**STATE OF NEW HAMPSHIRE**

**PUBLIC UTILITIES COMMISSION**

**October 6, 2021 - 12:49 p.m. AFTERNOON SESSION ONLY**

**[Hearing also conducted via Webex]**

**RE: DG 21-008**
**LIBERTY UTILITIES (ENERGYNORTH NATURAL GAS) CORP., D/B/A LIBERTY UTILITIES: Petition for Approval of a Firm Transportation Agreement with Tennessee Gas Pipeline Company, LLC**
**(Hearing)**

**PRESENT:** **Chairwoman Dianne H. Martin, Presiding**
**Commissioner Daniel C. Goldner**

**Doreen Borden, Clerk**
**Corrine Lemay, PUC Hybrid Hearing Host**

**APPEARANCES:** **Reptg. Liberty Utilities (EnergyNorth Natural Gas) Corp., d/b/a Liberty Utilities:**
**Michael J. Sheehan, Esq.**
**Daniel P. Venora, Esq. (Keegan Werlin)**

**Reptg. Conservation Law Foundation:**
**Nicholas A. Krakoff, Esq.**

**Reptg. Residential Ratepayers:**
**Donald M. Kreis, Esq., Consumer Adv.**

**Reptg. N.H. Dept. of Energy:**
**Paul B. Dexter, Esq. (Reg. Supp. Div.)**

**Court Reporter:** **Susan J. Robidas, NH LCR No. 44**

I N D E X



NOTE: Exhibit 16 withdrawn by agreement of parties.

AFTERNOON SESSION

CHAIRWOMAN MARTIN: Let's go back on the record. Commissioner Goldner.

QUESTIONS BY COMMISSIONERS:

BY COMMISSIONER GOLDNER:

Q. So if we go to Exhibit 2, Page 15, the Demand Forecast that Mr. DaFonte pointed out in his testimony, there's no history on this chart, just looking forward. Has demand changed in the last ten years, or is there anything in the record here that shows us some history?

A. (DaFonte) Yeah, if you look at Bates 16, that shows some historical. And also in Exhibit 5, that has a little more updated historical. So that Exhibit 5 is where we point out the actuals versus forecasts starting in 2017-2018 and continuing forward through 2020-2021.

Q. Yeah, I think it needs some translation on the -- [connectivity issue]

[Court Reporter interrupts.]

Q. So if we look at Bates 16 and we compare that to Page 15 in the testimony, there's different units. One's in the hundreds of

thousands of units and the other one's in what looks like millions. Is there a way to translate those two tables and graphs?

A. (DaFonte) Right. So Table 1 is annual volumes, so that's why you see larger numbers. They're in the same -- it's still dekatherms, so it's 14 million. For example: In Updated Base Case on Table 1, '17-'18 is 14 million. The Figure 1 that you were referencing, that is just on the design day, and that really is what we plan for.

I can tell you that for, I believe 2011-2012 through 2019-2020, our compounded annual growth rate is about 1.4 percent, roughly.

Q. Yeah, if I could take you to Exhibit 8, Bates 41. I'll give you a second to get there and find your testimony. So if you're there on Bates 41 -- I think it's Mr. Frink's testimony in Exhibit 8 -- is that a chart you recognize in Figure 4?

A. (DaFonte) Let me see. Mr. Frink's testimony is not Exhibit 8. Let me just bring that up. It's at Exhibit 6.

Q. It's Figure 4, Bates 41, Exhibit 8.

CHAIRWOMAN MARTIN: Maybe Exhibit 6 or 7?

MR. DEXTER: Madam Chairwoman, Mr. Frink's testimony is Exhibit 6 and 7. I believe Mr. Hill's testimony is Exhibit 8.

COMMISSIONER GOLDNER: You're right. Thank you.

CHAIRWOMAN MARTIN: So you are looking at exhibit -- what exhibit? Exhibit 8?

COMMISSIONER GOLDNER: It's Exhibit 8, Bates 41, Figure 4.

A. (DaFonte) Give me a minute to get there. Okay. I'm there.

Q. Yeah. On that chart it has some history up to more or less present day and then some growth rates.

A. (DaFonte) I believe that's related to National Grid.

Q. Correct. I think what's being shown there is some scenario planning to take the historical rates and turn it into some kind of forecast. Is that basically what Liberty did?

A. (DaFonte) Right, the forecast is based on historical. And then what we add to it is we basically run the econometric forecast. However, the econometric forecast doesn't take into account the historical realized growth by EnergyNorth, by Liberty. So in terms of the number of customers, it doesn't include that growth rate, so we make an out-of-model adjustment to the econometric forecast. So in the early years, where we have a very good line of sight from our sales and marketing team as to the number of customers that are going to be added, we do an out-of-model adjustment for that, and then it tapers off over time and simply becomes the straight econometric forecast.

Q. Okay. Thank you.

If we turn to your testimony on Bates 15, if you were to look at, say the 2012 or 2015, pick a time period historically, can you share what that design day forecast would have looked like in some historical time period? I realize you have some daily numbers on Bates 16 that goes back

to 2017-2018. I'm just looking to go a little farther back to get maybe a better perspective. If you're forecasting forward 20 years, you would just want to look backward, you know, five or ten to get some perspective.

A. (DaFonte) It's just as in Table 1, which is annual volumes. If we go back and look at the design day forecast versus actual, it's been pretty accurate, or very close. Now, when I say "actual," you know, we haven't experienced a design day in the last eight years. So you would have to extrapolate what the design day actually is or would have been based on what we experienced for a heating degree day, our peak heating degree day that winter.

So I believe we have a data request that provides that information. I'd have to go back and look at it. But I believe there was a data request that basically asked us to calculate what the design day would have been over that period that you're suggesting.

Q. Yeah, maybe we could just do it the easy way.

We could just look at 2017-2018, Table 1, Bates 16. Can you just translate that into units as Figure 1 on Bates 15? I'm just trying to understand what the history looks like using the same units.

A. (DaFonte) Right. So the Table 1 on Bates 16, that's looking at the annual volume. So it's not an apples-to-apples comparison with Figure 1, which is the design day demand. I mean, they're correlated pretty much, but it's not apples to apples. I said that we experienced something on the order of a 2.4 percent compounded annual growth rate since 2011-2012 on an annual basis. And I think the design day which is in Figure 1, has been very close to that. It's usually slightly lower than that, but it's in that ballpark.

Q. Okay. So if I look at Figure 1 and I look backwards, we would decrement that by about 2.4 percent per year, on average, understanding it changes each year. Looking forward, what growth rate does that compute to in Figure 1?

A. (DaFonte) It's about 1.4 percent.
Q. So you have about half of the growth rate moving forward as you have had in the past; is that right?
A. (DaFonte) Yes, definitely less. But again, 2.4 percent annual growth rate, which is on Page 14 -- or Bates 14, if you look at the -- this is Lines 17 and 18, or 17 through 19. It does show the split-year annual demand increase of 2.4 percent. Now, that's, you know, the annual demand; whereas, what we're talking about here is the design day that's forecasted to increase by 1.4 percent, as I mentioned.
Q. Let me ask you about translating this contract with Tennessee into dollar terms. I know it's 40K dekatherms. I know it's 14 cents. Can you help me do the mathematics to determine that in an annual dollar number? I get about $2 million a year. Is that correct, or am I --
A. (DaFonte) You are absolutely correct.
Q. Thank you. So I just want to put this in dollar terms for what Liberty is asking the

Commission to approve today. I think what you described earlier was that the contract is fixed at 40,000 dekatherms for five years. So we have $2 million per year for 5 years, so that's $10 million. And then moving to the next five-year increment, I think you said it was 20,000 dekatherms; is that right?

A. (DaFonte) Yeah, I think I need to explain that. This contract is for a 20-year period, so it would be the 2 million for 20 years. In five years, we have the ability to terminate a similar contract that has the same receipt point at Dracut. It's the same rate. And we can terminate that. And that's 20,000. So if you look at that one, you know, that 20,000 equates to about a million a year. So you basically could reduce that two million, which today is -- you know, if this goes into effect, you have two million for the new one and about a million for the existing one. So that's three million in total for your portfolio. We could reduce in five years that 20,000 or terminate it. So you would reduce the three million that's in

the portfolio down to two million. So the contract that we're talking about here today would continue on, but you would terminate another contract which would offset some of that cost.

And then in 2029 you could further reduce the cost impact because we have another contract for 30,000 dekatherms that would be at the same rate, and so you could reduce that as well. That's why I previously said it's, you know, effectively, you know, a five-year contract, in terms of the overall portfolio, because you can reduce a portion of it in year five.

Q. Okay. Very good. So, really, Liberty is here today for this contract, forgetting about the flexibility and other contracts for a minute. This is for $40 million; right? It's 2 million a year times 20 years, so roughly 40 million; is that fair?

A. (DaFonte) Yeah, that's correct.

Q. Okay. And then you talked about some of the flexibility you have in other contracts that allow you to decrement the amount you're

asking for here so that ratepayers don't get potentially stuck with the full 40 million there. There's some flexibility. And I think you said that was in five-year increments. So 2025, 2030 are the next two opportunities?

A. (DaFonte) Yeah, that's correct, five-year increments. All of our contracts with Tennessee Gas Pipeline have a five-year rollover provision, which means that we either can choose to roll over a contract as is or we can terminate the contract.

Q. Is that a Kinder Morgan standard of flexibleness? Because obviously if you have overlapping time periods, you might be able to do it every two and a half years or even every year if you had enough contracts. Is that something they're flexible on, or are you stuck with their five-year period?

A. (DaFonte) You have what they call "right of first refusal" for five years, which means that no one can take the capacity away from you. If you choose to go for a smaller or shorter time period, a shorter term, that

capacity would be put out to bid so that anyone could bid on that capacity. They could bid a higher price. And you would have the right to match that price, but you could lose the capacity.

I personally was involved in a contract where, for my old company, we decided that we would not take, not renew it for five years. And this was actually based on a request from the Attorney General. But it was put out to bid, and we had to match a 42-year term. So that's the risk that you run when you are in a really tight capacity market in New England and you put your capacity out to bid. You may not get it, or you might have to get -- you might have to extend it for a longer, much longer term.

Q. Thank you. Now, if I turn to Bates 17 again, your testimony, and I look at the chart, it's pretty clear, at least in the first few years, there's excess capacity available.

Is it Liberty's intention to sell that excess capacity; and if so, what would you expect to receive for that capacity?

A. (DaFonte) Yes. As part of our portfolio optimization process, we always look to release capacity or allow an asset manager to manage that capacity, which we get paid for and then pass those benefits on to customers. So we would do this for the -- we would do the same process for this contract, where we could [connectivity issue] with other capacity. When we don't need it, we would release it to the market, or allow an asset manager to manage that for us. And that's our intent.

As far as sort of the benefits or the mitigation of those costs, it's generally not significant because the capacity does not really have much value if you're in the off-peak period. And even during the warmer days of the winter, there isn't a whole lot of value. So, you know, I don't know. We might get, you know, 10 percent or 20 percent mitigation on that contract. So it wouldn't be a lot for this type of contract.

Q. So the 14 cents a dekatherm, you might expect to get back, you know, a cent or two of that.

But most of that would be -- once that $2 million would be spent, you might get a little bit back; is that right?

A. (DaFonte) Yeah, that's correct.

Q. You know, the way I look at it is it's sort of an insurance contract; right? You got a peak load. You purchase $2 million worth of capacity. And you can address your peak load, if needed, with that $2 million. Is that roughly accurate?

A. (DaFonte) Yeah, that's correct. And I would just point out for clarification that, you know, this is a capacity contract, so it doesn't have the supply associated with it. We would only purchase the supply if we needed to meet our customers' requirements on a given day. So this contract, we may only use it, you know, five or ten days out of the year, depending on what the weather is like, and also depending on what the market prices are. So if market prices were really high in Dracut, we may decide that we'll make LNG to offset it because it's less expensive, to the extent we can do that. Because there's going

to be some days where we're already making as much LNG as we can, we're making as much propane as we can, and we just simply have to go out into the market and buy supply to fill this capacity. So I just wanted to make sure that there's a distinction here between capacity and supply.

Q. Thank you. Actually, that's very helpful.

So this capacity is a $2 million check to Tennessee here, Kinder Morgan. And then if you buy, let's say five days' worth of gas supply from them at current rates, what would that be, roughly, in midwinter?

A. (DaFonte) Well, you know, unfortunately, natural gas prices have gone up significantly for various reasons. But the price at Dracut is generally one of the highest in the country, so we certainly try to avoid as many purchases as we can there. But as I said earlier, there are days we just absolutely have to buy it to meet our needs. You know, prices have been as high as $100 plus over at Dracut, and that's, you know, per dekatherm. It's possible you could see prices even

higher than that. So it really depends on what the demands are on a given day in a given winter season. But you could see significant prices at Dracut on occasion. We try to do as much as we can to mitigate our capacity -- or our supply purchases there. We're pretty concentrated at Dracut, which is not ideal. About 45 percent of our design day is met with purchases at Dracut. But given, you know, what's transpired over the last eight years, where the NED project was cancelled, the Granite Bridge project was also cancelled, this is the best option for us. Even though you have to buy pretty expensive gas at certain points, it is the best option available at this point in time.

Q. Yeah. Thank you. I want to try to establish if you have $2 million fixed costs, and then you've got let's say five days, five to ten -- let's just use five at, you know, 100,000 a dekatherm -- or about $100 a dekatherm, rather. I'm just trying to do the math. Is this going to be, you know, 10 percent of the cost of those five days?

Is it going to be half the cost of those five days? I'm just trying to establish how much we're really talking about approving here, $2 million as it relates to the total price that a customer would pay.

A. (DaFonte) Yeah. So, you know, if it's $100 per dekatherm, and if you fill up the entire 40,000, that's $4 million right there. So, you know, that's something, you know, we certainly can't control, the pricing. But that's essentially what we would have to pay.

Now, as I said, we also have another 50,000 from Dracut. So that would be no different; we would still have to buy for those existing contracts at Dracut. And, you know, again, the price there could be $100, could be more than that. Those are things that, you know, we try -- you know, we'll try to mitigate. There may be more hedging that has to be done, where we hedge the basis for New England and for our contracts, which we do today for a portion. But it may be something that we'd have to look at and increase that amount so that we're not

subject to significant price run-ups. But again, that's a hedging policy, and that would have to be filed and approved by the Department of Energy.

Q. Is the $2 million subject to a regular term?

A. (DaFonte) Subject? Did you say "subject to a regular term"?

Q. No, subject to a rate of return in your revenue requirement.

A. (DaFonte) Oh, I'm sorry. Yeah, that is a pass-through in the cost of gas. It's not part of rates, so there's no return on it for us. There's a return on it for Tennessee Gas Pipeline. But it's in the cost of gas filings, so there's no return.

Q. If I could turn to your testimony, Bates 34.

A. Okay.

Q. And so if you do need to flex the 60K, which the chart shows eventually you do, how would you do that if you needed 20K more than what you signed up for?

A. (DaFonte) Well, if we needed more capacity, then, you know, we would have to look at all alternatives available at that time. You

know, we would go back to Tennessee, of course, and see if they had that 20,000 of capacity. You know, that's possible. But then that creates an even larger concentration of risk at Dracut because now we have an additional 20,000 that we would have to purchase at Dracut on a design day. So, you know, we would certainly look at other alternatives. You know, some of them might be just, you know, a smaller peaking-type facility, LNG, that, you know, better fits the load pattern of our customers, because they're heating load customers. A significant majority of them are. So we would have to look at other alternatives as well. We just can't blindly go to Tennessee and take what they have available. We'd certainly have to do that same comparison, that same analysis, same planning process that we go through for any contract.

Q. Thank you. Just turning briefly to Exhibit 8, which I know is not your testimony. But on Bates 42 it talks about an

EIA. There's no growth forecasted in the gas industry in that time period. Liberty, I know, has a forecast that you mentioned of 1.2 percent planned.

Can you just maybe, for the Commission, just give us the highlights on why you expect that growth rate? I think your revenue base, your ratepayers are pretty flat. Just trying to grasp why Liberty's expecting a growth rate at all as opposed to something that's very flat.

A. (DaFonte) Well, I think, you know, based on what we've seen historically and what we've seen in terms of what our sales and marketing group have been able to provide to us, we continue to have a pretty robust growth rate as compared to many other utilities. So we continue to meet those customers' needs. And those that request service, you know, we provide that service if we can do that economically.

You know, our historical plus what we see in the near term and what the econometrics forecast shows, there is going

to be a continued growth rate. Obviously, the farther out you get, the less, you know, confidence you have in that forecast. But that's why we continue to update our forecasts in the LCIRP process. So we'll continue to do that. And as I said, you know, should the demand not materialize, then we'll take corrective action with regard to our portfolio, our existing portfolio.

Q. Maybe I'll ask the question differently. I'm just trying to understand your growth drivers. Is it more residential customers? Is it more C&I customers? Is it a higher load per customer? I'm just trying to grasp the growth driver, that's all.

A. (DaFonte) Oh, yeah. I guess I misinterpreted your question. But yeah, it's certainly residential. But, you know, we have added quite a few C&I customers as well. But it's primarily residential heating.

Q. And it's customer growth. So it's more customers as opposed to customers using more energy.

A. (DaFonte) Yeah, it's mostly new customers.

You know, there are probably a small amount of, you know, extra usage by customers if, you know, they're putting in, you know, gas fireplaces or, you know, a gas grill or something like that, you know, adding a gas appliance or something like that. But the vast majority is just simply new customers.

Q. Thank you. And I do have a question, if you can address it. It's the $45 million capital investment structure. I'm not sure I'm reading the tables right. But now having Mr. Frink's testimony, the new 10.5 mile main to the Budweiser plant in Nashua for 40 million, which looks like the numbers don't quite add up, but it looks like it's the bulk of the capital, is that paid for by Budweiser? Or how is that 40 million paid for? Or how is it planned to be paid for?

A. (DaFonte) That would be in rate base. We just simply show that it's going to the Budweiser plant. It's not really to serve Budweiser. It's just that it would be sort of the endpoint of the line. It would serve the distribution system from that location

and back-feed into Nashua. So it's not a dedicated line to serve Budweiser. They're already a customer and take service off of our existing distribution system.

Q. Okay. So you would bring these capital investments in front of the Commission for approval at the appropriate time in the rate case?

A. (DaFonte) That's correct.

Q. There's a little bit of a challenge in the documentation, but if I could take you to Exhibit 12. I'm not sure whose testimony that is. It's just a one-page table. But I'll ask if you recognize that table and those numbers.

A. (DaFonte) Let's see. I do see, yeah, Exhibit 12. So the table, I believe -- I did not put it together, but I believe it's just showing overall what the energy efficiency savings are relative to residential customers and C&I customers, and then what that percentage is over a historical period and then moving forward.

So I think, as I was explaining earlier,

in our forecast we simply carry the Triennial Plan that was approved in 2018 at .67 percent, for example, for residential. We just carry that energy efficiency benefit, which would be the demand reduction, that percentage right through the forecast period. And the same would apply for the C&I customers.

Q. Okay. So very good. So if I look at historical time periods, 2017, 2018, 2019, 2020, residential energy efficiency savings go between .58 and .67 percent. Those are actuals on residential. And for C&I, it varies between .81 and .90. Those are the energy efficiency savings that you've seen historically? Those are actuals?

A. (DaFonte) Correct.

Q. Okay. And then I understand the rest is your forecast based on what you highlighted earlier. So, no problem there. Thank you.

And then one last question. So Exhibit 14, the units here are design day. And it has some savings from different plans incorporated in it, including and excluding

the Triennial Plan. And the difference looks like it's about -- I'm not sure what -- it looks like there's about a 1 percent difference, plus or minus. Am I reading that correctly?

A. (DaFonte) Yes. I believe what that's trying to show is the design day impact if you include the 2021 Triennial Plan savings versus excluding it. So you can see that the difference is not significant.

Q. And that 15 -- let's just look at '21-'22. If you look at the 1,521 design day difference, just help me translate it into dollars, please. If we take that at current rates, what does that mean in dollars? Sorry. From a customer point of view.

A. (DaFonte) Yeah, I don't know what the impact is in terms of dollars. You know, the math would have to be the 1521 times the residential, the forecast of residential rate and C&I rate. So it would have to be broken out between, you know, how much of this is residential, how much is C&I, and then taking the cost of gas rate and, you know,

multiplying the two. Of course, this is just design day. So you have to look at the annual savings as well and then spread it out across all of our 80,000 or so residential customers, for example. So we're taking on math that I don't have the ability to do at this point in time, but --

Q. That makes two of us. But I understand. Yeah, I think for purposes of what I'm trying to understand in this docket, no problem. My encouragement would be, in future dockets, if we can look at it from the public's point view. So translating things into dollars, how does that -- what's the annual effect. That's very helpful. We can go back and analyze these numbers and turn them into dollars, as you suggest, Mr. DaFonte. But I thought with the expert on the stand, I might get a number that was -- that could give confidence to me and the Commission. So I think for now, I think we're fine on that one.

COMMISSIONER GOLDNER: That's all the questions I have, Chairwoman.

CHAIRWOMAN MARTIN: All right. Thank you.

I'd like to start with the gas transportation agreement. And Mr. Sheehan, maybe you can point me to the exact exhibit because I have too many things open on my screen.

MR. SHEEHAN: It should be attached to Exhibit 2 of the testimony, but...

CHAIRWOMAN MARTIN: All right.

BY CHAIRWOMAN MARTIN:

Q. If you could just get to that, Mr. DaFonte, I had a couple questions about that.

A. (DaFonte) Yeah. It starts on Bates 37.

Q. Okay. Starting with Article II, can you just explain that? I understand this is a standard contract, but just a little explanation would be helpful. Can you explain Article II, particularly the language that says "or for Shipper's account such quantity of gas as Shipper makes available up to the Transportation Quantity"?

A. (DaFonte) Let's see. I don't have -- okay. There it is. That just means that the

obligation of the pipeline is to deliver the gas that's purchased by the shipper, which would be us in this instance. So if I purchased gas at Dracut, the pipeline's obligation is to deliver it to the delivery point on the contract, which in this case would be the Londonderry station.

Q. And are they obligated to deliver up to the amount of this contract, or is it -- what does that language speak to?

A. (DaFonte) They are obligated to deliver no more than 40,000 because that's the capacity limit. But they are obligated to deliver as much as we purchase, 40,000 or less.

Q. Okay. So it's based upon what you require consistent with this contract, up to that limit?

A. (DaFonte) Correct.

Q. Okay. In 6.3, Article 6.3, the changes in rates and charges, can you just explain the language there?

A. (DaFonte) Yeah, that basically just says that the pipeline can go in for a rate case with the FERC and request new rates. So that's

something that Tennessee Gas Pipeline did probably ten years or so, hasn't done since. But it applies to any pipeline. Basically all the contracts allow the pipelines to go in for a rate case and to, you know, update rates.

Q. So if that did happen under this contract, that would impact the rates that the Company is getting?

A. (DaFonte) It could. We obviously have the right to intervene and object. And we certainly did in the last rate case. But it's similar to, you know, a utility's rate case process where, you know, in this case, the pipeline would have to support its need for a rate case, and the shippers or customers of the pipeline would oppose that rate increase and, you know, argue against that. In the case of the pipeline, they would provide the supporting documentation and we would challenge that. So that's, you know, like I said, a similar process to what a utility would do in a rate case.

Q. Is there the ability to terminate or

renegotiate based upon that? Or do you have to ultimately, after you intervene and the rate increased, are you bound to the new rate under the contract?

A. (DaFonte) We would be bound to the new rate. But, you know, as I mentioned earlier, Tennessee had a rate case maybe ten years ago, and their last rate case before that was mid '90s or so. So it doesn't happen very often that pipelines go in for rate adjustments.

Q. Okay. Understood.

All right. Under Section 9.1, Regulation, can you explain that section? There's some language, "This Agreement shall be void and of no force and effect if any necessary regulatory approval is not so obtained or continued." Does that relate only to the FERC regulatory approvals, or the approvals for both TGP as well as the Company in this case?

A. (DaFonte) I believe that applies to really the FERC. This is their standard contract, so it's standard language. What really

governs our particular contract is the language that's on Bates 46, which provides for that "regulatory out" provision that was discussed by Mr. Sheehan earlier.

Q. Okay. Thank you. I don't have any other questions on that document.

You've answered some of my questions already, but I did have some questions related to the on-system enhancement. And you gave us some information, but I just want to make sure that I'm clear. So I'm going to give you a hypothetical, and hopefully it's going to help me get the clarity.

In the hypothetical, if you had sufficient customers to use all of the capacity under the contract in 2022, could the Company deliver all of that supply without the enhancement?

A. (DaFonte) It wouldn't be able to deliver that supply to the areas of the system that, you know, that really need it. But because it's part of the entire portfolio, the pipeline generally would have no problem with including it as part of the overall delivery

to its gate station. In other words, not to get too technical, but there is an operational balancing agreement with the pipeline, where, you know, the pipeline has to look at what was scheduled, meaning the gas that was purchased and that they're obligated to deliver to our distribution system at various interconnects, and what we're actually using. So the pipeline certainly doesn't want customers to be taking more gas than they've actually scheduled because that creates problems on their system and draws down pressures that than cause interruptions on their pipes. So they keep -- especially in the winter, they have a pretty narrow band, where you have maybe two percent tolerance during critical days. So with this contract, they would allow that to be part of that overall OPA, as long as we're not, you know, not over-pulling significantly and causing pressure problems on their system at other locations.

So what happens at the Londonderry gate is, for the first couple years, we're not

going to be able to get that gas to the locations we need. It just means we're going to be taking more gas at other interconnects with the pipeline. But as we put these enhancements in place, what they'll do is actually go into our distribution system, and they'll basically provide a back-feed into the Nashua system and into Manchester, which allows us to take less gas off of Tennessee at those locations, at Nashua and at Manchester, and that helps to minimize any pressure concerns on Tennessee.

The other benefit that we have by getting the gas delivered at Londonderry is that particular meter has a 300-pound minimum of guaranteed pressure. That means that Tennessee's obligation is to deliver that gas at 300 PSI minimum; whereas, for any of the other gate stations on the Concord Lateral, their minimum is only 100 PSI. So we actually get some guaranteed higher pressure at that Londonderry meter, and that's why it also helps the on-system enhancements at that location, because now we know that we have,

at minimum, 300 pounds to put into our distribution system; therefore, we do get a lower pressure at one of our other gate stations, say in Nashua or Manchester. We can use this higher pressure from this location to offset that.

I know that's complicated. But, you know, there's various ways that the on-system enhancements can benefit our customers. And that reliability is really the most important one. It really does ensure that there's increased reliability on the system.

Q. Thank you, Mr. DaFonte. I thought you were done. Go ahead and finish up.

A. (DaFonte) No, no. I just wanted to accentuate the fact that the on-system enhancements really provide the reliability piece that is really the most critical for our distribution system.

Q. Okay. Thank you.

I think the concern that I had was when I heard you say a few times that this really is about the next five years. And then I look at the construction schedule for the

on-system enhancements, and they take the better part of the next five years. So I think what you just said addresses some of that concern, but I don't think you have a -- did a high-level response to that. I think just fundamentally the two things don't seem to be consistent.

A. (DaFonte) All right. So just to clarify that, you know, as I said, that 40,000 will be included as part of our operational balancing with Tennessee. So Tennessee will recognize that we have this incremental 40,000. Of course they will continue to monitor whether we're staying within their two percent tolerance, for example, on critical days. But overall, it does add 40,000 to our portfolio over the next five years of deficiency. And as we implement these on-system enhancements, it doesn't really change the relationship between Tennessee and Liberty, in terms of what their obligation to deliver is. What it does do is it allows that 40,000 to actually get to the parts of our distribution system where we

need it most, and it does it at, you know, a guaranteed minimum pressure of 300 pounds. So that's really where the benefit is. When we say "optimize," it really gets the gas to where we need it most, and it obviates the need for us to do other on-system enhancements in order to basically increase the reliability of the system. So basically it fortifies the system in those areas. These prices would take care of that.

Q. Okay. Thank you.

I think we heard earlier something, I think in Mr. Krakoff's questions, related to upgrades necessary that were the subject of negotiation with TGP earlier, and that the ultimate contract we have here only has upgrades being made by the Company.

Are any of these -- were any of these enhancements the subject of negotiation earlier that would have resulted in TGP paying for them?

A. (DaFonte) No. These are all what we would call "downstream" of the meter, the interconnect with Tennessee. So they

wouldn't be able to do anything on our system. These projects are fairly independent of what Tennessee could do. Tennessee can only do expansions on their pipeline. So it doesn't -- so basically what they're doing with their expansions is they're just increasing the capacity to our existing interconnects. That doesn't -- that may allow more gas to flow to those interconnects. But if we don't have the appropriate infrastructure on our distribution system, then, you know, it really doesn't help with regard to the reliability and resiliency of the distribution system.

So, for example, we could get more gas at Nashua off of the Hudson Lateral with the Tennessee expansion. But in order to optimize that supply, we would have to do an expansion or an upgrade of our distribution system in that part of our service territory in order to get the gas to where we need it most.

Q. Okay. Thank you, Mr. DaFonte. I don't have

any other questions.

CHAIRWOMAN MARTIN: Mr. Sheehan, do you have any redirect?

MR. SHEEHAN: No. Thank you.

CHAIRWOMAN MARTIN: All right. Thank you.

Okay. Then we will go to Mr. Krakoff for your direct examination of your witness.

MR. KRAKOFF: Thank you, Chairwoman. Just one thing I want to note is that Dr. Hill has a firm stop at 4:30. I foolishly thought we'd be long done by then. But hopefully we'll be able to get done his questioning by then.

(WHEREUPON, DAVID G. HILL was duly sworn and cautioned by the Court Reporter.)

DAVID G. HILL, SWORN

DIRECT EXAMINATION

BY MR. KRAKOFF:

Q. All right. Dr. Hill, could you please state your full name. You're muted, David.

A. (Hill) Sorry about that. My name is David Garrett Hill.

Q. And Dr. Hill, could you just briefly explain who you work for.
A. (Hill) I work for Energy Futures Group, which is a consulting firm based out of Hinesburg, Vermont. We currently have 12 employees, with offices in Massachusetts; Canton, New York; and some folks working remotely in Denver and California as well. EFG was founded in 2010 and works across a range of issues, currently a fair amount on gas system planning and gas system investment. I'm currently working as a technical consultant for the Vermont Climate Council on the development of the Vermont Climate Action Plan. And we participate both on analysis and then on regulatory hearings in electric and gas cases around the country.
Q. And I think we recognize this isn't your first time appearing before the Commission; correct?
A. (Hill) I also -- that is correct. I provided testimony on behalf of Clean Energy New Hampshire in the Triennial Plan hearings.
Q. Okay. And Dr. Hill, you have experience in

natural gas planning cases, not in New Hampshire but in other states?

A. (Hill) Yes. I've submitted testimony in two different cases in Illinois, and I have also participated in providing technical support for gas planning in Michigan, New York State, and Rhode Island.

Q. Okay. Dr. Hill, I'll start with what's been identified as Exhibits 8 and 9. This is your direct testimony that you provided, that you filed with the Commission. One's confidential testimony and one's redacted testimony.

Dr. Hill, did you draft what has been identified as Exhibits 8 and 9?

A. (Hill) I did.

Q. Okay. Do you have any corrections that you'd like to make to your testimony?

A. (Hill) Yes, I have two that I should mention.

In the testimony on Page 13, I discussed demand response and the potential for demand response to decrease demand. In the testimony, I think I incorrectly implied that Liberty could expect to obtain 100 percent

participation in demand response and obtain a 20 percent system-wide design day savings from DR alone, from demand response alone.

My point on demand response was intended to mean that it's a legitimate option which should be considered in relation to new supply contracts or system enhancements. But expecting 100 percent participation with 20 percent customer savings for all participants was kind of misstated there. So I'd like to correct that.

Q. And on --

CHAIRWOMAN MARTIN: I'm sorry, Mr. Krakoff.

Mr. Hill, can you just restate. It's Exhibit 8 and which line on Bates page --

WITNESS HILL: Sure. So on Lines 17, 17 to 18, and then also on Lines 8 and 9, those can be read to imply that I was suggesting that a 20 percent system-wide savings from demand response alone was available, and that's not the intent.

CHAIRWOMAN MARTIN: Okay. To

clarify, is that Bates Page 14?

WITNESS HILL: Sorry. I'm not referring to the Bates page here. It is Bates... this one is not labeled with the Bates number. It's on Page 13 in the standard text.

CHAIRWOMAN MARTIN: Okay. I believe Page 13 is actually Bates Page 14. I just wanted to clarify --

WITNESS HILL: Yeah. Thank you.

BY MR. KRAKOFF:

Q. And Dr. Hill, on Page 11, but it's Bates -- hold on one second. Page 11 is Bates 12. There's a table there that refers to Data Request CLF 1-2 and has three years on the bottom. Were there corrections you want to make with respect to those labels?

A. (Hill) Yes. It should be CLF 2-1, not 1-2.

Q. And for the years, were there any corrections for that?

A. (Hill) The years, the Triennial Plan years I think were correct. But there's the 2021 to 2023 -- I think it should be '21 to '23.

Q. Okay. And then finally, Dr. Hill, on Page 7,

Bates 8, you reference Docket Number DG 17-198 in reference to the LCIRP docket. Was that the correct docket number?

A. (Hill) I think that -- no. It should be DG 17-152 is the LCIRP and DG 17-198 was Granite Bridge.

Q. Okay. Dr. Hill, do you have any other corrections at this point in time?

A. (Hill) No.

Q. So I understand that you just pointed out these corrections. Otherwise, are both true and accurate to the best of your knowledge?

A. (Hill) Yes, they are.

Q. And do you adopt the confidential and redacted testimonies which have been identified as Exhibits 8 and 9 as your sworn testimony here this afternoon?

A. (Hill) I do.

Q. Now, Dr. Hill, I want to start out by looking at -- you know, just take some of the things that Mr. DaFonte testified about earlier, as well as some of his rebuttal testimony. So on Bates Page 16 of the rebuttal testimony and -- yeah, Bates 16, Exhibit 4, Dr.

DaFonte, he kind of -- sorry, not Dr. DaFonte. Mr. DaFonte criticizes some of your characterization of Liberty's out-of-model adjustments and says something to the effect that this model merely reflects higher levels of customer additions. Do you agree with Liberty's characterization there?

A. (Hill) What I was questioning was the level that the out-of-model adjustment represents the sales and marketing increases, promotional activity increases, that I understand are not reflected in the historic econometric model. So if there's an increase in sales and promotional activities, your econometric back-casting regression analysis wouldn't capture that.

My critique is that the out-of-model adjustment for increased sales and promotional activities shouldn't be a given as part of a planning exercise. I understand the Company has responsibility to serve existing customers. But the sales and marketing forecasts and targets for the Company are just that. Those are, you know,

projections that they might like to see in terms of demand increase, et cetera, but they are not -- they're not required, certainly, to be part of a demand forecast, and they should look at alternatives on the demand side for the demand forecast that would include things like reduction in sales and promotional activities.

Q. Yeah, so if you could explain to myself and to the Commission, you know, why is it -- why do you think it's inappropriate to include sales and marketing, you know, in those promotional activities in the demand forecast?

A. (Hill) I don't think it should be assumed that they are a given. It may be appropriate to include them in a demand forecast, but certainly looking at the demand forecast without assuming that there will be -- as the Commissioner was asking, you know, is this driven largely, and Mr. DaFonte answered this is driven largely by new residential customers. And I think assuming in a demand forecast under -- you know, given current

conditions, the costs associated with expanding the system to serve new customer additions, assuming that and embedding it in your demand forecast is an assumption that needs to be carefully considered by the Commission in terms of does the -- the Company has not been ordered or required to assume that it would be increasing its number of customers and sales and promotional activities. It's doing that. The Company said, well, we're not required to increase the amount of efficiency in the forecast, or we're not required at this point to be looking at demand response or other things.

So I think that it should not be embedded in a demand forecast as an assumption, as a given assumption. And I think that that's something that should be carefully considered and that the demand forecast without that increase is very important to look at.

Q. Now, Dr. Hill, I want to ask you about Exhibit 18. Just let me know once you have it. Can you explain what this document is?

A. (Hill) Yes. Exhibit 18 looks at the annual volumes. So, related to the discussion between the Commissioner and Mr. DaFonte, this is not the -- this is the volume. This is not the design day demand. But this is the volume of sales for -- in the top panel it excludes out-of-model adjustments for existing service territory, which my understanding is that that is, therefore, the demand forecast if you take out the sales and promotional activities. And the bottom, or the second, excuse me, panel is then normal year demand forecast that would -- is higher. As we can see, those numbers are consistently higher. And those, to my understanding of this exhibit, include the promotional sales and marketing.

And then the third is the difference. So the third panel below that is the difference. And you can see this is -- yeah, it ranges from 973,000-plus dekatherms in the first year to over 2.5 million in the out years. And if you look at that as a percent of the demand, the total volume demand in the

panels above, it's not an insignificant number. You know, 2 million out of 20 million is -- you know, this is in the range of 10-plus percent of total volume associated with the promotional and sales activities. So that underscores the point I was making before, that I think it's an important fact that shouldn't just be embedded in the demand forecast as a given.

Q. Now, you correctly pointed out that this isn't, you know, design day demand. So, you know, you can't -- it's not exactly an apples-to-apples comparison. But, you know, what's the overall significance of, you know, this difference here between the demand for existing customers versus the demand that incorporates the sales and promotional activities?

A. (Hill) It has a direct impact on the design day as well. I don't know -- I don't think the calculation of the design day impact without the sales and promotional activity would be helpful. I don't think that that's been calculated or provided. But there would

be a direct correlation if we think about the expansion to promotional and sales activity, which here shows that on an annual volume basis it's pretty significant. Those additional customers will also have additional design day demands. So there would be, you know, roughly proportional impact on the sales and marketing activities also, increasing the design day demand, which is, you know, the driver for the proposed supply capacity contract.

Q. Okay. Shifting gears a little bit. In its rebuttal testimony, Liberty questioned your conclusions, you know, about energy efficiency. And one of the reasons they questioned them was that you looked at the original 2021-2023 Triennial Plan that was filed with the Commission and not the Settlement Agreement, which was sort of the revised plan that was filed back in December.

Now, was there a particular reason why you were looking at the original plan? So -- strike that.

When you were sort of making your

conclusions about energy efficiency, was there a particular reason why you looked at the original 2021 to 2023 plan rather than the updated agreement --

A. (Hill) Yeah. I was more familiar with the original filing. And the point being that, you know, in that original filing, if I'm recalling correctly, there's -- I mean, the efficiency programs that Liberty evaluated and proposed as part of the Triennial Plan were cost-effective. Very cost-effective. They had a Granite State test result of over 2.0, meaning that, you know, they're providing $2 of benefit from the Granite State cost test as opposed to every dollar of cost -- so more than to a two-to-one benefit ratio -- and the savings levels were higher than what's being included in this demand forecast. Again, you know, I've heard some of the discussion from Mr. DaFonte and others that, well, if the new plan is updated, then we'll incorporate that. But the Company's only analysis that there are cost-effective levels of efficiency that they can be

pursuing that would reduce the design day demand again are important, whether this is a -- you know, there was a comment earlier, this was not planning -- this is more approval of a supply contract, not planning. I have a hard time separating those. I think that the discussion and approval for the Commission's consideration of supply contracts or on-system enhancements and other things are, by their very nature, certainly closely connected to, if not very directly connected to planning.

So looking at a demand forecast that, you know, reflects -- and your questioning earlier of Mr. DaFonte indicated it doesn't -- reflects, you know, increased energy efficiency savings. That is what I was pointing out, both with efficiency and the demand response. I think generally the Company has been comparing this proposed supply contract to other supply options. And I understand there can be some favorable components to it and has some flexibility in that for the supply components. But I think

it's incumbent on the Company and in the best interest of ratepayers in New Hampshire that demand-side options are also considered on a -- in this type of proceeding.

Q. Now, earlier Mr. DaFonte testified about, you know, basically how, when Liberty created its models, they sort of -- they assumed that the energy efficiency savings would be equal to 2020 levels from 2021, you know, going forward. And, you know, Commissioner Goldner, he asked a few questions, too, about one of the exhibits, you know, that kind of showed sort of, you know, how Liberty was sort of keeping those numbers equal to 2020 levels after 2020. Do you agree with that approach?

A. (Hill) I have concerns with that. I think that the experience in New Hampshire, as well as other jurisdictions, is that we have -- there are cost-effective opportunities for energy efficiency in gas and electricity. And, you know, the Triennial Plan for New Hampshire, a very extensive analysis, development of options, proposals by the

Company in support of those efficiency plans, shows you can have annual incremental savings, you know, that are higher than what's included for the 2018 to 2020. But then they don't imply that that's a kind of one and done, that that Triennial Plan then exhausts the potential for efficiency programs to be continued. Now, I understand that those haven't been approved or proposed at this time. But I think some of the Company's criticism of my testimony is that it's speculative. But I don't find it to be speculative to think that continued energy efficiency can provide benefits. And there are -- it's important to recognize that when we do an efficiency measure in, say, gas -- let's say we improve the efficiency of a gas appliance or that we are weatherizing a house to significantly reduce that house's energy load on the design day. Those savings from -- say we do them this year. Those savings are present then for, you know, the measured life of savings. Say for weatherization measures, air sealing and

effective insulation and those types of things can last for many, many years into the future. So you have a cumulative impact. If your annual incremental savings, which are the percents that we see in these, are on the order of 1 percent, and you do that continually, your savings from the efficiency programs grow kind of year on year. They start to grow. And I don't -- that's not reflected in the demand forecast from the Company, as you were asking Mr. DaFonte. And I don't think it's speculative to -- you know, I think it's unhelpful kind of planning assumption that, well, because we haven't been directed, or an efficiency plan in the future hasn't been approved, that those types of elements to an overall portfolio of how to best meet customers' needs, how to best meet the needs of customers, should include ongoing energy efficiency. Now, that doesn't go on forever. At some point, savings from prior measures start to roll off and may saturate certain markets, et cetera, et cetera. But we're not -- these are still

relatively early days, in terms of capturing and developing efficiency potential. You know, and again, that's not just speculative. That's more structural.

So I think that those types of considerations need to be reflected more specifically in filings by the Company that is, you know, requesting new supply contracts, on-system enhancements and that type of thing. They're cost-effective, they're available, and they're important opportunities to look at.

Q. So in other words, you know, if I could summarize -- and correct me if I'm wrong -- but, you know, are you saying that Liberty should look at savings from both the 2021 and 2023 plan that hasn't been approved yet, as well as, you know, other savings that could go beyond that?

A. I think that that would be very appropriate. I don't think that, you know, is it -- I don't think the Commission needs to say we approve your ongoing efficiency measures into the future, you know, without them going

through their own process. But for planning, and for planning for system needs, something that's consistent with and/or builds upon the good experience of, yes, we're getting cost-effective gas efficiency savings, we can continue to do this, we want to educate our customers about the benefits of doing this, there are multiple reasons it can help the customer, you know, with their bills; it can help to reduce emissions; it can help to reduce the overall system costs; it can help us, you know, potentially avoid some of the supply contracts or on-system enhancements that we might need to make. I think that considering them more deeply than has been done here -- and it could be that this is -- you know, we don't -- I don't think it's good to silo out necessarily that, oh, this is not the LCIRP process, this isn't the Triennial Plan, this is just the supply contract approval. I think the justification of planning for the supply contract approval should, without being speculative, make sure that it's incorporating and considering some

of these dimensions.
Q. And earlier, Mr. DaFonte, you know, he said something to the effect that, you know, the effects of the 2021 to 2023 Triennial Plan, which hasn't been approved yet, you know, the effects of that plan on design day demand, you know, would be immaterial or insignificant. And Commissioner Goldner asked Mr. DaFonte a few questions about that, specifically Exhibit 14. Do you have any critiques of that statement by Mr. DaFonte?
A. (Hill) The Triennial Plan did not, to my recollection -- I don't think that the Triennial Plan specified -- went into a great amount of detail on the design day impacts of the efficiency savings. I think that there are -- you know, just structurally, that a cost-effective efficiency program, and if it's sustained, is not having -- is having a di minimus impact on the design day load does not strike me as a reasonable kind of conclusion.
I think that if you look at, you know, any one element made by itself alone, not be

able to meet an entire -- meet the entire deficiency gap that the Company has identified, you know, in the five years that Mr. DaFonte -- you know, I understand the Company's obligated and needs to look at these things. But if you look at the combination of efficiency programs, the reduction of the sales and marketing demand response, those types of things combined, electrification, then I think it's not that just one of them by itself eliminates it. So we could say, well, efficiency won't by itself eliminate the gap, or demand response wouldn't by itself eliminate the gap. But these are all available options that I think need to be more deeply considered in balancing the supply and demand options available.

Q. And do you think that Liberty has a responsibility, you know, as part of its least cost integrated resource planning, to sort of look at increases in energy efficiency beyond the plan that was filed with the Commission last year?

A. (Hill) I think that that would be good practice for planning, yes. I don't think that the planning needs to be restricted only to what has been approved.
Q. Now, earlier you recognized that you'd made an unrealistic assumption in your discussion about demand response and, you know, recognize that Mr. DaFonte might have been correct that, you know, a hundred percent participation rate in such a program is unrealistic.
A. (Hill) Yup.
Q. You know, do you still see a potential for demand response programs to reduce design day demand, despite --
A. (Hill) Yes.
Q. -- you know, your mistake?
A. (Hill) Yeah. No, absolutely. And that's based on, you know, Mr. DaFonte and Mr. Killeen both recognize that, you know, there's an increasing number of gas demand response and load management-type programs. They can take advantage of, it can be tariffs, it can be direct control, and it can

be coordinated control of different devices. The communications, the ability to, you know, control and manage both electric and gas loads, there's been a great amount of advancement in those areas. And so there is potential. And the 20 percent savings number that I cited is, you know, our savings that, on a per site basis, participants in gas demand response programs have been experiencing. And those programs and initiatives have also tended to have been oversubscribed. You know, there have been more people wanting to participate than the gas company initially anticipated would be interested in participating.

So it is, you know, my statement of saying, well, you could get 20 percent system-wide is incorrect, premature, not at that level. But, you know, customer-level savings of 20 percent interested in these things, the technical availability of service providers and mechanisms for doing this all are growing. And again, these are, I think, important elements that the Company, you

know, could be including in planning and for the development of the efficiency initiatives, these options. And the demand response specifically can really significantly address the design day concerns. You know, I think coordinating and managing the loads -- or Mr. DaFonte mentioned, you know, some "snapback" after a power outage if you're sequencing some of that demand, et cetera. There are a number of options that provide benefits versus kind of what you might call kind of just an uncontrolled or unmanaged demand response, without demand response, that type of system operations.

So I would just encourage that those are areas that have a lot of benefit. Again, not being strictly speculative, but just saying that the proposal for supply contracts and on-system enhancements should be analyzing -- or should be including, inquiring and looking carefully at opportunities, you know, for these demand-side options.

Q. And, you know, Mr. Sheehan said, you know, in

his opening statement, that, sure, this isn't an IRP docket. So, you know, I guess with that recognition in mind, you know, why, you know, even though we're not in an IRP docket, sort of why is demand response relevant to this docket, and, you know, is it relevant to Liberty's least cost integrated resource planning in this docket?

A. (Hill) Yeah. Well, I think demand response and efficiency both directly, they do impact design day. The Company, you know, in their rebuttal acknowledges that increased efficiency will have -- will reduce design day demands. But then they say, well, but it's really not significant.

So I think that -- I think, even though this is not an LCIRP docket, I think that considering in the planning and demand forecasting that's being used to justify this supply contract, you know, these elements are important pieces, cost-effective pieces that should be included. I don't -- yeah, I think I've said that enough times probably.

Q. All right. Shifting gears then. In Mr.

DaFonte's rebuttal testimony, you know, he claimed that, you know, electrification and your discussion about electrification isn't relevant to this docket. You know, do you disagree with that?

A. (Hill) I do. I think electrification and -- is very important for a number of reasons. As you indicated -- first of all, cold climate heat pumps and the performance of heat pumps in cold climates has improved significantly. And, you know, major manufacturers, there are heat pumps now that operate and provide useful heat down to, you know, five degrees below zero or even colder. And that's, you know, similar to what the design day, certainly for at least a lot of maybe perhaps more coastal elements of New Hampshire, but they provide useful heat in very cold temperatures. They may not -- they become less efficient as the outside temperature from which they're drawing their heat, you know, becomes colder. May be less efficient and drawing more electricity to provide that heat, but they're still

providing heat.

Part of what Mr. DaFonte was saying is, well, you know, you'll still need your gas for backup on a design day, on the coldest day. It's not as though the heat pump just -- even if it was -- you know, it depends on the design for the existing house. There's some centrally ducted heat pumps that people use that basically use electric resistance as a backup and would not require gas. But even if you had gas backup, it's not as though the system just shuts down in the cold temperatures. It's still providing heat, useful heat for the building, and would reduce the design day demand for the backup fuel. So that's one important element.

Another is that, as you pointed out earlier, you know, consumer choice. Currently there is rather rapid uptake in Vermont and in Maine and other markets as well that are close by, Massachusetts, New York, basically surrounding New Hampshire all around, of heat pumps. And so there's at least a market trend that's not reflected in

econometric data, historic data. This is relatively new. That is -- I think it's very fundamental as an alternative to gas space heating and water heating. There are also heat pump water heaters that should be considered by the Company. You know, the questions about the numbers that we provided, say from the exhibit that has numbers from Efficiency Vermont and Efficiency Maine, on historic heat pump installations that say in the last five years in both states have more than quadrupled and were into, I think, 20,000 for Maine and 10,000-plus for Vermont this year --

Q. Sorry to interrupt you. But were you referring to a specific exhibit there, just so the Commission can follow along?

A. (Hill) I am. I'm sorry. That was -- it's Exhibit, is it 19?

Q. I believe it's 19, yes.

A. (Hill) Exhibit 19. I'm sorry.

So again, I think that the -- in the original rebuttal, there was a statement that the cold climate -- that, you know, heat

pumps don't really -- aren't really applicable for New Hampshire's cold climate. I strongly disagree with that. There are adoptions in these other states and adoptions in -- I've adopted it in my own house for quite some time now, and significantly I still use oil as backup. But it works. It works in a cold climate. There are thousands, tens of thousands of cases that document that. And the technologies and providers are recognizing the potential for the cold climate market. So the performance of those models is actually just increasing their ability to provide useful heating at cold temperatures.

That's important for the gas company, I mean for the gas industry, you know, even more broadly. That's important for planning and what is the best and highest value use for existing gas assets, you know, how do we plan for energy planning broadly. And so to dismiss or say it's too early, I would say in 2021 in New England, with the current market conditions, it's not too early for companies

like Liberty to be much more actively considering heat pumps and what they might do to demand forecasts.

And there's even the potential for something like a -- there's some discussion in my testimony, and there's been some discussion here on, you know, the potential -- Mr. DaFonte said, well, you know, regulations related to greenhouse gas emissions -- potentially the design of those types of activities could look at something like a clean heat standard, where a gas company could, to meet its obligations under a clean heat standard, provide weatherization efficiency or even provide customers with heat pumps to offset some of their design day peak consumption. I know that's not approved or in the plan for New Hampshire, and it's -- that is speculative to a degree. But that type of thing I think should be -- that type of consideration should be incorporated, or the potential for that type of thing, at some level in the Company's planning. And to simply say, no, we haven't -- we don't think

heat pumps are important or that they don't work in New Hampshire is not sufficient.

Q. And, you know, Mr. DaFonte kind of pointed to a study by the American Gas Association that said, you know, heat pumps aren't viable in northern or cold climates. But, you know, is there some nuance between, you know, say northern New Hampshire and southern New Hampshire, in terms of the difference in climate, where, you know, even if heat pumps couldn't be a viable, you know, primary source in northern New Hampshire, there might be more potential in southern New Hampshire, given the warmer climate?

A. (Hill) I would say throughout New Hampshire. I don't -- I really -- it reduces -- you know, whether you design a system to be -- to meet the full load of the house or whether it's designed to offset, you know, the load of other fuels, except on the coldest day, and even on those days to significantly reduce the consumption of the backup fuel, heat pumps are very effective.

Q. Now, you know, New Hampshire doesn't have,

you know, explicit legislation encouraging heat pump installation. You know, there's some programs in the Energy Efficiency Plan. But, you know, regardless of whether there's legislation, you know, soon to encourage heat pumps, you know, do you think that market trends could change so that, you know, people become more interested in heat pumps than other heat sources, such as natural gas?

A. (Hill) It's possible. I think that the consumer economics for, you know, natural gas tends to be less expensive. And as Mr. DaFonte has mentioned, you know, natural gas has lower emissions than, say, fuel oil or propane. So you may see customers more likely to convert from propane or fuel oil to heat pumps than natural gas. But I think that these are, you know, regional and even broader markets. And as the development and promotion of heat pumps increases, and as heat pumps are seen as, you know, particularly as a decarbonized grid, as an opportunity and option to have cleaner heating and avoid the use of fossil fuels and

associated emissions, I think that there are market trends that are pointing in that direction, and I wouldn't expect those to slow down.

Q. And so, you know, are you saying that -- you know, do you think Liberty should have factored in, you know, this greater likelihood of heat pumps in its model?

A. (Hill) It's another -- so if we look at, well, efficiency, demand response, heat pumps, you know, saying all of them are not relevant is not sufficient. I'm not saying that any one of them by itself necessarily meets, you know, the requirements of the deficit. But the planning for Liberty as a gas utility with an obligation to serve customers and, you know, consider the most cost-effective ways to do it, these options cross all of them, yes, and need to be considered more deeply. Dismissing all of them as not relevant or not important is not sufficient.

CHAIRWOMAN MARTIN: Mr. Krakoff, I'd like to give the stenographer a break for

a few minutes if this is an okay stopping point.

MR. KRAKOFF: You know, I probably only have ten or so minutes of direct, if, you know, that would be a better stopping point. But, you know, we can stop now if the stenographer would prefer. Up to her.

(Discussion off the record)

BY MR. KRAKOFF:

Q. Okay. On page -- on the rebuttal, Exhibit 4, Bates 35, Mr. DaFonte, he criticized some of your discussion of greenhouse gas emission reductions targets in other states and sort of your discussion there.

Are those reduction targets that you propose Liberty sort of incorporate into its planning, are those in line with other states in the region?

A. (Hill) Those are consistent with what other states are adopting, as you noted in some of the earlier discussion. I think that holistic planning has started in a number of states about saying, for gas supply contracts or infrastructure proposals, investments,

capital investments for new infrastructure, these need to take place in kind of the context of some holistic planning on how consistent with meeting greenhouse gas targets is expansion of the gas system, or what are the highest value uses of the gas system in a greenhouse gas-constrained environment.

So I think, you know, incorporating all of that into the evaluation of this supply contract may be a bit of a stretch. This is more specific. But the potential to -- you know, while not considering these other things that we've just mentioned, in terms of their impact on demand, and then also not considering the emissions impacts and the changing environment related to that, I think all of that calls into question the demand forecast that is really required to meet the design day demands for the Company.

Q. Obviously New Hampshire isn't Maine or Vermont or Massachusetts, where there are, you know, mandates for greenhouse gas emission reductions. So, you know, why is

what's happening in those states relevant to New Hampshire?

A. (Hill) I think that, you know, you could -- we could say whether the surrounding states are relevant or not. I think what they are is indicators of a growing legislative and regulatory recognition that some level of planning and regulation and, you know, the potential for initiative design strategies, et cetera, that reduce emissions are important. You know, this is potentially happening at the federal level. I think the COP26 meeting is coming up here in a month, conference of the parties.

New Hampshire is experiencing, as are other states, climate impacts. And I think that they're indicators. It's not to say that New Hampshire has to absolutely follow what other states are doing. But it's an indicator that this is increasingly relevant and being addressed by legislators and regulators.

Q. Liberty kind of said in its testimony, rebuttal testimony, that your concerns about

some of the on-system enhancements, you know, weren't relevant because Liberty isn't, you know, seeking approval for those here. Did you disagree with that?

A. (Hill) You know, hearing Mr. DaFonte's discussion of what the on-system enhancements do to optimize the supply contract, it strikes me that, you know, particularly capital investments that have long asset life and recovery for the costs for those assets, need to be particularly carefully considered. And so I would say that the points we've made with relation to a supply contract that has some flexibility, et cetera, are even, I would underscore, even more with relation to the on-system enhancements. And the Company's position that they wouldn't be seeking preapproval for on-system enhancements at this point in time strikes me as out of sync with what we've just been discussing.

Q. And do you think that those on-system enhancements should be, you know, addressed as part of Liberty's least cost integrated

resource planning docket?
A. (Hill) Yes.
Q. And Liberty's kind of -- you know, I discussed earlier, asked Mr. DaFonte questions about it -- but Liberty's proposing a 60-year depreciation schedule for those on-system enhancements. Is that concerning at all to you?
A. (Hill) I think that that -- I mean, what that means is then there's potential -- say demand is reduced or is -- you know, that there's a potential for stranded costs for that or for -- I mean, that's recovering those costs from ratepayers over a very long time. And there may be structural shifts that will significantly reduce demand in that time period. So other proceedings and analyses have supported and recommended that shorter depreciation periods are used to analyze both the rate impacts and the period over which, you know, any new capital investments in gas infrastructure are recovered.
Q. Okay. Just want to ask you a question about Exhibit 10. And this was -- Exhibit 10,

Bates 25, this was Liberty's response to data request, CLF Data Request 1-23. Specifically the question that I asked there was, you know, whether Liberty had conducted any sort of environmental analysis of the TGP contract. And then Liberty's response was that they had not performed an analysis. And their position was that, you know, whether or not they contracted for the additional capacity, the environmental impacts would be the same because, yeah, they'd still be using its capacity -- not actually using its capacity. Do you agree with that?

A. (Hill) No. That looks to me to be just an assumption on their part, that if we don't contract for the capacity, somebody else will. You know, we just discussed how things -- there are -- there's active proceedings in Massachusetts looking at, you know -- there are a number of places where the future of gas and the gas system, et cetera, are being discussed. So I don't think it's safe say that if we don't use that capacity, somebody else will, and the

emissions associated with that capacity are written in stone, which is what in essence that's saying. So, no, I don't agree with that.

Q. Now, Mr. DaFonte earlier was kind of -- you know, he was saying that, you know, a lot of our concerns or assumptions about electrification and heat pumps, demand response, energy efficiency, you know, is too speculative. You know, do you think these considerations are any more -- you know, are more speculative than, you know, some of Liberty's assumptions regarding its, you know, demand forecast that incorporate these promotional efforts?

A. (Hill) Right. I think that that's -- they're embedding that into the demand forecast, increased sales and promotion, and they are saying that these other things, you know, are too speculative to be included. And I disagree. I think that, you know, it takes -- there are details that matter. And, you know, there's ability to do analyses and develop plans that look at these in more

detail than the Company has done. And I think that that's important for proposed supply -- you know, proposed supply options on the gas side should be examining these options in detail. So if my characterization of them is too speculative, it doesn't mean that they should not be incorporated. I'm raising them because they should be investigated in more detail.

Q. Okay. And then --

MR. KRAKOFF: It's 2:40, but I only have, I promise, Susan, only a few more questions. This is the last subject.

BY MR. KRAKOFF:

Q. So Mr. DaFonte, he testified about the Settlement Agreement that Liberty and DOE and OCA have entered into. And you just talked about some of your concerns with, you know, Liberty's proposal here. Does the Settlement Agreement address any of those concerns?

A. (Hill) I don't -- you know, section -- generally, no, I don't think it does. Section 5.1 of the Settlement Agreement kind of outlines a proposal by which the Company

will be required to provide detailed engineering and construction plans to the Department of Energy 90 days prior to commencing construction. As you just asked, I think that that's -- I mean, that's 90 days before commencing construction, which is supposed to be next year, we'll have better detailed cost estimates and then come in for cost recovery later. I think that that should be part of the LCIRP process and should be balanced against a much deeper dive on these other alternatives that potentially reduce the demand. And maybe also the -- I mean, there are operational elements, just the balancing Mr. DaFonte was mentioning on the on-system enhancements, that may or may not be addressed, you know, in that process. But I don't -- to me, just giving 90 days' prior notice with an estimate of the cost is not -- would not be appropriate. It doesn't address the concerns I raised.

Q. And last question. The Settlement Agreement says that, you know, approval of the Settlement Agreement does not impute

preapproval by the Settling Parties of the prudency of any such on-system enhancements. Does that statement there address any of your concerns?
A. (Hill) Yes, partially, I think, but -- yeah.
Q. But I mean do you think that's a substitute for sort of more --
A. (Hill) I don't think it substitutes. But I think it -- you know, it would be very concerning if it did imply preapproval. But it's not a substitute.
Q. Do you think it's a substitute for incorporating into the least cost integrated resource planning process?
A. (Hill) That or something that looks at the alternatives at a depth that would be commensurate with that, yeah.
Q. And the Settlement Agreement doesn't do that; correct?
A. (Hill) Yup. Right.
MR. KRAKOFF: Okay. I have nothing further for Dr. Hill.
CHAIRWOMAN MARTIN: All right. We will take a ten-minute break to about, well,

2:55.
(Brief recess was taken at 2:43 p.m.,
and the hearing resumed at 3:03 p.m.)
CHAIRWOMAN MARTIN: Okay. Thank you. Let's go back on the record.
Mr. Kreis, do you have any cross-examination?
MR. KREIS: I have no questions for Mr. Hill.
CHAIRWOMAN MARTIN: Okay. Thank you.
And Mr. Dexter.
MR. DEXTER: No questions.
CHAIRWOMAN MARTIN: Mr. Sheehan.
MR. SHEEHAN: Mr. Venora has a few questions for Dr. Hill.
CHAIRWOMAN MARTIN: Okay. Go ahead, Mr. Venora.
MR. VENORA: Yeah, thank you. Dan Venora from Keegan Werlin, on behalf of Liberty.

CROSS-EXAMINATION

BY MR. VENORA:
Q. Dr. Hill, just a few questions for you. And

I'm going to refer to your testimony, which is marked as Exhibit 8. Do you have that handy?
A. (Hill) I have No. 9 open. So I can --
Q. Yeah, and actually that won't matter. That's fine. It's just on Page 1 of your testimony.
A. (Hill) Yeah.
Q. Page 1, Bates 2, Lines 18 to 20. You're talking about your company, EFG, and you state that it's a clean energy consulting firm that designs, implements and evaluates programs and policies to promote investments in efficiency, renewable energy, other distributed resources, and strategic electrification. Do you see that?
A. (Hill) Yeah.
Q. And can I read this to mean that your business objective is to support and advocate for clean energy initiatives?
A. (Hill) Yes.
Q. Okay. And on that same page, Line 21, you said that EFG staff have delivered projects on behalf of energy regulators and others. Do you see that?

A. (Hill) I do.
Q. And just so I'm understanding it correctly, when you say you have delivered projects, are you essentially talking about work assignments for business clients as opposed to what we might think of as project development?
A. (Hill) Yeah. Thank you for that clarification. We're a consulting firm.
Q. Okay. Thank you. And is it correct to conclude that your primary business background has been in the area of promoting energy efficiency and demand response?
A. (Hill) Yes, my personal background has had quite a bit of renewable energy as well.
Q. And in your work experience, Dr. Hill, have you ever worked in a gas supply planning or procurement department for a natural gas utility?
A. (Hill) I have not.
Q. Have you ever worked or served in any professional capacity that had responsibility for ensuring that customers you are serving have uninterrupted gas to keep their heat on

in the winter months?
A. (Hill) No, I have not.
Q. Okay. In your experience, have you ever negotiated a pipeline transportation contract for a natural gas utility?
A. (Hill) No, I have not.
Q. Have you ever negotiated a commodity contract for a natural gas utility?
A. (Hill) I have not.
Q. Dr. Hill, in your experience, does CLF have any legal or ethical obligation to provide safe and reliable natural gas service to New Hampshire customers?
A. (Hill) Not that -- no, it does not.
Q. Okay. And to your knowledge, I believe I heard you testify that, in contrast, the Company does have an obligation to provide safe and reliable natural gas service; is that correct?
A. (Hill) Yes.
MR. VENORA: Thank you, Chairwoman Martin. Those are all of our questions.
CHAIRWOMAN MARTIN: All right. Thank you, Mr. Venora.

Commissioner Goldner, do you have questions?

COMMISSIONER GOLDNER: Just one for Dr. Hill, just for my own information, not for the docket or anything else, but just for my own information. I'm very interested as an engineer in any heat pump information that you have that could -- that I could learn from. My understanding is typically that around -- [connectivity issue]

[Court Reporter interrupts.]

COMMISSIONER GOLDNER: All I was saying was that I would appreciate, for my personal information, any information on heat pumps, particularly at low temperatures, as an engineer just trying to understand the efficiency and the working profile at low temperatures. So if there's anything available, Dr. Hill, I'd appreciate that.

WITNESS HILL: Okay.

COMMISSIONER GOLDNER: That's all.

MR. KRAKOFF: And just to clarify, is the Commission making a record request, or you know, is this just more for personal

knowledge?

COMMISSIONER GOLDNER: Yes, it's just for my own information. It's not a record request.

MR. KRAKOFF: Thank you.

CHAIRWOMAN MARTIN: Okay.

QUESTIONS BY COMMISSIONERS:

BY CHAIRWOMAN MARTIN:

Q. Mr. Hill, do you agree -- and I'm characterizing what Mr. DaFonte said, but hopefully I'm close -- that the difference between the 20-year and 30-year historical weather data as a basis for the design day is minimal? I ask that because it's -- well, the Settlement Agreement requires the change going forward. It is incorporated into this agreement.

A. (Hill) I think that incorporating the 30-year for the design day is appropriate. I'm not sure if I understood your question correctly. Incorporation of the most recent 30-year data available to use as a basis for the estimation of the design day temperature would be appropriate I think.

Q. Give me one second.
A. (Hill) Did I answer -- I'm not certain I heard accurately all of your question. So if I didn't respond appropriately, please --
Q. So what I'm trying to get at is, as I understand it, this contract is based upon the 20-year data, and the Settlement Agreement requires the Company to provide the 30-year data in its next LCIRP filing.
A. (Hill) For the LCIRP, yes.
Q. Right. And so I'm trying to understand from you if you believe that that is a significant issue related to this contract, the 20-year data?
A. (Hill) No, I don't think that that's as significant as the other things we've discussed.
Q. Okay. Thank you.
We heard Mr. DaFonte mention the "snapback" response, and I also heard you mention it briefly. But what is your response to Mr. DaFonte's testimony related to the snapback response following demand reduction efforts?

A. (Hill) Yeah, demand response, you know, you can either be coordinating loads across different customers so that people aren't having the exact same demand. If it's uncontrolled -- you know, and this applies for electricity as well as gas -- if it's uncontrolled, you may have more customers demanding the fuel at a specific time. And if you can coordinate and diversify that, you can potentially help to reduce the overall peak demand.

Snapback can occur if you are saying -- you know, if it's perhaps interruptable or you're not providing service or there's a temperature setback and then it's catching up. And/or, you know, Mr. DaFonte's example might have been if you have a control where you turn back the water heater temperature for a period, a given period of time, and then it needs to make that back up. And so it can snap back and come back, and you get some of the consumption that you avoided in the peak period. It could be that it shifts that to a non-peak hour perhaps, that

snapback. So in that case, you've reduced the peak impact if you've been able to shift it. But that's one element of what a demand response initiative or program or set of controls and algorithms addresses. You know, how do you coordinate loads, manage loads, potentially offer customers -- I mean, there's also just, you know, some demand response could be based on tariff options that's interruptable service. You know, it's not going to be for a residential heating customer, but there may be loads that customers are willing to forego, can forego, can reduce or eliminate processes whereby they're using a fuel, and they're willing to do that because they get a tariff benefit back from it. And in some of those cases you might not have any snapback. Maybe just something that's a proposition the customer is willing to do to reduce their demand because they can get a financial benefit from doing that.

So the operations of a specific demand response control system, or something like

that, you can see snapback effects, but it doesn't mean that the coordinated load and demand reduction options don't help to reduce peak demands both for electricity or for gas.

Q. Okay. Thank you, Mr. Hill. I don't have any other questions.

CHAIRWOMAN MARTIN: Mr. Krakoff, do you have any redirect?

MR. KRAKOFF: I guess I have a couple of redirect questions for Dr. Hill.

REDIRECT EXAMINATION

BY MR. KRAKOFF:

Q. Dr. Hill, obviously, you know, you said that you've never worked for a natural gas company. And nobody's disputing that. But this isn't your first natural gas docket that you've worked on; correct?

A. (Hill) That's correct.

Q. And in Exhibits 8 and 9, your testimony, there's two attachments there. One involves National Grid in New York and one involves Rhode Island. Could you just briefly explain the National Grid, what that report was?

A. (Hill) That was a report looking at the

proposed pipeline expansion of National Grid for their New York City, KEDNY and Long Island, their downstate New York gas service territory. That was a proposed pipeline project. And that was on behalf of some of the environmental advocates. We did an analysis that looked at similar types of things with demand response and increased efficiency and potential for electrification and trends towards greenhouse gas emissions target reductions, and even trends in reduction in gas consumption for the electric grid in New York. And that White Paper was basically an analysis that was questioning Grid's demand forecast, and that proposal was subsequently withdrawn. That wasn't part of a regulated hearing, but it was a White Paper that was done. And it was one piece of information, and eventually that proposal was withdrawn.

The Rhode Island piece was something we worked on in conjunction with some of your colleagues at Conservation Law Foundation. And that was, we mentioned it briefly before,

the implications of having long depreciation periods for gas infrastructure investments and the potential impacts of them, stranded costs, related to that. The longer depreciation period makes the immediate rate impact for a proposed investment. It reduces that. It spreads it out over a longer period of time. A concern is that it potentially also ends up with -- you know, if it's not used and useful over a long period of time, there are reasons to question why. Some of the gas infrastructure may not all be used and useful over those longer periods of time, then a shorter depreciation period is appropriate.

On the other -- I mean, I definitely have not worked for a gas company and directly on the contracting of these things. But the other cases that I've worked on recently in Illinois have to do with NICOR Gas's proposal for a renewable natural gas pilot, and then also as part of their rate case, some pilot proposals that they have for a Smart Neighborhood pilot and then a Total

Green natural gas pilot, which is using offsets to provide their customers with a carbon offset for their natural gas procurement.

In other hearings, regulatory hearings as well as planning processes that I had been involved with an analysis, you know, the reliability and availability of electric and gas service is something that's considered. So it's not something that -- you know, I recognize that that is the company's responsibility and something that we try to make sure is part of thinking in terms of analyses that we're doing.

Q. And the New York White Paper and the Rhode Island White Paper you just referenced, you were the primary author for both of those?

A. (Hill) Yes.

MR. KRAKOFF: Okay. I have no further questions. Thank you.

CHAIRWOMAN MARTIN: All right. Thank you. At this point I think we need to talk about exhibits. And as far as I understand from the Settlement Agreement, the

Settling Parties have agreed to the admission of all of the exhibits from the Settling Parties. And so I'm not sure where that leaves us related to the remaining exhibits and/or Mr. Krakoff's position.

MR. SHEEHAN: If I may be heard. We have no objection to CLF's exhibits. We do have one question. Exhibit 16 is a confidential exhibit. In conversations with Mr. Krakoff, the purpose of that exhibit was to introduce into evidence the 60-year depreciation life for the proposed on-system enhancements. We don't dispute that fact. And to avoid having to introduce a confidential exhibit -- [connectivity issue]

[Court Reporter interrupts.]

MR. SHEEHAN: I'm simply asking Mr. Krakoff if he would withdraw that. I am not objecting. It's simply an accommodation.

MR. KRAKOFF: And I mean, yeah, because, you know, Mr. DaFonte, you know, didn't object to that, yeah, I'll withdraw that as an exhibit to accommodate Mr. Sheehan.

CHAIRWOMAN MARTIN: So you're withdrawing it as an exhibit. And are you stipulating to what's contained, the statement that you made, which I didn't catch at the beginning, or just withdrawing it?

MR. SHEEHAN: We do not dispute the statement that the depreciation life or the components of the on-system enhancement -- [connectivity issue]

MR. KRAKOFF: Mike, you're going out again.

[Court Reporter interrupts.]

MR. SHEEHAN: The on-system enhancement project consisting primarily of pipes and related hardware, if you will, is 60 years. We don't dispute that, as approved in the 2017 rate case.

CHAIRWOMAN MARTIN: Okay. So I think I understand then, that that is agreed to and that Exhibit 16 is withdrawn by agreement.

MR. SHEEHAN: Yes.

CHAIRWOMAN MARTIN: Okay. Anything else? Mr. Krakoff, do you have any objection

to the other exhibits that the Settling Parties have agreed to --

MR. KRAKOFF: I have no objection to their exhibits.

CHAIRWOMAN MARTIN: Okay. Then without objection, we will strike I.D. on Exhibits 1 through 15 and 17 through 19, although I will note that Exhibit 6 and 7 have not been adopted, as required by RSA 541-A:33 and therefore will be given the weight they deserve, and we will admit them all as full exhibits.

Anything else?

[No verbal response]

CHAIRWOMAN MARTIN: All right. Then let's hear closings, starting with Mr. Kreis.

MR. KREIS: Thank you, Madam Chairwoman. Always a pleasure to be the first person. I would like to just make sure the Commission has the OCA perspective on the Settlement Agreement that is pending before you and that we're on track.

As I was listening to -- well, let

me start by saying the OCA has been laboring with Liberty Utilities for quite a long time over its supply portfolio, going all the way back to the days of the NED pipeline. That proceeding was just concluding as I was taking office as consumer advocate. So this work, this engagement that the OCA has had with Liberty Utilities about its natural gas supply portfolio predates my own tenure as consumer advocate. But I certainly have been deeply involved in ongoing contact with Liberty about how they can meet their natural gas supply needs.

And as I thought today, or as I listened today to the testimony of Mr. DaFonte in particular, I found myself thinking of something that Dan Keough, K-E-O-U-G-H, said in July of 1985. Who is Dan Keough, you're wondering? He was in, July of 1985, the president of the Coca-Cola Company. And he had an interesting thing happen to him in the summer of 1985. His company, earlier that year, had rolled out "new Coke," and that rollout proved to be a

disaster. And by the time July rolled around, the Company was bringing back "old Coke." And somebody asked Dan Keough, the president of Coca-Cola, "Was this all some diabolical scheme?" Because it turned out that the effect of rolling out "new Coke" and then bringing back "old Coke," which they called "Classic Coke," actually increased Coca-Cola's sales of its soft drink Coca-Cola. And so somebody asked Mr. Keough, "Was this all a clever ruse on your part?" And his answer was, "Not that dumb, and we are not that smart."

I thought of that because the contract that Liberty has entered into with the Tennessee Natural Gas Pipeline at its recourse rate of 14 cents is -- it's "old Coke." It is a traditional way for Liberty Utilities to acquire its wholesale supply. The "new Coke," of course, was the Granite Bridge project, which would have added something like $400 million to the Company's rate base, doubling the size of their rate base and then some. This particular

contract, meeting the same need that Granite Bridge would have met, does so at a fraction of the cost to ratepayers. There's simply no better way for this company to acquire this amount of natural gas over the 20 years of the contract period.

I look at what the Company is actually asking for in this petition, and the Company invoked RSA 374:1, RSA 374:2 and RSA 374:7 [sic]. RSA 374:1 simply gives the Commission the authority to oversee utilities, and the other two statutes basically require the Commission to make sure that charges are just and reasonable. So what the Company is asking you to determine is that its contract with the Tennessee Natural Gas Pipeline is prudent and reasonable. And I think the record adduced at today's hearing demonstrates that it is.

Now, I listened carefully to what Mr. Hill had to say and what Mr. Krakoff had to say, and I must say I heard very little out of either of their mouths that the OCA disagrees with. It is simply that we believe

that the appropriate place to talk about all of those issues that those two distinguished gentlemen raised, including Commissioner Goldner's interest in learning more about heat pumps, that is all fodder for the Company's least cost integrated resource plan and the docket the Commission will open to consider the next edition of that plan when filed. And believe me, all of those questions about the role of energy efficiency, demand response, alternative technologies, non-gas solutions, the energy needs of its customers, that is all highly germane to the least cost integrated resource planning project. And we have been actively engaged with Liberty Utilities on those questions because we would like to see their next LCIRP engage with all those questions in a deep way so that this company can be transformed into the natural gas utility of the future.

Nevertheless, I think the Commission should accept as credible the assertion that Mr. DaFonte made. He said,

"Our portfolio is flexible enough to take into account any future demand scenarios." He was talking in particular about future effects of energy efficiency. But I think that that applies to almost anything that we could concoct or invent or come up with or propose in the least cost integrated resource planning process around alternatives to traditional supply options like the one that is before you today. This contract essentially establishes I guess a baseline of supply that will be available to the Company over the life of the contract. It will be necessary for the Company to at least have that amount of natural gas available. The price is great.

Therefore, the Commission, and in my opinion, on behalf of residential ratepayers, should approve the Settlement Agreement and the supply contract that goes along with it. That's all I have to say.

CHAIRWOMAN MARTIN: Thank you, Mr. Kreis.

Commissioner Goldner, do you have

any questions?

COMMISSIONER GOLDNER: None for Mr. Kreis.

CHAIRWOMAN MARTIN: Okay. Thank you.

Mr. Krakoff.

MR. KRAKOFF: Thank you, Chairwoman. I appreciate the opportunity to appear before the Commission today and appreciate the Commission's thoughtful analysis in this docket.

As the -- Liberty has the burden of proof in this docket and has attempted to make its case throughout these proceedings that the TGP agreement is in the best interest of its ratepayers. However, Liberty is essentially seeking approval of a TGP agreement even though it hasn't done its homework in providing the necessary analyses that are required for Commission approval. Given that Liberty has not conducted these crucial analyses, it has not met its burden of proving that the TGP agreement is just and reasonable, prudent, and in the public

interest, and the Commission must deny the petition.

Now, under New Hampshire's least cost integrated resource planning statutes, RSA 378:37 through 378:40, as well as the Commission's prior orders interpreting LCIRP statutes, a utility's general business planning is not divorced from and must align with the utilities' least cost integrated resource planning. Here, Liberty simply hasn't demonstrated in its petition and its filings that the TGP agreement complies with the LCIRP statutes or that the TGP agreement, you know, aligns with what is already filed in the LCIRP docket.

As I'd like to note, pursuant to the Commission's order from last week, CLF will be filing a brief next week that goes into some of these issues dealing with LCIRP statutes in a little more detail, the legal issues.

The LCIRP statutes establish a state energy policy of maximizing cost energy -- cost-effective energy efficiency,

and they require utilities to provide an assessment of demand-side energy management programs, including conservation, efficiency and load management programs. Here, the analysis provided by Liberty fails to assess the possibility of whether energy efficiency programs at or beyond the level of the 2021 to 2023 plan could reduce the need for the TGP agreement. As part of a least cost integrated resource planning process, Liberty is required not just to include an assessment of any energy efficiency programs already approved by the Commission pursuant to the EERS, but assess the extent to which energy efficiency programs could be least cost within the meaning of its resource planning. Liberty has failed to analyze the extent to which increased energy efficiency could reduce the need for the TGP agreement. You know, you -- and as Mr. Hill said, all these issues are related, you know, the energy efficiency plan, the least cost integrated resource plan, the supply contract. And to sort of silo or parcel these different

dockets and sort of ignore what's going on in other dockets, you know, doesn't make sense and is contrary to what the law suggests.

You know, similarly, Liberty has failed to analyze load management programs, such as demand response programs, as part of its petition. You know, while Liberty has largely been dismissive of the potential for demand response programs, you know, the fact that it's failed to consider these programs at all really represents or demonstrates the extent to which it hasn't met its burden of proof in this docket, showing that the TGP agreement contract is the least cost option for New Hampshire ratepayers.

Further, as Dr. Hill testified to a large extent, much of Liberty's forecasted demand is related to sales and promotional activities. The amount of Liberty's demand forecast that is attributable to sales and promotional activities is non-trivial and significant, as Dr. Hill pointed out. While Liberty seeks approval of the agreement in order to meet demand for projected future

customers, it has ignored the extent to which meeting these customers' needs with the proposed contract is the least cost option or in the best interest of ratepayers.

Liberty has also ignored the extent to which greater electrification and potential greenhouse gas regulation or legislation could affect New Hampshire. Liberty treats New Hampshire as though it's an island, unaffected by what is happening nationally, or even in our neighboring states. However, electric heat pumps as an alternative heat source are showing increasing uptake in Maine and Vermont. Liberty ignores the extent to which consumer preferences could change New Hampshire for electric heat pumps when switching from propane and fuel oil to other heating sources and the extent to which this could affect Liberty's projected demand. Liberty also ignores the possibility of mandatory greenhouse gas emissions reductions, either nationally or in New Hampshire in the future that could reduce its projected demands also.

While Liberty dismisses these concerns as too speculative, the proposed TGP contract has a duration of 20 years. As policymakers increasingly seek to pass legislation and regulation to address climate change, there's a high likelihood of changes to the energy markets in the next 20 years.

Additionally, while Liberty dismisses considerations regarding electrification and future greenhouse gas legislation and regulation as too speculative, its purported need for the TGP agreement is largely based on Liberty's sales and promotional efforts to add additional customers and Liberty's speculative assumptions that it will continue to experience a high growth rate of new customers. However, Liberty's assumptions regarding future growth without any analysis of likely changes to energy markets in the ensuing years is another example of its failure to do its homework to provide all the necessary analyses in seeking approval of this contract.

Another example of Liberty's failure to provide crucial analyses is its lack of environmental analysis for the TGP agreement. LCIRP planning requires utilities to provide an analysis of the environmental impacts of the TGP agreement; however, Liberty has failed to provide any such analysis, and particularly no analysis on the climate change impacts from the agreement.

Next, Liberty argues that the on-system enhancements that it suggests are needed for the TGP agreement are not relevant because Liberty does not seek Commission approval for such enhancements in this docket. However, Liberty's witness testified that without the on-system enhancements, it will be unable to enjoy the full benefits from the TGP contract.

Further, Liberty has not analyzed the stranded costs or the possibility of stranded costs that could result from these on-system enhancements and the risks that the 60-year depreciation schedule poses, you know, for ratepayers in terms of stranded

costs. While Liberty intends to recover costs for the on-system enhancements in a general rate case, these enhancements should be considered in the Liberty LCIRP docket. In fact, Liberty's LCIRP discusses a Concord Lateral option as an alternative to the now-abandoned Granite Bridge project. The Concord Lateral option discussed in the LCIRP docket is different from the on-system enhancements that are discussed here; whereas the LCIRP filings talk about upgrades or investments that will be conducted by TGP in reference to the Concord Lateral option, here, Liberty is proposing to undertake these investments itself. There have been no filings and no proceedings in the LCIRP docket that considered this change in what Liberty is now proposing.

Now, in framing its petition, Liberty discussed the TGP agreement in the context of the now-withdrawn or abandoned NED and Granite Bridge projects, which were admittedly much larger than what is being proposed here. But, you know, to some

extent, OCA and DOE's decision to enter into the Settlement Agreement with Liberty appear to somehow believe that, you know, the TGP agreement is preferable to the abandoned NED project and the abandoned Granite Bridge project. But just because this agreement is ostensibly preferable to those two proposed projects is not a reason to approve this agreement. New Hampshire's resource planning statutes are not guided by a least bad integrated resource planning standard. And merely because the TGP agreement may be preferable to the NED or Granite Bridge projects is not a reason for the Commission to approve the project. Rather, the Commission may only approve the project if it is the least cost integrated resource option. By not complying with the New Hampshire LCIRP statutes, Liberty has simply failed to meet its burden of demonstrating that the TGP agreement is the least cost option. It has not analyzed the potential for increased energy efficiency programs, load management programs, and it assumes that its projected

customers for the future will be best served by increased natural gas infrastructure. It has not analyzed the potential for increased electrification or greenhouse gas mandate reduction to reduce its projected demand and hence the need for the TGP agreement. It has not analyzed the environmental impact from the TGP agreement, nor the potential for the on-system enhancements it says is required to result in stranded costs.

In short, Liberty has not done its homework in completing the analyses that are required for approval of the TGP agreement. Therefore, Liberty has not met its burden of proving that the TGP agreement is just and reasonable, prudent, or in the public interest, and the Commission should reject Liberty's petition. Thank you.

CHAIRWOMAN MARTIN: Thank you, Mr. Krakoff.

Commissioner Goldner, any questions?

COMMISSIONER GOLDNER: Nothing for Mr. Krakoff.

CHAIRWOMAN MARTIN: Okay. And Mr. Dexter.

MR. DEXTER: Thank you, Chairwoman Martin. I probably should have said this when we were discussing exhibits. But maybe I'm stating the obvious. The only exhibit that the Department of Energy is proposing in this case is the testimony of Mr. Frink, who, as everyone knows, has retired. Had Mr. Frink not retired, he would be here to adopt his testimony in person, and then it would be admitted into the record as a full exhibit, as is the normal practice.

After Mr. Frink submitted his testimony, the Company put in rebuttal testimony. And in their rebuttal testimony, they agreed with much of what was in Mr. Frink's prefiled testimony. So when the Commission reviews the record and gives Mr. Frink's testimony the weight that it deserves, quote, unquote, I just wanted to point out the fact that, in Exhibit 4, Liberty's rebuttal testimony, they have agreed with many of the conclusions that Mr.

Frink puts forth in his testimony, thereby giving it, I believe, a little more weight than if they hadn't done that. Again, I probably should have brought this up when we were discussing exhibits. So, thank you for that opportunity.

Moving to the petition itself. The Department of Energy supports approval of the contract as presented, and we do so for a number of important reasons.

The Department of Energy agrees that there was a need identified in this docket. The Department of Energy agrees that this Tennessee Gas Pipeline contract will meet the need. And perhaps most importantly, the Department of Energy relies on the analysis that surrounds the flexibility of Liberty's portfolio. There was quite a bit of time today spent on the record talking about the ability to adjust the portfolio if the demand forecast that underlies the identified need turns out to be wrong. There's an opportunity, several opportunities, for Liberty to reduce its

contractual commitments and adjust its portfolio accordingly. This was discussed at length in Mr. Frink's testimony, and this was one of the points specifically that Liberty, in its rebuttal testimony, said they agreed with.

The Department of Energy supports the fact that this settlement does not preapprove the expected on-system investments. An important aspect of this non-preapproval is that these investments were allowed to be -- will be expected to be put in on an as-needed basis -- in other words, phased in, so that they're not built all at once before they're needed. And as we -- as everyone knows, in rate cases over the last half-decade or so, substantial attention is paid to the prudence of plant investments, both the decision to make those investments and the prudent implementation of the construction of those investments. And these will be treated no differently. They will receive the same scrutiny that other investments have in recent rate cases that

have taken place before the Commission. So we view that as an important aspect of the settlement, this non-preapproval. In fact, it's quite important to the Department of Energy.

This settlement also provides for sort of an information-gathering forum related to an issue that came up during the course of this case, which is customer complaints regarding the use of supplemental propane facilities. The Department of Energy did not find that there was enough evidence in the record of this case to make a determination as to whether or not this is a real issue or not and what its long-term impact might be on the supplemental propane facilities that the Company owns, nor was it particularly relevant to this decision. But this settlement does allow for a database of customer complaints and the circumstances behind those complaints to be accumulated and to be useful when, you know, the issue of whether or not supplemental plants need to be retired, when that comes up. So we believe

that's an important element of the settlement as well.

The Department appreciates the testimony of Dr. Hill in this case, and the case put on by Conservation Law Foundation. We fully agree that gas transportation and supply procurement is linked to least cost planning, as is energy efficiency. That's the way this whole thing was set up. We agree that there could be improvements to the demand forecast that underlines the identified need. In fact, Mr. Frink identified what he believed was the most important one in his testimony having to do with the database of weather, which underlies the demand forecast -- in other words, moving from a 37- to 40-year database to a 30-year database when developing a demand forecast. That issue is embodied into the settlement so that future demand forecasts will be based on the 30-year weather data and not the longer database. So, again, another important element of the settlement.

Whether or not the Company made the

correct choice in incorporating the first energy efficiency triennial and not projecting what the next triennial savings would come to be I guess is up for debate. You know, that second triennium has not been approved. We hope it will be. But it's not like the Company took out the first triennial savings. They simply froze them and included the first triennial level in the 20-year forecast. So is that the best way to do it? That's up for debate. The conclusion that the Department of Energy came to was that it wouldn't have affected this decision one way or the other. And that's actually the conclusion that the Company came to, and the Department of Energy agrees with that.

We fully agree that the potential for electrification, including heat pumps, is something that should be considered in future demand forecasts, as the information is developed. We do believe that the energy efficiency programs should be based on New Hampshire information. That's a position we've long taken in the energy efficiency

docket where possible. The local, specific information is the Department of Energy's preference when forecasting energy efficiency savings.

Having said all that, it is our position that approval of the settlement and therefore the contract is in the public interest, and we urge the Commission to approve the settlement and therefore approve the contract. Thank you.

CHAIRWOMAN MARTIN: Thank you, Mr. Dexter.

Commissioner Goldner, any questions?

COMMISSIONER GOLDNER: Nothing for Mr. Dexter.

CHAIRWOMAN MARTIN: Okay. And Mr. Sheehan.

MR. SHEEHAN: First I'd like to just hit a few random points that came up during the hearing to try to clarify. The first is what Mr. Dexter just referred to, and that is the provision in the Settlement Agreement to use 30-year weather data. And

the Chair asked a question a minute ago that seemed to confuse the 30-year weather data with the 20-year forecast. And if you look at Mr. Frink's testimony, he's got a Q&A about -- we didn't put into evidence today what the forecast was we had used and what's it changing to with the 30 years. Mr. Frink did. In his testimony, he does recite that... Exhibit 6, Bates 6, he talks about the heating degree day factor used to calculate design day demand is based on the average heating degree days for 1977 through 2016, 40 calendar years. Natural gas utilities commonly use the most recent 30-year average, which better reflects changes in the climate, close quote. Based on that, Mr. Frink recommended the change from the 40-year to the 30-year, with which the Company agrees. So that was the change, the 30-year change.

The 20-year forecast is the -- taking that demand plus all the other factors that go into a forecast of what our design day is. And we use 20 years to match the

20-year term of the contract. Could have used a 5-year, could have used a 40-year, but a 20-year term, that is somewhat related to the piece of Mr. Frink's testimony.

Second, Commissioner Goldner was asking some questions, I think trying to get an order of magnitude sense of the cost of this contract. And we just filed our cost of gas for EnergyNorth. It's got all the numbers in there. But at a high level, the capacity costs, the projected commodity costs, and all the other odds and ends that go into cost of gas is $80 million for this winter period. So that kind of puts that in context.

And so turning to the merits, with all parties supporting the agreement, except for CLF, I'll briefly respond to some of Mr. Krakoff's arguments. At a very high level, the critiques from CLF are that we didn't consider a number of things that would reduce our forecast, energy efficiency, electrification, et cetera.

What we did when we did a forecast,

which is following what the Commission has approved in the past and is well recognized as a very complicated, very detailed process, is we start with this econometric forecast, which is a sort of broadbrush look at what the experts think are going to happen in the economy, and came up with the impact of that on our demand. What we found was our actual demand is rising faster than that.

So we looked at what is it that's contributing to that. And that's why we came up with what's been a misnomer of the "sales and marketing out-of-model adjustment." We call it that because Liberty has a dedicated sales and marketing department that National Grid did not have, and they're very good. But the bottom line is we are getting more customers than the econometric forecast suggests we should. So we made that change to better account for what was actually happening to better predict the future. The important point of that, and I think Mr. Krakoff missed this, is the forecast we have phases out that sales and marketing

adjustment, if you will, over a few years. So we go back to the baseline econometric forecast. And Mr. Chico referenced that in his testimony. So at a high level, we are acknowledging that we are growing faster than maybe people would expect. We will continue that for a few years and then ramp back down to the normal, and that's what you see in our 20-year forecast.

And then you look at what actually has happened. Even from that forecast, we're growing faster than even the upwardly adjusted model. And there was no response to the fact that our actual design day demand is -- the actual usage is a higher demand, even though CLF claims it is an overly optimistic forecast suggested.

So we have done our homework. We looked at these things. We didn't do some of the detailed analyses that Mr. Krakoff asked about. But you heard several times today, and Mr. Kreis and Mr. Dexter supported this, that the portfolio can address that. So maybe we didn't predict a dramatic change in

demand over the next five years. But if it happens, this contract falls into a portfolio that will allow us to adjust.

The real merits of this case are that we have a need today for this capacity. We went over showing the design day deficiency starts now, the winter of 2021-2022. Without this contract, we would not be able to meet a design day. And that continues as that table showed. No one -- I should say the only party opposing, CLF, did not address that, did not address how we would meet it today without this contract. We do need it.

And as Mr. DaFonte mentioned, it is, in effect, a five-year contract. If we needed to back off, we could walk away from one of the other contracts. So we need it now. This need has been well established. The Commission basically acknowledged it in the docket -- we didn't get to hearing in Granite Bridge or the 2017 IRP. But the need is in those dockets, and the need was never seriously challenged. We had lots of

conversations about demand forecasts, but they were relatively minor pushes and pulls like you've heard today. And we all know this is the solution that finally rose to the top and is available.

I do have to respond to Mr. Kreis's Coca-Cola comment. This isn't Classic Coke coming back. This contract was never available. If it was available two years ago, five years ago, ten years ago, we would have jumped on it. When it became available, we did seize it and -- [connectivity issue]

[Court Reporter interrupts.]

MR. SHEEHAN: -- as described in the Granite Bridge litigation.

So we thank the OCA and the Department of Energy for working with us on this settlement. We appreciate their support for this contract. We think their support is well-reasoned, as is ours, for proposing it, and we ask the Commission to approve it.

CHAIRWOMAN MARTIN: All right. Thank you, Mr. Sheehan.

Commissioner Goldner, any questions

for Mr. Sheehan?

COMMISSIONER GOLDNER: I do have a record request.

CHAIRWOMAN MARTIN: Okay. Go ahead.

COMMISSIONER GOLDNER: So I think we're being asked today as a Commission to approve $40 million -- that's the $2 million per year times 20 years -- with a potential of $45 million down the road. So it's kind of an $85 million, potentially, $40 million for sure, and then $45 million down the road, with the contract adjustments notwithstanding on the other contracts. So, really, the request in my mind hinges on the demand. If the demand is flat, then one could argue there's no need for additional capacity. If the demand is going up, as the Company forecasts, then it appears that the additional capacity is needed.

So my request would be, if we look at Bates Page 41 of Exhibit 8, the chart that shows, in this case, National Grid, my request would be to do the same or similar

chart for Liberty, looking at really two things: One is the history going back to 2012 with peak load and also look at what I'll call the average load, but look at both of those numbers, and then what the Company forecasts the need is moving forward. So that gives us a basis -- it gives the Commission basis in history going back in time and saying, okay, this is what it's looked like over the last, you know, ten years or so, nine years, and here's our 20-year forecast. And that gives us kind of a good view of what the total picture looks like.

And then underneath that, I'd request just sharing the number of customers in that time period -- so, again, 2012 to present -- and then the forecast, how many customers are you forecasting and their average load. And that allows us to kind of put the whole picture together and see what both the past looks like and how that projects into the future as a big picture sort of view. That's my record request.

MR. SHEEHAN: Sure. If I could ask some questions to make sure I understand it.

So the chart you're looking at, that's at what Bates page?

COMMISSIONER GOLDNER: Sorry. That's at Exhibit 8, Bates 41.

MR. SHEEHAN: I'm also going to pause to see if my e-mail links up with questions from the smart people behind me, to make sure I get this right.

(Pause)

MR. SHEEHAN: Okay. So the chart on 41 has historical growth of nine -- well, in this case, from 2010 through 2020. So you want to see historical growth and design day back to 2012, when Liberty took over, okay, and into the future. Into the future, we already have -- we can combine them.

COMMISSIONER GOLDNER: Thank you.

MR. SHEEHAN: And on top of that you want to see customer number growth for the same time period. Okay.

COMMISSIONER GOLDNER: And the forecast as well. So, both history and

forecast as well.

MR. SHEEHAN: And what was the last piece of it?

COMMISSIONER GOLDNER: It would just be the calculated value, meaning average load per customer. We could calculate that if you give it to us in a table versus a graph. So in other words, you've got a load number, design day, got the number of customers and then calculated value. So if you give us a graph, sometimes it's a little hard to read, which I like graphs, but a table we could do the calculations. So maybe if you could give us both, just graphical and then the numbers, we can do our own calculations. So that would be fine, number of customers by year.

And then you have peak load on this chart. But if you've also got what I'll call the average load, that would be very helpful.

MR. SHEEHAN: Okay. So the peak load would be the -- let's assume our design day demand is 100, and we have 100 customers. The peak load would be one per customer.

COMMISSIONER GOLDNER: Correct.
MR. SHEEHAN: Divided by hundred --
COMMISSIONER GOLDNER: Correct.
MR. SHEEHAN: In addition, you'd like to know the average load. So we normally keep track of customer usage. Now, we keep that by various categories. You're looking for an overall --
COMMISSIONER GOLDNER: Just overall.
MR. SHEEHAN: Residential versus C&I.
COMMISSIONER GOLDNER: Those two categories would be great. Probably not helpful to merge them.
MR. SHEEHAN: If we could take, when we're done, a five-minute break so I can, like I said, confer with my people who are actually going to prepare this, 'cause they may have questions to clarify further.
COMMISSIONER GOLDNER: Okay.
CHAIRWOMAN MARTIN: Okay. I think it might make sense for us to take that break so you could do that before I restate what I

think you all have agreed to for the sake of our clerk. All right. Let's take a five-minute -- oh, Mr. Dexter has his hand up. Just a minute.

MR. DEXTER: Yes. And I'm truly trying to be helpful here. I want to understand the record request as well. And if the Company objects to my question, I understand, 'cause they're going to be answering it and not me.

But I'm looking at this chart, and I don't know if to the left of today, which is the historic, if the Commissioner is asking for what was forecasted for design day demand at that time. Or are you asking what was the actual design day during the historic period? Because when you're looking backwards, you have the benefit of history.

COMMISSIONER GOLDNER: Thank you, Mr. Dexter. I'm looking for the actual. And the best measure of future performance is past performance. So if we're looking at the actuals, it helps us, gives us confidence into the future forecast.

MR. DEXTER: And as a follow-up, because Mr. DaFonte raised this -- and again, if I'm out of line here, I'll be quiet -- but you don't hit a design day every year. He did say something today about, well, we would have to calculate that. And I'm just not sure if that's going to be captured in your request. Because every year -- as he said, we haven't hit a design day, I think he said, in ten years or something.

COMMISSIONER GOLDNER: Yeah. I think what I'm asking for, and I'm hopeful, is that I'm looking for the peak, the peak load. So my interpretation of design day is that it equals peak load. And so I'm looking for the actual peak each year because that's what the Company has to design for.

MR. SHEEHAN: So to clarify, the design day is the worst day we could ever imagine based on a 30-year average. And that's different than the peak each year, because we don't hit the peak every year. And as you know, it's measured in heating degree days, which I think is the degrees

above zero or ten or below -- no, I think it's like 60 degrees Fahrenheit is the heating degree days, and it's 70-something. So in any given winter, we may have a worst day of maybe 52 or 65. Those would be the annual peaks.

So with that probably not entirely accurate statement, what is it you want to see that --

COMMISSIONER GOLDNER: Yeah, I think what I'm trying to get at, the Company has to plan around a peak load. And so there is an actual peak load every year, regardless of what the Company designed for. And so I'm looking to understand what the peak load actually was. So as we move into the future, maybe -- let me give you a quick example.

It might have been in 2015 you had a peak load that was twice any other year. That's important data because that tells us that your design day plans in the future have to accommodate the crazy spike. If, however, the peak load is always a third of whatever your forecast is, that calls into question

the forecast. So what I'm really looking for, I think, is the actual peak load in each of those years.

MR. SHEEHAN: We can do that. And to clarify, the design day, what we think is the worst day, is not a prediction. It is a calculation of what's happened in the past, as far as heating degree days go, if you look at the past 30 years, what the worst day is. And then we do math to see how much -- with the number of customers we have, how much gas we need.

So, again, I'll call my folks, and maybe we'll work on a draft of this request and run it by you folks to make sure that --

COMMISSIONER GOLDNER: Thank you.

CHAIRWOMAN MARTIN: That might help. All right. So is five minutes enough?

MR. SHEEHAN: Sure.

CHAIRWOMAN MARTIN: Okay. We'll come back a little after 4:10. Off the record.

(Brief recess was taken at 4:07 p.m., and the hearing resumed at 4:21 p.m.)

CHAIRWOMAN MARTIN: All right. Let's go back on the record.

Mr. Sheehan, you were working on the record request. Can you update us on what you have or any questions?

MR. SHEEHAN: Sure. Here's how we drafted it.

(Discussion off the record.)

CHAIRWOMAN MARTIN: Go ahead.

MR. SHEEHAN: "Please provide the total normalized/actual annual load." Normalize is so you can see -- actual loads will vary greatly by weather. By normalizing, you can see -- [connectivity issue]

[Court Reporter interrupts.]

MR. SHEEHAN: -- the variations year to year. You can see them without the variations year to year, apples to apples.

And actual customer numbers for the years we first had Liberty data, 2012 winter through the present, those would be actual, and into the future would be forecast.

And also provide the design day

forecast for all of those years. In prior years, we do a design day forecast every year. So for this winter, we have good data. It's a good -- [connectivity issue] -- updated. So it's really not an actual. It's a timely forecast. And in the future it will be what's already in the file. And we can combine those.

Does that get what you need?

COMMISSIONER GOLDNER: Yes, I think so. I think you were also going to count it by C&I and residential --

MR. SHEEHAN: We can do that.

COMMISSIONER GOLDNER: Just to make sure I understood, will you be able to provide the actual load design day information? Having the forecast part is very useful. I didn't ask for that before, but I appreciate that. That's helpful. The actual peak load on top of that would be very helpful.

MR. SHEEHAN: So the -- [connectivity issue]

[Court Reporter interrupts.]

MR. SHEEHAN: So you want a particular day each year, our highest load today was X --

COMMISSIONER GOLDNER: Yes. So thank you. So, for example -- [connectivity issue]

[Court Reporter interrupts.]

COMMISSIONER GOLDNER: So, for example, in 2012, the coldest day might have been January 13th, and in 2013, the coldest day might have been March 2nd, and then just -- so just the single highest day each year, that would be very helpful.

MR. SHEEHAN: Okay. It will be a date and will be number of therms for that day.

COMMISSIONER GOLDNER: Thank you. Thank you very much.

MR. SHEEHAN: And for my folks online, send me a note if you have any further follow-up.

(Pause)

CHAIRWOMAN MARTIN: Ms. Borden, do you have any questions about that? Were you

able to capture it?

HEARING CLERK: I think I got it.

Thank you.

CHAIRWOMAN MARTIN: Okay.

MR. SHEEHAN: I'll be happy to write it up and file it as an unanswered question today, and then we'll answer it with the information.

HEARING CLERK: That would help.

MR. SHEEHAN: And if it's wrong, you can tell us.

HEARING CLERK: Thank you.

MR. DEXTER: Will that write-up be in the docket that will be submitted so that we all can see it?

CHAIRWOMAN MARTIN: Absolutely.

MR. SHEEHAN: Sure. "At today's hearing, the Commission made the following request record which the Company will answer."

MR. DEXTER: Thank you.

MR. SHEEHAN: Since we have a briefing schedule, we can probably get it sometime next week, okay.

CHAIRWOMAN MARTIN: Yes, end of next week I believe would be fine.

MR. SHEEHAN: Okay.

CHAIRWOMAN MARTIN: So we'll have it in the time frame for the briefing.

Okay. Anything else before we wrap this up?

[No verbal response]

CHAIRWOMAN MARTIN: I don't see anyone putting their hands up. So with that, we will close the record, other than the further record request, and adjourn this hearing for today. Thank you everyone. Have a good rest of the day. Thank you.

(Whereupon the hearing concluded at 4:27 p.m.)

C E R T I F I C A T E

I, Susan J. Robidas, a Licensed Shorthand Court Reporter and Notary Public of the State of New Hampshire, 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.

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## D