

STATE OF NEW HAMPSHIRE

SITE EVALUATION COMMITTEE

May 1, 2017 - 1:15 p.m.
 49 Donovan Street
 Concord, New Hampshire

DAY 6

Afternoon Session ONLY

{Electronically filed with SEC on 05-08-17}

IN RE: SEC DOCKET NO. 2015-06
 Joint Application of Northern
 Pass Transmission, LLC, and
 Public Service Company of
 New Hampshire d/b/a Eversource
 Energy for a Certificate
 of Site and Facility.
(Hearing on the merits)

PRESENT FOR SUBCOMMITTEE/SITE EVALUATION COMMITTEE:

Chrmn. Martin P. Honigberg Public Utilities Comm.
(Presiding as Presiding Officer)

Cmsr. Kathryn M. Bailey	Public Utilities Comm.
Dir. Craig Wright , <i>Designee</i>	Dept. of Environ. Serv.
Christopher Way , <i>Designee</i>	Dept. of Resources & Economic Development
William Oldenburg , <i>Designee</i>	Dept. of Transportation
Patricia Weathersby	Public Member
Rachel Whitaker	Alternate Public Member

ALSO PRESENT FOR THE SEC:

Michael J. Iacopino, Esq., Counsel to the SEC
 Iryna Dore, Esq.
(Brennan, Caron, Lenehan & Iacopino)

Pamela G. Monroe, SEC Administrator

(No Appearances Taken)

COURT REPORTER: Steven E. Patnaude, LCR No. 052

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I N D E X

PAGE NO.

WITNESS PANEL:
(resumed)

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

Cross-examination continued by Mr. Pappas 3

1 **P R O C E E D I N G**2 *(Hearing resumed at 1:15 p.m.)*3 CHAIRMAN HONIGBERG: Mr. Pappas, you
4 may proceed.

5 MR. PAPPAS: Thank you.

6 BY MR. PAPPAS:

7 Q. Mr. Scott, let me ask you some questions about
8 the underground design.

9 A. (Scott) Yes, sir.

10 Q. Now, there are two types of underground design,
11 open trench and trenchless, correct?

12 A. (Scott) Correct.

13 Q. Okay. And the open trench is digging a trench
14 along the road to lay the cable in?

15 A. (Scott) Correct.

16 Q. And the trenchless is drilling a hole in the
17 ground in order to go underneath an obstacle,
18 correct?

19 A. (Scott) Correct.

20 Q. And it's typically under a river or a stream or
21 some other obstacle, is that --

22 A. (Scott) Correct.

23 Q. Okay. So, let me start with open trench.

24 MR. IACOPINO: Can you make that

1 bigger?

2 *[Atty. Pappas distributing*
3 *documents.]*

4 *[Brief off-the-record discussion*
5 *ensued.]*

6 BY MR. PAPPAS:

7 Q. Okay. Mr. Scott, looking at Counsel for the
8 Public Exhibit 199, which I've handed out and
9 is also on the screen, I want to start with the
10 equipment for open trench. Now, obviously, you
11 need a backhoe or a track excavator to dig the
12 trench?

13 A. (Scott) Correct.

14 Q. Okay. And then you need as dump truck to haul
15 away the excavation spoils, is that right?

16 A. (Scott) Correct.

17 Q. And then you need a concrete truck to deliver
18 concrete backfill or fluidized thermal
19 backfill?

20 A. (Scott) Correct.

21 Q. Now, as I understand it, on this Project, the
22 request is to use fluidized thermal backfill
23 within the trench, is that right?

24 A. (Scott) Correct.

[Bowes~Bradstreet~Farrington~Johnson~Kayser~Scott]

1 Q. And then there's also the proposal to put a
2 layer of concrete over the cable in order for
3 protection, is that right?

4 A. (Scott) That's the current design.

5 Q. Okay.

6 A. (Scott) The trench cross section is something
7 that could vary slightly as design progresses,
8 so that concrete layer may encase the conduits.
9 It may stay as it is, which is a protective cap
10 layer. The materials will stay the same, but
11 the exact location there may change slightly.

12 Q. Okay. Okay. All right. And then you need a
13 crane for lifting and placing precast concrete
14 splice vaults. Do you see that?

15 A. (Scott) Yes. However, we're not using vaults,
16 we're using splice pits. Correct.

17 Q. Splice what?

18 A. (Scott) Pits. It's just a terminology thing.
19 We're not doing any vaults. They're all splice
20 pits.

21 Q. Are they concrete?

22 A. (Scott) Yes. They're precast.

23 Q. Concrete?

24 A. (Scott) They're borderline the same thing,

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1 there's just slight variations.

2 Q. Okay. Let me do this. All right. Then, the
3 soil compactor to recompact the soil before you
4 put asphalt on it?

5 A. (Scott) Correct. So, for the trench cross
6 sections for this Project, the concrete and the
7 fluidized thermal backfill would not need
8 compaction.

9 Q. Right.

10 A. (Scott) So, it would just be any layers above
11 those, such as the road subbase or DOT required
12 layers that would need compaction.

13 Q. Okay. Trench boxes to secure the sides of a
14 trench where necessary?

15 A. (Scott) Trench boxes or other shoring means.

16 Q. Yes.

17 A. (Scott) Yes.

18 Q. And would trench boxes also be used where
19 you're going to put a splice pit, because those
20 are bigger holes?

21 A. (Scott) It's entirely dependent upon what the
22 contractor has available, whether it's going to
23 be trench boxes or other shoring methods.

24 Q. But some method to shore the side of the hole?

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[Bowes~Bradstreet~Farrington~Johnson~Kayser~Scott]

1 A. (Scott) Correct.

2 Q. Okay. And I understand you're not going to use
3 steel plates on this Project?

4 A. (Scott) That is currently in coordination with
5 the DOT, if and when steel plating will be
6 allowed.

7 MR. ROTH: Excuse me, Mr. Chairman.
8 It's difficult to hear Mr. Scott.

9 CHAIRMAN HONIGBERG: Off the record.

10 *[Brief off-the-record discussion*
11 *ensued.]*

12 BY MR. PAPPAS:

13 Q. And then you can see the other equipment listed
14 under "Open Trench". Do you see that?

15 A. (Scott) Yes.

16 Q. Okay. Now, I'm interested in the size of this
17 equipment and the footprint or area necessary
18 to do this work. If you look in this
19 Exhibit 199, it says, under "Footprint,
20 "Typically two traffic lanes wide to
21 accommodate side loading of excavation spoils
22 into a dump truck by excavator." Do you see
23 that?

24 A. (Scott) I see that.

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[Bowes~Bradstreet~Farrington~Johnson~Kayser~Scott]

1 Q. Okay. So, what is shown on the scene now is
2 Counsel for the Public Exhibit 205. And that
3 shows an excavator and a dump truck. Do you
4 see that?

5 A. (Scott) I see it.

6 Q. And is that the typical configuration for
7 trench excavation, where you have the excavator
8 next to the dump truck loading the spoils into
9 the dump truck?

10 A. (Scott) "Typical" is a relative term. If you
11 have space available, that's what you would do
12 to provide the fastest construction means.

13 Q. Okay.

14 A. (Scott) If you have space limitations, that
15 dump truck would be in line with the excavator,
16 and the arm would swing around 180 degrees and
17 fill up the dump truck that way.

18 Q. Okay. So, typically, how much space do the
19 excavators need?

20 A. (Scott) One travel lane.

21 Q. Is that ten feet? Twelve feet?

22 A. (Scott) Ten to twelve feet, yes.

23 Q. All right. And, typically, how much space does
24 the dump truck need?

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[Bowes~Bradstreet~Farrington~Johnson~Kayser~Scott]

1 A. (Scott) Same thing.

2 Q. All right. Ten to twelve feet, all right.

3 Now, I assume you need to keep a distance
4 between that and a travel lane, at least a
5 couple of feet?

6 A. (Scott) Ideally.

7 Q. Okay. So, we're at 12 to 14. Okay.

8 MR. NEEDLEMAN: So, Mr. Chair, I'm
9 not sure exactly how we're doing this, but,
10 based on Mr. Scott's testimony, I would object
11 to this exhibit as not representative of what
12 we're proposing here.

13 CHAIRMAN HONIGBERG: Mr. Pappas.

14 MR. PAPPAS: Well, he testified that,
15 if the space is available, this is the
16 preferred method. And then we went onto say
17 that, in places where there's not space, it
18 will be a different method.

19 CHAIRMAN HONIGBERG: Yes. I'm not
20 sure what -- what is it you're complaining
21 about, Mr. Needleman?

22 MR. NEEDLEMAN: I think Mr. Scott was
23 saying that the method we intend to use, where
24 there is one travel lane available, they would

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1 be lined up next to each other, and we wouldn't
2 be blocking the road or closing it.

3 CHAIRMAN HONIGBERG: I think that is
4 what he said, and I think Mr. Pappas has it,
5 and I think Mr. Scott has it. I don't think
6 that -- to the extent that there's an objection
7 here, it's overruled.

8 BY MR. PAPPAS:

9 Q. Okay. So, here is Exhibit 213, which is an
10 indication of a concrete truck pouring concrete
11 into a trench. And you said a moment ago that
12 a concrete truck could pour concrete into the
13 trench, correct?

14 A. (Scott) Correct.

15 Q. So, is this the typical arrangement, where the
16 concrete truck is next to the trench and pours
17 concrete into the trench?

18 A. (Scott) Again, if there's space allowable, --

19 Q. Okay.

20 A. (Scott) -- you would prefer to, for
21 construction speed, you'd prefer to line up
22 adjacent to the excavation. If that's not
23 possible, you would have more staging required
24 to get that truck in there more frequently, and

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1 do less open excavation and do in-line again.
2 Or, you would do a temporary stoppage of
3 traffic to get that truck in there and pour
4 concrete.

5 Q. Okay. So, you would either do this, you would
6 try to get the concrete truck lined straight up
7 with the trench, or you do temporary traffic
8 stoppage to get the truck in, pour the
9 concrete, and get it out?

10 A. (Scott) For the space required for that truck
11 to be located adjacent to the excavation, yes.

12 Q. Okay. And do concrete trucks typically also
13 require ten to twelve feet?

14 A. (Scott) Yes.

15 Q. All right. And then you'd want another
16 two-foot buffer as you had with before?

17 A. (Scott) I don't know that you have another
18 two-foot buffer required for that. There is no
19 moving parts on the opposite side of the road.

20 Q. You wouldn't want the travel lane right
21 adjacent to the concrete truck, would you?

22 A. (Scott) It would be no different than driving
23 to opposite directions on the roadway.

24 Q. All right. And the concrete arm swings in and

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1 out?

2 A. (Scott) It swings in one direction, typically.

3 Q. Yes. Okay.

4 A. (Johnson) I'll note that -- excuse me -- I'll
5 just note that that type of trenching, where
6 you've sort of stepped it out, is not what is
7 planned on this Project. The Project's going
8 to be neat and use trench boxes so that you're
9 narrowing that lane limit.

10 A. (Scott) Correct.

11 Q. Okay. So, on the screen now is Counsel for the
12 Public Exhibit 214. And you can see a crane
13 lifting a splice box or a splice pit off a
14 flatbed truck. Do you see that?

15 A. (Scott) I do.

16 Q. And, for this Project, I assume the splice pits
17 will come in, they're prefabricated, and
18 they'll come in on flatbed trucks?

19 A. (Scott) Yes.

20 Q. And you'll need a crane to lift them off the
21 flatbed trucks and put them into place?

22 A. (Scott) That is likely.

23 Q. And, in order to do that, would you need one
24 space for the flatbed truck and then a separate

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1 space for the crane?

2 A. (Scott) It's entirely dependent upon the
3 requirements of the precast members themselves
4 and the crane required to lift those members.
5 So, the larger the precast members, the larger
6 the crane required. So, yes, you would
7 typically have a separate truck from the crane.

8 Q. Okay. So, in order to lift a splice box into
9 place, you need space for the flatbed truck,
10 and then you need space for the crane. Each of
11 those spaces ten to twelve feet in width?

12 A. (Scott) The crane could be larger than that.

13 Q. Okay.

14 A. (Scott) The truck would be that size, yes.

15 Q. All right. And, so, the crane could be 12 to
16 14, 14 to 16?

17 A. (Scott) Yes.

18 Q. Okay.

19 A. (Scott) And I would like to point out that,
20 again, it's possible to do this in line with
21 the excavation. However, you would need some
22 temporary stoppage of traffic to be able to
23 swing the arm from the truck 180 degrees into
24 the excavation.

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1 Q. Yes. You wouldn't want people driving under
2 that arm?

3 A. (Scott) No, sir.

4 Q. Yes. Okay. What's on the screen now is the
5 Counsel for the Public Exhibit 208. And that
6 indicates a trenching operation with a trench
7 box, is that right?

8 A. (Scott) Yes.

9 Q. So, in places where the contractor would need
10 to shore the trench, it could use a trench box
11 such as this?

12 A. (Scott) That is one of the means, yes.

13 Q. Yes. And another means would be simply shoring
14 it by wood or some other method?

15 A. (Scott) Sheeting and shoring, yes.

16 Q. Yes. Okay. Now, to Mr. Needleman's point, in
17 fairness to your earlier testimony, I also have
18 a picture of what you've described as "in-line
19 trenching", correct?

20 A. (Scott) Correct.

21 Q. Okay. And, so, here we see the dump truck and
22 the excavator in line. They're in line
23 together, correct?

24 A. (Scott) Correct.

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[Bowes~Bradstreet~Farrington~Johnson~Kayser~Scott]

1 Q. Okay. And, in this situation, the excavator
2 has to swing the arm around, dig up soil, and
3 swing it back and dump it in the dump truck,
4 correct?

5 A. (Scott) Correct.

6 Q. So, the excavator needs clearance either on
7 the -- I'll call the "shoulder side" or, if
8 there's not sufficient clearance on the
9 shoulder side, the excavator needs clearance on
10 the road side, correct?

11 A. (Scott) Correct.

12 Q. And, if the excavator needs clearance on the
13 road side, you would stop traffic while that
14 arm is swinging in the road, correct?

15 A. (Scott) Correct.

16 Q. All right. Now, would I be correct that this
17 method is slower than if you can have the dump
18 truck next to the excavator and go right down
19 the line?

20 A. (Scott) Yes. That's correct.

21 Q. And this method requires, and you can see, the
22 dump truck to back into the space to receive
23 the spoils, correct?

24 A. (Scott) Correct.

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[Bowes~Bradstreet~Farrington~Johnson~Kayser~Scott]

1 Q. Would I also be correct, and this method is
2 typically used for shorter distances rather
3 than longer distances?

4 A. (Scott) I'd say it's site-specific.

5 Q. Okay. Now, am I correct that the rate of
6 construction expected on Northern Pass is, for
7 the open trench, is anywhere from 20 feet to
8 100 feet a day?

9 A. (Scott) Yes.

10 Q. And that's going to depend on whether or not
11 there's rock or ledge in the ground or whether
12 it's easily dug up soil?

13 A. (Scott) There's a number of variables. You've
14 listed some of them. Additional variables are
15 depth of installation, whether there's crossing
16 utilities, soil types, rock, as mentioned, yes.

17 Q. Okay. So, the more of those variables you hit,
18 the slower you go?

19 A. (Scott) Correct. For the majority, if you're
20 shallow, and there's no obstacles, you'll be
21 going fairly fast, towards the upper range of
22 that number you provided earlier, closer to 100
23 feet a day.

24 Q. Okay. Do you know how much feet of trench a

[Bowes~Bradstreet~Farrington~Johnson~Kayser~Scott]

1 single dump truck can hold, in terms of spoils,
2 typically?

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

4 Q. Okay.

5 A. (Scott) John, do you have any idea about that?

6 A. (Kayser) No.

7 A. (Scott) No.

8 Q. No. Okay.

9 A. (Johnson) Just based on some -- like off the
10 top of my head, that maybe five to 10 feet, on
11 a shallow trench, could fit into one dump
12 truck.

13 Q. Okay. Thank you.

14 CHAIRMAN HONIGBERG: Off the record.

15 *[Brief off-the-record discussion*
16 *ensued.]*

17 BY MR. PAPPAS:

18 Q. Okay. So, Mr. Scott, what's on the screen is
19 Counsel for the Public's Exhibit 130, Page 7 of
20 Exhibit B, as in "boy". And this lists the
21 sequence of construction for open trench. Do
22 you see that?

23 A. (Scott) I see it.

24 Q. Okay. So, first, you have to "Establish

[Bowes~Bradstreet~Farrington~Johnson~Kayser~Scott]

1 maintenance of traffic controls" clearly,
2 correct?

3 A. (Scott) Correct.

4 Q. Okay. Then, where it's says "Stake limits of
5 disturbance", is that to determine where it is
6 you're going to essentially dig in and have
7 equipment?

8 A. (Scott) Essentially, yes.

9 Q. Okay. And then you're going to need to --
10 well, let me back up for a minute. When you
11 stake out limits of disturbance, presumably the
12 goal is to stay within the right-of-way,
13 correct?

14 A. (Scott) Correct.

15 Q. It's not to go on any private property?

16 A. (Scott) Correct.

17 Q. When you stake --

18 A. (Scott) And that right-of-way line will be
19 staked as well.

20 Q. Okay. And, when you stake the limits of
21 disturbance, you're going to mark trees or
22 shrubs that need to be removed?

23 A. (Scott) Yes.

24 Q. Okay. Now, there are a number of places along

[Bowes~Bradstreet~Farrington~Johnson~Kayser~Scott]

1 the Northern Pass line where trees and shrubs
2 need to be removed in order to install the
3 line, correct?

4 A. (Scott) Within the right-of-way, yes.

5 Q. Yes. Okay. And am I correct that the DOT
6 wants the Project to be off the road as much as
7 possible?

8 A. (Scott) Correct.

9 Q. So, wherever you can be off the road, and still
10 within the right-of-way, is where -- is the
11 goal for the open trench, correct?

12 A. (Scott) There's a variation on that. That's
13 definitely what the DOT is requesting.
14 However, we are putting in requests for
15 variance where we know that we would be killing
16 trees.

17 Q. Yes. That's a hardship request?

18 A. (Scott) Yes.

19 Q. But there are a number of places where you do
20 need to take down trees, correct? You don't
21 have much of a choice?

22 A. (Johnson) I wouldn't say it's prevalent across
23 the installation. For the most part, we will
24 be doing our even off the road, in the ditch

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[Bowes~Bradstreet~Farrington~Johnson~Kayser~Scott]

1 line, which is where the drainage swales are,
2 which does not have any encumbrances, such as
3 shrubs and/or trees. And I would say that it's
4 more rare than common for us to be removing
5 vegetative growth.

6 Q. But there are several places along the line
7 where you have to remove vegetative growth,
8 correct?

9 A. (Johnson) There will be some, yes. I can't
10 quantify the exact number, but it's small in
11 number. I would say, in certain locations of
12 the 60 miles, there's probably less than 30
13 locations that would require some removal.

14 Q. Okay. Then, Mr. Scott, the next item is
15 "staking out route alignment, vault locations,
16 HDD areas". Do you see that?

17 A. (Scott) I see it.

18 Q. Okay. And then it indicates here "construct
19 underground vaults". Do you see that?

20 A. (Scott) I do see that. But, again, that's
21 splice pits.

22 Q. Splice pits. Now, as I understand it, to the
23 extent there's blasting, blasting is going to
24 occur ahead of the open trench, is that the

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1 game plan?

2 A. (Scott) If it was required, yes.

3 Q. Yes. You anticipate, in some places, there's
4 going to be some blasting, don't you?

5 A. (Scott) I'm not sure of any specific locations
6 where it's required for the underground route.
7 But it's a potential, yes.

8 Q. Well, your application indicates you anticipate
9 some blasting, does it not?

10 A. (Johnson) The application reserves the right,
11 if you will. Based on the geotechnical results
12 that we got back, we found that there was
13 little to no rock in the area that we plan to
14 install. So, it would be on a case-by-case or
15 emergency basis. But it has not been
16 pre-identified in specific locations.

17 Q. Okay. To the extent you need blasting, you're
18 going to try to do that ahead of the open
19 trench?

20 A. (Johnson) Yes. In some cases, it will be the
21 open trench that finds that piece of rock. If
22 we have identified it ahead, then certainly it
23 would be ahead, yes.

24 Q. Okay. And then the next item, Mr. Scott, is to

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1 "install duct work - open trench excavation".

2 Do you see that?

3 A. (Scott) I do.

4 Q. Okay. And then it's to "proof the ducts"

5 A. (Scott) Correct.

6 Q. Then you pull the cables through the ducts into
7 the -- in this case, splice pits?

8 A. (Scott) Yes, sir.

9 Q. And it's within the splice pits where the
10 splicing of the cable is going to occur?

11 A. (Scott) Yes. That's where the cables -- one
12 joint would be used to splice one cable to the
13 other in each direction.

14 Q. Okay.

15 A. (Scott) Yes. And there being two power cables
16 for each splice pit, so two joints for four
17 cables in and out.

18 Q. Okay. And then do "temporary road repair"?

19 A. (Scott) Correct.

20 Q. "Demobilize" the site, meaning take all the
21 equipment away?

22 A. (Scott) Yes.

23 Q. And then go back and do "final road repair"?

24 A. (Scott) Correct.

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[Bowes~Bradstreet~Farrington~Johnson~Kayser~Scott]

1 Q. Okay.

2 A. (Bowes) For that exhibit, I would say there's
3 one activity that would precede all of the
4 others, which would be DigSafe. So, all the
5 underground utilities will be marked.

6 Q. Okay. Thank you. So, what's on the screen now
7 is Counsel for the Public's Exhibit 215. And,
8 Mr. Scott, that's an example of either a splice
9 vault or a splice pit, correct?

10 A. (Scott) Correct.

11 Q. And, as you indicated, they're a prefabricated
12 piece of material?

13 A. (Scott) Yes.

14 Q. Okay. And, as I understand it, these are
15 roughly 8 feet wide 8 feet in height and
16 30 feet long?

17 A. (Scott) Approximately, yes.

18 Q. Okay. And they need a excavation hole greater
19 than 8 feet wide and 30 feet long in order to
20 drop them in, correct?

21 A. (Scott) Correct.

22 Q. And they certainly need an excavation hole
23 larger, in order to do some bracing. And here
24 you see a trench box. And, so, if a trench box

[Bowes~Bradstreet~Farrington~Johnson~Kayser~Scott]

1 is going to be used, they're going to have to
2 have an excavation hole even larger, correct?

3 A. (Scott) Usually, I would estimate about
4 two feet outside the dimensions, from edge of
5 the pit or vault wall to the edge of
6 excavation/edge of shoring.

7 Q. All right. So, we're talking really 10 by 32
8 is what you anticipate? Do you anticipate
9 two feet on each side of the splice vaults?

10 A. (Scott) Twelve by thirty-four (34).

11 Q. Okay. Twelve by thirty-four (34), okay. Now,
12 the depth of the excavation holes for these
13 splice boxes, they need to be, if the box is
14 8 feet, and I understand the minimum depth of
15 the trench above the box is 48 inches, or
16 4 feet, is that correct?

17 A. (Scott) Depends upon where in the roadway you
18 are. So, the DOT has different depth
19 requirements depending upon where in the road
20 cross section you are.

21 Q. Okay. What do they vary? From what to what?

22 A. (Scott) Off the top of my head, I believe
23 48 inches is ballpark for underneath the
24 roadway. Do you guys have a specific number?

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[Bowes~Bradstreet~Farrington~Johnson~Kayser~Scott]

1 We're still in coordination to finalize
2 that, those design requirements.

3 Q. Okay.

4 A. (Johnson) So, in the ditch line, it's 48 inches
5 to the bottom of the ditch.

6 Q. Uh-huh.

7 A. (Johnson) So, that would be some sort of
8 strata, and then enough earth to grow grass, if
9 you will.

10 Q. Yes.

11 A. (Johnson) Under the roadway, it varies,
12 depending on the type of road, whether it's a
13 Tier 2, a Tier 3, or Tier 4 road. But --

14 Q. Yes. So, I want to get a sense of the range of
15 how large these excavation holes are for these
16 splice pits. So, it's going to be, what,
17 16 feet roughly deep there?

18 A. (Scott) No. Typically, you would be about 10
19 to 12 feet deep.

20 Q. Well, the box itself is 8 feet.

21 A. (Scott) If you look at our drawing set, I'm
22 specifically looking at North C503.

23 Q. Uh-huh.

24 A. (Scott) You can see the splice pit dimensions.

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1 The inside height being five feet, eight inches
2 requirement, plus a lid height and a floor
3 height, making that approximately six and a
4 half feet to seven feet, plus your depth of
5 installation. So, 10 to 12 feet depth.

6 MR. IACOPINO: And, sir, could you
7 tell us what exhibit number that is that
8 you're -- should be on the first page?

9 WITNESS SCOTT: I'm not sure what the
10 exhibit number is for the drawing set.

11 MR. IACOPINO: Oh, this was not what
12 he handed you earlier?

13 WITNESS SCOTT: No. This is the Plan
14 and Profile drawing sets as part of the
15 Application.

16 MR. IACOPINO: Okay.

17 BY MR. PAPPAS:

18 Q. Okay. So, you said "10 to 12 feet deep"?

19 A. (Scott) Yes.

20 Q. Okay.

21 A. (Scott) And, if you want more specifics, you
22 can refer to the profiles in the Plan and
23 Profiles to see the depth of installation.

24 Q. Okay. Are there any locations where splice

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1 pits need to go under existing utilities?

2 A. (Scott) No. That will not be occurring.

3 Q. Okay.

4 A. (Scott) The ducts going in and out of the
5 splice pits may be going underneath existing
6 utilities. But the splice pit itself will not.

7 Q. Okay. And, if the ducts have to go under
8 existing utilities, that could lower the level
9 of the splice pit?

10 A. (Scott) Potentially.

11 Q. Yes.

12 A. (Scott) That could also facilitate moving the
13 splice pit to decrease the depth of
14 installation required.

15 Q. So, let me ask you a question about the
16 fluidized thermal backfill that you mentioned a
17 moment ago. Now, it's my understandings that
18 fluidized thermal backfill is essentially a
19 low-strength concrete?

20 A. (Scott) Essentially, yes.

21 Q. Yes.

22 A. (Scott) It's around 300 PSI concrete.

23 Q. Okay. And the DOT has required the Project to
24 do some testing of proposed fluidized thermal

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1 backfill, is that right?

2 A. (Scott) Correct.

3 Q. So, the DOT construction standard is to reuse
4 the existing excavated material from the
5 trench, is that right?

6 A. (Scott) I believe that's desired.

7 Q. Yes. And the reason that DOT standard
8 construction requirements require that is to
9 limit differential settling, isn't that right?

10 A. (Scott) That's one of the reasons for that.

11 Q. Yes.

12 A. (Scott) However, the DOT also has requirements
13 for compaction of the materials to meet certain
14 requirements, 95 percent Proctor density so
15 that settlement will not occur.

16 Q. Right. But the reason you want to put back the
17 soil you took out is it's the same gravel as
18 the adjacent gravel in the pit, isn't that
19 correct?

20 A. (Scott) That's the theory.

21 Q. Yes. And, so, you want to use the same type of
22 gravel, so when you compact it, presumably it's
23 the same compaction as the undisturbed part.

24 Correct?

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[Bowes~Bradstreet~Farrington~Johnson~Kayser~Scott]

1 A. (Scott) That's the theory.

2 Q. Yes. Do you disagree with that theory?

3 A. (Scott) No.

4 Q. Okay.

5 A. (Scott) Essentially, it's just, if you're
6 compacting any material to that density, it
7 should essentially not settle.

8 Q. But, if it's different gravel, it can have
9 different characteristics, for instance, if
10 water or something gets in there, correct?

11 A. (Scott) Potentially.

12 Q. All right. So, I understand it, DOT is going
13 to require the Project to see how this
14 fluidized thermal backfill operates through the
15 Winter of 2017?

16 A. (Scott) Correct.

17 Q. And, if the DOT approves the testing, it will
18 allow the Project to use it on the underground
19 sections?

20 A. (Scott) That's my understanding.

21 Q. But, if the DOT doesn't approve it, you're
22 going to have to use the material that was
23 taken out of the trench when the trench was
24 created, correct?

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1 A. (Scott) Potentially. There's also other fill
2 materials that could be used.

3 Q. Well, doesn't the DOT standard require you to
4 put back the soil you took out?

5 A. (Scott) So, that may be a requirement.
6 However, there's also numerous examples where
7 imported materials may be used as well that
8 have similar characteristics of that excavated
9 material, --

10 Q. Have you asked --

11 A. (Scott) -- to avoid stockpiling on-site.

12 Q. Have you asked the DOT to be able to do that?

13 A. (Scott) I don't believe it's come up yet.

14 Q. Okay. So, assuming the DOT requires you to
15 follow their standards and put back the soil
16 you took out, the Project's going to have to
17 stockpile that soil somewhere, isn't that
18 right?

19 A. (Scott) Potentially.

20 Q. Yes. And, as I understand it, the Project
21 hasn't identified where it would stockpile that
22 soil, has it?

23 A. (Scott) That's also my understanding.

24 Q. Okay. So, do you have a sense of how much soil

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1 we're talking about that will require
2 stockpiling?

3 A. (Scott) Off the top of my head, no.

4 Q. Okay. But you would agree with me that the
5 Project will have to identify areas along the
6 60 miles of underground in order to stockpile
7 this material, correct?

8 A. (Scott) I would agree that the logistics of
9 stockpiling and reuse would definitely be
10 considered and developed.

11 Q. All right. And that would require dump trucks
12 to take the soil there. It would require
13 excavators to take the soil, put it back in the
14 dump truck, and then bring it back to the site,
15 correct?

16 A. (Scott) If there is no space to stockpile along
17 the excavation, yes.

18 Q. No. I'm saying, even if you have to stockpile,
19 you've got to take it to the pile, dump it,
20 that's one place, right?

21 A. (Scott) So, an alternate method would be to
22 essentially store the material adjacent to the
23 excavation, if the site-specific allocation
24 allowed it.

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[Bowes~Bradstreet~Farrington~Johnson~Kayser~Scott]

1 Q. Are you aware of whether there's enough room to
2 stockpile all this soil along the 60 miles of
3 underground?

4 A. (Scott) I am not.

5 Q. Yes.

6 A. (Scott) And I have not seen a contractor
7 provide the means and methods, as we are
8 currently proposing fluidized thermal backfill.

9 Q. Yes. But you realize it's a rather tight fit
10 to begin with to get this underground within
11 the right-of-way in many places, is it not?

12 A. (Scott) I agree that there is not a specific
13 location where I would think that stockpiling
14 adjacent to the trench for a long length of
15 installation is likely to occur.

16 Q. Yes. So, that means you've got to haul it
17 somewhere and dump it, correct?

18 A. (Scott) Correct.

19 Q. Then, you've got to get an excavator, put it
20 back in the dump truck and bring it back and
21 put it back in the trench, correct?

22 A. (Scott) Correct.

23 Q. Okay. And, if you're required to do that,
24 that's going to have -- that's going to

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1 increase the number of trips that dump trucks
2 are going to be driving to and from different
3 construction sites, correct?

4 A. (SCOTT) Agreed. And I definitely think the DOT
5 should take that into consideration.

6 Q. Okay. But, today, we can't analyze the impact
7 that that traffic will have, because we don't
8 know, first, whether you need to do it, but
9 also more as importantly, we don't know where
10 those staging areas will be. So, we don't know
11 where the trucks will be going to and coming
12 back, correct?

13 A. (SCOTT) Correct.

14 Q. Okay.

15 A. (BOWES) There is an alternative to leave the
16 material in the dump truck itself, and just
17 cycle it back, after the conduits are placed.
18 We have to fill the trenches each evening. So,
19 there may be no need for stockpiling at all.
20 Just need additional dump trucks.

21 Q. Uh-huh. And where are you going to put all
22 those dump trucks full of soil, while we're
23 putting the conduit in, and then the cable in,
24 and then you're putting the concrete protection

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1 on top?

2 A. (Bowes) So, that would be in the location where
3 probably we store the materials.

4 Q. Yes. Okay. Now, Mr. Scott, if you use the
5 fluidized thermal backfill, you're going to
6 need to source that from concrete batch plants,
7 correct?

8 A. (Scott) Correct.

9 Q. And that is going to be additional -- that will
10 be above and beyond the concrete for that
11 protective layer, correct?

12 A. (Scott) It would be a different mix.

13 Q. Yes.

14 A. (Scott) Yes.

15 Q. Yes. So, for the 60 miles of underground,
16 there will be thousands of concrete deliveries,
17 first, for the FTB, fluidized thermal backfill,
18 correct?

19 A. (Scott) I can't tell you how many there would
20 be. But there would be numerous deliveries.

21 Q. And then there would be thousands of concrete
22 delivery trucks for the protective layer of
23 concrete, correct?

24 A. (Scott) Again, I can't tell you if it's

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1 thousands or hundreds, but, yes, there would be
2 numerous deliveries.

3 Q. Okay. And today we don't know where those
4 batch plants are located, correct?

5 A. (Scott) Correct. As mentioned earlier, it's
6 quite feasible that mobile batch plants would
7 be developed.

8 Q. But we don't know where those mobile batch
9 plants would be located either, do we?

10 A. (Scott) Not at this time.

11 Q. So, because we don't know the location of the
12 batch plants that exist, nor the location of
13 the mobile batch plants, we can't assess the
14 impact on traffic from all these concrete
15 trucks coming and going from these batch plants
16 to the 60 miles of underground, correct?

17 A. (Scott) Not at this time.

18 Q. All right. So, let me ask you some questions
19 about the trenchless methods. We just went
20 over the open trench. So, I'm going to switch
21 to trenchless methods. And, as I understand
22 it, there are three essential methods for
23 trenchless. The first is horizontal direct
24 drilling, correct?

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1 A. (Scott) Correct.

2 Q. Which I'll now refer to as "HDD", because it's
3 a whole lot easier.

4 A. (Scott) That works.

5 Q. Thanks. And then there's "Jack and Bore"?

6 A. (Scott) Correct.

7 Q. And there's something known as known answer
8 "Micro Tunneling", correct?

9 A. (Scott) Correct.

10 Q. Okay. And the Project proposes to use mostly
11 HDD, and I believe one Jack and Bore and one
12 Micro Tunnel?

13 A. (Scott) Yes, sir.

14 Q. Okay. And the depths of these, because these
15 go under obstacles, is anywhere from 30 feet to
16 75 feet deep?

17 A. (Scott) Depending upon the location, yes.

18 Q. Yes. And, typically, the deeper it goes, the
19 larger the work area is needed?

20 A. (Scott) That's potentially the case. However,
21 it's site-specific, dependent upon the
22 geotechnical considerations for that specific
23 site.

24 Q. Okay.

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1 A. (Scott) The depth doesn't necessarily play into
2 that.

3 Q. Well, let's look back at Counsel for the
4 Public's Exhibit 199, the sheet I passed out.
5 And, if you look under "Trenchless: HDD",
6 there's a list of equipment needed for that.
7 Do you see that?

8 A. (Scott) I do.

9 Q. Okay. And then there's a list of the
10 "footprint", do you see that?

11 A. (Scott) I do.

12 Q. Okay. And then there's the "rate of
13 construction". And there's a similar listing
14 for "Jack and Bore". Do you see that?

15 A. (Scott) I do.

16 Q. Okay.

17 *(Atty. Roth and Administrator*
18 *Monroe distributing documents.)*

19 BY MR. PAPPAS:

20 Q. Mr. Scott, I've passed out Counsel for the
21 Public Exhibit 200, which is contained within
22 Dewberry's report, which is an exhibit, but
23 this is a handy chart that I'm going to refer
24 to from time to time. And, if you look at it,

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1 it lists each of the trenchless operations, and
2 it provides the location, the approximate
3 length of the drilling. They all have two
4 bores, and it shows the maximum depth.

5 A. (SCOTT) There's one location with one bore.

6 Q. Oh, yes. Thank you. I stand corrected.

7 That's the Micro Tunnel, correct. And then the
8 work areas. Do you see that?

9 A. (SCOTT) I do.

10 Q. Okay. So, for one of these trenchless
11 operations, the sequence of work is, first, to
12 mobilize, which essentially is stake out the
13 area that you need for entry and exit pits and
14 clear it, is that right?

15 A. (SCOTT) Yes.

16 Q. Okay. Prepare your traffic control?

17 A. (SCOTT) Yes.

18 Q. Install the rig necessary to do the drilling?

19 A. (SCOTT) Correct.

20 Q. Then you need a mud handling plant for the
21 drilling fluid?

22 A. (SCOTT) Depending upon the technique, yes.

23 Q. Yes. You need dumpsters to collect cuttings
24 from the drilling?

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1 A. (Scott) Essentially, yes.

2 Q. And you need sometimes a crane to manipulate
3 the drilling stem, correct?

4 A. (Scott) Correct.

5 Q. Okay. So, on the screen is Counsel for the
6 Public's Exhibit 201, which is part of
7 Electrical Consulting Engineers' report. And
8 it shows the basic sequence for HDD drilling.
9 Do you see that?

10 A. (Scott) I do.

11 Q. Essentially, I'm not going to go through
12 step-by-step, but essentially what you do is
13 you first, at the entry point, drill a hole all
14 the way to the exit point, correct?

15 A. (Scott) Yes.

16 Q. And then that, as you're drilling that, that is
17 pulling out material from the hole that you put
18 in the dumpster and take away?

19 A. (Scott) Correct. You process it and then take
20 it away.

21 Q. In order to do that drilling, you have to have
22 drilling mud, correct?

23 A. (Scott) Yes.

24 Q. And drilling mud is a combination of water and

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1 bentonite clay and some other additives?

2 A. (Scott) Yes.

3 Q. And then, after the tunnel is created, you
4 essentially pull back and keep going back and
5 forth until you get the size that you need, the
6 size of the hole you need, correct?

7 A. (Scott) If required, yes.

8 Q. Okay. And this drilling is at very high
9 pressure, correct?

10 A. (Scott) It's -- well, it depends on your
11 definition of "high pressure". It's higher
12 than the earth pressure --

13 Q. Yes.

14 A. (Scott) -- at that location.

15 Q. And you're familiar with "frac-out"?

16 A. (Scott) Inadvertent returns, yes.

17 Q. Yes. And frac-out essentially is, if there are
18 cracks in the soil or fractures that allow the
19 drilling mud to essentially escape and go to
20 the surface, that could be -- that would be a
21 frac-out, right?

22 A. (Scott) Yes. That would be an inadvertent
23 return. And it's not necessarily a fracture
24 required. It's just a path of least

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[Bowes~Bradstreet~Farrington~Johnson~Kayser~Scott]

1 resistance.

2 Q. Yes. So, the concern with short-term frac-out
3 of just inadvertent, the concern is that the
4 drilling mud escapes, essentially, and goes
5 onto the surface or somewhere else?

6 A. (Scott) Yes.

7 Q. Okay. Now, you need to collect drilling mud at
8 each end of the drilling, correct?

9 A. (Scott) Yes. Primarily at the sending end.

10 Q. Okay. And then, once you get the hole to the
11 size required, you essentially insert the
12 casing to hold the conduit, correct?

13 A. (Scott) You would pull the casing back in.
14 And, in this case, for all of these
15 installations, it's -- the conduit itself is
16 being pulled back in. There is no separate
17 casing.

18 Q. Okay.

19 A. (Scott) The only location where casing is
20 considered is for the Micro Tunnel, which is a
21 different technique than what you're showing on
22 the screen.

23 Q. The conduit itself has -- is self-encased?

24 A. (Scott) It's -- the conduit is the casing, yes.

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1 Q. Yes. And it's got casing, if you will,
2 around -- I mean, there's several layers to
3 this conduit. And the outside layer is
4 essentially the protective casing?

5 A. (Scott) There is no separate casing than the
6 conduit itself.

7 Q. Right.

8 A. (Scott) The conduit itself would be pulled back
9 into the drill hole. There would not be a
10 separate casing.

11 Q. Okay. So, after that is pulled back in, you
12 can demobilize the site, correct?

13 A. (Scott) Once you proofed it, yes.

14 Q. All right. Okay. Now, if you look back at
15 Exhibit -- Counsel for the Public Exhibit 200,
16 on the far right column it shows the work areas
17 needed for each of the drilling sites. Do you
18 see that?

19 A. (Scott) I do.

20 Q. And, so, for instance, the first drilling site
21 in Pittsburg and Clarksville requires an entry
22 pit of 27 feet wide by 400 feet in length. Do
23 you see that?

24 A. (Scott) I do.

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1 Q. And the exit pit requires 27 feet in width and
2 1,040 feet in length. Do you see that?

3 A. (Scott) I do.

4 Q. And, typically, the exit pit needs to be a
5 little bit longer than the length of the drill,
6 isn't that right?

7 A. (Scott) So, I'd like to expound on that
8 slightly.

9 Q. Can you tell me, is that correct?

10 A. (Scott) So, the exit pit itself, the pit is
11 small compared to the entry area required.
12 It's during casing assembly and pull-back, or,
13 in this case, conduit assembly and pull-back
14 where you need that entire length.

15 Q. Right.

16 A. (Scott) So, it's not for the duration of the
17 drill.

18 Q. I understand. But, in order to install the
19 conduit, you need an area that's larger than
20 the length of the drill, correct?

21 A. (Scott) Yes.

22 Q. All right. And that's why, if you look down
23 this list, all of the exit pits are typically a
24 little bit longer than the length of the drill

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[Bowes~Bradstreet~Farrington~Johnson~Kayser~Scott]

1 that you see, with the exception Jack and Bore
2 and Micro Tunnel, correct? For the HDD?

3 A. (SCOTT) Correct.

4 Q. Okay. Now, would you agree with me that the
5 operation to mobilize, stake out, bring in the
6 equipment, set it up, do the drilling, haul
7 away the spoils, pull it back through, and
8 everything else you need to do, typically, for
9 HDD sites, is anywhere between three to five
10 weeks per site, depending on what you
11 encounter?

12 A. (SCOTT) Approximately, yes.

13 Q. Okay. Now, for Jack and Bore, it's a fairly
14 similar process, is it not?

15 A. (SCOTT) It's slightly different. For a Jack
16 and Bore, you don't have entry and exit from
17 grade. You dig a shaft on each side and bore
18 straight across.

19 Q. Yes. But you're essentially doing the same.
20 You're just basically boring a hole through
21 underneath --

22 A. (SCOTT) Well, you're putting the same stuff in
23 the ground. It's just a different method.

24 Q. Yes. And, for Micro Tunneling, it's a little

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1 bit different. In Micro Tunneling, you create
2 a larger pit at each end, correct?

3 A. (Scott) Very similar to the Jack and Bore, yes.

4 Q. And essentially what you do is you -- well, let
5 me do this.

6 So, what's on the screen is Counsel for
7 the Public's Exhibit 211. Do you see that?

8 A. (Scott) I do.

9 Q. And do you recognize that as a piece of
10 equipment for Micro Tunneling?

11 A. (Scott) I'm not sure if that's specifically a
12 Micro Tunneling boring machine or not. But
13 it's a horizontal boring machine.

14 Q. Okay. And, as I understand it, you dig a large
15 trench on the entry side, correct?

16 A. (Scott) Correct.

17 Q. And you put the boring piece of equipment into
18 the trench?

19 A. (Scott) Correct.

20 Q. And the trenches for Micro Tunneling are larger
21 and bigger than for HDD, correct?

22 A. (Scott) It's not a trench. It's a shaft.

23 Q. It's a shaft. It's a pretty good size
24 excavation hole, right?

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1 A. (Scott) Yes.

2 Q. Approximately how big? For instance, let's
3 take the one place you're going to do it in
4 Franconia?

5 A. (Scott) Hang on one second. It's approximately
6 20 feet in diameter.

7 Q. Twenty feet deep?

8 A. (Scott) In diameter.

9 Q. In diameter.

10 A. (Scott) The depth is approximately 30 feet
11 deep.

12 Q. Okay. And how wide?

13 A. (Scott) Twenty feet in diameter. It's a
14 circular shaft.

15 Q. I'm sorry?

16 A. (Scott) It's a circular shaft, 20 feet in
17 diameter, 30 feet deep, approximately. That's
18 on the receiving side. The sending side is
19 approximately 25 feet in diameter.

20 Q. Could you repeat that?

21 A. (Scott) The sending side, the launching side,
22 on the south side of the river, I'm referring
23 to SHEB 013-2 in the Plan and Profile drawing
24 sets. The sending side is about 25 feet in

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1 diameter, and the receiving side is about
2 20 feet in diameter.

3 Q. What's on the screen is Applicant's Exhibit
4 133. And this shows the work area for the one
5 Micro Tunnel in Franconia. Do you recognize
6 that?

7 A. (Scott) I do.

8 Q. Okay.

9 A. (Scott) There should be another page to that
10 that shows the profile as well.

11 Q. Yes. We're going to get to that. So, if you
12 look at this, to the left is the intersection,
13 the road intersection. Do you see that?

14 A. (Scott) I do.

15 Q. And it looks like, is that the receiving?

16 A. (Scott) That is the receiving side, yes.

17 Q. The receiving pit that looks like to be pretty
18 close to -- well, it's in the intersection,
19 correct?

20 A. (Scott) I guess it depends on your definition
21 of the "intersection". But it's generally in
22 that area, yes.

23 Q. It's in the roadway, isn't it?

24 A. (Scott) Yes.

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[Bowes~Bradstreet~Farrington~Johnson~Kayser~Scott]

1 Q. Okay. And then the sending pit is on the other
2 side of the river. There's a river there,
3 correct?

4 A. (Scott) Yes.

5 Q. And the sending side is clearly in the roadway,
6 correct?

7 A. (Scott) It's in the roadway and the sidewalk,
8 yes.

9 Q. Yes. All right. So, the next page is that
10 same area blown up a little bit. Now,
11 unfortunately, I couldn't discern dimensions on
12 this, but it looks like to me --

13 A. (Scott) There is a scale bar.

14 Q. I saw the scale. I was kind of looking for the
15 lawyer's shorthand with like a little number to
16 tell me where things are. It looks like to my
17 untrained eye that the sending pit is probably
18 over the centerline of the road. Do you agree
19 with me?

20 A. (Scott) The pit, itself, no.

21 Q. No?

22 A. (Scott) The work area, yes.

23 Q. The work area. Thank you. And, so, would you
24 agree with me that that would certainly require

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1 at least a lane closure, if not the road
2 closure?

3 A. (Scott) I would defer that to Lynn.

4 Q. All right.

5 A. I know she has developed specific stuff for
6 this location.

7 Q. Okay. Well, I'm going to -- I'm going to go
8 hold that. I'm going to get there. Okay. So,
9 this is the one Micro Tunnel for this Project,
10 correct?

11 A. (Scott) Correct.

12 Q. Okay. Let me ask you now some questions about
13 impacts from the underground, okay?

14 A. (Scott) Sure.

15 Q. Mr. Scott, what I'm going to start with is the
16 Project's permit package to the New Hampshire
17 Department of Transportation, for the District
18 1, the underground alignment starting at
19 Transition Station Number 1. Okay. Do you
20 have that in front of you?

21 A. (Scott) I do.

22 Q. Good. That would be helpful. So, if you turn
23 to the third page, which we have up on the
24 screen, you see Transition Station Number 1,

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1 you see that?

2 A. (Scott) I do.

3 Q. And then it goes along Beecher Falls Road until
4 it hits Highway Number 3. Do you see that?

5 A. (Scott) I do.

6 Q. And then it goes along Route 3, until, it's not
7 really shown on here, but it catches back up
8 with Beechers Falls Road, correct?

9 A. (Scott) Correct.

10 Q. And up into Transition Station Number 2?

11 A. (Scott) Yes.

12 Q. Okay. Now, you turn to the next page, you can
13 see Transition Station Number 1, and the line
14 coming off of that, and this is running along
15 Beechers Falls Road. Do you see that?

16 A. (Scott) This is -- yes.

17 Q. Yes. You can see where it says -- I've
18 highlighted "edge of gravel", you see that, to
19 give you some orientation?

20 A. (Scott) So, this is not of Beecher's Fall Road.

21 This is the gravel pit.

22 Q. Ah. The gravel pit coming out of Transition
23 Station Number 1?

24 A. This is Transition Station Number 2. It goes 2

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1 to 1.

2 Q. Oh, yes. You're right. I stand corrected.

3 This is going backwards, yes.

4 A. (Scott) Yes.

5 Q. Okay. So, if you turn to --

6 A. (Bowes) Are you still looking for Transition

7 Station Number 1?

8 Q. No.

9 A. (Bowes) Okay.

10 Q. So, if you look at what's on the screen now,
11 you can see where this runs along Route 3. Do
12 you see that?

13 A. (Scott) I do.

14 Q. Okay. And you'll see "edge of pavement"
15 highlighted. Do you see that?

16 A. (Scott) I do.

17 Q. Okay. And then you see the splice location.
18 Do you see that?

19 A. (Scott) I do.

20 Q. Now, it looks like the splice location is just
21 off the edge of pavement. Do you see that on
22 Route 3?

23 A. (Scott) I do.

24 Q. Okay. And, for this location, where it's got

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1 the splice box, is that depicting the size of
2 the -- I guess you call it a "splice pit", is
3 that depicting the size of the splice pit?

4 A. (Scott) One moment. That is shown as 30 by 10.

5 Q. Okay. So, we know --

6 A. (Scott) It's slightly wider than the splice pit
7 would be.

8 Q. But it's smaller than the excavation hole
9 necessary to install the splice pit, correct?

10 A. (Scott) Potentially, yes.

11 Q. Well, you said a moment you worked this out,
12 it's --

13 A. (Scott) It's smaller than the 12 feet, yes.

14 Q. Thank you. So, in this location, the splice
15 pit excavation hole could go onto the road,
16 unless you move towards, essentially, the
17 trees, correct?

18 A. (Scott) Correct.

19 Q. And is it my understanding that, where
20 possible, you're going to try to stay off the
21 road?

22 A. (Scott) I do not believe that we are going to
23 move that location at this time.

24 Q. Could you say that one more time?

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1 A. (Scott) I don't believe we're moving that
2 splice pit location at this time.

3 Q. Okay. So, the excavation for this splice pit
4 location is likely to infringe a little bit on
5 the road?

6 A. (Scott) Yes.

7 Q. Okay. And, so, when that occurs, I assume
8 there will be a lane closure, because you're
9 not going to let traffic drive along while you
10 have an open pit, correct?

11 A. (Scott) I believe so.

12 Q. Okay. Now, here you also see, right past the
13 splice pit location, the start of an HDD
14 drilling. Do you see that?

15 A. (Scott) I do.

16 Q. Okay. And this is HDD drilling which is the
17 first one on Exhibit 200. And it indicates
18 that the entrance pit is 27 feet by 400 feet.
19 Do you see that?

20 A. (Scott) I do.

21 Q. Okay. So, for this HDD drilling, you're going
22 to also have to have an entrance pit that's
23 going to go onto Route 3, correct? There's not
24 27 feet in that space.

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1 A. (Scott) Yes. The work space required is shown
2 in detail on the Route 3 009-3, towards the end
3 of that PDF that you've got open.

4 Q. Right. And that shows that the construction --
5 the entry pit is going to go onto Route 3,
6 correct?

7 A. (Scott) Yes. It's right in there, yes.

8 Q. Yes. So, at this location, in order -- first,
9 let me ask this question. Are you going to
10 do -- is it the intention to do the HDD
11 drilling first, and then install the splice
12 pit?

13 A. (Scott) It could go either way.

14 Q. Okay.

15 A. (Scott) The specific schedule hasn't been
16 developed for that.

17 Q. All right. Approximately how long does it take
18 to excavate, shore up the excavation hole for
19 the splice pit, drop the splice box in, do what
20 you need to do, and take the shoring out?

21 A. (Scott) Typically, three to five days.

22 Q. Okay.

23 A. (Scott) Working days.

24 Q. All right. Three to five working days. So,

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1 we'll call it a week. So, if it takes about a
2 week to do that splice pit. And we indicated
3 anywhere from three to five weeks to do an HDD
4 drilling, that section of Route 3 is going to
5 have a lane closure anywhere from four to five
6 to six weeks, correct?

7 A. (Scott) They don't have to be concurrent or
8 back-to-back. They could occur at different
9 times.

10 Q. Well, you're going to need 400 feet for that
11 entrance pit, correct?

12 A. (Scott) Correct.

13 Q. So, you're not going to have workers working
14 over a pretty large open hole.

15 A. (Scott) Right. But there's nothing that
16 particularly says -- we have no schedule
17 developed that says "you're doing one and then
18 the other one immediately."

19 Q. Yes. So, you could do one and come back weeks
20 later and do the other one?

21 A. (Scott) Correct.

22 Q. All right. Nonetheless, you're still going to
23 need to close the lane while these two things
24 get done, correct?

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1 A. (Scott) Correct?

2 Q. Okay. Now, turn to the next page. This page
3 depicts the end of that HDD drilling. Do you
4 see that?

5 A. (Scott) I do.

6 Q. Yes. And that is -- looks like it's just off
7 the edge of Route 3. You see that?

8 A. (Scott) Yes, in the grass area.

9 Q. Yes. And then it becomes open trench, this
10 horseshoe curve, up along Beechers Falls Road,
11 until it gets to Transition Station Number 2,
12 correct?

13 A. (Scott) To Transition Station Number 1, yes.

14 Q. Did I get that backwards? Yes. You're right.
15 No, wait a minute.

16 MR. IACOPINO: While you're checking
17 that, Mr. Pappas. We're still in CFP Exhibit
18 177, correct?

19 MR. PAPPAS: Yes. Correct.

20 WITNESS JOHNSON: If I may, this
21 alignment actually goes from Number 2 to
22 Number 1 --

23 MR. PAPPAS: Ah.

24 WITNESS JOHNSON: -- in the

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1 conception.

2 MR. PAPPAS: Okay.

3 WITNESS JOHNSON: When we revise the
4 drawings, we'll change to go back from 1 to
5 2, --

6 MR. PAPPAS: One to two.

7 WITNESS JOHNSON: -- so that everyone
8 is not confused.

9 MR. PAPPAS: Thank you.

10 BY MR. PAPPAS:

11 Q. So, looking back, Mr. Scott, at CFP
12 Exhibit 200, which is the listing of the
13 drilling operations, the exit pit for this HDD
14 drilling is 1,040 feet. Do you see that?

15 A. (Scott) I see that in the table.

16 Q. Okay.

17 A. (Scott) I have not verified that length. But,
18 yes, I see it.

19 Q. And --

20 A. (Scott) Oh, yes. That's the work zone. That's
21 not a pit. So, that's the space required to
22 assemble and lay down the bundle that will be
23 put back into the excavation. There's no
24 excavation there.

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1 Q. Okay.

2 A. (Scott) It's above-grade work only.

3 Q. Okay. But it's an area needed for work,
4 correct?

5 A. (Scott) Correct.

6 Q. Okay. And that area is going to cross Beechers
7 Falls Road, correct?

8 A. (Scott) Correct.

9 Q. All right. You look at CFP Exhibit 238, you
10 can see the work area we just referred to
11 crossing Beechers Falls Road along Route 3. Do
12 you see that?

13 A. (Scott) I do.

14 Q. Okay. And that's going to be necessary in
15 order to pull the cable back through the hole,
16 correct?

17 A. (Scott) Potentially, yes.

18 Q. Well, "potentially", it's going to be
19 necessary, isn't it?

20 A. (Scott) Something will be required there, yes.

21 Q. Okay. And, so, while that activity is going,
22 Beechers Falls Road is going to be closed, is
23 it not?

24 A. (Scott) Potentially.

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1 Q. You're not going to let people drive over that
2 cable, are you?

3 A. (Scott) So, there's different techniques that
4 could be used, that could be developed during
5 detail design that would maintain traffic over
6 that roadway, which would require putting the
7 installation underneath the roadway across
8 there, to facilitate not shutting down the
9 road. However, that would be driven by traffic
10 control requirements.

11 Q. So, you're telling me you would put the cable
12 under Beechers Falls Road, so to keep the road
13 open?

14 A. (Scott) Potentially.

15 Q. That will require more drilling?

16 A. (Scott) And I don't want to say the "cable".
17 I'm saying the conduits themselves could
18 potentially be put under there. Or, you could
19 potentially put in a track to pull your
20 conduits through or a casing to pull your
21 conduits through, to maintain traffic over
22 there, if required, if traffic studies result
23 in that being a requirement to maintain
24 traffic. There's means and methods that could

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1 be executed to keep traffic going. But they
2 have not been developed at this time.

3 Q. If you look at the plans that you submitted DOT
4 as of today, it shows that is a work area
5 across Beechers Falls Road, correct?

6 A. (Scott) Yes. So, as currently shown, what
7 would likely occur would be the conduit bundles
8 would be assembled to the east of Beechers Fall
9 Road. And, during conduit pull-back itself, it
10 would require shutting down the traffic.

11 Q. Thank you.

12 A. (Johnson) So, I will comment that we are
13 working with the DOT on this specific
14 intersection, as one of the many things that
15 we're working with the DOT on, to ensure that,
16 that depending on traffic volume through there,
17 that this road could be maintained. There are
18 several options that we could do here.

19 Q. Okay. But, just to be clear, as of today, what
20 you've submitted to the SEC requires both lane
21 closures in Route 3, as we discussed earlier,
22 and Beechers Falls Road to be closed to do this
23 operation, correct?

24 A. (Johnson) As we submitted, that is correct.

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1 Q. Okay.

2 A. (Johnson) The closure of a lane in Route 3
3 we'll most likely still maintain. Just the
4 closure of Beechers Fall Road will potentially
5 be addressed.

6 Q. Okay. Mr. Scott, I want to just review briefly
7 why it is you need the size of the pits on both
8 sides of the HDD drilling, okay?

9 A. (Scott) Sure.

10 Q. On the screen is Exhibit -- Counsel for the
11 Public Exhibit 247. Do you see that?

12 A. (Scott) I do.

13 Q. Okay. And do you recognize that as an HDD
14 drilling machine?

15 A. (Scott) I do.

16 Q. Okay. And that's the type of machine necessary
17 at the entry pit to do one of these HDD drills,
18 correct?

19 A. (Scott) It's one of the potential types of
20 machines, yes. There's different sizes.
21 That's one of them.

22 Q. Yes. Okay. And, in addition to this machine,
23 you also need to have storage space for the
24 drilling mix we talked about earlier, correct?

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1 A. (Scott) Yes. You need space for your drill
2 rods, the drilling rig itself, a mini
3 excavator, a steering head, drill fluid plants,
4 and a recycler to reuse your drilling mud, as
5 well as some work trucks.

6 Q. Yes. And the work trucks would be pumps, you
7 need some pumps to pump in the drilling fluid?

8 A. (Scott) That's the drill fluid plant, yes.

9 Q. Okay. And you need dump trucks to haul away
10 stuff?

11 A. (Scott) Yes.

12 Q. So, all of this equipment is what requires
13 these entry pits to be, for instance, the one
14 we saw a moment ago, at least 27 feet wide by
15 400 feet deep, correct?

16 A. (Scott) Yes. On the entry area side, yes.

17 Q. Yes. The entry area of these pits require a
18 pretty good size operation for all of this
19 equipment, correct?

20 A. (Scott) Correct.

21 Q. Okay. Now, the exit pit isn't quite as big,
22 correct?

23 A. (Scott) The exit pit is essentially very small
24 during the drilling operation itself. It is

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1 when you're assembling the installation to be
2 pulled back, in this case, the power conduits
3 and the attached 4-inch conduits, you're fusing
4 those conduits together of the length of the
5 bore to pull those back into the drill holes.
6 So, that's the reason for the long length of
7 installation. So, that's not open for the
8 entire -- that's not used for the entire
9 duration of the drilling. It's, once you're
10 getting close to completing the drilling, you
11 assemble the conduits, so you're ready to pull
12 back when the drilling is completed.

13 Q. Right. But, for each one of these HDD drills,
14 at some point you're going to need a very long
15 exit pit in order to pull this cable through,
16 correct?

17 A. (Scott) An exit area work space, yes.

18 Q. Exit area work space. Okay. Thank you. So,
19 Mr. Scott, I'm going to now move to the next
20 section of underground. And this is the permit
21 package submitted to New Hampshire DOT dated
22 November 30, 2016. Do you have that in front
23 of you as well?

24 A. (Scott) I do.

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1 Q. Good. Okay. To give the Committee some
2 orientation, at Transition Station Number 3 it
3 goes from aboveground back underground,
4 correct?

5 A. (Scott) Correct.

6 Q. And Transition Station Number 3 is off of
7 Wizzle Road, in Clarksville? Are you aware of
8 that?

9 A. (Johnson) It's "Wiswell Road".

10 Q. "Wiswell". Thank you. Mr. Scott, you're aware
11 of that?

12 A. (Scott) Yes.

13 Q. Have you been up there?

14 A. (Scott) Yes.

15 Q. Okay. And then it runs for a little bit on
16 Route 145, correct?

17 A. (Scott) Correct.

18 Q. And then it goes -- on this map it's shown as
19 "North Hill Road". Do you see that?

20 A. (Scott) I do.

21 Q. That's actually not Old -- North Hill Road in
22 that section, is it?

23 A. (Scott) It's Old County Road.

24 Q. Right. This is mis -- this map is incorrect

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1 where it says "North Hill Road"?

2 A. (Scott) Appears there's a typo there, yes.

3 Q. Yes. That's Old County Road, until it gets to
4 Cream Poke Road?

5 A. (Scott) One moment.

6 Q. Sure.

7 A. (Scott) It appears to turn into North Hill Road
8 at about Cream Poke Road, yes.

9 Q. Yes. And then it goes -- North Hill Road goes
10 until it meets Bear Rock Road, correct?

11 A. (Scott) One moment. Correct.

12 Q. And it goes along Bear Rock Road until
13 Transition Station Number 4, at Heath Road,
14 correct?

15 A. (Scott) One moment. Correct.

16 Q. Okay. So, the next page shows Transition
17 Station Number 3, and that is where it first
18 goes underground, correct, in this area?

19 A. (Scott) Correct.

20 Q. And then it goes underground, under some
21 wetlands, do you see that?

22 A. (Scott) I do.

23 Q. Yes. Then it proceeds further underground, and
24 it has a splice pit location. Do you see that?

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1 A. (Scott) I do.

2 Q. Now, this splice pit location is not along the
3 road, is it?

4 A. (Scott) No, sir.

5 Q. So, in order to -- well, let me ask this
6 question. Is one of the prefabricated concrete
7 splice pits intended for this location?

8 A. (Scott) Yes, sir.

9 Q. So, in order to get it there, the Project is
10 going to have to build a road so the flatbed
11 truck can drive up with it, and a crane can
12 drive up and drop it in?

13 A. (Scott) To do any of this underground trenching
14 activity, an access road would be required,
15 yes.

16 Q. Okay. In fact, an access road is going to be
17 required for all this trenching activity,
18 correct?

19 A. (Scott) If it's off the road for this portion
20 that you're currently talking about, yes.

21 Q. Yes. And this portion that's on the screen is
22 off the road, correct?

23 A. (Scott) Correct.

24 Q. Okay. And it continues on through some more

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1 wetlands on the right-hand side. Do you see
2 that?

3 A. (Scott) I do.

4 Q. And then it comes to Highway 145. Do you see
5 that?

6 A. (Scott) I do.

7 Q. And it runs along Highway 145 for a little bit,
8 until it crosses 145 onto Old County Road. Do
9 you see that?

10 A. (Scott) I do.

11 Q. Okay. Now, once it crosses the road into Old
12 County Road, there is a splice pit location
13 shortly after Old County Road, correct?

14 A. (Scott) Yes, sir.

15 Q. And that's in the roadway, is it not?

16 A. (Scott) Primarily, yes.

17 Q. Yes. And, in fact, if you look at the
18 underground, once it gets into Old County Road,
19 it is in the roadway until you see the entrance
20 to an HDD entry pit, correct?

21 A. (Scott) Correct.

22 Q. And, so, you would agree with me that, once
23 this trench line gets to Old County Road, Old
24 County Road is going to have to be closed, is

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1 it not?

2 A. (Scott) Not in its entirety. There are
3 definitely portions of it that will require
4 closure.

5 Q. Okay. Start right here where it intersects
6 145. Right where it intersects 145, it's going
7 to be closed, is it not?

8 A. (Scott) I believe, and I would defer to Lynn to
9 override me on any of this, but I believe
10 trenching to -- from 145 to Old County Road
11 splice pit would not require closure. You
12 could defer traffic through that north/south
13 access location. You could also divert traffic
14 through that same access location during the
15 splice pit installation. You could trench,
16 once the splice pit's installed, you could
17 maintain traffic to the north of the splice pit
18 location, the trenching location, until you did
19 HDD activities, which would likely require some
20 closure. And I would have to refer back to the
21 work zone requirements for that location. One
22 moment.

23 Yes. So, it appears that we will try to
24 maintain one lane of travel on the north of the

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1 HDD work space at that location.

2 Q. Okay. Go back to that splice box location. Do
3 you know how wide Old County -- the gravel
4 travel lane in that location is?

5 A. (Scott) One moment. It appears to be just
6 under 20 feet wide.

7 CHAIRMAN HONIGBERG: Any time you can
8 take a break.

9 MR. PAPPAS: All right.

10 BY MR. PAPPAS:

11 Q. And didn't you tell me a moment ago that the
12 excavation pit for one of these splice pits is
13 12 to 14 feet?

14 A. (Scott) I did. And if you'll refer to the
15 Detour 1, intersection of Route 145 and Old
16 County Road, it shows that we're detouring
17 there.

18 Q. Yes. So, to get back to my original question,
19 there's no room for a car to get by this splice
20 pit when it's being constructed, correct?

21 A. (Scott) Most likely, no.

22 Q. Yes. So, at that point, we're going to close
23 Old County Road to put this splice pit in,
24 right?

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1 A. (Scott) Most likely. And traffic would be
2 diverted through that north/south lane there.

3 MR. PAPPAS: Okay. Thanks. This is
4 a good time.

5 CHAIRMAN HONIGBERG: All right.
6 We'll take a break, come back five minutes to
7 3:00.

8 *(Recess taken at 2:42 p.m. and*
9 *the hearing resumed at 2:56*
10 *p.m.)*

11 CHAIRMAN HONIGBERG: All right. Mr.
12 Pappas, you may proceed.

13 MR. PAPPAS: Thank you.

14 BY MR. PAPPAS:

15 Q. Mr. Scott, let's pick up where we left off,
16 which is that HDD drilling on Old County Road.

17 A. (Scott) Sounds good.

18 Q. Looking at Exhibit 200, that's going to be the
19 number "1", in Clarksville, do you see that?

20 A. (Scott) I do.

21 Q. Okay. So, the entrance pit is going to be
22 27 feet by 300 feet. Do you see that?

23 A. (Scott) I do.

24 Q. And would you agree with me, if you look at

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1 your map, the entrance to that drilling site is
2 in the roadway?

3 A. (SCOTT) I agree that it's in the roadway, as
4 well as off the roadway, yes.

5 Q. And, if you back up 400 feet, you're going to
6 come pretty darn close to that splice location,
7 if not past it, correct?

8 A. (SCOTT) You go past the splice location. I
9 would refer you to the North sheet 001-2 for
10 the work space area in that location.

11 Q. Okay. All right. So, you would agree with me
12 that, once that drilling begins, and it's going
13 to be three to five weeks, that's going to keep
14 Old County Road closed in that location,
15 correct?

16 A. (SCOTT) Again, if you look at the work space
17 area, it appears there's a travel lane to the
18 north of the work space area available.

19 Q. Okay. All right. The entrance pit is 27 feet
20 wide, correct?

21 A. (SCOTT) One moment. It appears to be about
22 40 feet wide at that location.

23 Q. Okay. That road is not 40 feet wide, is it?

24 A. (SCOTT) And it's not all within the roadway.

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1 It's within the right-of-way. It goes to the
2 edge of right-of-way. Again, I'd refer you to
3 the North 001-2 sheet for the work space area.

4 Q. Well, if you took a look -- if you take a look
5 at your map, it is up on the screen, your map
6 clearly shows the entrance in the roadway, does
7 it not?

8 A. (Scott) Yes.

9 Q. Okay. And that roadway is not 40 feet wide by
10 any means, is it?

11 A. (Scott) It's not centered over the entrance
12 location.

13 Q. My question is, that road is not 40 feet wide,
14 is it?

15 A. (Scott) No.

16 Q. No. Even if you took -- even if that starts on
17 the edge of the road, that 40-foot entrance pit
18 is going to consume that whole width of the
19 road, is it not?

20 A. (Scott) Again, please refer to North 001-2 for
21 the work space area.

22 Q. So, you're telling me that the map that's up on
23 the screen is not accurate?

24 A. (Scott) I'm telling you that map that you're

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1 looking at is primarily for the open-cut
2 excavation installation, and all of the
3 trenchless installation detail is on the sheets
4 I'm referring you to.

5 MR. IACOPINO: And, Mr. Scott, where
6 are those sheets for the Committee's --

7 WITNESS SCOTT: They're about
8 *[indicating]* this far past, in the same set.

9 MR. OLDENBURG: In what set?

10 MR. IACOPINO: Tom, do you know if
11 they're in the same exhibit?

12 MR. PAPPAS: Yes.

13 WITNESS SCOTT: The same exhibit,
14 yes.

15 MR. PAPPAS: Yes.

16 MR. IACOPINO: If somebody can refer
17 us to the page that you're referring to,
18 Mr. Scott?

19 WITNESS SCOTT: I can't tell you the
20 PDF number off the top of my head.

21 MR. NEEDLEMAN: Mike?

22 MR. PAPPAS: Tell me the number on
23 the right-hand corner, down at the bottom.

24 MR. IACOPINO: You should address the

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1 Chair. I'm sorry.

2 MR. NEEDLEMAN: It's in Applicants'
3 Exhibit 73.

4 BY MR. PAPPAS:

5 Q. Mr. Scott, tell me what the little number is in
6 the bottom right corner?

7 A. (Scott) "North NRTH 001-2".

8 Q. That's doesn't help me. Okay.

9 A. It's in the same North drawing set. It's after
10 the traffic control, directly after all the
11 traffic control drawings.

12 Q. Mr. Scott, looking at your detail, first of
13 all, there are two drilling holes, correct?

14 A. (Scott) There's two separate bores.

15 Q. Right.

16 A. (Scott) Yes.

17 Q. And, in fact, we talked about this earlier,
18 there are two separate bores for everywhere but
19 that one location, correct?

20 A. (Scott) Correct.

21 Q. Okay. And, if you look at your work area, it
22 does --

23 MR. WAY: Excuse me, Mr. Chair?

24 Could we get some clarification exactly where

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1 we're supposed to be right now, in terms of the
2 exhibit?

3 CHAIRMAN HONIGBERG: I don't know
4 where we're supposed to be.

5 MR. PAPPAS: Okay. Let me help you.

6 CHAIRMAN HONIGBERG: Are you looking
7 at the page that you were talking about or are
8 you looking at the page that Mr. Scott was
9 talking about?

10 MR. PAPPAS: I was looking at the
11 page he's talking about. I want to confirm I'm
12 on that page, and I was going to bring it up on
13 the screen.

14 CHAIRMAN HONIGBERG: That would be
15 good.

16 MR. PAPPAS: Okay. That's what I
17 thought.

18 BY MR. PAPPAS:

19 Q. So, just so we're on the same page, the detail
20 that, Mr. Scott, you're referring to, does it
21 say "HDD 001 Entry Area Work Space"?

22 A. (Scott) Yes, sir.

23 Q. Thank you.

24 A. (Scott) That's not the right one.

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[Bowes~Bradstreet~Farrington~Johnson~Kayser~Scott]

1 Q. Yes.

2 A. (Scott) I think it's one sheet back from that.

3 There you go.

4 Q. Yes. So, this is the page you're referring to,
5 correct?

6 A. (Scott) Correct.

7 Q. Okay. And, if you look on the left-hand side,
8 that's the entry pit work area?

9 A. (Scott) The entry area work space, yes.

10 Q. Yes. And you're saying -- you're telling us,
11 if you look at that dashed line at the top, see
12 that dash line? You see the line I'm referring
13 to?

14 A. (Scott) To edge of road, is that what you're
15 referring to?

16 Q. Yes. Is that the edge of the road?

17 A. (Scott) Yes.

18 Q. Okay. And it's your testimony that the space
19 between the work area and the edge of road is
20 sufficient for a lane of traffic?

21 A. (Scott) I'm not testifying to whether or not
22 there's a lane of traffic width available. I
23 would defer to Lynn on that. As I measure it,
24 it's measuring at about 8 feet wide, maybe

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1 slightly less.

2 Q. Okay. So, slightly less than 8 feet is not a
3 lane of traffic, is it?

4 A. (Scott) Not by project definition. That would
5 need to be modified to maintain traffic there.

6 Q. Okay. All right. So, Mr. Scott, up on the
7 screen is the end of that first HDD drilling.
8 Do you see that?

9 A. (Scott) I do.

10 Q. And then it shows the open trench continuing
11 along Old County Road. Do you see that?

12 A. (Scott) I do.

13 Q. And the open trench is shown in the roadway.
14 Do you see that?

15 A. (Scott) I do.

16 Q. And earlier you told us that the open trench
17 needs between 12 and 14 feet, or some places up
18 to 16 feet, correct?

19 A. (Scott) For duct bank work, I believe I said
20 "12 feet", "10 to 12 feet".

21 Q. Okay. And the road in this area is less than
22 20 feet wide, correct?

23 A. (Scott) One moment. I measure it as
24 approximately 22 feet wide at this location.

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[Bowes~Bradstreet~Farrington~Johnson~Kayser~Scott]

1 Q. Okay. And your map is not showing the open
2 trench on the edge of the roadway, it's showing
3 it towards -- off the edge, towards the middle,
4 correct?

5 A. (Scott) It's showing it towards the edge of the
6 road, but not off of the road. It's not in the
7 middle of the road.

8 Q. Right. But there is space between where it's
9 showing and the edge of the gravel, correct?

10 A. (Scott) Correct.

11 Q. Uh-huh. So, --

12 A. (Scott) And I do believe we're coordinating
13 with the DOT on the exact location of the
14 trench within this roadway.

15 Q. Uh-huh. Okay. And continuing on the next
16 page, on Old County Road, it continues to show
17 the open trench along, inside the roadway,
18 correct?

19 A. (Scott) Correct.

20 Q. And then continuing on the next page, it
21 continues to show the open trench within the
22 roadway, and you come to a splice pit location.
23 Do you see that?

24 A. (Scott) I do.

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[Bowes~Bradstreet~Farrington~Johnson~Kayser~Scott]

1 Q. And we indicated that the splice pit location
2 requires a excavation of 12 by 34, correct?

3 A. (Scott) Yes, sir.

4 Q. And it requires the bringing in of a flatbed,
5 with the splice pit, and a crane to drop it in
6 the location?

7 A. (Scott) Yes.

8 Q. And would you agree with me that, certainly, at
9 this location, there's going to be a need to
10 close the road while that splice pit is -- is
11 excavated and the pit is dropped into the
12 location and backfilled?

13 A. (Scott) There's a high potential that that
14 would be required, yes.

15 Q. All right.

16 A. (Scott) There's a potential it wouldn't be, but
17 there's certainly the high potential that it
18 could be.

19 Q. Okay.

20 A. (Scott) Again, that could change, if the DOT
21 asks us to move off the right-of-way in this
22 location. Or, not "the right-of-way", let me
23 restate that. Out of the traveled lane, within
24 the right-of-way.

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1 Q. Okay. If you look at the screen, it's Counsel
2 for the Public's Exhibit 243. Do you see that?

3 A. (Scott) I do.

4 Q. And that's a picture of Old County Road. Do
5 you recognize it?

6 A. (Scott) This seems familiar, yes.

7 Q. There is not a lot of space off the side of
8 that road, is there?

9 A. (Scott) There is not.

10 Q. And, if you're going to go any significant
11 space off the side of the road, you're going to
12 be cutting down trees?

13 A. (Scott) Definitely impacting trees, yes.

14 Q. Yes.

15 A. (Scott) One of reasons that it's shown where it
16 currently is.

17 Q. Right. One of the reasons you're going down
18 the road is to avoid cutting down the trees,
19 correct?

20 A. (Scott) Correct.

21 Q. But, to go -- but, in order to avoid cutting
22 the trees and go down the road, you're going to
23 have to close that road, certainly to get those
24 splice pits in the road, are you not?

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1 A. (Scott) Potentially.

2 Q. And you're probably going to need to close that
3 road in a fair amount of places even along the
4 open trench, isn't that true?

5 A. (Scott) There's certainly some locations, yes.

6 Q. Okay.

7 A. (Scott) I can't say that Old County Road is
8 specifically one of them. But along the
9 northern alignment, yes.

10 I'm sure we'll get to the sheets where
11 that comes in.

12 Q. We will. And here we're back on Old County
13 Road, and we come to another splice pit
14 location. Do you see that?

15 A. (Scott) I do.

16 Q. And, if you look at the trench leading up to
17 this splice location, it is all the way in the
18 roadway until it gets to the splice location,
19 correct?

20 A. (Scott) Correct.

21 Q. And, in fact, the splice -- splice pit location
22 is also in the roadway, is it not?

23 A. (Scott) It is.

24 Q. And you would agree with me that, in order to

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1 install that splice pit, you're going to have
2 to close this road?

3 A. (Scott) I measure the road width there to be
4 approximately 16 feet wide. And, so, there
5 probably is not enough room to maintain traffic
6 during installation of the splice pit.

7 Q. Okay. And there's probably not enough room to
8 maintain traffic even when you're doing the
9 open trench leading up to it, is there?

10 A. (Scott) Potentially. For certain portions.

11 Q. Okay. All right. And continuing down Old
12 County Road, we come to the next splice pit
13 location. Do you see that? It's on the
14 screen.

15 A. (Scott) I do.

16 Q. And, again, it's in the middle of the road?

17 A. (Scott) It is.

18 Q. And that will require closure of the road at
19 that location?

20 A. (Scott) Most likely.

21 Q. Okay. Go two more, go to 115. Continuing on
22 Old County Road, we come to the next splice pit
23 location, also in the middle of the road. Do
24 you see that?

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1 A. (Scott) I don't believe this one's in the
2 middle of the road. But, yes, it's within the
3 roadway.

4 Q. You'd agree with me that's another location
5 where the road is going to need to be closed to
6 install this splice pit?

7 A. (Scott) Yes. I measure the width there to be
8 approximately 14 feet wide for the existing
9 gravel road, or the existing roadway. So, most
10 likely the traffic lane would not be
11 maintained.

12 Q. Yes. So, we have now traveled a bit on Old
13 County Road and come across four or five splice
14 pits. And each one of those locations, it
15 takes about a week to put one of those pits in?

16 A. (Scott) Yes. It takes approximately a day to a
17 day and a half to do the excavation itself and
18 the shoring, then a day to day and a half to
19 install the splice pit, and then a day or so to
20 remove everything and restore grade.

21 Q. Okay. So, fair to say that, in order to do all
22 these splice pits, that road is going to need
23 to be closed during those operations?

24 A. (Scott) Potentially.

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1 Q. And, then, on this page you see another start
2 of an HDD drill. Do you see that?

3 A. (Scott) I do.

4 Q. And that one is number "2" on Exhibit 200. And
5 that's 702 feet long, with a 21 by 300-foot
6 entrance pit and a 27 by 718 exit work area.
7 Do you see that?

8 A. (Scott) I'm going to have to disagree with the
9 dimensions that are provided in this Exhibit
10 200. I'm not measuring anything close to those
11 on the drawings themselves.

12 Q. Tell me what you measure for the entrance pit.

13 A. (Scott) Sure. One moment. It's approximately
14 32 feet wide, --

15 Q. Tell me what you measure for the road --

16 A. (Scott) -- by 280 feet long.

17 Q. Okay. Tell me what you measure for the road in
18 that spot.

19 A. (Scott) Much less than that. Approximately 19
20 -- or, 18 feet wide.

21 Q. So, that entrance pit is going to consume that
22 road, and both sides of it, correct?

23 A. (Scott) Correct.

24 Q. And likely require some trees being cut down,

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1 is that right?

2 A. (Scott) I don't know about "cut down", but
3 certainly some being trimmed.

4 Q. Yes. Some trees are at risk, wouldn't you
5 agree?

6 A. (Scott) I would not comment on at-risk trees or
7 not.

8 Q. Okay. So, the three to five weeks that that
9 operation is going to take place, it's fair to
10 say that that road is going to be closed?

11 A. (Scott) It's a reasonable assumption, yes.

12 Q. Okay. What I'm showing you now is a few more
13 pages where the road turned to North Hill Road.
14 Do you see that?

15 A. (Scott) I do.

16 Q. Okay. And this is -- this is a sort of bend in
17 the road where there is the one Jack and Bore
18 location, correct?

19 A. (Scott) Correct.

20 Q. Okay. Mr. Scott, if you'd take a look at the
21 screen, this is Counsel for the Public's
22 Exhibit 130, Map 4 within that exhibit. And it
23 shows the Jack and Bore on North Hill Road
24 right near the cemetery. Do you see that?

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1 A. (Scott) I do.

2 Q. Okay. Go to 4A. So, if you look at the screen
3 now, this is that same location, an aerial view
4 of that Jack and Bore operation. Do you see
5 that?

6 A. (Scott) I do.

7 Q. And it shows the work zones on both sides of
8 the brook that the Jack and Bore is going
9 under. Do you see that?

10 A. (Scott) I do. They appear close to what we're
11 showing, but it doesn't look like they're
12 exactly the same.

13 Q. Okay. Now, this is an actual view of that
14 road. Do you recognize that?

15 A. (Scott) I do.

16 Q. Rather narrow road, would you agree?

17 A. (Scott) One moment. I measure it as
18 approximately 10 feet wide on one end, and
19 10 feet wide on the other end as well.

20 Q. Okay. On the screen now is a proposed work
21 zone for that Jack and Bore site. Do you see
22 that?

23 A. (Scott) I do.

24 Q. And would you tell me what you have for the

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1 width of that work zone?

2 A. (Scott) Yes. One moment. Approximately
3 36 feet wide at the sending side, by
4 approximately 150 feet, on the sending side.

5 Q. Okay. So, you agree with me that that 10-foot
6 wide road, in order to create a 36-foot wide
7 work zone, going to have to remove some trees?

8 A. (Scott) Again, I can't comment on tree removal.
9 I definitely see that on the work space detail
10 of North 003-2, as opposed to a not-to-scale
11 markup, shows some impacts to trees. I can't
12 comment on if they would be removed or just
13 trimmed.

14 Q. Okay. Now, we talked earlier about the time
15 for one of these operations is three to five
16 weeks, correct?

17 A. (Scott) Approximately, yes.

18 Q. So, you agree with me that, during that three
19 to five week period, this road is going to be
20 completely closed?

21 A. (Scott) Yes.

22 Q. Okay. So, this is North Hill Road past that
23 Jack and Bore. And, if you look, this map
24 shows the open trench going down essentially

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1 the middle of the roadway?

2 A. (Scott) Approximately, yes.

3 Q. And that roadway in that location is, you can
4 tell me, but it's probably 10, 12 feet wide?

5 A. (Scott) One moment. It ranges from about 8 to
6 10 feet wide.

7 Q. Okay. And you can do it yourself, but, if you
8 keep turning the pages on North Hill Road, just
9 confirm for the committee that the open trench
10 essentially goes down through, into the road --
11 in the roadway the entire length of North Hill
12 Road, until it meets Bear Rock Road?

13 A. (Scott) Yes. It's within the road -- edge of
14 road lines for that entire length.

15 Q. Yes. And there are a couple of splice pit
16 locations along there?

17 A. (Scott) Yes.

18 Q. So, you would agree with me that, during this
19 trenching operation all the way down North Hill
20 Road, including the couple splice pit
21 locations, that road is going to be closed?

22 A. (Scott) I would have to defer to the contractor
23 and the traffic management plan, when it's
24 finalized. But it will definitely require some

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1 closure, yes.

2 Q. Yes. There isn't enough roadway to do those
3 operations and drive a vehicle by, is there?

4 A. (Scott) Not parallel, during construction, for
5 most of it, no.

6 Q. Okay. All right. So, what's on the screen now
7 is where the open trench intersects with Bear
8 Rock Road. Do you see that?

9 A. (Scott) I do.

10 Q. And, at that -- right when it turns onto Bear
11 Rock Road, there is an HDD start. Do you see
12 that?

13 A. (Scott) I do.

14 Q. And, if you look at this map that's on the
15 screen, it's showing the HDD start essentially
16 in the middle of the road. Is that what this
17 is showing?

18 A. (Scott) Approximately.

19 Q. And, if we go back to Exhibit 200, it shows
20 the -- this is HDD-4. And it shows the
21 entrance pit, and it's 29 by 300 feet. Now,
22 you're going to give me the plan measurements.

23 A. (Scott) Yes. That one's off by a foot. That
24 one I measure as 30.

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[Bowes~Bradstreet~Farrington~Johnson~Kayser~Scott]

1 Q. Okay.

2 A. (Scott) And the exhibit, it goes off the sheet,
3 but I measure to the edge of the sheet
4 approximately 240 feet or so.

5 Q. Okay.

6 A. (Scott) So, it's going to be longer than that.

7 Q. All right. So, you would agree with me that a
8 30-foot wide entrance pit at this HDD location
9 is going to close that road?

10 A. (Scott) Most likely.

11 Q. Okay. And, so, for the three to five weeks it
12 takes that operation, they're going to have to
13 detour cars from going down Bear Rock Road at
14 this location, correct?

15 A. (Farrington) Yes. That's correct.

16 Q. Okay. Fair enough. So, if you go to the next
17 page on the screen, it shows the exit for the
18 HDD location, and then right afterwards it
19 shows a splice pit. Do you see that?

20 A. (Scott) I do.

21 Q. Okay. And that splice pit is shown as both a
22 little bit off the road, but more on the road,
23 correct?

24 A. (Scott) I'd say it's hugging the edge of the

[Bowes~Bradstreet~Farrington~Johnson~Kayser~Scott]

1 road.

2 Q. And then on to --

3 A. (Scott) And it's approximately 10 feet from
4 edge of splice pit to the opposite side of the
5 road.

6 Q. Yes. There's 10 feet left of road?

7 A. (Scott) Yes.

8 Q. All right. And, then, if you travel a little
9 past that splice pit, you see the open trench
10 veer into the center of the road, do you not?

11 A. (Scott) I see it do something close to that on
12 Sheet 131, at the entrance of an HDD.

13 Q. Well, you got a little bit ahead of me. I was
14 back still on 129.

15 A. (Scott) Yes. I don't see it going into the
16 center of the road there.

17 Q. Right in the middle of the page?

18 A. (Scott) Yes. It's on one side of the road
19 versus in the middle.

20 Q. All right. Now, how wide is Bear Rock Road?

21 A. (Scott) Give me a specific location.

22 Q. How about that --

23 A. (Scott) I'm not sure it's consistent the entire
24 way.

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[Bowes~Bradstreet~Farrington~Johnson~Kayser~Scott]

1 Q. Sure. How about that location right in the
2 middle of the page on 129?

3 A. (Scott) Around Station 251 --

4 *[Court reporter interruption.]*

5 **BY THE WITNESS:**

6 A. (Scott) Around 251+00. Apologies.

7 BY MR. PAPPAS:

8 Q. Yes.

9 A. (Scott) That I measure as being approximately
10 18 feet wide.

11 Q. Okay. So, if we have a splice pit that
12 requires 12 to 14 feet, and it starts on the
13 edge of the road, is that going to consume most
14 of that road?

15 A. (Scott) Are you talking about the splice
16 location around 249+00?

17 Q. Correct.

18 A. (Scott) So, for what we discussed previously,
19 to the edge of the excavation, with the
20 estimated two feet on the outside, you would
21 have 8 feet of travel lane left, without any
22 additional barriers accounted for.

23 Q. Okay. And 8 feet is less than a typical travel
24 lane, correct?

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1 A. (Scott) Correct.

2 Q. Okay. Mr. Scott, I'm going to back you up just
3 a minute. Go to the -- in your sheets, the
4 work detail for HDD-4, the entry area, which is
5 the intersection of North Hill Road and Bear
6 Rock Road.

7 A. (Scott) I'm there.

8 Q. Okay. Does the work area for that HDD drilling
9 go into -- if you can see, North Hill Road sort
10 of forks that location. Do you see that?

11 A. (Scott) I do.

12 Q. And does the work area for that HDD cross into
13 both portions of the North Hill Road fork?

14 A. (Scott) It appears so. I'll have to ask for
15 revised detail from our trenchless designer for
16 that.

17 Q. Okay. So, at that location, when the HDD
18 drilling operation is taking place, both of
19 those forks on North Hill Road are going to
20 have to be closed, correct?

21 A. (Scott) As it's currently shown. One moment
22 please.

23 Q. Uh-huh.

24 A. (Scott) So, I believe the work zone is shown

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1 incorrectly there. It doesn't match up with
2 what Ms. Farrington has on her plans. And she
3 got her laydown areas from the designer. So,
4 we'll have to follow up on that.

5 Q. Okay. So, just to clarify, the work space
6 shown on the plans indicate that both forks of
7 North Hill Road are going to be closed. But
8 Ms. Farrington's traffic controls show
9 something different?

10 A. (Scott) It appears so, yes. And, based upon
11 the laydown areas at the other locations, I
12 would assume that the laydown area can be
13 revised to maintain that western travel lane.

14 Q. Okay.

15 A. (Scott) However, that's not what's currently
16 shown on the plan.

17 Q. That's not what's shown on the plans, okay.

18 A. (Farrington) If I may, just for reference, the
19 minimum acceptable travel lane, without traffic
20 in an opposing direction, we assumed it's
21 10 feet. So, when you're asking if traffic can
22 get by.

23 Q. Okay. So, you need 10 feet, is what you're
24 saying?

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[Bowes~Bradstreet~Farrington~Johnson~Kayser~Scott]

1 A. (Farrington) Correct.

2 Q. Thank you. Mr. Scott, what's on the screen now
3 is a section further down on Bear Rock Road.

4 And do you see the splice pit location?

5 A. (Scott) I do.

6 Q. And, as shown on these drawings, the splice pit
7 is within the road?

8 A. (Scott) Correct.

9 Q. And would you agree with me that, during the
10 installation of this splice pit, there's less
11 than 10 feet of travel lane past it?

12 A. (Scott) It appears that there's about 10 feet
13 from edge of splice pit to the northern edge of
14 road, which would leave about 8 feet, similar
15 to the previous location we discussed.

16 Q. Okay. On the screen is Page 136. It shows
17 another splice pit location. Do you see that?

18 A. (Scott) I do.

19 Q. And, again, that's shown in the road?

20 A. (Scott) Yes. It's within the roadway.

21 Q. And, again, is less than 10 feet travel lane?

22 A. (Scott) Yes. It's about the same as the last
23 one.

24 Q. Okay. And then you also see another HDD on

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1 this sheet as well, do you not?

2 A. (Scott) I do.

3 Q. And the entrance pit for this HDD is either 22
4 or 29 feet, in that vicinity?

5 A. (Scott) One moment.

6 Q. Sure.

7 A. (Scott) Again, I'd refer to North 006-2 --

8 Q. Uh-huh.

9 A. (Scott) -- for the detail. Near the entrance
10 for this entry area work space, it's about
11 30 feet wide, and, towards the western edge,
12 it's about 20 feet wide.

13 Q. Okay. So, that's going to consume the road, is
14 it not?

15 A. (Scott) Yes. It appears so.

16 Q. All right. Okay. Mr. Scott, so as to avoid
17 belaboring the same point, just to yourself,
18 flip through along Bear Rock Road and just look
19 at each location where there is a splice pit,
20 and just confirm for me that at each location
21 it's shown in the roadway?

22 A. (Scott) Yes. They're shown pretty much
23 consistently on the same general location
24 within the roadway, hugging the edge of the

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1 traveled lane.

2 Q. Okay. And you would agree with me that, for
3 each of those locations, there's less than
4 10 feet of roadway where the splice pit is
5 installed?

6 A. (Scott) As measured, yes.

7 Q. Okay. And you don't need to go back and count,
8 but I'll represent to you there are nine splice
9 pit locations along Bear Rock Road. So, would
10 you agree with me that, given the fact that
11 there are nine splice pit locations, that it's
12 a fair bet that they're going to have to close
13 that road while those are being installed?

14 A. (Scott) I'm going to defer to Ms. Farrington
15 for that.

16 Q. Uh-huh.

17 A. (Farrington) Yes. The road will need to be
18 closed at each splice pit location. But we are
19 working with what we're calling a "rolling
20 closure". So, access will be granted from
21 either end of the road up to that location.

22 Q. But do you know if there are going to be
23 multiple crews on that road?

24 A. (Farrington) It will have to be determined at a

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1 later time. But, once we develop the
2 Transportation Management Plan, we will not
3 allow crews to work simultaneously on either
4 side of a driveway so as to prevent access to a
5 home. And that's with the exception on parts
6 of North Hill Road, which is a Class V summer
7 road. In that case, it is closed anyway from
8 December 11th to May 9th. So, we may utilize
9 that work area to -- work time frame to go in,
10 since there's no paving.

11 A. (Johnson) So, if I may clarify. There's an
12 opportunity for winter construction in some
13 areas where there's Class V roads that aren't
14 maintained.

15 Q. Yes. I got that. But you said "no paving".

16 A. (Johnson) These are dirt roads. There's no --

17 Q. Where there's no pavement.

18 A. (Farrington) Right. New Hampshire DOT
19 prohibits paving during the cold months,
20 because it will --

21 Q. You don't plan on paving up there anyway?

22 A. (Farrington) No.

23 Q. No. You threw me off when you said "there's no
24 paving". All right.

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1 A. (Johnson) So, if I may, there's also two other
2 mitigation techniques that we're looking at,
3 specifically along Bear Rock Road.

4 Q. I tell you what. Why don't you wait for those
5 for redirect, so I can get through the cross.

6 A. (Johnson) Okay.

7 Q. Thanks.

8 A. (Johnson) That's fine.

9 Q. And, Mr. Scott, there are three or four HDD
10 drilling locations along Bear Rock Road as
11 well, correct?

12 A. (Scott) Do you want me to count them?

13 Q. Why don't you take my word for it.

14 A. (Scott) Okay. There's definitely locations
15 along Bear Rock Road, yes.

16 Q. Okay. And, for each of those locations, would
17 you agree with me that it's going to be
18 necessary to close the road while that drilling
19 operation takes place?

20 A. (Scott) Most likely.

21 Q. Okay. So, Mr. Scott, on the screen is Page 147
22 of the same exhibit. And it shows the open
23 trench leaving Bear Rock Road, going up to
24 Transition Station Number 4. Do you see that?

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1 A. (Scott) I do.

2 Q. And the next page shows Transition Station
3 Number 4. Do you see that?

4 A. (Scott) I do.

5 Q. Mr. Scott, on the screen is Counsel for the
6 Public's Exhibit 241, which is a picture of the
7 location of Transition Number 4. Do you
8 recognize that?

9 A. (Scott) In general, yes.

10 Q. Okay. And would you agree with me that, in
11 that area, and certainly in the picture it's
12 showing visible rock ledge?

13 A. (Scott) I do see rock, yes.

14 Q. And is it your understanding that there is
15 quite a bit of rock and ledge in that area
16 where Transition Station Number 4 is going to
17 go?

18 A. (Scott) I didn't have anything to do with the
19 design of Transition Station 4. So, I would
20 defer to Mr. Bradstreet or Mr. Kayser.

21 Q. Okay. Mr. Kayser or Mr. Bradstreet, do you
22 recall the estimated amount of cubic yards of
23 rock that needs to be removed in this area?

24 A. (Bradstreet) I don't recall a specific

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1 quantity.

2 Q. Okay. But let me --

3 A. (Johnson) It's approximately 30,000 cubic
4 yards.

5 Q. You've got a good memory.

6 A. (Johnson) I do.

7 Q. Because I was just about to tell you, it's
8 30,000 cubic yards.

9 A. (Johnson) If I may, it's not removal. It is
10 the amount of rock that needs to be moved.

11 Q. Moved.

12 A. (Johnson) So, as we cut into a ledge, we then
13 move it across and create a flat surface. So,
14 it's not that there will be 30,000 cubic yards
15 of material removed from that site. It will be
16 moved around the site, but in-situ.

17 Q. Will any of it be removed from the site?

18 A. (Johnson) Potentially, but I believe it's a
19 very small possibility. And we're talking, of
20 the 30,000, probably less than a thousand.

21 Q. Okay. How many cubic yards typically fit in a
22 dump truck of rock? About 15?

23 A. (Johnson) Approximately, yes.

24 A. (Bradstreet) Yes.

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[Bowes~Bradstreet~Farrington~Johnson~Kayser~Scott]

1 Q. So, if you're going to move up to -- remove up
2 to a thousand dump trucks -- or, a thousand
3 cubic yards of rock, it's a fair amount of dump
4 trucks, is it not?

5 A. (Johnson) Doing the math, yes.

6 Q. I don't venture to do the math in my head, let
7 alone --

8 Is this area going to require some
9 blasting as well?

10 A. (Johnson) In most probability, but yes.

11 Q. And, as I understand it, there are some water
12 wells in this area, correct?

13 A. (Johnson) I believe you're referring to
14 Mr. Thompson's water wells, but --

15 Q. I am.

16 A. (Johnson) Yes. And I would say other residents
17 that live in that area have water wells in
18 addition.

19 Q. Okay. I suspect you're going to hear a little
20 bit about that later on.

21 A. (Johnson) Uh-huh.

22 Q. Okay. In fact, I note that Mr. Thompson is
23 going to have the benefit of having both the
24 blasting, the splice pit, and the HDD all in

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1 front of his property. So, he's got plenty to
2 ask you about.

3 A. (Johnson) Uh-huh.

4 Q. Okay. Ms. Farrington, let me ask you some
5 questions about detours in this area. We just
6 covered the seven and a half miles of
7 underground.

8 A. (Farrington) Yes.

9 Q. And there are going to be some detours and some
10 road closures up there, correct?

11 A. (Farrington) Yes.

12 Q. Okay. On the screen is one of your detour maps
13 that shows, to get orientation, if you look on
14 the right-hand side, the far right side, in
15 that white box, it shows where 145 and Old
16 County Road intersect. Do you see that?

17 A. (Farrington) Yes.

18 Q. Okay. And what we did is we went with
19 Mr. Scott down Old County Road, and all the way
20 down, and this shows, to the far left, Cream
21 Poke Road. Do you see that?

22 A. (Farrington) Yes.

23 Q. And, so, when work is being done on Old County
24 Road, and we went over with Mr. Scott HDD

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1 drilling and splice pits and open trench that
2 will require road closures, the detour is what
3 you show in yellow, is that right?

4 A. (Farrington) Yes.

5 Q. And, so, the detour, to get to where the roads
6 close at the intersection of 145 and Old County
7 Road, around Old County Road work area, to get
8 over to Cream Poke Road, is 2.7 miles, is that
9 right?

10 A. (Farrington) Correct.

11 Q. Okay. So, you would anticipate that, during
12 the time when Old County Road is closed, and
13 Old County Road is the section between 145 and
14 Cream Poke Road, that's the detour route people
15 will need to take in order to get to one end to
16 the other end, is that right?

17 A. (Farrington) Yes, depending on the location of
18 the work zone. So, where the red is currently
19 shown, just for example, if the work zone was
20 there kind of in the middle, and you lived to
21 the north of that, you would not need to take
22 the detour route. You would have full access
23 to your home.

24 Q. In other words, if you lived to the right of

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1 it, you're saying?

2 A. (Farrington) Yes.

3 Q. Yes. But, certainly, everybody along Old
4 County Road at some point is going to have to
5 take that detour?

6 A. (Farrington) Correct.

7 Q. Just a matter of where that rolling work zone
8 is?

9 A. (Farrington) Yes.

10 Q. And that assumes one work crew, correct? The
11 rolling work zone? In other words, it doesn't
12 assume that they're going to have two work
13 crews on Old County Road at the same time?

14 A. (Farrington) Right. Correct.

15 Q. Yes.

16 A. (Farrington) Yes. I mean, there could be, to
17 make it move more quickly. But we wouldn't
18 allow them to work next to each other,
19 separated on either side of a driveway.

20 Q. Right. But, if there were two work zones, that
21 would increase the amount of people taking the
22 detour?

23 A. (Farrington) No. No, because we would only
24 allow work in that location between driveways.

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1 So, the number of people affected would stay
2 the same.

3 A. (Bowes) Maybe said another way, there could be
4 two crews within that 1,600 foot red strip.

5 Q. Ah.

6 A. (Farrington) Thank God.

7 Q. Okay. Thank you. But, certainly, when there's
8 the HDD going on, and the road is closed for
9 three to five weeks, then that's going to be
10 the detour?

11 A. (Farrington) Correct.

12 Q. Okay. All right. So, Ms. Farrington, I'm
13 showing you the next detour map on here. And
14 this shows, do you see Cream Poke Road on the
15 right, it shows where Old County Road turns
16 into North Hill Road. Do you see that?

17 A. (Farrington) I do.

18 Q. And it shows North Hill Road along, until it
19 intersects with Bear Rock Road, correct?

20 A. (Farrington) Correct.

21 Q. Okay. So, if the detour is on North Hill Road,
22 let's say, for instance, if you look at the
23 very start of North Hill Road, at sort of that
24 little bend down there at the bottom and that

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1 white square. Do you see that?

2 A. (Farrington) By Bear Rock Road?

3 Q. No. North Hill Road.

4 A. (Farrington) By Old County Road?

5 Q. Or by Old County Road.

6 A. (Farrington) Okay. Yes.

7 Q. And, in that white hatched area, that's the
8 Jack and Bore that we referred to earlier with
9 the photosimulations. Do you remember that?

10 A. (Farrington) Yes.

11 Q. Okay. So, for instance, when that Jack and
12 Bore operation is going on for three to five
13 weeks, the detour is going to be Cream Poke
14 Road out to Route 145, and then over to Bear
15 Rock Road, to get back to North Hill Road,
16 correct?

17 A. (Farrington) If the construction is taking
18 place during the May 10th to December 10th time
19 frame. Otherwise, no detour is needed.

20 Q. Do you know if anybody lives along North Hill
21 Road? Do you know if there are houses along
22 there?

23 A. (Farrington) I believe there are structures. I
24 don't know if they're year-round.

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1 Q. There are houses along there, are there not?

2 A. (Johnson) Yes, there are.

3 Q. Yes.

4 A. (Johnson) Yes.

5 Q. So, whether you're doing this work in the
6 summer or whether you're doing this work in the
7 winter, if someone wants to drive along North
8 Hill Road, and you're doing this work, they're
9 going to have to take the detour, correct? The
10 road is not going to -- doesn't dictate the
11 detour, it's the work, correct?

12 A. (Farrington) For parts. Parts of North Hill
13 Road are not traversable during the winter
14 months.

15 Q. You don't think anybody who lives along there,
16 if they've got the necessary vehicle, drives
17 along the road?

18 A. (Farrington) It certainly didn't look like it
19 when I visited in January. There were no tire
20 tracks. The road just kind of ended.

21 Q. Okay. How do you think the folks get to their
22 house?

23 A. (Farrington) From the Bear Rock Road side.

24 Q. Ah.

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1 A. (Farrington) So, I suppose they are taking the
2 detour. They just don't think of it as a
3 detour at that point.

4 Q. But, if you're doing the construction during
5 the summer months, the detour as you see here
6 on your yellow line, correct?

7 A. (Farrington) Yes.

8 Q. And you've got that at 4.4 miles?

9 A. (Farrington) Yes.

10 Q. But, if you have to -- your 4.4 miles doesn't,
11 for instance, let's say the operation is the
12 red, which you have in red rolling, do you see
13 that?

14 A. (Farrington) Yes.

15 Q. So, the 4.4 miles doesn't really cover from one
16 part of that red line to the other part, does
17 it?

18 A. (Farrington) No.

19 Q. It covers from the intersection of Old County
20 Road and North Hill Road, and Cream Poke Road
21 over to Bear Rock Road and North Hill Road,
22 correct?

23 A. (Farrington) Correct.

24 Q. So, if the work zone is where shown on this

[Bowes~Bradstreet~Farrington~Johnson~Kayser~Scott]

1 map, the detour is more than 4.4 miles, is it
2 not?

3 A. (Farrington) But that's a distance you were to
4 be traveling anyway. So, for instance, if your
5 home is just to the left of the small red
6 depiction, and you were, rather than going
7 along North Hill Road, you would maybe do a
8 small extra distance on the other side of North
9 Hill Road. But I don't think it adds a
10 considerable length to a particular detour.

11 Q. So, if my house is to the left of this red work
12 zone, let's say my house is where it says
13 "north", you can see some houses there, can you
14 not?

15 A. (Farrington) I can.

16 Q. And, if I'm traveling from Old County Road, I
17 can't go down North Hill Road to get to my
18 house. I've got to go around Cream Poke Road,
19 over to Bear Rock Road, and then in to North
20 Hill Road, correct?

21 A. (Farrington) Correct.

22 Q. And that's longer than the 4.4 miles, is it
23 not?

24 A. (Farrington) Correct.

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1 Q. Yes. So, the 4.4 miles is really just at the
2 start and end of the road. It's not the actual
3 detour for people along the road, is it?

4 A. (Farrington) Correct.

5 Q. Okay. So, Ms. Farrington, this is the third
6 detour map in this area.

7 A. (Farrington) Yes.

8 Q. And, for orientation, let's -- at the top,
9 where you've got the rolling work zone, that's
10 where North Hill Road intersects with Bear Rock
11 Road?

12 A. (Farrington) Yes.

13 Q. And if -- let's say my house is -- well, first,
14 let's see what you have on here. What you have
15 on here is a yellow detour, traveling to the
16 left down into -- you know what the town is
17 down here?

18 A. (Farrington) Colebrook.

19 Q. Yes. Down to Colebrook. And then you've got
20 the green coming back along Route 26, East
21 Colebrook Road, back to Bear Rock Road. Do you
22 see that?

23 A. (Farrington) Yes.

24 Q. Now, you don't have on here mileage, like the

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1 other two, do you?

2 A. (Farrington) I do not.

3 Q. Okay. So, if my house is, let's say, where you
4 see near the rolling red work zone, let's say
5 my house is somewhere where it says where
6 "Rock" or "Road" is. Do you see that?

7 A. (Farrington) Yes.

8 Q. Okay. And we saw earlier that, when the HDD
9 operation right at the start of Bear Rock Road,
10 when it comes off North Hill Road, at that HDD
11 location, that road is going to be closed right
12 there, correct?

13 A. (Farrington) Correct.

14 Q. So, when that HDD operation is going on and
15 that road is closed, to get to my house I've
16 got to go along the yellow line on Route 145,
17 down into Colebrook. Then, out of Colebrook,
18 take Route 26, to East Colebrook Road, and then
19 up to Bear Rock Road, and around Bear Rock Road
20 to get to my house, correct?

21 A. (Farrington) Correct.

22 Q. Do you know how long that is?

23 A. (Farrington) I do not.

24 Q. Fair to say that it's more than 5 miles?

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1 A. (Farrington) Yes.

2 Q. Fair to say it's more than 10 miles?

3 A. (Farrington) I'm not sure.

4 Q. Okay. And, as that rolling work zone works its
5 way down Bear Rock Road, towards Heath Road,
6 which is Transition Station Number 4, we saw
7 earlier that there are nine splice pits along
8 that road, correct?

9 A. (Farrington) I believe so, yes.

10 Q. Yes. And we saw that, in each instance along
11 those nine splice pits, there's less than a
12 10-foot travel lane when those splice pits are
13 being installed, isn't that right?

14 A. (Farrington) Correct.

15 Q. And, so, as that rolling work zone is working
16 its way down Bear Rock Road, anybody to the
17 right of that rolling work zone is going to
18 have to do that long detour to get to their
19 house, correct?

20 A. (Farrington) So, this one's a little different,
21 in theory, because Bear Rock Road isn't a
22 through road. So, if you --

23 Q. Is a what road?

24 A. (Farrington) It's not like a through street

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1 thoroughfare. So, if you live to the right of
2 the -- where the red is depicted, 1,600-foot
3 work zone is, chances are you're either coming
4 from the Town of Colebrook, you might be coming
5 up Mohawk Road from the south. So, from those
6 areas, there's no detour route needed. You
7 would go the way you would normally go. It's
8 just, when that detour route shifts, you would
9 take the -- what we're calling the "west access
10 route", where you would have to go into
11 downtown Colebrook, say, if you were coming off
12 Route 26, and up Route 145.

13 So, it's not -- I mean, we can call it a
14 "detour", I'm not opposed to that. But it's
15 just a little unique, in that we're not routing
16 traffic around from Point A to Point B on an
17 alternative route, we're routing folks from,
18 essentially, the Town of Colebrook to their
19 homes.

20 Q. But anybody who lives along Bear Rock Road, if
21 they're coming from 145, or if they want to go
22 on North Hill Road or Old County Road, or even
23 Cream Poke Road we saw earlier, they can't take
24 those roads to their house. They have got to

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1 do that long route, a route -- detour around,
2 correct?

3 A. (Farrington) For a period of time, while the
4 construction is in that area to the left, yes.
5 That's correct.

6 Q. Yes. And we saw three or four HDD operations
7 along Bear Rock Road, did we not?

8 A. (Farrington) We did.

9 Q. Yes. And each one of those is going to take
10 three to five weeks, correct? That was the
11 testimony?

12 A. (Farrington) Yes.

13 Q. Yes. So, if I happen to be on the -- we'll
14 call it "Mr. Thompson's side" of those HDDs,
15 there are going to be a lot of detours for the
16 folks who live on that side while those HDDs
17 are being constructed or even those splice pits
18 are being installed, correct? It could be the
19 better part of an entire construction season.
20 Could it not?

21 A. (Farrington) Potentially.

22 Q. Yes. And, if it took longer than one
23 construction season, those folks are going to
24 be inconvenienced for a second construction

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[Bowes~Bradstreet~Farrington~Johnson~Kayser~Scott]

1 season, would they not?

2 A. (Farrington) Sure.

3 Q. Yes. Okay. So, Ms. Farrington, let me
4 continue on with you for a bit. You prepared
5 the traffic control plans, is that right?

6 A. (Farrington) Yes.

7 Q. And you did that recently, is that correct?

8 A. (Farrington) Yes. In November/December of
9 2016.

10 Q. Yes. And you developed some site-specific
11 traffic control plans as well, correct?

12 A. (Farrington) Correct.

13 Q. And you developed these detour maps that we've
14 looked at?

15 A. (Farrington) Yes.

16 Q. And your traffic control plans include such
17 things as warning signs?

18 A. (Farrington) Yes.

19 Q. And placing drums or cones within the road?

20 A. (Farrington) Yes.

21 Q. And barriers when roads have to be closed?

22 A. (Farrington) Uh-huh.

23 Q. And some temporary signals?

24 A. (Farrington) Yes.

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1 Q. Now, am I correct that temporary signals are
2 going to be used for splice pit locations?

3 A. (Farrington) Correct.

4 Q. Okay. Do you know how many splice pit
5 locations there are on the underground route?

6 A. (Farrington) I'm told 159.

7 Q. He's got a very good memory. So, we're going
8 to have 159 temporary lights along that route,
9 correct?

10 A. (Farrington) Yes. Not all at the same time.

11 A. (Johnson) 159 is for the whole 60 miles, not
12 just up north.

13 Q. Yes. I gather that, yes. I didn't count -- I
14 didn't count that high when I was dealing with
15 the 7.5.

16 Now, for road closures --

17 A. (Johnson) I'm Sorry.

18 Q. For road closures, Ms. Farrington, I assume
19 you're going to use barrels and barriers,
20 correct, and signs?

21 A. (Farrington) And barricades, yes.

22 Q. Yes. Okay. And, for lane closures, are you
23 going to use barriers along the road as well?

24 A. (Farrington) No, just drums.

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1 Q. Just drums. And is the anticipation to use
2 flaggers or police officers or both?

3 A. (Farrington) Flaggers.

4 Q. Okay. And do you know how many --

5 A. (Farrington) Oh, sorry. We wouldn't require
6 police officers at a location --

7 *[Court reporter interruption.]*

8 **BY THE WITNESS:**

9 A. (Farrington) Sorry. If there's a location
10 where an existing traffic signal is not going
11 to be operational for a brief period of time,
12 we would require a police officer.

13 BY MR. PAPPAS:

14 Q. Okay. Now, have you determined how many
15 flagging operations you're going to need at the
16 same time?

17 A. (Farrington) No. That would be dependent on
18 the detailed schedule.

19 Q. Okay. Now, I understand that you obtained
20 traffic counts from DOT, is that right?

21 A. (Farrington) Correct.

22 Q. And you used the average daily traffic to
23 calculate the expected hourly volume on roads
24 with lane closures?

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1 A. (Farrington) Yes.

2 Q. But you cannot accurately predict the impact
3 from a lane closure at any given point in time,
4 can you? You don't have the data necessary to
5 do that?

6 A. (Farrington) I mean, it's such a --

7 Q. Why don't you give me a "yes" or "no", and you
8 can explain. But you would agree with me, you
9 cannot accurately predict the impact of a lane
10 closure at any given point in time, correct?

11 A. (Farrington) Correct. Traffic analysis is much
12 more vague than that. So, just some
13 background, we usually do a peak hour traffic
14 count, and then we run an analysis. But,
15 especially for like traffic signals timing, I
16 mean we're basing our traffic signal timings on
17 that one hour count, and they have to last for
18 three to five years [weeks?]. So, in general,
19 it's not an exact science.

20 Q. Okay. Now, at these various construction sites
21 that we've seen, whether it is open trench,
22 whether it's splice pit or HDD, there's a lot
23 of construction activity at any given site,
24 correct? You can answer as best you know. If

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1 you want to ask one of the engineers, that's
2 fine. But why don't you let me -- why don't
3 you give me the answer you know.

4 A. (Farrington) I don't know that I'd consider it
5 "a lot". I mean, it's an excavator and a dump
6 truck, for the most part. It's my impression.
7 I'm not a power engineer.

8 Q. All right.

9 CHAIRMAN HONIGBERG: Mr. Pappas, I
10 would remind you, you've got a panel up there.

11 MR. PAPPAS: I understand.

12 CHAIRMAN HONIGBERG: And you're
13 directing questions to the panel. You
14 certainly are interested in Ms. Farrington's
15 opinion about this, but there may be someone
16 else up there who has information that would be
17 responsive to your question.

18 MR. PAPPAS: And I'm happy to have
19 it. But I think it's helpful if she answers
20 "yes" or "no", and then the others can add.

21 CHAIRMAN HONIGBERG: I understand why
22 you think it would be helpful.

23 BY MR. PAPPAS:

24 Q. For instance, in addition to the dump trucks

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1 and the excavators, you've got concrete trucks
2 coming and going?

3 A. (Farrington) Yes.

4 Q. You've got flatbed trucks coming with splice
5 pits?

6 A. (Farrington) Yes. I guess my line of thinking
7 is, it's all things I've seen. It's not
8 necessarily something exciting that I would
9 gawk at as I drove by. So, that's why I'm
10 saying "no, it's nothing particularly
11 interesting."

12 Q. All right. But you would agree with me that at
13 any given site there could be a lot of activity
14 going on with all of this, all these vehicles
15 and equipment?

16 A. (Farrington) Sure.

17 Q. Okay. Now, we've seen where the Project plans
18 to use a rolling work zone of up to 1,600 feet.
19 Do you yourself have any experience with
20 underground transmission lines that are more
21 than a mile long?

22 A. (Farrington) I have helped develop traffic
23 control plans for underground transmission
24 lines that are over a mile long, yes. They

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1 didn't impact over a mile of roadway, though.

2 Q. Oh. Okay. Well, maybe I should have been more
3 specific. So, you don't have experience with
4 underground transmission lines that impact more
5 than a mile of roadway, is that right?

6 A. (Farrington) Correct.

7 Q. Okay. Do you have any experience with
8 transmission projects using HDD drilling?

9 A. (Farrington) Yes.

10 Q. And did that experience involve more than five
11 locations?

12 A. (Farrington) No.

13 Q. Do you have any experience with road closures
14 in rural areas, such as the seven and a half
15 miles that we've reviewed today?

16 A. (Farrington) I do not.

17 Q. Now, in your prefiled testimony that was
18 submitted with the Application dated
19 October 16, 2015, you had opined that "It is
20 anticipated that the traffic management
21 components of the Project will provide
22 appropriate mitigation of the temporary impacts
23 to traffic to ensure that there will be no
24 unreasonable adverse effects on public safety

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1 along the public highways and local streets."

2 Do you recall that?

3 A. (Farrington) I do.

4 Q. Now, at the time you made that opinion, you had
5 not visited the underground section, had you?

6 A. (Farrington) No, I had not.

7 Q. And, at the time you rendered that opinion, you
8 had not done the work to come up with the
9 detour plans or the lane closure plans or the
10 road closure plans that we find in these
11 construction drawings, had you?

12 A. (Farrington) I had not.

13 Q. At the time you rendered that opinion, do I
14 understand that what you had done is reviewed
15 some plans at that point and attended some
16 meetings with the Project Team?

17 A. (Farrington) Yes. That's correct.

18 Q. Okay. And at that time the plans were
19 30 percent complete?

20 A. (Farrington) Correct.

21 Q. And, at the time you rendered that opinion, you
22 hadn't done any traffic control plans, had you?

23 A. (Farrington) No, I had not.

24 Q. You hadn't met with any town officials, is that

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1 right?

2 A. (Farrington) No.

3 Q. You didn't study the 53 HDD locations?

4 A. (Farrington) No, I had not.

5 Q. And you didn't have the traffic counts from the
6 DOT?

7 A. (Farrington) Yes. Those are publicly
8 available.

9 Q. Okay. You didn't perform a corridor level
10 analysis on the underground route?

11 A. (Farrington) No.

12 Q. Would it be fair to say that most of your work
13 on this Project was done after you submitted
14 your prefiled testimony in October of 2015?

15 A. (Farrington) Yes. That's correct.

16 Q. Okay. Now, your prefiled testimony you opine
17 that there would be "no unreasonable adverse
18 impact on public safety during construction."
19 That was your opinion?

20 A. (Farrington) That is still my opinion, correct.

21 Q. Yes. And your focus has been on public safety,
22 correct?

23 A. (Farrington) Correct. And traffic control,
24 safety of the workers.

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1 Q. Yes. You do not render an opinion on whether
2 the Project's impact on traffic will have an
3 adverse impact, correct?

4 A. (Farrington) I think, so that is to be studied
5 further as part of the Transportation
6 Management Plan. And, at that point, I will
7 have an opinion on it.

8 Q. Right. So, sitting here today, your opinion
9 relates to safety, but you don't have an
10 opinion today on whether the Project's impact
11 on traffic will have an unreasonable adverse
12 impact, isn't that right?

13 MR. NEEDLEMAN: I'm going to object
14 to that question. The Applicant doesn't have
15 an obligation to demonstrate unreasonable
16 adverse impacts on traffic.

17 CHAIRMAN HONIGBERG: Mr. Pappas.

18 MR. PAPPAS: I think I'm entitled to
19 ask about impacts from the Project. I think
20 that, certainly, the public interest
21 requirement requires the Committee to consider
22 all of the impacts of the Project, whatever
23 they may be. And impact on traffic is
24 certainly one of the impacts.

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1 CHAIRMAN HONIGBERG: Yes. And I
2 think you've asked her about impacts on
3 traffic. But you had a cascading further
4 impact that I'm not even sure what you were
5 referring to.

6 MR. PAPPAS: All right.

7 CHAIRMAN HONIGBERG: You assumed an
8 adverse impact on traffic, and then asked about
9 an adverse impact caused by that that adverse
10 impact, as I recall. So, I'm not exactly sure
11 what that second one was referring to, and I
12 don't think anybody else is either.

13 MR. PAPPAS: Okay. Well, thank you.
14 I'll try it again.

15 BY MR. PAPPAS:

16 Q. Let me ask you some specific questions. You
17 don't have an opinion on whether or not the
18 Project impact on traffic will impact the
19 tourist industry, do you?

20 A. (Farrington) I do. I have an opinion that the
21 Transportation Management Plan will be written
22 in such a way that impacts to the tourist
23 industry will be mitigated.

24 Q. You haven't written that Traffic Management

[Bowes~Bradstreet~Farrington~Johnson~Kayser~Scott]

1 Plan, have you?

2 A. (Farrington) No, I have not.

3 Q. Yes. And, so, sitting here today, you don't
4 have a basis to render an opinion as to whether
5 or not the impact, the construction's impact on
6 traffic will have -- whether it will or will
7 not have an adverse impact on the tourist
8 industry, do you? Don't you need to do the
9 analysis before you can make the opinion?

10 A. (Farrington) The "tourist industry" is really
11 vague. I have the opinion that the tourist
12 traffic that I, and we, as a project, have the
13 experience to mitigate traffic impacts to
14 tourists traveling through the construction
15 areas.

16 Q. Nowhere in your written -- in your prefiled
17 testimony does it say that, does it?

18 A. (Farrington) I believe we talked about seasonal
19 impacts and tourists.

20 Q. In your prefiled testimony? Do you have it in
21 front of you?

22 A. (Farrington) I will take a minute and look, if
23 you want me to.

24 Q. Sure.

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1 (Short pause.)

2 **BY THE WITNESS:**

3 A. (Farrington) I did not specifically discuss
4 tourism in my prefiled testimony.

5 BY MR. PAPPAS:

6 Q. Thank you. So, you haven't done the analysis
7 to make that determination, have you?

8 A. (Farrington) No. I believe the purpose of my
9 prefiled testimony was to outline the procedure
10 to do the analysis based on the New Hampshire
11 DOT requirements.

12 Q. And you don't have an opinion as to whether or
13 not the Project's impact on traffic will have
14 an unreasonable adverse impact on the orderly
15 development of the region, do you?

16 MR. NEEDLEMAN: Same objection.
17 That's not the standard.

18 CHAIRMAN HONIGBERG: Mr. Pappas.

19 MR. PAPPAS: Well, I think I'm
20 entitled to ask this witness whether she has an
21 opinion. She's a traffic expert.

22 CHAIRMAN HONIGBERG: Yes. I think
23 the objection is overruled.

24 MR. PAPPAS: Thank you.

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1 CHAIRMAN HONIGBERG: I think this,
2 having specified the adverse impact he's asking
3 about, she can answer whether -- she can answer
4 that question.

5 Do you remember the question,
6 Ms. Farrington?

7 WITNESS FARRINGTON: No, I'm sorry.
8 Can you repeat it?

9 CHAIRMAN HONIGBERG: See if you can
10 do it again the same way, Mr. Pappas.

11 MR. PAPPAS: It's going to be a
12 challenge. It's 4:30.

13 BY MR. PAPPAS:

14 Q. You do not have an opinion as to whether or not
15 the Project's impact on traffic will have an
16 unreasonably adverse impact on the orderly
17 development of the region, do you?

18 A. (Farrington) I'm sorry. I'm not sure that I
19 will ever have an opinion on that. I might be
20 missing something there. I don't understand
21 the question.

22 Q. Okay. So, the answer is, you didn't analyze
23 whether or not the Project's -- from a traffic
24 perspective, you didn't analyze whether or not

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1 the Project would adversely impact the
2 development of the region where the Project
3 goes through, did you?

4 A. (Farrington) No, I did not.

5 Q. Okay. And, from a traffic perspective, you
6 didn't analyze whether the Project impact on
7 traffic, whether that will or will not impact
8 any businesses along the route, did you?

9 A. (Farrington) We have considered that in our
10 Traffic Control Plans, as far as access to the
11 businesses. As far as traffic passing by
12 businesses, I would expect an increase due to
13 construction workers. But no adverse impacts,
14 no.

15 A. (Bowes) That is covered in her prefiled.

16 Q. Okay. Let me ask you, Ms. Farrington, you
17 didn't analyze whether or not the impacts to
18 traffic will adversely affect businesses along
19 the route, did you?

20 A. (Farrington) No.

21 Q. Okay. Okay. Ms. Farrington, take a break for
22 a minute. I'm going to focus my remaining
23 time, or not my entire remaining time, but I'm
24 going to shift to either Mr. Kayser or

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1 Mr. Bowes.

2 We just reviewed the construction in the
3 northern section. And, in particular, the 7.5
4 miles that are all through local roads, is that
5 correct?

6 A. (Kayser) Yes.

7 A. (Bowes) That is all we reviewed, yes.

8 Q. Yes. We'll get elsewhere. And, so, I had
9 asked you earlier about restoring roads when
10 they intersected the right-of-way. So, I want
11 to ask you some questions about restoring roads
12 along that seven and a half mile section.

13 Now, we heard Mr. Scott testify that, for
14 a great deal, if not the entire 7.5 miles, the
15 Project will be in the roadway, correct?

16 A. (Kayser) Yes.

17 Q. Okay. And do I understand that the Project has
18 committed to restoring those roads to as good
19 or better condition as they were in before the
20 Project started working in the roads?

21 A. (Kayser) Yes. That is what we have said --
22 excuse me -- in the prefiled testimony is that
23 we will restore the roads to the condition they
24 are in today or better.

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[Bowes~Bradstreet~Farrington~Johnson~Kayser~Scott]

1 Q. And how is it you intend to do that?

2 A. (Kayser) Well, there will be temporary
3 restoration of the roads between the time they
4 put the splice pits in, and then pull the
5 cable. The permanent restoration will, as I
6 think Mr. Johnson mentioned earlier, use DOT
7 standards, to the extent practicable. So, they
8 will put the gravel in, grade the roads, and
9 get them back to the normal condition.

10 A. (Bowes) And, to be more specific, there were
11 several areas that you showed in your
12 photographs that were deeply rutted.

13 Q. Uh-huh.

14 A. (Bowes) The idea would be to restore those with
15 a crown on top of the road --

16 A. (Kayser) Correct.

17 A. (Bowes) -- and proper drainage to the sides.

18 Q. Uh-huh. And you're familiar with DOT road
19 requirements for gravel roads, as opposed to
20 paved roads?

21 A. (Kayser) I am not specifically familiar with
22 them, no.

23 Q. Mr. Bowes, are you?

24 A. (Bowes) I would say, a very high level I am,

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1 but not in the details.

2 Q. Okay. Do you know whether or not they require
3 you to replace the same type of gravel that was
4 removed?

5 A. (Bowes) I do not.

6 Q. Okay. Do you know what they require in terms
7 of compaction of the subgrade? Anybody can
8 answer, that's fine.

9 A. (Kayser) Not specifically.

10 A. (Scott) I believe it's 95 percent Proctor
11 density.

12 Q. And is that on gravel roads as well?

13 A. (Scott) I believe so.

14 Q. Okay. And is that what the Project intends to
15 do?

16 A. (Kayser) Yes.

17 A. (Scott) Yes.

18 Q. And would I be correct in saying that, if the
19 Project does work in the road, that they would
20 restore the road curb-to-curb, and not just the
21 disturbed area of the road?

22 A. (Bowes) So, for the gravel roads, definitely.

23 Q. Uh-huh.

24 A. (Bowes) I know there are some paved sections

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1 that we'll have to look at in more detail.

2 Q. Okay. Well, I was going to ask you that next,
3 in terms of I was going to break it down. So,
4 the paved sections, to the extent that you only
5 disturb, let's say, half or more of the road,
6 do you intend to go to repave curb-to-curb or
7 only patch?

8 A. (Bowes) So, right now, we're proposing to
9 repair or restore the roadway that we are in,
10 so the lane that we're in. As you saw, for
11 some of those roads, we're traversing both
12 lanes. So, it may not be practical just to do
13 one lane. It may be better to do both lanes in
14 the north section.

15 Q. Uh-huh. Would you agree with me that, where
16 you patch only one lane, that patch has a less
17 life expected -- it reduces the life expectancy
18 of the road, if you only patch a lane, as
19 opposed to go curb-to-curb?

20 A. (Bowes) I would say that's probably general
21 true.

22 Q. Yes. And that's because of a number of
23 reasons, including the fact that the patch has
24 an open cut to which water can get in, and

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[Bowes~Bradstreet~Farrington~Johnson~Kayser~Scott]

1 water is a major enemy of roads?

2 A. (Bowes) I will accept that. It would sealed.

3 That seem would be sealed though.

4 Q. Yes. But are you familiar with studies that
5 have indicated that even sealing it, over time
6 still degrades the road, because the water
7 still gets in and it creates further cracking
8 and heaves and so forth?

9 A. (Bowes) I have not seen the studies, but I'll
10 accept that, yes.

11 Q. All right. So, getting back to commitments, if
12 a road agent along one of the local public
13 roads up north wants the Project to pave
14 curb-to-curb, because they think that patching
15 won't sufficiently restore the road, earlier
16 you said that that would be "subject to
17 discussion". Is that my understanding?

18 A. (Bowes) So, I'm going to take a pause on the
19 way you asked the question.

20 Q. Okay.

21 A. (Bowes) I'm not sure there are any curbs on
22 this portion of the road. And, so, when you
23 say "curb-to-curb", it's --

24 Q. Good point.

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[Bowes~Bradstreet~Farrington~Johnson~Kayser~Scott]

1 A. (Bowes) We don't plan to put curbs in. That's
2 clear. Would we pave the entire two lanes or
3 lane and a half as the case may be? I think,
4 probably, but I don't want to commit to that
5 today, because I want to see the final design.
6 And then I want to work with each of those
7 towns separately to come up with what the
8 requirements will be.

9 Q. Okay.

10 A. (Bowes) But I don't think it's an unreasonable
11 request, if what we see today and with crossing
12 over the lane, and going down the center of the
13 roadway, and putting a bunch of splice vaults
14 in. And it's a very short amount of paved area
15 in the North Country.

16 Q. Right. And you are correct. I didn't notice
17 any curbs up in the North Country. It's just a
18 common term, "curb-to-curb" among the paving
19 folks.

20 But I do want to just make sure that I'm
21 clear, and I'm sure the townfolks want to make
22 sure that I'm clear, that for any area where
23 you disturb the asphalt, the intent is to meet
24 and try to reach an agreement with the town, as

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[Bowes~Bradstreet~Farrington~Johnson~Kayser~Scott]

1 to what paving would satisfy the town for
2 restoration work. Is that right?

3 A. (Bowes) Yes.

4 Q. But you're not willing to commit that in all
5 instances that will include repaving the entire
6 road surface no matter how much of it you
7 disturb?

8 A. (Bowes) Well, clearly, if we disturb more than
9 half the roadway, that's an automatic "yes".

10 Q. But, if you disturb less than half the roadway,
11 as I understand it, you're willing to discuss
12 it, but you're not willing -- the Project is
13 not willing to commit that, in every instance
14 where it disturbs the paved road, it will
15 repave the whole roadway?

16 A. (Bowes) That is correct.

17 Q. Now, in the area where they're -- start with
18 gravel roads, do I understand that the
19 underground cables themselves give off heat?

20 A. (Kayser) Yes.

21 Q. Is that your understanding as well?

22 A. Yes.

23 *[Court reporter interruption to*
24 *confirm who responded.]*

1 **BY THE WITNESS:**

2 A. (Kayser) Yes, I did.

3 BY MR. PAPPAS:

4 Q. All right. Mr. Kayser, I'll stick with you for
5 a minute, so to help Steve out. Am I correct
6 that, in about a three to five foot area
7 outside the cables, the cables give off heat
8 and essentially warm that area?

9 A. (Kayser) Yes. There was a study completed by
10 ABB. And I don't remember the exact
11 dimensions, but that sounds in the ballpark.

12 Q. Right.

13 A. (Bowes) I believe we actually attached it to
14 Mr. Scott's testimony.

15 Q. You did.

16 A. (Bowes) He's probably the best person to answer
17 those questions.

18 Q. He's ducking it down there.

19 A. (Scott) Yes. It's in my supplemental
20 testimony.

21 Q. It is.

22 A. (Scott) Attachment A.

23 Q. It is. So, Mr. Scott, you get to answer these
24 questions. And the concern is this. Is

[Bowes~Bradstreet~Farrington~Johnson~Kayser~Scott]

1 whether or not the heat given off from those
2 cables will have an adverse impact on the
3 gravel roads, because it might affect the
4 freezing and thawing. Are you familiar with
5 that concern?

6 A. (SCOTT) I am.

7 Q. Okay. So, without belaboring the point,
8 because it's getting late, why don't you just
9 tell me how the Project intends to avoid that
10 concern?

11 A. (SCOTT) Well, I believe that, if you review the
12 Attachment A, this is the design phase of
13 verifying, providing information, that we do
14 not anticipate that it would be causing a thaw
15 above the duct bank, it would not be occurring
16 adjacent to the installation.

17 As far as post-installation, I'd have to
18 differ to John, Mr. Kayser, to -- as if there
19 is any post-installation inspection to verify.

20 Q. So, what you're essentially saying is, you
21 don't think it's going to be -- the depth of
22 the cables aren't going to be such that it's
23 going to be a problem. Is that what you're
24 saying?

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[Bowes~Bradstreet~Farrington~Johnson~Kayser~Scott]

1 A. (Scott) Correct.

2 A. (Bowes) So, I would add as well is that we
3 obviously operate many miles of AC cables,
4 transmission cables that operate at a higher
5 temperature. And we don't see problems with
6 the roadways, either by the thermal
7 characteristics, i.e., melting the ice or not
8 melting the ice on roads. And we don't see any
9 damage to the roadway itself post-construction.

10 Q. Does that include gravel roads?

11 A. (Bowes) A small amount of gravel roads, we
12 don't have a lot of experience with it. We
13 have a short section on one of our 345 kV
14 projects in Connecticut, about 2,500 feet.
15 And, again, we don't see a change in that
16 gravel road, and it's been, you know, ten to
17 twelve years now.

18 Q. Yes.

19 A. (Bowes) It does not have the same amount of
20 traffic as a public road, though.

21 Q. And that's in Connecticut, correct?

22 A. (Bowes) It is.

23 Q. Fair to say the weather is a little different
24 in Connecticut than it is in the seven and a

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1 half miles in the North Country of New
2 Hampshire?

3 A. (Bowes) It clearly is different. But, if you
4 look at what that ABB design document goes
5 through, the ambient temperature is a part of
6 it, and the cable will operate at that ambient
7 temperature. So, the ambient temperatures in
8 Connecticut would be hotter, so you would have
9 a more severe case than in a colder temperature
10 environment.

11 Q. But the frost line is a little deeper up north,
12 correct?

13 A. (Bowes) It clearly is. But it's not related to
14 this issue.

15 Q. Well, what are the depths for the buried cable
16 along the seven and a half mile route?

17 A. (Bowes) Forty to sixty inches.

18 A. (Scott) One moment. I'd refer you to, since we
19 were working on north most recently, North
20 C-502 for the trench cross section, for the
21 typical trench cross section, which shows a
22 minimum depth of approximately, let's see,
23 approximately 42 inches from grade.

24 Q. Uh-huh.

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[Bowes~Bradstreet~Farrington~Johnson~Kayser~Scott]

1 A. (Scott) And, with ongoing coordination with the
2 DOT, when underneath roadways, that will most
3 likely be deeper.

4 Q. And how deep?

5 A. (Scott) How deep?

6 Q. Uh-huh.

7 A. (Scott) That's in coordination.

8 Q. So, we don't have a -- we have 42 inches
9 minimum, but we don't know how --

10 A. (Scott) It will be per the profile drawings,
11 after incorporating the DOT comments.

12 Q. Okay. So that has --

13 A. (Scott) So, it will be a site-specific
14 location.

15 Q. Okay. So, it's your view that the heating up
16 of the cable in the road, the earth around the
17 cable is not going to have an adverse impact on
18 the gravel roads from that dissipation of heat?

19 A. (Bowes) That is my opinion, yes.

20 Q. And it's based on the ABB study that is
21 attached to Mr. Scott's testimony?

22 A. (Bowes) And the other two factors, my operating
23 experience in New England with other
24 transmission cables, and the fact that AC cable

[Bowes~Bradstreet~Farrington~Johnson~Kayser~Scott]

1 is operated at about 20 degrees C hotter
2 temperature. So, it's a more extreme case.

3 Q. Okay. Now, once this transmission line is
4 installed in the road, for future work near the
5 transmission line, whether it's a homeowner
6 along the route or a business owner, will they
7 need -- and they need to go under the line,
8 will that require any special -- would it have
9 any special requirements? And this is a 340 --
10 up north, 320,000 volt line. Will it have any
11 special requirements because of the size of the
12 line?

13 A. (Bowes) The physical size of the line or the
14 capacity or the --

15 Q. I think capacity. You don't want to hit it
16 with a backhoe. So, after it's installed, are
17 you aware of any requirements that are
18 necessary for work in and around a 320,000 volt
19 line?

20 A. (Bowes) So, I would say "yes", but it's not
21 specific to the voltage of the line. It would
22 be any electrical, gas, water facilities. They
23 have to go through DigSafe, which is a
24 requirement in the state.

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[Bowes~Bradstreet~Farrington~Johnson~Kayser~Scott]

1 Q. Yes.

2 A. (Bowes) We will have a barrier tape installed.
3 So, if they get close to the cables, before
4 they actually get to the duct bank, there will
5 be a safety ribbon.

6 Q. Uh-huh.

7 A. (Bowes) And then the third is one of the
8 reasons we like the thermal fluidized backfill,
9 because it does provide a means of physical
10 protection to the conduits as well. And the
11 last thing would be the conduits themselves.
12 I'm not going to claim that those have a lot of
13 strength or capability. But, if you come to a
14 conduit, it's a pretty good reason to stop and
15 give pause, if you haven't done the previous
16 things.

17 Q. Okay. So, you're not aware of any special
18 requirements of any contractors, other than the
19 DigSafe, working in and around these lines?

20 A. (Bowes) That is correct.

21 Q. Okay. Anybody else on the panel aware of any?

22 A. (Johnson) No.

23 Q. Okay.

24 A. (Johnson) In my experience, no.

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1 CHAIRMAN HONIGBERG: All right.

2 We're going to break now. Mr. Pappas
3 represents that he's got -- his next topic is a
4 long topic. So, it doesn't make sense to start
5 that and break it.

6 So, we will resume tomorrow morning
7 at nine o'clock. I'm hopeful that all of you
8 who are following Mr. Pappas's questioning are
9 crossing topics and questions off your list
10 that he's asked and have been answered by this
11 panel. Certainly, you can explore the issues
12 that he's explored. But extensive repetition
13 of questioning will probably draw an objection
14 and we'll have to get into it at that time.

15 So, if there's nothing else we need
16 to do this afternoon, we will see you all
17 tomorrow morning at 9:00.

18 *(Whereupon the **Day 6 Afternoon***
19 ***Session** was adjourned at 4:43*
20 *p.m., and the hearing to resume*
21 *on **May 2, 2017**, commencing at*
22 *9:00 a.m.)*

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C E R T I F I C A T E

I, **Steven. E. Patnaude**, a Licensed Shorthand Court Reporter, do hereby certify that the foregoing is a true and accurate transcript of my stenographic notes of these proceedings taken at the place and on the date hereinbefore set forth, to the best of my skill and ability under the conditions present at the time.

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

Steven E. Patnaude, LCR
Licensed Court Reporter
N.H. LCR No. 52
(RSA 310-A:173)