STATE OF NEW HAMPSHIRE

SITE EVALUATION COMMITTEE

May 31, 2017 - 9:02 a.m. **DAY 10**
49 Donovan Street ***Morning Session ONLY***
Concord, New Hampshire

{Electronically filed with SEC on 06-08-17}

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, *Designee* Dept. of Environ. Serv.
Christopher Way, *Designee* Dept. of Resources & Economic Development
William Oldenburg, *Designee* Dept. of Transportation
Patricia Weathersby Public Member
Rachel Whitaker Alternate Public Member

ALSO PRESENT FOR THE SEC:

Michael J. Iacopino, Esq., Counsel for SEC
(Brennan, Caron, Lenehan & Iacopino)

Pamela G. Monroe, SEC Administrator

(No Appearances Taken)

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

I N D E X

PAGE NO.

WITNESS PANEL: **KENNETH BOWES**
(resumed) **DERRICK BRADSTREET**
LYNN FARRINGTON
SAMUEL JOHNSON
JOHN KAYSER
NATHAN SCOTT

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P R O C E E D I N G

CHAIRMAN HONIGBERG: All right. We're going to resume with the construction panel. I know all of you wish we had a VCR and we could rewind the last five minutes, the way you do when you're watching the movie at home and you break for a couple of weeks. But we don't have that luxury.

So, last night Ms. Monroe sent out a memo reminding everybody of where we were and we're picking up with the questioning of the construction panel. We're with the Dummer/Northumberland Abutting Group, Mr. Cunningham, and I understand Susan Percy is going to be asking some of the questions for that group as well. So, who's coming up first?

MR. CUNNINGHAM: Susan Percy.

CHAIRMAN HONIGBERG: Ms. Percy.

MS. PERCY: And I'm standing up because I've been driving for two and a half hours. So, I do have something to come up on the monitors. My name is Susan Percy. I am an intervenor representing the Percy Summer Club, which is located in Stark, New Hampshire.

I also would like to think that I represent the public, because the Percy Summer Club owns the land all around Lake Christine, which is open to the public through public access on the water itself, but also public access to the Nash Stream Forest, which people access those trails through our property.

So, I have questions. Do I have to say anything else?

CHAIRMAN HONIGBERG: Just ask your questions and we'll move along.

MS. PERCY: Okay. Great. But I also want to tell you I'm not an attorney. So, I might be a little nervous during some of this. I'm also not a construction person. I'm just taking a look at how the issues that affect Lake Christine, the Town of Stark, and where we are, how that construction has an impact on us.

(Continuation of the witness panel of ***Kenneth Bowes***, ***Derrick Bradstreet***, ***Lynn Farrington***, ***Samuel Johnson***, ***John Kayser***, and ***Nathan Scott***.)

CROSS-EXAMINATION (resumed)

BY MS. PERCY:
Q. So, I know that this has been asked before, but because we've had the mini-recess, can you tell me why the plans submitted to the SEC don't have the Portland Natural Gas pipeline in it?
A. (Bradstreet) So, I guess, for the purposes of the permit drawings, we did not include that as it sort of congests the drawing, it starts to overlay on top of other things. So, it's included in our design drawings, but it's not included in our permit set.
Q. Okay. Great. But the pipeline runs through the entire Town of Stark, is that right?
A. (Bradstreet) For the area of Stark where the Project is, yes.
Q. Great. If your project maps presented to the SEC had fully shown the location of the Portland Natural Gas pipeline through Stark, would that pipeline appear a consistent distance from the edge of the right-of-way or would it change?
A. (Bradstreet) I believe it changes somewhat, but it's fairly consistent.
Q. Okay. If it varies, by what distance, do you

know?
A. (Bradstreet) I do not know off the top of my head.
A. (Bowes) It is a 50-foot easement they have, so it's within that 50 feet.
Q. The pipeline has the 50-foot easement?
A. (Bowes) That is correct.
Q. Okay. Great. Thank you. I thought it was 75 feet, but I'm going to take your word for it.
Can you talk, and I don't know who would talk about the siting issues that you had to consider for the pipeline, because of the problems the pipeline created on the 150 feet right-of-way?
A. (Bradstreet) I could. Specifically what problems are you referring to?
Q. Well, we have a narrow right-of-way, is that right?
A. (Bradstreet) We have a 150-foot right-of-way.
Q. And that's -- would that be something that you think is a large right-of-way or a narrow right-of-way?
A. (Bradstreet) Through New Hampshire, it's pretty

common, --
Q. Okay.
A. (Bradstreet) -- to be 150 feet.
Q. And, typically, though, you don't have a buried pipeline in your 150-foot right-of-ways?
A. (Bradstreet) I wouldn't say it's "typically". This area happens to have it in it, and the rest of the Project does not. But there are pipelines collocated in electric easements across the United States. It's not very -- it's not uncommon.
Q. Okay. So, tell me a little bit about the code requirements. And I have my questions on this, wait a minute. Just so you know what we're -- oops.

[Brief off-the-record discussion ensued regarding orientation of document on ELMO.]

BY MS. PERCY:
Q. There's a lot of detail in this map. Is this the same map that you have uploaded to the ShareFile?
A. (Bradstreet) I don't specifically know if this was provided by us or not.

Q. Okay.
A. (Bradstreet) Yes. I mean, this is a PNGTS drawing.
Q. Right.
A. (Bradstreet) So, it's from the Pipeline.
MS. PERCY: Yes. Just for everyone's sake, this is the Portland Natural Gas pipeline that is in existence now along the Stark right-of-way.
MR. IACOPINO: Ms. Percy, is the exhibit that you're showing to everybody right now, does it have a number or an identifier of some sort?
MS. PERCY: That's going to be number 58, "DNA 58".
MR. IACOPINO: Thank you.
BY MS. PERCY:
Q. Okay. Is there one code for the collocations of the two transmission lines and a separate code for collocating the transmission lines with the gas pipeline?
A. (Bradstreet) So, I would say there are codes that apply to the transmission line and there are codes that apply to the pipeline.

Q. Okay. So, we have two codes for the transmission lines. We have a 320 and a 115, correct?
A. (Bradstreet) There's a 320 DC line and a 115 kV AC line, yes.
Q. And, so, there are codes that are specific to how you have to --
A. (Bradstreet) Design them. How we have to design those, yes.
Q. Thank you. And then there's another code that specifically speaks to the gas pipeline, is that correct?
A. (Bradstreet) The pipeline has its own code and regulation, yes.
Q. Okay. Great. So, what does the code specifically require for vertical and horizontal separation between the two transmission lines and the ground?
A. (Bradstreet) So, specific clearance requirements?
Q. Yup.
A. (Bradstreet) I don't have those in front of me, but I believe we provided those as part of a data request.

Q. Okay. So, I can look there?
A. (Bradstreet) I believe so.
Q. Thank you. What does the code require regarding collocating these transmission lines with a 24-inch gas pipeline?
A. (Bradstreet) So, the code that really, I guess, would govern spacing in the right-of-way, I believe it states that we have to have a certain spacing away from our foundation excavation and the pipeline itself. I'm going from memory, but I believe it states "five feet".
Q. Is it the opinion of the Portland Natural Gas Pipelines that this -- the transmission lines can be safely collocated? Do you have an opinion from them?
A. (Bowes) We certainly, for the original installation, when they constructed in 1998, they felt there was sufficient space. So, we're doing an interference study at this time. And, ultimately, we'll present the results to the Portland Pipeline Company.
Q. Can you just help me with that a second? Because if you -- that was the original

pipeline, your conversation around the existing transmission towers that were there or, you know, the poles that are there, and where the pipeline actually sited itself, that was your conversation that you just referenced?

A. (Bowes) Well, it's not necessarily a "conversation". Conversations were certainly held. But there's a Right-of-Way Agreement, there's a Construction and Use Agreement, and there's an Access Agreement that grants Portland General Gas Company the rights to locate on our right-of-way.

Q. And, but going back to that agreement, initial agreement, did you foresee that you would have structures in different locations then?

A. (Bowes) So, it certainly didn't specifically contemplate that, but it contemplated continued use of both facilities on the right-of-way, and both could make modifications.

Q. Okay. It's a little hard to move that pipeline, don't you think?

A. (Bowes) It is not.

Q. It's not hard to move the pipeline?

A. (Bowes) It's very common to move pipelines.

Q. Oh. Great. Do you have a signed agreement with Portland Natural Gas?
A. (Bowes) A signed agreement for what?
Q. On the collocation of lines and the pipeline?
A. (Bowes) Yes.
Q. Okay. And do you have an agreement about who and how monitoring of construction of the towers will be managed? So, leaping ahead to actual construction, do you have an agreement with Portland Natural Gas Pipeline?
A. (Bowes) There is a general Construction and Use Agreement that would cover either party doing construction within the right-of-way.
Q. And do you have regular conversations with Portland Natural Gas Pipeline around this, around the proposed transmission?
A. (Bowes) I would say no, not regular conversations.
Q. I got a little help, because I'm not being very clear. So, can we go back, Mr. Bowes, on the agreement that you have is -- with Portland Natural Gas Pipeline, that's an old agreement on the existing structures that are there, is that correct?

A. (Bowes) So, it is an agreement from 1998, --
Q. Yes.
A. (Bowes) -- to be more precise. I would say that it covers the facilities that were on the site and proposed by Portland General at that time.
Q. Okay. And, so, you've had recent conversations with Portland Natural Gas about how you propose relocating those structures and installing new structures?
A. (Bowes) I don't know if we have or not.
Q. Don't you think that's important to have? Sorry.
A. (Bowes) I'll answer it. Yes, I do think it's important, when the time is right, and the interference study is complete, that would be the time we would go and have discussions with Portland General Gas Company or Natural Gas Company, sorry.
Q. Can you hang on to that thought? Because we're going to come back to that when we get to another set of questions that I have.

So, I understand you've submitted the preliminary plans. Do you anticipate providing

more detailed plans that show the gas pipeline and the structure placement to the SEC and to abutters?

A. (Bradstreet) Right now, I don't believe we're putting together a revised set of drawings for that, no.

Q. Okay. Have you finalized your precise design placement and height of every new structure proposed within the 150-foot right-of-way in Stark with the gas pipeline?

A. (Bradstreet) Yes.

Q. Okay. So, the visibility assessments, I'm going to switch, and then Attorney Cunningham is going to help, step in. But the visibility assessments are based on an average tower height of 95 feet, is that correct, through the right-of-way in Stark?

A. (Bradstreet) The visibility -- specifically, can you tell me what visibility analysis you're referring to? The stuff that was provided by us or by others?

Q. By your expert, Terry DeWan.

A. (Bradstreet) So, that's based out of the exact heights that we're proposing based on the

permit drawings.
Q. And, so, was it an average tower height --
A. (Bradstreet) It was the exact height that we're proposing.
Q. Oh. Okay. Great. To meet code, line separation requirements, gas pipeline to wire separations, ground separation wire height and station location, might the towers need to be higher?
A. (Bradstreet) No.
Q. So, if you run into problems from conditions on the ground, what options, other than raising the height of the towers, do you have?
A. (Bradstreet) What conditions on the ground are you speaking about?
Q. Well, we had a meeting with Eversource representatives in March, and they referenced that conditions on the ground require some -- could require some modifications to the tower heights. They did say that they didn't anticipate -- so, they said "conditions on the ground". Eversource representatives are the people who brought up "conditions on the ground".

A. (Bradstreet) okay. So, I'll just explain really quick what's in our design that we're submitting, and maybe some things that could potentially cause minor changes. But our design right now is based off of a survey, LIDAR survey. It's a very accurate survey. And, so, we don't anticipate anything on the ground that would change our clearance requirements. I guess, in construction, sometimes it's more common for a shift in the structure location due to like a boulder or something on the ground that, when they get ready to drill, they might make a minor change for. At that point, generally, we don't have the option to increase the structure heights, because the structures are already on-site. So, I guess I would say it would be a very rare condition for the heights to change at this point.

Q. In your conversations with the Portland Natural Gas Pipeline, prior to starting any construction, would you -- do you anticipate that there would be any conditions on the ground that could pop up then that would alter

your height limits?
A. (Bradstreet) I don't believe there's anything that would impact heights.
Q. So, you're committing to the tower heights that you submitted in your Application?
A. (Bradstreet) I think what we've proposed in the design is what we plan to build, yes.
Q. And, so, there wouldn't be any change in that?
A. (Bradstreet) I guess I can't say there would be absolutely zero change, but I don't see anything that would cause change.
Q. So, I'm trying to think when -- we had, in the meeting that representatives of the Percy Summer Club had with Eversource, they referenced that there could be anywhere from a 3-foot change in the tower heights along that right-of-way?
A. (Bradstreet) So, that might be in reference to the final. So, lattice structures are still in the design phase of determining height ranges or I guess where the height break points are. So, what I'm getting at there is there -- this is going to get kind of technical.
Q. That's all right.

A. (Bradstreet) But there's different leg extensions that can be used to change the height of the structures themselves. And, when that's finalized, there may be a 2- to 3-foot change in what we're proposing, just based off of the material that can be constructed on-site. In general, a lattice structure, I guess, does not have individual feet breakdown. So, it's not like we would have an 80-foot, an 81-foot, an 82-foot structure. It might mean that we have a 79-foot, an 83-foot, an 87-foot structure. So, right now, the project design is broken down to the nearest five feet. And, so, if we propose an 85-foot structure, and when the leg extension designs are complete, it might mean that we go to an 83-foot structure or it might mean that we go to an 87-foot structure, just depending on how it breaks down.

Q. Great. That's helpful. But it also raises some concerns, where the plans that you -- that have been submitted have designated heights that are attached to them. And, so, we, as intervenors, are looking at plans with

height -- the highest amount -- well, the estimated amount that the tower's structure -- the height would be. And you're saying that could change?

A. (Bradstreet) I guess I would say, on the final structure design, there could be some changes on the lattice structures, correct.

Q. Okay. And just going back to the impact of all the visibility impact statements that were done were based on recommendations of tower heights, is that correct?

A. (Bradstreet) They use our exact proposed heights, yes.

Q. But those could change. So, the visibility impacts could change?

A. (Bradstreet) I guess I'm not probably the right person to speak if a 2-foot change is a noticeable change. But I would say the input values could change, yes.

Q. Okay. How are abutters informed when you need to make adjustments outside of your submitted Application?

A. (Bowes) Adjustments to heighth or just --

Q. Yes. Any adjustments.

A. (Bowes) I guess we would have a conversation with the abutters. I don't think there's a formal process at this point.
Q. So, you wouldn't -- if you were making changes to the approved plan, you would not -- you would have conversations with the abutters, but there isn't a formal agreement or you could just make changes and not talk to abutters?
A. (Bowes) I believe there's no formal process at this point to relocate a structure a few feet or change the leg extensions.
Q. Okay. Would it be helpful to have a formal agreement?
A. (Bowes) Certainly something the Project would consider.

MS. PERCY: Okay. So, I'm going to leave my other questions and ask --

CHAIRMAN HONIGBERG: Mr. Cunningham, it sounds like you're up.

MS. PERCY: Thanks very much.

MR. CUNNINGHAM: Hi. My name is Art Cunningham. I'm an attorney. I represent Kevin Spencer and Mark Lagasse. Kevin and Mark are building a lodge, a tourist lodge at a

campground. The right-of-way and the pipeline run right behind their lodge. And we have some questions about the pipeline.

BY MR. CUNNINGHAM:

Q. I listened carefully to Susan Percy's questions, and I'm completely unclear when you expect to have plans and specifications for your two new lines with respect to the pipeline. When can we see those plans and specifications and when will this Committee be able to see those plans and specifications and when can we examine those plans and specifications for safety?

A. (Bowes) I believe all the plans and specifications have been filed.

Q. I'm talking about plans and specifications that can provide us assurances that the installation of this high voltage DC line and the relocated AC line will be safe?

A. (Bowes) So, you're looking for plans or assurances? I'm not clear.

Q. I'm looking for plans and specifications that we can have somebody review, including this Committee, to ensure that the installation of

these high voltage lines, next to a 24-inch pipeline will be safe?
A. (Bowes) You have those plans today.
Q. Let's talk a little bit about the pipeline itself. What are the dimensions of the pipeline?
A. (Bradstreet) I don't have the specifics in front of me. But, as you said, I believe it's a 24-inch pipeline.
Q. And do you know what the pressure on the pipeline is?
A. (Bradstreet) I do not.
Q. If I told you it was 1,440 pounds per square inch, would you disagree with that?
A. (Bradstreet) I have no reason to disagree. It doesn't pertain to our design, so --
Q. It doesn't pertain to your design?
A. (Bradstreet) The pressure itself doesn't change how we would design around it.
Q. Well, does the pressure affect the issue of safety?
A. (Bradstreet) I believe gas pipelines are all lumped into the same category as gas pipelines, regardless of pressure.

Q. I guess we can compare to pumping up your tires. You pump up your tires maybe at 40 pounds per square inch?
A. (Bradstreet) In some cases, yes.
Q. Could you describe for us and the Committee what the interactions between high voltage lines, both DC lines and AC lines, and hypothetical gas pipelines are. What are the interactions? Can you tell the Committee that? Can you tell the intervenors that?
A. (Bradstreet) So, I guess there are -- there's normally three major kinds of interactions that you're speaking of. I'm assuming you're talking about the electrical interactions?
Q. Well, I'm asking you to describe them.
A. (Bradstreet) Okay. I'll describe the electrical interactions. Normally, there could be a "capacitive coupling" is what one is referred to, in which a voltage could potentially be induced on a parallel pipeline. Normally, that's an AC issue.

I guess, I don't have my cheat sheet in front of me, so let me see if I can get this all right. So, capacitive coupling. You could

have a condition, if there was a lightning strike, potentially it could increase the voltage of the soil, and there could be a stress across the coating of the pipeline. Again, that's another thing that we will check with this interference study that Ken has referred to. And, then, there's a third type of coupling, that is very uncommon, and is normally tied to an AC line, and I can't remember the term off the top of my head, but --

Q. Are you familiar with the term "electrostatic coupling"?

A. (Bradstreet) Yes.

Q. And what's that?

A. (Bradstreet) I believe that's the capacitive coupling that I was referring to in the first description, where a voltage could be induced on a parallel pipeline.

A. (Bowes) The third and final type of interference would be "magnetic induction".

Q. Electromagnetic induction?

A. (Bowes) Correct.

Q. What impacts do those effects have on gas

pipelines?
A. (Bradstreet) So, in some cases, they could induce a voltage on the pipeline that would be at a different potential than the ground. So, there could be a concern that, if a worker was working on the pipeline, if there was an aboveground appurtenance from the pipeline, that somebody could make contact with the pipeline that is at a different voltage than the ground itself, and could result in that person being shocked.
Q. So, that's a personal safety issue?
A. (Bradstreet) Yes.
Q. And can that coupling or electromagnetic interaction affect the integrity of the pipeline?
A. (Bradstreet) I guess I believe, in most cases, the major concern with electric lines is personal safety. I'm not aware of a condition where there could be concern for degradation to the pipeline, other than if we were to impact their cathodic protection system, which is there to make sure that the pipeline itself doesn't corrode. But, again, that's part of

the interference analysis and working with the pipeline company.

Q. Okay. You keep referring to the "interference analysis". You say you have the plans and specs. When do we get to see the interference analysis?

A. (Bradstreet) I believe we stated earlier this month in the sessions that we would provide that when it's complete, and it's not complete at this time.

Q. And when can we expect to see that?

A. (Bradstreet) In the near term, in the next month or two, probably.

Q. And will you come back so we can look at that in the presence of the Committee and assess its integrity?

MR. NEEDLEMAN: Objection.

CHAIRMAN HONIGBERG: Grounds?

MR. NEEDLEMAN: They're here now, and they're here to answer the questions. And they have already represented that the information they believe is necessary to assess this issue is before the Committee.

CHAIRMAN HONIGBERG: Mr. Cunningham.

MR. CUNNINGHAM: I'm interested in this corrosion issue, Mr. Chairman. And we haven't gotten an adequate response yet from the construction panel on the ability of high voltage electric lines to corrode steel pipelines. And I'm sure that that's in the interference study.

CHAIRMAN HONIGBERG: I believe the question you asked was a "when" question, and I'm not sure how that relates to the argument you just made. So, the objection is sustained.

I suspect there are questions you can ask them that will get you answers to what you just said you're interested in.

MR. CUNNINGHAM: I can do a better job, Mr. Chairman. Thank you.

BY MR. CUNNINGHAM:

Q. Does your interference study assess the issue of corrosion, induced corrosion in steel pipelines by high voltage electric lines?

A. (Bradstreet) That is one of the items that the study is looking at, yes.

Q. And, so, when we get the interference study, you will come back so we can assess that in

front of the -- assess that study in front of the Committee, can we not?

MR. NEEDLEMAN: Same objection.

CHAIRMAN HONIGBERG: Mr. Cunningham, we're in a process where the Company has submitted information. If you want to make an argument ultimately that what they have submitted is inadequate or insufficient for the Committee to evaluate the things it needs to evaluate under the statute, you're free to make that argument.

MR. CUNNINGHAM: Okay. All right. Fair enough, Your Honor.

BY MR. CUNNINGHAM:

Q. So, to repeat the question, the interference study, when it arrives, will give an explanation of the corrosive effects of electric currents on steel pipelines, will it not?

A. (Bradstreet) It will address the issue, yes.

Q. And what can you tell us today about that issue?

A. (Bradstreet) That we don't believe it will be an issue that comes up as the study is

completed. As I stated, it's very common for transmission lines and gas pipelines to be collocated in the same corridor. If an issue is presented in this analysis, we will work with the pipeline to figure out what the best mitigation is. If it's a change in their cathodic protection system, that would be something that we would work with them to ensure that everything is safe at the end of the day.

Q. And, yes, we'll be able to get to see that, right?

A. (Bradstreet) I mean, I believe we will provide it to everybody for review.

Q. And is there a difference between the electric currents that come from AC lines and DC lines?

A. (Bradstreet) Yes. They're different.

Q. Explain that difference to us please.

A. (Bradstreet) So, an AC line has alternating current, that it's a sinusoidal waveform.

[Court reporter interruption.]

BY THE WITNESS:

A. (Bradstreet) So, the AC line has alternating current in a sinusoidal waveform. A DC line

has direct current, which is a constant current, it doesn't change polarity.

BY MR. CUNNINGHAM:

Q. Yes. Okay. And which is more dangerous to a steel pipeline?

A. (Bradstreet) I believe they're both something that wants to be considered as part of the pipeline. And a typical cathodic protection system utilizes DC current. So, I would say, depending on what your concern is, they're both something that needs to be evaluated.

Q. And will you address that difference, if there is one, in your study?

A. (Bradstreet) Yes.

Q. In your current study?

A. (Bradstreet) The DC line is evaluated differently than the AC line, correct.

Q. And that will be explained in your interference study, will it not?

A. (Bradstreet) What will be explained?

Q. The difference between AC and DC corrosive effects on pipelines.

A. (Bradstreet) I guess I would say "yes".

Q. And you talked about "cathodic protection".

What is that?
A. (Bradstreet) So, the cathodic protection is a system that the pipeline design would have come up with, again, when it was originally put in the AC corridor, to make sure that they didn't have any concern with corrosion on their pipeline. It's a system that basically protects their pipeline from corrosion.
Q. And are you telling this Committee and the intervenors that that system exists on the 1998 pipeline?
A. (Bradstreet) There is some sort of protection, yes.
Q. And have you looked at it?
A. (Bradstreet) I have specifically not, no.
Q. Has anybody from Eversource looked at it?
A. (Bowes) When you mean "look at it", looked at the design of it or looked at the --
Q. Looked at the condition of the so-called "cathodic protection" on the existing 20 year old pipeline?
A. (Bowes) I have not.
Q. And have you discussed the quality of that cathodic protection with the pipeline people?

A. (Bradstreet) I have not, no.
A. (Bowes) No, I have not.
Q. And what's the life expectancy of that kind of cathodic protection?
A. (Bradstreet) As long as the pipeline is in service, it will have some sort of protection.
Q. But you can't tell us what it is or what kind of condition it's in?
A. (Bradstreet) No. I can't.
A. (Bowes) So, I can tell you what type of system it is, but I cannot tell you the condition of it.
Q. Well, why don't you tell us that much.
A. (Bowes) It's impressed current system they use, along with an anode bed.
Q. And isn't it a known fact that cathodic protection on pipelines breaks down with time?
A. (Bowes) Not if it's properly maintained, no.
Q. But you don't know that?
A. (Bowes) It's a requirement of the pipeline company to maintain their cathodic protection systems and provide that information to the pipeline safety authorities or regulators.
Q. And that's what you're telling us, but you

don't know?
A. (Bowes) I have not seen their data, no.
Q. All right. And the anodic protection, is that like they install a less noble metal along the pipeline, and, when the electric current hits it, instead of corroding the pipeline, it corrodes the so-called "less noble metal", is that how that works?
A. (Bowes) I would say, in layman's terms, yes. It's a sacrificial type of system that doesn't require maintenance. And the anodes become the sacrificial element.
Q. And the coating on the pipeline itself, what's it made out of?
A. (Bowes) Specific materials?
Q. Yes.
A. (Bowes) I do not know. Typically, it's a plastic material.
Q. And you don't know the condition of that material as of this point?
A. (Bowes) Specifically, I do not, no.
Q. Are you familiar with the October 2015 INGAA Foundation Assessment of Corrosive Effects of High Voltage Electric Lines on Steel Pipelines?

A. (Bowes) Not specifically, but I'd be glad to review it.
Q. And do you know what INGAA is?
A. (Bowes) Maybe you could elaborate?
Q. It's a group that assesses the collocation of electric lines, high voltage electric lines and steel pipelines. It's an industry group.
A. (Bowes) Again, I couldn't hear what you said when you said the acronym. I don't know what it stands for.
Q. INGAA Foundation. Are you familiar with that group?
A. (Bowes) I'm familiar with NEES, are they a portion of that? Again, I'm just not familiar. I can't understand what the acronym means. Maybe if you describe what the actual abbreviation means, I might recognize it.
Q. It doesn't give -- it's not an acronym. INGAA Foundation, and this is a study dated October 2015, "The Criteria for Pipelines Coexisting with Electric Power Lines". Are you familiar with that study?
A. (Bowes) Not specifically, I am not.
Q. And I'll quote just briefly from the Executive

Summary: "Collocated pipelines, sharing, paralleling, or crossing high voltage power lines right-of-way, may be subject to electrical interference through electrostatic coupling, electromagnetic inductive, and conductive effects. If the interference effects are high enough, they may pose a safety hazard to personnel or the public, or may compromise the integrity of the pipeline." I guess you and I can agree with that?

MR. NEEDLEMAN: I'm going to object. I think, if he's going to be asked questions about a document, he should be able to see the document.

CHAIRMAN HONIGBERG: Mr. Cunningham, is that a document that you have in your possession that you can make an exhibit and share with the witnesses, so they have -- I don't even think they know -- it's pretty clear that they don't know the organization that authored that document or anything about it.

Maybe you just want to ask them if they agree with that statement, --

MR. CUNNINGHAM: That's what I

thought I asked them.

CHAIRMAN HONIGBERG: -- and then you can prove it up at some point.

MR. CUNNINGHAM: I thought that's what I asked, Mr. Chairman.

CHAIRMAN HONIGBERG: I think you said something -- and, after you read it, I think your question was something like "I think we can agree on that statement". But I think you need to introduce it a little bit more slowly. "Gentlemen, do you agree with the following statement?" How about doing it that way?

MR. CUNNINGHAM: Fair enough, Mr. Chairman. I'll read it again.

BY MR. CUNNINGHAM:

Q. "Collocated pipelines, sharing, paralleling, or crossing high voltage power lines right-of-ways may be subject to electrical interference from electrostatic coupling, electromagnetic inductive, and conductive effects. If the interference effects are high enough, they may pose a safety hazard to personnel or the public, or may compromise the integrity of the pipeline."

CHAIRMAN HONIGBERG: And does the panel agree with that statement?

WITNESS BOWES: Yes.

WITNESS BRADSTREET: Yes.

BY MR. CUNNINGHAM:

Q. And, so, we can be assured then, in your study, that you'll allay our fears about the issue raised by this INGAA study?

A. (Bradstreet) The items that you listed off are specifically why we are performing the analysis, yes.

Q. I'll look forward to seeing that. Thank you. I have a few more questions. Counsel for the Public reminds me that you indicated that the study that you're discussing, the so-called "interference study", would be ready in May. This is May 31st.

A. (Bradstreet) Yes. We do not have it completed yet. The target date was May. I believe, within the next few weeks, it should be completed, but it's not complete today.

Q. Are there other potential interactions between the pipeline and high voltage electric lines?

A. (Bowes) Yes, during construction. I think

Mr. Bradstreet talked about physical separation requirements. And, during construction, there could be impacts to the pipeline.

Q. One of the things that my clients are concerned about, and I'm sure all members -- any member, any intervenor in this case, is about blasting. I know your Alteration of Terrain Permits indicates that there will be blasting during this Project. But the Alteration of Terrain Permit application does not provide any specificity on where that blasting will take place or what impacts that blasting may have on intervenors in this case. Is that a correct statement?

A. (Bowes) I think it's -- no, I don't believe it is.

Q. I'm looking at the application for State Department of Environmental Services Alteration of Terrain Permit for the Northern Pass Transmission Project prepared by Normandeau Associates, Paragraph 9(b). And the question is posed: "Will blasting of bedrock be required?" And the answer was "yes". You're the construction panel. Do you agree with that

statement by Normandeau Associates?
A. (Bowes) Yes.
Q. And can you agree with me that you've not indicated where that blasting may take place?
A. (Bowes) I think we've indicated two locations where it will.
Q. Well, what I'm particularly interested in is about the foundations for the high voltage power lines through the Stark/Dummer/Northumberland --
A. (Bowes) We have not identified any locations in that geographic area where blasting is required.
Q. Will blasting be required for the foundations for the DC power line?
A. (Bowes) It may be required for the DC or AC power line.
Q. And have you identified which areas or which poles or towers will require blasting?
A. (Bowes) We have not.
Q. Now, according to the data requests submitted by the Dummer/Stark/Northumberland intervenors, Data Request 2 indicates there will be 159 relocated 115 kV towers. Could you agree with

that?
A. (Bradstreet) So, specifically where? I mean, I don't believe that's correct for the Project. Where specifically in the Project are you asking about?
Q. That's the data request from Dummer, Stark, and Northumberland?
A. (Bradstreet) That sounds correct.
Q. One hundred fifty-nine (159) relocated 115 kV towers. How many of those 159 towers will require blasting to set the foundations?
A. (Bradstreet) As consent of this plan, I don't believe we've identified any that we know will.
Q. Is it your testimony that none would require blasting?
A. (Bradstreet) That's not what I said.
Q. What did you say?
A. (Bradstreet) That right now we have not identified any that will absolutely require blasting.
Q. And will that issue be considered in your interference study?
A. (Bradstreet) No.
Q. And does blasting have an impact on pipelines?

A. (Bowes) Yes.
Q. And what is that impact?
A. (Bowes) Well, obviously, it could damage either the pipeline or the surrounding material around the pipeline.
Q. And how could that -- how does that happen?
A. (Bowes) So, when the blasting, either the excavation for the blasting, to set the charges, or the charges themselves could impact the integrity of the pipeline.
Q. And would that impact the actual physical integrity of the steel pipeline by vibration or how?
A. (Bowes) I guess, vibration, if that's the word you're choosing, yes, that would be a method of impact to the pipeline.
Q. Well, my question is then, with respect to the 115 kV towers, 159 of them, how close will those blast holes be to the pipeline, in terms of distance?
A. (Bowes) So, again, we have not identified any blast holes at this point or any blasting required.
Q. Well, when do we get to know that?

A. (Bowes) When the geotech results would indicate whether blasting has the potential. So, when we actually do the core borings.
Q. Well, when do we get to know that?
A. (Bowes) That would be later in the construction phase, prior to -- prior to construction.
Q. So, my clients and the intervenors in this case can't know that while this Committee is deliberating?
A. (Bowes) So, we've not identified any locations where blasting is required. So, I guess that means they would not know that at this point.
Q. And Data Request 1-7, Dummer/Stark/Northumberland, indicates that there will be 161 foundations that need to be constructed for the DC portion of the Project. Have you identified any blasting required for the foundations?
A. (Bowes) We have not, for the DC portion of the line.
Q. So, you haven't done it for AC or DC?
A. (Bowes) That is correct.
Q. Can you tell me the distance in feet of the DC foundation construction from the high pressure

gas pipeline?
A. (Bradstreet) It varies. I would say the closest that we would get to the pipeline itself I believe is around ten feet.
Q. Ten feet?
A. (Bradstreet) I believe so. I'm going off --
[Court reporter interruption.]
BY THE WITNESS:
A. (Bradstreet) I'm going off of memory.
BY MR. CUNNINGHAM:
Q. Just as a parenthetic, if I told you, in discussions I had with the Portland Natural Gas Pipeline folks, they told me that the existing H-frame 115 kV lines had to be at least 60 feet from the pipeline, would you agree with that?
A. (Bradstreet) No.
Q. You would not -- you would not agree what the Portland Natural Gas Pipeline people told me?
A. (Bradstreet) I guess I don't know who told you specifically. But the agreement -- the agreement that Eversource has for the easement provides us the opportunity to move as close as four feet from the pipeline, I believe.
Q. So, you're going to construct these foundations

within four feet of the pipeline?
A. (Bradstreet) That's not what I said. I said the easement language I believe was written to allow flexibility that, if it would be required, it could get as close to four feet.
Q. When do we get to see this agreement between you and Portland Natural Gas Transmission System?
MR. NEEDLEMAN: Objection. The agreement could have been requested during discovery. In fact, I think it was provided.
CHAIRMAN HONIGBERG: So, you're representing that the agreement was provided in discovery. Mr. Roth?
MR. ROTH: The agreement between -- the existing agreement between the gas pipeline and PSNH was provided and was submitted as an exhibit by Counsel for the Public, and I'm trying to locate it right now.
CHAIRMAN HONIGBERG: Mr. Cunningham, do you have questions about that agreement or are you just interested in its existence?
MR. CUNNINGHAM: I'm interested in its existence and its availability.

CHAIRMAN HONIGBERG: Well, I think it exists and is available.

MR. CUNNINGHAM: Fine.

BY MR. CUNNINGHAM:

Q. Now, I want to talk a little bit more about blasting in the foundation. I know this was testified to earlier, I can't remember when or by who, what number of cubic yards will have to be removed to create a foundation for the relocated 115 kV line?

A. (Bowes) I think, at this point, we've not identified any material that needs to be blasted.

Q. Well, I'm talking about the cubic yards of material that have to be removed?

A. (Bowes) Maybe I don't understand the question. You mean the actual foundation drilling?

Q. Well, let me ask it easier. What's the size of the foundation for the relocated 115 kV lines?

A. (Bradstreet) I think, in the DOE permit, we provided an estimated range. I think it was approximately 5 feet in diameter, and I think around 20 feet in depth. I don't know, I'd have to run some numbers to figure out exactly

what that volume is.
Q. Okay. And if it has to be blasted, how will that work?
A. (Kayser) Well, the blasting contractor would determine what size and type of charge they need to excavate a hole of that size. So, they would do some probing, determine what the nature of the rock is, and then they would determine their blast from that.
Q. And can you explain how that's done? What they would be looking for?
A. (Kayser) Again, what they look at is what type of rock, what type of rock, how hard is the rock, and then they will determine their blast from that. I'm not an expert on how they come up with all their blast. But they look at the rock, and what they need to blast out, and then determine it from that.
Q. Okay. But, as of this date, you don't know how that will be done? How many times that will be done?
A. (Kayser) That's correct. As Mr. Bowes stated, when they do the geotech, that will determine where they need to do blasting based on that

information.
Q. And, when the blasting is actually done, can you explain how that works?
A. (Kayser) I believe that we went through blasting in my prefiled testimony, or, in my supplemental prefiled testimony, we addressed some blasting. So, each of the contractors -- the blasting contractor will make sure the area is safe. They go through to come up with blasting plans. They do pre-blast surveys. And, then, during that time, they will make sure the area is safe. They conduct the blasting, and then they will conduct post-blast surveys, if necessary.
Q. And will that pre-blast survey include an assessment of groundwater?
A. (Kayser) As we stated, it would be, if there are any wells within -- I'd have to look at my testimony, but I believe it's within 500 feet of the blast, if there are any wells, they will do the testing that is required through the New Hampshire DES.
Q. And do you know how far away from any potential blast holes my clients' lodge is?

A. (Kayser) Not specifically, I do not.
Q. Have you done an inventory of any of the residences or properties within 500 feet of these power lines and potential blasted foundations? Do you have that information anywhere in your Application?
A. (Kayser) We know of the res -- we know of the structures that are near the corridor. So, as you determine where the blasting is, then they would then do the surveys of those specific structures that would be affected by that.
Q. But we don't have that information in front of us today and before this Committee?
A. (Kayser) As Mr. Bowes said, we do not know exactly where we're going to be blasting.
Q. And why is it important to do an assessment of groundwater?
A. (Kayser) Of the wells?
Q. Pre-blast assessment of groundwater?
A. (Kayser) Because, if the -- with the vibration, that could affect the well casing or have some particles in the wells. So, that's what the reason for that. The environmental committee may have more information on that. They're the

experts on that.
Q. And blast material itself can affect groundwater, can it not?
A. (Kayser) I do not know the answer to that question.
Q. Do you know what "ANFO" is?
A. (Kayser) No.
Q. Does anybody on this construction panel know what ANFO is?
A. (Bowes) I do not.
Q. "ANFO" is ammonium nitrate, it's fertilizer and fuel oil that's used for blasting. And does anybody on this construction panel know how ANFO is inserted into potential blast holes?
A. (Bowes) I do not.
Q. And, if I told you that you drill a hole, and you tamp or pump the ANFO into the blast hole, would you agree with me?
A. (Bowes) I do not know.
Q. So, you can't explain to the Committee the potential dangers to groundwater from the use of ANFO to blast?
A. (Bowes) I think that's an accurate statement. We do not typically do blasting for foundations

for transmission towers. In fact, I know we have several active projects going on right now in New Hampshire, none of them require blasting. So, it's a fairly unusual event. For substations and, you know, large amounts of rock, we've identified two locations. So, I think it would be a rare case where we would use blasting on this Project for transmission foundations.

Q. But we don't know that?

A. (Bowes) That is true.

Q. And one of the -- let me explain something. One of the components of ANFO, ammonium nitrate, is nitrates. Do you know what nitrate is in groundwater?

A. (Bowes) It's probably a question better posed for the environmental panel. I do not know.

Q. All right. If nitrate gets in groundwater from blasting, it causes blue babies. Does any of you know that?

A. (Bowes) Again, as I said, I think it's probably a question better addressed to the environmental panel.

Q. Well, you're the construction panel, Mr. Bowes.

I would think you would understand the implications and the dangers of blasting in groundwater -- next to groundwater?

MR. NEEDLEMAN: Objection.

CHAIRMAN HONIGBERG: Sustained. You don't really need to argue with these witnesses about who they are and what they know. Ask them questions. If they don't know, they'll tell you. And you can use that however you want.

MR. CUNNINGHAM: I don't have any further questions, Mr. Chairman.

CHAIRMAN HONIGBERG: All right. Next up is the Whitefield/Bethlehem abutters. Mr. Van Houten.

(Brief off-the-record discussion ensued.)

MR. VAN HOUTEN: Hi. My name is David Van Houten. I'm a intervenor from Bethlehem. The Whitefield to Bethlehem Intervenor Group legal team has no money and less experience. So, please bear with us if it's a little sketchy here.

BY MR. VAN HOUTEN:

Q. I own land in Bethlehem that is crossed by the existing PSNH corroder. Bethlehem has been a popular resort town for over a century due to the scenary, clean air, and quiet pace of life. We do not have one stoplight --

CHAIRMAN HONIGBERG: Mr. Van Houten, if you're going to read, you need to read slowly.

MR. VAN HOUTEN: Sorry.

CHAIRMAN HONIGBERG: And, if you're going to read, it would be better if you're reading questions, rather than statements.

MR. VAN HOUTEN: They're coming. They're coming.

CHAIRMAN HONIGBERG: Well, I hope they're coming soon.

MR. VAN HOUTEN: They certainly are. We okay so far?

MR. PATNAUDE: Go ahead.

BY MR. VAN HOUTEN:

Q. We do not have one stoplight in town, and we like it that way. So, please refer to Exhibit DWBA 15 **[**WBA 15**?]**, which is what I have up on the screen here. It's just a Google map

satellite image of the northern end of Bethlehem. Can you see my cursor?
A. (Bowes) Yes. Yes, I can. It's on Route 302.
Q. Right. So, it's pointed at Miller Pond right now, which is the southern end of the corridor. You'll be able to see the PSNH corridor, until it hits the property line -- the town line to Whitefield is. So, it's this, this is the corridor where the overhead line is proposed. Here is where the transition station is proposed, Transition Station Number 5. Is that correct?
A. (Bowes) It's actually, I think, on the other side of the right-of-way, but the general area is correct, yes.
Q. Oh, right. Sorry. It's really difficult for me to see. But it's -- so, it's to the east of the existing right-of-way, immediately to the east?
A. (Bowes) That is correct.
Q. Okay. So, Renewable Properties purchased a ranch house and a nine-tenths of an acre of land for the purpose of siting the transition station, correct?

A. (Bowes) I believe that's correct. I'm not specifically sure of the actual size of the parcel, but that sounds right.
Q. Okay. And nine-tenths of an acre is plenty of room for you to build a transition station?
A. (Bowes) Yes. I believe the dimensions are approximately 80 by 130. So, it would be, you know, less than a half an acre.
Q. Right. Okay. Have there been any changes to the plan for the transition station in the last month or so?
A. (Bowes) No changes to the plans, no.
Q. We have heard that there's a hotel being built on the adjacent site immediately to the east, at the old Baker Brook property. And that the new owner was horrified to hear that a transition station would be right next door, and that a deal is being made to move that transition station up the corridor north, say, between 500 and a thousand feet. We don't know any details, but this was publicly stated in a zoning board meeting in Bethlehem. I don't have the transcript of that as an exhibit, but I could provide it, if necessary.

But the engineer for the hotel said that there were discussions underway to change the location of this station. Do you -- anyone on the construction panel know anything about this?

A. (Johnson) So, I believe we testified earlier, about a month ago, that we have had discussions with the landowner that has the hotel. Those discussions will continue to go forward. But, at this time, the transition station is being located where the permit application is, and exactly on that property. Meaning, we're not planning on moving that transition station at this time.

Q. So, you have no plans to move that, but you might?

A. (Johnson) As I believe Mr. Bowes stated almost a month ago as well, we're always willing to listen to options that can better the Project.

Q. North of the transition station overhead construction is proposed, with towers ranging in height from 70 to 105 feet to be built on the existing corridor. Can you tell me the locations of staging and laydown areas that

would serve construction along the corridor just north of Route 302? So, that's just north of the transition station right there.

A. (Bowes) So, we've testified previously that the method of construction would be to use the construction pads in a serial type process as the laydown areas. So, we would come in, do the -- first would be any vegetation management or tree removals that were necessary, then there would be temporary road-building, including the construction pads. And we would actually use the construction pads to stage the materials for the overhead lines for the structures themselves. And, then, we have not identified, if that's your question, specifically for the Town of Bethlehem, if other locations would be necessary. Obviously, the transition station location right there would be a prime location to use as well. We have not specifically identified that at this point.

Q. Okay. So, you just need to know if there's enough space there to use that?

A. (Bowes) Well, again, --

Q. The transition station, for example, as a spot?
A. (Bowes) That's a possibility.
Q. Okay.
A. (Bowes) But, you know, obviously, we have several construction pads that will be located within the right-of-way. They're approximately the same size as that transition station.
Q. Okay. Can you tell me how the construction site will be accessed from public roads?
A. (Bowes) For this part of the corridor?
Q. Yes.
A. (Bowes) Yes. I believe there is a set of maps that show the access roads for each location. We can certainly call them up, if you'd like.
Q. So, access roads, so you would be coming right off of Route 302?
A. (Bowes) That's one of the locations, yes, for this portion of the right-of-way.
Q. We'll get to anything north of 302 in a minute. Okay? Let's assume you have established suitable access to sites where towers will be erected. For each of these towers, you need to do preparatory site work, build the foundation, assemble the tower, and string wire, right?

A. (Bowes) In general terms, yes.
Q. Yes. Can you tell me roughly how many trips it takes to get a tower completed, including all traffic of workers, materials, and equipment?
A. (Bowes) So, just the tower itself or the preliminary work you discussed as well?
Q. Well, everything. To go from where we are today, to having a completed tower, with wires strung on it. And, obviously, you don't know exactly, but roughly would be a good idea to know.
A. (Bowes) So, I can start, and John may be able to add as well. There would, obviously, be crews and vehicles necessary to do the tree work along the right-of-way. So, that would probably be a few vehicles based on each location. The workers would access those vehicles. The vehicles themselves would probably come off the right-of-way at night. So, they would be going on and going off.

There will be road-building activities, that will be dump trucks, potentially swamp mats. In this area, I believe it's fairly wet. So, there would probably be a series of swamp

mats. So, there would be vehicles and probably cranes that would come in to remove the swamp mats and place them into the corridor where the access road would be built.

Following that, we would build the pads themselves for a specific tower. That would probably take several vehicles and several days to do that. So, the vehicles would be going on and off. We would then drill a foundation or a series of foundations, depending on which type of structure it was. Assume it's a lattice structure, we'll be doing four foundations. Each one of those would probably take a few hours to a couple days. So, again, the vehicle would be going on and off the right-of-way for that. Possibly, in that case, because the construction pad was built, that vehicle might stay there in place for approximately a week.

Following that, if it's a lattice structure again, vehicles would deliver the steel, and it would be assembled on-site. Probably two to three vehicles for a lattice structure.

The conductor itself probably would not be

from this specific hypothetical location. Those will probably be located every few thousand feet, where we have conductor pulling and/or helicopters in use to do the conductor pulling and what they call "clipping in" or attachment to the structures themselves.

Did I give a general sense of what you were looking for?

Q. Yes. But it doesn't give me a general sense. Can you give me a general number? Are we talking like 100 trips?

A. (Bowes) That's probably a little high. I would say 25 to 40 trips per location.

Q. Okay. Can you tell me how many weeks or months of uninterrupted work it takes to put up one tower?

A. (Bowes) So, I'll have John start, maybe I'll --

A. (Kayser) Yes. And, as Ken said, that the foundation, probably three to five days to drill and pour a foundation. Then, once the -- the foundation has to set, so that -- has to set at least seven days before they can begin erecting the tower on it. So, once the foundation is cured enough, they will set the

tower, usually a day or two to set the tower. Once that's done, then the conductor pulling operation. So, as Ken said, that will depend on the reel length. So, if you have a 10,000 foot reel of conductor, they will pull that. That's about a week's time to pull it, but they will have to come to each of the structures. Put the conductor pulling blocks on there, they will pull the ropes through, then the conductor, and then come back and clip it in. So, it's about a week's time, with a couple of trips to each of those.

A. (Bowes) So, maybe to make it clear, is it's not a -- each structure, the sequence of work isn't in the same period of time.

Q. Right.

A. (Bowes) So, typically, the vegetation management or tree clearing will be done in the winter months. Road-building in the summer months. Foundations probably some months after that, possibly even a different construction season. And, then, the tower erection and conductor pulling would probably be separated by several weeks at a minimum. So, it's

probably five or six different progressions of work at each structure location.

Q. There are about 30 towers proposed along the corridor from Route 302 to the Ammonoosuc River. So, do we just multiply the number of trips and the amount of time you just mentioned by 30?

A. (Bowes) Probably not. There will probably be some synergy of vehicle use. And, as I said, we're going to kind of move from one construction pad to the next. So, vehicles might not be coming off the right-of-way in every case.

Q. Yes. Uh-huh.

A. (Bowes) It clearly would be for, you know, the foundation, the concrete, vehicles will be coming on and off. The structure, you know, deliveries would be on and off. But some of the other activities, the vehicles would stay. For example, drilling would probably go in a sequence of all 30 structures along.

Q. Yes.

A. (Bowes) So, all the vehicles would not come off. So, I would probably estimate up to

25 percent of the vehicles would not be coming off in a sequence of 30 structures.
Q. Okay. Do you know that there's no existing road on this part of the corridor?
A. (Bowes) That is correct. And I know it's also a fairly wet area.
Q. Do you propose to construct an on-right-of-way road along the corridor for four miles, because that's how far it is for Route 302 to the Ammonoosuc River?
A. (Bowes) So, I believe, looking at the maps that -- One-Touch that Mr. Johnson has up, it looks like that is the location, all of those structures would be accessed along a single road from Route 302.
Q. Okay. How wide would such a road be?
A. (Bowes) I think what's in the Application is pretty accurate, probably 12 to 14 feet wide. And, again, if it's swamp mats, it will be the dimensions of the swamp mat.
Q. So, the crane trucks are okay on 12-foot wide road?
A. (Bowes) I would say yes.
Q. Okay. Building a road big enough to

accommodate heavy equipment where there is now none constitutes a significant change in the use of the property. Do you know who owns this property?

A. (Bowes) So, there's a variety of owners of the property.

Q. Uh-huh.

A. (Bowes) PSNH has an easement across that.

Q. Uh-huh. Have you asked any of the landowners along this part of the corridor for permission to build such a road?

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

Q. Well, there's no mention of road-building in my easement deed. So, it seems to me that you need to ask my permission to build a road across my land.

A. (Bowes) Is that a question?

Q. No, that's just a statement. I just thought I'd put it out there, because, you know, the question was "if you had asked anyone's permission?" And that creates a problem.

You can see from the satellite image here that there's not much going on here, it's sparsely populated, and, therefore, a pretty

quiet place. Traffic along the corridor during construction would have a noticeable effect on our quiet enjoyment of our property. Please explain why we should be expected to endure this.

A. (Bowes) So, I was fine with the question up until the last part of that. I'm not sure I can explain how you can endure something.

Q. Well, it's not how we can endure it. Why should we be expected to endure it? We purchased the place, we live where we live because of the quality of the experience in living there, which does not include heavy construction. And we might consider enduring this if we had a good reason to, but we have not been presented with a good reason yet. If you don't have one, that's okay.

A. (Bowes) So, again, I'm not sure what the question is.

Q. Okay. We'll move on. And this raises it a little bit differently. A new road along the right-of-way would be an attractive nuisance and would result in future traffic where there now is none. This would also affect the quiet

enjoyment of our property for years to come. You with me so far?

A. (Bowes) So, I would disagree. That the roads we plan to build are temporary in nature, and we plan to remove them at the end of the construction phase.

Q. I heard what you said. You have stated that mats would be used to enable travel through some wetlands area -- areas. Are there any mats planned for use along this part of the corridor?

A. (Bowes) From what I have seen of this part of the corridor, I would say, yes, we would plan to use mats.

Q. How big are these mats?

A. (Kayser) About 16 feet wide, 12 or 16 feet wide, 4 feet in length. So, you just set them down every four feet.

Q. And these are like 12 by 12s or something all put together?

A. (Kayser) Eight (8) by 8s or 12 by 12, yes.

Q. Okay. How heavy is the largest piece of equipment you propose to put to use along this part of the corridor?

A. (Kayser) I don't know the exact rates. But, as we talked last time, that you've got the cranes are probably your heaviest piece of equipment.
Q. Or comparable?
A. (Kayser) Yes, comparable.
Q. Okay. So, if you've got a wetland -- if I were to -- if any of us were to walk down there today to where -- to the corridor, to the wet spot that you've seen, you might be going in to your knees in water. So, if you were to take one of these mats and put it down, and then drive an excavator on it, it would probably sink, and the excavator would be in the water. Would you then use multiple mats? Is that how that works?
A. (Kayser) Possibly. They will possibly stack mats to make sure that the excavator or the equipment can drive up and down the right-of-way. They can do it during frozen ground conditions. And they will follow the best management practices for the wetland areas.
Q. Okay. So, you propose to remove these mats upon completion of the project construction,

right?
A. (Bowes) That is correct, yes.
Q. What do you plan to do with them?
A. (Bowes) So, mats can be, if they're still in good condition, they will be recycled and reused.
Q. Okay.
A. (Bowes) If they're not, they will probably be, you know, chipped and burned.
Q. All right. Do you know that there are no secondary roads that offer access to this part of the corridor?
A. (Bowes) That is correct, according to our maps.
Q. Page 21 of John Kayser's prefiled testimony indicates that you have an inventory of possible access roads. Do any of them offer access to this part of the corridor? And I'm speaking about, you know, some private landowners.
A. (Bowes) We have not identified any that we would use. Just Route 116 and Route 302 for this section.
Q. You can't get there -- well, you can't get to the southern -- the far south of the Ammonoosuc

River, you can't access from Route 116.
A. (Bowes) Understood. But I'm looking at the whole map.
Q. Yes. Thank you. So, there won't be any staging, laydown, or storage areas up to the north there. Everything will be coming in right at Route 302, sort of at the Miller Pond there?
A. (Bowes) For this portion of the right-of-way, that's correct.
Q. Right. Okay. Okay. On Page 15, which is Line 21, of John Kayser's testimony, he states that "All construction laydown yards and temporary storage sites will fall under the permits for this Project and will be established and maintained in accordance with all permit conditions. NPT requests that the Committee delegate approval authority, to the extent any approval may be necessary, for all construction laydown yards and temporary storage areas to the New Hampshire Department of Environmental Services (DES)."
So, if these are necessary Project activities, why should they be exempt from SEC

oversight?
A. (Bowes) So, I don't think we're saying they're "exempt". We're saying -- we're asking for a delegated authority. We have asked this on previous projects, like the Merrimack Valley Reliability Project, and we believe that's a successful model to follow for this Project.
Q. Well, why should DES, and not the SEC, be empowered to evaluate the impact of the development and activity at these sites?
A. (Bowes) So, we believe the DES has a better ability to manage the environmental aspects of a laydown area or a show-up site than the SEC does. They have the ability to do that, to evaluate our use of their best management practice. And they would have inspection capabilities and regulatory authority as needed.
Q. Well, when did DES become qualified to assess all of the criteria spelled out in Site 301.14 through 301.16, because there are other issues, aside from the environmental issues, in any of these assessments?
A. (Bowes) So, without reviewing those specific

segments, I can't answer the question. But, if you have those, I'll be glad to look at them and go through each one, each one of the criteria.

Q. I'm not going to go through that now. It's too much trouble.

So, have you received a response to this request that this authority be delegated to DES?

A. (Bowes) Not at this time, no. We believe it will be part of the certificate conditions.

Q. Who will provide independent third party oversight of construction activities?

A. (Bowes) So, again, depending on your definition of "independent third party", the Project certainly will hire independent inspectors, that will report directly to the Project Director, not to the constructors or subcontractors for the Project. And, obviously, the DES has responsibility and authority to monitor the Project as well.

Q. Well, I'm more interested in skeptics like me, who would like someone who is not chosen by a project, who is chosen by an external

authority, a supposedly impartial outfit somewhere, so that we can be assured that what the things that you say you're going to do and the conditions are adhered to.

A. (Bowes) I understand your position and don't disagree with it.

Q. Okay.

A. (Bowes) We typically have independent environmental monitors on our projects. It's not something that we would oppose in this case.

Q. And who will pay for this?

A. (Bowes) The Project would pay for that.

Q. Okay. On June 20th, 2016, I met with Sarah Hoodlett **[**Hoodett**?]**, Brian Bosse, and Dana Bisbee, all representing Northern Pass, at my property in Bethlehem, to give them an opportunity to explain what was proposed there. I wanted to know exactly where the towers would be located, how tall they would be, and the dimensions of the foundations. They made it clear that the plans were preliminary and subject to change, and were not able to answer any of these questions. Has that changed?

A. (Bowes) So, I believe we can answer those questions right now, if you'd like?
Q. So, you know precisely where the towers will be and what the foundations will be on my land?
A. (Bowes) I believe so, yes. The foundation --
Q. So, --
A. (Bowes) Again, the foundation design would be somewhat generic in nature, until the geotech is done. But we can clearly identify where the tower would be on your property, the heighth of the tower, and what would be required to construct that tower.
Q. Okay. So, if I put in a request to the Project to send someone out to walk the property, they would come along and we could sort that out? I wanted to be able to put a stake in the ground.
A. (Bowes) And we have done that for several of the easement holders or the landowners where we hold an easement. We have actually sited where the structure would be, where the foundations would be with stakes.
Q. Okay. So, I'll just have to put in that request.
A. (Bowes) No, you don't have to. You just did.

We will follow up.

MR. VAN HOUTEN: Okay. Thank you. I have no more questions. Thank you.

CHAIRMAN HONIGBERG: All right. Next up is the Bethlehem/Plymouth Abutters, Mr. Palmer's group. Mr. Palmer has given us a sheet of paper identifying four people to ask different areas of questions. That's Mr. Lakes, Dr. McLaren, Ms. Meyer, and Mr. Palmer himself. And that on its -- you know, it's consistent with how you've been asking your questions, and we're going to allow that to take place.

I'll just note that at least a dozen of the categories listed here are issues that have been covered by others. So, to the extent you can avoid repetition, a lot of people will be happy with you. Understanding that you're entitled to ask the questions you're entitled to ask, but, if you're asking the same questions that have already been asked and answered, there may be an objection.

And we'll get started. You want Mr. Lakes to go first, Mr. Palmer?

MR. PALMER: Yes, please.

CHAIRMAN HONIGBERG: All right. Mr. Lakes, you may proceed. We're going to take a break at some point in the next 10 or 15 minutes, but why don't you get started.

[Brief off-the-record discussion ensued.]

MR. LAKES: Carl Lakes, with the underground abutters group. I've got a few questions. And, in the interest of trying to make this move along, I guess "yes" and "no" is probably the best thing. But, you know, where there needs to be elaboration, feel free to do that.

BY MR. LAKES:

Q. In the Connecticut underground -- I'm sorry. Let me just start here. I believe you mentioned in the last session a total of 159 splice vaults on the underground route, and 23 to be fully in the road. Does that sound accurate?

A. (Johnson) I believe that was accurate at the time, yes.

Q. Dimensions at 8-foot by 8-foot by 34 feet long?

A. (Bowes) I believe that's the excavation dimension, yes.
Q. I think that's the size of the vault from what I got from my notes the last time. I just wanted to confirm that, because I believe the hole is going to be quite a bit bigger than that.
A. (Johnson) I believe the dimensions are 8 by 8 by 30.
Q. Okay.
A. (Johnson) And the excavation would be a foot to a foot and a half wider.
A. (Scott) So, as shown in the drawings, the length is 34 feet, 2 inches in length.
Q. Okay.
A. (Scott) The width is 7 feet, 10 inches. And the depth of the vault itself is about 8 feet or so.
Q. Yes.
A. (Scott) Or the "splice pit", I should say.
Q. Okay. So, you're basically planting a structure equal to the size of half a house in the ground every third of a mile. Does that sound pretty reasonable?

A. (Bowes) By "reasonable", do you mean "is it accurate?"
Q. Well, I guess house size varies. But, you know, there are plenty of ranches out there where, if you doubled the size of that, you would have a pretty good size house. So, that's what you're planting in the ground every third of a mile. Anyway, I'm just making the point.
A. (Bowes) So, I believe what you said is accurate. You know, I mean he read the dimensions to you.
Q. Okay.
A. (Bowes) And the splice vaults will be located approximately every third of a mile.
Q. Yes. So, where vaults are placed, there needs to be vehicular access at all times, is this correct? In other words, where you have a vault, if you need to work on it or something like that, you need to have access to that vault. So, certainly, planting trees around it and things like that are probably not something you're going to do or that would be allowed to happen?

A. (Bowes) So, I think you're talking about after the construction is complete?
Q. Correct.
A. (Bowes) So, that would be accurate. Either above the duct bank or above the splice enclosures, plantings would be limited.
Q. So, everywhere a vault is placed, a permanent space around the vault is necessary. What is the size of that footprint around the vault, in terms of where it needs to be cleared or remain cleared?
A. (Bowes) So, I would say the general area would be the dimensions of the splice enclosure itself. I don't think that --
Q. So, you're saying that --
A. (Bowes) I don't think we would limit the planting next to the splice vault in any way.
Q. Will there be any signage around the vaults?
A. (Johnson) No. No.
Q. Okay. Would it be safe to say, because of the narrow roads in Easton and in Franconia, and lack of shoulder, wetlands, drop-offs, that there will be a number of vaults under the pavement and/or half under the pavement and in

the shoulder?
A. (Johnson) It is entirely possible, yes. I don't have the specifics in front of me to say "yay" or "nay".
Q. Is it true that DOT prefers the vaults totally outside the pavement?
A. (Johnson) That is part of their Utility Accommodation Manual, yes.
Q. How many vaults are planned to go fully under the road in Easton?
A. (Johnson) I do not know off the top of my head. As you alluded to earlier, there are 23 on the total Project.
Q. Do you have variances to put the vaults under the pavement at this time from the DOT?
A. (Johnson) We have submitted variance requests for a certain number of them. That request process continues. So, as of this time, the DOT has not ruled on any of our variance requests.
Q. Okay. So, basically, 18 months after the submittal of the Application, NPT cannot tell landowners if half a house will be put in their front yard?

A. (Johnson) So, I believe, as we have discussed many times over these sessions, the splice pits will be placed within the DOT right-of-way. So, it's -- you know, the supposition that it's "going to be in somebody's front yard" I believe is incorrect.
Q. And why is that incorrect? I mean, you know, people's front yards do include this right-of-way, and no one thinks of it as being something that people can, you know, throw a half a house into at will. So, basically, these people are left to the unknown, in terms of, you know, when or where these vaults will be placed on the roads. Is that correct?
A. (Johnson) So, I believe that we have stated that we will be in the disturbed areas of the ditch lines of the roads, and not -- and one of the criteria is that -- that we're adhering to as a project is to not put it in somebody's yard, where we will disturb any kind of plantings or stonewalls or anything like that.
Q. So, you prefer to put the vaults in the road, is that what you're saying?
A. (Johnson) The Project would definitely prefer

them in the road for many reasons. We are working with the Department of Transportation to adhere to the Utility Accommodation Manual as much as we can.

Q. Now, in terms of the depth of these holes, from what I've read from the DOT, the top of that vault needs to be three feet below the surface of the ground. Are you working on a variance for that so you can make those vaults shallower?

A. (Johnson) No.

Q. So, they are going to be at least three feet under the ground?

A. (Johnson) That is correct.

Q. Okay. Please state the land use restrictions with regard to trenching and splice vaults. In other words, distance of trees, planting new trees, new stonewalls, driveways, fences, signage, what are the restrictions that are involved around trenching and the vault?

A. (Bowes) So, as I said before with the splice enclosures, we would not allow plantings directly above either the duct bank or the splice enclosure. But, adjacent to it, I don't

believe there will be any restrictions.

Obviously, if you're going to do, you know, mechanical excavation, the DigSafe process would be required, because it's, you know, part of the state law today. So, if you're going to be putting something into the ground, you'd have to go through that process and get a proper mark-out.

Q. So, in terms of planting trees and that sort of thing, say that the trench is, you know, running through the front of somebody's yard, you know, hopefully closer to the road, but, if not, what is the limitation in terms of where you can plant a full size maple tree, that type of thing?

A. (Bowes) That's a better question, so it's more precise. So, a full size maple tree, over time, may encroach into the duct bank and into the splice enclosure. A general rule of thumb is, the crown of the tree will be where the roots are.

Q. Correct.

A. (Bowes) So, since it's going to be a very large tree, you probably want to back off from the

splice enclosure or from the duct bank by that distance.

Q. Okay. So, you're saying that, if the tree at full growth, if the roots go out 20 or 30 feet, then you should plan, when you plant -- when you do your plantings, that you should be 20 to 30 feet away from that trench?

A. (Bowes) For that specific example, yes. Same as you wouldn't plant that tree 20 or 30 feet from your house. You'd want to --

Q. Okay.

A. (Bowes) You would want to have separation, so the routes could develop fully, and the tree has a chance to be uniformly -- uniformly developed in its growth.

Q. So, people that have small yards, and this thing is going to be there, and say their house is 30 feet off the road, in fact, I know a house across the street from me that is roughly 15 to 20 feet off the road. So, they will have to plant a tree in the center of their house.

A. (Bowes) So, I would say they would have to select a species that would accommodate the requirements, both from the DOT, the DOT may

not allow a planting within their right-of-way like that either, but we would put some restrictions on what type of vegetation they could add.

Q. Now, are these restrictions from Eversource or are they from the DOT?

A. (Bowes) Depending on the nature of what the placement or the encroachment within their right-of-way, the DOT has some authority in that. Eversource would only do it during a maintenance activity. And, ultimately, that tree probably would not flourish if it was directly adjacent to the duct bank, it would likely die, and it would not be --

Q. When you say -- excuse me. When you say "it would likely die", what do you mean? That there's something from the duct bank that would kill the tree or that it's going be cut down because it's too close to the duct bank?

A. (Bowes) So, it's not something from -- no materials or things like that or things from the duct bank itself. It would just be that the growth of the roots would not develop properly, so it likely would not flourish.

And, ultimately, it would have to be removed when it died.

Q. Okay. Will Eversource, maybe in conjunction with DOT, provide a hard copy of restrictions around these, you know, the trench and the vaults, will it provide written information and when will that be?

A. (Bowes) So, I don't believe we've developed anything at this point. We certainly can. And it would be, when a certificate is issued, we could develop that. We already have brochures in availability for "Right Tree Right Place". So, there's not going to be a lot of difference between what's already publicly available from Eversource to what would be required in this case. But we could certainly document in writing any restrictions for plantings adjacent to the duct bank or to its splice enclosure.

Q. Okay. Moving on. In the case of underground line failure, is the cable pulled out and replaced or is it repaired?

A. (Bowes) So, the cable itself would be pulled out and replaced. If a splice were to fail, it might be a repair, but it's highly unlikely.

Q. You're talking about the splice in the splice vault?
A. (Bowes) Correct.
Q. So, if that failed, you'd probably still have to change the cable out, you're saying?
A. (Bowes) Probably, I would say yes. And I would say it would be a rare case where we could just replace the splice.
Q. Can I assume that the entire surface of two vaults needs to be opened up to pull the cable for repair?
A. (Bowes) Yes.
Q. Would it require backhoes, cranes, dump trucks, and shut down one lane of a road for at least a third of a mile, and how long would this be? How long would that process take?
A. (Bowes) So, I don't think it would shut down -- first of all, I don't think it would shut down for a third of a mile. It would shut down at each splice enclosure location.
Q. Yes.
A. (Bowes) The time sequence to do a repair on an underground cable would probably be three to four weeks in duration.

Q. Three to four weeks. Thank you. If the vault is buried off pavement, how can you be sure that the vault will not encroach on right-of-way boundaries, if the survey area, as has been clearly stated in earlier proceedings, is highly questionable? I think in the last meetings that we had, it seemed as though the boundary lines were fluid at best. What happens if you actually place a vault over that boundary line, number one, and if a residence takes Eversource to court over a boundary dispute, will construction be halted in that particular place?

MR. NEEDLEMAN: I'm going to object as to the second part of the question. It calls for a legal conclusion.

CHAIRMAN HONIGBERG: Mr. Lakes.

MR. LAKES: I don't know that it calls for a legal conclusion. I mean, I would -- well, based on your -- maybe I can change it.

BY MR. LAKES:

Q. Based on your experience with other underground situations that you've had in the past, has

there ever been an issue where a boundary was crossed and there was a dispute that needed to be settled and how was that settled?

A. (Bowes) So, I can answer the -- I'll answer both the original question and the second question. So, "how it would be done", in the hypothetical question, is, if we located something that was not within the DOT right-of-way, and we discovered that, we would either have to relocate it or seek agreement from the property owner. If the property owner said "no", we would have to move the underground structure.

Now, the second part of the question or the second rephrasing of it, "has it ever happened?" It has not happened with underground transmission facilities. It routinely happens with overhead distribution facilities, where we find out we have placed a pole on private property without the necessary rights, easement rights. In that case, we give the property owner a choice: To provide us the rights or we will remove the facilities.

Q. Okay. Can a paved driveway be put over the

splice vault?
A. (Scott) The general answer would be "yes". You could pave over it, and then that paving would be removed to access it, if that were a necessity, and then the paving would be restored after grade restoration.
Q. Is there any special type of permit that's necessary to be able to do that? I mean, somebody decides they're going to put in a driveway. Do they have to go through any different process than they go through now, going over that vault, or over the trench, for that matter?
A. (Bowes) I don't believe so, no.
Q. In many cases, when you build a driveway, you have culverts underneath, you know, for flow of water, *etcetera*. If somebody wants to build a driveway over a vault, but it's necessary to have a culvert, what's the procedure with that?
A. (Bowes) So, I think it would be the same procedure you would follow today. You would have to go through the DOT for the necessary permits to do that. There might be another step in the process, where Northern Pass would

also review the plans that you've submitted to DOT, and we might have some comments or some changes on those plans.

Q. So, there could be some severe restrictions with that regard, and very possibly the landowner told that there's no way you can put this there and get the drainage that you're looking for?

A. (Bowes) I guess, in the hypothetical, that's possible. In the practical, I don't think it's a very common occurrence, where we have denied someone access when they want to cross over the duct bank.

Q. I know, but I'm talking about the culvert part of it. If you need to go under the driveway, and the "half a house" as I call it is sitting there, you're not going to put that culvert in.

A. (Scott) So, typically, the depth below-grade requirement that we're being asked to be installed at would put us below the elevation that that culvert for that driveway crossing would be installed at.

Q. Well, that would depend on the grade of the land and so forth, isn't that correct?

A. (Scott) Potentially.
Q. In the event of a transmission line failure, a driveway, paved or not, over a vault would have to be ripped open. Who is responsible for the driveway repair over the vault if repairs need to be made?
A. (Bowes) So, in this case, it's over the splice pit, the driveway?
Q. Yes. Yes.
A. (Bowes) Northern Pass would be responsible for restoring the driveway. The same thing if you had to, for some reason, get into the trench for something?
A. (Bowes) Yes. The most common occurrence would be a third party that would excavate and penetrate into the duct bank or trench. In that case, we would probably file a claim against the third party, but Eversource would still be responsible for restoration. We would just pass those costs onto the causer of the -- of the excavation.
Q. Again, so, if people put plantings or stonewalls, things of that nature, over these structures, Eversource would make good on

whatever costs are associated with putting that back to the way it was?
A. (Bowes) So, I believe I said we would not allow plantings. We didn't talk about stonewalls. But we said no plantings over the splice enclosures or the duct banks.
Q. All right. So, when you do work on a splice vault, you would -- the truck would be working on the road part, and not on the inner part or yard part of that vault?
A. (Bowes) So, I think I understand your question. If, during maintenance or repair, we cause damage to the things on a person's property, we would do the same thing Eversource does today. We would repair those to the satisfaction of the customer. And, obviously, there's a claims process if the customer is not satisfied. But our intention would be to restore the person's property to the condition that we found it.
Q. Does NPT or Eversource plan on giving each landowner a written guarantee of its obligations in this regard? In other words, you know, somebody's not thinking about it, but all of a sudden something happens around either

the trench or the vault, they go "My God, I don't even know what to do with this." I mean, is there going to be something in writing that Eversource is going to give to people so that they have something that they can go to, if there's an issue or a restriction or anything of that nature, or a guarantee as you were saying? Will you have a written guarantee that you will put everything back the way it was?

A. (Bowes) So, we would plan to use the same process we do now with Eversource for Northern Pass. And I don't know if it's a written guarantee that we provide, but we do provide restoration of a customer's land or property. We have a claims process, if they're not satisfied with that. And, obviously, there is legal recourse by the property owner if they're not satisfied with the first two. I believe we would want to follow the same process.

So, I don't think you're going to see a different written guarantee from Northern Pass than you do today from Eversource.

Q. Okay. Moving on, in the Connecticut Underground Project from Middletown to Norwalk,

Eversource paid landowners for the use of their property to place splice vaults, I believe that was mentioned in the last meeting that we had. Is this correct?

A. (Bowes) That is correct.

Q. How much did you pay?

A. (Bowes) Fair market value.

Q. For that piece of square --

A. (Bowes) So, the process we used was we had independent appraisers appraise the property. And, if it was just a temporary use of their property, they were paid something different. But, if it was a permanent use, with an easement restriction on the property, then it was a different -- a different fee. But it was set by independent appraisals of the property and the market conditions at that time.

Q. And why isn't this the case in New Hampshire? Why aren't the people along the underground route being paid?

A. (Bowes) So, if we use their property, we are willing to do that.

Q. You're willing to pay individual landowners along the underground route for the use of

their property?
A. (Bowes) If we go outside the DOT right-of-way, which is the case in Connecticut.
Q. No, I'm talking about -- yes, okay. If it was outside the right-of-way, you're willing to do that.
A. (Bowes) Yes, we are.
Q. Why aren't you willing to do it if it's in the right-of-way?
A. (Bowes) Because it's already within the right-of-way.
Q. But I represent to you that the DOT controls the land through easement, not Eversource. And that the DOT possibly could add stipulations, like direct payment to landowners, in the light of the circumstances where Eversource has received a plethora of variances, which, in fact, if you didn't have, this project would be dead on arrival.
A. (Bowes) So, again, I'm not sure there's a question --
CHAIRMAN HONIGBERG: Yes. I'm not sure there's a question there either.
MR. NEEDLEMAN: And I'm going to

object at this point, because this all relates to legal issues about the scope of the use of the right-of-way, which have been the subject of extensive litigation already.

CHAIRMAN HONIGBERG: Yes. I don't know. Do you have a question for the witnesses regarding this topic?

MR. LAKES: Well, I guess, you know, what I'm trying to put together here is, you know, that the landowners own the land, and I know this is getting into the legal stuff, but, you know, people in Connecticut were paid to have these vaults put into their land.

CHAIRMAN HONIGBERG: Well, why don't you ask them if that's true.

MR. LAKES: It is true.

CHAIRMAN HONIGBERG: Why don't you ask them. You're not under oath right now, they are.

BY MR. LAKES:

Q. Well, again, as you stated, or the people in Connecticut paid for the placement of the vaults in their yards, correct?

A. (Bowes) Again, they were paid when it was

outside of the DOT right-of-way.
Q. Right.
A. (Bowes) And we are willing to do that, as necessary, with Northern Pass. If you want to grant us temporary construction rights or permanent easement rights to place facilities on your property, outside of the DOT right-of-way, we're willing to talk about that.
Q. Okay. We'll move on. What happens to these splice vaults when the line is decommissioned?
A. (Bowes) So, as part of the Decommissioning Plan, we will follow the rules that are in effect today, which means removal down to 48 inches below grade for the spice enclosures. And I believe we have said the duct banks would remain intact as they are today, or as they would be when the Project was retired.
Q. So, let me understand that. You're saying that the splice enclosures, which I call "splice vaults", they're going to be removed four feet down?
A. (Bowes) Correct.
Q. So, these are basically broken in half, I guess is what you're saying? You're taking half of

it out?
A. (Bowes) Approximately, yes.
Q. So, the remainder of that vault will be the responsibility of who, if for some reason work needs to be done, that goes deeper than the four feet?
A. (Bowes) The entity that is doing the work at that point.
Q. So, it could be the DOT or it could be the landowner that would have to find some way to remove that thing?
A. (Bowes) That is correct, I believe.
Q. Okay. At the horizontal drilling sites, you say "three to five weeks of preparation and drilling". Then there will be a period of time when prep work will proceed and follow the cable installation. Is this another three to five weeks? In other words, just getting back to the hydraulic -- I should call it the "horizontal drilling" part, the time frame involved with each one of those is what?
A. (Scott) Can you be more specific?
Q. Well, I'm looking for a general time frame around horizontal drilling?

A. (Scott) Okay. I believe we've previously addressed that. But, typically, it's in the three- to five-week, most likely the five-week time frame.
Q. Now, that's just the drilling portion, correct?
A. (Scott) Correct.
Q. And, so, there's work that needs to be done before and after, which encompasses what length of time?
A. (Scott) What work activities are you --
Q. Well, you need to set up the equipment, you need to tear it down.
A. (Scott) That's including that.
Q. So, in three to five weeks, you're saying that you're completely done, --
A. (Scott) Correct.
Q. -- set up --
A. (Scott) So, with the drilling activities itself. So, that's setting up your equipment, drilling, pulling in your casing, filling it with grout, if a casing is used, of course. Basically, having the conduit installation ready for interception by open-cut trenching is the five-week time frame.

Q. Now, when you do the horizontal drilling, you're placing a conduit into that hole, a larger conduit, of which the cables are going to then go in later. Is there a situation where you have to fuse or splice these pieces together?
A. (Scott) Correct. And that occurs at grade, prior to being pulled into place.
Q. And what's the time frame for doing that?
A. (Scott) That's included in that duration. So, if you look at the drawings we've shown, we show the work spaces where that particular portion of the work would take place. And, usually, that fusing of the conduits is going to take place within a week time frame in that overall five-week duration. And, so, that longer length of work space requirement is really only required during that portion of the installation, prior to those conduits being pulled into the drill path.
Q. Now, does that time frame also include the trenching and all of that type of activity?
A. (Scott) No, sir.
Q. So, how long is the trenching, which is,

basically, you know, the set-up before you do the drilling?

A. (Scott) Right. I believe we've previously discussed most of this. General durations for the splice pits are about a week, if there's a splice pit nearby. The trenching activities, I believe we've stated 20 feet per -- or, 20 feet per day to 100 feet per day will be pretty typical. So, trenching durations is dependent upon how long of an installation you're talking about.

Q. I actually wasn't talking about that, but I'm sorry I misspoke. I meant the trenching to actually do the horizontal drilling?

A. (Scott) So, the drilling portion takes place, it's completed. The drilling contractor walks away, essentially. And, then, an open-cut trenching contractor comes in and intercepts those conduits that have been installed by the drilling contractor.

Q. Just quickly, I want to talk about the Micro Tunnel Project in Franconia. As was discussed before, you're going to put a 25-foot diameter by 30-foot deep hole in the intersection of

Route 116 and Route 18, and a exit hole on the other side, roughly 20 feet in diameter by 30 feet deep.

A. (Bowes) I think it's the other way. I think you just got those switched, but the dimensions are accurate. I think it's just the intersection of 116 and 18 I think is the 20-foot diameter hole.

Q. Oh. Okay. I did have that reversed then. First explain why Micro Tunneling was chosen for this Project, as opposed to regular horizontal directional drilling?

A. (Scott) The simplest answer is the geometry of the roadway at this location. If you look at the drawings, we have to make pretty sharp 90-degree bends to intercept the alignment to cross the river there. So, there's really not roadway geometry to do an HDD.

Q. So, you go down 30 feet on each side of the river, and then you need to, the way I understand it, trench -- dig a trench down to where that tunnel is on each side, is that correct?

A. (Scott) Correct.

Q. So, how is there road -- how is there room in the intersection to -- how long will this trench down to this 30-foot section be? And how can you fit it into the intersection?

A. (Scott) The exact duration, I don't believe we have a schedule for that yet. I think that the excavation will be closer to that 20-foot per day duration than the 100-foot per day duration. It's going to be significantly slower with the depth we're talking about.

As far as the other portions of your questions, I think that's more specific to traffic control issues, being able to divert traffic during the construction process and maintain traffic flow.

Q. So, after the trench is put in, down to the tunnel, then when is actually the -- I guess the conduit is going to be pulled through, is that the next step?

A. (Scott) So, essentially, during that Micro Tunnel process, the conduits are installed as well for the tunnel portion. And they're sitting there waiting to be intercepted by the open-cut trenching installation.

Q. And when will the cable actually be pulled through that location?
A. (Scott) So, once that's all -- that interception of conduit is complete, grade can be restored, and cable installation would take place from splice pit to splice pit.
Q. Is that going to happen sequentially or is that something that maybe you do the first year, and the second year you come back and do that?
A. (Scott) Correct. It could be either.
Q. Okay. So that --

[Court reporter interruption.]

BY THE WITNESS:

A. (Scott) That could be either, most likely not in the same season.

BY MR. LAKES:

Q. So, that intersection will be affected for a good portion of one season and the following season as well?
A. (Scott) I do not believe a splice pit is proposed near the intersection.
Q. Okay. Moving on, and this is where I'm going to be using my trusty friend here, Bob Thibeault, as the ELMO man. What I'm going to

put on here are some slides from Eversource's engineering firm, Burns & McDonnell. This is a case study with regard to your Middletown to Norwalk underground line in Connecticut. What you see before you is Slide Number APOBP 29. I don't know who came up with these initials, but they're tough. So, anyway, the cover page is basically "Overcoming Transmission Line Siting Challenges".

First, was this a reliability project in Connecticut?

A. (Bowes) Yes, it was.

Q. Did Eversource have the right to exercise eminent domain on this project?

A. (Bowes) Yes, we did.

Q. Moving onto the next slide, Number 30. I'm not going to say all those initials in front of it. These were -- this shows the options for crossing Ash Creek. And, so, I guess they looked at a bridge abutment first, and that was found to be unfeasible. HDD, horizontal direct drilling, had unacceptable risks due to mixed soil conditions, risk of construction failure, and release of drilling mud.

Moving on to Slide 31. It was determined that the staging area for doing horizontal directional drilling was no good, as it involved demolition of a business and eliminated an entire parking lot.

And moving on to Slide 32. As an alternative, Eversource was going to construct -- sorry, I lost my place here. Well, they're going to construct a bridge over the creek, and -- okay. Yes. They were going to put a bridge, a supporting utility bridge over the river.

So, moving on to Slide 33, this was a visual representation of a mock-up of the utility bridge. But, apparently, from what I understand, this utility bridge that was proposed did not go over well. And, so, people petitioned the DEP to reconsider other alternatives.

First of all, the people on the panel are familiar with this project at all?

A. (Bowes) Yes, I am.

Q. Okay. Good.

A. (Johnson) Yes, I am.

Q. Good. So, moving on to Slide 34, it appears that horizontal directional drilling within the state roadway was agreed upon, after DEP hearings and extensive discussion with Fairfield, Bridgeport, Connecticut DOT and DEP, and a memorandum of understanding that all understood the impacts of HDD in the roadway. Is that correct? That's what finally everybody agreed upon, through extensive meetings and hearings and so forth?

A. (Bowes) Yes.

Q. What was in the MOU?

A. (Bowes) I'm not sure which MOU. The one there on the bottom? I don't know.

Q. So, there was a memorandum of understanding. I don't know what's in it either. I was hoping you could fill me in. But I would suspect it had something to do maybe with traffic being diverted and perhaps, because of the soil conditions underneath that bridge, that there may be issues with the drilling?

A. (Bowes) That's possible. I don't know what's in the MOU.

Q. Just a -- was that business demolished and the

parking lot eliminated that was spoken about earlier?

A. (Bowes) No, I don't believe it was.

Q. So, my point is this. One HDD site in Connecticut: Hearings with the DOT, hearings with the DEP, petitions, all sorts of activity, the towns of Fairfield, the towns of Bridgeport, all weighing in on this one HDD site.

We have 51 HDD sites in New Hampshire that is proposed in your proposal. Has there been one public meeting in New Hampshire with regard to HDD or alternatives similar to the process that I just spoke about in Connecticut?

A. (Bowes) So, I don't believe the process was the same here in New Hampshire, I would agree with that. But this was a really relatively unique situation. So, we looked at all alternatives, and we came to an agreement with multiple parties in this case. And, again, avoided taking someone's property and their business. And I believe, ultimately, was the best decision made to use an HDD, staying within the roadway.

Q. Have any MOUs been developed through New Hampshire DOT or DES through public hearings with regard to the Micro Tunnel in Franconia, the trenching in Plymouth, and other river crossings, or for anything else with regard to this entire Project?

A. (Bowes) I would say "no". But there were many other crossings with Middletown/Norwalk that this did not occur either.

Q. But, when there was push-back and resistance, it appears to me that the DOT and the DEP in Connecticut responded to those calls?

CHAIRMAN HONIGBERG: Is that a question?

MR. LAKES: Yes.

BY THE WITNESS:

A. (Bowes) So, I believe, when we exhausted what we thought were technically feasible alternatives, we did include the permitting agencies in this case to develop a solution, which turned out to be constructible and satisfied multiple parties in this case. An example we were talking about now in Franconia, I believe the last public interaction we've had

with the town is now 18 months ago, although we continue to reach out to Franconia to look at solutions, maybe not this particular solution, but to look at solutions that would alleviate both the constructability issues of this crossing, as well as the traffic issues. We're willing to meet with Franconia. We've extended the invitation to join in an MOU with Franconia. We've extended the invitation to DOT that we will work with Franconia and the DOT for this crossing. Franconia is not present.

CHAIRMAN HONIGBERG: Off the record.

[Brief off-the-record discussion ensued.]

CHAIRMAN HONIGBERG: Go back on the record. We're going to break for ten minutes. We're going to need to take the lunch break at 12:15 today, because Commissioner Bailey and I have some PUC business we need to attend to over on Fruit Street. So, we'll be back at 11:15.

[Recess taken at 11:03 a.m. and the hearing resumed at 11:16

a.m.]

CHAIRMAN HONIGBERG: Mr. Lakes, you may continue.

MR. LAKES: Thank you.

BY MR. LAKES:

Q. I just want to diverge one second here from these exhibits that I have. I want to discuss eminent domain for a minute. I would think that Eversource would have been averse to using eminent domain -- I would think that Eversource would have been averse to using a heavy-handed approach like eminent domain, where possible anyway, is this correct?

MR. NEEDLEMAN: Objection. Relevance.

CHAIRMAN HONIGBERG: Mr. Lakes, why is this relevant?

MR. LAKES: Well, you're asking a question that is, if I can proceed a little further, I'll be able to make a point, but --

CHAIRMAN HONIGBERG: Humor me. What would the point be?

MR. LAKES: The point was going to be this. That, as we know, eminent domain --

CHAIRMAN HONIGBERG: Would not be allowed for this project.

MR. LAKES: That's correct.

CHAIRMAN HONIGBERG: Under state law.

MR. LAKES: That's correct.

CHAIRMAN HONIGBERG: So, your point would be what?

MR. LAKES: Well, what I'll do is I'll represent to you that eminent domain is really not necessary here in New Hampshire. And the reason why is that the DOT and the DES has acceded eminent domain to Eversource through a policy of acquiescence.

CHAIRMAN HONIGBERG: That sounds an awful lot like a legal argument that I'm not sure these witnesses can help you with. But do you have a question that would get you anywhere near there that you could ask these witnesses on the construction panel?

MR. LAKES: I think that's going to be a hard question to ask.

CHAIRMAN HONIGBERG: I think you're probably right about that.

MR. LAKES: So, I will move on.

BY MR. LAKES:
Q. So, moving to Slide 7, and here is where my numbers diverge, because it's actually Slide 35. I'll just say the next slide, I can see it from here, is 35. I forgot to update my numbers. What I have here again is getting back to the work done in Connecticut. And this is the primary horizontal directional drilling work space in yellow, and the conduit assembly work space in blue, that was set up on one side of the Ash Creek. I believe this is the exit side, am I correct on that?
A. (Johnson) That looks about right, if the --
Q. Because I'm thinking, if the conduit is on the --
A. (Johnson) Yes. It would be pulled back through the hole.
Q. Right.
A. (Johnson) Yes.
Q. Right. So, it looks like Eversource utilized two lanes of a four-lane road, and even then had to go significantly off the road. Why did you need this extra space in yellow that goes beyond the two lanes, seems to hunker into a

couple of different areas?
A. (Johnson) I don't know the specifics of this work zone, nor the contractor that did this work. And I guess it was available to him, so he used that work space.
Q. Well, I guess my question is, how is it that Eversource claims it only needs one lane to do HDD in all of the New Hampshire HDD jobs?
A. (Bowes) So, I think, in this case, it was the size of the HDD. It was a single bore, I believe, and the number of conduits and cables in this case. There were six cables, versus the two cables we're planning for Northern Pass. Just physical dimensions, I believe.
Q. Do you remember the size of the actual drilling hole?
A. (Bowes) I do not. I know it had to be bigger than the 18 inches that we're using for Northern Pass.
Q. But the space being used here is fairly significant. It sounds like you needed extra equipment and whatnot, conduit and so forth, to have a larger work area. So, you're saying that you're very -- that you feel that the one

lane that you are calling out in New Hampshire to do the HDD is sufficient?
A. (Bowes) That is correct.
Q. So, you will not have to go off the road?
A. (Scott) So, if I could add, the proposed work zones are shown on the plans for each of these locations.
A. (Bowes) So, I should probably restate. We'll be able to keep a lane open, rather than "stay within one lane".
Q. So, you'll be able to keep a lane open, but for, I would assume, maybe many of these HDD drilling locations, that you will have to utilize land off of the highway, into the right-of-way?
A. (Bowes) Within the right-of-way, yes.
Q. Within the right-of-way. So, that may require that -- you know, some of these laydown areas, from what I've seen, are pretty long. Can be two, three, four hundred feet long, is that correct?
A. (Bowes) Yes. Or, you know, per the dimensions, some even longer.
Q. So, does that mean, if you need extra space off

of the edge of the highway, trees, land will be leveled, various things that could get in your way need to be removed?

A. (Bowes) So, we've identified the work spaces, and I don't believe any of those situations occur that you just described, where we have to take trees or remove stonewalls or buildings or anything else.

Q. Can we get that in writing?

A. (Bowes) Well, it's in the Application. So, it's drawings approved by the DOT. So, that is the writing.

Q. Okay. I understand the drawings are approved by DOT. But, once you get out into the field, things change. And then what is the course? Do you have to get a variance from DOT?

A. (Bowes) So, there is a provision in place to, including up until construction, and even during construction, to seek a variance from the DOT. At this point, we haven't identified any that we haven't already filed with the DOT. But, for example, we talked before, if you're willing to allow us a construction easement on your property, and that facilitates the

Project, we would take that, along with your statement, to the DOT and ask for that variance.

Q. Okay. So, next slide, which I guess is 36, this was the entry point for the HDD, again, utilized two lanes of road and dipped off the road. And, as you said, that perhaps all of this was needed because of the extent of the job.

Let's move on to the next slide. Now, this refers to construction duration for each HDD drilling zone. Now, it says at the top "five months", "five months to complete each ADD" -- or "HDD operation". I'm not sure if I'm comparing apples and oranges to some degree, but, you know, looking at this five-month duration, how does that compare to, say, the HDD that's proposed to go under the river in the Plymouth location and near Tenney Mountain Highway? And can you, you know, run down the sequences that are shown there, and compare that to the HDD that's going to be done, say, in that location. For instance, there's certain things, like "30 days to ream a

pilot hole", "45 days to fuse conduits for pull-back", "12 days for cleaning and testing conduits". It sounds like there's a lot involved there.

How is it that we're talking "three to five weeks" in New Hampshire and we're talking "five months" in Connecticut?

A. (Scott) Sure. I can generally address your question. I think we've illustrated we don't know the exact specifics of this installation off the top of our heads. But, in your analogy, we're not comparing apples to oranges, we're comparing apples to orangutans. This is a very large drill, very large diameter, lots of conduits, in a heavily trafficked location. So, the durations shown here, just it's completely different order of work that we're doing. We're not drilling, let's say, a 48-inch, 54-inch diameter hole. We're drilling a 12-inch, 18-inch diameter hole, and we're doing two of those for most of these HDDs. We're installing two conduits, as opposed to, I would assume, eight or more conduits. That impacts all of those durations that you're

discussing right there accordingly.
Q. Okay. Just to be clear, so, you're saying that, on the HDD that you're doing in New Hampshire, you're going to be drilling two 18-inch holes?
A. (Scott) As shown in the plans, yes.
Q. Two 18-inch holes?
A. (Scott) Let me check real quick. Yes, approximately 18-inch holes.
Q. How many frac-outs did you have in this Connecticut job in the Ash Creek and the Saugatuck River?
A. (Bowes) I don't believe there were any in Ash Creek. I'm not sure if there was any in the Saugatuck either. I believe there was one on this project, the Housatonic.
Q. Let's put up the next slides. This is the Saugatuck River crossing. And, then, let's move on to the next slide, we won't talk about the Saugatuck. And, basically, Slide -- this Slide Number 39 is a summary of the crossing, apparently successful, except it does mention there that you had frac-outs of bentonite and polymer fluids, if you go to the bottom of that

sheet. "Frac-outs cleaned up with no impacts to coastal/environmental resources." So, did you have frac-outs with either one or both of these rivers?

A. (Bowes) I know there was one on the project. I thought it was in the Housatonic River. But, apparently, based on this slide, it was the Saugatuck.

Q. So, were first responders immediately available to clean up?

A. (Bowes) I believe they were, yes. If you want to share the entire presentation, we can probably get some context around many of these questions.

Q. Yes. I don't know that it actually went in that deep. This is more of a summary. It didn't really say specifics. I was hoping maybe you could add to that.

A. (Johnson) So, I will add that they had a HDD frac-out plan, similar to what we've proposed on this Project. They had the appropriate equipment available and ready to be mobilized should a frac-out occur. Based on the last statement there, it seems like, when they

discovered the frac-out, they were able to mobilize that equipment immediately and contain such that there was no coastal or environmental impacts.

Q. Yes. So, it does say "frac-outs". So, it sounded like there's more than one.

A. (Bowes) I was aware of a single one.

Q. What equipment -- well, it says "frac-outs". What equipment was available to keep this from spreading?

A. (Johnson) So, I don't know specifically. In general, it would have been booms, the type of, you know, tubes that you see. There could have been curtains that will then hang down to stop fluid moving through, you know, vacuum pumps, *etcetera*. There was most likely some sort of vessel that would be able to go into the water, again, to determine or ascertain the length and where these booms need to be placed. But I don't know the specifics of what else was there.

A. (Scott) Right. For this Project, it will be site-specific. So, we're doing pre-construction design that will ideally

identify potential inadvertent return locations prior to construction. And, so, we will be on high alert at those particular locations more so than in general. But our inadvertent return plan will essentially address the different types of scenarios that the contractors will be able to implement in case of an inadvertent return.

Q. Right. We'll talk about that a little later. Moving on. DOT is requiring the depth of the transmission line to be deeper than NPT would prefer. NPT would like a 4 feet or less depth, where DOT wants it to be roughly, based on the charting I've seen, 6 to 8 feet deep. Is that correct?

A. (Bowes) I think it's 5 to 6 feet is what DOT has requested, depending on the type of road.

Q. I believe in the --

A. (Johnson) So, just to clarify.

Q. Yes. Go ahead.

A. (Johnson) The DOT has prescribed what they call the "structural box", which is basically the roadbed, if you will. For certain tiers of roads in the state, they have a 24-inch minimum

cover, and for other roads they have a 36 minimum cover. Our facilities would then be placed below that. And the other restriction is in the ditch line, where they have a minimum of 48 inches. And that's all contained in the --

Q. Yes.

A. (Johnson) -- the April 3rd letter.

Q. In the Connecticut underground installation, DOT wanted the line 8 feet under the ground. However, Eversource said, at 8 feet depth, the cable would not be able to dissipate heat properly and would lose significant efficiency. Can you tell me the final depth of the cable that was placed in Connecticut?

A. (Johnson) It varied all over the place, from 6 feet, down to probably 36 feet, depending where you were and what utility conflicts that we came across.

Q. Is NPT trying to get a variance on the depth of the underground cable from DOT?

A. (Johnson) In certain places, yes. But, again, you know, our cable is going to be anywhere from 6 to -- I don't know how big the deepest

drill is, but it could be up to 65 feet deep.
A. (Scott) I believe our maximum depth is the Connecticut River crossing, about 75 feet of cover.
Q. Okay. Moving on. HDD, horizontal directional drilling, uses bentonite and drilling fluids made up of polymer additives for lubrication. Are you aware that these materials have been found to be toxic to fish and invertebrates, and can negatively affect the aquatic environment?
A. (Bowes) I am not. But it's probably a very good question for the environmental panel.
Q. So that I have to ask the question, you know, being people that do construction and use these materials, I'm surprised that you wouldn't know --
A. (Bowes) So, I deferred to the environmental panel, because I'm not even sure your question is accurate. So, --
Q. It is accurate. Are you aware that the fluid polymer Accu-Vis that was used with the bentonite contains carcinogens possibly harmful to humans?

A. (Bowes) Again, I don't have any knowledge of the polymers or the fluids that are used besides the bentonite.
Q. Have you supplied MSDS sheets to conservation commissions and/or selectboards to all towns along the underground route stating the type of bentonite and additive mix to be used for HDD?
A. (Scott) So, at this time, no additives have been approved by the Project. The general process that's followed is we put out the bids for that installation. The installers propose their -- essentially, their slurry mixes, which are bentonite-based. If they want to use any add mixtures, those would be proposed at that time. And, if MSDS sheets are applicable to any of those add mixtures, then they would be included at that proposal time.
Q. And, so, will that be distributed to conservation commissions and selectboards to towns all along the route, so all people know exactly what this material is made of, and the possible health effects from this material?
A. (Scott) I would say that they're going to meet the permit requirements and have to be approved

by the Project. Beyond that, I would have to defer to Mr. Bowes.

A. (Bowes) I would say we would make them available, certainly, to the workers, as required by regulation. We'd make them available to the DES. And we could certainly provide a posting of those materials on our website.

I'm not sure that your assertion that, just because we provide them to a certain government agency in a town, that all residents will get them. We can certainly make them publicly available.

Q. Well, you know, I wasn't saying that every resident should get one. But, certainly, conservation commissions and selectboards, which are the leaders of the community, should have information directly given to them by Eversource, so that everybody is on the same page, in terms of what these materials are and their possible consequences. Would you agree with that?

A. (Bowes) I do agree. And that will be an ideal condition to put in the MOU that we have with

the towns.
Q. Do we have MOUs with towns now?
A. (Bowes) Yes, we do.
Q. What's the MOU that you have with Easton?
A. (Bowes) We would not have one at this point.
Q. Oh. Okay. So, you don't have them with all the towns?
A. (Bowes) No. But it certainly could be something we include in that.
Q. All right. Moving on. While performing horizontal directional drilling, is there the possibility of hydro fracture or frac-out of bentonite and polymer additives that could contaminate wetlands, aquifers, well water, streams, and rivers?
A. (Scott) There is certainly the potential for inadvertent returns. However, as previously discussed, the specifics of that slurry mixture are where I would disagree. I don't know what that will be yet.
Q. Please say your last statement, I didn't quite --
A. (Scott) I don't know the specifics of what that bentonite mixture will be at this time, but

that it would be bentonite-based. So, your specific add mixtures that you're referring to, I will not say that that's necessarily going to be something that could be part of the inadvertent return without seeing the proposed mix designs.

Q. So, is it Eversource's position that it will find a bentonite fluid mix that will have no adverse effect on any wildlife, any aquifers, or anything at all? Do you have something that we should know about that is completely safe for people and aquatic life?

A. (Scott) I know that bentonite itself is safe. It's not necessarily a native material for all locations. However, it's used in kitty litter, people use it for digestive aids, *etcetera*. And, as far as the add mixtures, again, I don't know what those proposed add mixtures will be or the specific line that the Project will take on approval of those.

Q. But isn't it true that the add mixtures, basically, but that the add mixtures are fluids to lubricate the drilling, and that the ones that at least I've seen, unless there's

something that is out there that is not known at this time, all have ingredients that can be harmful?

A. (Bowes) I guess we don't know that.

Q. You don't know that?

A. (Bowes) We do not know that. That's correct.

Q. So, you're working with material, drilling 51 sites in New Hampshire, and you don't know whether the material you're using --

A. (Bowes) No.

Q. -- could be harmful?

A. (Bowes) No. That's not what I said. I don't know the facts -- the question you just presented with certain facts is actually a accurate question.

Q. Well, I'm going to leave, you know, some of the more direct questioning with regard to the MSDS sheets on these materials a little bit up the road for the environmental folks. But suffice to say there is surprise, at least from the person standing here, that you do not know the effects of these materials.

A. (Bowes) I think you're mischaracterizing my response. My response was I did not agree with

your question.
Q. As mentioned earlier, NPT has a basic hydro fracture mitigation plan in place to at least minimally mitigate a frac-out situation. Will frac-out releases be mitigated with assistance from DES?
A. (Bowes) Only if necessary, yes.
Q. So, what is necessary?
A. (Bowes) If we're unable to control it, which I don't think will be the case. If a inadvertent return were to occur, we'll have a site-specific plan in place, and we will execute that plan.
Q. Will a vacuum truck or trucks, fully loaded with booms and collection equipment, be available at all times to mitigate frac-out along the whole route?
A. (Bowes) So, what do you mean by a "fully loaded vac truck"?
Q. Well, I guess maybe I'm embellishing here a little bit. I guess a vacuum truck, and then material, such as booms and other things, that will be immediately available to be deployed upon a release of fracking material?

A. (Bowes) So, based upon the site-specific location, we will have a plan in place. It may include all of those items. But at every location I cannot say that that will be the requirement that we develop. There may be some locations where we have additional requirements. For example, I think we mentioned an access to a boat, an access to a dive team. All of those things may be in place, depending on the individual circumstances that we uncover at that site.

Q. So, what you're telling me is that you may determine that a particular site will not have any issues with frac-out or minimal, so you will not have equipment there to contain that. And that there could be a blowout, very significant, into a wetland, which are near people's houses and wells and so forth, and that there will be no equipment available at those times, if you determine that you didn't need it there, and that it could be many hours before a rig shows up to try to minimize the frac-out?

A. (Bowes) No. That is not what I said.

A. (Scott) So, if you look at Mr. Kayser's prefiled testimony, he specifically has an operations monitoring plan for HDD crossings provided there, which provides a lot of the requirements that will be put upon the contractor for all HDD installations.

So, to answer the general question, the contractor will be required to monitor and plan for potential inadvertent returns during the construction process at all locations.

Q. So, if there is a frac-out, and somebody's well gets contaminated, or the aquifer gets contaminated and so forth, who is responsible? The construction entity or is Eversource?

A. (Bowes) Ultimately, Northern Pass is responsible.

Q. Is this not by far the biggest number of individual HDD sites ever undertaken by Eversource?

A. (Bowes) I would say, on one particular project, that is true. But we do HDD sites every single day, for gas line installation and electric service installation. So, it's a very common practice.

Q. Okay.
A. (Bowes) But, for a transmission project, all in one time, one scope, I think it's probably the largest.
Q. Has NPT done geotechnical boring at all HDD sites' entry and exit locations?
A. (Scott) Yes. And, in some cases, in the middle of that proposed HDD as well.
Q. Would you agree that the success of the HDD process is enhanced where proper depth of the horizontal bore and knowledge of the underground strata assists the operator and lessens chance of failure?
A. (Scott) In general, yes.
Q. What type of soils were found with the geotechnical boring along the 51 different HDD sites?
A. (Scott) I would say that they vary specific to the site in question. And, if you would like to provide the geotechnical bores, we can certainly discuss them.
Q. Well, that's my next question. Was this geotechnical boring information directly shared with town conservation commissions for

discussion?
A. (Johnson) It was provided as a response to a data request and posted publicly for anyone to get.
Q. Wouldn't it have made sense to actually physically bring the information on geotechnical boring to the conservation commissions, which, let's face it, you know, we're not professionals in that area? Wouldn't it have made sense for you to come, sit down, explain exactly what those logs said and what the meaning of it was, in terms of each ADD -- HDD drilling?
A. (Bowes) Certainly something that we would respond to, if a town requested it. As I mentioned before, there are some towns that we haven't had any official correspondence with for more than 18 months. We keep reaching out. It takes two to do that.
Q. All right. Let's move on. When the drilling operator of the HDD unit needs to go deeper, depending on soil strata and progress, if the drilling operator is forced to dig deeper, say they're halfway through their drilling, and

he's forced to go deeper, is there a geotechnical boring done at that point, to make sure that, when he goes deeper, that there may not be a frac-out? In other words, if the driller is going outside of the scope of what was determined for doing that HDD depth, what is the process that occurs at that point?

A. (Scott) I mean, typically, the depths of the geotechnical investigation done are done to an approximate depth of 10 feet below the proposed bore installation depth.

And, to address your question of, if they have to go deeper than currently proposed, generally deeper is better, you have less risk of a inadvertent return when you're deeper than when you're shallower. Soils are typically more cohesive the deeper you go.

Q. But you're not sure, right?

A. (Scott) There is always some uncertainty.

Q. That's right. And the people along this route, with 51 HDD drilling units, will be left to chance, if everything doesn't add up in terms of what your boring logs show. Is that correct?

A. (Scott) I would say that detailed design and best practice construction techniques will be used to mitigate potential inadvertent returns that could occur.
Q. Moving on. Do you know if there were any frac-outs with any of the geotechnical borings along the underground route?
A. (Johnson) To my knowledge, no.
Q. Are you aware that, when crews were doing geotechnical hole boring on Route 112, they had a serious frac-out issue, which was documented by a local resident, who is in this room today, actually, who took photographs, of which we're going to put on the ELMO right now. Notice that hazy section. To the left, where I had written the exhibit number, that's just bright sunlight there. But, in the middle section, that cloudiness is a frac-out. To the right of that, the water is clear. You can see to the bottom.

Do you realize that this frac-out occurred at Stark Falls Brook, which feeds the wild Ammonoosuc River, which, in turn, is the main water supply for Woodsville? Are you aware of

that?
A. (Johnson) I'll take your word for it.
Q. So, this was a 3-inch, a 3-inch geotechnical bore hole, vertical. And we're going to be talking about two 18-inch HDD holes next to each other running through these same areas. Could it be possible that there could be frac-out as a result?
A. (Bowes) I mean, it's possible, yes.
Q. So, it is possible that, with this little frac-out that you see here, could be magnified 100 times, going into water that is feeding the Town of Woodsville. Is that possible?

MR. NEEDLEMAN: Mr. Chair, I'm going to object to this exhibit. There's no documentation at all linking this to any work that the Project has done. It's simply Mr. Lakes' assertion.

CHAIRMAN HONIGBERG: Mr. Lakes.

MR. LAKES: I don't know, can I bring up the person who actually did this?

CHAIRMAN HONIGBERG: Not right now, because this is your opportunity to ask this panel questions. If you want to represent to

them something about it and ask them to assume that's what it is, we'll allow you to do that.

But you are not in a position to tell us, you're not under oath, nor is whoever you would call up. They are under oath, it's your turn to ask them questions.

So, if you want them to assume that this is what you say it is, it sounds like Mr. Johnson anyway is willing to accept that premise for the purposes of answering questions.

MR. LAKES: All right. There's really nothing more I can add.

BY MR. LAKES:

Q. Please put up the next slide, which I believe is -- is it 41? Can you zoom in on that, Bob?

MR. THIBEAULT: I don't know.

MR. LAKES: There you go. Just pull it down a little bit now. There you go. Now pull it down, more towards me. There you go.

CHAIRMAN HONIGBERG: Off the record.

[Brief off-the-record discussion ensued.]

BY MR. LAKES:

Q. Well, this is just for an example of a frac-out that occurred in Ohio, with Ohio -- with Energy Transfer Partners. And this one leaked millions of gallons. I would suspect that this job was a lot bigger than what we're talking about with the 51 HDD drillings that are going to be happening. But this is an example of a frac-out. This is what could happen, perhaps on a smaller scale, filling wetlands, and this was high-quality wetlands in Ohio. This is the type of mess that could be produced through HDD. And we're going to have 51 opportunities in New Hampshire to find out whether we're going to be part of that. And, so, I guess I would just ask the panel, does this look like what a frac-out could look like?

A. (Bowes) I have never seen a picture like this before, so -- and I know we're not using several million gallons of material on this Project.

Q. Very good. Okay, Bob, you can take that down. Isn't it a fact that frac-out material can appear great instances from the actual drilling, hundreds of feet away? Is it

possible to have a frac-out and not even be aware of it?
A. (Scott) Typically, they will be aware of it. They will have noticed the difference in the fluid they're putting into the bore holes versus what's coming back, especially if it's able to make its way to the surface.
Q. But there is a possibility that the frac-out could be 400 feet down the road?
A. (Scott) I'd say it's unlikely.
Q. But it is likely -- it is possible?
A. (Scott) It's possible.
Q. When doing HDD, and I will be changing subjects a little bit now, there is a large generator providing power. How large is the generator that you use for the HDD?
A. (Scott) I couldn't say off the top of my head.
Q. Is this a diesel generator?
A. (Scott) Again, I could not say off the top of my head.
Q. So, it sounds to me like Eversource does HDD every day, from what Mr. Bowes said, but it sounds like, at least from what I'm hearing, that there's not a familiarity with some of the

actual construction tools, is that correct?
A. (Bowes) I don't know if I'd characterize that. Now, there are other fuel types, but diesel is probably the most common, especially for a larger, say, 10 to 50 kW generators, which would be typical for various rigs.
The discussion I had previously was around, you know, very small driveways and services. So, those are a very small drill rig, you know, usually towed by a pickup truck. So, in this case, for this Project, they're much larger pieces of equipment.
Q. So, in my investigation of HDD, I've learned that the decibel level of these generators is 100 decibels, where 60 decibels is considered loud and unacceptable. How will this be mitigated?
A. (Bowes) So, as part of the Department of Energy Draft EIS, a complete sound level was done for this Project, including the underground sections. And, without getting into specific numbers, they vary quite differently from what you've just said. They indicated an approximately 83 decibel rating for the

equipment, not the 100 that you're indicating. Could be just the type of mufflers that you found in your studies. But the study that the DOE performed said that there would be impacts based on noise levels, but not significant adverse impacts, and they would be temporary in nature.

Q. I thought that, and I wasn't here for that, but that your person who described noise and that sort of thing only did the study for the aboveground, and not the underground section. Is that correct?

A. (Bowes) He did not repeat a study for the underground. We accept what's in the DOE report. I think it was a well-prepared report. And I think that the -- the analysis that they did as part of that is sufficient for the underground portions of this Project. It identifies all the equipment, it identifies the receptors along the route, and it identifies the impacts that noise will have.

Q. Will acoustic curtains be used around the generators?

A. (Bowes) It's possible they will. It depends on

the proximity to neighbors.
Q. Since you are using more than likely, as you said, a diesel generator, this could produce an offensive smell. So, for three to five weeks, you know, for up to three to five weeks, which will be objectionable to residents, how will this be mitigated?
A. (Bowes) So, I would say that the majority of vehicles on this Project, the larger vehicles will be diesel in nature. So, and there could be sensitivity to that, from both the workers, as well as neighbors, and we'll try to work on a case-by-case basis. I can't really answer a hypothetical. All I can say is that we'll try to work with the local residents to mitigate both noise and any other environmental impacts.
Q. Well, since you've done this before, it sounds like hundreds and hundreds of times, what have you done in the past to mitigate that?
A. (Bowes) I have never had a condition outside a worker complaint around the diesel fumes. Around diesel fumes, when it's a worker complaint, we look to make sure that they take breaks outside the work zone and are not right

next to the exhaust systems.
Q. Once the HDD process is started, is the generator turned off at the end of each day or must it run around the clock?
A. (Bowes) So, I think what we have proposed is workhours that are 7:00 to 7:00. And, if we were to extend those, we would ask for that extension as a variance.
Q. So, just to be clear, with HDD, you can actually turn that off in the middle of wherever the drill is and walk away for the night?
A. (Bowes) I don't know if I'd characterize it quite that way, but we could limit the workhours to 7:00 to 7:00. We might not just turn off the equipment. We might do some preparatory measures. But we could then restart in the morning, yes.
Q. So, when you say you "might not turn off the equipment", what does that mean?
A. (Bowes) You characterized it as "turn off the equipment and walk away".
Q. Yes.
A. (Bowes) I'm saying we might do other things.

There might be some other preparatory things that we would do, as far as the slurry pits, the slurry tanks, things like that, that would be additional safety precautions we would take. Not saying we would leave the equipment running overnight, that's not what I meant.

Q. So, there won't be noise involved with that at the end of the day, after, say, seven o'clock?

A. (Bowes) That's what our plan is filed right now. Again, there may be circumstances where it makes sense to go longer duration hours, and that would be something we would work out with both the town, as an MOU, and then go to the State DOT with that as a variance.

Q. Can the DOT variance overrule the town?

A. (Bowes) I have made the statement that we would not seek the variance without the town going with us to the DOT Commissioner.

Q. Are you seeking any variances at this time from DOT with regard to running more than 12 hours a day?

A. (Bowes) For the HDD portion, no. I did identify at least one location where we would seek DOT approval to pull conductors across

I-393. And that would probably be a 2:00 a.m. to, say, 3:00 a.m. job that we would propose in a single day.

Q. So, the HDD drilling process, the three to five weeks, which has been stated earlier, is that based on 24-hour operation or on 12-hour operation?

A. (Bowes) I believe it's based on 12-hour operation.

Q. Okay. I represent to you that, in a rural area such as ours, you can hear a motorcycle from well over a mile away, and that the typical ambient sounds in the North Country are birds singing, wind rustling through the trees, rain, and water flowing. That's why people live there.

In addition to horizontal directional drilling generators, can we assume there will be generators for pumps, lighting, power tools, cable-pulling winches, air conditioning in the splice vaults? So, there will be multiple generators going, is that correct?

A. (Bowes) So, there will be multiple generators, but they might not all be working at the same

time. For example, the HDD will be at a different location than at a splice vault. And the splicing operations would not take place the same time that excavation was taking place.

So, you're correct in saying that all of those things could occur, they just wouldn't be happening all at the same time.

Q. Yes. Would you agree that these fracking rigs, trenching operations, dump trucks, cement trucks, backhoe equipment, running in tandem up and down our roads, with as many as five different sites going on at the same time, do you think it could be offensive to local residents for extended periods of time?

A. (Bowes) So, you're asking me to state what other people would think?

Q. Uh-huh.

A. (Bowes) I'm not sure that I can do that. I think it's normal construction activity that's typical with road-building or road-paving operations. I do agree that there will be temporary impacts for the underground construction, as there will be temporary impacts for the overhead construction.

Q. I would answer to that that this particular job goes way beyond road construction, which is usually just paving. We're going to be talking about multiple sites. We're going to be talking about cutting up pavement to dig trenches. We're going to have generators. We're going to have all sorts of noises going on for 12 hours a day.

A. (Bowes) So, I did make the distinction --

MR. NEEDLEMAN: I'm going to object to that, that it's testimony.

CHAIRMAN HONIGBERG: Yes. That's not even a question. So, it's clear you have a very different viewpoint about this. You didn't even ask him a question.

So, if you have a question, you should ask it.

BY MR. LAKES:

Q. Again, I would ask the question, do you think that some people might find this noise to be offensive?

MR. NEEDLEMAN: Objection.

CHAIRMAN HONIGBERG: Sustained. You just asked him that question and he just

answered it. So, let's see if you have a different question to ask.

MR. LAKES: Okay.

BY MR. LAKES:

Q. I will add to what I just had, is that, you know, when they're paving the road that may go on for a week, something like that, two weeks, this is going on for eight months, over a two-year period. Eight months over a two-year period. Do you think that's a fairly long stretch of time for construction in residential areas?

A. (Bowes) So, I did make a distinction in my last response between "road construction" and "paving". Those were two separate activities I listed. I would agree that this is more like road construction. There's a certain part of it that is more like paving, when we do the final restoration. But I clearly said "road construction". So, I think it is very typical of what you do to construct a new road.

Q. And just to add a little known fact, which I think that is just a little point of light, the beepers on the trucks, of which there's going

to be hundreds and hundreds, literally, from what I understand, 19,000 trucks up and down this whole thing, that the decibel level on beepers is 97 to 112 decibels, and can be heard up to 1.86 miles away.

So, I guess my point is that the residents along this construction area will have to put up with this noise for extended periods of time.

I will now move on.

MR. NEEDLEMAN: Same objection.

CHAIRMAN HONIGBERG: I don't think he asked a question. So, I understand the objection.

MR. LAKES: You're right.

BY MR. LAKES:

Q. I'd like to ask the panel what they think the main type of air conditioning that is used in the North Country?

A. (Bowes) Based on what I know about the residential customer class in New Hampshire, and Eversource's analysis of that, most do not have air conditioning.

Q. That's correct. Our air conditioning in the

North Country is open windows. That's how real North Country folks stay cool. So, for those of us who may want to sleep in, residents and tourists alike, there will be a constant din of construction noise. The noise will be there at least six days a week. And dust from operations will float through the windows as well. Do you propose that we close our windows all spring and summer? How will Eversource rectify our air conditioning problem?

A. (Bowes) So, I'm not sure that I can address the hypothetical you've laid out. If there's an individual location that we can talk about, I'll be glad to.

Q. Well, if you want to come up and visit us in the North Country, we can probably take you to about 500 locations that will have the same problem, maybe a thousand.

CHAIRMAN HONIGBERG: And I'm sure you'd welcome him with open arms, wouldn't you?

MR. LAKES: I would. I actually would. I have asked many times to have --

CHAIRMAN HONIGBERG: It sounds like you have a meeting of the minds. It

sounds like Mr. Bowes is ready to go with you and look at your property and walk it with you. So, --

MR. LAKES: And tell me how many times to open my windows.

CHAIRMAN HONIGBERG: Well, what else do you have to cover, Mr. Lakes?

MR. LAKES: I still have more.

CHAIRMAN HONIGBERG: Interesting. Mr. Palmer, I believe you estimated 45 minutes for your group. And, at this point, Mr. Lakes has used, I believe, 90 of your 45 minutes. Is this going to be a routine request, I'm speaking to Mr. Palmer right now, that you're going to estimate an amount that is just meaningless?

MR. PALMER: Well, you have to understand that, when you were asking back three weeks ago, it was difficult, and all of us were just making the best estimates that we could at the time.

CHAIRMAN HONIGBERG: Then, I think you're going to need to make better estimates going forward, because people are trying to

plan their days.

And I will notify the entire group that we're going to need to take Mr. Oldenburg's questions today, from the Committee, because he can't be here tomorrow and the next day. So, at some point this afternoon, we'll let Mr. Oldenburg, from DOT, ask his questions.

I encouraged you at the end of the last time we were together to think long and hard about how long you need to ask questions, because people are planning around what you estimate. So, please, based on your experience and what you've seen happen so far, sharpen your pencils when you make your estimates. We will all appreciate that. And I'm not just speaking to you now, Mr. Palmer, because there are others who are in the same boat.

Mr. Lakes, you may continue.

MR. LAKES: I was hoping you would say it's lunchtime.

BY MR. LAKES:

Q. Is it not true that NPT knew from the very

beginning, when it chose to come down state roads, that it fully understood the DOT regulations calling for placing the transmission line closest to the right-of-way?

A. (Johnson) It has always been a condition of the Utility Manual.

Q. So, wasn't this the very same argument used for not coming down I-93?

A. (Johnson) I believe the argument about I-93 was much more complicated than what we're talking about here.

Q. But one of the arguments was going down the edge of the road, correct? That was a huge part of it.

A. (Johnson) That is part of the solution, yes.

Q. Moving on. Is there any plans to utilize unpaved land within the road for detours of traffic?

A. (Bowes) Yes.

Q. So, do you have to get permission from landowners, DOT or SEC, if the detour remains in the right-of-way?

A. (Bowes) On state roads, I think it will be part of our plan for traffic management. On the

town roads, I don't think it would be -- we would seek DOT approval for that.

Q. Well, my question is that, you know, you find "Oh, it's too tight in this area. We need to -- we need to go off-road to divert some of the traffic", or divert any piece of equipment or whatever. Is the landowner brought into any of those discussions?

A. (Bowes) So, the context of my response was around the seven and a half miles in the North Country, where we had a lot of testimony around the narrowness of those roads, and the fact that we could create a separate lane adjacent for certain locations. My response was not pertaining to Easton or Franconia.

Q. I'm not sure if I got the answer. I was asking if a landowner would be brought into the loop if, on the right-of-way, you're going to be diverting traffic off the road, through somebody's yard, but it's still in the right-of-way?

A. (Bowes) Yes. If we filed that plan with the DOT, and they approved it, we would then talk to the landowner.

Q. So, who talks to the landowner, the DOT or NPT?
A. (Bowes) The Project would.
Q. What if the landowner says "no"?
A. (Bowes) We would try to work something out, first of all. We're not seeking their permission to do that. But we would try to accommodate their needs, if they are reasonable.
Q. If tree removal is necessary on the trench side of the road, will landowners be brought into the process before removal?
A. (Bowes) Yes. Again, we have not identified any tree removals that are necessary. But, if it becomes necessary, yes.
Q. Is it the DOT that needs to be notified of tree removal or is it Eversource?
A. (Bowes) I'm not sure I understand the question. Who is notifying whom in this case?
Q. I'm saying, does the DOT -- or, is the DOT notified of tree removal?
A. (Bowes) By Eversource or by Northern Pass?
Q. Yes. In other words, is somebody notified or is it left to the discretion of the contractor crews, as necessary?

A. (Bowes) Now I understand. So, the contractor would have to get permission of Northern Pass to do any tree removals. I'm not sure what the notification or permission requirements are with the DOT, or the DES, as Mr. Johnson reminds me.
Q. Are you aware that, at present, when Eversource is clearing trees around an overhead line, this is on the road now, distribution lines, they need to first get permission from the landowner, and the landowner can and does, in many instances, stop the tree-cutting. Are you aware of this?
A. (Bowes) In certain circumstances, you are correct, yes.
Q. From my understanding, the standard operating procedure is that Eversource is supposed to contact the homeowner when there's tree-cutting going on. And, if the homeowner has any issues with that, they can tell them "No, you're not going to cut these trees", and they leave them. I know people that have gone through that very same process.
A. (Bowes) In certain circumstances, you are

correct.
Q. So, my point is this: Eversource recognizes the right of ownership of the landowner with regard to overhead lines, but those very same rights do not exist when cutting a gash or dropping half a house in someone's yard. How do you square that off?
A. (Bowes) Again, I think I responded to the vegetation management that, in certain cases, we do seek landowner permission. In this case, we're seeking permission to use the right-of-way from the DOT.
Q. Yes. And you're seeking permission from the landowner, and you're actually giving that landowner the right of ownership of that property by letting them tell you what trees to cut down and what trees not to cut down.
A. (Bowes) In specific --
MR. NEEDLEMAN: Objection. It's argumentative.
CHAIRMAN HONIGBERG: You can answer.
BY THE WITNESS:
A. (Bowes) In specific circumstances, you are correct.

BY MR. LAKES:
Q. Is there any plans to detour traffic from the highways down town roads?
A. (Bowes) At what location?
Q. Any location.
A. (Bowes) Yes. There are detours identified that utilize state roads at this point, and town roads for the North Country seven and a half miles underground.
Q. So, when you say that there's detours that are identified, it may turn out that residents who think they're in the clear, with regard to what's happening down on the main road, could find their back road loaded up with traffic. Is that possible?
A. (Bowes) Yes. It's possible.
CHAIRMAN HONIGBERG: Mr. Lakes, we're going to break for lunch now. Off the record.
[Brief off-the-record discussion ensued.]
CHAIRMAN HONIGBERG: So, back on the record. We'll break for lunch, and return as close to 1:30 as we can, although it might be a

little bit later.

(Lunch recess taken at 12:18 p.m. and concludes the ***Day 10 Morning Session***. The hearing continues under separate cover in the transcript noted as ***Day 10 Afternoon Session ONLY***.)

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
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