STATE OF NEW HAMPSHIRE

SITE EVALUATION COMMITTEE

June 13, 2017 - 9:01 a.m.        DAY 15
49 Donovan Street              Morning Session ONLY
Concord, New Hampshire  {REDACTED - for public use}

{Electronically filed with SEC on 06-19-17}

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)

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
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PROCEDING

CHAIRMAN HONIGBERG: All right. Good morning, everyone. We're beginning Day 15 of the hearings on Northern Pass's Application. We're going to continue the questioning of the Julia Frayer. And Mr. Cote, for the Deerfield Abutters, you may resume your questioning.

(Continuation of the cross-examination of Julia Frayer.)

MR. COTE: Good morning, Ms. Frayer.

WITNESS FRAYER: Good morning.

CROSS-EXAMINATION (resumed)

BY MR. COTE:

Q. I'd like to pick up a little bit from a subject that Mr. Anderson was discussing last week, and that is Forward Capacity Auction #11, and the way that your price projections have changed. And I just wanted to get a little bit of history. Your most recent report I believe was -- was it February of 2017?

A. The updated analysis is from February 2017. We also have the rebuttal report in April 2017.

Q. But it was -- was it the February report that
included your projection for FCA 11?

A. The February report included updated electricity market benefits. So, it would have included projections for FCA 11 through 21.

Q. And when did you actually prepare that report?

A. We started work in December 2016 for that report.

Q. Okay.

A. We did the modeling in December of 2016.

Q. And FCA 11 actually took place, I think, in February of 2017, is that correct?

A. Yes. That's correct.

Q. So, it would have been the same month that your report was released, correct?

A. That is correct.

Q. All right. And I think it's okay to say that there was a dollar difference, approximately a dollar difference in your report that came out in February and the actual clearing price?

A. Yes. That's correct.

Q. And I believe you gave an explanation. Was it something to do with there being additional capacity in the market that wasn't anticipated in your analysis?
A. That's correct. There was a difference on a net basis of about 200 -- less than 240-megawatts that was the driver of that difference in price.

Q. Okay. So, that's more or less the thread I'd like to follow. Let's see. Looks like I've lost Apple TV. Okay. We've got it back here.

When you did your original analysis in 2015, would you have -- this is Deerfield -- Exhibit Deerfield Abutter 95, and it's the ISO-New England 2015 CELT -- Is that how you say it, "kelt" or "celt"?

A. "CELT".

Q. -- CELT Report. And, so, would you have used this data -- excuse me -- in your -- in your original analysis?

A. I'm just waiting for the Apple TV to come up on my end.

Q. Is it there?

A. Not yet.

(Short pause.)

BY THE WITNESS:

A. Yes.

BY MR. COTE:
Q. Okay. So, in this report -- excuse me -- in particular I'm looking at the year 2022, because I think, on your current analysis, that's the first year where the Forward Capacity Market benefit kicks in. But -- so, I'm looking in particular at their forecast for installed megawatts of photovoltaics, and it's -- you see it's "2,305 megawatts"?

A. That's the installed capacity. That's correct.

Q. Okay. So, now I'm going to --

A. Note, though, that the majority of this doesn't affect the capacity market. Although there is an installed capacity rating, I believe ISO-New England doesn't forecast a majority of this resource participating in the Forward Capacity Market.

Q. So, now I have the 2016 forecast.

A. I see it.

Q. And you see, for the year 2022, their forecast is for "2,900 megawatts". So, in one year, it went from 2,300 to 2,900?

A. I see that.

Q. And then now I have Deerfield Abutter Exhibit 94. It's also ISO-New England CELT
Report, the Draft Report. And, now, for the year 2022, it's up to "3,720 megawatts"?

A. Of nameplate capacity, yes.

Q. Correct. And that was an increase from 2,900 the year before. So, this is ISO-New England forecasting?

A. Yes. This is their projection of the solar PV for the region.

Q. So, what I'm interested in here is your opinion on the forecasting in energy markets, in a three-year period, in this particular resource, their own estimates have gone from 2,300 to 2,900 to 3,700 for the same year, 2022. Do you have an opinion on the forecasting or the reliability of forecasting energy markets?

A. I'm sorry. Just to make sure I understand your question, Mr. Cote, you're asking me about the reliability of ISO-New England's forecast of solar PV capacity, nameplate capacity? Is that what you're asking about?

Q. Yes, but more general. Just about the difficulty of forecasting in energy markets.

A. Let me maybe address the specific ISO-New England forecast first, and then the second
part, the more generic question about the
difficulty of forecasting second.

Solar PV forecasting is something that's
been done in the recent years. It hasn't been
down over the entire history of ISO-New England
and your load forecasting process, but they
added it in some time ago, because they felt
that they needed to understand, I would say,
primarily more on the energy side of the
equation for solar PV, because they wanted to
make sure they were accurate in their forecast
of total electricity consumption in the region.

And, as the costs of the technology has
come down, and as various state programs have
ramped up, the megawatts of solar PV deployment
across the region has increased. And that's
what's really being reflected in the year over
year forecast from ISO-New England. The
combination of the actual costs of the
technology, its competitiveness of the market,
and the take-up or interest from consumers.

This forecast includes what they label
"behind-the-meter PV resources". Those are the
solar panels that you and I may install on our
homes and through the various programs and initiatives that solar providers and competitive retailers are marketing throughout the region.

This element of the ISO-New England forecast is important, especially when you're doing energy market -- market analysis, because, in the energy market, the solar generation has a particular production profile and a particular effect on electric consumption. And every year the ISO issues a new forecast, the behind-the-meter PV resources, it's embedded in the energy side of their forecast and we use that in our modeling.

Solar has not been a significant contributor to the capacity markets to date in the region. And I don't think many of these megawatts of installed capacity are projected by ISO-New England to be involved in the capacity market for a variety of reasons.

So, I don't find this, the updates that ISO-New England has done, are -- on this particular aspect of solar PV, to be a significant uncertainty to our capacity market.
benefit analysis. They are something we do take into account on the energy side. And, yes, there has been a step-up in expectations in recent years. But I think that is not something that highlights a difficulty of forecasting, it's something us forecasters have to acknowledge and recognizes a driver of the changing nature of the technology and consumer preferences. So, it's something that ISO-New England acknowledges in updating its forecast, and it's something that we also acknowledge in our forecast.

Q. Okay. I'm going to stay on this thread for a bit more. And what I have up here is Mr. Quinlan's testimony from earlier in these hearings. And he's discussing the energy market. Let me know if this has come up on your monitor?

A. I see the highlighted area on the top of Page 155.

Q. And Mr. Quinlan is talking about forecasting, and he says -- he's talking about the energy market, and says "I would say it's highly volatile. So, any time you run one of these
analyses, you're likely to get a different outcome." Do you agree with that?

A. Well, I'm not sure -- I wasn't here when Mr. Quinlan testified. He's responding to some other -- to a specific question. Can I see the page before, Page 154, so I can get a more complete understanding of what the context is for this statement?

Q. I apologize, I don't have that here. But perhaps reading the next couple of sentences might give you more context?

A. Well, I wanted to know what was --

Q. And he is actually speaking about your economic analysis.

CHAIRMAN HONIGBERG: Mr. Cote, if you can't come up with the previous page, you're going to have to move on to something else.

MR. COTE: Okay.

BY MR. COTE:

Q. All right. So, I would like to go back to photovoltaic forecasting. So, this is Deerfield Abutter Exhibit 33 [DFLD-ABTR98?]. And these are forecasts from the Solar Energy Industry Association. And, so, I'm looking at

{SEC 2015-06}[Day 15/Morning ONLY-REDACTED]{06-13-17}
the 5-year forecast going out to the year 2022, which I had highlighted in the ISO-New England CELT Reports that were up earlier. Do you see they're projecting that New Hampshire, over the next five years, will have "242 megawatts" of power, photovoltaic installed solar capacity?

A. I see that bullet on the page.

Q. Okay. And, then, Connecticut, they're projecting, over five years, "1,114 megawatts"?

A. Yes. I see that bullet. It's the same organization, right?

Q. Yes.

A. Okay.

Q. So, the same organization for Vermont, "274 megawatts"; and the same organization for Massachusetts, "2,326 megawatts". Bear with me for a second. So, if you add those all up, and I couldn't find information for Maine and Rhode Island, the first column is the ISO, the 2016 CELT forecast. And you can see that, out in the year 2022, they had projected 29 -- approximately 2,900 megawatts of installed PV. And, if you use the Solar Energy forecasts, their number is almost 6,000 megawatts in 2022.
So, it's considerably -- it's a considerably higher forecast than ISO-New England. So, do you think, going back to the earlier thread, we were talking about a difference of 200 and -- I think, did you say 45 (245) megawatts of power, unanticipated power led to the difference in the FCA 11 forecast? And, here, we have potentially 3,000 megawatts. And I'm wondering what your opinion is on how that would affect the Forward Capacity Market looking forward five years?

A. So, I believe the 200 -- less than 240 megawatts that you were referring to is in reference to qualified capacity supply in the Forward Capacity Market. As I mentioned earlier, the majority of the solar PV in the region is not participating, does not qualify for the Forward Capacity Market. So, although the units are the same, megawatts to megawatts, we're talking apples and oranges here. The apples are the capacity market benefit and the difference of 240 megawatts. Yes, that was the difference that caused, was the consequence of the forecast price difference of a dollar.
But these megawatts that I'm looking at, these are installed capacity megawatts. They're not effective megawatts. And by no means they're not capacity-qualified megawatts that would change anything in the capacity market forecast that I've prepared. So, that's what I would first and foremost note.

The other comment here is I feel very comfortable using the ISO-New England forecasts and projections, where relevant. For example, as I said, solar PV is important for the energy side of the market.

I am not as comfortable, without doing a lot more research and digging, about using the Association numbers. The associations, by their virtue, are advocating for their members. They're advocating for new solar PV. So, I have found in the past that in many instances they tend to be more optimistic in their forecasts of how much their members will be installing and investing in various regions.

Q. Okay. So, now I'm looking at -- waiting for Apple TV to kick back in here. This is the supplemental testimony of Mr. Bowes. And do
you see where he says that "the expected energy
price is approximately $40 per megawatt-hour"?

I keep losing this. What I'm seeing on my
device is not the same as what I'm seeing on
the monitor. Let me try one more time.

Okay. I have it. But this is Mr. Bowes'
supplemental testimony. And, if you don't see
it, I'll just read it. It says "The expected
energy price in New England in 2019, the year
of operation of the Project, is approximately
$40 per megawatt-hour." And that would be
about 4 cents a kilowatt-hour, correct?

A. Yes. That's correct.

Q. And that's -- I take it, that's just the energy
portion, it wouldn't represent the forward
capacity part of their revenue?

A. That's correct.

Q. And this is the supplemental testimony of
Mr. Quinlan. Sorry. Got lost again. So, I'll
just read what he says.

It says that Northern Pass will
"successfully secure contractual commitments
for delivery of low cost, clean hydropower."

So, when Mr. Quinlan says "low cost", is he
implying that they will sell at -- sell into
the market at less than the $40 per
megawatt-hour, for example, that Mr. Bowes
cited? Is that how they will bring savings to
the New England customers?
A. I can't speak for Mr. Quinlan. So, I'm not
sure I would be able to capture the exact ideas
he had in mind in his description. I suspect
that's a question for him.
Q. So, will you -- is it your anticipation that
Hydro-Quebec will sell into the New England
market at lower than the prevailing energy
rates?
A. It is our anticipation in our modeling that
Hydro-Quebec will sell the maximum amount of
energy that it has available at prevailing
rates. So, in other words, it will be a
competitive supplier, a price-taker, where it
has a specific amount of energy, with respect
to energy, because I think this question is all
predicated just on energy sales, and it will
sell those -- it will submit those energy
volumes into the day-ahead energy market and
schedule those for sale. And it will take the
market clearing price, the locational marginal price, which, if there is no congestion, is essentially set by the most expensive unit otherwise necessary to meet load in that hour.

Q. So, would you say it's accurate to say "low cost" -- "low cost power", or is it more like prevailing costs that they are selling into the market?

A. Well, I think that, again, I can't speak for Mr. Quinlan. So, you should ask him what this particular aspect of his twenty -- of his prefilled testimony on word choice. But I think that, again, from our modeling, it's going to occur as I've just described.

Q. If they sell directly into the Mass. Clean Energy RFP, could you describe how the pricing would work on that? Would that be an agreement that's completely independent of the ISO-New England market and they, for example, if Massachusetts really wanted hydropower, for example, could they pay a premium to select Hydro-Quebec and have that transaction or that agreement completely outside of the ISO-New England model?
A. So, I'm not familiar with all the details of the Massachusetts RFP. So, I would take my answer with a grain of salt. But I believe the way I had envisioned and understood by reviewing some of the draft RFP documents is that it's a commercial arrangement. There are many bilateral commercial arrangements in this market. There will be a determination of the buyers in Massachusetts about the price they are willing to pay for the product they're seeking. And I believe we spent a lot of time Friday just talking about the product they're seeking. It's a specific definition on "clean energy". And I believe there will be then an obligation to show compliance with that commercial arrangement, where the contracted entity will have to then participate in the ISO-New England markets and to sell energy into the ISO-New England markets. And, in that sense, they will need to schedule those volumes just like I've described. They will have specific volumes that they want to sell into New England's wholesale energy markets, and they will go through the process of scheduling
those, at whatever is the prevailing price, if
you will, in that wholesale electricity market.

Q. Okay. Thank you. Do you think there is a
possibility that the Northern Pass Transmission
line could become a stranded asset at some
point in the future?

A. I don't believe that my definition of "stranded
asset" would apply to Northern Pass. So, the
question is what's the definition of "stranded
asset"? I think of it as, if I looked through
the lens of a ratepayer, it's an asset that I
have, as a ratepayer, financed that I'm not
using.

I think, if we take that lens and
translate it onto the commercial arrangements
in place or currently in place and awaiting
construction of the Project, the TSA,
Hydro-Quebec, who is the counterparty that will
take transmission service on Northern Pass and
use it, will have all the incentives and all
the powers to make sure that the asset is
useful and commercially viable for it. It will
have an obligation to pay the tariff, and
therefore will have a very big incentive to
ensure that it does sell energy and capacity
into New England and earn revenues to defray
the costs that it's committed to.

Q. And I would like to introduce Deerfield Abutter
Exhibit 93. This is a press release from last
week. Is AJ Goulding, is this the same -- is
this your enterprise?

A. That's my partner. He's the President of
London Economics International, LLC. AJ
Goulding.

Q. Okay. You see his statement that's
highlighted, it says "DERs", which is
"distributed energy resources", which is --
would it be safe to assume that that refers to,
for example, photovoltaic resources?

A. Solar PV could be in that category, yes.

Q. And, in this press release, he states that
"DERs could mimic cellphone usage in terms of
customer acceptance and that significant new
investment in wires has an increasing risk of
being stranded as customers become more
comfortable with DERs."

A. I see that statement. I don't think it applies
to the type of project we're talking about
here. Nor is it -- it's a concept that he was talking about, not a fact pattern that's specific to the circumstances in consideration right now in this case in New England.

Q. Well, do you think that this statement, in your opinion, does it support the earlier analysis that I was going through that photovoltaic growth could significantly exceed the ISO-New England forecast and have some effect on the Forward Capacity Market?

A. No. As I explained earlier, solar photovoltaic growth is more important of a consideration for energy consumption, and we have already taken it into account on the energy side of our model. Solar PV in New England is not actively, and in all its volumes, participating in the capacity market. And, frankly, if it were, 100 megawatts of installed capacity is probably only equivalent to 20 to 25 megawatts of qualified capacity supply based on ISO-New England standards. Because the solar PV, its entire nameplate capacity is not what would be considered to be relevant for resource adequacy under the New England market rules.
Q. Hold on a second while I look for something. All right. I'm not going to find the attachment that I was looking for. So, I'll move on. Did, at any time in your economic analysis, did you do a evaluation for the economic benefit of additional burial of the transmission line?

A. No, I did not.

Q. How was your scope of work, I mean, as far as what cases that you would look at for your economic benefits, how was the scope determined? For example, why was it decided not to do a similar analysis for the burial case?

A. I am not familiar with whether or not the burial case was known at the time I did my original analysis in 20 -- sorry, 2015, October 2015 is the date of my original report. I wasn't looking and dictating to the client that I wanted different scenarios. I asked the client "what is the current planned construction profile of the project and what are the spending budgets?" So, I didn't anticipate that there were so many different
alternatives that needed to be examined. But I'm not even sure if those alternatives that you're referring to in your question were known at that time either.

Q. So, who was actually the client? Was it Eversource or --

A. I believe our contract is with Eversource, Northeast Utilities Services Company, which I believe is now a division of Eversource.

Q. And, so, did they determine the scope?

A. Well, they gave me the inputs to my analysis, when I asked the question that I just described to you, with respect to the spending during planning and construction and installation of the Project. But I prepared the scope of work, in terms of saying "I'm going to do this type of analysis using this type of methodologies and approaches and software", but then I said "I need the data. This is the data that I need." And they provided me with the data.

Q. Okay. And the only -- and the only scope that was discussed or looked at was just this case of the Project as proposed right now?

A. In terms of the only Project characterization,
because I think of "scope" more as like methodology and what you're studying. But, in terms of Project characteristics that we modeled, yes.

MR. COTE: Okay. Thank you. That concludes my questions.

CHAIRMAN HONIGBERG: Mr. Baker.

MR. BAKER: Thank you, Mr. Chair.

Good morning, Ms. Frayer.

WITNESS FRAYER: Good morning.

MR. BAKER: I represent four groups of individuals in New Hampshire. They are, to my understanding, all are ratepayers, and they are also landowners who are either abutting or under the proposed Project. And I bring these questions to you from their perspective.

BY MR. BAKER:

Q. Do you consider them to be stakeholders?
A. Yes.

Q. Who is your client? I'm a little confused by the last exchange with Deerfield. When you were retained for this Project, what year was it?
A. Hmm. I will have to go back and look at the
contract and engagement. It might have been in either 2014 or 2015.

Q. And who -- what was the name of the client that retained you?

A. I believe, again, the letterhead is -- it was -- probably predates the change of the corporate name, so it was Northeast Utilities Services Company.

Q. Which is now Eversource, the parent?

A. Part of the parent, yes.

Q. Okay. And Northern Pass, at least it's my understanding, I want to make sure that it's your understanding, is a wholly owned subsidiary of Eversource?

A. That's my understanding.

Q. Okay. So, if we refer to "Eversource", the parent who retained you, and its subsidiaries and affiliates, as "Eversource", is that okay?

A. Fine by me. Thank you.

Q. Okay. What is your hourly rate for this engagement?

A. I would have to take a look at the invoices. I don't know. I believe Eversource has a nice discount to our more typical hourly rate.
Q. And what is your typical hourly rate?
A. I will give you our current typical hourly rate, fully loaded, I believe, for my services, I should know this, but I think it's around $600 an hour.
Q. Okay. And is it your testimony that you are charging Eversource somewhat less than that because of its policies?
A. Because of our arrangement with them, our retainer.
Q. You have agreed to work for less than your normal hourly rate on this engagement, is that correct?
A. I have, yes, that there's a discount built into our arrangement.
Q. Okay. Is any portion of that hourly rate contingent on future events?
A. I'm not sure I understand your question.
Q. Is there an additur or bonus that you will receive if the Project is granted approval and is built?
A. Unfortunately, no.
Q. Okay.
A. We're not success-fee based, as may be other
Q. So, your compensation will be strictly based on the time you spend then, is that correct?
A. That's correct.

Q. Okay. How much have you and your firm charged Eversource for this engagement, the aggregate?
A. I don't know off the top of my head.

Q. Give me your best estimate.
A. I wouldn't even want to wager, because this Project, with respect to the SEC Application, has taken now a number of years. I wouldn't be able to give you an accurate number.

Q. Let's do the baseball analogy. Can you get me into the ballpark?

MR. NEEDLEMAN: I'm going to object. She's already stated she can't, and I'm also going to object on relevance.

CHAIRMAN HONIGBERG: Well, it may or may not be something he can ultimately use, but it's a fair question to ask the witness.

Is it $2 million?

WITNESS FRAYER: You know what, I don't know.

CHAIRMAN HONIGBERG: Is it $5
WITNESS FRAYER: I don't think so.

CHAIRMAN HONIGBERG: You think it's less than $5 million?

WITNESS FRAYER: Oh, yes.

CHAIRMAN HONIGBERG: Do you think it's less than $4 million?

WITNESS FRAYER: I think so.

CHAIRMAN HONIGBERG: Do you think it's less than $3 million?

WITNESS FRAYER: I think so.

CHAIRMAN HONIGBERG: Do you think it's less than $2 million?

WITNESS FRAYER: I think it's -- I think so, but, again, --

CHAIRMAN HONIGBERG: Is it less than a million dollars?

WITNESS FRAYER: I think so.

CHAIRMAN HONIGBERG: Is it less than $500,000?

WITNESS FRAYER: No.

CHAIRMAN HONIGBERG: Okay. So, it's somewhere between 500,000 and a million?

WITNESS FRAYER: Maybe. And I may be
off by some magnitude there.

CHAIRMAN HONIGBERG: But that's the
order of magnitude. Somewhere in the high six
figures, maybe it's broken seven figures?

WITNESS FRAYER: Thank you, Chairman.

Yes.

BY MR. BAKER:

Q. I'd like to talk about other engagements that
you've had with Eversource. I think you
testified before, there were many over the
years?

A. There have been some, yes, over the years.

Q. All right. How many?

A. I'd have to actually think through the
projects. So, we've worked with them on some
analysis regarding reliability transmission
projects, and what I call to be "market
resource alternatives" or "non-transmission
alternatives". We worked many years ago with
them on economic analysis around the NEEWS
Project in New England, which no longer is
called "NEEWS". But it had components like
Greater Springfield Reliability Project,
Interstate Reliability Project.
Trying to remember. I'm sure there's other projects in there focused on transmission and wires-related investments that we've done, on other -- on other transmission concepts that they have thought through as well. So, let's say at least a handful.

Q. Okay. Would it be fair to say, from your perspective being in this business, that Eversource is an important client of your firm?

A. I treat every client as important.

Q. Good answer.

A. And I think that, right now, Eversource, at the moment I'm here, 100 percent of my time and attention is on this Project and on Eversource.

Q. Okay.

A. But, in terms of revenue contribution, we are very diversified. I think Eversource is probably single digits percentagewise of our total revenue base.

Q. Okay. And I think you testified earlier, I don't want to go into a lot of detail, that you had worked for Eversource in a couple of other matters in New Hampshire related to this Project. One being testimony before the Senate
committee looking at the eminent domain bill,
and the other one being an appearance on the
radio, I think it was NPR, with Christophe
Courchesne?
A. Yes. That's all essentially part of the same
engagement. But, yes.
Q. Okay. And, in those contexts, both before the
Legislature and on the radio, you were an
advocate for Northern Pass, correct?
A. Yes. I guess you could say that.
Q. Okay. Have you also been engaged to render
services to Hydro-Quebec, any of its
subsidiaries, affiliates, the parent, the
government of Quebec in any way?
A. Not on this Project, but I have worked with
Hydro-Quebec.
Q. Okay. How many engagements have you had with
Hydro-Quebec?
A. Probably a handful, too.
Q. Okay. And you have actually lectured, have you
not, for the government of Quebec on the way
the American transmission market works?
A. No. I testified at the Quebec regulator,
CONTINUED BY THE WITNESS:

A. The regulator, the Régie, R-e-g-i-e. But it was actually in a Hydro-Quebec transmission tariff case, I believe, but it was for another party, on behalf of another party. But I have appeared before the Quebec regulator. I don't think I've lectured the Quebec government. But perhaps that's the one case you were referring to.

BY MR. BAKER:

Q. Probably a good decision not to try to do that. Did your report filed with the Régie also discuss the auctioning of transmission line services?

A. It did discuss the concept of an auction for allocation of transmission rights.

Q. Okay. I'm not going to go into that. That may be giving you some relief to know that I am slowly moving to the end of my 30 minutes, which may be a little bit longer given what's developed this morning, but not much.

I want to show you what has been marked as Counsel for the Public Exhibit 22.
ADMIN. MONROE: You want the ELMO?

MR. BAKER: Yes. And I'm going to use the ELMO. I think we're going to be okay. But this is a demonstration of the depth of my office employees; I have none.

BY MR. BAKER:

Q. When you did your original report in October of 2015, obviously, you did not have a March 2017 press release in front of you. But, when you did your update in April, I'm not sure whether or not you had this press release that has been marked as "Counsel for the Public 22" in front of you.

Did you take any of the statements in this press release -- or, let me withdraw that.

Here's the question: Did you know about this press release when you wrote your update report in -- that's in evidence in this case as "Exhibit 81", Appellant's -- "Applicant's Exhibit 81"?

A. I think I'm familiar with the article, and I just don't remember the exact words that were on the page. So, if I didn't read this press release, I was definitely informed about it.
Q. Okay. So, when you finalized your update report, did you take into account that Hydro-Quebec was no longer willing to take any risk in the construction of this transmission line?

A. I did not take into account the statement you made, but I don't believe the statement you made is true either. So, there was no reason for me to take that into account.

Q. So, you do not read this statement from Hydro-Quebec that it's going to rely on the ratepayers in the United States to pay for the transmission line over the tariffs that it pays in long-term contracts, I know I'm not reading it exactly right, because I can't see it from here. But you didn't take that into account?

A. I don't believe that the press release is intending to make that conclusion. The Transmission Service Agreement that has been approved by FERC, that has been signed by a U.S. based affiliate of Hydro-Quebec, still stands. So, Hydro-Quebec, through its affiliate, is taking transmission service and will be paying for it once the line is
constructed. I --

Q. Who told -- I'm sorry, you weren't done.

A. I think that this particular press release needs to be taken in the context also of the original article that was in the Journal de Montréal, that that is what it's rebutting. And there was some -- and you do need to read it in the original French. I think the English doesn't do justice to the original article.

But there was some confusion that they felt they needed to clear up with this press release.

But I don't make the conclusion that you've made, knowing all the other elements and facts in this case.

Q. Yes. This press release, you understand, was published by Hydro-Quebec on its website?

A. Yes. And I think it's meant to defuse confusion about what the obligations would be on Hydro-Quebec Distribution, which is the company responsible for supplying Quebec consumers. I don't think it negates any aspects of commercial arrangements that have been previously made and continue to hold...
between other affiliates of the Hydro-Quebec Corporation with respect to Northern Pass.

Q. Who told you that FERC had approved this arrangement that Hydro-Quebec is now speaking about?

A. No. I told -- I mentioned that FERC had approved the Transmission Service Agreement, the TSA.

Q. Right. And the Transmission Service Agreement that FERC approved was for the sale of Hydro-Quebec's power into the New England market, at wholesale market rates, correct?

A. The Transmission Service Agreement is for transmission service, cost of service based tariff of transmission service on Northern Pass line. That's what the Transmission Service Agreement speaks to.

Q. Right. And the FERC order, if you've read it, states very clearly that this is a participant-funded project, where the participants are going to pay for it, and the American public, the ratepayers, would pay market rates. Correct?

A. The American public, consumers here in the
U.S., would be paying market-based rates for the commodities. But the commodities are not the focus of the Transmission Service Agreement. The focus of the Transmission Service Agreement is the obligation for an affiliate of Hydro-Quebec to take transmission service and pay for it on a cost of service basis to Northern Pass Transmission, I guess it's an LLC, but I may be wrong, the entity that --

Q. I don't want to be argumentative, but I do need to understand where you got your belief that FERC had approved this arrangement that Hydro-Quebec is trying to describe in this press release in March of 2017?

A. Sir, I'm sorry, but I think you're conflating different things. What I said is that "FERC approved the Transmission Service Agreement". And the Transmission Service Agreement clearly, to answer an earlier question, puts an obligation on an affiliate of Hydro-Quebec to pay for transmission service.

Q. Are you aware that FERC has stated that the Transmission Service Agreement that it approved
[WITNESS: Frayer]

1 has not been extended, and that they have no
2 record of any amendments to that Transmission
3 Service Agreement in their files?
4
5 MR. NEEDLEMAN: Objection. If
6 there's a document that specifically says that,
7 you should put it in front of the witness.

8 CHAIRMAN HONIGBERG: He asked if she
9 was aware. She can answer that question.
10
11 MR. BAKER: I'm going to withdraw the
12 question. Because counsel is right, if I had
13 that document right with me, I could do it.
14 It's not important. The testimony is in the
15 record here, and we can go back and look at it.

16 BY MR. BAKER:

17 Q. Who told you that FERC had approved this
18 arrangement?

19 A. FERC had approved the Transmission Service
20 Agreement, you can pull it up on the FERC
21 E-Libraries to see that it's been filed with
22 FERC.

23 Q. All right. And those orders that FERC entered
24 long predate the date on this press release,
25 don't they?

26 A. I don't disagree. But this press release is

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not saying anything in those -- in that Transmission Service Agreement is void and null. This press release is speaking, first paragraph, directly, as I mentioned earlier, rebutting an article in the local newspaper in Montreal. It then goes on, and, as I said, it's really focused on Quebec consumers. So, it's speaking from a very particular division of Hydro-Quebec. It's speaking from the Hydro-Quebec Distribution's perspective, not Hydro-Quebec Production, which we've talked about in this case, you have to separate.

Q. That's your distinction, not a distinction made in the press release, correct?
A. It's a distinction known to anybody who understands Hydro-Quebec.

Q. And you claim to understand Hydro-Quebec?
A. I do claim to understand it, perhaps better than some.

Q. Okay.
A. Maybe not 100 percent, but I do understand that basic fact.

Q. Fair enough. Fair enough.
A. The second paragraph speaks to the
Massachusetts RFP. I don't see any mention here of the TSA.

Q. Well, who's going to pay for the construction of Northern Pass in the United States, according to this press release?

A. I don't think this press release talks about that.

Q. Well, doesn't the press release say that American ratepayers will pay it through the RFP?

A. There is a line that seems to imply that. But I beg to differ. I believe what American consumers will be paying for is the commodities. They will be paying for the energy and capacity, and any other products and services that will be provided and delivered via the transmission line.

Q. So, you would have changed the press release to say what you just said, not what it actually says, is that correct?

A. Yes. Although I'm not part of the Media Relations Department of Hydro-Quebec, but I think that that piece, I would agree with you, is misleading and unclear.
Q. Okay. So, maybe you don't understand Hydro-Quebec quite as well as you think, and maybe you do. We don't know, do we? Because the press release and what you say are two different things?

A. I can't speak for Hydro-Quebec. I can speak for what's written, and I can speak for the facts that I know to be true.

Q. I'd like to clean up something that happened on Friday, I think it was Friday of last week. This is Joint Muni Exhibit 210, and it's Page 21. You were asked about this entry. And I'm going to get closer, so I can read it, too. I can actually read it better here.

This was Attorney Pacik's questioning of you with respect to this Project that has the green highlighting that I've put on there. And this is a project that you did having to do with a clean energy RFP. You see that?

A. I do see that.

Q. Okay. Which clean energy RFP was this project for?

A. This was for the Clean Energy RFP, which is also known as the "Tri-State RFP" that occurred
last year.

Q. Right. And that's --
A. Or, actually started earlier than last year.

Q. That's one that I believe your client, Eversource, had participated in?
A. They did participate in it.

Q. And they did not win a position in that one, is that correct?
A. Yes. Actually, no transmission -- large-scale transmission project won a contract from that RFP.

Q. Okay. And they were participating, in particular, in connection with the Northern Pass Project that's before this Committee, correct?
A. Yes, and others.

Q. Okay. You were asked by Attorney Pacik whether you graded or ranked Northern Pass for that project, and I recall you responded "no". Do I recall that correctly?
A. I don't think I said "no" to that question. In fact, based on the description, it says that we looked at a number of potential projects that can qualify.
Q. Okay. Maybe I got it wrong, and I don't have
the transcript, I don't think it's been
published yet, but we can look at that when it
does get done. But can you amplify on your
answer or change what my understanding of your
answer was, did you, in fact, grade Northern
Pass for the Clean Energy RFP?
A. For this project, for this client, I probably
would have considered Northern Pass or
something that looks like Northern Pass in my
compilation of potential projects.
Q. Okay. And, in your grading of that project for
this RFP, were they near the top or near the
bottom or somewhere in the middle?
A. I would honestly need to go back and take a
look. I apologize, but this was a project from
2015. I suspect they were near the top. But
it's a suspicion. I can't confirm without
going back and looking.
Q. Okay. That clears that up. Now, I'd like to
talk specifically about my clients for a
minute, and they have this question: If the
average residential bill that they pay in New
Hampshire is 300 kilowatt-hours per month,
under your original report done in October of 2015, what is the projected monthly savings in dollars and cents that they could expect?

A. I'd probably have to do the math.

Q. Will that take you very long?

A. Perhaps I can tell you the number after the break. I'm wondering if it's something I can do here or not. I'm just looking to see if I have it.

Q. If it's easier, you can do 100 kilowatt-hours, and we'll multiply by three.

A. I will have to take you up on this later, because I don't believe anywhere, even in my original report, I have the savings in cents per kilowatt-hour. Even in my original report, when I talk about retail electricity cost savings, everything is dollar millions. So, I need to go into the workbook and figure out what it is dollars per -- or, cents per kilowatt-hour to then do your math.

MR. BAKER: Okay. I have to address the Chair, I'm sorry. But would it be all right if I came back to get this information later in the morning?
CHAIRMAN HONIGBERG: Yes. Just as a -- how long do you think it would take you to figure this out, Ms. Frayer?

WITNESS FRAYER: Hopefully, five minutes, with my computer.

CHAIRMAN HONIGBERG: All right. It is not a good time for a break right now for a variety of reasons. Is there something else you can move on to?

MR. BAKER: I can. I can move on.

CHAIRMAN HONIGBERG: We'll make sure, when Ms. Frayer has done that calculation, you'll get a chance to come back up, if somebody else is doing the questioning.

MR. BAKER: Fine.

BY MR. BAKER:

Q. My clients also want to know what their savings will be under the analysis done in your updated report, because I understand the savings will be somewhat less?

A. I will make sure to do the math for both.

Q. Now, let's talk about the concept of "savings". You're not stating that they would be paying less in the future than they pay now, correct?
A. No. That's not the concept we're trying to capture. What we're saying is, they would pay less in the future than they would have otherwise paid in the future.

Q. Right. So, it may, in fact, be an increased bill that they're paying in the future, but your claim is, under your analysis, if we believe all your projections, that they would not be paying quite as much in the future as they would otherwise, is that correct?

A. That is the construct of the approach that we've used, yes.

Q. Okay.

A. Because it would be otherwise incorrect to compare today to tomorrow. That's, again, another apples-and-oranges comparison.

Q. Okay. My clients have a another question. They are all recreational or vacation home and property owners, some of them are strictly consumers of the recreation services offered by their properties in northern New Hampshire. One of them is a commercial real estate developer and has plans for the property. They have all, rightly or wrongly, been chilled by
the overhang of Northern Pass for the last six years or five years, depending on the date when this Project was announced and then changed.

So, they have all had some concerns and worries, which I think you can understand, correct? Understand, that's all. You don't have to agree with them.

A. I appreciate they have been under the -- because I assume, when you say they're "landowners" there, they abut the rights-of-way or --

Q. Yes. They're all, in fact, under or over the transmission line, depending on which one we're talking about.

A. So, I can appreciate the uncertainty they have been put through.

Q. Okay. They want to know if your projections or studies of the economic impact of this Project have taken into account in any way the chilling of any economic activity that might have been caused by this Project in the past?

A. The study is looking forward. It is not really considering any aspects of what has otherwise occurred in the past, other than the dollars
spent, let's say, in 2015/2016, for the planning stage of the Project.

Q. Your figures project a in-service date for this Project of what, 2020 or '21?
A. For energy sales, I believe it's, in the original study, 2019. And, then, capacity sales will start a bit later because of the schedule of Forward Capacity Auction.

Q. So, you're projecting a start date, a commencement of service date 2019 still?
A. In the updated analysis, I think it moved a little bit, but, essentially, in that ballpark.

Q. Okay. Assume for a moment that the 2019 date has slipped to 2020. Does your modeling project any chilled or lost economic activity for the State of New Hampshire, based on the period of time from now until that in-service date late '19, late '20, that is caused by the uncertainty of the overhang of this Project?
A. I have not attempted to quantify that, any aspects of what you're suggesting. I'm not even sure how to, --

Q. Okay.
A. -- at the moment as I sit here. But I have not
studied any elements of that.

Q. And I take it your answer would be the same with respect to any lost economic activity as a result of change of plans: I'm not going to build my retirement home; I'm not going to do my real estate development; I'm not going to improve the garage; I'm not going to redo my driveway; this is not going to be worth it, because my investment will never come back to me now. Those sorts of concerns. Have those in any way been factored into your projections?

A. I have not figured those concerns into the projections. Again, the projections we're presenting here, for economic issues, GDP, jobs, are at the state level. So, we have not dug into the nuances that are really individual stakeholder basis.

Q. Okay. Along this same line, but a slightly different question, do you agree that the commencement of construction and the commencement of service sometime in the future on this Project is a future contingency that will impact your projections, if your 2019/2020 date for commencement of service is not
met, but is put off further into the future?

A. If the COD date moves, I think the timing of
the wholesale electricity market benefits that
I have predicted will move. But it will not
reduce the value and magnitude of those
benefits.

Q. But it would affect your projections, correct?

A. Well, it would shift the time frame of those
electricity cost savings. And I think that's
already somewhat represented, if you do compare
the original report and the updated analysis, because we did do a shift. We no longer report
2019 impacts in the updated analysis, we start
with 2020.

Q. Right. So, the further out it extends, the
more your projections have to shift into new
projection time periods, correct?

A. That's a reasonable characterization, yes.

Q. Okay. And, so, that's one contingency that
could affect your predictions. You have also
been engaged by Eversource to help it out in
its tax appeal in New Hampshire involving New
Hampshire municipalities, is that correct?

A. No, not to my knowledge.
Q. You didn't do any work on that case?
A. No, I did not.

Q. Okay. Are you aware that the New Hampshire Supreme Court issued a decision on June 2 by ruling against Eversource on its tax bill?
A. I overheard some discussions, but I'm not very familiar with the case.

Q. Okay. If that case were to result in a higher assessment of taxes on utility property throughout the State of New Hampshire, or the possibility of that, is that a contingency that could impact your analysis of projected benefits and savings from this Project?
A. You said a "higher --
Q. Higher --
A. -- property tax bill"?
Q. Correct. Yes.
A. Well, a higher property tax bill will actually increase benefits to New Hampshire consumers in general, because it means there's more spending by local governments possibly from the higher tax revenues they have collected.

Q. And who will pay for the higher tax benefits to the communities?
A. Well, my understanding is Eversource is the payer of those local income -- local property taxes.

Q. Right. And --

A. Or, I should say Northern -- I guess Northern Pass would be the entity paying those property taxes.

Q. Right. And those property taxes will get passed on to ratepayers, if ratepayers bid for these services, won't they?

A. Now I'm confused with your question. How does --

Q. If the cost of management and operation of Northern Pass goes up, will it in any way impact your projections of the future for this Project in New England and in New Hampshire?

A. As I said, if Northern Pass has to pay higher property taxes, those local property taxes, the revenues collected, will allow local governments to expand services, which amplify economic activity and increase the local economic benefits beyond what we have measured.

Q. And, when this Project bids in to any future requests for proposal, like the Clean Energy...
one, which you've already studied, and the Massachusetts one that's upcoming, isn't there going to have -- aren't they going to have to bid in their expenses of operation, too, in order for Hydro-Quebec not to take any risk?

A. Well, I don't agree with your premise that Hydro-Quebec is not taking any risk.

Q. Okay. So, that's a question that you won't answer, because you and I have a different view of what Hydro-Quebec is willing to do, correct?

A. Correct.

Q. Okay.

A. I do agree property taxes are a cost of doing business for the Project, and property taxes are going to be part of the tariff that Hydro-Quebec is responsible for. But, when Hydro-Quebec or its affiliate bids into these RFPs, these are extremely competitive. It's not going to be able to, if its cost of business goes up by a buck to increase its bid by a buck. These are competitive, very competitive auctions. The price is not going to be based on kind of a cost of service
pass-through of all the costs of business. The price is going to be based on what can the market bear as a price for whatever is the commodity, clean energy, renewable energy certificate, capacity, whatever the commodity is that's being sought in that RFP.

Q. I totally agree with what you've just said. But doesn't that make it more likely that the bid that is put in might be slightly higher than it would have been before this Supreme Court decision came down?

A. In my opinion, not necessarily. But I'm not the person responsible for putting in the bid.

Q. Okay. Fair enough.

A. I believe the bid needs to be put together in such a way as to ensure the Project has the highest likelihood of winning the RFP and being competitive with all the potential other suppliers.

Q. All right. I'd like to change the subject slightly to the CELT Report, C-E-L-T. What does that stand for again, so we're all on the same page?

A. Capacity, Energy, Load, and Transmission.
[WITNESS: Frayer]

Q. Okay.
A. It's a projection.

Q. Without going into your report, I think your original report and your updated report pointed out that the 2015 CELT Report from ISO-New England, compared to the 2016 CELT Report from ISO-New England resulted in a slight reduction in benefits for the ratepayers, projected in your -- in your updated report?

A. I would actually change that statement a little bit. I would agree that my updated analysis showed that the CELT -- the vintage of the CELT that we relied on in the updated analysis, relative to the prior vintage that we relied in the original report, was showing a downward trend. And that total electric consumption that was used in the projections in the original report were now lower in the updated analysis. And we did conclude that it was a contributing factor. But I don't think in isolation you can just point to that one, because we -- to that one issue, since we made a number of different changes that, on the composite, some of which wouldn't maybe move in...
an opposite direction, and a composite we reported the consolidated effect of all the changes in our updated analysis.

Q. Right. So, you had before you, when you did your original report, 2015 CELT Report. When you did your update, you had the 2016 Report, and maybe some draft figures from 2017, did you take those into account?

A. No. We didn't take anything related to the 2017, because the drafts were premature at that time.

Q. Okay. On Friday, you said you had been -- you had received the Draft 2017 CELT Report figures for energy consumption?

A. Yes. I have since then reviewed some of those that have come out earlier this year.

Q. And the 2017 CELT Report was published, the final report, last month, correct?

A. In May, yes.

Q. Yes. And that report shows continued decline in the projected New England energy consumption rate, correct?

A. Yes, it does. Total energy consumption.

Q. Okay. So, am I correct in concluding, from
your updated report statement on the effect of this, that, all else being equal, lower energy consumption would result in lower energy market benefits from any project like Northern Pass?

A. Yes. But that's an incomplete statement. The second part of that, the second or consequential element of that, if you're looking at it as the only parameter of change is that, holding all else equal, lower -- lower electricity consumption means lower energy prices. Lower energy prices drive energy market benefits down.

But, in an environment of lower energy market prices, we need to expect, and this is not just my forecast, this is the ISO-New England's expectation, a basic fundamental market expectation, too, that capacity prices would have to rise. And, as capacity prices rise, we get higher capacity market benefits.

Q. Okay. All else being equal, then lower energy consumption, as demonstrated in the 2017 CELT Report that is now published, if you had been able to model that, may have had an impact in further showing a decline in the projected
savings, correct?

A. No. It would have showed a decline in the wholesale energy market benefits, but likely an increase over time, in the longer term, in capacity market benefits. So, on the net, when you say "electricity savings", I think you're referring to "retail", the composite of the entire electricity market, on the net. I think it's an empirical question. But, again, ISO-New England understands this, has published many times this relationship, and we model this as well, there's an integration between the energy and capacity market. It's a single balloon. If you squeeze it on one side, the other side of the balloon gets bigger.

Q. Have you finished the answer?

A. Sorry. Yes.

Q. Okay.

A. Thank you.

Q. What I'm showing you on the screen is from your updated report. It's the Page 2 disclaimer. You recognize it?

A. Yes.

Q. Okay. This disclaimer, with maybe a couple of
words variation, also appears in your original report and in your rebuttal report that's in evidence. I'd like to unpack it a bit.

Are you disclaiming responsibility for not including recent developments in this report?

A. No. We're not saying we're not taking responsibility. We're saying that there may be other recent developments which may not be included in the analysis since the analysis was done.

Q. Right. And where we've just talked about a couple of the recent developments, the May CELT Report?

A. That's an example.

Q. Yes.

A. Relative to, let's say, the February 2017 updated analysis.

Q. Sure. Whatever the position of Hydro-Quebec is, as it modifies its position, and I'm not going to characterize it, because you and I disagree on that. But those sorts of things can't possibly be anticipated when you're writing, you can only anticipate the past, correct?
A. No. I think some things you can anticipate. But certain elements you're not going to capture. So, there's a distinction here. And, with respect to the CELT, we like to use the latest available forecast from the ISO-New England. But, subsequent, over time, new forecasts will get developed by ISO-New England. And, because we're relying on the ISO-New England forecasts, we can't anticipate what they might say in the future.

Q. You're also declining to guarantee any of the results you forecast, correct?

A. That is what this text shows. And, if you -- if I may, if I can give an understanding of that. All those bullet points kind of refer to the entirety of this disclaimer, which is something that we put on every single report. It's meant to ensure that readers of this report do their own due diligence. Many times our reports are used for investments, financing, lending, of significant sums of money, and we want to make sure that investors know that we're not providing investment advice. So, we use this type of disclaimer...
routinely on all of those reports for that purpose.

Q. Is it just boilerplate?
A. It is.

Q. Is it meaningful at all?
A. Our lawyers, our external counsel requires us to put it on all of our reports and thinks that it's -- and our Management Committee thinks that it's wise.

Q. Those lawyers are pesky devils, aren't they?
A. Well, I think it puts everybody on notice, when they read this disclaimer, that, to the extent they're making an investment, they need to do their own due diligence as well.

Q. Well, my clients have made an investment in the State of New Hampshire. And they want to know what they should do with their investments. Whether they should abandon them or improve them or wait to see what happens. And your disclaiming responsibility for any investment decision that they might make, correct?

MR. NEEDLEMAN: Objection.

MR. BAKER: I want to unpack and understand what this disclaimer means. Because
this witness is making these same
representations to this Committee. And I want
to understand what firmness there is behind
them.

MR. NEEDLEMAN: This disclaimer can't
possibly have anything to do with individual
investment decisions of his clients.

MR. BAKER: We're being asked by
Northern Pass to make an investment decision
about the merits of this Project and what it
will do to this state and its environment, its
scenic beauty, and whether or not this makes
sense for not just us, but our ratepayers,
perhaps the consumers in New England. I don't
know what the Committee's position will be on
that.

So, it seems to me that this
disclaimer needs to be understood. And this is
a question designed to elicit more
understanding about it.

CHAIRMAN HONIGBERG: I think you can
ask her if she has any more she can say about
the significance of this disclaimer. You can
continue to a limited extent. But the premise
of the question started with was "your clients' investments". The argument you just made was a much larger, broader argument, related to the statutory system we're operating under here.

So, I think you might --

MR. BAKER: I'll withdraw --

CHAIRMAN HONIGBERG: -- you might have questions you could ask about both, but --

MR. BAKER: I'm going to withdraw the question about my clients. I'm going to broaden it to the State of New Hampshire.

BY MR. BAKER:

Q. Aren't you asking the State of New Hampshire to rely in some way on your projections, to determine whether or not there's any public benefit from this project?

A. I am.

Q. And, in light of this disclaimer, is there anything that you would like to take back, take out, tell the lawyers they're crazy?

A. No. I stand behind the rigors of my analysis. I believe it's providing a very robust set of empirics for the Committee to rely on. This is a disclaimer that I have to put on every report.
that has a forecast in it. And it is what it is. I didn't draft the disclaimer. The lawyers drafted the disclaimer. And it appears, I think, on every forecast report that we have been issuing for many years.

Q. Earlier this morning you stated, and I think I wrote it down word-for-word, "advocates tend to be more optimistic in their forecasting."

A. Associations. And this is in regards to the Solar Association, yes.

Q. Right. And you were an advocate, were you not, for Eversource, in 2011, when you testified in the Legislature and when you were on the radio?

A. I think I said that I would accept that I was advocating. But I think my testimony, with respect to those particular project engagements, was not to say to the siting committee at that time "approve this Project". I think I was speaking a little bit more broadly and saying "New England needs new infrastructure, like this Project. It has lots of benefits."

I recognize that there are stakeholders that have concerns about negative impacts. But
I felt at the time, when I was doing my presentations, there wasn't a volume of information available to stakeholders about the benefits. And, for me, it's important to have the complete picture, if I'm put in a position to make a decision.

Q. You do --

A. So, I wasn't, you know, an investor in the Project, going around saying "Yes, you got to invest in it." I was doing independent thinking and analysis about the state of the New England system and how the Project would fit in.

Q. Yes. Do you think that the folks you were talking about this morning who did forecasting that you said might be "overly optimistic because they were advocates", do you think they'd answer the question the same way you just did?

A. I don't know how they would answer the question. But they are a specific type of organization. They are not an independent consultant. If you showed me a solar PV forecast from another independent consultant, I
would say that I would have to review it with a
different foundation. But that was a solar
association representing manufacturers and
vendors that sell solar PV installations and
other related projects.

Q. And you claim to be an independent professional
in this matter?
A. Yes. I am an independent economic consultant.
Q. Right. And you were paid how much?
A. I think we've discussed it this morning.
Q. We did.
A. I get paid for all my services. That's how I
survive. That is -- I am paid for the
information that I provide.
Q. Okay. And, if you don't get paid, you don't
work, right?
A. If I am not being paid for my services, I
don't -- this isn't a hobby.
Q. Right. But you disclaim --
A. This is my job.
Q. But, for all that money and for all that work,
you disclaim responsibility, you don't
guarantee it, do you?

MR. NEEDLEMAN: Objection. That's
not what she said.

CHAIRMAN HONIGBERG: I agree. It's sustained.

MR. BAKER: Subject to the rate questions I had, I'm finished with my cross-examination.

CHAIRMAN HONIGBERG: This is a good time for the morning break. We'll take fifteen minutes. Just off the record.

(Recess taken at 10:32 a.m. and the hearing resumed at 10:58 a.m.)

BY MR. BAKER:

Q. The question that --

CHAIRMAN HONIGBERG: Wait. I wanted to make sure you were ready. You were ready?

MR. PATNAUDE: Yes.

CHAIRMAN HONIGBERG: Okay. You may proceed. Sorry about that.

MR. BAKER: Thank you, Mr. Chairman.

BY MR. BAKER:

Q. The question that you were going to research was, under the original report, and then under the updated report, what would the savings be
to a customer in New Hampshire who uses 300 kilowatt-hours per month, on average? And I'd like the savings to be stated, the monthly savings that you project.

A. I actually calculated the annual. So, I hope that's sufficient, instead of the monthly. We have a blended rate savings calculation. So, it covers all types of customers. And, under the -- let me give you the numbers, and then I will try to explain that a little bit further.

Under the original report, it would be $24 a year, on average, over the forecast time frame, for all types of customers. This is, you know, ranging from various residential customers, with seasonal vacation homes, full-time homes, all the way to commercial/industrial customers, like a ski resort that's spending thousands of dollars during their winter operating season.

And, under the updated analysis, that same number would be $18 a year. Again, blended rate, covering all kinds of rate categories, rate classes.
the formula by which you calculated that conclusion or is that going to be something that's difficult for you to hand me right now?

A. Can I speak it? I don't have it written out.

Q. Yes. You can speak it. That would be fine.

Thank you.

A. So, and it's probably good to refer to my original report, so you can see where the numbers kind of stem from. It is a confidential portion of my original report, Figure 72, on Page 113. This is the October 16, 2015 report. And, if you look under the row that is representing New Hampshire, you will see, under the "Average" column, a figure of approximately 80 million. That figure itself isn't confidential, because it's also in my original summary.

You take that and you divide it out by the gigawatt-hours of annual energy sales in New Hampshire, which is about 12,000, a little bit less, 12,000 gigawatt-hours. You then get a dollar per megawatt-hour or a cents per kilowatt-hour number. And that is then multiplied by your assumed level of
consumption. I believe it was 300 kilowatt-hours a month, times 12 months.

Q. Okay. So, I recognize you're using a blended rate, and that is probably the best we can do right now. But, if I told my clients that this 300 kilowatt-hours per month would result in a savings, under your original report, of about $2.00 a month, and under the amended report of about $1.50 a month, would that be accurate? I think it is.

A. I think so. But it assumes a particular, again, type of level of consumption. For, just as a hypothetical, a ski resort, that's consuming, of course, a lot more electricity, but is under a different type of rate class, would have a very different dollar impact on their monthly bill.

Q. Right. And then, under the new ISO-New England 2017 CELT, C-E-L-T, Report, this projected customer savings could further go down, but you haven't done that analysis, correct?

A. I would argue, based on what we discussed earlier, it's not necessary that it would go down. It could go down, it could go up,
actually, because this number, although it's represented volumetrically per megawatt-hour or kilowatt-hour of energy consumed, is including capacity markets. And, as I said, if energy use -- energy use goes down, and results in lower energy prices, it could actually increase capacity market prices. And, so, on a consumer bill, it may not actually show up as a neutral, and it would actually potentially create much bigger benefits, because this Project is really about driving capacity market -- the benefits of this Project are really much more focused on the capacity market savings than energy savings.

Q. Is it fair to say that our outlook on the future changes from day-to-day and moment-to-moment, as these reports from various agencies come in and the assumptions that we make change, as to our projections of economic activity and billing rates and all of those sorts of things? Isn't that fair to say?

A. I would agree with the first part of your question in principle. Generically, that our outlooks for the future do evolve with time as
new information becomes available. That said, I'm very confident that the forecasts we've done are rigorous and robust as I stand here today and reliable for the purposes of the Committee.

Q. Okay. I'm also done. This doesn't have to be an exhibit. It just to show you what a French poet, essayist, and philosopher said many, many years, Paul Valéry. And I won't read the French, because my pronunciation is terrible. Yours sounds like it's going to be much better. But would you agree with this quote from Monsieur Valéry?

A. It's quite philosophically whimsical.

Q. Okay.

A. So, entertaining, for sure.

Q. Well, let's take it back to the ballpark analogy. Do you agree with this wonderful baseball legend, Mr. Berra?

A. I like what he's saying. And I think I actually said it a few times over the course of the last few days, that, and it may have been actually, Mr. Baker, to one of your questions. You can't look at what we're paying today and
say that cost savings is relative to what we are paying today or in the past. It's a question of the cost savings we will achieve by doing something different in the future. And this project is going to create that, because it's going to change the units that would otherwise set the price of energy, set the price of capacity, by infusing a new supply into the market that's competitive, it will create those rate savings.

Q. And those projections keep changing, don't they?

A. Projections do evolve.

MR. BAKER: Thank you. Thank you, Mr. Chairman. I'm done.

CHAIRMAN HONIGBERG: I understand that Mr. Palmer and his group are still not here. I am informed that Ms. Crane has ten minutes she would like to do, before we get to you, Ms. Birchard.

MS. CRANE: And I think it's just a handful questions. And is it appropriate, if I don't have an exhibit, to just proceed from here?
CHAIRMAN HONIGBERG: Sure.

MS. CRANE: Thank you.

BY MS. CRANE:

Q. Am I correct that in your October 2015 Report and analysis, any changes to reflect the change in the route from what had been announced previously would actually be captured in changes in the inputs, in terms of dollars spent by the Project? Is that a fair assumption on my part?

A. I'm not sure I can answer, because I think you're asking about changes in route. To tell you the truth, I'm probably not the right person to talk about changes in route.

Q. But your original analysis was done with inputs that reflected which route?

A. Again, let's see if I can -- if my own report answers it, but it may not.

I had, in Section 4 of my original Report, I had a description of the Northern Pass Transmission Project that I modeled. And it talks an HVDC line from the Canadian border to Franklin, and it then talks about the AC transmission line. There is a map there. But
I don't believe I go into the specifics of the route, unfortunately. So, I'm not sure I can answer your question. That probably is better asked of the construction experts at Eversource.

Q. So, whatever your original analysis was, it didn't change substantially --

A. That is my understanding.

Q. -- at some point. Okay.

A. That is my understanding.

Q. And that's fine. And I had another question about the REMI model, which you have referred to on a number of occasions as conducting only a -- producing only a statewide result, is that right?

A. Yes. We are using currently what I call a "state-by-state New England model".

Q. Okay.

A. That represents economic activity at the state aggregate level, by industries, but states, not more geographically detailed than that.

Q. And you will recall, in Section 5.2 of your rebuttal testimony filed in April, you talk about the fact that displaced business moves to
other communities, and, therefore, when there's a temporary dislocation in economic activity, it's made up for in the neighboring communities. Do I have that -- is that a correct summary of the conclusions in that section?

A. I think the only change I would make to your summary is that I said "it could".

Q. Okay. Does the REMI model know where state boundaries are?

A. From an economic activity perspective, yes. It's trying to capture a realistic depiction of economic activity in each state. And it's using data from the states, from the BEA/BLS, which compiles data, statistical data on economic activity/labor markets state by state.

Q. Does it understand that any of that economic activity is actually location-specific?

A. Location-specific geographically at the state level? Or are you speaking substate level?

Q. Well, I'll ask my ultimate question. If I were going to go kayaking on the Pemi putting in in Plymouth, okay, and I know that I can't get where I want to go easily or I fear that I
can't want to go -- get where I want to go
easily, putting in where I habitually have in
Plymouth or just north of Plymouth, so I decide
to go to the Saco, in Maine. Does your model
account for that loss of business?
A. In the hypothetical that you've created, we
could dictate to the model that there is a
specific impact in New Hampshire that's
substituted for in Maine.
Q. Did you have any inputs that actually did that?
A. No, we did not.

MS. CRANE: Okay. Thank you. That's
all I wanted to ask.

CHAIRMAN HONIGBERG: All right. The
environmental groups, Ms. Birchard, I think
you're up.

MS. BIRCHARD: Thank you, Mr.
Chairman -- is that working? Yes. Thank you,
Mr. Chairman. And thank you for the
opportunity to conduct my non-public
questioning prior to the public questioning, I
believe.

CHAIRMAN HONIGBERG: Wait. Well,
wait. You're going to do non-public first?
MS. BIRCHARD: Oh, no. Excuse me.
Public questioning, prior to the non-public.

CHAIRMAN HONIGBERG: All right.

MS. BIRCHARD: I know that issue came up on Friday, and I appreciate your flexibility on that.

CHAIRMAN HONIGBERG: That's good.
You just scared me for a minute when you put it the way you did.

MS. BIRCHARD: I think you'll find this to be expeditious, and I hope we will be done well before lunch.

Also, if it please the Committee, I am going to relocate to a spot where I don't have a column between myself and Ms. Frayer.

WITNESS FRAYER: Thank you.

CHAIRMAN HONIGBERG: Off the record.

[Brief off-the-record discussion ensued.]

CHAIRMAN HONIGBERG: Ms. Birchard,
you may proceed.

MS. BIRCHARD: Thank you. I will be connecting to the Apple TV.

Ms. Frayer, good morning. My name is
Melissa Birchard. I'm an attorney for Conservation Law Foundation. I also am the designated spokesperson for a grouping of NGOs comprised not only of CLF, but also of Ammonoosuc Conservation Trust and the Appalachian Mountain Clubs, for purposes of this particular proceeding.

WITNESS FRAYER: Good morning.

MS. BIRCHARD: Are you seeing anything on your screen right now?

WITNESS FRAYER: I think so. It's like an alphabetical list of --

MS. BIRCHARD: Okay. That's fine.

Yes.

BY MS. BIRCHARD:

Q. Ms. Frayer, according to your curriculum vitae, you manage LEI's -- you don't need to look at the list at this point, I just wanted to make sure it was functional. According to your are why curriculum vitae, you manage LEI's quantitative financial and business practice area, working with a team of economists and consultants. Is that correct?

A. Yes.
Q. Subjects that you address in your work include electric generation sector market power and anti-trust analysis, cost of capital estimation, rate-setting analysis, forecasting of wholesale power prices, and energy sales agreements, among others, correct?

A. I think that's an excerpt of my CV, but --

Q. It is. It comes from Attachment A to Applicant's Exhibit 28, which is your CV.

A. Yes. That sounds -- subject to check, I think you're reading a specific paragraph of that.

Q. And I believe you already discussed with Mr. Reimers your time as an investment banker at Merrill Lynch, and your BA and MA in Economics, correct?

A. Yes. Those are my degrees.

Q. And, in the past, you've had speaking engagements on the following subjects, among others: Perspectives on future trade opportunities between Canada and the U.S.; the planning and development of merchant transmission; and international views and addressing the need for more underground transmission in the U.S. Is that also correct?
A. I think that's a few that you've pulled out from the list, yes.

Q. Correct. Ms. Frayer, you don't have prior training in engineering, is that correct?

A. I am not an engineer.

Q. You also don't have prior training in environmental science, is that correct?

A. I am not an environmental scientist. Although, some aspects of environmental impacts from the electricity market are a natural element of the work I do.

Q. Let me just revisit that question. You don't have prior training in environmental science, is that correct?

A. I don't have any degrees in environmental science.

Q. Thank you. I have marked as "Exhibit NGO 18" a scientific article published in the magazine BioScience in November 2016. You can see that article before you. Does it appear on your screen?

A. Yes, it is. It's just too small for me to read.

Q. You don't need to read the article at this
point. But, if you would look at the title, the article is entitled "Greenhouse Gas Emissions from Reservoir Water Surfaces: A new Global Synthesis". Do you see that?

A. I see the title.

Q. And BioScience is a journal published by Oxford University Press, on behalf of the American Institute of Biological Sciences. You can see that in the footer.

In any event, this article suggests that there is significant uncertainty around the GHG impacts of hydroelectric power, including emissions of methane, a potent heat-trapping gas. The study concludes that emissions of methane are 25 percent higher than prior studies found, and that methane accounts for 79 percent of carbon dioxide equivalent emissions from reservoirs. Are you previously aware of this article?

A. I don't recall if I've reviewed this article. I have reviewed other studies that have looked at greenhouse gas emissions when new reservoirs are formed. And I believe this aspect is the topic of discussion here, too, the flooding of
Q. This is an overview article, as you can see from the very header on each of the pages, it's an overview article of the science, you know, study of all of the science on the subject.

So, if you don't mind, I've pulled up a specific page. If we briefly turn to the top left of Page 959, that way I can make it larger for you. At Line 2 it reads: "There is a crucial need to better constrain GHG emissions from boreal reservoirs, especially the relative role of diffusive versus ebullitive CH$_4$ emission pathways. The roles of reservoir typology, spatiotemporal variability, and ecosystem productivity...all deserve further analysis."

Ms. Frayer, have you ever personally studied ebullitive -- ebullitive CH$_4$ or methane emissions?

A. No, I have not.

Q. On the top right of the same page, I'll make that larger for you, it reads: Despite the considerable uncertainty associated --
BY MS. BIRCHARD:

Q. "Despite the considerable uncertainty associated with the reservoir-specific GHG emission estimates synthesized here, we argue that these data provide a low-end estimate of global emissions."

   It then goes on to explain why. "A recent study quantified the effects of spatial and temporal sampling resolution on diffusive and ebullient CH$_4$ emission estimates from three shallow boreal lakes and found that low sampling coverage is more likely to lead to underestimates of flux than overestimates."

   Going down, it concludes: "More work is needed to characterize sampling bias in other systems, and to understand how sampling bias scales up."

   Ms. Frayer, have you ever personally studied any greenhouse gas emissions, other than methane, you said you have not studied ebullitive methane emissions. Have you studied other greenhouse gas emissions?

A. My work, with respect to greenhouse gas emissions, is specifically limited on
greenhouse gas emissions or equivalents for the power sector. So, I don't believe I can say that I've studied all of the elements that are being discussed here.

Q. My question is not so much whether you've studied all of them, but whether you've studied any of them? Have you ever studied any greenhouse gas emissions?

A. My modeling allows me to document the changes in greenhouse gas emissions from power plants. So, again, that's my response, --

Q. Okay.

A. -- with respect to power plants.

Q. I don't think it's a response to my question, though. My question was "have you studied greenhouse gas emissions?"

A. What do you mean by "studied" them?

Q. In the sense that this article studies them, in the sense that a scientific analysis would study greenhouse gas emissions.

A. I don't go out into the field and measure greenhouse gases, which is what I believe the sampling discussion in this -- in this highlighted package is talking about.
Q. And, in fact, you've testified that you have no credentials in environmental science. So, having no credentials in environmental science, and having never studied greenhouse gas emissions, do you believe you are qualified to speak to the levels of uncertainty associated with emissions, such as the ones described here, from hydroelectric reservoirs?

A. I believe that, with respect to the analysis I have performed in this report, which is focused on greenhouse gas emissions avoided in New England, by the import of energy, that has a different greenhouse gas emissions profile than that of the power plants that operate in New England that would be displaced, I have -- I am qualified to do that, because it's something that we do in the ordinary course of our modeling and analysis.

In terms of fieldwork, where you actually go out and measure various gases? No. I don't have fieldwork under my belt.

Q. Thank you. Again, I think you've answered two questions other than the ones that I asked. I asked "do you believe that you are qualified to
speak to the levels of uncertainty associated
with emissions such as the ones described in
this article?"

A. And I apologize I didn't answer, but I'm not
sure I understand. Am I qualified to speak to
uncertainty in measurement? I have just said
I'm not a field scientist. I don't go out and
measure greenhouse -- the actual greenhouse gas
emissions as described in this paragraph.

Q. So, the question is, the uncertainty of
discharges? The levels of emissions?

A. And I'm not understanding how you're question
relates to my work?

Q. I understand you have models in the past. But
my question goes towards the underlying data of
your modeling. Are you professionally
competent to speak to the level of uncertainty
in the underlying data that you use for your
modeling?

A. The underlying data is the data that I've
compiled from primary sources. So, if you're
questioning those primary sources, let's talk
to those.

Q. Thank you.
[WITNESS: Frayer]

A. Again, I didn't do any fieldwork to go out in New England or elsewhere as --

Q. Thank you.

A. -- as a field scientist.

Q. Ms. Frayer, this next document, has it appeared on your screen?

A. Yes. I see a document.

Q. This document is marked as Exhibit NGO 19. It is a data response filed by the Applicant. The subject is "Greenhouse Gas Emissions". Is this data response familiar to you? It's a response to NGO 1-3.

A. Yes.

Q. Were you involved in the preparation of this data response?

A. Yes.

Q. The first line of this data response references a scientific article by C.R. Teodoru, upon which LEI apparently relied in developing its carbon reduction estimates.

A. That's correct.

Q. I believe that analysis by Christian Teodoru was one of the studies that was assessed by the BioScience article we just discussed. Lacking
any training in environmental science or professional qualifications in that field, it would be difficult, if not possible, for you to provide a professional assessment of the accuracy or degree of uncertainty associated with the Teodoru study, would it not?

A. I would agree, generally, that I didn't assess the Teodoru study, I just relied on it, because it was speaking, in fact, to specific conditions relevant to the system in Quebec, Hydro-Quebec. And it was a peer-reviewed study.

Q. Thank you.

A. So, I relied on those general credentials.

Q. Moving on, Ms. Frayer, this is a PSNH press release from October 12th, 2010. It has been premarked as "Exhibit NGO 28". Actually, I'm not seeing a premarking here, but, in any event, it will be marked "NGO 28", and it will be made available to the parties. Do you have it in front of you now?

A. Yes. I do see the first page of that article.

Q. Thank you. And, at the bottom of Page 1, there is a section entitled "Environmental Benefits".
Do you see that?

A. Yes. I do see that section.

Q. Okay. The second sentence of that paragraph states: "The Northern Pass Project is expected to reduce regional carbon dioxide emissions by up to 5 million tons per year."

Now, the carbon reduction figures you've put forward in this proceeding are much lower than that "5 million ton" figure. Specifically, I believe you have put forward "3.3 million tons" in the October 2015 Report and "3.2 million tons" in your March 2017 Report. Do I have those numbers correct?

A. I believe those are my numbers, yes.

Q. Okay. Were you involved in developing PSNH's carbon reduction estimate of "5 million tons per year"?

A. No. This doesn't look familiar to me.

Q. Now, since 2010, the capacity of the Project has been reduced by 110 megawatts. But that change is not proportional to the significant drop in the claimed carbon reduction estimates from this press release, is it?

A. No. But now that you just hinted to me, I
forgot to look at the date. The date is probably responsible for that difference.

Q. So, we did look at the date earlier, and it is a --


A. And that is probably what's driving the difference. In 2010, if we had studied this Project, we would have expected also at that time much bigger carbon emissions reductions, because at that time we had a different carbon emissions footprint in New England. But, in part to the success of the RGGI program, R-G-G-I, the carbon emissions footprint of the region as a whole has come down. And, therefore, the carbon emissions avoided by a project like Northern Pass will be lower, and, of course, the Project design has changed, so the energy flows are lower as well.

Q. So, we have talked a lot so far in your testimony about the uncertainty of the capacity markets, in particular. But here it seems there's a significant degree of uncertainty associated with the claimed carbon reduction
benefits as well, given that the numbers PSNH have done been putting out have been inaccurate?

A. I don't think they were inaccurate. I think that the conditions have evolved from 2010.

Q. As projections, they were inaccurate, is that not true? They were inaccurate projections?

A. They were accurate projections at the time the projections were made, and it --

Q. I'm sorry, but is that a meaningful statement?

A. For me, it is, because I am a forecaster. And, then, since then, as we discussed earlier with other parties, market conditions have evolved and the projection has been revised.

Q. Next, I'd like to turn to Exhibit SPNHF 18, which Mr. Reimers raised with you earlier, I believe. This is the Union Leader op-ed that you published in 2011. I believe you also published a Keene Sentinel op-ed at the same time, in 2011. Here you advertise that the Northern Pass Project, if approved, would reduce carbon emissions equivalent to "nearly 900,000 cars annually". Do you see that?

A. I see that statement, yes.
Q. And the October 16th, 2015 written testimony of Mr. Quinlan claims a reduction of "690,000 cars", which is the equivalent, I believe, of the 3.3 million tons of emissions reductions that you projected at that time, in 2015. Now, again, that delta doesn't come -- the trim in the Project size, the 110 megawatts, also doesn't explain that differential, does it?

A. The change in the Project size explains a good portion of the differential. And, again, the timing, this is a 2011 article. The carbon footprint -- excuse me, the carbon footprint of the New England system has changed, and fairly effectively, and that's responsible also for the update, in our original Report, relative to the figures back from May 2011.

Q. And, Ms. Frayer, the carbon footprint of the New England region is likely to continue to change, isn't it?

A. Yes, I would agree. And we have captured that in my analysis, because that's the beauty of doing a projection. I'm not just taking an historical number and assuming it's static.

Q. So, you believe that the projections you made
several years ago were inaccurate, but that
your current projections will be accurate. Is
that your testimony?
A. I believe that certain conditions have changed
from 2011, and they have been updated for in
the 2015 and in the Updated Analysis as well,
to the latest information. And they're not, in
my opinion, going to change. They are
capturing the latest information available.
And, from a forecasting perspective, I believe
they're accurate.
Q. Ms. Frayer, if, as you have done, you assume
that Northern Pass will rely solely on
generation resources within Hydro-Quebec's
existing portfolio, although, as we know, La
Romaine is not complete yet. But, in any
event, if we make that assumption, then the
power for Northern Pass will be subtracted from
someone else's existing power supply. In fact,
I think you may have referenced that phenomenon
in your testimony last week. Have you factored
in the greenhouse gas displacement associated
with that substitution of resources?
A. I have not directly factored in. But, if we
look at Ontario or western New York, which is
the alternative destination for that power,
their carbon footprints, when this power would
be otherwise flowing off peak, is minimal,
because they're using nuclear and hydro during
those hours.

So, I haven't done the number-crunching.
But I've thought about it, and I don't think
it -- it's de minimus. It's not going to
impact the conclusions I've made.

Q. You've thought about it. Okay. Moving on to
the energy markets, Ms. Frayer. You've
testified that you're aware of the
Massachusetts RFP, or requests for proposals,
that was issued on March 31st, 2017, by Unitil,
National Grid, and Eversource, and that it
solicits, I believe, 9,450,000 megawatt-hours
of energy supply, including bids for
incremental hydroelectric generation, and new
Class I-eligible renewable energy supply. Is
that your understanding?

A. Yes.

Q. And Mr. Pappas discussed with you last week
that there are a number of other projects,
similar to the Northern Pass Project, that
intend to participate in the RFP. Those
projects include the TDI Clean Power Link and
Granite State Power Link Projects. Do you
recall that conversation with Mr. Pappas?
A. I recall the conversation, and I think it was
Mr. Pappas's assertion that those other
projects will participate.
Q. I believe, if I'm correct, and you may recall
better if I remind you, that, at least for the
Granite State Power Link, he provided a
statement by Granite State Power Link,
asserting that they do intend to participate.
Do you recall that?
A. Well, yes, I believe Mr. Pappas provided an
exhibit that said that. I don't have any
personal knowledge of the intentions of TDI,
with New England Clean Power Link, or with
National Grid with respect to their project.
Q. Okay, apart from that. Are you also aware that
this spring Hydro-Quebec requested two
interconnection studies to be performed? Let
me see if I can draw up the next exhibit. I'm
drawing up on the monitor Exhibit NGO 30. It
will be made available to all parties, if it hasn't already been. It's a Hydro-Quebec press release dated April 12, 2017.

A. Yes. I am aware of this press release.

Q. Okay. There are two highlighted passages in the press release. I understand it's hard to read when it's too small. Do you think you're capable of reading those two highlighted passages?

A. I'm happy to try.

Q. Okay. Would you mind reading them aloud please.

A. So, the first highlighted passage states:

"Today, HQ will submit requests for the study of additional transmission interconnections with Maine and Vermont."

The second highlighted passage a few paragraphs down reads: "Beyond NPT, there are other possible options for increasing exports to New England. Once the preliminary studies for Vermont and Maine have been completed, Hydro-Quebec will further evaluate the merits of these options. If a project is launched, Hydro-Quebec will keep all concerned parties
informed and initiate the various public
consultations as per our regular project
development process."

Q. Thank you. So, am I correct to understand that
these two requested interconnection studies are
a step in the process whereby Hydro-Quebec can
potentially bring additional hydroelectric
power into the U.S. through avenues other than
the Northern Pass Project?

A. I think that's a reasonable summary.

Q. Ms. Frayer, you testified earlier, when you
were speaking with Mr. Pappas, that given the
goals of the Massachusetts RFP, you believe
multiple projects, similar to the Northern Pass
Project, will receive contracts. Does your
Base Case assume in any way that there will be
other projects completed that are similar to
the Northern Pass Project?

A. No, it does not. And, to be clear, what I
said, with respect to that question about the
Massachusetts RFP, would be that over time the
Massachusetts RFP, because it is seeking to
meet policy goals for the state with respect to
greenhouse gas emissions reductions, those
goals are substantive. And, to meet those, multiple infrastructure projects, larger volumes of clean energy imports are needed than can be supplied by any single project currently proposed.

Q. But, to confirm, you did testify that, given the goals of the Massachusetts RFP, you believe multiple projects, similar to the Northern Pass Project, will receive contracts. Is that correct?
A. Could be awarded contracts, if the RFP is successful in meeting the policy goals.

Q. Have you conducted any energy economic studies that include an analysis of the potential benefits of the Northern Pass Project, if there are one or more similar projects also participating in the markets?
A. No. I have not done such an analysis in this Project.

Q. In light of your testimony stating that you believe there will be more than one contract, isn't that a major omission in your modeling?
A. No, I don't feel it is. I think the Massachusetts RFP is proceeding, but it's very
uncertain as to the timeline, the types of resources. And I think it would have been speculative of me to include that in my Base Case. I think, with time, as we see how the RFP emerges, and, in fact, it might not be a single RFP, there might be multiple rounds of procurement, I think at that point, as information crystallizes, we would definitely include it as part our baseline.

Q. I appreciate that there may be more than one RFP in the future. But you have not factored in the implications of the current RFP, which is soliciting specific types of energy resources. Is that not correct?

A. I have not factored in the current RFP that will begin later this month -- no, next month.

Q. The bids are due next month, correct?

A. Yes. And, then, it will take a long -- a fairly long time for a decision to be made, I think.

Q. Of course. But that is what we're talking about. Northern Pass intends to submit a bid as part of its project development, correct?

A. I'm not arguing with the intentions of Northern
Pass to potentially submit a bid.

Q. You previously indicated in a technical session that the marginal wholesale market impact of the entry of a project such as Northern Pass would decrease with the addition of similar entrants. In other words, the first such project to the finish line would appear to have the biggest impact, whereas the second or third project would appear to have diminishing returns, as measured by the delta of change in the capacity market?

A. I don't actually remember saying exactly that. I remember discussing the potential for diminishing returns. But I don't remember making a definitive statement that there would be diminishing returns.

Q. Regardless of the wording, you believe there is the potential for diminishing returns with the entry of additional participants, is that correct?

A. Down the road, potentially. I don't foresee it at this time. But, down the road, yes.

Q. Did we not just establish that you do believe multiple contracts will be issued in connection
with the Massachusetts RFP?

A. But it depends on the timing. For example, the policy goals for Massachusetts go out to 2050. So, if the next contract cycle is done thoughtfully, I don't think there's any implications on the market benefits that I have demonstrated in my Report.

Q. Bidders in the Massachusetts RFP are required to commit to bringing their projects on line by a certain date. Do you know what that date is?

A. For this RFP, I do believe there's a date. I don't recall what it is.

Q. Would you accept subject to check it's 2020? That would be consistent with Northern Pass's intent, is it not?

A. Subject to check, I will accept that. I don't recall what the specific conditions are around that date.

Q. That's fine. Are you concerned that, if Northern Pass is not the first similar project to the finish line, in terms of entering the capacity market, your projection of benefits will be grossly inaccurate?

A. No. I'm not concerned about that.
Q. Ms. Frayer, Mr. Bowes filed supplemental testimony dated March 24th, 2017 in this proceeding. I believe it was referenced earlier today, but let me draw up a page from that testimony. Do you recognize this testimony?

A. I don't see it yet. Sorry.

MS. BIRCHARD: I think we might have to reconnect the Apple Play. Is it -- okay. Maybe it's just a delay. Let's try -- Okay. There we go. Thank you for your patience.

BY MS. BIRCHARD:

Q. It should be appearing in front of you. Do you see Applicant's Exhibit 10 here?

A. I do.

MR. IACOPINO: Can you make that bigger?

BY MS. BIRCHARD:

Q. On the bottom of Page 2 and to Page 3, Mr. Bowes describes a series of changes to the Project and to the energy environment that, in his view, threaten to make the Project more marginal economically. You looked at part of this I think with Mr. Cote earlier.
Toward the end of that big paragraph, on Page 3, at Line 13, Mr. Bowes says: "The wholesale energy price expected when NPT enters service will be about 50 percent of that which prevailed when HQ made its initial investment decision; HQ will be able to cover 10 percent" -- "deliver 10 percent less energy than it expected; and the U.S. transmission cost of those deliveries will have increased by about 50 percent. At approximately $40 per megawatt-hour, energy revenues HQ receives from deliveries over the line will not cover its cost of NPT's revenue requirement, which HQ would be required to pay regardless of the revenues it earns from sales over the line."

And, then, I've underlined: "While HQ would seek to cover the shortfall with other sources of revenue, such as participation in the Forward Capacity Market, it would face a more significant risk of loss." Concluding, Mr. Bowes says: "Given these project and market developments, even with no further project cost increases, NPT and HQ need to explore new market opportunities, which
necessarily requires a cost competitive profile."

Do you see those passages, Ms. Frayer?

A. I do.

Q. When Mr. Bowes indicates that "the Applicants need to explore new market opportunities",
that's a quote, is it likely that Mr. Bowes is talking about, among other things, bidding into the Massachusetts RFP that is pending?

MR. NEEDLEMAN: Before she answers that, could we make sure that she has the opportunity to see the previous page, so she understands the context of this whole answer?

BY MS. BIRCHARD:

Q. Ms. Frayer, would you like me to scroll back or do you have that page in your paper handouts?

A. I don't. I've actually never reviewed this testimony in its entirety. So, it would be helpful.

Q. Is this adequate? Can you see the page?

A. Yes. I see the original question, yes, now. So, can you repeat your question again, Ms. Birchard?

Q. Sure. When Mr. Bowes says "given these project
and market developments, even with no further project cost increases" -- "given these project and market developments, even with no further" --

CHAIRMAN HONIGBERG: Slow down. Slow down.

BY MS. BIRCHARD:

Q. -- "project cost increases, NPT and HQ need to explore new market opportunities, which necessarily requires a cost competitive profile." And I think the context is whether or not to further underground. But, in any event, when Mr. Bowes indicates that "the Applicants need to explore new market opportunities", it's likely that Mr. Bowes is talking about, among other things, bidding into the Massachusetts RFP that is pending, correct?

A. I don't know. I can't say definitively that was on his mind, that was his intent with those words.

Q. And would the Massachusetts RFP match with those words, in your opinion? Is it a "new market opportunity" --

A. Well, --
Q. -- "for which cost-competitiveness" or "a cost competitive profile would be advantageous"?

A. I'm not sure that's what he's referring to. Given this discussion is about the cost of burial, perhaps he's talking about other ways to build and install the Project. I don't know.

Q. Okay. That's fine. You know, I believe Mr. Bowes has already testified on this on the stand as well. So, moving on. And I believe he did confirm that the Massachusetts RFP is one of the factors. But moving on.

In contrast to Mr. Bowes's concerns about challenges that the Project faces, and what Mr. Bowes refers to as "significant risk of loss" associated with the capacity markets, your Rebuttal Report, dated April 17th, 2017, says, on Page 11, that "Interveners' concerns as to the magnitude of the capacity market benefits of Northern Pass are baseless."

This is the heading to Section 1.3, on Page 11, but I assume you're familiar with your own testimony.

On Page 12, you say "The concerns raised
by Mr. Fowler and The Brattle Group were the result of a lack of serious analysis”. Also, on Page 12, you assert that "FCA revenues for HQP", Hydro-Quebec Production, "far outweigh risks associated with CPP", Capacity Performance Payments.

My question is, do you disagree with Mr. Bowes's assessment that there is "significant risk or uncertainty associated with the capacity markets"?

A. Again, I can't speak to what Mr. Bowes said in his supplemental testimony and what he intended that statement to mean. But I can speak to my analysis. And I believe that the risks for capacity performance in the ISO-New England capacity market, as I have actually demonstrated numerically in my supplemental, are far less than the opportunity for revenues.

Q. And do you believe there is significant risk or uncertainty associated with the capacity markets? Do you advise your clients that there is significant risk or uncertainty associated with the capacity markets and the potential benefits?
A. I always advise my clients to take a look at
the risks that they face in taking on an
obligation. But the risks are -- need to be
weighed against the benefits. And it's that
analysis, that balance of "what do I seek as an
opportunity versus what do I put at risk by
seeking that opportunity" that I advise my
clients focus on.

Q. And, then, do you advise them to weigh their
own tolerance for risk?

A. Yes. I do think that different clients might
have different risk appetites.

MS. BIRCHARD: Thank you. Okay.
That concludes the public questions that I
have. I do have additional non-public
questions for Ms. Frayer.

CHAIRMAN HONIGBERG: All right. I
think it makes sense for you to continue with
that. So, we'll ask those who are not allowed
to see confidential information to leave, and
we'll ask that the speaker in the public area
be turned off.

Just for planning purposes,
Ms. Birchard, how long do you think you have in
non-public?

MS. BIRCHARD: Not very long.

CHAIRMAN HONIGBERG: Which could mean anything.

MS. BIRCHARD: Twenty minutes.

CHAIRMAN HONIGBERG: All right.

MS. BIRCHARD: Or thirty minutes.

CHAIRMAN HONIGBERG: All right. So, it sounds like we'll get to the lunch break that way.

And, so, I think, for planning purposes, we should probably tell people to come back around 1:30.

[End of public session for Day 15 Morning Session ONLY.

Pages 112 through 124 are contained under separate cover in the transcript designated as DAY 15 Morning Session ONLY - CONFIDENTIAL & PROPRIETARY.]
[WITNESS: Frayer]

[PAGES 112 THRU 124 FILED UNDER SEPARATE COVER AS CONFIDENTIAL & PROPRIETARY]

{SEC 2015-06}[Day 15/Morning ONLY-REDACTED}{06-13-17}
CERTIFICATE

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.

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Steven E. Patnaude, LCR
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