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I N D E X

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

(Resumed)

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P R O C E E D I N G S

COMMISSIONER BAILEY: I understand that the order of cross-examination has changed for a good reason, and we are going to proceed next with Mr. Thompson. And as part of his group, Mr. Baker has some questions after Mr. Thompson is finished, is that correct? Did everybody agree to that?

MR. NEEDLEMAN: That's fine with the Applicant as long as we stick to the plan that there won't be any overlap of questions between people in the same group.

COMMISSIONER BAILEY: Of course. All right. Thank you.

CROSS-EXAMINATION

BY MR. THOMPSON:

Q Good afternoon.

A (Johnson) Good afternoon.

Q For the record, my name is Brad Thompson. I live, my residence is in Stewartstown, New Hampshire, at 599 Noyes Road, and I am spokesperson for Abutters and Non-Abutters of Pittsburg, Clarksville and Stewartstown.

Probably, Mr. Bowes, about two and a half

1 weeks ago we were here and I was complaining
2 about the Celtics losing. So the good news is
3 the worm has turned.

4 A (Bowes) Yes, it has. Quite a game last night.

5 Q It was a good game. Maybe it's an omen.

6 As a start, I'd like to get a little bit of
7 information to make sure I understand a couple
8 things. We have electric current moving through
9 these two lines, overhead and underground, from
10 Canada to Deerfield by way of Franklin to get
11 converted from DC to AC.

12 What is the procedure, educate me a little
13 bit on what happens. You get somebody that
14 needs electricity, and you've got somebody else
15 that has it in Canada, how does the process
16 work? Who switches the lights on or what makes
17 something happen?

18 A (Bowes) So it's a little bit different with DC
19 power as you've just identified. There's only
20 two wires in this case. We're on AC systems.
21 There's usually three wires that transmit at the
22 transmission level. Also with DC power, there's
23 much more precise control. So you can actually
24 schedule amounts of power to flow over those

1 conductors over those wires, and it's
2 coordinated between the converter station in
3 Quebec and the converter station that you've
4 mentioned in Franklin. So there would be a
5 schedule of power flows along that cable. It
6 could be up to the full power, 1090 megawatts
7 for certain hours of the day, or it could be
8 curtailed back to zero, no power flowing on
9 those wires.

10 Q Um-hum.

11 A (Bowes) Where an AC system, the power flows
12 along the paths and it divides among the
13 resistance or impedance along those paths. So
14 our connections with say, New York, or the AC
15 connections with Canada, those are free flowing
16 so there's always some amount of flow back and
17 forth on those cables. Where DC, it's on/off or
18 can be scheduled at any level that either
19 company, well, in this case, Hydro-Quebec
20 desires to transmit across the line.

21 Q Okay. So you get a hot, hot day and a lot of
22 air conditioners are running or very, very cold
23 day and you happen to have four guys that have
24 got electric heat in their house, is it ISO New

1 England that determines we've got to have
2 electricity and they notify somebody to start
3 drawing it down quicker?

4 A (Bowes) So actually, Hydro-Quebec would bid into
5 the market. They would bid into the New England
6 market and say, usually a day ahead or could be
7 longer in duration, but certainly a day ahead
8 they would say we plan to operate the line at
9 500 megawatts between 6 in the morning and 6 at
10 night. ISO would approve that schedule and then
11 the next day they would expect that delivery to
12 be made.

13 They also have the ability and they've done
14 this in rare instances with the Phase II line,
15 Hydro-Quebec Phase II line, is they've used it
16 for emergency operations. There's a period of
17 time August 2016 where it was a hot day, there
18 were power plants in New England that were off
19 line for whatever reason, and they scheduled
20 above the normal 1200 megawatts on that line.
21 They went up to 15, 1600 megawatts for a short
22 period of time. They were able to do that
23 because that line is rated in total for 1800
24 megawatts but operate at 1200. That's why I use

1 the example of 500 megawatts with the Northern
2 Pass cable. They may order us to go up to the
3 full output if there's an emergency situation.

4 Q How often are you transporting electricity at
5 full output or full, I guess they call it full
6 capacity?

7 A (Bowes) Great question. It's going to really
8 depend on what the buyer wants. In this case,
9 if they're selling into the open market, they
10 would do it when it's most cost advantageous to
11 them. If they have a bilateral contract which
12 means they've signed a contract with another
13 entity, for example, if they were to win the
14 Massachusetts RFP then that would be much for
15 prescriptive. They have to deliver certain
16 hours of the day and certain quantities of day.

17 Q So there's what you might call a minimum
18 required to be transported?

19 A There is no minimum transport. There is a
20 maximum. 1090.

21 Q Can you build up the storage, have a supply of
22 electricity? Is that such a thing as that?

23 A (Bowes) So in effect, that is exactly what's
24 happening with this Project. The storage isn't

1 with electricity, it's with water. So
2 Hydro-Quebec stores the water, and they choose
3 to generate at certain times and that becomes
4 the power flow that's not only to serve their
5 native load but also to serve the New England
6 requirements that they've bid into, but that's
7 exactly in this case what happens. It's really
8 the same with any hydro-type system. It's
9 stored water and the energy is in the water, not
10 in the electricity.

11 Q Is there a waste? You have too much and have to
12 throw it away if you can't use it? Or you're
13 limited in time?

14 A (Bowes) So there is not. It can only operate up
15 to its maximum. It can't operate beyond that.
16 There are some losses along the line and
17 components along the line do have losses. The
18 converter stations, typically around one percent
19 losses. We've gone through some of the tech
20 sessions and talked about what the losses are in
21 the cable, what the losses are in the overhead
22 lines. All told 3 to 5 percent losses is
23 probably pretty good from the point in Canada to
24 the delivery point in Deerfield.

1 Q We're going to be referring to the heat.

2 A (Bowes) Sure.

3 Q We'll show by evidence if it hasn't already been
4 established that apparently maximum heat when
5 full capacity, temperature at the cables in the
6 ground, I'm not sure about overhead, but in the
7 ground, have been noted to be 70 degrees Celsius
8 or 158 degrees Fahrenheit. Is that your
9 understanding?

10 A (Bowes) So the maximum operating temperature for
11 the DC cable portion of the Project is 70
12 degrees C. We talked a little bit I think
13 yesterday about AC cables typically operate
14 about 90 degrees C so about 20 degrees Celsius
15 hotter and then the overhead conductors operate
16 at higher temperatures than that.

17 Q Is the 158 degrees Fahrenheit continuous in our
18 case the 7 and a half miles and then the 52
19 miles? In other words, is it just as hot in
20 Bridgewater as it is in Bethlehem?

21 A (Bowes) So I would say no. That's the maximum
22 operating temperature for any single point along
23 the cable.

24 Q Assuming full capacity.

1 A (Scott) Can I provide an answer to that?

2 A (Bowes) Sure. Go ahead.

3 A (Scott) So typically how these underground cable
4 systems work is the conductor of temperature
5 itself can go up to 70 degrees Celsius and the
6 system is rated so that at maximum load for the
7 installation conditions, it will not exceed that
8 conductor temperature. So for locations, let's
9 say, where you're shallow, the conductor
10 temperature would not be at that higher
11 temperature because the conductor temperature is
12 essentially, the cable itself is designed to
13 meet that conductor temperature at the thermal
14 pinch point of the system which typically is the
15 deeper locations where you can't dissipate as
16 much heat to open air.

17 So usually where it's operating at the
18 conductor temperature, maximum conductor
19 temperature is where the thermal pinch point of
20 this system is which is typically deeper.

21 A (Bowes) So those in this case would be the HDD
22 installations. Those are the thermal pinch
23 points as Mr. Scott identified?

24 Q At full capacity, when that happens, we're close

1 to the 158 degrees.

2 A (Scott) For the conductor temperature at those
3 thermal pinch point locations, yes.

4 A (Bowes) And probably a few degrees cooler at
5 other points along the route.

6 Q Okay. We have a great deal of concern, as you
7 by now know, Mr. Bowes, about the heat in the
8 ground and a dirt road and your being able to
9 make the statement and Ms. Farrington has said
10 the same thing in her Prefiled Testimony and
11 Mr. Johnson to a degree, you probably all agree,
12 that when the Project and construction is
13 complete that the conditions of our town dirt
14 roads will be as good or better condition than
15 they were when you first started work. Probably
16 pretty hard for you to say no to that, but
17 everybody agrees that that is part of the
18 philosophy of Northern Pass, I'm sure?

19 A (Johnson) Yes.

20 A (Bowes) Yes. We have made that commitment.

21 Q Yes, I'm sure. At the very least, we can define
22 three different types of conditions that are
23 going to exist after the construction occurs.
24 You have the direct burial where the ditch is

1 being dug down roughly four and a half feet.
2 Some material you put in the bed and then the
3 conduit. Backfilled with thermal mix to
4 dissipate the heat, then the concrete slab, and
5 then some times not and sometimes yes a separate
6 fill on top. So you have a condition there
7 where you've got heat down roughly 3 foot 5 or 6
8 inches the top of the conduits. Is that your
9 understanding? And I'll head back to you,
10 Mr. Scott.

11 A (Scott) That specific depth is approximately
12 what's known on the design --

13 Q Pretty much what they're trying to do.

14 A -- and we are coordinating with the DOT to
15 update that to meet their requirements.

16 Q Okay. So you have a situation where the known
17 commodity for sure is that there's two cables, 3
18 foot 4, three foot 5 in conduit that when at
19 full capacity are 158 degrees F.

20 A (Scott) If that were the thermal pinch point of
21 the system, yes.

22 Q Right.

23 A (Scott) For the conductor temperature itself.

24 Q Splice pits, and I'm going to err in on our area

1 called Bear Rock Road which is roughly three
2 miles and hence there's nine splice pits, what
3 is the planned depth of the splice pits? Top of
4 the concrete cover?

5 A (Scott) The top of the lid of the splice pit is
6 what you're referring to?

7 Q Yes. The top of the part of the precast.

8 A (Scott) Sure. So I would refer you to our plan
9 and profile drawings for the current proposed
10 depths from grade. Does vary slightly. The
11 minimum depth we're proposing is two feet.
12 However, as we've started previously, we are
13 updating to meet DOT requirements and that depth
14 will likely increase.

15 Q Might go deeper?

16 A (Scott) Yes.

17 Q Would you say it's safe for me to make the
18 assumption these splice pits when they're, after
19 installed, and let's say after the cable is
20 installed you have a cable coming into this
21 vault, in laymen's terms you could call it a
22 huge septic tank if people have seen a septic
23 tank installed at their property, the conduit,
24 the cable comes in at one end and goes out the

1 other, a different cable, and those two cables
2 have to be spliced. The inside area, would you
3 agree, is a little over 30 feet long, probably 5
4 feet wide, 5 feet high and about 9 feet inside
5 measurements of the area?

6 A (Scott) I would disagree. I would refer to the
7 detail drawings specifically for the alignment
8 you're referring to, North C503, where there is
9 some dimensioning prosecuting provided for these
10 pits.

11 Q Okay. More exactly you're going to give that?

12 A (Scott) Yes. Sure. So the inside height shown
13 on there is 5 feet 8 inches typical which would
14 likely result in top to bottom measurements from
15 the bottom of the slab on the bottom to the top
16 of the concrete slab on top being closer to 8
17 feet tall. And the length, outside dimensions
18 is 34 feet two inches. So inside dimensions
19 would likely be around 32 feet. The width
20 outside dimensions is 7 feet 10 inches so the
21 inside dimensions are probably closer to 6 and a
22 half feet.

23 Q Thank you.

24 A (Scott) Yes.

1 Q Point being it's a pretty good-sized volume of
2 air inside that tank.

3 A (Scott) That will be filed with thermal sand.

4 Q So the process, the process is the final product
5 when complete is the cables, one cable coming in
6 and another cable goes out, the process of
7 splicing occurs and then it gets filled with the
8 thermal fill?

9 A (Scott) Correct. So to remove the riser rings
10 to provide access from grade, we will fit the
11 splice pit with thermal sand which is
12 essentially filling all of the void space that
13 would be air typically in a vault with thermal
14 sand.

15 Q Will this thermal material inside the vault be
16 put in after the splicing occurs?

17 A (Scott) Yes.

18 Q So taking a couple steps back, Attorney Pappas
19 went through the processes of we're going to dig
20 a hole, and if DOT requires to go deeper, then
21 the hole would be deeper probably beyond ten
22 feet deep to the bed. And I'm not looking for
23 exact numbers. I'm happy with give or take
24 roughly ten foot plus down. I think we

1 established with Attorney Pappas that in the
2 case of Bear Rock Road, it's going to take the
3 whole road for that to occur. The road will be
4 shut down. And we also established, do you
5 agree, that it will take about a week per splice
6 pit?

7 A (Scott) For the installation, yes.

8 Q Pretty much. So installation occurs where you
9 set the bottom and you set the top. Backfill
10 it? Is that when it's done?

11 A (Scott) Yes.

12 Q Cover it over?

13 A (Scott) Yes. And I'm not sure if we
14 specifically decided if that pit will be filled
15 with the thermal sand at that stage as well.
16 That's definitely potential.

17 Q Gone through the next four or five steps of
18 doing the trenchless and trench work and stuff,
19 and you've got the cables ready to be pulled,
20 and they go from manhole to manhole. What's the
21 process there?

22 A (Scott) So once the civil installation is
23 complete and they're ready to install cable, is
24 that what you're asking about?

1 Q Um-hum.

2 A (Scott) Once they're ready to install cable,
3 they will come back to the splice locations, cut
4 grade again to expose the lid of the vaults,
5 remove the lid, remove any materials that would
6 have been placed inside of that vault such as
7 thermal sand. Make the vault ready for cable
8 pulling and splicing, and then proceed with the
9 cable installation.

10 Q So doesn't make much sense to put the thermal
11 sand in if you're just going to take it back
12 out, you don't need it.

13 A (Scott) It would be primarily to ensure that no
14 gasses filled that entrapped space.

15 Q Okay. Do you take the top cover off when you go
16 about pulling the cables?

17 A (Scott) Yes. The entire lid would be removed.

18 Q So top cover comes off, you kind of backtrack
19 back to where you got the bottom half of the
20 tank in the ground.

21 A (Scott) Essentially, you would be exposing to
22 the lid of the vault from grade.

23 Q Do you know how much a half of one of these
24 tanks weighs?

1 A (Scott) Not off the top of my head.

2 Q If I told you, depending on the exact thickness
3 and voids for conduit holes and so forth coming
4 in, in the vicinity of 65,000 pounds? Would
5 that surprise you?

6 A (Scott) Not really.

7 Q So what we, and initially, you bring a crane in?

8 A (Scott) So the sizes of these splice pits will
9 likely require the precast concrete members to
10 be cast in more than one piece. The specifics
11 of what those precast members would look like
12 have not been determined at this time. So, for
13 example, there's different ways to do it, but
14 one of the ways would be to have that base slab
15 be in multiple segments so three or four
16 different segments that would be put together,
17 same thing with the long walls. The end walls
18 would likely be single members, the cap itself
19 would likely be multiple pieces as well.

20 To get to your question, yes, you would
21 require a crane to offload off of the truck,
22 shipping those precast members into the pit, the
23 excavation. And the size of the crane required
24 would be based upon the size of the precast

1 members.

2 Q So, Mr. Pappas spoke yesterday, day before
3 yesterday, I guess, and the process is that
4 rather these precast tanks are in five pieces
5 top and five pieces bottom or two or whatever,
6 the fact is that it's a week of the road closure
7 to bring the crane in to set the tank.

8 A (Scott) The entire process would be a week for
9 the initial installation.

10 Q But we also need another week plus because I'll
11 find evidence to bring forward that shows that
12 an average splice of the two cables, and we'll
13 talk about that in the Prefiled Testimony
14 review, you said, takes a week.

15 A (Scott) Approximately.

16 COMMISSIONER BAILEY: Mr. Thompson? Excuse
17 me. Off the record.

18 (Discussion off-the-record)

19 A (Scott) So if I could answer your question?

20 Q Sure.

21 A (Scott) The typical durations for the pulling
22 and the splicing process typically for one cable
23 to be installed so one single cable in one
24 direction is half a day to a day once

1 mobilization and setup at the site has been
2 completed which usually takes about half a day
3 to a day. So to pull four cable segments is a
4 range of two days to four days with most likely
5 half a day to a day to set up. So about a week
6 to pull all those segments and then another week
7 to splice the two cables together.

8 Q So if I understand correctly, each splice pit,
9 of which there are nine on Bear Rock Road, will
10 tie up road closure for two weeks each.

11 A (Scott) During the cable installation process.

12 Q One week during the cable installation and
13 splicing and another one digging the hole and
14 setting the manhole.

15 A (Scott) So I believe what I've stated is that
16 there would be a week period for the civil
17 installation initially for the splice pit
18 itself, and that at a later date, there would
19 be, the cable installation would be
20 approximately ten days for that duration.

21 Q Ten days. Two and a half weeks.

22 A (Scott) Two weeks.

23 Q Thank you. So far we've talked about the heat,
24 Mr. Bowes. At this point in time, would you be

1 willing to make a statement that the condition
2 of Bear Rock Road because of the heat after
3 construction is complete will change and be
4 irreversible?

5 A (Bowes) I'm not sure I understand what you mean
6 by change and irreversible.

7 Q Will it be in as good shape or better as before
8 construction started?

9 A (Bowes) So let me try to answer what I think the
10 question is. If you're asking me will the
11 thermal characteristics of the cable
12 installation degrade the performance of the
13 road?

14 Q Um-hum.

15 A (Bowes) My answer is no.

16 Q Okay. We'll get back to that later. Thank you.

17 We were dwelling on the issue of different
18 conditions of the road. We talked about the
19 trenchless condition with the thermal fills or
20 the trench. The second condition is some
21 condition of the splice pits being spaced every
22 third of a mile roughly and the question of
23 whether heat is given off from the top or out of
24 that volume area, and I guess, Mr. Scott, that

1 was kind of what I was leading up to a few
2 minutes ago when I got waylaid. There's got to
3 be a pretty good amount of heat if the cable's
4 in that splice pit rather than thermal fill
5 and the job is complete or at any given point,
6 in that volume of thermal sand. Isn't that
7 true?

8 A (Scott) Based upon the depths of the
9 installation, it would likely be less than other
10 locations.

11 Q Where does the heat go? I don't understand.

12 A (Scott) So if you refer to my Supplemental
13 Testimony Attachment A so this would be Exhibit
14 88, ABB has performed a study specifically to
15 the heat generated by the cable system and the
16 impact at grade.

17 Q Is the ABB study that response to a request from
18 New Hampshire DOT of the question of possibly
19 damage from heat in the roads?

20 A (Johnson) Yes.

21 Q Get to use my first evidence. Number CS 33.
22 Hopefully, I'm doing this properly. If not,
23 speak up. I guess I have to put on ELMO. Have
24 I got it?

1 This is the ABB report, and if you look at
2 the top, I apologize for all the scribbling on
3 this, but it kind of helps me out. The first
4 statement is that the New Hampshire DOT
5 expressed concern that the placement of the
6 Northern Pass Transmission underground power
7 cable will create an adverse surface condition
8 on roads.

9 So directly above the cable placement. So
10 DOT had a concern. I got a copy of this, this
11 report, read it a number of times. And each
12 time I read it, I felt like it was more an
13 argument in favor of damaging the road than not.
14 And I'd like to just point to a few points of
15 issue. There are a lot of other points and
16 graphs and statements that I'm open to any
17 rebuttal on this, but it seems like a filler.

18 The bottom line is that I felt from reading
19 this ABB report that it more supported my point
20 that there will be damage, and that the road
21 will not be the same when completed, and the
22 reasons are that that heat will rise and cause
23 abnormal frost conditions, freeze/thaw, and I'd
24 just like to quickly run through a couple of

1 points.

2 Halfway down the first page where I got the
3 word B, it says, all heat will dissipate from
4 the conductor to the surface of the ground.
5 This will create a temperature gradient from the
6 conductor to the surface of the ground.

7 I assume that that means that we have a
8 condition where, pretty basic, heat rises. And
9 add to it that it's backfilling, and I guess
10 this would go if it's inside a splice pit or if
11 it's in the direct burials, there will be the
12 fluidized thermal backfill, FTB, and this is
13 going to help to dissipate. The word dissipate
14 has been a key word used, and dissipate to me is
15 spreading the electricity, heat, the heat, not
16 the electricity, out into all directions
17 including up.

18 Item D on the next page, the heat generated
19 by the cable will dissipate to the surface
20 because the surface is cooler than the earth.

21 MS. DORE: Mr. Thompson, did you file page
22 2 as a separate exhibit because we have only one
23 first page for this exhibit filed as an exhibit.

24 MR. THOMPSON: I assumed I was filing the

1 whole exhibit.

2 A (Scott) This is also in my Supplemental
3 Testimony, if that helps at all.

4 MS. DORE: Okay.

5 PRESIDING OFFICER HONIGBERG: I think
6 people know where they are. You can continue,
7 although it's not clear to me what your question
8 is.

9 MR. THOMPSON: Yeah. I have to work on
10 that.

11 PRESIDING OFFICER HONIGBERG: Well, you
12 have to work on it soon.

13 MR. THOMPSON: I will. Now.

14 BY MR. THOMPSON:

15 Q Couple pages farther, twice a year the surface
16 temperature is transitioning across the zero
17 degree zone, fall and spring.

18 What I'm referring to there, Mr. Scott, is
19 that you have freeze/thaw cycles, and what I'm
20 really digging into is what we call the thermal
21 break which is the line between cold and hot or
22 in this case frost and the earth underneath,
23 there's a thermal break, and that's going to
24 move back and forth. Do you agree that at some

1 point the heat comes up and will outfight all of
2 the cold, and frost will be all out of the
3 ground?

4 A (Scott) I would refer to the last two paragraphs
5 of page 5 which basically states that should not
6 cause any noticeable impact at grade or to grade
7 surface or subgrade.

8 Q I've read this a number of times, and when I got
9 to that comment on page 5, that's where my
10 problem occurred. So you've read this whole
11 report and find the conclusion is --

12 A (Scott) Correct.

13 Q -- that there will not be an issue with the
14 frost.

15 A (Scott) That it will not be an issue, and that
16 also lines up with my experience on other
17 underground transmission projects as well as, I
18 believe, Mr. Bowes' experience as well.

19 Q We'll get to that. Thank you.

20 This says other statements like on page, I
21 guess it's 6 or 5. 5, I guess. That refers to
22 the ground freezing from the top down. The
23 point that I intend to make is that the heat,
24 and I know, Mr. Bowes, you've said that you

1 would not agree with me, but the heat is an
2 added feature that, according to the ABB report,
3 causes changes that didn't occur before of where
4 the thermal break is at any given time during
5 the course of the fall, winter and spring. To
6 clarify that question, do you agree that there's
7 a constant battle between cold and hot, and it's
8 going to move around, and my real point and
9 question is that's changing from what it was
10 before the heat was put in the ground.

11 A (Bowes) So I will try to pose a question and
12 then answer it. I'm not sure I can go with the
13 battle between hot and cold, but let me try.

14 The report clearly states how the thermal
15 temperatures change throughout the year, and at
16 two points of the year they pass through zero
17 degrees C. The cable system will operate at a
18 much cooler temperature during the winter months
19 because of the background ambient temperature,
20 and it reaches its maximum temperature late
21 August, early September, as the temperature of
22 the earth surface is at its maximum temperature.

23 The cable does have localized impacts on
24 the earth surrounding it, but as you can see by

1 the two graphs that are shown, and they actually
2 provided a very nice visual to go along with
3 their calculations in their statement, they show
4 that that heat dissipates quite quickly away
5 from the cables, and about two feet away from
6 the cables there's negligible impact to the
7 surrounding earth.

8 Q Well, were you privileged to listen to Mr. Rusty
9 Bascom, an expert for the Counsel for the
10 Public?

11 A (Bowes) I listened on the phone for the
12 technical session, yes.

13 Q That is right. We had that on the phone. Good.
14 Let me, I can dig out the evidence, CS number
15 that I have. But he's going to make the
16 statement that that heat will spread and
17 dissipate to as much as 3 to 5 feet. Are you
18 aware of that? Would you like to see it?

19 A (Bowes) I don't recall the 3 to 5 feet, but
20 certainly I'm welcome to look at it.

21 Q This is CS number 18, Data Request of Earle C.
22 Bascom, February 6th, 2017. I'll refer to page
23 2. No. Bottom of page 1. Right down here.
24 When asked would heat leaving the cable affect

1 freeze/thaw, right at the bottom. The last
2 sentence, I would anticipate that the soil
3 temperature around the cables within 3 to 5 feet
4 in all directions would be above freezing if the
5 power cables were operating at full capacity for
6 an extended period of time.

7 Do you agree with that? Find it troubling?
8 Contradictory maybe?

9 A (Bowes) So it's certainly contradictory. But
10 I'm not sure that I disagree at this point until
11 I understand the assumptions that he made that
12 go into that. We have the study from ABB.
13 We've also used Mr. Bascom on our projects, and
14 he's designed, part of the design team for two
15 projects in Connecticut that operate, they're AC
16 cables, they operate at 90 degrees C. We have
17 never had any thermal issues with those cables
18 that he designed. So that's why I'm skeptical,
19 but I'm not, until I understand the full
20 context, I'm not going to say I disagree.

21 Q If any part of his statement is close to being
22 valid, then it would certainly change the
23 activity of the thermal break, of the
24 freeze/thaw circle, of whether the frost is two

1 inches down or two feet down. And then probably
2 the big factor as it always is is the fighting
3 cold from the atmosphere.

4 A (Bowes) I don't disagree that the cable in the
5 direct vicinity of cables it will change the
6 depth of the frost.

7 Q Thank you. Okay. Mr. Scott, I'd like to pull
8 out your Prefiled Testimony. The original
9 Prefiled Testimony dated --

10 A (Scott) Yes, I have it. Exhibit 13.

11 Q -- dated October 16th, 2015. Refer to page 2,
12 line 11, you use the word constructability. And
13 you refer to it down near the bottom of the page
14 at line 30. Interesting word. Can you kind of
15 tell us why you use that word?

16 A (Scott) That's a term that's fairly typically
17 used for these kinds of projects. Essentially,
18 for me, the definition of that word is verifying
19 that the project can be constructed as designed.

20 Q Would you say it also kind of refers to ease of
21 construction, feasibility, logic that maybe it's
22 -- well, strike that.

23 A (Scott) More or less, yes.

24 Q Look at the simplicity of it or is it workable,

1 does it make sense?

2 A (Scott) Is there a better way to do it, yes.

3 Q Now, if you went on the site and saw something
4 and it just seemed foolish to construct the way
5 they've designed it, you'd call it
6 unconstructability?

7 A (Scott) I would call it a constructability
8 issue.

9 Q Yes. It would be -- right. It wouldn't be a
10 positive constructability perhaps.

11 Page 3, line 21 and 22. I guess I just
12 needed clarification here. You make the
13 statement in the last sentence, "It is also
14 possible that during the detailed design phase,
15 alternatives to the trenchless installation may
16 present itself at any given location."

17 I thought that, I guess, could you give me
18 a couple of examples of where that would apply?

19 A (Scott) Sure. So when the Prefiled Testimony
20 was made, we had not yet engaged a detailed
21 design firm for the trenchless installations or
22 a contractor so since then we have engaged both,
23 and essentially what this sentence was getting
24 at was that as design progresses, it's possible

1 that there would be locations where they would
2 say that trenchless installation is not required
3 at that location based upon surveyed information
4 or construction alternatives such as maybe
5 trenching through a stream during frozen part of
6 the year or being able to add grade at a
7 crossing. So those are things that are being
8 evaluated by the HDD and trenchless design firm
9 and the contractor, PAR.

10 Q So any given trenchless which is a HDD or pipe
11 jack or the other one, could be negated? Could
12 be eliminated?

13 A (Scott) Well, I would not phrase it that way. I
14 would say that this, the intent of this sentence
15 was to say that some of the proposed trenchless
16 installations could change as detailed design
17 progresses.

18 Q In other words, make it shorter or longer or
19 deeper or shallower?

20 A (Scott) Most likely, yes. And I think that the
21 location shown on the current permit Application
22 drawings are fairly accurate as to where
23 trenchless installations will be required.

24 Q What would be the process, if you wanted to do

1 that, would you, probably you as an engineer,
2 design engineer, would be contacted because PAR
3 Electric or whoever was in charge of the job
4 super said hey, there's a better way of doing
5 this, then what would happen? Would he come to
6 you?

7 A (Scott) Sam, do you want to address the process
8 that would be followed?

9 A (Johnson) So the PAR Electric has, as Mr. Scott
10 just noted, has hired a detailed design engineer
11 who is using not only field verification but
12 also their years of experience to ascertain the
13 location and depth of these HDDs. Really by the
14 time -- and they are also involving the
15 constructability, if you will, by interfacing
16 with the construction companies that will
17 actually perform this work at some point in the
18 future. So by the time they get on the field,
19 the plans themselves should be pretty concrete
20 and pretty solid. There will be, of course,
21 minor variations of a location of a piece of
22 equipment, but we don't expect wholesale changes
23 of the design once we get out to field
24 conditions.

1 Q Good. Thank you. Page 5. I kind of hit on
2 this a little bit, and I knew I was coming up
3 with it. But on page 5, line 18, just need a
4 quick definition, and I don't know, Mr. Scott,
5 if you're the man, but page number 18 you use
6 the two terms, thermally approved sand mixture
7 and fluidized thermal backfill. We kind of know
8 what the fluidized thermal backfill is. That's
9 the 2 to 500 psi concrete, enough flowability to
10 run down a shoot delivered by a ready mix truck
11 and it goes around the conduit up to where the
12 poured concrete protection slab is.

13 I assume the thermally approved sand
14 mixture goes on top of the concrete pad when
15 there's not a suitable alternative? In
16 particular, the existing conditions?

17 A (Scott) So, again, when my Prefiled Testimony
18 was made, the trench cross-sections at the time
19 showed thermal sand around the conduits. Since
20 then, the current permit Application drawings
21 show fluidized thermal backfill around the
22 conduits. So as far as I know the only proposed
23 locations where thermal sand would be used is
24 inside of the splice pits.

1 Q And if they decide to fill above the concrete
2 protection slab --

3 A (Scott) That would likely be thermal fluidized
4 thermal backfill or other approved backfill
5 mixes.

6 Q Good.

7 A (Scott) And, again, that is something that is
8 being coordinated with the DOT to get those
9 mixes approved.

10 Q Page 7. Line 29. 29? Wrong page. No wonder.
11 Use the expression small switching station. By
12 "small," I assume you're referring to, am I
13 correct, in the square footage area and not the
14 height?

15 A (Scott) I'm referring to general --

16 Q This is of a transition station.

17 A (Scott) This is for a transition station. I'm
18 referring to typical substation sites,
19 dimensions. This is small by those measures
20 which, I guess, is my personal opinion of large
21 or small.

22 Q Would you call a transition station, any of the
23 6 that we have on this Project, small?

24 A (Scott) Certainly.

1 Q Would you call it small in height?

2 A (Scott) Depends on your definition of height,
3 small.

4 Q That's true. Within the fence there's some sort
5 of, I forget what they call it, a tower
6 something or other?

7 A (Scott) A dead end structure?

8 Q Yes. The thing that's up in the air?

9 A (Scott) With the overhead intercepts?

10 Q Yes. How tall is that?

11 A (Scott) I'd have to defer to Derrick for that.

12 Q Give or take.

13 A (Scott) One moment.

14 A (Bradstreet) I'm just going to look real quick.
15 80 feet.

16 Q Eighty feet. And that's within the 8-foot woven
17 wire fence with the three rows of barbed wire
18 around the top fence?

19 A (Bowes) Correct.

20 A (Bradstreet) Yes.

21 Q And, roughly, Derrick, then the line, I assume,
22 goes from there up to the first tower? Going
23 wherever you're going with the electricity?

24 A (Bradstreet) Right.

1 Q So you've got 80 feet, give or take, and then
2 going up to it.

3 A (Bradstreet) The next structure would be in the
4 range of 80 feet also, but we can pull specific
5 heights.

6 Q To get the cable overhead going?

7 A (Bradstreet) Yes.

8 Q My next comment I've already hit on, but I just
9 want to verify. The bottom of page 8 refers to
10 the time spent for splicing. The original
11 splice was a 1200 megawatt cable you indicated
12 might take as long as a month for splice, but by
13 going to the 1090 kilovolt, it's roughly a week.
14 Still the case, I assume? That's the actual
15 splicing of the cables after the cable has been
16 laid.

17 A (Scott) After the cables are pulled, then one
18 week for splicing, yes.

19 Q But that clearly adds to a solid two weeks of,
20 in the case of Bear Rock Road, at least, a
21 skinny road, and certainly probably North Hill
22 and Old County, that each splice pit will be
23 closed, road closure for at least two weeks, one
24 week at a time.

1 A (Scott) Approximately. Yes.

2 Q Thank you. Okay. Last thing is on page 9, line
3 8. Safety. You agree with your statement, and
4 I'm sure everybody here does, that safety is a
5 key element of the underground design.

6 A (Scott) Correct.

7 Q And certainly of the underground construction
8 and the whole process.

9 A (Scott) I wouldn't say that's only underground
10 construction. Construction generally, yes.

11 Q You want to cover safety a little bit? How you
12 handle it? And I don't know if it's an area of
13 your expertise or somebody else, but --

14 A (Scott) I could let Mr. Kayser discuss during
15 construction. From the constructability
16 perspective, usually I'll look at space
17 available to construct for workers to be
18 present. Take that into consideration.

19 Q Thank you. And whoever would like to speak to
20 it, perhaps a little bit about the safety
21 program, how you communicate, how you keep track
22 of things? Going to be, seems to me, pretty
23 monumental with the number of different roving
24 construction crews all over the place. And I

1 mean, really, all over the place. And also that
2 there's different areas of definition. I mean,
3 overhead is a lot of different issues different
4 from underground or whatever.

5 A (Kayser) Yes. So PAR will be responsible for
6 the safety program and as part of that, each of
7 their subcontractors will have to submit to them
8 safety programs for the work that they're doing.
9 So each contractor, whether they're an overhead
10 line contractor, a clearing contractor, the
11 underground contractors will have to have safety
12 plans.

13 And as part of that, for everything they're
14 doing, they do pretask analysis. So they'll
15 look at each part of the work they're doing,
16 identify the types of work, what safety
17 precautions they need to take, what personal
18 protective equipment needs to be done with that.
19 And also there will be a safety oversight from
20 the owner looking at that and monitoring some of
21 the safety plans that are submitted by the
22 contractor.

23 A (Bowes) I would also like to add some context to
24 the overall Eversource safety program. Today in

1 New Hampshire, we have 25 active transmission
2 projects. Some of them are very large like
3 Merrimack Valley Reliability Project. Some are
4 located at a single substation. So we have
5 multiple crews out there today working, and we
6 have a safety oversight program with both our
7 construction inspectors and also our line
8 supervision. So if it's a substation group,
9 that substation group has a supervisor that's
10 expected to take safety as their number one
11 priority for the job. We also have an
12 independent safety group. They will be
13 assessing the performance of Northern Pass
14 Project.

15 So in addition to the 25 transmission
16 projects we have ongoing today, we have 40
17 distribution crews, PTSD crews out working
18 today, and we probably have at least 20
19 contractor crews working today. That doesn't
20 include probably 10 to 20 vegetation management
21 crews going as well.

22 So we have well over 100 work sites active
23 today in New Hampshire. Northern Pass will be a
24 large incremental load to that. We expect that

1 we will handle that in the same way we handle
2 the day-to-day operations for Eversource. And I
3 think we established yesterday that there was
4 maybe 20 or 25 work locations would be ongoing
5 at any one time with Northern Pass. So about 25
6 percent of what we have today in New Hampshire
7 and tomorrow in New Hampshire.

8 Q You mentioned PAR. Are they involved in any of
9 these projects?

10 A (Bowes) Yes. They are. They own two New
11 Hampshire affiliates today, and they do the
12 transmission construction and maintenance as our
13 general contractor today in New Hampshire, and
14 they and predecessor companies have for, well,
15 more than the 32 years I've worked at the
16 company. Their name has changed a couple times,
17 but they've managed all of the construction and
18 maintenance activities on our transmission
19 network for more than 30 years.

20 Q Now, I'm confused a little bit. What's the
21 relationship between PAR and Quanta?

22 A (Bowes) So similar to the relationship of
23 Eversource and PSNH, Quanta is the parent or
24 holding company, and PAR is a wholly owned

1 subsidiary that does, in this case, overhead and
2 underground construction and maintenance
3 activities. They have a host of other wholly
4 owned subsidiaries as well as does Eversource.

5 Q So when, I assume that there's some kind of a
6 contract, you put a deal together with Quanta,
7 do you check their safety records?

8 A (Bowes) We do.

9 Q CS number 36, evidence, is a report that I
10 stumbled upon and I'll show it.

11 Having been in the construction and
12 manufacturing business for 45 years, I
13 understand the importance of safety. This
14 comes, I discovered this while searching Quanta,
15 headquartered in Texas?

16 A (Bowes) Yes, I believe that's true.

17 Q This is a report from Quanta of penalties
18 assessed from 2010 until now numbers 31. It's
19 broken down into 7 Wage & Hour violations which
20 doesn't sound very good, and even worse,
21 workplace safety or health violations. 24 of
22 them. Totaling a little over \$1,000,000. If
23 you look at the breakdown, there are a number of
24 them that are PAR Electric. And there's other,

1 I guess, subcontractors or Quanta that add up to
2 the total. But a number of times PAR Electric
3 is mentioned here. Does that concern you at
4 all?

5 A (Bowes) Yes, it does.

6 Q Have you seen this? Were you aware of it?

7 A (Bowes) So each year with each one of our
8 contractors we review various injury rates as
9 well as their insurance claims that they make
10 for workplace injuries, and we have an internal
11 metric that we track, and we require all of our
12 contractors to stay below that metric, and if
13 they exceed that metric we call in the senior
14 management and have the discussion with them
15 around, and it's not just for the work crews
16 that work at Eversource but for their entire
17 company like you've just shown, and we sit down
18 with them and understand what they're doing to
19 correct their safety record.

20 We have had issues with Quanta or PAR in
21 the past, and we've done that exact process, as
22 we have with, whether it's a tree clearing
23 company or whether it's an electrical
24 maintenance company, we're very cognizant of how

1 they are performing both on our system as well
2 as on a national basis.

3 And for the most part, I will say that
4 contractor safety record equals that of the
5 Eversource companies, and we pride ourselves on
6 being a very safe company as well. But they
7 typically perform at the same level or better
8 than our company does.

9 Q And I'm sure that they're a very large company
10 with a ton of exposure.

11 A (Bowes) As is Eversource.

12 Q Yes. To be rosy clean is pretty difficult. You
13 try, but --

14 A (Bowes) I think it's the expectation we have,
15 zero incidents, and certain little zero
16 injuries, and in this case, usually there's some
17 sort of violation that goes with OSHA, and
18 oftentimes, there's an injury behind that as
19 well. And we don't take that lightly.

20 Q Certainly it's concerning and needs to be
21 watched, and that's the reason for having the
22 good safety program at all levels out in the
23 field, correct?

24 A (Bowes) Yes. I agree with you.

1 Q Something that, to switch, as they say, to
2 switch gears, I've heard that expression quite a
3 bit, not sure what it means, but to change
4 subjects, I have a personal issue of a business
5 located a few hundred feet from Transition
6 Station number 4. It's called Bear Rock
7 Beverages, and it is three glacial spring water
8 wells. Have we talked about this already so
9 you're a little knowledgeable of it?

10 A (Bowes) We have, but not as part of the
11 hearings.

12 Q Have you looked into it at all since I've
13 brought it up at testimony?

14 A (Bowes) I would say just a little bit. I
15 understand it's really not an active company at
16 this point.

17 Q True.

18 A But I did make some public commitments to you,
19 and I'll be glad to reaffirm those today is that
20 we will put a monitoring program in place that
21 will monitor those glacial springs before,
22 during and well after construction to ensure
23 that we have no adverse impact on those springs.

24 Q Do you agree that nearby blasting has a

1 potential to be a problem affecting the quality
2 of not only my water but any water?

3 A (Bowes) I will agree that it does have that
4 potential.

5 Q And it should be monitored.

6 A (Bowes) We typically set, and Mr. Kayser can go
7 into more detail as well, we typically set up a
8 monitoring program for wells within 500 feet. I
9 believe yours may be a little bit outside of
10 that distance. And like I said, we've agreed
11 that we will monitor those three wells, I
12 believe it's three, as well as part of our
13 construction program.

14 Q Just to take that subject a step further, I have
15 a, I think it's a report through Department of
16 Environmental Security submitted and written by
17 a gentleman named Brandon Kernen in 2010, and
18 I'd just like to verify that you would take a
19 stand of what his philosophy is by reading the
20 first couple of -- it's probably pretty hard to
21 read. Maybe you can see it. But the philosophy
22 here, and I'd like to hear from all of you that
23 certainly you take the attitude ensuring safe
24 and adequate drinking water supply requires

1 maintaining the quality and availability of
2 present and future water supply sources because
3 in the long run, it is less expensive and more
4 protective of public health to prevent
5 contamination than it is to treat it, treat
6 water to meet health standards. It is less
7 expensive to use existing sources.

8 The key thing to me there is less expensive
9 and more protective of public health to prevent
10 contamination than it is to treat. Your answer
11 would be treat and not protect. Is that what
12 you told me a few minutes ago? By monitoring
13 and then doing something about it if it happens?

14 A (Bowes) I'm not sure I understand the full
15 context of the report. I would be glad to
16 review it. If there's mitigation measures in
17 there, I will certainly review them. I'm just
18 not privy to that report.

19 Q Certainly available. My approach, and I guess
20 I'd ask you if you agree, my philosophy here
21 would be that our world needs to take better
22 care of many of our assets of which one is
23 water, and by taking what I would consider a
24 passive, well, I'm not sure it's passive, but

1 approach of "we'll fix it if we break it"
2 instead of let's not let it happen, how you
3 feel?

4 A (Bowes) So, again, if you could narrow the
5 context of the question. I'm certainly in favor
6 of clean water and clean air and clean power
7 sources. So there's a, I'm in favor of all
8 three of those, but the specifics, I think, have
9 to be what we speak to.

10 Q Okay. I can get specific. The real issue for
11 me is the location of Transition Station number
12 4 and an enormous amount of blasting. Let me
13 start off by asking, were you involved in the or
14 who was involved, if not you, in the decision of
15 Transition Station number 4 being located where
16 it is?

17 A (Bowes) So it did happen before I became part of
18 the Project. I know it was a joint exercise
19 with Burns & McDonnell to locate the overhead
20 portions and the underground portions of the
21 line. It also went to availability of land, and
22 once we had this parcel of land, the most
23 suitable location on that parcel to construct
24 the transition station. I did not select the

1 actual location though.

2 Q Mr. Muntz, your predecessor, make that decision?

3 A (Bowes) I think it was a Project decision. I
4 know Burns & McDonnell was involved in the
5 routing back in 2010 and '11 and then again in
6 2013 as the route changed.

7 Q Would you say, maybe Mr. Bradstreet,
8 constructability, are you familiar with
9 Transition Station number 4's location and the
10 plans?

11 A (Bradstreet) Yes, sir. Both.

12 Q Would you call it a positive constructability
13 site? Easy to work with?

14 A (Bradstreet) I would say there are definitely
15 challenges on the site, but we don't feel they
16 are challenges that we cannot overcome.

17 Q Have you considered alternatives or do you feel
18 there's no need for alternatives?

19 A (Bradstreet) As the Project was looking at the
20 underground route, this site was the selected
21 appropriate site.

22 Q Right. Did it have anything to do with the fact
23 that it was the closest access to get back on
24 property owned by Renewable Properties or

1 Renewable whatever they are?

2 A (Bradstreet) That was a factor. Yes.

3 Q That was the first piece of property.

4 Certainly, there's plenty of land. I mean,
5 Renewable Properties owns thousands of acres
6 now, don't they, in Clarksville and
7 Stewartstown?

8 A (Bradstreet) I don't know the number, but
9 there's many properties.

10 Q Mr. Bowes, is it the same answer for the
11 decision to bury the 7 and a half miles from
12 Wiswell Road in Clarksville along all the town
13 roads plus the state highway Bear Rock, up to
14 Heath Road where the transition station before
15 was?

16 A (Bowes) The same answer as my involvement, you
17 mean?

18 Q Yes.

19 A (Bowes) Yes, I would say it is. Again, I
20 reviewed that route. It's certainly
21 constructible. It is not without its challenges
22 as well. We went through some of those
23 yesterday. We're going to have to do some lane
24 closures and some road closures to do that. So

1 it does have challenges.

2 Q And I don't know how the process works, but was
3 consideration given to an alternative of instead
4 of combination of overhead and underground
5 burial, the route that it goes, of just coming
6 out of Halls Stream and getting on to Route 3 or
7 the railroad tracks, and going at least down to
8 south of Groveton where you could hook up with
9 the existing Public Service right-of-way?

10 A (Bowes) So I believe that was one of the route
11 alternatives that was explored.

12 Q Was there a reason it wasn't picked?

13 A (Bowes) I believe the Project routing was
14 originally the overhead to the west. Then they
15 looked for an overhead to the east and then
16 ultimately overhead rights were not available,
17 an underground segment was added.

18 Q Because of the unavailability of overhead land,
19 you went to the underground 7 and a half miles?

20 A (Bowes) Yes. There was one constriction where
21 we could not get the available rights.

22 Q But the Route 3 or railroad track due south just
23 didn't make sense. It was considered but
24 negated.

1 A (Bowes) That's correct.

2 Q When I sit on my deck, having my first cup of
3 coffee in the morning, and I look directly
4 across Bear Rock at where I know this transition
5 station is going to be, and then coincidentally
6 the lines go directly away from me, why is it
7 that I'm looking right into the sun which is
8 east? When I would think the strategy should be
9 if you wanted to get from Halls Stream Pittsburg
10 to Deerfield, you'd want to go south? I mean,
11 due east where I am.

12 A (Bowes) It was, again, based upon the available
13 land rights that we had as well as the routing
14 that we chose, based upon a number of factors,
15 including environmental impacts, the visibility
16 impacts, and if it could be constructed within
17 that area. This is a constructible route that
18 we have chosen, and we have the available land
19 rights secured to do that.

20 Q Whoever wants to answer, would you define the
21 blasting and removal of give or take 30,000
22 cubic yards just out of the Transition Station
23 number 4 and hauled off to some point make sense
24 constructability wise?

1 A (Bowes) Do you want to go into it?

2 A (Kayser) Yes. Mr. Johnson talked about this a
3 little bit on Monday, I believe.

4 Q Yes.

5 A (Kayser) The cut and fill quantities at
6 Transition Station 4, there's about 30,000 cubic
7 yards of cut and approximately the same amount
8 of fill. So the plan would be to utilize the
9 material that's cut at that location and to use
10 that as the fill material to develop the site.

11 And your previous question, Mr. Bowes,
12 about the wells and the protection, part of the
13 contractor's blasting plan will take into
14 account proximity of the wells to where they're
15 doing their blasting. So as they're developing
16 their plans for our approval, that will be taken
17 into account, and they will plan accordingly due
18 to those locations.

19 Q Did you say the cut and the fill are going to
20 give or take offset each other?

21 A (Kayser) Yes. Approximately. I think Sam had
22 talked about that Monday. I think it's within a
23 thousand cubic yards.

24 Q Have you seen the plans? Transition Station

1 number 4?

2 A (Kayser) Yes, I have.

3 Q I brought a full set, but I've also got some
4 copies of it, and it shows proposed cut and fill
5 areas, and I need a little bit of definition as
6 to where the fill part is. I can certainly find
7 the cut part. CS 37. Okay. These are from the
8 plans. It's a rolled-up set of plans from the
9 original Application in October of 2015 of
10 Transition Station number 4, and I have the full
11 set if anyone wants to look at it, but here is
12 the site.

13 Can you tell, and this is downhill, this is
14 uphill. And the lines, all those lines
15 represent elevation changes. There's a road out
16 here. Name of that road, John? Heath Road.
17 Help you out. Heath Road. In fact, maybe it's
18 time if we can switch over to -- no. I'm sorry.

19 Going to backtrack and show you another
20 plan that kind of -- right here. This is the
21 old CS number 37. Great. Great. Just to
22 orientate people, and the Committee hasn't been
23 up there. The day of the snowstorm when you
24 came up, this was the place that got cancelled

1 because it was probably not a smart thing to do,
2 but, hopefully, you'll get to see it later this
3 summer. The yellow dotted line coming up the
4 valley is the Bear Rock Road and the buried
5 line. As you get up, this is a little road
6 here, this road here is Noyes Road that goes up
7 to my home which is up here. And you come
8 around the corner, this road going out is Heath
9 Road, this is a continuation of Bear Rock Road
10 into East Colebrook and this is Noyes Road going
11 up over the mountain.

12 The six locations here is this is number 4
13 is the Transition Station number 4. This number
14 1 is the glacial spring waters. Number 2 is
15 outcroppings of ledge on the side of the road
16 which is about 420 feet. Right there. The
17 point that I was making is that this is the site
18 of the Transition Station number 4, and then you
19 can clearly see the transmission towers going
20 away. All four of those happen to be 90
21 footers. Also Williams Road, also known as
22 Holden Hill Road goes up on a mountain to a
23 couple residents.

24 First question --

1 PRESIDING OFFICER HONIGBERG: Mr. Thompson,
2 you say this is CS 37?

3 MR. THOMPSON: Yes.

4 PRESIDING OFFICER HONIGBERG: It looks
5 different when we're pulling it up on the --

6 MR. THOMPSON: I had two of them. One
7 blown up of the other. And I can show you the
8 other one. This one just is a little clearer.

9 PRESIDING OFFICER HONIGBERG: Well, you go
10 ahead. I think most of us can see it on the
11 screen.

12 MR. THOMPSON: That one just, I found
13 afterwards. It's just bigger.

14 PRESIDING OFFICER HONIGBERG: What you just
15 started to put out is what we have as 37. And
16 is what you're saying, what's on the ELMO right
17 now is a subset of what's in your left hand?

18 MR. THOMPSON: It appears to me just a
19 larger. It's easier to read and easier to
20 explain.

21 PRESIDING OFFICER HONIGBERG: You work with
22 whatever works.

23 MR. THOMPSON: Okay.

24 PRESIDING OFFICER HONIGBERG: As long as

1 everybody is on the, see what you can see I
2 think it will be all right.

3 BY MR. THOMPSON:

4 Q First question I have is getting back to --

5 A (Johnson) So, Mr. Thompson, if you would just
6 put the last picture back up really quickly?

7 Q Yes.

8 A (Johnson) The transition station is actually
9 located where the green rectangle is at DC40
10 4C-2. So you have an asterisk and a box on
11 number 4?

12 Q Yes.

13 A (Johnson) So the actual location is more to the
14 right where the green rectangle is.

15 Q Are you sure of that?

16 A (Johnson) Yes.

17 Q How come all the CS cold drilling is down in the
18 corner?

19 A (Johnson) It may seem that way, but that's what
20 it is.

21 Q Okay. So it's up the road 200 yards. We'll
22 assume that's the case.

23 A (Johnson) Thank you.

24 Q I question it, but that's fine. Doesn't make

1 much difference. Although it does put me
2 farther away certainly from the glacial spring
3 water wells so --

4 Looking at an elevation view of the plan,
5 you can kind of tell, this is the road down
6 here. My first question is how close is the
7 edge of the fence to the right-of-way. And you,
8 I don't know if scaling this will work or not,
9 Mr. Scott, but --

10 MR. ROTH: Brad? Brad? Over here. The
11 road there, is that Heath Road?

12 MR. THOMPSON: Yes. It's Heath Road. It's
13 a spur to the left off of Bear Rock Road.

14 A (Scott) So you want a measurement to the
15 right-of-way on Heath Road?

16 Q Yeah, the right-of-way on Heath Road just up to
17 where the front face of the fence is.

18 MS. DORE: For the record, we're looking at
19 page 2 of CS 38.

20 A (Scott) It's between 85 and 90 feet at the
21 closest location.

22 Q Right. I'm going to show the next plan. I can
23 show you on a separate plan from this one that
24 the two cuts that I'm going to show you, one is

1 a cut up and down the hill and the other's
2 across. This is the one across.

3 MR. ROTH: Mr. Chairman, may ask a
4 question?

5 PRESIDING OFFICER HONIGBERG: You want to
6 go off the record for a second and talk to
7 Mr. Thompson? Why don't you go off the record
8 and talk with Mr. Thompson.

9 (Discussion off the record)

10 PRESIDING OFFICER HONIGBERG: We're back on
11 the record now, Mr. Thompson.

12 BY MR. THOMPSON:

13 Q Back on the record. It's important to note that
14 this photo is the proposed final product per the
15 plans.

16 A (Johnson) To clarify, this is part of the
17 Alteration of Terrain Permit Application, and it
18 is the Supplemental drawings that were submitted
19 in December of 2016.

20 Q Okay. Not from the original which I said.

21 A (Johnson) You may have the original but I'm
22 looking at the December 2016.

23 Q Okay.

24 A (Johnson) Substantially the same.

1 Q A cut going up and down shows -- this is
2 sideways. Going up into the site. Shows the
3 dotted line up above which is the existing grade
4 and we're down here on Heath Road looking up.
5 And then it shows a proposed finish grade
6 clearly well below the existing grade. So that
7 would tend to beg the question where is the
8 fill. And before I ask the question, here is a
9 detail looking up and down from Heath Road where
10 you'd be standing down on Heath Road, there's
11 some swale ditches, this is where the location
12 of the fenced-in area, and then this gigantic
13 site wall, retention wall, on the back.

14 Again, the dotted line is the existing
15 grade, and this configuration is your finish
16 grade. Where are you going to use 90 percent of
17 the ledge on a cut and fill? At first when I
18 heard that answer, I went back and took a look
19 at the detail of this back wall thinking you
20 were going to use the rock out there, but it's
21 very apparent from the existing plans that
22 that's exposed ledge. It's going to have the
23 effect, I think, of, say, the exposed ledge that
24 one sees above Exit 29 on Interstate 93 in

1 Thornton where you've got the steep cut ledge on
2 the left. This brings me back to asking the
3 question again of constructability. What is the
4 sense of building a monument like this? This
5 thing --

6 PRESIDING OFFICER HONIGBERG: Hang on, hang
7 on. So far you've asked where is the fill.

8 MR. THOMPSON: Okay.

9 PRESIDING OFFICER HONIGBERG: Why build it
10 this particular way. And a couple of others.
11 Where do you want to start to give them an
12 opportunity to answer one of those questions?
13 Because I think those are all potentially
14 interesting questions. I just want to get them
15 in an order.

16 BY MR. THOMPSON:

17 Q Let's start with the first one. We know where
18 the cut is. Where's the fill? 90 percent of
19 30,000 cubic yards.

20 A (Johnson) So Mr. Thompson, I apologize. I'm
21 looking for the axis-to-axis cross-section of
22 where this was taken so I'm struggling.

23 Q Can I give you the full set of plans?

24 A (Johnson) Sure.

1 Q I --

2 PRESIDING OFFICER HONIGBERG: Wait. Wait.
3 They're looking right now.

4 Q Let them go?

5 PRESIDING OFFICER HONIGBERG: Yes. I have
6 a question for you, Mr. Thompson. It's on the
7 record so I want to make sure that we all
8 understand what's being looked for right now. I
9 think the way you set this up is you say I see a
10 lot of cut going on, but I don't see the fill,
11 and you want them to reconcile and tell you
12 what's being filled roughly, right?

13 MR. THOMPSON: That's the first question.

14 PRESIDING OFFICER HONIGBERG: Okay. So
15 that I know they're looking for. What's the
16 next question?

17 MR. THOMPSON: The constructability, does
18 this make sense, is it logical.

19 PRESIDING OFFICER HONIGBERG: All right.

20 MR. THOMPSON: And it will lead to a whole
21 group of more questions.

22 PRESIDING OFFICER HONIGBERG: Sure, but if
23 we can get them understanding what it is you
24 want to know to set up the next line, that will

1 help you and it will help them and I'm hoping it
2 will help us.

3 MR. ROTH: Mr. Chairman, would it also be
4 helpful for the record to reflect what it is
5 that the witnesses are looking at?

6 PRESIDING OFFICER HONIGBERG: Until they
7 find something, I'm not sure. And I'm going to
8 credit Commissioner Bailey for giving me that
9 answer.

10 PRESIDING OFFICER HONIGBERG: Let's go off
11 the record.

12 (Discussion off the record)

13 PRESIDING OFFICER HONIGBERG: Why don't we
14 take a ten-minute break, and you guys find what
15 you need to find.

16 (Recess taken 2:26 - 2:42 p.m.)

17 PRESIDING OFFICER HONIGBERG: We're back on
18 the record. The witnesses, I think, have found
19 what it is they're looking for. Mr. Johnson,
20 are you going to be speaking?

21 A (Johnson) Yes.

22 PRESIDING OFFICER HONGIBERG: Why don't you
23 proceed.

24 A (Johnson) We went back to the Alteration of

1 Terrain Application, and we found the cut and
2 fill document for this particular transition
3 station, and Mr. Thompson is correct. I was
4 incorrect in my original statement on Monday or
5 yesterday, whenever I made that statement. I
6 mixed up two transition stations in this case.
7 For the most part, this will be an all cut and
8 no fill transition station.

9 Q Thank you. So the next question -- there's a
10 number of them. At your answering to my
11 question at discovery, 30,000 cubic yards, last
12 night I sat down with an estimator that I have,
13 and we figured out that the blasted ledge with
14 voids for air will make up a -- would you accept
15 the fact that it will make a pile 20 feet high,
16 220 feet long by 220 feet wide? Want to take my
17 word for it or would you like to figure that one
18 out?

19 A (Johnson) Sure, I'll take your word for it at
20 this point.

21 Q And by the way, that's a square rectangle, not a
22 mountain. Where is all this going?

23 A (Johnson) 20 by 225 to 225.

24 Q 20 high. 220 by 200.

1 A (Johnson) Okay.

2 Q That's an area --

3 A (Johnson) That's big. Couple football fields.

4 Q We figured out with rock trucks, you know what a
5 rock truck is?

6 A (Johnson) I do.

7 Q 42,000 loads.

8 A (Johnson) Okay. That seems excessive to me.

9 Q Or if it was 15,000 -- no. Forget that. Where
10 is it going? Where are we taking it? And I
11 know you haven't told us about where these
12 staging areas are, but this is a, whatever it is
13 is going to be a huge volume, and it's got to go
14 somewhere. Keeping in mind that we have fragile
15 roads.

16 A (Johnson) Sure. So I can't tell you the final
17 disposition of the cut that's coming out of
18 here. I will say that our calculations have it
19 more in the order of 5,000 trucks depending on
20 the size of trucks that you choose. It's still
21 significant. I can tell you that PAR Electric
22 as the bidder of the program was aware of this
23 cut when they bid it, and, ultimately, they will
24 have a destination, if you will, for this rock

1 to go. Whether they're going to sell it to a
2 Pike Industries to help as roads base or give it
3 to Pike Industries or an equivalent of or
4 something of that nature, I just don't know
5 where it will end up.

6 Q Probably the point being any questions I ask
7 about that right now are up in the air because
8 you're kind of a little bit lost for where it
9 really is headed based on the new information.

10 A (Johnson) Not necessarily. I wouldn't know from
11 any of the stations where it would go.

12 Q The roads, not only the roads that are having
13 excavation done, we've talked many times about
14 Old County to Creampoke, North Hill to Bear
15 Rock, the access roads going coming in, the rest
16 of Bear Rock down to 145 and Creampoke Road from
17 the intersection with North Hill and Old County
18 down, you're probably familiar with those roads
19 coming in to get to the site?

20 A (Johnson) I am.

21 Q Would you say they're a continuation of the same
22 type of fairly skinny roads?

23 A (Johnson) I would agree.

24 Q I guess one question to ask is have you

1 inspected those two access roads for bridges and
2 what might exist?

3 A (Johnson) I have not at this time.

4 Q Okay. Probably -- okay. You're traveling on
5 Bear Rock Road or, let's say, Creampoke Road
6 coming in from 145, you meet a vehicle coming
7 the other way, you're in a car or pickup, is
8 there a tendency to slow down to pass more
9 commonly than you normally would?

10 A (Johnson) Yes. It's my experience --

11 Q The reason for that?

12 A (Johnson) Well, I vividly recall a logging truck
13 that had no intention of slowing down so I
14 purposely slowed down to get out of the way, if
15 you will. I have passed --

16 Q Was it red?

17 A (Johnson) It was a blur. How's that?

18 Q That leads to visualizing, if you have somewhat
19 of a conflict with two fairly normal size
20 vehicles, what happens when two trucks meet?

21 A (Johnson) So I have passed, and I have an SUV
22 and I've passed a pickup truck or an equivalent
23 SUV on Bear Rock Road at speed with no issues
24 whatsoever. It would depend where you are on

1 Bear Rock Road, I'm sure.

2 Q True. I'd look to move on to you, Ms.
3 Farrington.

4 A (Farrington) Sure.

5 Q Through conversations with other attorneys and
6 people up here asking questions, where would you
7 say we're at in terms of road closures on Old
8 County Road -- in particular, the town roads of
9 Old County Road, North Hill and Bear Rock
10 relative to the construction going on at
11 different items like HDD and splice pits? Can
12 you give me a feeling of what we're going to
13 experience as residents in that area?

14 A (Farrington) I guess the Project as a whole has
15 tried to decrease the number of road closures
16 and detours. Limit the time of them and spacing
17 in a manner that it will be a rolling closure.
18 Any access to homes will be provided some way or
19 another, but I'm not sure I fully understand
20 the --

21 Q If you take the, let's just take the roughly
22 three miles from North Hill to the Transition
23 Station number 4, there are nine splice pits and
24 five HDD cuts, drills.

1 A (Farrington) Okay.

2 Q We can do the numbers, but we've established
3 that each splice pit is going to take two weeks
4 of closure. Could be more than one at a time.
5 It's always up for debate. So if that's the
6 case, you've got 9 times 2 is 18 weeks. You've
7 got 6, 5 HDDs at 2 to 4 weeks, call it 3, 15
8 weeks. So now we've got 15 and 18, 33. Six and
9 a half months, I guess.

10 A (Johnson) If I may add one thing before Ms.
11 Farrington answers that question, we discussed a
12 little bit yesterday that there are potentially
13 some mitigation measures that we can do to
14 reduce the number of splice pits that will
15 require a full road closure. Currently, you are
16 correct that there are nine splice pits. As
17 part of the working with the DOT, we are trying
18 to move those splice pits off the roads into the
19 ditch line, and the DOT has also given us
20 permission to temporarily expand the roadway to
21 allow for a lane of traffic to pass. So it
22 would be an alternate way of passing, but it
23 would prevent the road from being closed
24 completely for each of those splice pits. So we

1 are continuing to evolve. So I guess what I'm
2 saying is those nine may decrease significantly,
3 hopefully to zero by the time that the final DOT
4 plans are approved. So go ahead, Lynn.

5 Q Meaning no disrespect --

6 A (Johnson) Sure.

7 Q That isn't very comforting for a resident or
8 abutter of Bear Rock Road of not knowing what
9 will happen. You say we're going to try to do
10 it. If it was a possibility and understanding
11 the ramifications, wouldn't you have already
12 done it?

13 A (Johnson) So part of our earlier design
14 restrictions were not putting any of our
15 infrastructure in wetlands. So the DOT has
16 provided us an opportunity to move our
17 structures into low value wetlands which there
18 are a significant number along this road which
19 is a design constraint that we did not have or
20 it's the release of a design constraint that we
21 had before. This affords us an additional two
22 to three to four feet that we could move the
23 splice pits that would allow for enough traffic
24 width, ten-foot minimum that is required for

1 passing.

2 Q You've seen those roads.

3 A (Johnson) I have.

4 Q Maybe it's time for a couple of the photos? We
5 can go to that photo of North Hill, please?
6 Moving into the right-of-way off the edge of the
7 road, some of this is tarred and some of it is
8 dirt.

9 A (Johnson) Yes.

10 Q Tree removal necessary?

11 A (Johnson) We would hope to not have tree
12 removal.

13 Q If they were in the right-of-way and it was a
14 conflict between taking a tree and getting it
15 off the road?

16 A (Johnson) We would have to work with the
17 landowner to ascertain whether or not we could
18 remove that tree without damage.

19 Q (CFP Exhibit 245) Have you got it on your
20 screens?

21 A (Johnson) We do. Yes.

22 Q Care to identify where this is? Anybody?
23 Probably not. It's, if you're coming off of Old
24 County Road and we talked yesterday extensively

1 about a pipe jack across the brook. Just as you
2 start on North Hill Road. About 200 yards up
3 around the corner you're looking what would
4 probably be, should be south, southeast, on
5 North Hill Road. What do you do with that when
6 there happens to be a splice pit just about
7 where the photographer was standing, is standing
8 to take this picture?

9 A (Johnson) So is this on North Hill Road?

10 Q North Hill Road.

11 A (Johnson) Clearly, the road would be closed.

12 Q And North Hill Road, quite honestly, offers a
13 possibility for a section because this is in the
14 section that's unmaintained.

15 A (Johnson) Correct.

16 Q So it could certainly be totally shut down and
17 people just -- you would agree with that?

18 A (Johnson) I agree with that.

19 Q I wouldn't argue with it either. And that's one
20 of the places you're talking about possible
21 winter construction?

22 A (Johnson) That's correct.

23 Q It's not that drastic up on Bear Rock Road.

24 It's a two-lane road, but the vegetation comes

1 in the side. Have you seen ditches or breakdown
2 lanes up there?

3 A (Johnson) There are no breakdown lines. In
4 certain cases, there are ditches, but they're
5 relatively small.

6 A (Bowes) But this is also a probably good example
7 of if we did have to remove trees the type of
8 trees that we are removing as well. You see in
9 the distance there's a fairly mature pine tree?
10 That's not what we're talking about having to
11 work with. It would be more like the scrub,
12 looks like a scrub --

13 Q I agree.

14 A (Bowes) -- maple here in the foreground. So
15 there could be some of that to get us off the
16 road. Clearly --

17 Q People certainly don't get us nervous about a
18 little brush up there as you do down here. By
19 the way --

20 A (Bowes) I have nothing to add to that.

21 Q Something I forgot to do. The plans that you
22 looked at and took a break to look at on
23 Transition Station number 4, these are, in fact,
24 the original documents that were produced by

1 Northern Pass; is that true?

2 A (Kayser) Yes.

3 Q Your architects and draftsmen.

4 A (Bradstreet) They were in the initial
5 Application, that's correct. They've been since
6 revised and resubmitted.

7 Q For the record, stamped by State of New
8 Hampshire license, and it's got a date on it of
9 October 1, 2015.

10 A (Johnson) That is the original Application.

11 Q Let's now go to 100 first. I'd like to just
12 kind of clear up a couple things that the six of
13 you probably understand, but perhaps the Site
14 Evaluation Committee needs to be just clarified
15 a little bit.

16 Okay. What you're looking at is the
17 beginning page of the Application made to the
18 DOT on December something.

19 MS. MERRIGAN: This is the November 30th,
20 2015, underground maps.

21 Q Right. Just for clarification with the
22 Committee, Wiswell Road is up here in
23 Clarksville. This is the
24 Clarksville/Stewartstown town line. You

1 traverse across some big pastures, and then
2 about a quarter of a mile down Route 145 on to
3 Old County Road to where it intersects with
4 Creampoke about halfway down, and then continues
5 on North Hill which takes you to the corner of
6 North Hill and Bear Rock. Bear Rock Road and
7 just so if there's any question, Bear Rock Road
8 from 145 which is the outer line on the left,
9 Bear Rock Road comes in about a mile to North
10 Hill and then up about two squares past where it
11 says Creampoke Road which is also McAllaster
12 Road. At a point right there, that's State
13 Road. We call it New Hampshire State Highway
14 Bear Rock. And that's one of the two places I
15 was talking about that's the access in from 145
16 to get to a lot of this. The other real access
17 is either come in on Old County 145 on to Old
18 County from the north or half way there's a
19 dotted line which is Creampoke Road coming in
20 from 145, and they're really the only accesses
21 in. About two thirds of the way up, Bear Rock
22 turns from asphalt to dirt, and the last, you
23 see Dead Water Road, about two squares back is
24 where it turns to dirt and the last five or six

1 squares, pages, are dirt and those are town,
2 that's a town road. So Bear Rock in particular
3 is a paved state road, turning to a dirt town
4 road. Then going back to CS 37 --

5 MS. DORE: Mr. Thompson, just for record
6 we're looking at Counsel for the Public Exhibit
7 177 page 27. That's what you were just looking
8 at.

9 MR. PAPPAS: Yes.

10 Q Thank you. Right. Good. Bear Rock Road comes
11 up into the valley, swings up to where this
12 transition station is, and then you've got three
13 alternatives. The right and there's Noyes Road
14 we talked about goes up the hill, Bear Rock
15 continues out straight and Heath Road goes up
16 the hill and that actually continues all the way
17 through to Big Diamond Pond. They're all dirt
18 roads, and they're all, lead to Class VI
19 unmaintained roads. The point being -- and do
20 you question the point, Mr. Bowes? That Bear
21 Rock Road can easily be called a dead end road?
22 Other than using the class VI unmaintained road,
23 there's one way in and one way out.

24 A (Bowes) I can agree with that, yes.

1 Q Let's see. Let's go to, while we've got them
2 up, 17.

3 MS. MERRIGAN: For the record this is
4 Counsel for the Public 177 Map C117.

5 Q This is the first area I'd like to dwell on for
6 a few minutes. This is right at the beginning
7 of Bear Rock Road where it leaves Old County
8 Road and Creampoke, and I think it was
9 Mr. Pappas that spent some time on this,
10 Attorney Pappas, concerning the pipe jack that
11 occurs here, and it's the only pipe jack in the
12 North Country, I guess maybe the only one,
13 there's one other one. If you look at the
14 bottom of the page, and leaving Ms. Farrington,
15 getting back to you, Mr. Scott, underground pipe
16 jack, you've got some, what would appear to be
17 constructability problems with this pipe jack.
18 Do you look at it as being a challenge or is
19 this pretty much run of the mill?

20 A (Scott) For a pipe jack, this would be a fairly
21 simple one.

22 Q Even though you've got to go in the ground some
23 25 to 30, 35 feet?

24 A (Scott) That's pretty typical for pipe jacks.

1 Q Typical?

2 A (Scott) Yes.

3 Q Do you build this pit with trench boxes or
4 sheathing or --

5 A (Scott) Typically, it's an engineered shoring
6 system.

7 Q I'm sorry. I didn't hear that.

8 A (Scott) Typically, it's an engineered shoring
9 system stamped inside. Shoring design.

10 Q Has CS coal done some exploratory drilling here?
11 Do you know what kind of conditions you have?

12 A (Scott) Not off the top of my head.

13 Q If it were ledge and you had to create that pit,
14 would that present problems? Constructability?

15 A (Scott) It would be more challenging.

16 Q But it could be done?

17 A (Scott) Yes.

18 A (Johnson) For the record, we did do borings at
19 each of those locations. The engineers have
20 shown no qualms about doing this type of
21 construction here.

22 Q Would you ever consider instead of as an
23 alternate that you talked about to trenchless
24 digging of building up the road? Lay the

1 conduit in the road and build the road up?

2 A (Scott) I believe that was discussed in previous
3 sections, but I'd have to defer to Mr. Johnson
4 for any developments there.

5 Q You've actually thought about that, Mr. Johnson?

6 A (Johnson) Yes, sir. When our constructability
7 engineers first looked at this, that was a
8 consideration. However, because we're applying
9 the Department of Transportation's Utility
10 Accommodation Manual rules or regulations, if
11 you will, which state that you must go
12 underground, this was a viable way to go
13 underground. Certainly, if we were to meet with
14 the Town of Stewartstown and the Road Agents,
15 this could be something that we could discuss as
16 an alternate construction method.

17 Q Well, you just opened up a huge can of worms.
18 You'd go back to the Town of Stewartstown and
19 the Road Agent to see what they say. But don't
20 they have no say? Isn't the SEC giving the
21 permits out? Why all of a sudden can we go to
22 the Town and talk to the Selectmen or the Road
23 Agent?

24 A (Johnson) We have every intention of discussing

1 this Project with the Road Agents because they
2 have institutional knowledge of things that
3 would help us during the construction process.
4 We will in effect not be asking for approvals,
5 but we will certainly consult with them to see
6 if there's a better methodology or a better way
7 or a timing of season or other things. There
8 may be plans that the Road Agent has to improve
9 the section of road. We would certainly
10 coordinate our activities with any of those type
11 of ongoing activities that the Road Agent might
12 have going on. But, again, we would not be
13 seeking approval from the Road Agent.

14 Q Pretty much the same would apply if you ran into
15 a situation where there was a culvert there was
16 really a need of replacing, you'd go to the town
17 Road Agent or the Selectboard and talk to them
18 about it in the same fashion, do you think?

19 A (Johnson) Potentially, yes.

20 Q I say that because it's mentioned in Mr. Scott's
21 Prefiled Testimony that something like this
22 might happen. I forget where it was, but I
23 could find it, but it would make sense if the
24 thing's all caved in and full of dirt and mud

1 and everything, why not replace it rather than
2 trying to go around it, but the process would be
3 to go to the Road Agent and talk to him about
4 it. Then what? Do it?

5 A (Johnson) So the SEC is evaluating the case that
6 we've put before them, and, ultimately, we'll
7 put in whatever is put before them in a denial
8 or an acceptance. If there are in the future
9 exceptions that we have agreed to, I believe
10 that as part of the conditions of their
11 approval, there will be a mechanism for us to go
12 back to them for small adjustments such as this
13 and that they could rule on that, again in a yay
14 or nay situation that would be amenable to all
15 parties, including the DOT and the DES or
16 whatever agency might be involved.

17 Q But the SEC would definitely be part of the
18 decision?

19 A (Johnson) They would have to be. They would
20 have to approve any changes that we make to our
21 plans.

22 Q Would you expect they would take your
23 suggestions because you're more knowledgeable or
24 as a combination of suggestions of the Road

1 Agent plus Northern Pass? I guess, my problem
2 being that the SEC hasn't seen this issue or are
3 privy to it. They're going to make a special
4 trip up to check it out? I mean, and really
5 what I'm asking is doesn't the Selectboard and
6 the Road Agent know better about it and they
7 should be making the call?

8 A (Johnson) We have put forth a plan and are
9 requesting a permit based on what our engineers
10 who have been on site and have the years of
11 experience and knowledge. If we get further
12 down the road and there's a better solution that
13 is amenable by all parties, I'm quite certain
14 that the delegated authority that the SEC gives
15 to whichever agency, they'd love to hear from
16 us. It's a win-win for everybody.

17 Q Thank you. Ms. Farrington. So we've
18 established that we probably aren't sure of how
19 many road closures there will be, how often and
20 probably two and a half years and so forth.

21 A (Farrington) I think we know the worst case
22 scenario and are hoping to improve on it, yes.

23 Q Let's talk about the detours. In particular,
24 the big one. Maybe, can we go to the next map

1 which would be the one after the --

2 Going to bring up another map of a section
3 up on Bear Rock Road. Happens to be in front of
4 McAllaster Road. You've spent some time up
5 there now. Are you familiar with where
6 McAllaster Road is off of Bear Rock Road? Well,
7 Ms. Farrington, but Sam?

8 A (Johnson) Yes.

9 Q That's where McAllasters' farm is.

10 A (Johnson) You can see it from the road. It's up
11 the hill, yes.

12 Q They milk about 70 Holsteins twice a day. It's
13 an ongoing active dairy farm, one of the two in
14 Colebrook.

15 A (Johnson) That's correct.

16 Q Two in Stewartstown. Okay. What I want to do
17 here --

18 MR. PAPPAS: Brad, why don't we identify
19 what's on the screen first.

20 Q Okay. You're looking at Bear Rock Road. If you
21 look at the, first of all, look at the abutters
22 in the middle of the page. The abutter at the
23 top of the page is Roderick McAllaster.

24 MS. MERRIGAN: One moment, Mr. Thompson.

1 For the record, this is Counsel for the Public's
2 Exhibit 177, Map C136.

3 Rod and his family and son and their wives
4 run this dairy farm. You can see to the right
5 McAllaster Road which is a dirt road going up to
6 the hill to the farm probably 500 yards up on
7 the hill. Dead end road. If you look at the
8 cut below, you see that there's, first of all,
9 you can see that coming off the left-hand side
10 of the page is the trench, directly goes into a
11 splice pit, comes out of the splice pit and see
12 the circle on the lower right, that is the
13 location of the beginning of an HDD. You see
14 the circle dotted line in the upper right
15 corner, that is the HDD, and it goes on to the
16 next page, I don't know. Typical one. Four or
17 500 feet, I guess. Something like that.

18 My point here, though, I'd first like to
19 bring up is the HDD is directly in front of
20 McAllaster Road. There's a possibility of
21 getting by to the right. Unlikely, it takes
22 some road building, but it may be possible to
23 sneak out that side. Otherwise, there's going
24 to be a pit there, and then another pit the

1 other side of McAllaster Road, the 400 feet of
2 HDD is unobstructed because that's where it goes
3 underground, but in our estimation, we've got a
4 situation here where access to McAllaster Road
5 will be closed for the 2 to 4 weeks during HDD
6 construction. Mr. Scott, agreed? Make sense?

7 A (Farrington) Okay. Sorry. Can you say that
8 again?

9 Q All set? You agree.

10 A (Farrington) Yes. We were just looking at the
11 details of HDD.

12 Q Ms. Farrington, so if you continue up Bear Rock
13 Road about two miles, by the way, this is part
14 of the state highway, paved part. You consider
15 up about two miles is up in the area where I
16 live. So if I want to go to Pittsburg or
17 Vermont or Stewartstown and I want to go this
18 way, what is my detour if I'm at my house out at
19 the end of Bear Rock Road?

20 A (Farrington) You'll need to go south on Bear
21 Rock Road down to East Colebrook Road and Route
22 26.

23 Q And then around to 145 and off to where I want
24 to go.

1 A (Farrington) Right.

2 Q Probably wouldn't be coming back up Bear Rock
3 Road. Any idea how much that route is mile-wise
4 around through Colebrook back up on 145 to the
5 junction of Bear Rock Road?

6 A (Farrington) I think we agreed it was more than
7 five miles.

8 Q Sixteen miles.

9 A (Farrington) Okay.

10 Q Are you aware of the Class VI road on,
11 continuation of Bear Rock heading towards East
12 Colebrook Road?

13 A (Farrington) I am.

14 Q Do you have a concern of vehicles passing over
15 that road? Have you ever driven it?

16 A (Farrington) I've driven what I could in my
17 Jetta. I think the road would need to be
18 improved to allow for a detour route along it,
19 yes.

20 Q Single lane road?

21 A (Farrington) Would we improve?

22 Q No, the way it is now.

23 A (Farrington) I was there during the winter. It
24 was fairly narrow. Yes.

1 Q So for the average person, and we have some very
2 average people up that way, for instance, Ms.
3 Eileen Placey at 79 years old, or the Kaufmans,
4 Marty and Janice Kaufman who live a quarter of
5 mile away from us at Bear Rock at 82 and 83
6 driving their Jettas or whatever they're
7 driving, you've really got to improve that road
8 in order to make it passable. Certainly you'd
9 need to have two lanes, would you think, would
10 be a priority?

11 A (Farrington) Absolutely. We'd need it passable
12 for emergency response vehicles, anyone driving
13 the detour route and the construction vehicles.

14 Q How do you go about getting this done? Part of
15 the road is in Stewartstown and part of it is in
16 Colebrook? You just fix it? Or I mean, that's
17 not going to happen. Who do you talk to? Where
18 do you get permission? How do you start? Who's
19 going to design it? When does it get done? I'm
20 sorry. Too many questions?

21 PRESIDING OFFICER HONIGBERG: Yes. Which
22 of those questions do you want them to start
23 with?

24 MR. THOMPSON: I think it's one big

1 question.

2 PRESIDING OFFICER HONIGBERG: Then why
3 don't you let them address it.

4 A (Bowes) I'll start and maybe Sam and others can
5 join in. So my understanding, as part of the
6 SEC Application we're asking to improve this
7 road. So when we do that, we'll work with the
8 Road Agents of both those towns, have a
9 discussion, and I'm pretty much the way things
10 are done up north, you get the two parties
11 together, or in this case the three parties
12 together, and you come to an agreement, probably
13 very quickly, about improving those local roads.

14 The real question in my mind comes is do
15 you want the improvements left after the fact or
16 do you want those improvements removed because
17 people like, some people may like the way it was
18 and not want to see that road improved and
19 increased travel on it. I don't see this as a
20 huge obstacle to overcome. I think it will be
21 quite easily done over a coffee in the morning.

22 Q I agree with you that things can happen quickly.
23 I can also tell you things don't happen quickly.
24 They don't happen at all.

1 And part of the permit, Ms. Farrington, is
2 a traffic plan detour shown so that you can
3 solve the problem when somebody can't get up
4 part of Bear Rock, whatever part it is, correct?

5 A (Farrington) Correct.

6 Q And so now you're saying that part of the detail
7 is that this improvement of, and I'd call it
8 three quarters of a mile of dirt road, partially
9 in Stewartstown and then it goes into Colebrook,
10 it's going to be to repair that to a point where
11 it's passable, in particular, two vehicles can
12 pass each other wide enough which now it's a, it
13 makes North Hill in the picture you saw look
14 like a pretty good road. This thing is a mess.

15 Have you gone to the towns of Colebrook and
16 Stewartstown yet? Have you instigated this
17 thing? When does this process start? And I
18 question that it's a simple process. It needs
19 some, it needs work. I mean, I can ask this
20 question, Sam. Is the town of Colebrook going
21 to just say yes to you're going to go do it or
22 are they going to want plans and details, the
23 Road Agent?

24 A (Johnson) As the Road Agent in whatever town, I

1 would assume that plans need to be created, and
2 that it would have to meet DOT standards or at a
3 minimum DOT standards for that class of road.
4 You may argue that we're even improving that
5 class of road from a VI to a V so it would meet
6 whatever that standard is as well.

7 But, yes, we would certainly have to do all
8 of the engineering and surveying and whatever
9 else needed to be done to ensure that we were
10 doing this in a safe and to the standards that
11 are required.

12 Q This is a town road. Ultimately, is the
13 permitting process put back to the SEC, would
14 you say?

15 A (Bowes) I believe so. Yes.

16 Q So it's the SEC that's going to make the call.
17 Final decision.

18 A (Bowes) About whether we improve it or not?

19 Q Well, I guess it's the permit. RSA 231:160,
20 they talk about the permitting process. You
21 need a permit. I mean, you've got to get some
22 kind of permit. Got to have some authority, get
23 some approval.

24 A (Johnson) So I believe what we're requesting

1 from the SEC is the use of this road as a
2 detour. I think we've all agreed that this road
3 has challenges as far as being able to handle a
4 detour type of traffic, and we want to work with
5 the Road Agents of those towns to improve this
6 road for the safety of all, but, ultimately, I
7 believe that the SEC is going to approve the
8 detour itself.

9 A (Bowes) Those same elderly residents you talk
10 about, those neighbors, could see an increased
11 benefit if this road were improved after the
12 construction is all done, and it was maintained
13 as a higher class road. It would certainly
14 provide other options for access to those homes.

15 Q You're speculating. I mean, it's hard to say
16 what they would want or what would be best for
17 them. It's up to them. Isn't it?

18 A (Bowes) I'm just saying it provides another
19 pathway to their homes for emergency vehicles
20 and for day-to-day travel.

21 Q And emergency vehicles certainly are a concern.
22 And I've talked to, I anticipate that at least
23 two representatives, these are some of the
24 witnesses that I kind of tried to sneak in, is

1 the Road Agent from Stewartstown and the Road
2 Agent and the Fire Chief in Colebrook that will
3 be writing letters stating -- so we're hopefully
4 planning on seeing that.

5 PRESIDING OFFICER HONIGBERG: Mr. Thompson,
6 it feels to me like you want to argue with them
7 about a legal question that has been raised by a
8 lot of people with respect to who has the
9 authority to approve whatever happens on those
10 town roads as part of this process. I think I
11 can speak with some confidence that you and they
12 are probably not going to agree on this today.
13 So arguing with them about it probably isn't
14 going to be very effective. I think we
15 understand what your and a lot of other people's
16 positions are. I think we understand what the
17 Applicant's position is on this. So --

18 MR. THOMPSON: Time to let it go.

19 PRESIDING OFFICER HONIGBERG: Not let the
20 issue go, but I'm not sure how productive
21 questioning them about it is.

22 MR. THOMPSON: I'm fine. Thank you.

23 BY MR. THOMPSON:

24 Q Getting back to McAllaster Road, Ms. Farrington,

1 it's unclear as to what will happen during that
2 HDD, but I need to ask what your response to my
3 asking you that there's absolute need for a milk
4 truck to get up McAllaster Road every other day
5 every day all year and also a grain truck,
6 Poulin Grain, give or take once a week. Tractor
7 trailer trucks. The immediate obstruction is
8 the HDD, but the supplement obstructions are any
9 time that there's work up and down the road.
10 How do we handle that necessity of getting in
11 and out?

12 A (Farrington) So we have maintained that all
13 businesses and residents will have access to
14 their homes. It may be slightly delayed. For
15 instance, if there was trenching directly in
16 front of your driveway the time it would take to
17 slide the plate across it. The McAllasters will
18 have access. They may need to use a detour
19 route, but I don't see a specific concern here.

20 Q So one way or another, keeping it open at least
21 part of the time.

22 A (Farrington) That is certainly our goal. And I
23 guess if there was ever an emergency situation
24 or something completely blocked the road, there

1 would be a claims process for that.

2 Q Have you spoken to Rod McAllaster and talked to
3 him about the issue and what might be worked
4 out?

5 A (Johnson) To date we have not. I've had a
6 discussion with a different milk farmer about
7 this situation because we recognize that
8 Mr. McAllaster has a unique location where he
9 is, and the fact that he does deliver, as you
10 said, 5,000 gallons of milk a week or twice a
11 week or whatever the number is. Again, as Ms.
12 Farrington alluded to, this would a classic case
13 of a business interruption where we would have
14 to ensure that Mr. McAllaster was either able to
15 get his truck in there or that we would buy that
16 milk as the Project from him and keep him, if
17 you will, whole.

18 Again, that produces a different issue for
19 the Project because then we have 5,000 gallons
20 of milk that we need to move off of his site,
21 such that he can refill those tanks. The cows
22 don't stop producing milk just because we pay
23 him for his milk. But the Project would most
24 likely do that with much smaller trucks and then

1 arrange for a delivery to some other either milk
2 establishment or we would arrange for disposal.

3 A You make sense. It's logical. Buy the milk and
4 then do whatever you've got to do to get rid of
5 it or I don't know what you do with it. What
6 about his customer who needs the milk?

7 A (Johnson) So --

8 Q If he's shut down, let's say it takes a month to
9 get access back in, and he's not supplying to a
10 customer.

11 A (Johnson) Um-hum. We would certainly have to
12 talk to the milk co-op long before we did
13 anything in this area to let, you know, them
14 know that this milk could be interrupted.
15 Ideally, the interruption would be for a day or
16 two, meaning we might miss one truck cycle. As
17 Ms. Farrington has discussed, this is a rolling
18 or the road closures, if they exist, would be a
19 rolling closure, and so at any one time a
20 vehicle could come from a detour route to get to
21 Mr. McAllaster's property.

22 Q Of equal concern is haying. They hay from June,
23 some time early June until middle/late August
24 doing 1, 2 or 3 cuts and everything is out of

1 his driveway so --

2 A (Johnson) Sure.

3 Q Do you think that it would be very smart to
4 contact him now and get the ball rolling?

5 A (Johnson) Certainly.

6 Q Or are you going to wait until after approvals?

7 A (Johnson) We can do either. I can certainly get
8 on the phone with Mr. McAllaster when we're done
9 here and start those conversations.

10 Q I've talked to him about it. I haven't warned
11 him you're coming or anything, but I would think
12 it would be good.

13 Ms. Farrington, what about the Town of
14 Colebrook and Stewartstown concerning upgrading
15 that road? Isn't it something that should be
16 dealt with now rather than later?

17 A (Farrington) I think either is fine. I guess I
18 don't, I don't know what you mean.

19 Q Well, to my way of thinking, and tell me if I'm
20 wrong, but as a businessman, and maybe this is
21 the approach, after you've got your approvals,
22 and everything is ready to go, then you go talk
23 to them, there's nothing to talk about. You're
24 going to do it. Aren't you?

1 A (Farrington) We would talk about whether or not
2 they wanted it to remain in place after the
3 Project is over.

4 Q You give them that option, but if they said no,
5 that would not be an option.

6 A (Bowes) So we'd still talk about how we would do
7 it and when we would do it, and, again, as Ms.
8 Farrington said, if they wanted it to be a
9 permanent repair to the road or a temporary
10 repair to the roads. There's still a lot to
11 talk about in that initial meeting.

12 Q There is.

13 A (Bowes) But until there's an agreement that it's
14 going to be done, some of these other
15 discussions tend to be premature with people
16 that may not want to meet with us.

17 Q It's definitely a catch-22.

18 A (Bowes) It is.

19 Q But most people, in my opinion, tell me if I'm
20 wrong, would just soon not be pushed into a
21 corner when there really is only one decision
22 and would like to partake in the decision
23 making.

24 A (Bowes) So I think there's a threshold decision,

1 yes, but after that there's still plenty of
2 decisions and plenty of discussion to have.

3 Q We'll see. Okay. Let me just quickly look.

4 In the proceedings, one question keeps
5 haunting me, and I just want to ask it. Really
6 isn't relative to too much of what I've been
7 concentrating on, but the Coos Loop. If for
8 some reason you decided to go down or were
9 instructed to go down Route 3 from Halls Stream,
10 Pittsburg, down the railroad tracks or whatever,
11 the 39 miles to Groveton, and saving about 13 or
12 14 miles by going east/west and south and west,
13 and didn't go into the Wagoner Woodlot or
14 anywhere near the Coos Loop but did the Project,
15 would you still go over and spend \$50 million on
16 the Coos Loop?

17 A (Bowes) I think I can answer the question. Not
18 at this point in time. I mean, there may be
19 future upgrades to that loop in years to come
20 that are paid for by generators, but I think
21 Mr. Quinlan made the statement on the first day
22 of testimony that at this point there's no
23 reliability need to improve the capacity of the
24 Coos Loop.

1 Q From Northern Pass's point, from Eversource's
2 point of view.

3 A (Bowes) From PSNH or Eversource's point of view.
4 Yes.

5 Q Thank you. I appreciate everything. Thank you.

6 PRESIDING OFFICER HONIGBERG: Mr. Baker, I
7 think you're up next.

8 **CROSS-EXAMINATION CONTINUED**

9 **BY MR. THOMPSON:**

10 Q I have to backtrack one little thing, Ms.
11 Farrington. This occurred to me about, late
12 last night.

13 Are you aware that Heath Road and Bear Rock
14 Road, North Hill Road are major ATV trails and
15 part of what we call Ride the Wild? ATV being
16 an all-terrain vehicle? Sam?

17 A (Johnson) Yes. We are aware. We do have the
18 maps and have had preliminary conversations with
19 some of the ATV groups in the area. Again, it's
20 a little bit premature, but we've talked about
21 access along those roads during construction and
22 how we could accommodate ATVs. Obviously,
23 they're much smaller and maybe 3 to 4 feet wide
24 as opposed to a full lane of traffic, but we

1 have discussed the fact that that is a major
2 tourism, if you will, up in the area, both
3 snowmobile and ATV depending on the season. So
4 we are aware of them and we have talked to them,
5 yes.

6 Q So that is something that you've initiated
7 conversations on.

8 A (Johnson) Yes, we have. They actually reached
9 out to us early on in the process.

10 Q All right. Thank you.

11 PRESIDING OFFICER HONIGBERG: Now,
12 Mr. Baker, I think you can proceed.

13 **CROSS-EXAMINATION**

14 **BY MR. BAKER:**

15 Q Good afternoon. My name is Bob Baker. I
16 represent land owners in various locations
17 including two in the Clarksville/Stewartstown
18 combined group. I'm going to stay away from the
19 areas that Mr. Thompson has covered, and I'd
20 like to draw your attention to Counsel for the
21 Public's Exhibit 2, page 1, which is on the
22 screen, and it's a fairly good location map for
23 what I want to talk about. It's the Pittsburg
24 area and environs.

1 Looking at the map, Transition Station 1 is
2 located on the northwest shore of the
3 Connecticut River towards the upper right-hand
4 side. Do you all agree with that and you can
5 see that point?

6 A (Johnson) Yes.

7 Q And then from there, over to the Canadian border
8 to the west, or left on this exhibit, all the
9 way to Halls Stream Road and Halls Stream, there
10 will be a series of transmission towers
11 instructed on the hillside, is that correct?

12 A (Johnson) Correct.

13 Q And there will be approximately 20 structures
14 including Transition Station 1?

15 A (Johnson) Yes.

16 Q And you agree that those structures or at least
17 several of them will be visible from the
18 Connecticut River and the Cultural and Scenic
19 Byway on Route 3?

20 A (Bowes) Yes.

21 Q You don't have any dispute with that, that
22 they're going to be visible from these Byways?

23 A (Johnson) I believe only a select portion will
24 be visible.

1 Q Yes. But towers will be visible. I'm not
2 asking you to concede to a certain number, other
3 than multiple towers will be visible from the
4 Connecticut River Route 3 Cultural and Scenic
5 Highway which is a designated federal Cultural
6 and Scenic Highway, correct?

7 A (Johnson) I would say portions of towers, yes.
8 Probably only the very tops, but --

9 Q Including, in fact, Transition Station 1.

10 A (Johnson) I'm not so sure, but if you have a
11 drawing you'd like to show us --

12 Q We'll get to that later when there's testimony
13 on the scenic issues. I don't expect you to
14 verify any more than you can, and apparently
15 you'd like to reserve judgment on Transition
16 Station 1?

17 A (Bowes) So I think the area from around where
18 AR-2 is up to AR-3 is the area that portion of
19 the towers will be visible. And the transition
20 station is back into the woods off Beecher Falls
21 Road. I'm not sure if you will see that from
22 Route 3 or from the Connecticut River.
23 Connecticut River is, obviously, down the road.

24 Q I understand your reservation, but there will be

1 approximately 20 structures built between the
2 Canadian border and Route 3.

3 A (Bowes) Correct, but only a few of them would be
4 visible from Route 3.

5 Q Right. Depending on where you are.

6 A (Bowes) No. I think there's only one location
7 on Route 3 where you can see them.

8 Q Now, there'll be a structure right on the east
9 side of Halls Stream Road. Is that correct?

10 A (Bowes) Yes.

11 Q And it will be within how many feet of the road?

12 A (Bowes) Hold on just a minute. Less than 50
13 feet.

14 Q Now, you, I'm sure, will agree that there are
15 several residential properties on Halls Stream
16 Road in Pittsburg?

17 A (Bowes) Yes.

18 Q And that the only way to access those
19 residential properties or to leave them is via
20 Halls Stream Road traveling into Canaan,
21 Vermont, correct?

22 A (Bowes) That is correct.

23 Q And this is particularly where Halls Stream Road
24 crosses the Vermont border, that is the Beecher

1 Falls section of Canaan, Vermont, correct?

2 A (Bowes) I'm not aware of that but I will agree
3 with it.

4 Q Now, where you're going to be constructing these
5 towers from Halls Stream over to the Connecticut
6 River, you'll be building a new road, won't you?

7 A (Johnson) A temporary access road.

8 Q I'm sorry? I didn't hear.

9 A (Johnson) Sorry. Temporary access road.

10 Q Right. But it will be a construction project to
11 build a road, and it will be running about 200
12 yards north of the Vermont border, correct?

13 A (Johnson) Are we now talking about the west side
14 of Halls Stream Road?

15 Q We're talking about the construction of the
16 towers from Halls Stream Road over to Route 3.

17 A (Bowes) Right. So those are basically in almost
18 a straight line across. So the closest one is
19 actually the second tower off Halls Stream Road,
20 and that distance to the Vermont border is about
21 650 feet.

22 Q 650 feet. So 200 yards wasn't a bad estimate?

23 A (Bowes) Pretty good, yes.

24 Q Okay. Now, much of the terrain under the

1 transmission line from Halls Stream Road to
2 Route 3 slopes to the south, does it not?

3 A (Bowes) Yes.

4 Q And drainage from that area will be draining
5 south into Vermont, won't it?

6 A (Bowes) I'm not sure what you mean by drainage.

7 Q Well, any water runoff from the Project site,
8 the construction of the roads, could run into,
9 run downhill, I would think. It goes downhill,
10 doesn't it?

11 A (Bowes) I would think it will definitely travel
12 in that general direction.

13 Q Here's the question. Have you done anything to
14 obtain authority from Vermont wetlands officials
15 to conduct these activities above their
16 territory along this transmission line where you
17 propose to build a road and 20 towers?

18 A (Bowes) We have not.

19 Q Have you discussed these activities with the
20 town of Canaan, Vermont?

21 A (Bowes) I don't believe we have.

22 Q You have not then discussed with them the road
23 closure on what I'll refer to as the Old Canaan
24 Road but this map labels the Beecher Falls Road?

1 A (Johnson) As was mentioned yesterday or the day
2 before, we are defining or determining with the
3 DOT or working with the DOT to find an
4 engineering solution so that we will not have to
5 close that road.

6 Q So you're still working on whether or not that
7 road will be closed.

8 A (Johnson) The road will not be closed. That's
9 an affirmative. The question is which
10 methodology do we use such that it will not be
11 closed.

12 Q Okay. Now, to reach your construction sites for
13 towers, let's talk about just the one, right at
14 the corner of the Project on Halls Stream Road
15 50 feet off the road, you have to go through
16 Canaan, Vermont, don't you?

17 A (Johnson) No.

18 Q You said no?

19 A (Johnson) Correct.

20 Q Oh, okay. Yes, I'm sorry. I do have a hearing
21 problem, and I apologize for it. It's probably
22 why I'm speaking a little loudly.

23 A (Johnson) I will enunciate.

24 Q Do you know whether or not you need permits from

1 the Town of Canaan to use their roads to conduct
2 these construction activities in Pittsburg?

3 A (Johnson) So public access on public roads right
4 now, we plan on using New Hampshire Route 3 up
5 to our transition station. If we go south on
6 Old Canaan Road to access road number 2, that
7 provides us access at that point entirely in New
8 Hampshire. Not in Vermont.

9 Q Are you saying that you will not be using Halls
10 Stream Road to access your construction site?

11 A (Johnson) No. I'm just staying that there is a
12 possibility that we could keep 100 percent of
13 the access within the State of New Hampshire.

14 Q Okay. My question was do you, have you, I think
15 you've already answered the fact that you have
16 not talked with the Town of Canaan. Do you know
17 whether or not you will need any permits or
18 permissions or licenses to use their roads for
19 these construction activities if you choose to
20 use Halls Stream Road?

21 A (Johnson) So I believe the answer is no. But I
22 will state that we're, if heavy loads are
23 required or anything that's above a normal
24 weight, those have their own permits that need

1 to be obtained and those will be obtained by the
2 contractor. I can tell you it's not anticipated
3 that there will be any heavy loads in excess of
4 normal loads for this type of construction.

5 Q I understand what you're saying, but I'm trying
6 to ascertain whether or not the Town of Canaan
7 or the State of Vermont has been involved by you
8 in any way in this Project which may have an
9 impact on that state?

10 A (Johnson) They have not.

11 Q Okay. Thank you.

12 I would then assume that the answer to my
13 next question is negative but have you
14 investigated with any authorities in Vermont or
15 Canaan the prospect of coming through the town
16 of Beecher Falls underground on Route, it says
17 253 which is the Vermont side of the Canadian
18 boards and it says QC.

19 A (Johnson) Quebec.

20 Q Quebec Route 253 on the north side of the
21 border. Have you investigated undergrounding
22 them?

23 A (Bowes) We have not.

24 Q Would it be of interest to you if I told you

1 that by going through the Town of Canaan,
2 underground, you could save two miles on your
3 route and still get to Dixville?

4 A (Bowes) I'm not sure of the question. Would I
5 be interested?

6 Q Yes.

7 A (Bowes) Sure. I'm always interested.

8 Q Okay. Let's talk about that then for a minute.
9 If you follow Route 253 down to Route 3 which is
10 on the other side of the Connecticut River, have
11 you investigated the possibility of going under
12 the river, just like you would have to do it
13 over in Pittsburg, in Beecher Falls to
14 Stewartstown?

15 MR. NEEDLEMAN: Mr. Chair, I'm going to
16 object. Two purposes. One, this panel is here
17 for construction issues. These sounds like
18 routing and alternative issues, not the subject
19 of this panel; and then, second, I don't think
20 these sorts of questions about these types of
21 alternatives are appropriate.

22 PRESIDING OFFICER HONIGBERG: Mr. Baker?

23 MR. BAKER: I think that in the
24 Supplemental Affidavits of one of these

1 gentlemen they talked about, they did say that
2 they're not required to show the SEC an
3 alternative but we'll discuss it anyway, and
4 they did go into it. I don't have it in front
5 of me because I didn't anticipate that
6 objection, but I believe one or more of them has
7 talked about alternatives.

8 A (Bowes) It was in my Track 1 Supplemental
9 Testimony. I'm not sure how you handle Track 1
10 and Track 2 here.

11 PRESIDING OFFICER HONIGBERG: Well, how
12 much more do you want to ask him about this
13 alternative route that they haven't considered?

14 MR. BAKER: I think I can be done with that
15 subject in about 3 minutes.

16 PRESIDING OFFICER HONIGBERG: Okay. The
17 clock is running.

18 MR. BAKER: Thank you.

19 BY MR. BAKER:

20 Q If you will follow the map down to Route 3 and
21 then go east on Route 3 on the south side of the
22 Connecticut River here, you'll come to a road in
23 Stewartstown called Bishop Brook Road. It's not
24 on the map, unfortunately, but are any of you

1 familiar with Bishop Brook Road?

2 A (Johnson) I am not.

3 Q Has there, I assume because of that answer none
4 of you would know whether or not an underground
5 route along Bishop Brook Road has been
6 investigated?

7 A (Johnson) You would be correct.

8 Q Which would lead to Route 145 and then to Bear
9 Rock Road. That's my only point is that there
10 is a shorter route to get to where you want to
11 go, and it would involve undergrounding.

12 Would you be interested in not having to
13 build two or three transition stations?

14 A (Bowes) In the theoretical, yes.

15 Q Theoretically, you could do that by keeping the
16 whole Project underground and going through
17 Canaan and Stewartstown and eliminating
18 Pittsburg and Clarksville. Do you follow me and
19 do you understand why on this map I'm suggesting
20 that that is an alternative?

21 A (Bowes) I understand your suggestion, and I've
22 had many other discussions made about the
23 routing for the Project. Unfortunately, what we
24 have in the SEC Application is the Project that

1 we've proposed.

2 Q Well, yes, but you've got a lot of changes that
3 you are still incorporating into your Project,
4 don't you?

5 A (Bowes) But those are along the existing route,
6 and they're like Halls Stream Road, the
7 structure we talked about previously.

8 Q For instance --

9 A (Bowes) We agreed -- could I finish?

10 Q I'm sorry. Finish your answer.

11 A (Bowes) We'd actually in my Supplemental
12 Testimony agreed to move that structure off of
13 Halls Stream Road. That was one of the
14 alternatives that we looked at. It would
15 necessitate some wetlands impact, but that type
16 of modification to the Project, I think, is
17 where we are at this point in the process.

18 Q Do you know whether any of the people, either
19 you or anyone on your team has talked with
20 Hydro-Quebec about whether or not they're going
21 to be building a transition station in Canada in
22 order to avoid crossing the conservation area of
23 Mt. Hereford?

24 A (Bowes) I know they're a little bit of ahead of

1 us in the siting process, and they've been asked
2 to look at alternatives to mitigate the visual
3 impact in that specific area.

4 Q Right. Now, if they were to build a transition
5 station on the west side of Mt. Hereford which
6 is off to the west of this map, would that make
7 a difference to your thinking about routing this
8 through Canaan?

9 A (Bowes) Probably not.

10 Q And why do you say that, sir?

11 A (Bowes) Because that would trigger a second
12 state involvement in the process as well.

13 Q Well, you're here telling us today that you
14 don't have details on where you're going to do
15 blasting, correct?

16 A (Bowes) Yes, we have been pretty specific about
17 where we know we're going to do blasting. We've
18 disclosed that.

19 Q But you have to do geotechnical testing in many
20 places before you know exactly where you're
21 going to be doing the blasting, correct?

22 A (Bowes) That is correct, but it's along the
23 proposed route.

24 Q So we're supposed to be flexible with you on

1 planning the future for our clients and our
2 lives in the North Country. Why can't you also
3 be flexible with respect to changes that may
4 occur in your Project?

5 A (Bowes) So I thought I was when I said I was
6 interested in hearing your proposals.

7 Q Okay. Good. So if Hydro-Quebec were to build a
8 transition station on their side of the border,
9 it is something that you would consider, is it
10 not, to continue the undergrounding of the
11 Project into the northern area of New Hampshire?

12 A (Bowes) It's not something we're considering at
13 this point, but, again, I would find it
14 interesting.

15 Q Okay. Good. I think Mr. Thompson has covered
16 the issue of town permitting, but I just want to
17 make it clear. None of you have had any
18 discussions with the Road Agents or the
19 Selectmen of Pittsburg, Clarksville or
20 Stewartstown, am I correct?

21 A (Bowes) I have not, but I know Project
22 representatives have.

23 Q And who would that be? Who specifically is a
24 Project representative that has talked with any

1 of those officials?

2 A (Bowes) Part of our Community Relations and
3 Government Relations team.

4 Q Do you have a name for me?

5 A (Bowes) I don't. I can probably get one.

6 Q Okay. I have no further questions.

7 PRESIDING OFFICER HONIGBERG: All right. I
8 think SPNHF was up next, correct, Mr. Reimers?

9 MR. REIMERS: Correct. Thank you for your
10 patience.

11 **CROSS-EXAMINATION**

12 **BY MR. REIMERS:**

13 Q Good afternoon. My name is Jason Reimers. I
14 represent the Forest Society in this matter.

15 A (Johnson) Good afternoon.

16 Q Mr. Bowes, last time you were here, I had asked
17 you some questions about Franconia Notch, do you
18 recall that? Or to be more specific, I had
19 asked you questions about potential burial
20 through Franconia Notch. Do you recall that
21 conversation?

22 A (Bowes) Vaguely, yes. I'm sure you'll refresh
23 my memory.

24 Q Okay. Do you recall that on redirect, Attorney

1 Needleman introduced Appellant's Exhibit 85 and
2 asked you about the part of House Bill 626 that
3 mentions Franconia Notch?

4 A (Bowes) Yes.

5 Q And we ended the day on that, do you recall?

6 A (Bowes) I'll accept that, yes.

7 Q And you looked at the language in the bill, and
8 I believe you testified that the bill meant that
9 the Northern Pass could not be buried through
10 Franconia Notch. Is that correct?

11 A (Bowes) That was my interpretation, yes. I
12 believe that's accurate.

13 Q Let's look at the language of that bill.

14 MR. NEEDLEMAN: Do we have a copy of the
15 transcript because that's not my recollection.

16 PRESIDING OFFICER HONIGBERG: I don't have
17 a memory of it. I mean, I remember the
18 exchange, but let's go off the record.

19 (Discussion off the record)

20 MR. REIMERS: I would point out that the
21 witness, in his answer he agreed with my
22 characterization of his testimony.

23 PRESIDING OFFICER HONIGBERG: I think what
24 he said is I don't know, but I'll accept what

1 you're telling me for purposes of what you're
2 doing. I really don't think he was intending to
3 say, oh, yeah, that's right that's what I said.
4 So you, when you started this, I wasn't sure I
5 should let you go at all because you seemed to
6 be, you seemed to be about to be resuming a line
7 of questioning that you, that this witness was
8 done with the last time he was on the stand.
9 You want to tell me what it is you're planning
10 on doing with this?

11 MR. REIMERS: I do intend to do that. The
12 questions I had asked the witness last time, I
13 ended my cross-examination, and Attorney
14 Needleman on redirect at the end of the day
15 introduced Appellant's 85 which was a brand-new
16 exhibit that no one had seen until then, and the
17 witness was asked about what that bill said, and
18 to the best of my recollection what that bill
19 meant. So we ended the day and --

20 PRESIDING OFFICER HONIGBERG: We're talking
21 about a state statute here.

22 MR. REIMERS: Right.

23 PRESIDING OFFICER HONIGBERG: Whether a
24 witness has an interpretation of a state statute

1 or not isn't very helpful to anybody. Do you
2 want to make a legal argument about what this
3 statute allows or prohibits?

4 MR. REIMERS: Yes.

5 PRESIDING OFFICER HONIGBERG: You don't
6 need him to do that then.

7 MR. REIMERS: Okay.

8 PRESIDING OFFICER HONIGBERG: If you want
9 him to assume a state of the law for purposes of
10 some questions about construction plans which is
11 the reason he's testifying right now, that would
12 seem to be appropriate. If you want him to
13 assume a state of the law for purposes of asking
14 him about route selection, it seems to be
15 something you should have asked him about the
16 last time you were questioning him.

17 MR. REIMERS: I agree with you generally,
18 but I didn't have the opportunity given that I
19 had just gotten Appellant's Exhibit 85 --

20 PRESIDING OFFICER HONIGBERG: A state law
21 passed in some year recently. 2015 or '16.

22 MR. REIMERS: But then the witness was
23 asked about it.

24 PRESIDING OFFICER HONIGBERG: What point do

1 you want to make? That they should be burying
2 it under 93 through Franconia Notch? Because in
3 your view, and I don't know, I don't remember
4 what the statute says, but in your view the
5 statute allows that?

6 MR. REIMERS: Yes. But my point is that we
7 had gone through the Underground Alternatives
8 Manual that Burns & McDonnell prepared, and the
9 testimony from Mr. Bowes was along the lines of
10 this line could not be buried through Franconia
11 Notch because of, for example, the Forest
12 Society and AMC being staunch opponents of the
13 Project and due to the consent decrees, for lack
14 of the precise term, and that it was that that
15 was preventing burial through Franconia Notch,
16 and this bill that establishes energy
17 infrastructure corridors was introduced at the
18 end of the day and the language of it is -- and
19 Mr. Bowes was specifically asked by Attorney
20 Needleman about the language in it that said,
21 that talked about a certain 1.7 miles that was
22 excepted from the energy infrastructure
23 corridor, and it's north of Franconia Notch
24 State Park which is what the bill says.

1 And I wanted to ask him how could this bill
2 that talks about a 1.7 mile exclusion north of
3 Franconia Notch State Park prevent burial within
4 the State Park which is south of the excluded
5 area. And then I wanted to ask him whether they
6 had contacted the owner of that property which
7 is the White Mountain National Forest to discuss
8 the possibility of burying it through that
9 1.7-mile excluded area.

10 PRESIDING OFFICER HONIGBERG: What
11 prevented you from asking him these questions
12 the last time you were questioning him?

13 MR. REIMERS: I had just seen Senate Bill
14 626. I hadn't looked at it. It was a brand-new
15 exhibit.

16 PRESIDING OFFICER HONIGBERG: No. No. You
17 were asking him before that became an exhibit.
18 You were asking him questions about the burial
19 before Mr. Needleman asked him any questions on
20 redirect. So what prevented you from asking
21 about burial through or above Franconia Notch
22 the last time you were asking him questions?
23 Nothing, because you, in fact, asked him
24 questions about that during your time, correct?

1 MR. REIMERS: Correct.

2 PRESIDING OFFICER HONIGBERG: So what
3 changed is you were reminded of a law that's
4 been on the books for some number of months, and
5 you want to follow up on that issue that you
6 could have dealt with the first time you were
7 talking to him, right?

8 MR. REIMERS: Yes. But may I add that my
9 questioning of the witness, I do not believe,
10 talked about this bill, this 1.7 miles as being
11 an impediment. It was only after my questioning
12 regarding some of the other documents in the
13 record.

14 PRESIDING OFFICER HONIGBERG: Okay. So he
15 identified some impediments. Mr. Needleman
16 identified, in your view, your memory of how the
17 exchange went, an additional impediment.

18 MR. REIMERS: Correct.

19 PRESIDING OFFICER HONIGBERG: And you
20 wanted to say, well, if that's not in fact an
21 impediment, does that change your testimony from
22 before.

23 MR. REIMERS: More or less. Yes.

24 PRESIDING OFFICER HONIGBERG: Why don't you

1 have him assume that this bill does whatever you
2 think it does and ask him if that changes his
3 view of whether they can go underground in that
4 area. And depending on what his answer is,
5 we'll see if you get to ask another question.

6 MR. REIMERS: Thank you, Mr. Chair.

7 BY MR. REIMERS:

8 Q Mr. Bowes, assuming that this statute
9 establishes energy infrastructure corridors, one
10 of which is along I-93, and excepts from that
11 energy corridor a 1.7 mile section of I-93 owned
12 by the White Mountain National Forest north of
13 Franconia Notch State Park, if that is the case,
14 does that leave open Franconia Notch as a
15 potential alternative for burial of the Northern
16 Pass?

17 A (Bowes) I don't know.

18 Q Were you aware that the White Mountain National
19 Forest owns that 1.7 miles?

20 MR. NEEDLEMAN: I'm going to object at this
21 point. This is all related to my redirect and
22 so now we are having rebuttal to redirect which
23 I think is improper, first of all. Second of
24 all, the reason that I introduced this bill on

1 redirect is specifically because this issue was
2 raised on direct. I can't raise anything on
3 redirect that isn't raised on direct. So, in
4 fact, I think Mr. Reimers had a full opportunity
5 to explore this.

6 PRESIDING OFFICER HONIGBERG: Mr. Reimers,
7 make an offer of proof because I don't think, I
8 don't think we're going to let you ask any more
9 questions on this topic.

10 If you were allowed to ask him questions,
11 what do you think he would say?

12 MR. REIMERS: I would make an offer of
13 proof that the Applicants did not explore or
14 make an attempt to explore the possibility or
15 feasibility of burying the Northern Pass route
16 through the 1.7 miles on I-93 owned by the White
17 Mountain National Forest.

18 PRESIDING OFFICER HONIGBERG: Okay. You
19 may proceed.

20 BY MR. REIMERS:

21 Q These questions are not just for Mr. Bowes. In
22 Pittsburg the proposed route is mostly overhead.
23 Is that correct?

24 A (Bowes) Yes.

1 Q And the underground portion in Pittsburg is the
2 leadup to the crossing of the Connecticut River?

3 A (Bowes) And under the Connecticut River and then
4 to Transition Station number 2.

5 MR. REIMERS: Dawn, I'm going to use the
6 ELMO now.

7 BY MR. REIMERS:

8 Q I'm using Appellant's Exhibit 2, Attachment 2,
9 which are the Project Sheets updated in February
10 2015. You can ignore these right now. Those
11 are my additions. Okay. The right-of-way
12 enters the United States here. Is that correct?
13 By crossing over one of the oxbows of Halls
14 Stream?

15 A (Bowes) Yes.

16 Q And then it continues for 2.1 miles until the
17 first underground section?

18 A (Bowes) Sounds approximately right. Yes.

19 Q And this would be a new right-of-way?

20 A (Bowes) So a portion of it has some existing
21 utilities on it.

22 Q Which portion of that 2.1 miles has existing
23 utilities?

24 A (Bowes) I think right by Halls Stream Road.

1 Q Which would be around here?

2 A (Bowes) No. It's in the same corridor as the
3 Northern Pass line. I believe the gas line is
4 there.

5 A (Johnson) Can you point at the paper and not the
6 screen?

7 Q You're talking about this area, right? Near
8 Halls Stream Road?

9 A Yes.

10 Q There's an existing -- you say the --

11 A (Johnson) Portland Natural Gas transmission
12 system crosses as well in that exact area.

13 MS. DORE: We're looking at Sheet 1 of
14 Attachment 2 of Applicant's Exhibit 2.

15 BY MR. REIMERS:

16 Q And as the right-of-way continues -- sorry. I'm
17 pointing at the screen rather than the --

18 As the right-of-way continues through
19 Pittsburg toward Clarksville, it would be clear
20 to 120 feet? Is that right?

21 A (Bowes) Yes.

22 Q And there would be 21 towers in Pittsburg
23 ranging in height from 65 feet to 115 feet?

24 A (Johnson) That sounds correct.

1 Q And 15 of the 21 towers would be 80 feet tall or
2 taller; is that right?

3 A (Johnson) Subject to check, I'll take your word
4 for it.

5 Q Okay. In Clarksville, which is the next town,
6 the right-of-way would be approximately 4.1
7 miles with underground and overhead
8 construction?

9 A (Johnson) That seems reasonable, yes.

10 Q And the Northern Pass would enter Clarksville
11 from Pittsburg by drilling under the Connecticut
12 River, like you said.

13 A (Johnson) Correct.

14 Q I'm looking at Sheet 2 of the same exhibit. Is
15 that better? That crossing is right here. Is
16 that correct? The Connecticut River?

17 A (Bowes) Yes, and actually my statement before, I
18 guess it does transition right in the middle of
19 the river. I said it went all the way to
20 Transition Station number 2. It really doesn't.
21 Changes the property line right there.

22 Q The Forest Society's Washburn Family Forest is
23 on the Clarksville side, isn't it?

24 A (Bowes) Yes.

1 Q And are you aware that the Forest Society owns
2 both sides of Route 3 at this location?

3 A (Bowes) It appears that way, yes.

4 Q Are you aware that when a town or a state has a
5 road easement that the landowner generally owns
6 to the center line of the road?

7 A (Bowes) Yes.

8 Q How deep under the river are you proposing to
9 drill?

10 A (Bowes) Mr. Scott has that detail.

11 A (Scott) From the bed of the river, about 55 to
12 60 feet.

13 Q Why so low? Why so deep?

14 A (Scott) The geotechnical characteristics of the
15 area.

16 Q Does it have anything to do with resources along
17 the river or the river itself?

18 A (Scott) Can you clarify that question?

19 Q Does the depth of the drilling have anything to
20 do with sensitive resources such as river banks
21 or other, you know, aboveground or river
22 resources?

23 A (Scott) I'd say that those things would be a
24 concern. However, typically the depth required

1 is based upon the geotechnical requirements and
2 the lengths required to get to that depth would
3 put you out of the zone where that is a concern
4 anymore.

5 Q Okay. Is it your understanding that the
6 right-of-way extends to that depth?

7 A (Scott) Yes.

8 Q You testified, someone testified that the
9 drilling would cause lane closures along this
10 portion of Route 3 for 4 to 6 weeks; is that
11 correct?

12 A (Scott) Yes. I believe we said 3 to 5 weeks.

13 Q Three to five. And that was due to the HDD
14 entry and exit locations?

15 A (Scott) Correct. As well as open cut trenching.

16 Q Did that also have anything to do with the
17 splice box?

18 A (Scott) Yes, but those were in different
19 durations than that 3 to 5 week time frame. The
20 three to five weeks was specifically for the HDD
21 activities.

22 Q Okay. And then how much time for the splice
23 box?

24 A (Scott) The splice pit itself we said would be

1 about a week.

2 Q Would that week be contained within that three
3 to five weeks?

4 A (Scott) As I stated, 3 to 5 weeks is only for
5 the HDD activities.

6 Q So the one week would be in addition to that 3
7 to 5 weeks?

8 A Yes.

9 Q The Forest Society has a 20- to 30-car parking
10 lot on the east side of Route 3 just after the
11 river crossing. Are you familiar with that?

12 A (Scott) Yes.

13 A (Bowes) Yes.

14 Q The entrance to that parking lot could be
15 blocked for what, up to six weeks? Is that
16 possible?

17 A (Scott) I do not believe so.

18 A (Johnson) The path of the drill doesn't surface
19 until we're past that driveway.

20 Q Okay.

21 A (Johnson) Correct me if I'm wrong.

22 A (Scott) Well, I'm specifically looking at the
23 laydown space for the HDD which is on the Plan
24 and Profile Drawings, Drawing Route 3 009-3

1 which shows the work space requirements, and it
2 does not show passing the entire road width
3 there.

4 Q When you were talking about, Mr. Scott, when you
5 were just talking about the closures and the
6 splice box and the HDD entry or exit pits, you
7 were talking about around this area, right?

8 A (Scott) Correct. Perhaps you could draw up
9 something with more detail for discussion.

10 Q Because Mr. Johnson just mentioned that, you
11 know, the underground doesn't daylight until
12 well after this area. But you were talking
13 about impacts and work that would happen within
14 this area, right?

15 A (Scott) Correct. And I was disagreeing with
16 your time frame.

17 Q So the underground route would surface here. Is
18 that correct? At DC 23?

19 A (Scott) Near there. I can't really say
20 specifically if it's that location on this map.

21 Q Okay.

22 A (Johnson) Just to be clear, the directional
23 drill would be only underneath the river and
24 trenching activities would take it from the

1 splice box, or the end of the directional drill,
2 I'm sorry, into the splice box, out the splice
3 box, and up the hill to that transition station.
4 So it's not one continuous drill. It's a drill
5 under the river, and then trenching activities
6 to connect the dots.

7 Q Okay. And after the line becomes overhead
8 again, it continue as a new overhead line in a
9 new right-of-way. Is that right?

10 A (Bradstreet) Yes.

11 Q That right-of-way through Clarksville will be
12 cleared up to 120 feet?

13 A (Bradstreet) That's right.

14 Q And is it still true that the proposed towers in
15 Clarksville would range in height from 65 to 105
16 feet in height?

17 A (Bradstreet) I don't have the figures, but if
18 you pulled it off the plans then yes.

19 Q I pulled those off of the February 2015 Project
20 maps. Would that be the accurate place to get
21 those?

22 A (Bradstreet) It should be. Yes.

23 Q So if those Project maps indicated that 17 of
24 the 23 towers in Clarksville would be 80 feet

1 tall or taller, that would be correct?

2 A (Bradstreet) Yes. Just a correction. I think
3 2016. Not 2015.

4 Q Oh, I'm sorry. You're correct. 2016. Yes.
5 Thanks for that.

6 So soon after the new overhead right-of-way
7 begins in Clarksville, the right-of-way runs
8 adjacent to the Washburn Family Forest again for
9 a while, doesn't it?

10 A (Bowes) Yes, to the north.

11 Q What's to the north, the line or the Washburn
12 Forest?

13 A (Bowes) The Forest is to the north of the line.

14 Q Right. May I go off the record for a moment?

15 (Discussion off the record)

16 Q Okay. So the overhead line soon after it comes
17 up begins to run adjacent to the Washburn Family
18 Forest, and are you aware that that's owned by
19 the Forest Society?

20 A (Bowes) Yes, I am.

21 Q I've marked the height of the towers for my
22 convenience, and that is what you can see
23 underneath in the white boxes. It's not as
24 technologically proficient as Ms. Pacik's, but

1 it works.

2 So let's look at the towers next to the
3 Washburn Forest. Starting with DC 26, tell me
4 if these heights are still accurate. 105 feet,
5 90 feet, 65 feet, 95 feet, 80 feet, 75 feet, 85
6 feet, 100 feet, 90 feet, 70 feet? If those were
7 taken from the Project maps, that would be
8 accurate?

9 A (Johnson) It looks accurate to me, yes.

10 Q And then this is the next Project map as it
11 continues. And we've got a 90 feet, 95 feet, 75
12 feet, 75 feet, and 90 feet. And if those are
13 from the Project maps, I assume those, you would
14 agree that those would be accurate heights?

15 A (Johnson) They are.

16 MS. DORE: Are you going to file those
17 documents as exhibits because the ones we have
18 do not have them.

19 MR. REIMERS: Yes, I'll mark them when
20 we're done. Thank you.

21 BY MR. REIMERS:

22 Q And then the right-of-way turns at DC 40. Do
23 you see that?

24 A (Bowes) Yes.

1 Q And it heads toward a transition station?

2 A (Bowes) Yes.

3 Q Do you see this property right here?

4 A (Bowes) Yes.

5 Q Do you know that that is owned by Donald and
6 Diane Bilodeau?

7 A (Bowes) Yes.

8 Q And that adjacent to that is Young's Cemetery
9 which would be starting right here?

10 A (Bowes) Yes.

11 Q Are you familiar with Young's Cemetery?

12 A (Bowes) Yes.

13 Q So take a good look at this image of where
14 Washburn Family Forest is, where there's the
15 turn, and then it heads toward the transition
16 station that I mentioned which would be right
17 here; is that right?

18 A (Bowes) Yes. That's the transition station.

19 Q And that's marked DC 4C 1A?

20 A (Bowes) Yes.

21 MR. REIMERS: Dawn, could you turn on the
22 hard wire, please?

23 BY MR. REIMERS:

24 Q Terry DeWan is a visual consultant hired by the

1 Applicants; is that right?

2 A (Bowes) Yes.

3 Q This is a photograph from his report taken from
4 the area of Young's Cemetery; do you agree?

5 A (Bowes) Yes.

6 Q And this would be the existing view?

7 A (Bowes) Yes.

8 Q Okay. And then this is a photo simulation that
9 Mr. DeWan did from there. Have you seen this
10 before?

11 A (Bowes) Yes.

12 Q And when we were looking at that Sheet 4 that
13 showed the turning of --

14 MS. DORE: I just want to make sure. Do
15 you want to identify where we could find this
16 document?

17 MR. REIMERS: Yes. This would be
18 Applicant's 1, appendix 17, pages I-16 to I-19.

19 BY MR. REIMERS:

20 Q Do you see in this photo simulation where the
21 towers turn and then head towards the left of
22 the page?

23 A (Bowes) Yes.

24 Q Would you agree that as they're heading left of

1 the page they're heading down to that transition
2 station that we've just looked at on the Project
3 map?

4 A (Bowes) Yes.

5 Q And where it turns, and then I guess recedes
6 into the distance, that's heading, that's the
7 line that's running south of the Washburn Family
8 Forest; is that right?

9 A (Bowes) Yes.

10 Q Okay. And Mr. DeWan also took a photograph and
11 then did a simulation using panorama. Do you
12 see the house in the photo?

13 A (Bowes) Yes.

14 Q That's the Bilodeaus' home, isn't it?

15 A (Bowes) Yes, it is.

16 Q And as the Construction Panel, do you feel that
17 these photo simulations accurately depict what
18 you intend to build?

19 A (Bowes) Yes. I would say we do.

20 Q And at the transition station that I'll call
21 down the hill off the picture down to the left
22 of the photo simulation, what will be in that
23 transition station?

24 A (Bradstreet) So there will be a termination

1 structure that looks very similar to the
2 structure that you're showing on the photo sim
3 here where the overhead conductors will
4 terminate, and they will transition down to
5 underground. In that transition phase, there
6 will be small run of bus that's supported by
7 post insulators from the ground. Surge
8 arrestor. So there will be some small equipment
9 typical to what you would see inside of a
10 substation but at a much smaller scale.

11 You will see the termination for the
12 underground cable that will attach to that bus
13 work, and that's where the transition will
14 complete to go to the underground cable. There
15 will also be a small enclosure for some
16 equipment. That will be surrounded by a fence.
17 And the subsurface of the inside of the fence
18 would be of a rock, crushed rock.

19 Q So the transition, the bus work that you
20 mentioned and the other parts, will they be
21 inside or outside?

22 A (Bradstreet) They're inside the fence, is that
23 what you mean? You mean, inside a building?

24 Q Correct.

1 A (Bradstreet) No. They're open air. They're
2 outside.

3 Q Okay. And what of the parts that you just
4 mentioned either include or are machinery with
5 moving parts?

6 A (Bradstreet) Zero.

7 Q Zero? Will there be any lights associated with
8 the transition station?

9 A (Bradstreet) I believe there will be lights
10 available in case something needed to be worked
11 on in an emergency situation, but they would not
12 be used in the day-to-day.

13 Q Only for emergencies lights will be used?

14 A (Bradstreet) I believe that was the typical
15 approach, yes.

16 A (Bowes) That is correct.

17 Q And then at Transition Station number 4, the
18 line would go back underground for the remainder
19 of Clarksville; is that right?

20 A (Bradstreet) So Transition Station --

21 Q Maybe I called it the wrong number.

22 A (Bradstreet) Yes. So this is 3, and then it
23 stays underground until it hits Transition
24 Station number 4.

1 Q So the next municipality is Stewartstown?

2 A I believe so. Yes.

3 Q And the Northern Pass would enter Stewartstown
4 underground coming from Transition Station
5 number 3? Remain underground for the first, for
6 its first portion in Stewartstown?

7 A (Bradstreet) Yes.

8 Q And that underground portion that we're talking
9 about coming from the transition station here,
10 that would continue under Old County Road, North
11 Hill Road and Bear Rock Road that we've been
12 discussing the last few days?

13 A (Bradstreet) That's right.

14 Q Okay. Dawn, can you turn it back over to ELMO,
15 please?

16 And when the line returns to being
17 overhead, that would be in this area in
18 Stewartstown just before Coleman State Park?

19 A (Bradstreet) One second. We're refreshing.
20 Yes. It just showed up. So yes. I mean,
21 there's a few structures before you're near
22 Coleman State but yes.

23 Q Right. DV 4C 1B. That's where it comes
24 aboveground?

1 A (Bradstreet) Correct.

2 Q And as you said, you've got a few structures
3 before you get to Coleman State Park which is
4 this?

5 A (Bradstreet) That's right.

6 Q And this is a brand new right-of-way?

7 A (Bradstreet) Yes.

8 Q And it will be cleared up to 120 feet?

9 A (Bradstreet) That's right.

10 Q I take that back. I didn't mean up to 120 feet.
11 Will 120 feet be cleared?

12 A (Bradstreet) The current plan is 120 feet, yes.

13 Q And the proposed towers would be 70 feet to 120
14 feet in height in Stewartstown?

15 A (Johnson) Subject to check but yes.

16 Q What is the height of the tree line, the general
17 tree line along this portion?

18 A (Bradstreet) I don't know if I have an accurate
19 number available to me.

20 A (Johnson) I would say that it's variable by
21 species, but mature maples can be up to 65 feet.
22 Mature pines can be up to 120 feet. It depends
23 what's there.

24 MS. DORE: Could you identify the Sheet

1 number, please?

2 MR. REIMERS: The Sheet number is 12.

3 MS. DORE: Thank you.

4 BY MR. REIMERS:

5 A (Bradstreet) So I guess I could say the project
6 has information on it, but I don't have it
7 available to me.

8 Q I'm sorry?

9 A (Bradstreet) The Project has information related
10 to the height of the trees, but I don't have it
11 available to me.

12 Q Okay. And then as the right-of-way approaches
13 Coleman State Park, you've got a tower here that
14 would be 90 feet, 70 feet, 90 feet, 85 feet, 80
15 feet?

16 A (Johnson) Correct.

17 Q 90 feet, 85 feet, 75 feet, 75 feet. Is that
18 correct?

19 A (Johnson) Yes.

20 Q And then the route continues along on towers of
21 90 to 85 feet or so through Stewartstown and
22 continues, and it comes relatively close to two
23 additional sections of Coleman State Park. Is
24 that right?

1 A (Bradstreet) Yes.

2 Q And here is the boundary between Stewartstown
3 and Dixville. Do you see that?

4 A (Bradstreet) I do.

5 Q And the heights of the towers in this general
6 vicinity are 85 feet, 90 feet, 130 feet and 130
7 feet?

8 A (Bradstreet) Correct.

9 MR. REIMERS: Hard wire, please.

10 Q So we were just looking at towers in the
11 vicinity of Coleman State Park, and this is from
12 Mr. DeWan's report. It's the existing
13 conditions. And is that photo taken from within
14 Coleman State Park?

15 A (Bowes) Yes, I believe it is.

16 Q And you obviously don't see the towers in that
17 photograph. In this photo simulation, do you
18 see the towers?

19 A (Bowes) Yes, I do.

20 Q And this is what he calls the "normal view"
21 photograph. And then, again, do you see the
22 towers in that photo simulation?

23 A (Bowes) Yes, I do.

24 Q Would you expect that those are some of the

1 towers that we just went through the heights of?

2 A (Bowes) Yes.

3 Q In this view from Coleman State Park the towers
4 would be realistically well above the tree line,
5 wouldn't they?

6 A (Bowes) Yes.

7 Q So in this location, going to Mr. Johnson's
8 example, is not filled with 120-foot maples; is
9 that correct?

10 A (Johnson) Pine trees, but yes.

11 Q Pine trees. That would be a tall maple.

12 A (Johnson) Yes, it is not.

13 Q And from this view of Coleman State Park, the
14 Northern Pass towers and line would be
15 silhouetted against the sky?

16 A (Bowes) I guess I can agree to that. I'm not
17 sure what your definition of silhouetted is. In
18 the background? Certainly. You can see the sky
19 beyond it.

20 Q And as the Construction Panel who would oversee
21 the construction of this Project, does this look
22 like an accurate depiction of what you intend to
23 construct?

24 A (Bowes) Yes. This is one area where we, I

1 actually talk about it in my Supplemental
2 Prefiled Testimony as well where we attempted to
3 acquire additional land rights to take it off
4 the ridgeline but were unable to do that.

5 MS. DORE: Could you please identify what
6 we're looking at?

7 MR. REIMERS: That is Appellant's 1,
8 Appendix 17, and it is pages I-34 through I-37.

9 MS. DORE: Thank you.

10 BY MR. REIMERS:

11 Q The next municipality after Stewartstown is the
12 unincorporated place of Dixville; is that right?

13 A (Bowes) Yes.

14 Q And 9.1 miles of the proposed route would run
15 through Dixville?

16 A (Bowes) Sounds accurate, yes.

17 Q And all overhead, right?

18 A Correct.

19 Q And all in a newly cut 120-foot right-of-way?

20 A (Bowes) I think that's correct. Yes.

21 Q And is it still true that the heights of the
22 towers in Dixville would range from 70 to 130
23 feet in height?

24 A (Johnson) If you took that from the plans, then

1 they have not changed.

2 Q And then after Dixville, the next municipality
3 is the incorporated place of Millsfield; is that
4 right?

5 A (Johnson) Correct.

6 Q And in Millsfield, you're proposing 9 miles of
7 overhead line in a newly cut 120-foot
8 right-of-way?

9 A (Johnson) Sounds about right.

10 Q And there would be 80 towers in Millsfield?

11 A (Johnson) I believe you. Subject to check, yes.

12 Q And the heights of the towers in Millsfield
13 would be 65 feet to 105 feet in height?

14 A (Johnson) Again, subject to check but sounds
15 about right.

16 Q And if the Project maps show that only four of
17 those 80 towers would be 65 feet in height,
18 would you agree?

19 A (Johnson) Sounds about right. Yes.

20 Q And if the Project map showed that 46 of the 80
21 towers would be 80 feet tall or taller, would
22 that be correct?

23 A (Johnson) Again, subject to check but seems
24 reasonable.

1 Q The next town is Dummer. Is that right?

2 A (Johnson) Correct.

3 A (Bradstreet) Yes.

4 Q And the Northern Pass would run for a total of
5 8.9 miles through Dummer?

6 A (Johnson) That sounds about right.

7 A (Bowes) Yes.

8 Q And the first six miles would be a newly cut
9 120-foot right-of-way?

10 A (Johnson) Correct.

11 Q And the second section in the south of Dummer
12 would be a 2.9-mile section where there is an
13 existing right-of-way currently occupied by 115
14 kV transmission line?

15 A Yes.

16 Q Is that kV line a transmission line or a
17 distribution line?

18 A (Bowes) It's a transmission line.

19 Q And in Dummer, the new Northern Pass towers
20 would range in height from 70 to 135 feet in
21 height?

22 A (Johnson) Subject to check, again, sounds
23 reasonable.

24 Q Beginning where the new right-of-way would meet

1 the existing right-of-way, well, the current
2 right-of-way in that 2.9 miles in the south,
3 that's 150 feet wide?

4 A (Bradstreet) Yes.

5 Q How much of that 150 foot right-of-way is
6 currently cleared?

7 A (Bradstreet) I believe in general the majority
8 of it, but we'd have to double check, and it's
9 also case by case.

10 Q Will there be additional clearing along that
11 right-of-way?

12 A (Bradstreet) I believe there will be additional
13 clearing, probably more in the line of trimming
14 for the majority of it. Maybe some tree
15 clearing, cutting.

16 Q Is that because the majority of it is already
17 cleared?

18 A (Bradstreet) It looks to be, yes.

19 A (Bowes) Looks like the trimming and tree
20 clearing would be on the southern portion of
21 that right-of-way.

22 Q In the existing right-of-way with the 115 kV
23 line, what are the heights of the existing
24 towers?

1 A (Bowes) So it's a horizontal H-frame
2 construction so probably in the 43 to 50?

3 A (Bradstreet) I would say 40 to 50 feet probably
4 is the most common. There could be taller.

5 Q So 40 to 50 feet that would be taller, excuse
6 me. That would be shorter than, for example,
7 the 60-foot tree that Mr. Johnson referred to
8 when I asked about tree line?

9 A (Bradstreet) Yes.

10 Q So that, would you agree that the existing 115
11 kV line in Dummer is below the tree line?

12 A (Bradstreet) If the tree line is 60 feet, then
13 yes.

14 Q In Dummer, are you aware of the actual tree line
15 height?

16 A (Bradstreet) Not currently.

17 A (Bowes) There are also some open areas in Dummer
18 as well so there's no tree line, but in general
19 I would say that's probably accurate, 60 feet.

20 Q The relocated line that is currently on towers
21 40 to 50 feet in height would be on towers
22 ranging from 74.5 to 106 feet in height, is that
23 correct, if the Project maps provide that
24 information?

1 A (Bradstreet) That sounds right.

2 Q So where the Northern Pass and the rebuilt 115
3 kV line would coexist, there would be two
4 transmission lines with the relocated 115 kV
5 line as high as 106 feet and the Northern Pass
6 as high as 135 feet whereas now there is no
7 tower in that right-of-way taller than 50 feet;
8 is that correct?

9 A (Bradstreet) The numbers for the proposed sound
10 correct. We'd have to double check on the
11 tallest structure for the existing line, but
12 it's in the range of 40 to 50 feet probably.

13 Q So after Dummer the next town is Stark. Is that
14 correct?

15 A (Bradstreet) Yes.

16 Q And the Northern Pass would run for 8.5 miles
17 through Stark?

18 A (Bradstreet) I think that's right.

19 Q And the entire way currently has the 115 kV
20 line?

21 A (Bradstreet) Yes.

22 Q And those existing towers, do they range from 40
23 to 50 feet?

24 A (Bradstreet) They would be similar, yes.

1 Q If the tree line was 60 feet, they would be
2 below the tree line?

3 A (Bradstreet) I would agree.

4 Q How wide is the existing right-of-way in Stark?

5 A (Bradstreet) It's the same 150 feet.

6 Q Would you agree that it's like your answer to
7 the prior town, the majority of it is cleared?

8 A (Bradstreet) I believe so. Yes.

9 Q And there will be additional clearing?

10 A (Bradstreet) Select. Yes.

11 Q And the relocated kV line that's currently on
12 towers of 40 to 50 feet would be on towers
13 ranging from 74.5 to 110.5 feet?

14 A (Bradstreet) That sounds accurate.

15 Q So even the lowest new 115 kV tower would be
16 approximately 24 and a half feet taller than the
17 tallest existing tower?

18 A (Bradstreet) Assuming the tallest existing
19 structure is 50 feet. Yes. We'd have to check
20 that.

21 Q And the Northern Pass towers would range from 70
22 feet to 130 feet in height?

23 A (Bradstreet) Sounds correct.

24 Q In Stark, the right-of-way traverses several

1 conservation areas, doesn't it?

2 A (Bradstreet) I believe so. Yes.

3 PRESIDING OFFICER HONIGBERG: Off the
4 record.

5 (Discussion off the record)

6 MR. REIMERS: ELMO, please.

7 BY MR. REIMERS:

8 Q This is Sheet 42 of Appellant's 2, Attachment 2.

9 I just asked you about conservation areas
10 in Stark. Looking at Sheet 42, the Northern
11 Pass would go through the Nash Stream Forest; is
12 that correct?

13 A (Bradstreet) Yes.

14 Q And that's a State Forest, isn't it?

15 A (Bradstreet) Yes. I believe so.

16 Q Proposed or relocated structures would be as
17 high as 92.5 feet through the Nash Stream
18 Forest, is that right?

19 A (Bradstreet) Subject to check, that's what it
20 looks like, yes.

21 Q What is the tallest tower currently in the Nash
22 Stream Forest? In this particular right-of-way,
23 obviously.

24 A (Bowes) Just a minute. They range from 43 to 47

1 and a half. I believe 47 and a half is the
2 highest.

3 Q And you had just said that the proposed or
4 relocated structures would be as high as 92 and
5 a half feet?

6 A (Bradstreet) Yes. I don't believe that's
7 correct.

8 Q And after the Nash Stream Forest, the next
9 conservation area that the Project would go
10 through is labeled on Sheet 43 as the Yankee
11 Forest Tract. Do you see that?

12 A (Bradstreet) I do.

13 Q Are you aware that that's owned by the Forest
14 Society?

15 A (Bradstreet) Not specifically but yes.

16 Q Is anyone on the panel aware that that's owned
17 by the Forest Society?

18 A (Bowes) I believe it is. Yes.

19 Q And are you aware that this is part of what's
20 referred to as the Kauffmann Forest?

21 A (Bowes) Kauffmann. Yes. There's several tracts
22 here that are in the Kauffmann Trust.

23 Q Correct. What is the tallest tower currently on
24 the Yankee Forest section?

1 A (Bowes) Looks like it ranges from 47 and a half
2 to 52, 52 being the tallest structure.

3 Q And the proposed structures associated with the
4 Project range from 70 to 97 feet in height?

5 A (Bradstreet) Yes, looks like the proposed
6 Northern Pass line is between 70 and 80, and the
7 relocated line is between 75 and 97.

8 Q So in that area, the relocated line is
9 significantly taller than the Northern Pass.

10 A (Bradstreet) In certain cases it looks like it
11 is, yes.

12 Q And after the Yankee Forest Tract, the
13 right-of-way goes along the Lamphere Tract? Is
14 that correct?

15 A (Bradstreet) That looks correct. Yes.

16 Q Are you aware that the Lamphere Tract is part of
17 the Kauffmann Forest which is owned by the
18 Forest Society?

19 A (Bowes) Yes.

20 Q And in the Lamphere Tract, if the Project maps
21 are correct, the heights of proposed towers
22 would range from 80 to 101.5 feet in height; is
23 that correct?

24 A (Bradstreet) You said 80? All I'm seeing is 85

1 to 101.5, and I guess I would point out that all
2 those structures are not on that tract, but --

3 Q Correct. Continues over to here.

4 A (Bradstreet) Okay. Then yes, you're right.

5 Q And then the next conservation area affected by
6 the right-of-way would be the Percy Lake Club
7 conservation easement?

8 A (Bradstreet) Yes.

9 Q Are you aware that that conservation easement is
10 held by the Forest Society?

11 A (Bradstreet) Yes.

12 MS. DORE: It's Sheet number?

13 MR. REIMERS: Sheet number 44.

14 MS. DORE: Thank you.

15 BY MR. REIMERS:

16 Q And then after the Percy Summer Club easement,
17 the right-of-way enters what's labeled as the
18 Damiani Tract; do you see that?

19 A I see it, yes.

20 Q Are you aware that that tract is owned by the
21 Forest Society as part of the Kauffmann Forest?

22 A (Bradstreet) Sounds right.

23 Q What is the tallest tower currently on the
24 Damiani Tract?

1 A (Bowes) Looks like 52 feet.

2 Q And what you propose for that tract range from
3 75 feet to 100 feet; is that correct?

4 A (Bradstreet) Looks like 70 to 100, but yes.
5 There's one right to your left. Oh, sorry.
6 That's on the other tract.

7 Q Correct.

8 A (Bradstreet) Yes. 75 to 100.

9 Q And then the right-of-way enters Percy State
10 Forest?

11 A (Bradstreet) Correct.

12 Q And in Percy State Forest there would be 8
13 either Northern Pass or relocated 115 kV lines;
14 is that correct?

15 A (Bradstreet) That looks correct. Yes.

16 A (Bowes) I think structures you mean as well.

17 Q What did I say?

18 A (Bowes) You said lines.

19 Q Yes. I meant structures. And the proposed
20 structures would range in height from 88 feet to
21 115 feet in height?

22 A (Bradstreet) That looks correct, yes.

23 Q What is the tallest tower currently in Percy
24 State Forest along this right-of-way?

1 A (Bowes) 56 and a half feet.

2 Q And if the tree line were 60 feet, the existing
3 line would be below the tree line; is that
4 right?

5 A (Bradstreet) That is correct.

6 Q And if the tree line were 60 feet, the proposed
7 towers with the lowest being 88 feet would be
8 all above the tree line; is that right?

9 A (Bowes) That is correct.

10 A (Bradstreet) I guess define all above. The
11 portion would be above. The difference.

12 Q They would rise above the tree line; is that
13 correct?

14 A (Bradstreet) Parts would. Yes.

15 Q And then the right-of-way enters what is labeled
16 on the map as the Kauffmann Tract? Is that
17 correct?

18 A (Bradstreet) Yes.

19 Q That is Sheet 45. And what is the tallest tower
20 currently in this Kauffmann Tract?

21 A (Bradstreet) 52 feet.

22 Q And the proposed towers would range in height
23 from 80 feet to 110 feet, is that right?

24 A (Bradstreet) That looks correct.

1 Q And there would be 24 Northern Pass or relocated
2 115 kV towers in this Kauffmann Tract; is that
3 right?

4 A (Bradstreet) Sounds right, but I can't see the
5 other piece of it. If you pulled it off, then
6 yes. I see 20 on the map that you've shown.

7 A (Bowes) On our maps we show it as a parcel in
8 between.

9 Q Rather than trying to sort out of maps now --

10 A (Bradstreet) I'll take your word for it.

11 Q We'll move on.

12 MR. REIMERS: I'm ready to stop.

13 PRESIDING OFFICER HONIGBERG: I suspect
14 you're not the only one.

15 (Discussion off the record)

16 PRESIDING OFFICER HONIGBERG: So we'll end
17 the day today. Let's go off the record for a
18 second.

19 (Discussion off the record)

20 PRESIDING OFFICER HONIGBERG: So we'll
21 adjourn now. We'll reconvene at 9 o'clock
22 tomorrow morning.

23 (Hearing recessed at 5:00 p.m.)

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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 3rd day of May, 2017.

Cynthia Foster, LCR

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