17          At the onset of that, we did look at potentially  
18          changing the right-of-way. I mean, as you can  
19          see from this image, I believe Alton Woods is  
20          the parcel that's directly to the right in this  
21          image and south of 393.

22                 If we were to try and relocate the  
23          right-of-way to move further to the northeast on  
24          that property, we would cross directly over the

1 bridge which would not solve the problem we were  
2 looking to solve based on the DOT's request.

3 Q So even if Alton Woods were amenable to working  
4 with you in providing some land, that would not  
5 address this issue?

6 A I don't believe it would. No.

7 MR. PAPPAS: Mr. Chairman, can I just,  
8 point of clarification. What's on the screen  
9 has not been marked as an exhibit? Is that  
10 correct?

11 MR. NEEDLEMAN: That's correct. It's from  
12 the OneTouch.

13 MR. PAPPAS: Could you just, for the  
14 record, explain what the OneTouch is that we're  
15 looking at? Because none of us have access to  
16 this until it just went up on the screen now.

17 MR. NEEDLEMAN: Sure.

18 PRESIDING OFFICER HONIGBERG: He's got a  
19 screenshot of something that's going to create  
20 and make an exhibit. What else do you want to  
21 know about the OneTouch that I suspect you  
22 already know about?

23 MR. PAPPAS: No. I wanted to, I wanted to  
24 know, I didn't know he was going to create a

1 screenshot and make an exhibit. So the record  
2 is clear because I didn't know if we were going  
3 to see this again. I guess now I know that. I  
4 didn't hear him say that. I apologize then.

5 PRESIDING OFFICER HONIGBERG: Okay. That  
6 is what he said.

7 MR. PAPPAS: That part I missed. That's  
8 why I asked for clarification.

9 PRESIDING OFFICER HONIGBERG: Mr.  
10 Needleman, you want to elaborate at all?

11 MR. NEEDLEMAN: Well, probably not at this  
12 point, but maybe tomorrow Mr. Johnson can  
13 explain more about OneTouch if it would be  
14 helpful for folks.

15 PRESIDING OFFICER HONIGBERG: Fair enough.  
16 You may proceed.

17 MR. NEEDLEMAN: I'm all done.

18 PRESIDING OFFICER HONIGBERG: All righty  
19 then. We're going to adjourn for the day, say  
20 goodbye to Mr. Bradstreet and Mr. Scott. We'll  
21 see the other four of you tomorrow morning at 9  
22 o'clock, and we'll finish that panel and pick up  
23 with Ms. Frayer; is that right Mr. Needleman?

24 MR. NEEDLEMAN: Correct.

1                   PRESIDING OFFICER HONIGBERG: Thank you  
2                   all.

3                   (Whereupon Day 10 Afternoon Session  
4                   adjourned at 6:40 p.m.)

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24

C E R T I F I C A T E

I, Cynthia Foster, Registered Professional Reporter and Licensed Court Reporter, duly authorized to practice Shorthand Court Reporting in the State of New Hampshire, hereby certify that the foregoing pages are a true and accurate transcription of my stenographic notes of the hearing for use in the matter indicated on the title sheet, as to which a transcript was duly ordered;

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

Dated at West Lebanon, New Hampshire, this 7th day of June, 2017.

\_\_\_\_\_  
Cynthia Foster, LCR