

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24

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

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24

I N D E X

WITNESS PANEL: FRANCISCO C. DaFONTE
DEBORAH M. GILBERTSON

PAGE

QUESTIONS BY COMMISSIONERS:

By Commissioner Goldner 3

By Chairwoman Martin 28

* * * * *

WITNESS: DAVID G. HILL

Direct Examination by Mr. Krakoff 39

Cross-examination by Mr. Venora 82

QUESTIONS BY COMMISSIONERS:

By Chairwoman Martin 87

Redirect Examination by Mr. Krakoff 91

CLOSING STATEMENTS: 97

By Mr. Kreis 97

By Mr. Krakoff 103

By Mr. Dexter 113

By Mr. Sheehan 119

* * * * *

EXHIBITS PAGE

20 Held for Record Request 135
by Commissioner Goldner

NOTE: Exhibit 16 withdrawn by agreement of parties.

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

4 A. (DaFonte) Right. So Table 1 is annual
5 volumes, so that's why you see larger
6 numbers. They're in the same -- it's still
7 dekatherms, so it's 14 million. For example:
8 In Updated Base Case on Table 1, '17-'18 is
9 14 million. The Figure 1 that you were
10 referencing, that is just on the design day,
11 and that really is what we plan for.

12 I can tell you that for, I believe
13 2011-2012 through 2019-2020, our compounded
14 annual growth rate is about 1.4 percent,
15 roughly.

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

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

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

2 CHAIRWOMAN MARTIN: Maybe Exhibit 6
3 or 7?

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

7 COMMISSIONER GOLDNER: You're
8 right. Thank you.

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

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

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

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

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

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

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

17 Q. Okay. Thank you.

18 If we turn to your testimony on
19 Bates 15, if you were to look at, say the
20 2012 or 2015, pick a time period
21 historically, can you share what that design
22 day forecast would have looked like in some
23 historical time period? I realize you have
24 some daily numbers on Bates 16 that goes back

1 to 2017-2018. I'm just looking to go a
2 little farther back to get maybe a better
3 perspective. If you're forecasting forward
4 20 years, you would just want to look
5 backward, you know, five or ten to get some
6 perspective.

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

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

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

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

6 A. (DaFonte) Right. So the Table 1 on Bates 16,
7 that's looking at the annual volume. So it's
8 not an apples-to-apples comparison with
9 Figure 1, which is the design day demand. I
10 mean, they're correlated pretty much, but
11 it's not apples to apples. I said that we
12 experienced something on the order of a
13 2.4 percent compounded annual growth rate
14 since 2011-2012 on an annual basis. And I
15 think the design day which is in Figure 1,
16 has been very close to that. It's usually
17 slightly lower than that, but it's in that
18 ballpark.

19 Q. Okay. So if I look at Figure 1 and I look
20 backwards, we would decrement that by about
21 2.4 percent per year, on average,
22 understanding it changes each year. Looking
23 forward, what growth rate does that compute
24 to in Figure 1?

1 A. (DaFonte) It's about 1.4 percent.

2 Q. So you have about half of the growth rate
3 moving forward as you have had in the past;
4 is that right?

5 A. (DaFonte) Yes, definitely less. But again,
6 2.4 percent annual growth rate, which is on
7 Page 14 -- or Bates 14, if you look at the --
8 this is Lines 17 and 18, or 17 through 19.
9 It does show the split-year annual demand
10 increase of 2.4 percent. Now, that's, you
11 know, the annual demand; whereas, what we're
12 talking about here is the design day that's
13 forecasted to increase by 1.4 percent, as I
14 mentioned.

15 Q. Let me ask you about translating this
16 contract with Tennessee into dollar terms. I
17 know it's 40K dekatherms. I know it's 14
18 cents. Can you help me do the mathematics to
19 determine that in an annual dollar number? I
20 get about \$2 million a year. Is that
21 correct, or am I --

22 A. (DaFonte) You are absolutely correct.

23 Q. Thank you. So I just want to put this in
24 dollar terms for what Liberty is asking the

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

8 A. (DaFonte) Yeah, I think I need to explain
9 that. This contract is for a 20-year period,
10 so it would be the 2 million for 20 years.
11 In five years, we have the ability to
12 terminate a similar contract that has the
13 same receipt point at Dracut. It's the same
14 rate. And we can terminate that. And that's
15 20,000. So if you look at that one, you
16 know, that 20,000 equates to about a million
17 a year. So you basically could reduce that
18 two million, which today is -- you know, if
19 this goes into effect, you have two million
20 for the new one and about a million for the
21 existing one. So that's three million in
22 total for your portfolio. We could reduce in
23 five years that 20,000 or terminate it. So
24 you would reduce the three million that's in

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

17 Q. Yeah. Thank you. I want to try to establish
18 if you have \$2 million fixed costs, and then
19 you've got let's say five days, five to
20 ten -- let's just use five at, you know,
21 100,000 a dekatherm -- or about \$100 a
22 dekatherm, rather. I'm just trying to do the
23 math. Is this going to be, you know,
24 10 percent of the cost of those five days?

1 Is it going to be half the cost of those five
2 days? I'm just trying to establish how much
3 we're really talking about approving here,
4 \$2 million as it relates to the total price
5 that a customer would pay.

6 A. (DaFonte) Yeah. So, you know, if it's \$100
7 per dekatherm, and if you fill up the entire
8 40,000, that's \$4 million right there. So,
9 you know, that's something, you know, we
10 certainly can't control, the pricing. But
11 that's essentially what we would have to pay.

12 Now, as I said, we also have another
13 50,000 from Dracut. So that would be no
14 different; we would still have to buy for
15 those existing contracts at Dracut. And, you
16 know, again, the price there could be \$100,
17 could be more than that. Those are things
18 that, you know, we try -- you know, we'll try
19 to mitigate. There may be more hedging that
20 has to be done, where we hedge the basis for
21 New England and for our contracts, which we
22 do today for a portion. But it may be
23 something that we'd have to look at and
24 increase that amount so that we're not

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

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

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

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

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

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

17 A. Okay.

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

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

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

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

1 EIA. There's no growth forecasted in the gas
2 industry in that time period. Liberty, I
3 know, has a forecast that you mentioned of
4 1.2 percent planned.

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

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

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

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

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

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

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

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

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

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

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

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

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

9 A. (DaFonte) That's correct.

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

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

24 So I think, as I was explaining earlier,

1 in our forecast we simply carry the Triennial
2 Plan that was approved in 2018 at
3 .67 percent, for example, for residential.
4 We just carry that energy efficiency benefit,
5 which would be the demand reduction, that
6 percentage right through the forecast period.
7 And the same would apply for the C&I
8 customers.

9 Q. Okay. So very good. So if I look at
10 historical time periods, 2017, 2018, 2019,
11 2020, residential energy efficiency savings
12 go between .58 and .67 percent. Those are
13 actuals on residential. And for C&I, it
14 varies between .81 and .90. Those are the
15 energy efficiency savings that you've seen
16 historically? Those are actuals?

17 A. (DaFonte) Correct.

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

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

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

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

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

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

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

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

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

1 CHAIRWOMAN MARTIN: All right.

2 Thank you.

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

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

10 CHAIRWOMAN MARTIN: All right.

11 BY CHAIRWOMAN MARTIN:

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

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

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

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

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

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

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

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

18 A. (DaFonte) Correct.

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

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

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

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

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

24 Q. Is there the ability to terminate or

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

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

12 Q. Okay. Understood.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

20 Q. Okay. Thank you.

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

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

8 A. (DaFonte) All right. So just to clarify
9 that, you know, as I said, that 40,000 will
10 be included as part of our operational
11 balancing with Tennessee. So Tennessee will
12 recognize that we have this incremental
13 40,000. Of course they will continue to
14 monitor whether we're staying within their
15 two percent tolerance, for example, on
16 critical days. But overall, it does add
17 40,000 to our portfolio over the next five
18 years of deficiency. And as we implement
19 these on-system enhancements, it doesn't
20 really change the relationship between
21 Tennessee and Liberty, in terms of what their
22 obligation to deliver is. What it does do is
23 it allows that 40,000 to actually get to the
24 parts of our distribution system where we

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

11 Q. Okay. Thank you.

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

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

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

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

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

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

1 any other questions.

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

4 MR. SHEEHAN: No. Thank you.

5 CHAIRWOMAN MARTIN: All right.
6 Thank you.

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

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

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

18 DAVID G. HILL, SWORN

19 DIRECT EXAMINATION

20 BY MR. KRAKOFF:

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

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

1 Q. And Dr. Hill, could you just briefly explain
2 who you work for.

3 A. (Hill) I work for Energy Futures Group, which
4 is a consulting firm based out of Hinesburg,
5 Vermont. We currently have 12 employees,
6 with offices in Massachusetts; Canton, New
7 York; and some folks working remotely in
8 Denver and California as well. EFG was
9 founded in 2010 and works across a range of
10 issues, currently a fair amount on gas system
11 planning and gas system investment. I'm
12 currently working as a technical consultant
13 for the Vermont Climate Council on the
14 development of the Vermont Climate Action
15 Plan. And we participate both on analysis
16 and then on regulatory hearings in electric
17 and gas cases around the country.

18 Q. And I think we recognize this isn't your
19 first time appearing before the Commission;
20 correct?

21 A. (Hill) I also -- that is correct. I provided
22 testimony on behalf of Clean Energy New
23 Hampshire in the Triennial Plan hearings.

24 Q. Okay. And Dr. Hill, you have experience in

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

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

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

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

16 A. (Hill) I did.

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

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

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

1 participation in demand response and obtain a
2 20 percent system-wide design day savings
3 from DR alone, from demand response alone.

4 My point on demand response was intended
5 to mean that it's a legitimate option which
6 should be considered in relation to new
7 supply contracts or system enhancements. But
8 expecting 100 percent participation with
9 20 percent customer savings for all
10 participants was kind of misstated there. So
11 I'd like to correct that.

12 Q. And on --

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

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

18 WITNESS HILL: Sure. So on Lines
19 17, 17 to 18, and then also on Lines 8 and 9,
20 those can be read to imply that I was
21 suggesting that a 20 percent system-wide
22 savings from demand response alone was
23 available, and that's not the intent.

24 CHAIRWOMAN MARTIN: Okay. To

1 clarify, is that Bates Page 14?

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

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

10 WITNESS HILL: Yeah. Thank you.

11 BY MR. KRAKOFF:

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

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

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

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

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

1 Bates 8, you reference Docket Number DG
2 17-198 in reference to the LCIRP docket. Was
3 that the correct docket number?

4 A. (Hill) I think that -- no. It should be DG
5 17-152 is the LCIRP and DG 17-198 was Granite
6 Bridge.

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

9 A. (Hill) No.

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

13 A. (Hill) Yes, they are.

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

18 A. (Hill) I do.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

24 When you were sort of making your

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

5 A. (Hill) Yeah. I was more familiar with the
6 original filing. And the point being that,
7 you know, in that original filing, if I'm
8 recalling correctly, there's -- I mean, the
9 efficiency programs that Liberty evaluated
10 and proposed as part of the Triennial Plan
11 were cost-effective. Very cost-effective.
12 They had a Granite State test result of over
13 2.0, meaning that, you know, they're
14 providing \$2 of benefit from the Granite
15 State cost test as opposed to every dollar of
16 cost -- so more than to a two-to-one benefit
17 ratio -- and the savings levels were higher
18 than what's being included in this demand
19 forecast. Again, you know, I've heard some
20 of the discussion from Mr. DaFonte and others
21 that, well, if the new plan is updated, then
22 we'll incorporate that. But the Company's
23 only analysis that there are cost-effective
24 levels of efficiency that they can be

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

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

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

5 Q. Now, earlier Mr. DaFonte testified about, you
6 know, basically how, when Liberty created its
7 models, they sort of -- they assumed that the
8 energy efficiency savings would be equal to
9 2020 levels from 2021, you know, going
10 forward. And, you know, Commissioner
11 Goldner, he asked a few questions, too, about
12 one of the exhibits, you know, that kind of
13 showed sort of, you know, how Liberty was
14 sort of keeping those numbers equal to 2020
15 levels after 2020. Do you agree with that
16 approach?

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

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

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

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

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

13 Q. So in other words, you know, if I could
14 summarize -- and correct me if I'm wrong --
15 but, you know, are you saying that Liberty
16 should look at savings from both the 2021 and
17 2023 plan that hasn't been approved yet, as
18 well as, you know, other savings that could
19 go beyond that?

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

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

1 of these dimensions.

2 Q. And earlier, Mr. DaFonte, you know, he said
3 something to the effect that, you know, the
4 effects of the 2021 to 2023 Triennial Plan,
5 which hasn't been approved yet, you know, the
6 effects of that plan on design day demand,
7 you know, would be immaterial or
8 insignificant. And Commissioner Goldner
9 asked Mr. DaFonte a few questions about that,
10 specifically Exhibit 14. Do you have any
11 critiques of that statement by Mr. DaFonte?

12 A. (Hill) The Triennial Plan did not, to my
13 recollection -- I don't think that the
14 Triennial Plan specified -- went into a great
15 amount of detail on the design day impacts of
16 the efficiency savings. I think that there
17 are -- you know, just structurally, that a
18 cost-effective efficiency program, and if
19 it's sustained, is not having -- is having a
20 di minimus impact on the design day load does
21 not strike me as a reasonable kind of
22 conclusion.

23 I think that if you look at, you know,
24 any one element made by itself alone, not be

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

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

1 A. (Hill) I think that that would be good
2 practice for planning, yes. I don't think
3 that the planning needs to be restricted only
4 to what has been approved.

5 Q. Now, earlier you recognized that you'd made
6 an unrealistic assumption in your discussion
7 about demand response and, you know,
8 recognize that Mr. DaFonte might have been
9 correct that, you know, a hundred percent
10 participation rate in such a program is
11 unrealistic.

12 A. (Hill) Yup.

13 Q. You know, do you still see a potential for
14 demand response programs to reduce design day
15 demand, despite --

16 A. (Hill) Yes.

17 Q. -- you know, your mistake?

18 A. (Hill) Yeah. No, absolutely. And that's
19 based on, you know, Mr. DaFonte and
20 Mr. Killeen both recognize that, you know,
21 there's an increasing number of gas demand
22 response and load management-type programs.
23 They can take advantage of, it can be
24 tariffs, it can be direct control, and it can

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

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

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

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

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

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

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

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

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

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

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

1 providing heat.

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

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

1 econometric data, historic data. This is
2 relatively new. That is -- I think it's very
3 fundamental as an alternative to gas space
4 heating and water heating. There are also
5 heat pump water heaters that should be
6 considered by the Company. You know, the
7 questions about the numbers that we provided,
8 say from the exhibit that has numbers from
9 Efficiency Vermont and Efficiency Maine, on
10 historic heat pump installations that say in
11 the last five years in both states have more
12 than quadrupled and were into, I think,
13 20,000 for Maine and 10,000-plus for Vermont
14 this year --

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

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

20 Q. I believe it's 19, yes.

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

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

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

16 That's important for the gas company, I
17 mean for the gas industry, you know, even
18 more broadly. That's important for planning
19 and what is the best and highest value use
20 for existing gas assets, you know, how do we
21 plan for energy planning broadly. And so to
22 dismiss or say it's too early, I would say in
23 2021 in New England, with the current market
24 conditions, it's not too early for companies

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

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

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

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

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

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

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

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

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

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

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

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

1 a few minutes if this is an okay stopping
2 point.

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

8 (Discussion off the record)

9 BY MR. KRAKOFF:

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

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

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

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

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

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

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

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

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

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

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

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

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

1 resource planning docket?

2 A. (Hill) Yes.

3 Q. And Liberty's kind of -- you know, I
4 discussed earlier, asked Mr. DaFonte
5 questions about it -- but Liberty's proposing
6 a 60-year depreciation schedule for those
7 on-system enhancements. Is that concerning
8 at all to you?

9 A. (Hill) I think that that -- I mean, what that
10 means is then there's potential -- say demand
11 is reduced or is -- you know, that there's a
12 potential for stranded costs for that or
13 for -- I mean, that's recovering those costs
14 from ratepayers over a very long time. And
15 there may be structural shifts that will
16 significantly reduce demand in that time
17 period. So other proceedings and analyses
18 have supported and recommended that shorter
19 depreciation periods are used to analyze both
20 the rate impacts and the period over which,
21 you know, any new capital investments in gas
22 infrastructure are recovered.

23 Q. Okay. Just want to ask you a question about
24 Exhibit 10. And this was -- Exhibit 10,

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

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

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

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

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

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

10 Q. Okay. And then --

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

14 BY MR. KRAKOFF:

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

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

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

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

1 preapproval by the Settling Parties of the
2 prudence of any such on-system enhancements.
3 Does that statement there address any of your
4 concerns?

5 A. (Hill) Yes, partially, I think, but -- yeah.

6 Q. But I mean do you think that's a substitute
7 for sort of more --

8 A. (Hill) I don't think it substitutes. But I
9 think it -- you know, it would be very
10 concerning if it did imply preapproval. But
11 it's not a substitute.

12 Q. Do you think it's a substitute for
13 incorporating into the least cost integrated
14 resource planning process?

15 A. (Hill) That or something that looks at the
16 alternatives at a depth that would be
17 commensurate with that, yeah.

18 Q. And the Settlement Agreement doesn't do that;
19 correct?

20 A. (Hill) Yup. Right.

21 MR. KRAKOFF: Okay. I have nothing
22 further for Dr. Hill.

23 CHAIRWOMAN MARTIN: All right. We
24 will take a ten-minute break to about, well,

1 2:55.

2 (Brief recess was taken at 2:43 p.m.,
3 and the hearing resumed at 3:03 p.m.)

4 CHAIRWOMAN MARTIN: Okay. Thank
5 you. Let's go back on the record.

6 Mr. Kreis, do you have any
7 cross-examination?

8 MR. KREIS: I have no questions for
9 Mr. Hill.

10 CHAIRWOMAN MARTIN: Okay. Thank
11 you.

12 And Mr. Dexter.

13 MR. DEXTER: No questions.

14 CHAIRWOMAN MARTIN: Mr. Sheehan.

15 MR. SHEEHAN: Mr. Venora has a few
16 questions for Dr. Hill.

17 CHAIRWOMAN MARTIN: Okay. Go
18 ahead, Mr. Venora.

19 MR. VENORA: Yeah, thank you. Dan
20 Venora from Keegan Werlin, on behalf of
21 Liberty.

22 CROSS-EXAMINATION

23 BY MR. VENORA:

24 Q. Dr. Hill, just a few questions for you. And

1 I'm going to refer to your testimony, which
2 is marked as Exhibit 8. Do you have that
3 handy?

4 A. (Hill) I have No. 9 open. So I can --

5 Q. Yeah, and actually that won't matter. That's
6 fine. It's just on Page 1 of your testimony.

7 A. (Hill) Yeah.

8 Q. Page 1, Bates 2, Lines 18 to 20. You're
9 talking about your company, EFG, and you
10 state that it's a clean energy consulting
11 firm that designs, implements and evaluates
12 programs and policies to promote investments
13 in efficiency, renewable energy, other
14 distributed resources, and strategic
15 electrification. Do you see that?

16 A. (Hill) Yeah.

17 Q. And can I read this to mean that your
18 business objective is to support and advocate
19 for clean energy initiatives?

20 A. (Hill) Yes.

21 Q. Okay. And on that same page, Line 21, you
22 said that EFG staff have delivered projects
23 on behalf of energy regulators and others.
24 Do you see that?

1 A. (Hill) I do.

2 Q. And just so I'm understanding it correctly,
3 when you say you have delivered projects, are
4 you essentially talking about work
5 assignments for business clients as opposed
6 to what we might think of as project
7 development?

8 A. (Hill) Yeah. Thank you for that
9 clarification. We're a consulting firm.

10 Q. Okay. Thank you. And is it correct to
11 conclude that your primary business
12 background has been in the area of promoting
13 energy efficiency and demand response?

14 A. (Hill) Yes, my personal background has had
15 quite a bit of renewable energy as well.

16 Q. And in your work experience, Dr. Hill, have
17 you ever worked in a gas supply planning or
18 procurement department for a natural gas
19 utility?

20 A. (Hill) I have not.

21 Q. Have you ever worked or served in any
22 professional capacity that had responsibility
23 for ensuring that customers you are serving
24 have uninterrupted gas to keep their heat on

1 in the winter months?

2 A. (Hill) No, I have not.

3 Q. Okay. In your experience, have you ever
4 negotiated a pipeline transportation contract
5 for a natural gas utility?

6 A. (Hill) No, I have not.

7 Q. Have you ever negotiated a commodity contract
8 for a natural gas utility?

9 A. (Hill) I have not.

10 Q. Dr. Hill, in your experience, does CLF have
11 any legal or ethical obligation to provide
12 safe and reliable natural gas service to New
13 Hampshire customers?

14 A. (Hill) Not that -- no, it does not.

15 Q. Okay. And to your knowledge, I believe I
16 heard you testify that, in contrast, the
17 Company does have an obligation to provide
18 safe and reliable natural gas service; is
19 that correct?

20 A. (Hill) Yes.

21 MR. VENORA: Thank you, Chairwoman
22 Martin. Those are all of our questions.

23 CHAIRWOMAN MARTIN: All right.
24 Thank you, Mr. Venora.

1 Commissioner Goldner, do you have
2 questions?

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

11 [Court Reporter interrupts.]

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

20 WITNESS HILL: Okay.

21 COMMISSIONER GOLDNER: That's all.

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

1 knowledge?

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

5 MR. KRAKOFF: Thank you.

6 CHAIRWOMAN MARTIN: Okay.

7 QUESTIONS BY COMMISSIONERS:

8 BY CHAIRWOMAN MARTIN:

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

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

1 Q. Give me one second.

2 A. (Hill) Did I answer -- I'm not certain I
3 heard accurately all of your question. So if
4 I didn't respond appropriately, please --

5 Q. So what I'm trying to get at is, as I
6 understand it, this contract is based upon
7 the 20-year data, and the Settlement
8 Agreement requires the Company to provide the
9 30-year data in its next LCIRP filing.

10 A. (Hill) For the LCIRP, yes.

11 Q. Right. And so I'm trying to understand from
12 you if you believe that that is a significant
13 issue related to this contract, the 20-year
14 data?

15 A. (Hill) No, I don't think that that's as
16 significant as the other things we've
17 discussed.

18 Q. Okay. Thank you.

19 We heard Mr. DaFonte mention the
20 "snapback" response, and I also heard you
21 mention it briefly. But what is your
22 response to Mr. DaFonte's testimony related
23 to the snapback response following demand
24 reduction efforts?

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

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

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

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

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

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

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

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

11 REDIRECT EXAMINATION

12 BY MR. KRAKOFF:

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

18 A. (Hill) That's correct.

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

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

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

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

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

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

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

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

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

18 A. (Hill) Yes.

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

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

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

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

16 [Court Reporter interrupts.]

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

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

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

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

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

12 [Court Reporter interrupts.]

13 MR. SHEEHAN: The on-system
14 enhancement project consisting primarily of
15 pipes and related hardware, if you will, is
16 60 years. We don't dispute that, as approved
17 in the 2017 rate case.

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

22 MR. SHEEHAN: Yes.

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

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

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

5 CHAIRWOMAN MARTIN: Okay. Then
6 without objection, we will strike I.D. on
7 Exhibits 1 through 15 and 17 through 19,
8 although I will note that Exhibit 6 and 7
9 have not been adopted, as required by RSA
10 541-A:33 and therefore will be given the
11 weight they deserve, and we will admit them
12 all as full exhibits.

13 Anything else?

14 [No verbal response]

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

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

24 As I was listening to -- well, let

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

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

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

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

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

7 I look at what the Company is
8 actually asking for in this petition, and the
9 Company invoked RSA 374:1, RSA 374:2 and RSA
10 374:7 [sic]. RSA 374:1 simply gives the
11 Commission the authority to oversee
12 utilities, and the other two statutes
13 basically require the Commission to make sure
14 that charges are just and reasonable. So
15 what the Company is asking you to determine
16 is that its contract with the Tennessee
17 Natural Gas Pipeline is prudent and
18 reasonable. And I think the record adduced
19 at today's hearing demonstrates that it is.

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

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

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

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

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

22 CHAIRWOMAN MARTIN: Thank you, Mr.
23 Kreis.

24 Commissioner Goldner, do you have

1 any questions?

2 COMMISSIONER GOLDNER: None for Mr.
3 Kreis.

4 CHAIRWOMAN MARTIN: Okay. Thank
5 you.

6 Mr. Krakoff.

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

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

1 interest, and the Commission must deny the
2 petition.

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

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

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

1 and they require utilities to provide an
2 assessment of demand-side energy management
3 programs, including conservation, efficiency
4 and load management programs. Here, the
5 analysis provided by Liberty fails to assess
6 the possibility of whether energy efficiency
7 programs at or beyond the level of the 2021
8 to 2023 plan could reduce the need for the
9 TGP agreement. As part of a least cost
10 integrated resource planning process, Liberty
11 is required not just to include an assessment
12 of any energy efficiency programs already
13 approved by the Commission pursuant to the
14 EERS, but assess the extent to which energy
15 efficiency programs could be least cost
16 within the meaning of its resource planning.
17 Liberty has failed to analyze the extent to
18 which increased energy efficiency could
19 reduce the need for the TGP agreement. You
20 know, you -- and as Mr. Hill said, all these
21 issues are related, you know, the energy
22 efficiency plan, the least cost integrated
23 resource plan, the supply contract. And to
24 sort of silo or parcel these different

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

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

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

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

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

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

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

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

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

19 Further, Liberty has not analyzed
20 the stranded costs or the possibility of
21 stranded costs that could result from these
22 on-system enhancements and the risks that the
23 60-year depreciation schedule poses, you
24 know, for ratepayers in terms of stranded

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

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

1 extent, OCA and DOE's decision to enter into
2 the Settlement Agreement with Liberty appear
3 to somehow believe that, you know, the TGP
4 agreement is preferable to the abandoned NED
5 project and the abandoned Granite Bridge
6 project. But just because this agreement is
7 ostensibly preferable to those two proposed
8 projects is not a reason to approve this
9 agreement. New Hampshire's resource planning
10 statutes are not guided by a least bad
11 integrated resource planning standard. And
12 merely because the TGP agreement may be
13 preferable to the NED or Granite Bridge
14 projects is not a reason for the Commission
15 to approve the project. Rather, the
16 Commission may only approve the project if it
17 is the least cost integrated resource option.
18 By not complying with the New Hampshire LCIRP
19 statutes, Liberty has simply failed to meet
20 its burden of demonstrating that the TGP
21 agreement is the least cost option. It has
22 not analyzed the potential for increased
23 energy efficiency programs, load management
24 programs, and it assumes that its projected

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

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

19 CHAIRWOMAN MARTIN: Thank you,
20 Mr. Krakoff.

21 Commissioner Goldner, any
22 questions?

23 COMMISSIONER GOLDNER: Nothing for
24 Mr. Krakoff.

1 CHAIRWOMAN MARTIN: Okay. And Mr.
2 Dexter.

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

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

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

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

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

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

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

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

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

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

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

24 Whether or not the Company made the

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

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

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

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

11 CHAIRWOMAN MARTIN: Thank you, Mr.
12 Dexter.

13 Commissioner Goldner, any
14 questions?

15 COMMISSIONER GOLDNER: Nothing for
16 Mr. Dexter.

17 CHAIRWOMAN MARTIN: Okay. And Mr.
18 Sheehan.

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

1 the Chair asked a question a minute ago that
2 seemed to confuse the 30-year weather data
3 with the 20-year forecast. And if you look
4 at Mr. Frink's testimony, he's got a Q&A
5 about -- we didn't put into evidence today
6 what the forecast was we had used and what's
7 it changing to with the 30 years. Mr. Frink
8 did. In his testimony, he does recite
9 that... Exhibit 6, Bates 6, he talks about
10 the heating degree day factor used to
11 calculate design day demand is based on the
12 average heating degree days for 1977 through
13 2016, 40 calendar years. Natural gas
14 utilities commonly use the most recent
15 30-year average, which better reflects
16 changes in the climate, close quote. Based
17 on that, Mr. Frink recommended the change
18 from the 40-year to the 30-year, with which
19 the Company agrees. So that was the change,
20 the 30-year change.

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

1 20-year term of the contract. Could have
2 used a 5-year, could have used a 40-year, but
3 a 20-year term, that is somewhat related to
4 the piece of Mr. Frink's testimony.

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

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

24 What we did when we did a forecast,

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

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

1 adjustment, if you will, over a few years.
2 So we go back to the baseline econometric
3 forecast. And Mr. Chico referenced that in
4 his testimony. So at a high level, we are
5 acknowledging that we are growing faster than
6 maybe people would expect. We will continue
7 that for a few years and then ramp back down
8 to the normal, and that's what you see in our
9 20-year forecast.

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

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

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

4 The real merits of this case are
5 that we have a need today for this capacity.
6 We went over showing the design day
7 deficiency starts now, the winter of
8 2021-2022. Without this contract, we would
9 not be able to meet a design day. And that
10 continues as that table showed. No one -- I
11 should say the only party opposing, CLF, did
12 not address that, did not address how we
13 would meet it today without this contract.
14 We do need it.

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

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

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

13 [Court Reporter interrupts.]

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

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

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

24 Commissioner Goldner, any questions

1 for Mr. Sheehan?

2 COMMISSIONER GOLDNER: I do have a
3 record request.

4 CHAIRWOMAN MARTIN: Okay. Go
5 ahead.

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

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

1 chart for Liberty, looking at really two
2 things: One is the history going back to
3 2012 with peak load and also look at what
4 I'll call the average load, but look at both
5 of those numbers, and then what the Company
6 forecasts the need is moving forward. So
7 that gives us a basis -- it gives the
8 Commission basis in history going back in
9 time and saying, okay, this is what it's
10 looked like over the last, you know, ten
11 years or so, nine years, and here's our
12 20-year forecast. And that gives us kind of
13 a good view of what the total picture looks
14 like.

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

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

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

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

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

11 (Pause)

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

19 COMMISSIONER GOLDNER: Thank you.

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

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

1 forecast as well.

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

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

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

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

1 COMMISSIONER GOLDNER: Correct.

2 MR. SHEEHAN: Divided by hundred --

3 COMMISSIONER GOLDNER: Correct.

4 MR. SHEEHAN: In addition, you'd
5 like to know the average load. So we
6 normally keep track of customer usage. Now,
7 we keep that by various categories. You're
8 looking for an overall --

9 COMMISSIONER GOLDNER: Just
10 overall.

11 MR. SHEEHAN: Residential versus
12 C&I.

13 COMMISSIONER GOLDNER: Those two
14 categories would be great. Probably not
15 helpful to merge them.

16 MR. SHEEHAN: If we could take,
17 when we're done, a five-minute break so I
18 can, like I said, confer with my people who
19 are actually going to prepare this, 'cause
20 they may have questions to clarify further.

21 COMMISSIONER GOLDNER: Okay.

22 CHAIRWOMAN MARTIN: Okay. I think
23 it might make sense for us to take that break
24 so you could do that before I restate what I

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

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

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

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

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

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

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

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

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

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

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

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

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

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

16 COMMISSIONER GOLDNER: Thank you.

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

19 MR. SHEEHAN: Sure.

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

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

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

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

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

8 (Discussion off the record.)

9 CHAIRWOMAN MARTIN: Go ahead.

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

16 [Court Reporter interrupts.]

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

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

24 And also provide the design day

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

9 Does that get what you need?

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

13 MR. SHEEHAN: We can do that.

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

22 MR. SHEEHAN: So the --

23 [connectivity issue]

24 [Court Reporter interrupts.]

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

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

7 [Court Reporter interrupts.]

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

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

17 COMMISSIONER GOLDNER: Thank you.
18 Thank you very much.

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

22 (Pause)

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

1 able to capture it?

2 HEARING CLERK: I think I got it.

3 Thank you.

4 CHAIRWOMAN MARTIN: Okay.

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

9 HEARING CLERK: That would help.

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

12 HEARING CLERK: Thank you.

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

16 CHAIRWOMAN MARTIN: Absolutely.

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

21 MR. DEXTER: Thank you.

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

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

3 MR. SHEEHAN: Okay.

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

6 Okay. Anything else before we wrap
7 this up?

8 [No verbal response]

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

15 (Whereupon the hearing concluded at
16 4:27 p.m.)

17

18

19

20

21

22

23

24

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24

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.

I further certify that I am neither attorney or counsel for, nor related to or employed by any of the parties to the action; and further, that I am not a relative or employee of any attorney or counsel employed in this case, nor am I financially interested in this action.

The foregoing certification of this transcript does not apply to any reproduction of the same by any means unless under the direct control and/or direction of the certifying reporter.

Susan J. Robidas, LCR/RPR
Licensed Shorthand Court Reporter
Registered Professional Reporter
N.H. LCR No. 44 (RSA 310-A:173)

	accommodate (2) 95:23;133:22	addition (1) 130:4	again (16) 9:5;13:18;18:16; 19:2;51:19;52:2; 56:3;61:23;62:17; 66:22;96:11;114:3; 117:22;127:17; 132:2;134:13	alternatives (7) 19:24;20:9,16; 46:5;80:12;81:16; 102:8
\$	accommodation (1) 95:19	additional (7) 20:6;50:5,6;77:9; 108:14;126:17,20	against (2) 30:18;80:11	although (1) 97:8
\$10 (1) 10:5	accordingly (1) 115:2	Address (1) 108:8	ago (5) 31:8;120:1;125:10, 10,10	always (3) 14:2;97:19;133:23
\$100 (4) 16:22;17:21;18:6, 16	account (4) 6:5;28:20;102:2; 122:20	addresses (2) 36:3;90:5	agree (8) 45:6;53:15;77:13; 78:3;87:9;117:6,10; 118:17	American (1) 69:4
\$2 (11) 9:20;10:4;15:1,7,9; 16:9;17:18;18:4; 19:5;51:14;126:8	accumulated (1) 116:21	adduced (1) 100:18	agreed (7) 95:1;96:19;97:2; 113:17,24;115:5; 131:1	amount (11) 11:24;18:24;23:1; 29:9;40:10;47:12; 58:15;61:4;100:5; 102:15;106:19
\$4 (1) 18:8	accurate (4) 7:10;15:10;44:12; 133:8	addresses (2) 36:3;90:5	agrees (4) 114:11,13;118:16; 120:19	analyses (9) 76:17;78:23;94:14; 103:19,22;108:23; 109:2;112:12;123:20
\$40 (3) 11:18;126:8,11	accurately (1) 88:3	addressed (3) 74:21;75:23;80:17	agreement (45) 28:4;31:15;33:3; 50:19;51:4;79:16,20, 23;80:22,24;81:18; 87:15,17;88:8;94:24; 96:21;97:22;102:20; 103:15,18,23;104:12, 13;105:9,19;106:14, 23;108:13;109:4,6,9, 12;110:20;111:2,4,6, 9,12,21;112:6,8,13, 15;119:24;121:17	analysis (18) 20:19;40:15;45:15; 51:23;53:23;77:5,7; 92:7,14;94:7;103:11; 105:5;108:19;109:3, 5,8,8;114:17
\$400 (1) 99:22	acknowledged (1) 124:20	addresses (2) 36:3;90:5	ahead (4) 35:14;82:18;126:5; 135:9	analyze (4) 27:16;76:19; 105:17;106:5
\$45 (3) 23:9;126:10,12	acknowledges (1) 63:12	adduced (1) 100:18	air (1) 54:24	analyzed (4) 109:19;111:22; 112:3,7
\$80 (1) 121:13	acknowledging (1) 123:5	adjourn (1) 139:12	algorithms (1) 90:5	analyzing (1) 62:20
\$85 (1) 126:11	acquire (2) 99:19;100:4	adjust (3) 114:20;115:1; 124:3	align (1) 104:8	and/or (3) 57:3;89:16;95:5
[across (3) 27:4;40:9;89:2	adjusted (1) 123:13	aligns (1) 104:14	annual (18) 4:4,14;7:8;8:7,13, 14;9:6,9,11,19;27:3, 14;48:1;50:3;54:2; 55:4;133:6;135:11
[connectivity (10) 3:20;14:8;86:10; 95:15;96:9;125:12; 135:14;136:4,23; 137:5	action (2) 22:8;40:14	adjustment (6) 6:9,14;45:9,18; 122:13;123:1	allowed (1) 115:12	answered (2) 32:7;46:21
[Court (8) 3:21;86:11;95:16; 96:12;125:13; 135:16;136:24;137:7	active (1) 77:18	adjustments (4) 31:11;45:4;48:7; 126:13	allows (3) 34:9;36:23;127:20	anticipated (1) 61:14
[No (2) 97:14;139:8	activities (12) 45:14,19;46:8,13; 47:10;48:11;49:5,18; 50:8;68:11;106:19, 21	admission (1) 95:1	almost (1) 102:5	appliance (2) 23:6;54:18
[sic] (1) 100:10	activity (3) 45:11;49:22;50:2	admit (1) 97:11	alone (4) 42:3,3,22;58:24	applies (4) 30:3;31:22;89:5; 102:5
A	actual (16) 7:9,11;122:8; 123:14,15;131:16,20; 132:16;133:13; 134:2;135:12,20,22; 136:5,16,20	admitted (1) 113:12	along (2) 66:17;102:21	apply (1) 25:7
abandoned (3) 110:21;111:4,5	actually (19) 7:14;13:9;16:8; 33:9,11;34:6,21; 36:23;43:8;67:13; 77:12;83:5;99:8; 100:8;118:14; 122:20;123:10; 130:19;133:16	admittedly (1) 110:23	alternative (4) 66:3;101:11; 107:13;110:6	
ability (7) 10:11;27:6;30:24; 61:2;67:14;78:23; 114:20	actuals (4) 3:16;25:13,16; 131:23	adoption (2) 44:14;113:11		
able (11) 12:15;21:15;32:19; 34:1;38:1;39:14; 59:1;90:2;124:9; 136:15;138:1	add (4) 6:2;23:14;36:16; 108:14	adopted (2) 67:5;97:9		
above (2) 49:1;133:1	added (3) 6:13;22:18;99:21	adopting (1) 72:20		
absolutely (5) 9:22;16:20;60:18; 74:18;138:16	adding (1) 23:5	adoptions (2) 67:4,4		
accentuate (1) 35:16		advancement (1) 61:5		
accept (1) 101:23		advantage (1) 60:23		
		advocate (3) 83:18;98:6,10		
		advocates (1) 92:6		
		affect (2) 107:8,19		
		affected (1) 118:13		
		AFTERNOON (2) 3:1;44:17		

<p>appreciate (6) 86:13,19;103:8,10; 125:18;136:19</p> <p>appreciates (1) 117:3</p> <p>approach (1) 53:16</p> <p>appropriate (9) 24:7;38:11;46:16; 56:20;80:20;87:19, 24;93:15;101:1</p> <p>appropriately (1) 88:4</p> <p>approval (16) 24:7;31:17;52:5,7; 57:21,22;75:3;80:23; 103:17,20;106:23; 108:23;109:14; 112:13;114:8;119:6</p> <p>approvals (2) 31:19,20</p> <p>approve (10) 10:1;56:23;102:19; 111:8,15,16;119:9,9; 125:21;126:8</p> <p>approved (12) 19:3;25:2;54:9; 55:16;56:17;58:5; 60:4;68:17;96:16; 105:13;118:6;122:2</p> <p>approving (1) 18:3</p> <p>area (1) 84:12</p> <p>areas (4) 32:20;37:9;61:5; 62:17</p> <p>argue (2) 30:18;126:16</p> <p>argues (1) 109:10</p> <p>arguments (1) 121:19</p> <p>around (6) 40:17;65:23;86:10; 99:2;102:8;133:12</p> <p>Article (3) 28:15,19;29:19</p> <p>as-needed (1) 115:13</p> <p>aspect (2) 115:10;116:2</p> <p>assertion (1) 101:24</p> <p>assess (2) 105:5,14</p> <p>assessment (2) 105:2,11</p> <p>asset (3) 14:3,10;75:9</p> <p>assets (2) 67:20;75:10</p> <p>assignments (1)</p>	<p>84:5</p> <p>associated (5) 15:14;47:1;49:4; 71:1;78:1</p> <p>Association (1) 69:4</p> <p>assume (2) 47:8;129:22</p> <p>assumed (2) 46:15;53:7</p> <p>assumes (1) 111:24</p> <p>assuming (3) 46:19,23;47:3</p> <p>assumption (6) 47:4,17,17;55:14; 60:6;77:15</p> <p>assumptions (4) 78:7,13;108:16,18</p> <p>attached (1) 28:8</p> <p>attachments (1) 91:20</p> <p>attempted (1) 103:13</p> <p>attention (1) 115:18</p> <p>Attorney (1) 13:10</p> <p>attributable (1) 106:20</p> <p>author (1) 94:17</p> <p>authority (1) 100:11</p> <p>availability (2) 61:21;94:8</p> <p>available (17) 13:21;17:16;19:24; 20:18;28:21;42:23; 56:11;59:15,18; 86:19;87:22;102:12, 15;125:5,9,9,11</p> <p>average (9) 8:21;120:12,15; 127:4,20;129:5,20; 130:5;132:20</p> <p>avoid (4) 16:18;57:12;70:24; 95:14</p> <p>avoided (1) 89:22</p> <p>away (2) 12:22;124:17</p>	<p>123:2,7;124:17; 125:8;127:2,8; 128:16;134:21;135:2</p> <p>back-casting (1) 45:15</p> <p>back-feed (2) 24:1;34:7</p> <p>background (2) 84:12,14</p> <p>backup (6) 65:4,10,11,15; 67:7;69:22</p> <p>backward (1) 7:5</p> <p>backwards (2) 8:20;131:18</p> <p>bad (1) 111:10</p> <p>balanced (1) 80:11</p> <p>balancing (4) 33:3;36:11;59:17; 80:15</p> <p>ballpark (1) 8:18</p> <p>band (1) 33:16</p> <p>Base (5) 4:8;21:7;23:19; 99:23,24</p> <p>based (17) 6:1;7:15;13:9; 21:12;25:19;29:15; 31:1;40:4;60:19; 88:6;90:9;108:13; 117:20;118:22; 120:11,16;132:20</p> <p>baseline (2) 102:11;123:2</p> <p>basically (16) 5:24;6:3;7:21; 10:17;29:22;30:3; 34:7;37:7,8;38:5; 53:6;65:9,22;92:14; 100:13;124:20</p> <p>basis (9) 8:14;18:20;50:4; 61:8;87:13,22; 115:13;127:7,8</p> <p>Bates (35) 3:12,22;4:17,19; 5:1,13;6:19,24;8:2,3, 6;9:7;13:18;19:16; 20:24;28:14;32:2; 42:16;43:1,3,4,5,8, 12,13;44:1,23,24; 72:11;77:1;83:8; 120:9;126:22;128:4, 6</p> <p>became (1) 125:11</p> <p>become (2) 64:20;70:8</p>	<p>becomes (2) 6:15;64:22</p> <p>beginning (1) 96:5</p> <p>behalf (5) 40:22;82:20;83:23; 92:5;102:18</p> <p>behind (2) 116:21;128:9</p> <p>below (3) 48:19;64:14;133:1</p> <p>benefit (10) 25:4;34:13;35:9; 37:3;51:14,16;62:17; 90:16,21;131:18</p> <p>benefits (6) 14:5,13;54:14; 57:7;62:11;109:17</p> <p>best (12) 17:13,16;44:12; 53:1;55:18,18;67:19; 103:15;107:4;112:1; 118:10;131:21</p> <p>better (9) 7:2;20:12;36:2; 72:5;80:7;100:4; 120:15;122:20,21</p> <p>beyond (3) 56:19;59:23;105:7</p> <p>bid (5) 13:1,2,3,11,14</p> <p>big (1) 127:23</p> <p>bills (1) 57:9</p> <p>bit (6) 15:3;24:10;50:12; 73:11;84:15;114:18</p> <p>blindly (1) 20:16</p> <p>Borden (1) 137:23</p> <p>both (17) 31:20;40:15;44:11; 52:18;56:16;60:20; 61:3;63:10;66:11; 76:19;91:4;94:17; 115:19;127:4,22; 128:24;129:14</p> <p>bottom (3) 43:16;48:11; 122:17</p> <p>bound (2) 31:3,5</p> <p>break (4) 71:24;81:24; 130:17,23</p> <p>Bridge (10) 17:12;44:6;99:21; 100:2;110:7,22; 111:5,13;124:22; 125:15</p> <p>Brief (3)</p>	<p>82:2;104:18; 134:23</p> <p>briefing (2) 138:23;139:5</p> <p>briefly (6) 20:22;40:1;88:21; 91:22;92:24;121:18</p> <p>bring (2) 4:23;24:5</p> <p>bringing (2) 99:2,7</p> <p>broadbrush (1) 122:5</p> <p>broader (1) 70:19</p> <p>broadly (2) 67:18,21</p> <p>broken (1) 26:21</p> <p>brought (1) 114:4</p> <p>Budweiser (5) 23:13,16,21,22; 24:2</p> <p>building (1) 65:14</p> <p>builds (1) 57:3</p> <p>built (1) 115:14</p> <p>bulk (1) 23:15</p> <p>burden (5) 103:12,22;106:12; 111:20;112:14</p> <p>business (4) 83:18;84:5,11; 104:7</p> <p>buy (5) 16:4,11,21;17:14; 18:14</p>
C				
<p>C&I (9) 22:13,19;24:21; 25:7,13;26:21,23; 130:12;136:12</p> <p>calculate (4) 7:22;120:11;129:6; 132:6</p> <p>calculated (3) 49:24;129:5,10</p> <p>calculation (2) 49:21;134:7</p> <p>calculations (2) 129:13,16</p> <p>calendar (1) 120:13</p> <p>California (1) 40:8</p> <p>call (7) 12:20;37:23;62:12;</p>				

122:14;127:4; 129:19;134:13 called (1) 99:8 calls (2) 73:18;133:24 came (6) 116:8;118:12,15; 119:20;122:7,11 can (79) 4:12;6:21;8:2; 9:18;10:14;11:13; 12:11,12,22;15:8,24; 16:2,3,19;17:5;21:5, 20;23:9;26:9;27:12, 15;28:5,15,18;29:20, 23;31:14;35:5,9; 38:4;42:15,20;47:24; 48:14,20;51:24; 52:22;54:2,14;55:2; 57:5,8,9,10,11;60:23, 23,24,24;62:4;66:17; 72:6;83:4,17;89:2,9, 10,12,21;90:13,14, 21;91:1;98:12; 101:19;123:23; 128:18;129:15; 130:18;134:4;135:4, 12,14,18;136:7,13; 138:11,15,23 cancelled (2) 17:12,13 Canton (1) 40:6 capacity (36) 12:22;13:1,2,5,13, 14,21,23,24;14:3,4,9, 15;15:8,13;16:5,7,9; 17:6;19:22;20:3; 29:12;32:16;38:7; 50:11;77:10,12,13, 16,24;78:1;84:22; 121:11;124:5; 126:17,20 capital (6) 23:9,16;24:5;73:1; 75:9;76:21 capture (2) 45:16;138:1 captured (1) 132:7 capturing (1) 56:1 carbon (1) 94:3 care (1) 37:10 carefully (5) 47:5,19;62:22; 75:11;100:20 carry (2) 25:1,4 Case (27)	4:8;24:8;29:6,23; 30:5,12,14,14,16,19, 23;31:7,8,21;90:1; 93:23;96:17;103:14; 110:3;113:8;116:9, 13;117:4,5;124:4; 126:23;128:14 cases (8) 40:17;41:1,4;67:9; 90:17;93:19;115:16, 24 catch (1) 96:4 catching (1) 89:15 categories (2) 130:7,14 cause (3) 33:13;130:19; 131:9 causing (1) 33:21 cautioned (1) 39:17 cent (1) 14:24 centrally (1) 65:8 cents (3) 9:18;14:23;99:17 certain (3) 17:15;55:23;88:2 certainly (12) 16:18;18:10;20:8, 18;22:17;30:12; 33:10;46:3,18;52:10; 64:16;98:10 cetera (8) 46:2;55:23,24; 62:10;74:10;75:14; 77:22;121:23 Chair (1) 120:1 CHAIRWOMAN (53) 3:2;5:2,4,9;27:24; 28:1,10,11;39:2,5,11; 42:13,24;43:7;71:23; 81:23;82:4,10,14,17; 85:21,23;87:6,8; 91:7;94:21;96:1,18, 23;97:5,15,19; 102:22;103:4,8; 112:19;113:1,3; 119:11,17;125:22; 126:4;130:22; 134:17,20;135:1,9; 137:23;138:4,16; 139:1,4,9 challenge (2) 24:10;30:21 challenged (1) 124:24 change (12)	36:20;70:7;87:15; 107:16;108:6;109:9; 110:17;120:17,19,20; 122:19;123:24 changed (1) 3:9 changes (5) 8:22;29:19;108:6, 20;120:16 changing (2) 73:17;120:7 characterization (3) 45:3,7;79:5 characterizing (1) 87:10 charges (2) 29:20;100:14 chart (11) 3:8;4:20;5:16; 13:19;19:19;126:22; 127:1;128:3,12; 129:19;131:11 check (1) 16:9 Chico (1) 123:3 choice (2) 65:18;118:1 choose (2) 12:11,23 circumstances (1) 116:20 cited (1) 61:7 City (1) 92:2 claimed (1) 64:2 claims (1) 123:16 clarification (2) 15:12;84:9 clarify (8) 36:8;43:1,9;86:22; 119:21;130:20; 132:18;134:5 clarity (1) 32:13 Classic (2) 99:8;125:7 Clean (5) 40:22;68:12,14; 83:10,19 cleaner (1) 70:23 clear (2) 13:20;32:11 clerk (4) 131:2;138:2,9,12 clever (1) 99:11 CLF (9) 43:15,18;77:2;	85:10;104:17; 121:18,20;123:16; 124:11 CLF's (1) 95:7 clients (1) 84:5 Climate (13) 40:13,14;64:9; 66:24;67:2,8,12; 69:10,14;74:16; 108:5;109:9;120:16 climates (2) 64:10;69:6 close (6) 7:10;8:16;65:21; 87:11;120:16;139:11 closely (1) 52:11 closings (1) 97:16 coastal (1) 64:17 Coca-Cola (4) 98:20;99:4,10; 125:7 Coca-Cola's (1) 99:9 Coke (8) 98:24;99:3,6,7,8, 18,20;125:7 cold (10) 64:8,10,19;65:13; 66:24;67:2,8,12,15; 69:6 colder (2) 64:14,22 coldest (4) 65:4;69:20;137:9, 10 colleagues (1) 92:23 combination (1) 59:7 combine (2) 128:18;136:8 combined (1) 59:9 coming (2) 74:13;125:8 commencing (2) 80:4,6 commensurate (1) 81:17 comment (2) 52:3;125:7 Commission (36) 10:1;21:5;24:6; 27:20;40:19;41:11; 46:10;47:6;50:18; 56:22;59:24;66:17; 86:23;97:21;100:11, 13;101:7,23;102:17;	103:9,20;104:1; 105:13;109:13; 111:14,16;112:17; 113:19;116:1;119:8; 122:1;124:20; 125:21;126:7;127:8; 138:18 Commissioner (44) 3:3,5;5:7,12;27:23; 46:20;48:3;53:10; 58:8;86:1,3,12,21; 87:2;101:3;102:24; 103:2;112:21,23; 119:13,15;121:5; 125:24;126:2,6; 128:5,19,23;129:4; 130:1,3,9,13,21; 131:13,19;132:11; 133:10;134:16; 136:10,14;137:4,8,17 COMMISSIONERS (2) 3:4;87:7 Commission's (4) 52:8;103:10;104:6, 17 commitments (1) 115:1 commodity (2) 85:7;121:11 commonly (1) 120:14 communications (1) 61:2 companies (1) 67:24 company (52) 13:7;30:8;31:20; 32:17;37:17;45:21, 24;47:7,10;52:20; 53:1;54:1;55:11; 56:7;59:2;61:14,24; 63:11;66:6;67:16; 68:13;73:20;79:1,24; 83:9;85:17;88:8; 91:15;93:17;98:21, 23;99:2;100:4,7,9,15; 101:19;102:12,14; 113:15;116:17; 117:24;118:7,15; 120:19;126:18; 127:5;131:8;132:17; 133:11,14;138:19 Company's (8) 51:22;54:11;59:5; 68:23;75:17;94:11; 99:22;101:6 compare (1) 3:22 compared (1) 21:17 comparing (1) 52:20 comparison (3)
--	---	--	--	--

<p>8:8;20:19;49:13 complaints (3) 116:10,20,21 completing (1) 112:12 complicated (2) 35:7;122:3 complies (1) 104:12 complying (1) 111:18 components (3) 52:23,24;96:8 compounded (2) 4:13;8:13 compute (1) 8:23 concentrated (1) 17:7 concentration (1) 20:5 concern (3) 35:21;36:4;93:8 concerning (2) 76:7;81:10 concerns (10) 34:12;53:17;62:6; 74:24;78:7;79:18,20; 80:21;81:4;108:2 conclude (1) 84:11 concluded (1) 139:15 concluding (1) 98:5 conclusion (3) 58:22;118:11,15 conclusions (3) 50:14;51:1;113:24 concoct (1) 102:6 Concord (4) 34:19;110:5,8,13 conditions (2) 47:1;67:24 conducted (3) 77:4;103:21; 110:12 confer (1) 130:18 conference (1) 74:14 confidence (3) 22:3;27:20;131:23 confidential (4) 41:12;44:14;95:9, 15 confuse (1) 120:2 conjunction (1) 92:22 connected (2) 52:11,12</p>	<p>Conservation (3) 92:23;105:3;117:5 consider (4) 71:17;101:8; 106:10;121:21 consideration (2) 52:8;68:21 considerations (3) 56:6;78:11;108:9 considered (12) 42:6;47:5,19;53:3; 59:16;66:6;71:20; 75:11;94:9;110:4,17; 118:19 considering (6) 57:15,24;63:18; 68:2;73:13,16 consistent (5) 29:16;36:7;57:3; 72:19;73:4 consistently (1) 48:14 consisting (1) 96:14 construction (5) 35:24;80:2,4,6; 115:21 consultant (1) 40:12 consulting (3) 40:4;83:10;84:9 consumer (5) 65:18;70:11;98:6, 10;107:15 consumption (4) 68:17;69:22;89:22; 92:12 contact (1) 98:11 contained (1) 96:3 context (3) 73:3;110:21; 121:15 continually (1) 55:7 continue (9) 11:3;21:16,18; 22:4,6;36:13;57:6; 108:16;123:6 continued (4) 22:1;31:18;54:8,13 continues (1) 124:10 continuing (1) 3:17 contract (71) 9:16;10:2,9,12; 11:2,4,8,12,16;12:11, 12;13:6;14:7,21,22; 15:6,13,17;20:21; 28:17;29:6,9,16; 30:7;31:4,23;32:1,</p>	<p>16;33;18;37:16; 50:11;52:5,21;57:20, 22;63:20;73:11;75:7, 13;77:6,16;85:4,7; 88:6,13;99:15;100:1, 6,16;102:10,13,20; 105:23;106:14; 107:3;108:3,24; 109:18;114:9,14; 119:7,10;121:1,8; 124:2,8,13,16;125:8, 19;126:13 contracted (1) 77:9 contracting (1) 93:18 contracts (15) 11:17,23;12:8,17; 18:15,21;30:4;42:7; 52:9;56:9;57:13; 62:19;72:23;124:18; 126:14 contractual (1) 115:1 contrary (1) 106:3 contrast (1) 85:16 contributing (1) 122:11 control (6) 18:10;60:24;61:1, 3;89:17;90:24 controls (1) 90:5 conversations (2) 95:9;125:1 convert (1) 70:16 coordinate (2) 89:9;90:6 coordinated (2) 61:1;91:2 coordinating (2) 62:6;89:2 COP26 (1) 74:13 corrections (5) 41:17;43:16,19; 44:8,11 corrective (1) 22:8 correctly (5) 26:5;49:10;51:8; 84:2;87:20 correlated (1) 8:10 correlation (1) 50:1 cost (34) 11:5,7;17:24;18:1; 19:11,14;26:24; 51:15,16;59:21;63:7;</p>	<p>75:24;80:8,9,19; 81:13;100:3;101:6, 14;102:7;104:4,9,23; 105:9,15,22;106:14; 107:3;111:17,21; 117:7;121:7,8,13 cost-effective (10) 51:11,11,23;53:20; 56:10;57:5;58:18; 63:21;71:18;104:24 costs (15) 14:14;17:18;47:1; 57:11;75:10;76:12, 13;93:4;109:20,21; 110:1,2;112:10; 121:11,12 Council (1) 40:13 count (1) 136:11 country (2) 16:18;40:17 couple (3) 28:13;33:24;91:10 course (5) 20:2;27:1;36:13; 99:20;116:9 Court (1) 39:17 crazy (1) 133:22 created (1) 53:6 creates (2) 20:4;33:12 credible (1) 101:23 critical (3) 33:17;35:18;36:16 criticism (1) 54:11 criticized (1) 72:11 criticizes (1) 45:2 critique (1) 45:17 critiques (2) 58:11;121:20 cross (1) 71:19 cross-examination (2) 82:7,22 crucial (2) 103:22;109:2 cumulative (1) 55:3 current (4) 16:12;26:14;46:24; 67:23 currently (4) 40:5,10,12;65:19 customer (18)</p>	<p>18:5;22:14,21; 24:3;26:16;42:9; 45:6;47:2;57:9; 90:12,19;116:9,20; 128:21;129:6,24; 130:6;135:20 customer-level (1) 61:19 customers (50) 6:7,13;14:5;20:13, 14;22:12,13,19,22, 22,24;23:2,7;24:20, 21;25:8;27:5;30:17; 32:15;33:10;35:9; 45:22;46:23;47:9; 49:16;50:5;55:19; 57:7;68:15;70:15; 71:17;84:23;85:13; 89:3,7;90:7,13;94:2; 101:13;107:1; 108:15,18;112:1; 122:18;127:16,19; 129:10,17,23;134:11 customers' (4) 15:16;21:18;55:18; 107:2</p>
D				
DaFonte (82)				
<p>3:7,12;4:4,22;5:14, 19;6:1;7:7;8:6;9:1,5, 22;10:8;11:21;12:7, 20;14:1;15:4,11; 16:14;18:6;19:6,10, 22;21:12;22:16,24; 23:19;24:9,16;25:17; 26:6,17;27:17;28:12, 14,23;29:11,18,22; 30:10;31:5,22;32:19; 35:13,15;36:8;37:22; 38:24;44:21;45:1,2, 2;46:21;48:3;51:20; 52:15;53:5;55:11; 58:2,9,11;59:4;60:8, 19;62:7;65:2;68:8; 69:3;70:13;72:11; 76:4;78:5;79:15; 80:15;87:10;88:19; 95:21;98:16;101:24; 124:15;132:2</p>				
DaFonte's (4)				
<p>64:1;75:5;88:22; 89:16</p>				
daily (1)				
<p>6:24</p>				
Dan (4)				
<p>82:19;98:17,19; 99:3</p>				
data (18)				
<p>7:18,21;43:14; 66:1,1;77:1,2;87:13, 21;88:7,9,14;117:21;</p>				

119:24;120:2; 133:20;135:21;136:3 database (5) 116:19;117:15,17, 18,22 date (1) 137:15 DAVID (4) 39:16,18,22,23 day (76) 4:10;5:17;6:22;7:9, 12,14,16,16,22;8:9, 15;9:12;15:17;17:2, 9;20:7;25:22;26:7, 12;27:2;42:2;48:5; 49:11,20,21;50:6,9; 52:1;54:20;58:6,15, 20;60:14;62:5;63:11, 14;64:16;65:4,5,15; 68:16;69:20;73:20; 87:13,19,23;120:10, 11,24;123:14;124:6, 9;128:15;129:9,23; 131:14,16;132:4,9, 14,19,19;133:5,21; 134:5,6,9;135:24; 136:2,16;137:2,9,11, 12,16;139:14 days (18) 14:18;15:18;16:1, 20;17:19,24;18:2; 33:17;36:16;56:1; 69:21;80:3,5;98:4; 120:12;132:24; 133:3;134:8 days' (2) 16:11;80:18 dealing (1) 104:19 debate (2) 118:4,11 decarbonized (1) 70:22 December (1) 50:20 decide (1) 15:22 decided (1) 13:7 decision (4) 111:1;115:19; 116:18;118:13 decrease (1) 41:22 decrement (2) 8:20;11:24 dedicated (2) 24:2;122:14 deep (1) 101:19 deeper (1) 80:11 deeply (4)	57:15;59:16;71:20; 98:11 deficiency (3) 36:18;59:2;124:7 deficit (1) 71:15 definitely (2) 9:5;93:16 degree (8) 7:16,16;68:19; 120:10,12;132:24; 133:3;134:8 degrees (3) 64:14;132:24; 133:2 dekatherm (5) 14:23;16:23;17:21, 22;18:7 dekatherms (6) 4:7;9:17;10:3,7; 11:8;48:21 deliver (10) 29:1,5,8,11,13; 32:17,19;33:7;34:17; 36:22 delivered (3) 34:14;83:22;84:3 delivery (2) 29:5;32:24 Demand (108) 3:6,9;8:9;9:9,11; 22:7;25:5;41:21,21, 22;42:1,3,4,22;46:2, 4,5,6,13,17,18,23; 47:4,14,16,19;48:5, 10,13,24,24;49:8,11, 15,16;50:9;51:18; 52:2,13,19;55:10; 58:6;59:8,13,17;60:7, 14,15,21;61:9;62:3, 10,13,14;63:5,9,18; 65:15;68:3;71:10; 73:15,18;76:10,16; 78:8,14,17;80:13; 84:13;88:23;89:1,4, 11;90:3,8,20,23;91:3; 92:8,15;101:11; 102:2;106:6,9,18,19, 24;107:20;112:5; 114:21;117:11,16,18, 20;118:20;120:11, 22;122:8,9;123:14, 15;124:1;125:1; 126:15,16,18;129:23; 131:15 demanding (1) 89:8 demands (6) 17:2;50:6;63:14; 73:20;91:4;107:24 demand-side (3) 53:3;62:23;105:2 demonstrated (1)	104:11 demonstrates (2) 100:19;106:11 demonstrating (1) 111:20 Denver (1) 40:8 deny (1) 104:1 Department (17) 19:4;80:3;84:18; 113:7;114:8,11,13, 16;115:7;116:4,11; 117:3;118:12,16; 119:2;122:15;125:17 depending (2) 15:19,20 depends (2) 17:1;65:7 depreciation (8) 76:6,19;93:1,5,14; 95:12;96:7;109:23 depth (1) 81:16 described (2) 10:2;125:14 deserve (1) 97:11 deserves (1) 113:21 design (63) 4:10;6:21;7:9,12, 14,22;8:9,15;9:12; 17:8;20:7;25:22; 26:7,12;27:2;42:2; 48:5;49:11,19,21; 50:6,9;52:1;54:20; 58:6,15,20;60:14; 62:5;63:11,13;64:16; 65:4,7,15;68:10,16; 69:17;73:20;74:9; 87:13,19,23;120:11, 23;123:14;124:6,9; 128:15;129:9,22; 131:14,16;132:4,9, 14,17,19;133:21; 134:5;135:24;136:2, 16 designed (2) 69:19;133:14 designs (1) 83:11 despite (1) 60:15 detail (5) 58:15;79:1,5,9; 104:20 detailed (4) 80:1,8;122:3; 123:20 details (1) 78:22 determination (1)	116:14 determine (2) 9:19;100:15 develop (1) 78:24 developed (1) 118:21 developing (2) 56:2;117:18 development (5) 40:14;53:24;62:2; 70:19;84:7 devices (1) 61:1 DEXTER (15) 5:4;82:12,13; 113:2,3;119:12,16, 22;123:22;131:3,5, 20;132:1;138:13,21 DG (3) 44:1,4,5 di (1) 58:20 diabolical (1) 99:5 difference (9) 26:1,4,10,13;48:18, 20;49:15;69:9;87:11 different (9) 3:24;18:14;25:23; 41:4;61:1;89:3; 105:24;110:9;132:21 differently (2) 22:10;115:22 dimensions (1) 58:1 direct (7) 39:8,19;41:10; 49:19;50:1;60:24; 72:4 directed (1) 55:15 direction (1) 71:3 directly (3) 52:11;63:10;93:18 disagree (4) 64:5;67:3;75:4; 78:21 disagrees (1) 100:24 disaster (1) 99:1 discussed (10) 32:4;41:20;76:4; 77:17,22;88:17; 110:8,10,20;115:2 discusses (1) 110:5 discussing (3) 75:21;113:5;114:5 discussion (13) 48:2;51:20;52:7;	60:6;64:3;68:5,7; 72:8,12,14,21;75:6; 135:8 dismiss (1) 67:22 dismisses (2) 108:1,9 Dismissing (1) 71:20 dismissive (1) 106:8 dispute (3) 95:13;96:6,16 disputing (1) 91:15 distinction (1) 16:6 distinguished (1) 101:2 distributed (1) 83:14 distribution (10) 23:24;24:4;33:7; 34:6;35:2,19;36:24; 38:12,15,20 dive (1) 80:11 diversify (1) 89:9 Divided (1) 130:2 divorced (1) 104:8 docket (26) 27:10;44:1,2,3; 63:2,4,6,8,17;64:4; 76:1;86:5;91:16; 101:7;103:11,13; 104:15;106:13; 109:15;110:4,9,17; 114:13;119:1; 124:21;138:14 dockets (4) 27:11;106:1,2; 124:23 document (3) 32:6;47:24;67:10 documentation (2) 24:11;30:20 DOE (1) 79:16 DOE's (1) 111:1 dollar (4) 9:16,19,24;51:15 dollars (5) 26:14,15,18;27:13, 17 done (14) 18:20;30:2;35:14; 39:13,14;54:6;57:16; 79:1;92:18;103:18; 112:11;114:3;
--	--	--	---	---

123:18;130:17 doubling (1) 99:23 down (8) 11:1;33:13;64:13; 65:12;71:4;123:7; 126:10,12 downstate (1) 92:3 downstream (1) 37:23 Dr (26) 39:12,21;40:1,24; 41:8,14;42:3;43:12, 24;44:7,19,24;45:1; 47:22;81:22;82:16, 24;84:16;85:10;86:4, 19;91:10,13;106:16, 22;117:4 Dracut (12) 10:13;15:22;16:16, 23;17:4,7,9;18:13,15; 20:5,7;29:4 draft (2) 41:14;134:14 drafted (1) 135:7 dramatic (1) 123:24 drawing (2) 64:21,23 draws (1) 33:13 drink (1) 99:9 driven (2) 46:21,22 driver (2) 22:15;50:10 drivers (1) 22:12 ducted (1) 65:8 duly (1) 39:16 dumb (1) 99:12 duration (1) 108:3 during (5) 14:17;33:17;116:8; 119:21;131:16	6:10;56:1;67:22,24 easy (1) 7:24 econometric (10) 6:3,4,9,16;45:13, 15;66:1;122:4,18; 123:2 econometrics (1) 21:24 economically (1) 21:21 economics (1) 70:11 economy (1) 122:7 edition (1) 101:8 educate (1) 57:6 EERS (1) 105:14 effect (7) 10:19;27:14;31:16; 45:4;58:3;99:6; 124:16 effective (2) 55:1;69:23 effectively (1) 11:11 effects (4) 58:4,6;91:1;102:4 efficiency (58) 24:19;25:4,11,15; 47:12;50:15;51:1,9, 24;52:17,18;53:8,21; 54:1,7,14,16,17;55:7, 15,20;56:2,23;57:5; 58:16,18;59:7,12,23; 62:2;63:10,13;66:9, 9;68:15;70:3;71:10; 78:9;83:13;84:13; 86:17;92:9;101:11; 102:4;104:24;105:3, 6,12,15,18,22; 111:23;117:8;118:2, 22,24;119:3;121:22 efficient (2) 64:20,23 efforts (3) 78:15;88:24; 108:14 EFG (3) 40:8;83:9,22 EIA (1) 21:1 eight (2) 7:12;17:11 either (4) 12:11;89:2;100:23; 107:22 electric (7) 40:16;61:3;65:9; 92:12;94:8;107:12,	17 electricity (4) 53:21;64:23;89:6; 91:4 electrification (12) 59:10;64:2,3,6; 78:8;83:15;92:9; 107:6;108:10;112:4; 118:18;121:23 element (5) 58:24;65:16;90:3; 117:1,23 elements (5) 55:17;61:24;63:20; 64:17;80:14 eliminate (3) 59:13,14;90:14 eliminates (1) 59:11 else (6) 77:16,24;86:5; 96:24;97:13;139:6 e-mail (1) 128:8 embedded (2) 47:16;49:8 embedding (2) 47:3;78:17 embodied (1) 117:19 emission (2) 72:12;73:24 emissions (9) 57:10;68:10;70:14; 71:1;73:16;74:10; 78:1;92:10;107:22 employees (1) 40:5 encourage (2) 62:16;70:5 encouragement (1) 27:11 encouraging (1) 70:1 end (1) 139:1 endpoint (1) 23:23 ends (2) 93:9;121:12 Energy (59) 19:4;22:23;24:19; 25:4,11,15;40:3,22; 50:14;51:1;52:17; 53:8,21;54:13,19; 55:20;59:22;67:21; 70:3;78:9;80:3; 83:10,13,19,23; 84:13,15;101:10,12; 102:4;104:23,24,24; 105:2,6,12,14,18,21; 108:7,20;111:23; 113:7;114:8,11,13,	16;115:7;116:5,11; 117:8;118:2,12,16, 21,24;119:3;121:22; 125:17 EnergyNorth (2) 6:6;121:9 Energy's (1) 119:2 engage (1) 101:18 engaged (1) 101:16 engagement (1) 98:7 engineer (2) 86:7,16 engineering (1) 80:2 England (3) 13:13;18:21;67:23 enhancement (4) 32:9,18;96:8,14 enhancements (30) 34:5,23;35:9,17; 36:1,19;37:7,19; 42:7;52:9;56:9; 57:13;62:20;75:1,6, 16,19,23;76:7;80:16; 81:2;95:13;109:11, 14,16,22;110:2,3,10; 112:9 enjoy (1) 109:17 enough (5) 12:17;63:23;102:1; 116:12;134:18 ensuing (1) 108:21 ensure (1) 35:11 ensuring (1) 84:23 enter (1) 111:1 entered (2) 79:17;99:15 entire (4) 18:7;32:22;59:1,1 entirely (1) 133:7 environment (2) 73:8,17 environmental (6) 77:5,10;92:6; 109:3,5;112:7 equal (2) 53:8,14 equals (1) 132:15 equates (1) 10:16 especially (1) 33:15	essence (1) 78:2 essentially (4) 18:11;84:4;102:11; 103:17 establish (3) 17:17;18:2;104:22 established (1) 124:19 establishes (1) 102:11 estimate (1) 80:19 estimates (1) 80:8 estimation (1) 87:23 et (8) 46:2;55:23,23; 62:10;74:10;75:14; 77:21;121:23 ethical (1) 85:11 evaluated (1) 51:9 evaluates (1) 83:11 evaluation (1) 73:10 even (24) 12:16;14:17;16:24; 17:14;20:4;63:4,16; 64:14;65:6,11;67:17; 68:4,15;69:10,21; 70:18;75:14,15; 92:11;103:18; 107:11;123:11,12,16 eventually (2) 19:19;92:19 everyone (3) 113:9;115:16; 139:13 evidence (3) 95:11;116:12; 120:5 exact (2) 28:5;89:4 exactly (1) 49:12 examination (3) 39:8,19;91:11 examining (1) 79:4 example (11) 4:7;25:3;27:5; 36:15;38:16;89:16; 108:21;109:1; 133:17;137:5,9 except (2) 69:20;121:17 excess (2) 13:21,23 excludes (1)
E				
earlier (20) 10:2;16:20;24:24; 25:20;31:6;32:4; 37:12,15,20;44:21; 52:3,15;53:5;58:2; 60:5;65:18;72:21; 76:4;78:5;98:23 early (4)	electric (7) 40:16;61:3;65:9; 92:12;94:8;107:12,	113:7;114:8,11,13,	33:15	excludes (1)

<p>48:7 excluding (2) 25:24;26:9 excuse (1) 48:12 exercise (1) 45:20 exhausts (1) 54:7 Exhibit (49) 3:6,14,15;4:16,20, 23,24;5:1,2,5,6,10,10, 11,13;20:23;24:12, 17;25:22;28:5,9; 42:16;44:24;47:23; 48:1,16;58:10;66:8, 16,19,21;72:10; 76:24,24;83:2;95:8,9, 10,15,23;96:2,20; 97:8;113:6,13,22; 120:9;126:22;128:6 Exhibits (15) 41:9,15;44:16; 53:12;91:19;94:23; 95:2,4,7;97:1,4,7,12; 113:5;114:5 existing (10) 10:21;18:15;22:9; 24:4;38:8;45:22; 48:8;49:16;65:7; 67:20 expanding (1) 47:2 expansion (5) 38:18,20;50:2; 73:5;92:1 expansions (2) 38:4,6 expect (6) 13:24;14:23;21:6; 41:24;71:3;123:6 expected (2) 115:9,12 expecting (2) 21:9;42:8 expensive (3) 15:23;17:15;70:12 experience (7) 40:24;53:18;57:4; 84:16;85:3,10; 108:17 experienced (3) 7:12,15;8:12 experiencing (2) 61:10;74:15 expert (1) 27:18 experts (1) 122:6 explain (9) 10:8;28:16,19; 29:20;31:14;40:1; 46:9;47:24;91:22</p>	<p>explaining (1) 24:24 explanation (1) 28:18 explicit (1) 70:1 extend (1) 13:16 extensive (1) 53:23 extent (10) 15:24;105:14,17; 106:12,17;107:1,5, 15,19;111:1 extra (1) 23:2 extrapolate (1) 7:13</p> <p style="text-align: center;">F</p> <p>facilities (2) 116:11,17 facility (1) 20:11 fact (10) 35:16;49:7;95:13; 106:9;110:5;113:22; 115:8;116:3;117:12; 123:14 factor (1) 120:10 factored (1) 71:7 factors (1) 120:22 Fahrenheit (1) 133:2 failed (5) 105:17;106:5,10; 109:7;111:19 fails (1) 105:5 failure (2) 108:22;109:2 fair (2) 11:20;40:10 fairly (1) 38:2 falls (1) 124:2 familiar (1) 51:5 far (3) 14:13;94:23;134:8 farther (2) 7:2;22:2 faster (3) 122:9;123:5,12 favorable (1) 52:22 federal (1) 74:12</p>	<p>FERC (3) 29:24;31:19,23 few (12) 13:20;22:19;35:22; 53:11;58:9;72:1; 79:12;82:15,24; 119:20;123:1,7 Figure (9) 4:9,21;5:1,13;8:3, 9,15,19,24 file (2) 136:7;138:6 filed (8) 19:3;41:11;50:18, 20;59:23;101:9; 104:14;121:8 filing (4) 51:6,7;88:9;104:18 filings (5) 19:15;56:7;104:12; 110:11,16 fill (2) 16:4;18:7 finally (2) 43:24;125:4 financial (1) 90:21 find (3) 4:18;54:12;116:12 fine (4) 27:21;83:6;129:16; 139:2 finish (1) 35:14 fireplaces (1) 23:4 firm (4) 39:12;40:4;83:11; 84:9 first (14) 12:21;13:20;33:24; 40:19;48:22;64:8; 91:16;97:20;118:1,7, 9;119:19,22;135:21 fits (1) 20:12 five (23) 7:5;10:3,11,23; 11:14;12:21;13:8; 15:18;16:11;17:19, 19,20,24;18:1;35:23; 36:2,17;59:3;64:14; 66:11;124:1;125:10; 134:18 five-minute (2) 130:17;131:3 five-year (7) 10:6;11:12;12:4,7, 9,19;124:16 fixed (2) 10:3;17:18 flat (3) 21:8,11;126:16</p>	<p>flex (1) 19:18 flexibility (6) 11:17,23;12:3; 52:23;75:14;114:17 flexible (2) 12:18;102:1 flexibleness (1) 12:14 flow (1) 38:9 fodder (1) 101:5 folks (4) 40:7;134:13,15; 137:19 follow (2) 66:17;74:18 following (3) 88:23;122:1; 138:18 follow-up (2) 132:1;137:21 foolishly (1) 39:13 force (1) 31:16 Forecast (67) 3:7;5:23;6:1,3,4, 10,16,22;7:9;21:3,24; 22:3;25:1,6,19; 26:20;46:4,6,14,17, 18,24;47:4,12,16,20; 48:10,13;49:9;51:19; 52:13;55:10;73:19; 78:14,17;92:15; 106:20;114:21; 117:11,16,18;118:10; 120:3,6,21,23; 121:22,24;122:4,18, 23;123:3,9,11,17; 127:12,18;128:24; 129:1;131:24; 133:24;134:1; 135:23;136:1,2,6,17 forecasted (4) 9:13;21:1;106:17; 131:14 forecasting (4) 7:3;63:19;119:3; 127:19 forecasts (9) 3:16;22:5;45:23; 68:3;117:20;118:20; 125:1;126:19;127:6 forego (2) 90:13,13 forever (1) 55:21 forgetting (1) 11:16 forth (1) 114:1</p>	<p>fortifies (1) 37:9 forum (1) 116:7 forward (9) 3:9,17;7:3;8:23; 9:3;24:23;53:10; 87:16;127:6 fossil (1) 70:24 found (2) 98:16;122:8 Foundation (2) 92:23;117:5 founded (1) 40:9 fraction (1) 100:2 frame (1) 139:5 framing (1) 110:19 Frink (7) 113:8,10,14;114:1; 117:12;120:7,17 Frink's (9) 4:19,22;5:5;23:12; 113:18,20;115:3; 120:4;121:4 front (1) 24:6 froze (1) 118:8 fuel (7) 65:16;69:22;70:14, 16;89:8;90:15; 107:18 fuels (2) 69:20;70:24 full (6) 12:2;39:22;69:18; 97:12;109:17;113:12 fully (2) 117:6;118:17 fundamental (1) 66:3 fundamentally (1) 36:6 further (8) 11:6;81:22;94:20; 106:16;109:19; 130:20;137:21; 139:12 future (25) 27:11;55:3,16; 56:24;77:21;101:21; 102:2,3;106:24; 107:23;108:10,19; 112:1;117:20; 118:19;122:21; 127:23;128:17,17; 131:21,24;133:16,21; 135:23;136:6</p>
---	---	--	--	---

<p>Futures (1) 40:3</p> <hr/> <p style="text-align: center;">G</p> <hr/> <p>gap (3) 59:2,13,14</p> <p>Garrett (1) 39:24</p> <p>Gas (105) 12:9;16:11,15; 17:15;19:11,13,14; 21:1;23:3,4,5;26:24; 28:3,21;29:2,4;30:1; 33:6,11;34:1,3,9,14, 17;37:4;38:9,16,22; 40:10,11,17;41:1,6; 53:21;54:16,17;57:5; 60:21;61:3,8,14;65:3, 11,11;66:3;67:16,17, 20;68:9,12;69:4; 70:9,11,13,17;71:16; 72:12,23;73:4,5,6,23; 76:21;77:21,21;79:4; 84:17,18,24;85:5,8, 12,18;89:6;91:4,14, 16;92:3,10,12;93:2, 12,17,21;94:1,3,9; 98:8,13;99:16;100:5, 17;101:20;102:15; 107:7,22;108:10; 112:2,4;114:14; 117:6;120:13;121:9, 13;134:11</p> <p>gas-constrained (1) 73:7</p> <p>Gas's (1) 93:21</p> <p>gate (4) 33:1,23;34:19;35:3</p> <p>gave (1) 32:10</p> <p>gears (2) 50:12;63:24</p> <p>General (3) 13:10;104:7;110:3</p> <p>generally (5) 14:14;16:17;32:23; 52:19;79:22</p> <p>gentlemen (1) 101:3</p> <p>germane (1) 101:14</p> <p>gets (1) 37:4</p> <p>given (14) 15:17;17:2,3,10; 45:19;46:16,24; 47:17;49:9;69:14; 89:19;97:10;103:21; 133:4</p> <p>gives (6) 100:10;113:19;</p>	<p>127:7,7,12;131:23</p> <p>giving (2) 80:18;114:2</p> <p>goes (4) 6:24;10:19;102:20; 104:18</p> <p>Goldner (40) 3:3,5;5:7,12;27:23; 53:11;58:8;86:1,3,12, 21;87:2;102:24; 103:2;112:21,23; 119:13,15;121:5; 125:24;126:2,6; 128:5,19,23;129:4; 130:1,3,9,13,21; 131:19;132:11; 133:10;134:16; 136:10,14;137:4,8,17</p> <p>Goldner's (1) 101:4</p> <p>good (11) 6:11;11:15;25:9; 57:4,17;60:1;122:16; 127:13;136:3,4; 139:14</p> <p>governs (1) 32:1</p> <p>Granite (12) 17:12;44:5;51:12, 14;99:20;100:1; 110:7,22;111:5,13; 124:22;125:15</p> <p>graph (2) 129:8,11</p> <p>graphical (1) 129:14</p> <p>graphs (2) 4:3;129:12</p> <p>grasp (2) 21:9;22:14</p> <p>great (4) 58:14;61:4;102:16; 130:14</p> <p>greater (2) 71:7;107:6</p> <p>greatly (1) 135:13</p> <p>Green (1) 94:1</p> <p>greenhouse (10) 68:9;72:12;73:4,7, 23;92:10;107:7,22; 108:10;112:4</p> <p>Grid (8) 5:20;70:22;91:21, 23;92:1,13;122:16; 126:23</p> <p>Grid's (1) 92:15</p> <p>grill (1) 23:4</p> <p>group (2) 21:15;40:3</p>	<p>grow (2) 55:8,9</p> <p>growing (4) 61:23;74:6;123:5, 12</p> <p>growth (21) 4:14;5:18;6:6,8; 8:13,23;9:2,6;21:1,7, 9,16;22:1,11,15,21; 108:17,19;128:13,15, 21</p> <p>guaranteed (3) 34:16,21;37:2</p> <p>guess (5) 22:16;63:2;91:9; 102:11;118:4</p> <p>guided (1) 111:10</p> <hr/> <p style="text-align: center;">H</p> <hr/> <p>half (3) 9:2;12:16;18:1</p> <p>half-decade (1) 115:17</p> <p>Hampshire (27) 40:23;41:2,5,3,2, 18,23;64:18;65:22; 68:18;69:2,8,9,12,13, 15,24;73:21;74:2,15, 18;85:13;106:15; 107:8,9,16,23; 111:18;118:23</p> <p>Hampshire's (3) 67:2;104:3;111:9</p> <p>hand (1) 131:3</p> <p>hands (1) 139:10</p> <p>handy (1) 83:3</p> <p>happen (4) 30:7;31:9;98:22; 122:6</p> <p>happened (2) 123:11;134:7</p> <p>happening (4) 74:1,12;107:10; 122:21</p> <p>happens (2) 33:23;124:2</p> <p>happy (1) 138:5</p> <p>hard (2) 52:6;129:12</p> <p>hardware (1) 96:15</p> <p>hear (1) 97:16</p> <p>heard (11) 35:22;37:12;51:19; 85:16;88:3,19,20; 95:6;100:22;123:21;</p>	<p>125:3</p> <p>hearing (13) 75:5;82:3;92:17; 100:19;119:21; 124:21;134:24; 138:2,9,12,18; 139:13,15</p> <p>hearings (4) 40:16,23;94:5,5</p> <p>heat (42) 64:9,10,12,13,18, 22,24;65:1,5,8,14,14, 23;66:5,10,24;68:2, 12,14,16;69:1,5,10, 23;70:2,5,8,9,17,20, 21;71:8,10;78:8; 84:24;86:7,14;101:5; 107:12,13,17;118:18</p> <p>heater (1) 89:18</p> <p>heaters (1) 66:5</p> <p>heating (15) 7:15,16;20:13; 22:20;66:4,4;67:14; 70:24;90:11;107:18; 120:10,12;132:23; 133:3;134:8</p> <p>hedge (1) 18:20</p> <p>hedging (2) 18:19;19:2</p> <p>help (12) 9:18;26:13;32:13; 38:13;57:8,10,10,11; 89:10;91:3;134:18; 138:9</p> <p>helpful (10) 16:8;27:15;28:18; 49:23;129:20; 130:15;131:6; 136:19,21;137:13</p> <p>helps (3) 34:11,23;131:23</p> <p>hence (1) 112:6</p> <p>here's (2) 127:11;135:6</p> <p>high (7) 15:21;16:22;108:6, 17;121:10,19;123:4</p> <p>higher (11) 13:3;17:1;22:13; 34:21;35:5;45:5; 48:13,15;51:17;54:3; 123:15</p> <p>highest (5) 16:17;67:19;73:6; 137:2,12</p> <p>high-level (1) 36:5</p> <p>highlighted (1) 25:19</p>	<p>highlights (1) 21:6</p> <p>highly (1) 101:13</p> <p>Hill (99) 39:12,16,18,21,23, 24;40:1,3,21,24;41:3, 8,14,16,19;42:15,18; 43:2,10,12,18,21,24; 44:4,7,9,13,18,19; 45:8;46:15;47:22; 48:1;49:19;51:5; 53:17;58:12;60:1,12, 16,18;63:9;64:6; 66:18,21;69:15; 70:10;71:9;72:19; 74:3;75:5;76:2,9; 77:14;78:16;79:21; 81:5,8,15,20,22;82:9, 16,24;83:4,7,16,20; 84:1,8,14,16,20;85:2, 6,9,10,14,20;86:4,19, 20;87:9,18;88:2,10, 15;89:1;91:5,10,13, 18,24;94:18;100:21; 105:20;106:16,22; 117:4</p> <p>Hill's (1) 5:6</p> <p>Hinesburg (1) 40:4</p> <p>hinges (1) 126:15</p> <p>historic (5) 45:12;66:1,10; 131:13,16</p> <p>historical (12) 3:13,15;5:22;6:2,5, 23;21:22;24:22; 25:10;87:12;128:13, 15</p> <p>historically (3) 6:21;21:13;25:16</p> <p>history (8) 3:8,11;5:16;8:4; 127:2,8;128:24; 131:18</p> <p>hit (4) 119:20;132:4,9,22</p> <p>hold (1) 43:13</p> <p>holistic (2) 72:22;73:3</p> <p>homework (4) 103:19;108:22; 112:12;123:18</p> <p>hope (1) 118:6</p> <p>hopeful (1) 132:12</p> <p>hopefully (3) 32:12;39:14;87:11</p> <p>hour (1)</p>
---	---	--	--	--

89:24 house (4) 54:18;65:7;67:5; 69:18 house's (1) 54:19 Hudson (1) 38:17 hundred (2) 60:9;130:2 hundreds (1) 3:24 hypothetical (2) 32:12,14	important (25) 35:10;47:21;49:7; 52:2;54:15;56:11; 61:24;63:21;64:7; 65:16;67:16,18;69:1; 71:21;74:11;79:2; 114:10;115:10; 116:2,4;117:1,14,22; 122:22;133:20 importantly (1) 114:15 improve (1) 54:17 improved (1) 64:10 improvements (1) 117:10 impute (1) 80:24 inappropriate (1) 46:11 include (8) 6:8;26:8;46:7,11, 17;48:16;55:19; 105:11 included (6) 36:10;51:18;54:4; 63:22;78:20;118:8 including (7) 25:24;32:24;62:1, 21;101:3;105:3; 118:18 incorporate (3) 51:22;72:16;78:14 incorporated (4) 25:24;68:21;79:7; 87:16 incorporates (1) 49:17 incorporating (5) 57:24;73:9;81:13; 87:18;118:1 Incorporation (1) 87:21 incorrect (1) 61:18 incorrectly (1) 41:23 increase (9) 9:10,13;18:24; 30:18;37:7;45:13; 46:2;47:11,20 increased (12) 31:3;35:12;45:18; 52:16;63:12;78:18; 92:8;99:8;105:18; 111:22;112:2,3 increases (4) 45:10,11;59:22; 70:20 increasing (6) 38:7;47:8;50:9; 60:21;67:13;107:14	increasingly (2) 74:20;108:4 increment (1) 10:6 incremental (3) 36:12;54:2;55:4 increments (2) 12:5,8 incumbent (1) 53:1 independent (1) 38:3 indicated (2) 52:15;64:8 indicator (1) 74:20 indicators (2) 74:6,17 industry (2) 21:2;67:17 information (14) 7:19;32:10;86:4,6, 7,14,14;87:3;92:19; 118:20,23;119:2; 136:17;138:8 information-gathering (1) 116:7 infrastructure (7) 38:11;72:24;73:1; 76:22;93:2,12;112:2 initially (1) 61:14 initiative (2) 74:9;90:4 initiatives (3) 61:11;62:3;83:19 inquiring (1) 62:21 insignificant (2) 49:1;58:8 installation (1) 70:2 installations (1) 66:10 instance (1) 29:3 insulation (1) 55:1 insurance (1) 15:6 integrated (13) 59:21;63:7;75:24; 81:13;101:6,14; 102:7;104:4,9; 105:10,22;111:11,17 intended (1) 42:4 intends (1) 110:1 intent (2) 14:12;42:23 intention (1) 13:22	interconnect (1) 37:24 interconnects (4) 33:8;34:3;38:8,10 interest (7) 53:2;101:4;103:16; 104:1;107:4;112:17; 119:8 interested (4) 61:15,20;70:8;86:6 interesting (1) 98:21 interpretation (1) 132:14 interpreting (1) 104:6 interrupt (1) 66:15 interruptable (2) 89:13;90:10 interruptions (1) 33:14 interrupts] (8) 3:21;86:11;95:16; 96:12;125:13; 135:16;136:24;137:7 intervene (2) 30:11;31:2 into (44) 5:23;6:5;8:2;9:16; 10:19;16:4;24:1; 26:13;27:13,16;34:6, 7,8;35:1;55:2;56:23; 58:14;66:12;72:16; 73:10,18;78:17; 79:17;81:13;87:16; 95:11;99:15;101:20; 102:2;104:19;111:1; 113:12;117:19; 120:5,23;121:13; 124:2;127:23; 128:17,17;131:24; 133:16,24;135:23 introduce (2) 95:11,14 invent (1) 102:6 investigated (1) 79:9 investment (3) 23:10;40:11;93:6 investments (15) 24:6;72:24;73:1; 75:9;76:21;83:12; 93:2;110:12,15; 115:10,11,19,20,21, 24 invoked (1) 100:9 involved (3) 13:6;94:7;98:11 involves (2) 91:20,21	IRP (3) 63:2,4;124:22 Island (6) 41:7;91:22;92:3, 21;94:16;107:10 issue (5) 88:13;116:8,15,22; 117:19 issue] (10) 3:20;14:8;86:10; 95:15;96:9;125:12; 135:15;136:4,23; 137:6 issues (5) 40:10;101:2; 104:19,21;105:21
I				J
ID (1) 97:6 ideal (1) 17:8 identified (8) 41:9,15;44:16; 59:3;114:12,22; 117:12,13 ignore (1) 106:1 ignored (2) 107:1,5 ignores (2) 107:15,21 II (2) 28:15,19 Illinois (2) 41:4;93:20 imagine (1) 132:20 immaterial (1) 58:7 immediate (1) 93:5 impact (16) 11:7;26:7,17;30:8; 49:19,21;50:8;55:3; 58:20;63:10;73:15; 90:2;93:6;112:7; 116:16;122:7 impacts (8) 58:15;73:16;74:16; 76:20;77:10;93:3; 109:6,9 implement (1) 36:18 implementation (1) 115:20 implements (1) 83:11 implications (1) 93:1 implied (1) 41:23 imply (3) 42:20;54:5;81:10				January (1) 137:10 July (3) 98:18,20;99:1 jumped (1) 125:11 jurisdictions (1) 53:19 justification (1) 57:21 justify (1) 63:19
				K
				KEDNY (1) 92:2 Keegan (1) 82:20 keep (4) 33:15;84:24;130:6, 7 keeping (1) 53:14 Keough (4) 98:17,19;99:3,10 K-E-O-U-G-H (1) 98:18 Killeen (1) 60:20 kind (20) 5:23;42:10;45:1; 53:12;54:5;55:8,13; 58:21;62:11,12;69:3; 73:2;74:23;76:3; 78:5;79:23;121:14; 126:10;127:12,20 Kinder (2) 12:13;16:10 knowledge (3) 44:12;85:15;87:1 knows (2) 113:9;115:16 Krakoff (30)

<p>39:8,10,20;42:14; 43:11;71:23;72:3,9; 79:11,14;81:21; 86:22;87:5;91:7,9, 12;94:19;95:10,18, 20;96:10,24;97:3; 100:21;103:6,7; 112:20,24;122:23; 123:20 Krakoff's (3) 37:13;95:5;121:19 Kreis (7) 82:6,8;97:17,18; 102:23;103:3;123:22 Kreis's (1) 125:6</p>	<p>81:13;101:6,14; 102:7,14;104:3,9; 105:9,15,22;106:14; 107:3;111:10,17,21; 117:7 leaves (1) 95:4 left (1) 131:12 legal (2) 85:11;104:20 legislation (5) 70:1,5;107:8; 108:5,11 legislative (1) 74:6 legislators (1) 74:21 legitimate (1) 42:5 length (1) 115:3 less (9) 5:17;9:5;15:23; 22:2;29:14;34:9; 64:20,22;70:12 level (10) 45:8;61:19;68:23; 74:7,12;105:7;118:9; 121:10,20;123:4 levels (5) 45:5;51:17,24; 53:9,15 Liberty (63) 5:24;6:6;9:24; 11:15;21:2;36:21; 41:24;50:13;51:9; 53:6,13;56:15;59:19; 68:1;71:6,15;72:16; 74:23;75:2;77:4; 79:16;82:21;98:2,8, 12;99:15,18;101:16; 103:12,16,21;104:10; 105:5,10,17;106:4,7, 23;107:5,9,15,20; 108:1,8;109:7,10,13, 19;110:1,4,14,18,20; 111:2,19;112:11,14; 114:24;115:4; 122:14;127:1; 128:16;135:21 Liberty's (24) 13:22;21:9;45:3,7; 63:7;75:24;76:3,5; 77:1,6;78:13;79:19; 106:17,19;107:20; 108:13,15,18;109:1, 15;110:5;112:18; 113:23;114:18 life (5) 54:23;75:9;95:12; 96:7;102:13 likelihood (2)</p>	<p>71:8;108:6 likely (2) 70:16;108:20 limit (2) 29:13,17 line (8) 6:11;23:23;24:2; 42:16;72:17;83:21; 122:17;132:3 Lines (4) 9:8;42:18,19;83:8 linked (1) 117:7 links (1) 128:8 listened (2) 98:15;100:20 listening (1) 97:24 litigation (1) 125:15 little (11) 3:14;7:2;15:3; 24:10;28:17;50:12; 100:22;104:20; 114:2;129:11;134:21 LNG (3) 15:22;16:2;20:11 load (36) 15:7,9;20:12,13; 22:14;54:20;58:20; 60:22;69:18,19;91:2; 105:4;106:5;111:23; 127:3,4,20;129:6,8, 18,20,22,24;130:5; 132:14,15;133:12,13, 15,19,23;134:2; 135:11;136:16,20; 137:2 loads (7) 61:4;62:7;89:2; 90:6,6,12;135:12 local (1) 119:1 location (3) 23:24;34:24;35:6 locations (3) 33:22;34:2,10 Londonderry (4) 29:7;33:23;34:14, 22 long (9) 33:19;39:13;75:9; 76:14;92:2;93:1,10; 98:2;118:24 longer (6) 13:16,17;93:4,7, 13;117:21 long-term (1) 116:15 look (45) 3:12,22;6:19;7:4,8, 20;8:1,19,19;9:7;</p>	<p>10:15;13:19;14:2; 15:5;18:23;19:23; 20:8,15;25:9;26:11, 12;27:2,12;33:5; 35:24;46:5;47:21; 48:23;56:12,16; 58:23;59:5,6,22; 68:11;71:9;78:24; 100:7;120:3;122:5; 123:10;126:21; 127:3,4;134:8 looked (7) 6:22;50:16;51:2; 92:7;122:10;123:19; 127:10 looking (24) 3:9;5:10;7:1;8:7, 22;44:19;46:18; 47:14;50:22;52:13; 62:21;77:19;91:24; 127:1;128:3;130:8; 131:11,17,20,22; 132:13,15;133:15; 134:1 looks (11) 4:2;8:4;23:14,15; 26:1,3;48:1;77:14; 81:15;127:13,22 lose (1) 13:5 lot (5) 14:18,22;62:17; 64:16;78:6 lots (1) 124:24 low (2) 86:15,17 lower (3) 8:17;35:3;70:14</p>	<p>105:2,4;106:5; 111:23 management-type (1) 60:22 manager (2) 14:3,11 managing (1) 62:7 Manchester (3) 34:8,11;35:4 mandate (1) 112:4 mandates (1) 73:23 mandatory (1) 107:21 manufacturers (1) 64:12 many (7) 16:18;21:17;28:6; 55:2,2;113:24; 127:18 March (1) 137:11 marked (1) 83:2 market (10) 13:13;14:10;15:20, 21;16:4;65:24;67:12, 23;70:6;71:2 marketing (11) 6:12;21:14;45:10, 23;46:12;48:17;50:8; 59:8;122:13,15,24 markets (5) 55:23;65:20;70:19; 108:7,20 MARTIN (48) 3:2;5:2,9;28:1,10, 11;39:2,5;42:13,24; 43:7;71:23;81:23; 82:4,10,14,17;85:22, 23;87:6,8;91:7; 94:21;96:1,18,23; 97:5,15;102:22; 103:4;112:19;113:1, 4;119:11,17;125:22; 126:4;130:22; 134:17,20;135:1,9; 137:23;138:4,16; 139:1,4,9 Massachusetts (4) 40:6;65:21;73:22; 77:19 match (3) 13:4,11;120:24 materialize (1) 22:7 math (4) 17:23;26:18;27:6; 134:10 mathematics (1) 9:18</p>
L				
<p>labeled (1) 43:4 labels (1) 43:17 laboring (1) 98:1 lack (1) 109:3 language (6) 28:19;29:10,21; 31:15,24;32:2 large (1) 106:17 largely (4) 46:21,22;106:8; 108:13 larger (3) 4:5;20:4;110:23 last (15) 3:10;7:12;17:11; 25:21;30:12;31:8; 55:2;59:24;66:11; 79:13;80:22;104:17; 115:17;127:10;129:2 later (1) 80:9 Lateral (5) 34:19;38:17;110:6, 8,13 Law (3) 92:23;106:3;117:5 LCIRP (21) 22:5;44:2,5;57:19; 63:17;80:10;88:9,10; 101:18;104:6,13,15, 19,22;109:4;110:4,5, 8,11,16;111:18 learn (1) 86:8 learning (1) 101:4 least (22) 13:20;59:21;63:7; 64:16;65:24;75:24;</p>	<p>71:8;108:6 likely (2) 70:16;108:20 limit (2) 29:13,17 line (8) 6:11;23:23;24:2; 42:16;72:17;83:21; 122:17;132:3 Lines (4) 9:8;42:18,19;83:8 linked (1) 117:7 links (1) 128:8 listened (2) 98:15;100:20 listening (1) 97:24 litigation (1) 125:15 little (11) 3:14;7:2;15:3; 24:10;28:17;50:12; 100:22;104:20; 114:2;129:11;134:21 LNG (3) 15:22;16:2;20:11 load (36) 15:7,9;20:12,13; 22:14;54:20;58:20; 60:22;69:18,19;91:2; 105:4;106:5;111:23; 127:3,4,20;129:6,8, 18,20,22,24;130:5; 132:14,15;133:12,13, 15,19,23;134:2; 135:11;136:16,20; 137:2 loads (7) 61:4;62:7;89:2; 90:6,6,12;135:12 local (1) 119:1 location (3) 23:24;34:24;35:6 locations (3) 33:22;34:2,10 Londonderry (4) 29:7;33:23;34:14, 22 long (9) 33:19;39:13;75:9; 76:14;92:2;93:1,10; 98:2;118:24 longer (6) 13:16,17;93:4,7, 13;117:21 long-term (1) 116:15 look (45) 3:12,22;6:19;7:4,8, 20;8:1,19,19;9:7;</p>	<p>10:15;13:19;14:2; 15:5;18:23;19:23; 20:8,15;25:9;26:11, 12;27:2,12;33:5; 35:24;46:5;47:21; 48:23;56:12,16; 58:23;59:5,6,22; 68:11;71:9;78:24; 100:7;120:3;122:5; 123:10;126:21; 127:3,4;134:8 looked (7) 6:22;50:16;51:2; 92:7;122:10;123:19; 127:10 looking (24) 3:9;5:10;7:1;8:7, 22;44:19;46:18; 47:14;50:22;52:13; 62:21;77:19;91:24; 127:1;128:3;130:8; 131:11,17,20,22; 132:13,15;133:15; 134:1 looks (11) 4:2;8:4;23:14,15; 26:1,3;48:1;77:14; 81:15;127:13,22 lose (1) 13:5 lot (5) 14:18,22;62:17; 64:16;78:6 lots (1) 124:24 low (2) 86:15,17 lower (3) 8:17;35:3;70:14</p>	<p style="text-align: center;">M</p> <p>Madam (2) 5:4;97:18 magnitude (1) 121:7 main (1) 23:12 Maine (5) 65:20;66:9,13; 73:21;107:14 major (1) 64:11 majority (2) 20:14;23:7 makes (3) 27:8;28:21;93:5 making (5) 16:1,2;49:6;50:24; 86:23 manage (4) 14:4,11;61:3;90:6 management (4)</p>	

<p>matter (2) 78:22;83:5</p> <p>maximizing (1) 104:23</p> <p>may (23) 13:15;15:17,22; 18:19,22;38:9;46:16; 55:22;64:19,22; 70:15;73:11;76:15; 80:16,16;89:7;90:12; 93:12;95:6;111:12, 16;130:20;133:4</p> <p>Maybe (18) 5:2;7:2,24;21:5; 22:10;28:5;31:7; 33:16;64:17;80:13; 90:18;113:5;123:6, 24;129:13;133:5,17; 134:14</p> <p>mean (16) 8:10;26:15;42:5; 51:8;67:17;76:9,13; 79:6;80:5,14;81:6; 83:17;90:7;91:2; 93:16;95:20</p> <p>meaning (4) 33:5;51:13;105:16; 129:5</p> <p>means (6) 12:10,21;28:24; 34:2,16;76:10</p> <p>measure (2) 54:16;131:21</p> <p>measured (2) 54:23;132:23</p> <p>measures (3) 54:24;55:22;56:23</p> <p>mechanisms (1) 61:22</p> <p>meet (16) 15:16;16:21;21:18; 55:18,18;59:1,1; 68:13;69:18;73:19; 98:12;106:24; 111:19;114:15; 124:9,13</p> <p>meeting (4) 73:4;74:13;100:1; 107:2</p> <p>meets (1) 71:14</p> <p>mention (3) 41:19;88:19,21</p> <p>mentioned (8) 9:14;21:3;31:6; 62:8;70:13;73:14; 92:24;124:15</p> <p>mentioning (1) 80:15</p> <p>merely (2) 45:5;111:12</p> <p>merge (1) 130:15</p>	<p>merits (2) 121:16;124:4</p> <p>met (5) 17:9;100:2;103:22; 106:12;112:14</p> <p>meter (3) 34:15,22;37:23</p> <p>Michigan (1) 41:6</p> <p>mid (1) 31:9</p> <p>midwinter (1) 16:13</p> <p>might (23) 12:15;13:15,16; 14:20,23;15:2;20:10; 27:18;46:1;57:14; 60:8;62:12;68:2; 69:12;84:6;89:17; 90:18;116:16; 130:23;133:18; 134:17;137:9,11</p> <p>Mike (1) 96:10</p> <p>mile (1) 23:12</p> <p>million (39) 4:7,9;9:20;10:4,5, 10,16,18,19,20,21,24; 11:1,18,19,20;12:2; 15:2,7,9;16:9;17:18; 18:4,8;19:5;23:9,13, 17;48:22;49:2,3; 99:22;121:13;126:8, 8,10,11,11,12</p> <p>millions (1) 4:2</p> <p>mind (2) 63:3;126:15</p> <p>minimal (1) 87:14</p> <p>minimize (1) 34:11</p> <p>minimum (5) 34:15,18,20;35:1; 37:2</p> <p>minimus (1) 58:20</p> <p>minor (1) 125:2</p> <p>minus (1) 26:4</p> <p>minute (4) 5:14;11:18;120:1; 131:4</p> <p>minutes (3) 72:1,4;134:18</p> <p>misinterpreted (1) 22:16</p> <p>misnomer (1) 122:12</p> <p>missed (1) 122:23</p>	<p>misstated (1) 42:10</p> <p>mistake (1) 60:17</p> <p>mitigate (2) 17:5;18:19</p> <p>mitigation (2) 14:14,21</p> <p>model (4) 45:5,13;71:8; 123:13</p> <p>models (2) 53:7;67:13</p> <p>monitor (1) 36:14</p> <p>month (1) 74:13</p> <p>months (1) 85:1</p> <p>more (46) 3:14;5:17;18:17, 19;19:20,22;22:12, 13,21,22;29:12; 33:11;34:3;38:9,16; 51:5,16;52:4;56:4,6; 57:15;59:16;61:13; 64:17,23;66:11; 67:18;68:1;69:13; 70:8,15;71:20;73:12; 75:15;78:11,12,24; 79:9,12;81:7;86:24; 89:7;101:4;104:20; 114:2;122:17</p> <p>Morgan (2) 12:13;16:10</p> <p>most (11) 15:1;35:10,18; 37:1,5;38:23;71:17; 87:21;114:15; 117:13;120:14</p> <p>mostly (1) 22:24</p> <p>mouths (1) 100:23</p> <p>move (1) 133:16</p> <p>moving (6) 9:3;10:5;24:23; 114:7;117:16;127:6</p> <p>much (18) 8:10;13:17;14:16; 16:2,2;17:5;18:2; 26:22,23;29:14;68:1; 80:11;106:17; 110:23;113:17; 134:10,11;137:18</p> <p>multiple (1) 57:8</p> <p>multiplying (1) 27:1</p> <p>must (3) 100:22;104:1,8</p> <p>muted (1)</p>	<p>39:22</p> <p>myself (2) 46:9;98:16</p> <p style="text-align: center;">N</p> <p>name (2) 39:22,23</p> <p>narrow (1) 33:16</p> <p>Nashua (6) 23:13;24:1;34:8, 10;35:4;38:17</p> <p>National (6) 5:20;91:21,23; 92:1;122:15;126:23</p> <p>nationally (2) 107:11,23</p> <p>natural (25) 16:15;41:1;70:9, 11,13,17;84:18;85:5, 8,12,18;91:14,16; 93:21;94:1,3;98:8, 12;99:16;100:5,17; 101:20;102:15; 112:2;120:13</p> <p>nature (1) 52:10</p> <p>near (1) 21:23</p> <p>necessarily (2) 57:18;71:13</p> <p>necessary (5) 31:17;37:14; 102:14;103:19; 108:23</p> <p>NED (5) 17:11;98:4;110:21; 111:4,13</p> <p>need (38) 10:8;14:9;19:18; 30:15;32:21;34:2; 37:1,5,6;38:22;56:6; 57:14;59:16;65:3; 71:19;73:2;75:11; 94:22;100:1;105:8, 19;108:12;112:6; 114:12,15,22;116:23; 117:12;124:5,14,18, 19,22,23;126:17; 127:6;134:12;136:9</p> <p>needed (8) 15:9,16;19:20,22; 109:12;115:15; 124:17;126:20</p> <p>needs (14) 3:19;16:21;21:18; 47:5;55:18,19;56:22; 57:2;59:5;60:3; 89:20;98:13;101:13; 107:2</p> <p>negotiated (2) 85:4,7</p>	<p>negotiation (2) 37:15,19</p> <p>Neighborhood (1) 93:24</p> <p>neighboring (1) 107:11</p> <p>Nevertheless (1) 101:22</p> <p>new (60) 10:20;13:13;18:21; 22:24;23:7,12;29:24; 31:3,5;40:6,22;41:1, 6;42:6;46:22;47:2; 51:21;53:2,18,22; 56:8;64:17;65:21,22; 66:2;67:2,23;68:18; 69:2,8,8,12,13,15,24; 73:1,21;74:2,15,18; 76:21;85:12;91:21; 92:2,3,13;94:15; 98:24;99:6,20;104:3; 106:15;107:8,9,16, 23;108:17;111:9,18; 118:22</p> <p>next (16) 10:6;12:5;35:23; 36:2,17;80:7;88:9; 101:8,18;104:18; 108:7;109:10;118:3; 124:1;138:24;139:2</p> <p>NICOR (1) 93:20</p> <p>nine (2) 127:11;128:13</p> <p>nobody's (1) 91:15</p> <p>None (1) 103:2</p> <p>non-gas (1) 101:12</p> <p>non-peak (1) 89:24</p> <p>non-preapproval (2) 115:11;116:3</p> <p>non-trivial (1) 106:21</p> <p>nor (2) 112:8;116:17</p> <p>normal (3) 48:12;113:13; 123:8</p> <p>Normalize (1) 135:12</p> <p>normalized/actual (1) 135:11</p> <p>normalizing (1) 135:14</p> <p>normally (1) 130:6</p> <p>northern (3) 69:6,8,12</p> <p>note (4) 39:11;97:8;104:16;</p>
---	--	---	--	---

137:20 noted (1) 72:20 notice (1) 80:19 notwithstanding (1) 126:13 now-abandoned (1) 110:7 now-withdrawn (1) 110:21 nuance (1) 69:7 number (24) 6:7,12;9:19;27:19; 43:5;44:1,3;47:8; 49:2;60:21;61:6; 62:10;64:7;72:22; 77:20;114:10; 121:21;127:16; 128:21;129:9,16; 134:11;137:15 numbers (13) 4:6;6:24;23:14; 24:15;27:16;48:14; 53:14;66:7,8;121:10; 127:5;129:15;135:20	125:16 occasion (1) 17:4 occur (1) 89:12 odds (1) 121:12 off (9) 6:15;24:3;34:9; 38:17;55:22;72:8; 124:17;134:21;135:8 offer (1) 90:7 office (1) 98:6 offices (1) 40:6 off-peak (1) 14:17 offset (6) 11:4;15:23;35:6; 68:16;69:19;94:3 offsets (1) 94:2 often (1) 31:10 oil (4) 67:7;70:14,16; 107:18 old (4) 13:7;99:2,7,17 once (3) 15:1;47:23;115:15 one (35) 10:15,20,21;12:22; 16:17;25:21;27:22; 35:3,11;39:11;43:4; 13;50:15;53:12;54:6; 58:24;59:11;65:16; 71:13;86:3;88:1; 90:3;91:20,21;92:18; 95:8;102:9;115:4; 117:14;118:13; 124:10,18;126:16; 127:2;129:24 one-page (1) 24:13 One's (4) 3:24;4:1;41:11,12 ongoing (3) 55:20;56:23;98:11 online (1) 137:20 only (14) 15:15,17;31:19; 34:20;37:16;38:4; 51:23;60:3;72:4; 79:11,12;111:16; 113:6;124:11 on-system (29) 32:9;34:23;35:8, 16;36:1,19;37:6; 52:9;56:9;57:13;	62:20;75:1,6,16,18, 22;76:7;80:16;81:2; 95:12;96:8,13; 109:11,16,22;110:2, 9;112:9;115:9 OPA (1) 33:19 open (3) 28:6;83:4;101:7 opening (1) 63:1 operate (1) 64:13 operational (3) 33:3;36:10;80:14 operations (2) 62:15;90:23 opinion (1) 102:18 opportunities (5) 12:6;53:20;56:12; 62:22;114:24 opportunity (4) 70:23;103:8;114:6, 23 oppose (1) 30:17 opposed (4) 21:10;22:22;51:15; 84:5 opposing (1) 124:11 optimistic (1) 123:17 optimization (1) 14:2 optimize (3) 37:4;38:19;75:7 option (11) 17:13,16;42:5; 70:23;106:14;107:3; 110:6,8,13;111:17,21 options (14) 52:21;53:3,24; 59:15,17;62:3,11,23; 71:18;79:3,5;90:9; 91:3;102:9 order (8) 8:12;37:7;38:18, 22;55:6;104:17; 106:24;121:7 ordered (1) 47:7 orders (1) 104:6 original (6) 50:17,22;51:3,6,7; 66:23 ostensibly (1) 111:7 others (2) 51:20;83:23 Otherwise (1)	44:11 ours (1) 125:20 out (35) 3:7,16;13:1,10,14; 15:12,18;16:4;22:2; 26:22;27:3;32:3; 40:4;44:10,19;48:10, 22;49:2,10;52:18; 57:18;65:17;75:20; 93:7;96:11;98:23; 99:5,6;100:23; 106:22;113:22; 114:22;118:7; 122:24;132:3 outage (1) 62:9 outlines (1) 79:24 out-of-model (7) 6:9,14;45:3,9,17; 48:7;122:13 outside (1) 64:20 over (23) 6:15;7:23;12:11; 16:22;17:10;24:22; 36:17;48:22;51:12; 76:14,20;93:7,10,13; 98:3;100:5;102:13; 115:16;123:1;124:1, 6;127:10;128:16 overall (11) 11:12;24:19;32:24; 33:19;36:16;49:14; 55:17;57:11;89:10; 130:8,10 overlapping (1) 12:15 overly (1) 123:16 over-pulling (1) 33:20 oversee (1) 100:11 oversubscribed (1) 61:12 own (7) 57:1;67:5;86:4,6; 87:3;98:9;129:15 owns (1) 116:17	115:18 panel (3) 48:6,12,19 panels (1) 49:1 Paper (4) 92:13,17;94:15,16 parcel (1) 105:24 part (23) 14:1;19:12;32:22, 24;33:19;36:2,10; 38:21;45:20;46:4; 51:10;59:20;65:2; 75:24;77:15;80:10; 92:16;93:22;94:13; 99:11;105:9;106:6; 136:17 partially (1) 81:5 participants (2) 42:10;61:8 participate (2) 40:15;61:13 participated (1) 41:5 participating (1) 61:15 participation (3) 42:1,8;60:10 particular (8) 32:1;34:15;50:21; 51:2;98:16;99:24; 102:3;137:2 particularly (7) 28:19;70:22;75:8, 11;86:15;109:8; 116:18 parties (6) 74:14;81:1;95:1,3; 97:2;121:17 parts (1) 36:24 party (1) 124:11 pass (2) 14:5;108:4 pass-through (1) 19:11 past (6) 9:3;122:2;127:22; 131:22;134:7,9 pattern (1) 20:12 pause (3) 128:8,11;137:22 pay (2) 18:5,11 paying (1) 37:21 peak (25) 7:16;15:7,8;68:17; 89:11,23;90:2;91:4;
O				
object (2) 30:11;95:22 objecting (1) 95:19 objection (4) 95:7;96:24;97:3,6 objective (1) 83:18 objects (1) 131:8 obligated (5) 29:8,11,13;33:7; 59:5 obligation (7) 29:1,5;34:17; 36:22;71:16;85:11, 17 obligations (1) 68:13 obtain (2) 41:24;42:1 obtained (1) 31:18 obviates (1) 37:5 obvious (1) 113:6 obviously (5) 12:14;22:1;30:10; 73:21;91:13 OCA (7) 79:17;97:21;98:1, 7;100:23;111:1;	67:7;70:14,16; 107:18 old (4) 13:7;99:2,7,17 once (3) 15:1;47:23;115:15 one (35) 10:15,20,21;12:22; 16:17;25:21;27:22; 35:3,11;39:11;43:4; 13;50:15;53:12;54:6; 58:24;59:11;65:16; 71:13;86:3;88:1; 90:3;91:20,21;92:18; 95:8;102:9;115:4; 117:14;118:13; 124:10,18;126:16; 127:2;129:24 one-page (1) 24:13 One's (4) 3:24;4:1;41:11,12 ongoing (3) 55:20;56:23;98:11 online (1) 137:20 only (14) 15:15,17;31:19; 34:20;37:16;38:4; 51:23;60:3;72:4; 79:11,12;111:16; 113:6;124:11 on-system (29) 32:9;34:23;35:8, 16;36:1,19;37:6; 52:9;56:9;57:13;	62:20;75:1,6,16,18, 22;76:7;80:16;81:2; 95:12;96:8,13; 109:11,16,22;110:2, 9;112:9;115:9 OPA (1) 33:19 open (3) 28:6;83:4;101:7 opening (1) 63:1 operate (1) 64:13 operational (3) 33:3;36:10;80:14 operations (2) 62:15;90:23 opinion (1) 102:18 opportunities (5) 12:6;53:20;56:12; 62:22;114:24 opportunity (4) 70:23;103:8;114:6, 23 oppose (1) 30:17 opposed (4) 21:10;22:22;51:15; 84:5 opposing (1) 124:11 optimistic (1) 123:17 optimization (1) 14:2 optimize (3) 37:4;38:19;75:7 option (11) 17:13,16;42:5; 70:23;106:14;107:3; 110:6,8,13;111:17,21 options (14) 52:21;53:3,24; 59:15,17;62:3,11,23; 71:18;79:3,5;90:9; 91:3;102:9 order (8) 8:12;37:7;38:18, 22;55:6;104:17; 106:24;121:7 ordered (1) 47:7 orders (1) 104:6 original (6) 50:17,22;51:3,6,7; 66:23 ostensibly (1) 111:7 others (2) 51:20;83:23 Otherwise (1)	44:11 ours (1) 125:20 out (35) 3:7,16;13:1,10,14; 15:12,18;16:4;22:2; 26:22;27:3;32:3; 40:4;44:10,19;48:10, 22;49:2,10;52:18; 57:18;65:17;75:20; 93:7;96:11;98:23; 99:5,6;100:23; 106:22;113:22; 114:22;118:7; 122:24;132:3 outage (1) 62:9 outlines (1) 79:24 out-of-model (7) 6:9,14;45:3,9,17; 48:7;122:13 outside (1) 64:20 over (23) 6:15;7:23;12:11; 16:22;17:10;24:22; 36:17;48:22;51:12; 76:14,20;93:7,10,13; 98:3;100:5;102:13; 115:16;123:1;124:1, 6;127:10;128:16 overall (11) 11:12;24:19;32:24; 33:19;36:16;49:14; 55:17;57:11;89:10; 130:8,10 overlapping (1) 12:15 overly (1) 123:16 over-pulling (1) 33:20 oversee (1) 100:11 oversubscribed (1) 61:12 own (7) 57:1;67:5;86:4,6; 87:3;98:9;129:15 owns (1) 116:17	115:18 panel (3) 48:6,12,19 panels (1) 49:1 Paper (4) 92:13,17;94:15,16 parcel (1) 105:24 part (23) 14:1;19:12;32:22, 24;33:19;36:2,10; 38:21;45:20;46:4; 51:10;59:20;65:2; 75:24;77:15;80:10; 92:16;93:22;94:13; 99:11;105:9;106:6; 136:17 partially (1) 81:5 participants (2) 42:10;61:8 participate (2) 40:15;61:13 participated (1) 41:5 participating (1) 61:15 participation (3) 42:1,8;60:10 particular (8) 32:1;34:15;50:21; 51:2;98:16;99:24; 102:3;137:2 particularly (7) 28:19;70:22;75:8, 11;86:15;109:8; 116:18 parties (6) 74:14;81:1;95:1,3; 97:2;121:17 parts (1) 36:24 party (1) 124:11 pass (2) 14:5;108:4 pass-through (1) 19:11 past (6) 9:3;122:2;127:22; 131:22;134:7,9 pattern (1) 20:12 pause (3) 128:8,11;137:22 pay (2) 18:5,11 paying (1) 37:21 peak (25) 7:16;15:7,8;68:17; 89:11,23;90:2;91:4;
P				
Page (20) 3:6,23;9:7;41:20; 42:17;43:1,3,5,8,8, 12,13,24;44:23; 72:10;83:6,8,21; 126:22;128:4 paid (5) 14:4;23:16,17,18;				

127:3;129:18,21,24; 132:13,13,15,16,21, 22;133:12,13,15,19, 23;134:2;136:20	phases (1) 122:24	26:14;39:21;88:4; 135:10	35:1;37:2	23:1;30:2;63:23; 72:3;113:4;114:4; 130:14;133:7;138:23
peaking-type (1) 20:11	pick (1) 6:20	pleasure (1) 97:19	power (1) 62:9	problem (3) 25:20;27:10;32:23
peaks (1) 133:6	picture (3) 127:13,21,23	plus (4) 16:22;21:22;26:4; 120:22	practice (2) 60:2;113:13	problems (2) 33:12,21
pending (1) 97:22	piece (5) 35:18;92:18,21; 121:4;129:3	pm (5) 82:2,3;134:23,24; 139:16	preapproval (3) 75:18;81:1,10	proceeding (2) 53:4;98:5
people (7) 61:13;65:9;70:7; 89:3;123:6;128:9; 130:18	pieces (2) 63:21,21	point (21) 3:16;10:13;15:12; 17:16;26:16;27:7,12; 28:5;29:6;42:4;44:8; 47:13;49:6;51:6; 55:21;72:2,6;75:19; 94:22;113:22;122:22	preapprove (1) 115:9	proceedings (4) 76:17;77:19; 103:14;110:16
per (9) 8:21;10:4;16:23; 18:7;22:14;61:8; 126:9;129:6,24	pilot (4) 93:22,23,24;94:1	pointed (6) 3:7;44:10;49:10; 65:17;69:3;106:22	predict (2) 122:21;123:24	process (14) 14:2,7;20:20;22:5; 30:14,22;57:1,19; 80:10,17;81:14; 102:8;105:10;122:3
percent (29) 4:14;8:13,21;9:1,6, 10,13;14:20,20;17:8, 24;21:4;25:3,12; 26:3;33:17;36:15; 41:24;42:2,8,9,21; 48:23;49:4;55:6; 60:9;61:6,17,20	Pipeline (22) 12:9;19:14;29:1, 23;30:1,3,15,17,19; 32:22;33:4,4,9;34:4; 38:5;85:4;92:1,4; 98:4;99:16;100:17; 114:14	pointing (2) 52:18;71:2	preferable (3) 111:4,7,13	processes (2) 90:14;94:6
percentage (2) 24:22;25:6	pipelines (2) 30:4;31:10	points (4) 17:15;75:12;115:4; 119:20	preference (1) 119:3	procurement (3) 84:18;94:4;117:7
percents (1) 55:5	pipeline's (1) 29:4	policies (1) 83:12	preferences (1) 107:16	professional (1) 84:22
performance (4) 64:9;67:12;131:21, 22	pipes (2) 33:14;96:15	policy (2) 19:2;104:23	prefiled (1) 113:18	profile (1) 86:17
performed (1) 77:7	place (4) 34:5;73:2;101:1; 116:1	policymakers (1) 108:4	premature (1) 61:18	program (3) 58:18;60:10;90:4
perhaps (4) 64:17;89:13,24; 114:15	places (1) 77:20	portfolio (17) 10:22;11:1,13; 14:1;22:9,9;32:22; 36:17;55:17;98:3,9; 102:1;114:18,20; 115:2;123:23;124:2	prepare (1) 130:19	programs (22) 51:9;54:8;55:8; 59:7;60:14,22;61:9, 10;70:3;83:12;105:3, 4,7,12,15;106:5,6,9, 10;111:23,24;118:22
period (24) 6:20,23;7:23;10:9; 12:19,24;14:17;21:2; 24:22;25:6;76:17,20; 89:19,19,23;93:5,7, 10,14;100:6;121:14; 127:17;128:22; 131:17	plan (32) 4:11;25:2;26:1,8; 40:15,23;43:21; 50:17,20,22;51:3,10, 21;53:22;54:6;55:15; 56:17;57:20;58:4,6, 12,14;59:23;67:21; 68:18;70:3;101:6,8; 105:8,22,23;133:12	portion (2) 11:13;18:22	present (4) 5:17;54:22;127:18; 135:22	project (12) 17:11,12;84:6; 92:5;96:14;99:21; 101:15;110:7;111:5, 6,15,16
periods (5) 12:15;25:10;76:19; 93:2,13	planned (2) 21:4;23:18	poses (1) 109:23	presented (1) 114:9	projected (6) 106:24;107:20,24; 111:24;112:5;121:11
person (2) 97:20;113:11	planning (42) 5:22;20:20;40:11; 41:1,6;45:20;52:4,5, 12;55:13;57:1,2,22; 59:21;60:2,3;62:1; 63:8,18;67:18,21; 68:23;71:15;72:17, 22;73:3;74:8;76:1; 81:14;84:17;94:6; 101:15;102:8;104:4, 8,10;105:10,16; 109:4;111:9,11; 117:8	position (5) 75:17;77:8;95:5; 118:23;119:6	president (2) 98:20;99:4	projecting (1) 118:3
personal (3) 84:14;86:14,24	plans (5) 25:23;54:1;78:24; 80:2;133:21	possibility (3) 105:6;107:21; 109:20	pressure (7) 33:21;34:12,16,21; 35:3,5;37:2	projects (7) 38:2;83:22;84:3; 110:22;111:8,14; 127:23
personally (1) 13:6	plant (3) 23:13,21;115:18	possible (4) 16:24;20:3;70:10; 119:1	pressures (1) 33:13	promise (1) 79:12
perspective (3) 7:3,6;97:21	plants (1) 116:23	potential (23) 41:21;54:7;56:2; 60:13;61:6;67:11; 68:4,8,22;69:13; 73:12;74:9;76:10,12; 92:9;93:3;106:8; 107:7;111:22;112:3, 8;118:17;126:9	pretty (9) 7:10;8:10;13:20; 17:7,14;21:8,16; 33:16;50:4	promote (1) 83:12
petition (7) 100:8;104:2,11; 106:7;110:19; 112:18;114:7	please (4)	potentially (9) 12:2;57:12;68:10; 74:11;80:12;89:10; 90:7;93:8;126:11	previously (1) 11:10	promoting (1) 84:12
phased (1) 115:14		pounds (2)	price (7) 13:3,4;16:16;18:4, 16;19:1;102:16	promotion (2) 70:20;78:18
			prices (7) 15:20,21;16:15,22, 24;17:4;37:10	promotional (16) 45:11,14,19;46:8, 13;47:9;48:11,16; 49:5,17,22;50:2; 78:15;106:18,21; 108:14

<p>proof (2) 103:13;106:13</p> <p>propane (6) 16:3;70:15,16; 107:18;116:11,16</p> <p>proportional (1) 50:7</p> <p>proposal (6) 62:19;79:19,24; 92:15,19;93:21</p> <p>proposals (3) 53:24;72:24;93:23</p> <p>propose (2) 72:16;102:7</p> <p>proposed (14) 50:10;51:10;52:20; 54:9;79:2,3;92:1,4; 93:6;95:12;107:3; 108:2;110:24;111:7</p> <p>proposing (5) 76:5;110:14,18; 113:7;125:20</p> <p>proposition (1) 90:19</p> <p>proved (1) 98:24</p> <p>provide (26) 21:15,20;30:20; 34:7;35:17;54:14; 62:11;64:13,18,24; 67:14;68:14,15;80:1; 85:11,17;88:8;94:2; 105:1;108:22;109:2, 5,7;135:10,24;136:16</p> <p>provided (5) 40:21;41:10;49:24; 66:7;105:5</p> <p>providers (2) 61:22;67:11</p> <p>provides (3) 7:19;32:2;116:6</p> <p>providing (6) 41:5;51:14;65:1, 13;89:14;103:19</p> <p>proving (2) 103:23;112:15</p> <p>provision (3) 12:10;32:3;119:23</p> <p>prudence (1) 115:18</p> <p>prudence (1) 81:2</p> <p>prudent (4) 100:17;103:24; 112:16;115:20</p> <p>PSI (2) 34:18,20</p> <p>public (3) 103:24;112:16; 119:7</p> <p>public's (1) 27:12</p> <p>pulls (1)</p>	<p>125:2</p> <p>pump (5) 65:5;66:5,10;70:2; 86:7</p> <p>pumps (25) 64:9,10,12;65:8, 23;67:1;68:2,16; 69:1,5,10,23;70:6,8, 17,20,21;71:8,11; 78:8;86:15;101:5; 107:12,17;118:18</p> <p>purchase (4) 15:7,15;20:7;29:14</p> <p>purchased (3) 29:2,4;33:6</p> <p>purchases (3) 16:19;17:6,9</p> <p>purported (1) 108:12</p> <p>purpose (1) 95:10</p> <p>purposes (1) 27:9</p> <p>pursuant (2) 104:16;105:13</p> <p>pursuing (1) 52:1</p> <p>pushes (1) 125:2</p> <p>put (12) 9:23;13:1,10,14; 24:18;34:4;35:1; 113:15;115:13; 117:5;120:5;127:21</p> <p>puts (2) 114:1;121:14</p> <p>putting (2) 23:3;139:10</p>	<p>79:8</p> <p>ramp (1) 123:7</p> <p>random (1) 119:20</p> <p>range (2) 40:9;49:3</p> <p>ranges (1) 48:21</p> <p>rapid (1) 65:19</p> <p>rate (43) 4:14;6:8;8:13,23; 9:2,6;10:14;11:9; 19:8;21:7,10,16; 22:1;23:19;24:7; 26:20,21,24;29:23; 30:5,12,13,16,18,23; 31:3,3,5,7,8,10; 60:10;76:20;93:5,22; 96:17;99:17,23,23; 108:17;110:3; 115:16,24</p> <p>ratepayers (10) 12:1;21:8;53:2; 76:14;100:3;102:19; 103:16;106:15; 107:4;109:24</p> <p>rates (9) 5:18,23;16:12; 19:12;26:15;29:20, 24;30:6,8</p> <p>rather (4) 17:22;51:3;65:19; 111:15</p> <p>ratio (1) 51:17</p> <p>read (3) 42:20;83:17; 129:12</p> <p>reading (2) 23:11;26:4</p> <p>real (2) 116:15;124:4</p> <p>realize (1) 6:23</p> <p>realized (1) 6:5</p> <p>really (31) 4:11;11:15;13:13; 14:16;15:21;17:1; 18:3;23:21;31:22,24; 32:21;35:10,11,17, 18,22;36:20;37:3,4; 38:13;62:4;63:15; 67:1,1;69:16;73:19; 106:11;126:14; 127:1;134:1;136:5</p> <p>reason (4) 50:21;51:2;111:8, 14</p> <p>reasonable (5) 58:21;100:14,18;</p>	<p>103:24;112:16</p> <p>reasons (6) 16:16;50:15;57:8; 64:7;93:11;114:10</p> <p>rebuttal (12) 44:22,23;50:13; 63:12;64:1;66:23; 72:10;74:24;113:15, 16,23;115:5</p> <p>recalling (1) 51:8</p> <p>receipt (1) 10:13</p> <p>receive (2) 13:24;115:23</p> <p>recent (3) 87:21;115:24; 120:14</p> <p>recently (1) 93:20</p> <p>recess (2) 82:2;134:23</p> <p>recite (1) 120:8</p> <p>recognition (2) 63:3;74:7</p> <p>recognize (8) 4:21;24:14;36:12; 40:18;54:15;60:8,20; 94:11</p> <p>recognized (2) 60:5;122:2</p> <p>recognizing (1) 67:11</p> <p>recollection (1) 58:13</p> <p>recommended (2) 76:18;120:17</p> <p>record (21) 3:3,11;72:8;82:5; 86:23;87:4;100:18; 113:12,19;114:19; 116:13;126:3; 127:24;131:7; 134:22;135:2,4,8; 138:19;139:11,12</p> <p>recourse (1) 99:17</p> <p>recover (1) 110:1</p> <p>recovered (1) 76:22</p> <p>recovering (1) 76:13</p> <p>recovery (2) 75:10;80:9</p> <p>redacted (2) 41:12;44:15</p> <p>redirect (4) 39:3;91:8,10,11</p> <p>reduce (27) 10:17,22,24;11:7, 10,13;52:1;54:19;</p>	<p>57:10,11;60:14; 63:13;65:15;69:22; 74:10;76:16;80:13; 89:10;90:14,20;91:3; 105:8,19;107:24; 112:5;114:24;121:22</p> <p>reduced (2) 76:11;90:1</p> <p>reduces (2) 69:16;93:6</p> <p>reduction (8) 25:5;46:7;59:8; 72:15;88:24;91:3; 92:12;112:5</p> <p>reductions (4) 72:13;73:24;92:11; 107:22</p> <p>refer (1) 83:1</p> <p>reference (3) 44:1,2;110:13</p> <p>referenced (2) 94:16;123:3</p> <p>referencing (1) 4:10</p> <p>referred (1) 119:22</p> <p>referring (2) 43:3;66:16</p> <p>refers (1) 43:14</p> <p>reflected (4) 45:12;55:10;56:6; 65:24</p> <p>reflects (4) 45:5;52:14,16; 120:15</p> <p>refusal (1) 12:21</p> <p>regard (2) 22:8;38:13</p> <p>regarding (4) 78:13;108:9,19; 116:10</p> <p>regardless (2) 70:4;133:13</p> <p>region (1) 72:18</p> <p>regional (1) 70:18</p> <p>regression (1) 45:15</p> <p>regular (2) 19:5,7</p> <p>regulated (1) 92:17</p> <p>Regulation (5) 31:14;74:8;107:7; 108:5,11</p> <p>regulations (1) 68:9</p> <p>regulators (2) 74:22;83:23</p>
	Q			
	<p>Q&A (1) 120:4</p> <p>quadrupled (1) 66:12</p> <p>quantity (2) 28:21,22</p> <p>quick (1) 133:17</p> <p>quiet (1) 132:3</p> <p>quite (7) 22:19;23:14;67:6; 84:15;98:2;114:18; 116:4</p> <p>quote (2) 113:21;120:16</p>			
	R			
	<p>raised (3) 80:21;101:3;132:2</p> <p>raising (1)</p>	<p>reason (4) 50:21;51:2;111:8, 14</p> <p>reasonable (5) 58:21;100:14,18;</p>	<p>reasons (6) 16:16;50:15;57:8; 64:7;93:11;114:10</p> <p>rebuttal (12) 44:22,23;50:13; 63:12;64:1;66:23; 72:10;74:24;113:15, 16,23;115:5</p> <p>recalling (1) 51:8</p> <p>receipt (1) 10:13</p> <p>receive (2) 13:24;115:23</p> <p>recent (3) 87:21;115:24; 120:14</p> <p>recently (1) 93:20</p> <p>recess (2) 82:2;134:23</p> <p>recite (1) 120:8</p> <p>recognition (2) 63:3;74:7</p> <p>recognize (8) 4:21;24:14;36:12; 40:18;54:15;60:8,20; 94:11</p> <p>recognized (2) 60:5;122:2</p> <p>recognizing (1) 67:11</p> <p>recollection (1) 58:13</p> <p>recommended (2) 76:18;120:17</p> <p>record (21) 3:3,11;72:8;82:5; 86:23;87:4;100:18; 113:12,19;114:19; 116:13;126:3; 127:24;131:7; 134:22;135:2,4,8; 138:19;139:11,12</p> <p>recourse (1) 99:17</p> <p>recover (1) 110:1</p> <p>recovered (1) 76:22</p> <p>recovering (1) 76:13</p> <p>recovery (2) 75:10;80:9</p> <p>redacted (2) 41:12;44:15</p> <p>redirect (4) 39:3;91:8,10,11</p> <p>reduce (27) 10:17,22,24;11:7, 10,13;52:1;54:19;</p>	<p>57:10,11;60:14; 63:13;65:15;69:22; 74:10;76:16;80:13; 89:10;90:14,20;91:3; 105:8,19;107:24; 112:5;114:24;121:22</p> <p>reduced (2) 76:11;90:1</p> <p>reduces (2) 69:16;93:6</p> <p>reduction (8) 25:5;46:7;59:8; 72:15;88:24;91:3; 92:12;112:5</p> <p>reductions (4) 72:13;73:24;92:11; 107:22</p> <p>refer (1) 83:1</p> <p>reference (3) 44:1,2;110:13</p> <p>referenced (2) 94:16;123:3</p> <p>referencing (1) 4:10</p> <p>referred (1) 119:22</p> <p>referring (2) 43:3;66:16</p> <p>refers (1) 43:14</p> <p>reflected (4) 45:12;55:10;56:6; 65:24</p> <p>reflects (4) 45:5;52:14,16; 120:15</p> <p>refusal (1) 12:21</p> <p>regard (2) 22:8;38:13</p> <p>regarding (4) 78:13;108:9,19; 116:10</p> <p>regardless (2) 70:4;133:13</p> <p>region (1) 72:18</p> <p>regional (1) 70:18</p> <p>regression (1) 45:15</p> <p>regular (2) 19:5,7</p> <p>regulated (1) 92:17</p> <p>Regulation (5) 31:14;74:8;107:7; 108:5,11</p> <p>regulations (1) 68:9</p> <p>regulators (2) 74:22;83:23</p>

<p>regulatory (6) 31:17,19;32:3; 40:16;74:7;94:5</p> <p>reject (1) 112:17</p> <p>relate (1) 31:18</p> <p>related (15) 5:19;32:9;37:13; 48:2;68:9;73:17; 88:13,22;93:4;95:4; 96:15;105:21; 106:18;116:8;121:3</p> <p>relates (1) 18:4</p> <p>relation (3) 42:6;75:13,15</p> <p>relationship (1) 36:20</p> <p>relative (1) 24:20</p> <p>relatively (3) 56:1;66:2;125:2</p> <p>release (2) 14:3,10</p> <p>relevant (11) 63:5,6;64:4;71:12, 21;74:1,5,20;75:2; 109:12;116:18</p> <p>reliability (6) 35:10,12,17;37:8; 38:14;94:8</p> <p>reliable (2) 85:12,18</p> <p>relies (1) 114:16</p> <p>remaining (1) 95:4</p> <p>remotely (1) 40:7</p> <p>renegotiate (1) 31:1</p> <p>renew (1) 13:8</p> <p>renewable (3) 83:13;84:15;93:21</p> <p>report (2) 91:23,24</p> <p>Reporter (9) 3:21;39:17;86:11; 95:16;96:12;125:13; 135:16;136:24;137:7</p> <p>represents (2) 45:9;106:11</p> <p>request (22) 7:18,21;13:9; 21:19;29:24;43:15; 77:2,2;86:23;87:4; 126:3,15,21,24; 127:16,24;131:7; 132:8;134:14;135:4; 138:19;139:12</p> <p>requesting (1)</p>	<p>56:8</p> <p>require (4) 29:15;65:10; 100:13;105:1</p> <p>required (11) 46:3;47:7,11,13; 73:19;80:1;97:9; 103:20;105:11; 112:9,13</p> <p>requirement (1) 19:9</p> <p>requirements (2) 15:16;71:14</p> <p>requires (3) 87:15;88:8;109:4</p> <p>residential (16) 22:12,18,20;24:20; 25:3,11,13;26:20,20, 23;27:4;46:22;90:11; 102:18;130:11; 136:12</p> <p>resiliency (1) 38:14</p> <p>resistance (1) 65:10</p> <p>resource (15) 59:21;63:7;76:1; 81:14;101:6,14; 102:7;104:4,10; 105:10,16,23;111:9, 11,17</p> <p>resources (1) 83:14</p> <p>respect (1) 43:17</p> <p>respond (3) 88:4;121:18;125:6</p> <p>response (37) 36:5;41:21,22; 42:1,3,4,22;47:14; 52:19;59:9,13;60:7, 14,22;61:9;62:4,13, 14;63:5,9;71:10; 77:1,6;78:9;84:13; 88:20,22,23;89:1; 90:4,9,24;92:8; 101:11;106:6,9; 123:13</p> <p>response] (2) 97:14;139:8</p> <p>responsibility (4) 45:21;59:20;84:22; 94:12</p> <p>rest (2) 25:18;139:14</p> <p>restate (2) 42:15;130:24</p> <p>restricted (1) 60:3</p> <p>result (3) 51:12;109:21; 112:10</p> <p>resulted (1)</p>	<p>37:20</p> <p>resumed (2) 82:3;134:24</p> <p>retired (3) 113:9,10;116:24</p> <p>return (4) 19:8,12,13,15</p> <p>revenue (2) 19:9;21:7</p> <p>reviews (1) 113:19</p> <p>revised (1) 50:20</p> <p>Rhode (4) 41:7;91:22;92:21; 94:15</p> <p>Right (34) 4:4;5:8;6:1;8:6; 9:4;10:7;11:18; 12:20;13:4;15:3,6; 18:8;23:11;25:6; 28:1,10;30:11;31:13; 36:8;39:5,21;63:24; 78:16;81:20,23; 85:23;88:11;94:21; 97:15;125:22; 128:10;131:2; 134:18;135:1</p> <p>rising (1) 122:9</p> <p>risk (2) 13:12;20:5</p> <p>risks (1) 109:22</p> <p>road (2) 126:10,12</p> <p>robust (1) 21:16</p> <p>role (1) 101:10</p> <p>roll (2) 12:11;55:22</p> <p>rolled (2) 98:23;99:1</p> <p>rolling (1) 99:6</p> <p>rollout (1) 98:24</p> <p>rollover (1) 12:10</p> <p>rose (1) 125:4</p> <p>roughly (5) 4:15;11:20;15:10; 16:13;50:7</p> <p>RSA (6) 97:9;100:9,9,10; 104:5</p> <p>run (3) 6:3;13:12;134:15</p> <p>run-ups (1) 19:1</p> <p>ruse (1)</p>	<p>99:11</p> <p style="text-align: center;">S</p> <p>safe (3) 77:23;85:12,18</p> <p>sake (1) 131:1</p> <p>sales (26) 6:11;21:14;45:10, 14,18,22;46:7,12; 47:9;48:6,10,16;49:5, 17,22;50:2,8;59:8; 78:18;99:9;106:18, 20;108:13;122:12,15, 24</p> <p>same (17) 4:6;8:5;10:13,13; 11:9;14:7;20:19,19, 19;25:7;77:11;83:21; 89:4;100:1;115:23; 126:24;128:22</p> <p>saturate (1) 55:23</p> <p>savings (29) 24:20;25:11,15,23; 26:8;27:3;42:2,9,22; 51:17;52:17;53:8; 54:3,20,22,23;55:4,7, 21;56:16,18;57:5; 58:16;61:6,7,20; 118:3,8;119:4</p> <p>saying (15) 56:15;61:17;62:18; 65:2;71:5,11,12; 72:23;78:3,6,19; 86:13;89:12;98:1; 127:9</p> <p>scenario (1) 5:22</p> <p>scenarios (1) 102:2</p> <p>schedule (4) 35:24;76:6;109:23; 138:23</p> <p>scheduled (2) 33:5,11</p> <p>scheme (1) 99:5</p> <p>screen (1) 28:7</p> <p>scrutiny (1) 115:23</p> <p>sealing (1) 54:24</p> <p>season (1) 17:3</p> <p>second (6) 4:17;43:13;48:12; 88:1;118:5;121:5</p> <p>Section (4) 31:13,14;79:21,23</p> <p>seek (2)</p>	<p>108:4;109:13</p> <p>seeking (4) 75:3,18;103:17; 108:23</p> <p>seeks (1) 106:23</p> <p>seem (1) 36:6</p> <p>seemed (1) 120:2</p> <p>seize (1) 125:12</p> <p>sell (1) 13:22</p> <p>send (1) 137:20</p> <p>sense (3) 106:2;121:7; 130:23</p> <p>separating (1) 52:6</p> <p>sequencing (1) 62:9</p> <p>seriously (1) 124:24</p> <p>serve (6) 23:21,23;24:2; 45:21;47:2;71:16</p> <p>served (2) 84:21;112:1</p> <p>service (12) 21:19,20;24:3; 38:21;48:8;61:21; 85:12,18;89:14; 90:10;92:3;94:9</p> <p>servicing (1) 84:23</p> <p>SESSION (1) 3:1</p> <p>set (2) 90:4;117:9</p> <p>setback (1) 89:15</p> <p>Settlement (24) 50:19;79:16,19,23; 80:22,24;81:18; 87:15;88:7;94:24; 97:22;102:19;111:2; 115:8;116:3,6,19; 117:1,19,23;119:6,9, 23;125:18</p> <p>Settling (4) 81:1;95:1,2;97:1</p> <p>several (2) 114:23;123:21</p> <p>shall (1) 31:15</p> <p>share (1) 6:21</p> <p>sharing (1) 127:16</p> <p>Sheehan (46) 28:4,8;32:4;39:2,4;</p>
---	---	---	--	---

62:24;82:14,15;95:6, 17,24;96:6,13,22; 119:18,19;125:14,23; 126:1;128:1,7,12,20; 129:2,21;130:2,4,11, 16;132:18;134:4,19; 135:3,6,10,17; 136:13,22;137:1,14, 19;138:5,10,17,22; 139:3 shift (1) 90:2 Shifting (2) 50:12;63:24 shifts (2) 76:15;89:23 Shipper (2) 28:21;29:2 shippers (1) 30:16 Shipper's (1) 28:20 short (1) 112:11 shorter (4) 12:24,24;76:18; 93:14 show (3) 9:9;23:20;26:7 showed (2) 53:13;124:10 showing (4) 24:19;106:13; 107:13;124:6 shown (1) 5:21 shows (7) 3:11,13;19:19; 21:24;50:3;54:2; 126:23 shuts (1) 65:12 side (2) 46:6;79:4 sight (1) 6:11 signed (1) 19:21 significance (1) 49:14 significant (10) 14:15;17:4;19:1; 20:14;26:10;50:4; 63:15;88:12,16; 106:22 significantly (8) 16:15;33:21;54:19; 62:5;64:11;67:6; 69:21;76:16 silo (2) 57:18;105:24 similar (6) 10:12;30:13,22;	64:15;92:7;126:24 similarly (1) 106:4 simply (14) 6:15;16:3;23:7,20; 25:1;68:24;95:17,19; 100:3,10,24;104:10; 111:19;118:8 single (1) 137:12 site (1) 61:8 size (1) 99:23 slightly (1) 8:17 slow (1) 71:4 small (1) 23:1 smaller (2) 12:23;20:10 Smart (3) 93:24;99:13;128:9 snap (1) 89:21 snapback (7) 62:8;88:20,23; 89:12;90:1,18;91:1 soft (1) 99:9 solution (1) 125:4 solutions (1) 101:12 somebody (4) 77:16,24;99:3,10 somehow (1) 111:3 sometime (1) 138:24 sometimes (1) 129:11 somewhat (1) 121:3 soon (1) 70:5 sorry (10) 19:10;26:16;39:23; 42:13;43:2;45:1; 66:15,18,21;128:5 sort (19) 14:13;15:5;23:22; 50:19,24;53:7,13,14; 59:22;63:5;72:13,16; 77:4;81:7;105:24; 106:1;116:7;122:5; 127:24 source (2) 69:12;107:13 sources (2) 70:9;107:18 southern (2)	69:8,13 space (1) 66:3 speak (1) 29:10 specific (5) 66:16;73:12;89:8; 90:23;119:1 specifically (5) 56:7;58:10;62:4; 77:2;115:4 specified (1) 58:14 speculative (14) 54:12,13;55:12; 56:3;57:23;62:18; 68:19;78:10,12,20; 79:6;108:2,12,15 spent (2) 15:2;114:19 spike (1) 133:22 split-year (1) 9:9 spread (1) 27:3 spreads (1) 93:7 staff (1) 83:22 stand (1) 27:18 standard (8) 12:13;28:17;31:23, 24;43:6;68:12,14; 111:11 start (7) 28:3;41:8;44:19; 55:9,22;98:1;122:4 started (1) 72:22 starting (3) 3:17;28:15;97:16 starts (2) 28:14;124:7 state (6) 39:21;41:6;51:12, 15;83:10;104:23 statement (8) 58:11;61:16;63:1; 66:23;81:3;96:4,7; 133:8 states (12) 41:2;66:11;67:4; 72:13,17,20,23;74:1, 4,16,19;107:12 stating (1) 113:6 station (2) 29:7;33:1 stations (2) 34:19;35:4 statutes (8)	100:12;104:4,7,13, 20,22;111:10,19 staying (1) 36:14 stenographer (2) 71:24;72:7 still (9) 4:6;18:14;55:24; 60:13;64:24;65:3,13; 67:7;77:11 stipulating (1) 96:3 stone (1) 78:2 stop (2) 39:12;72:6 stopping (2) 72:1,5 straight (1) 6:16 stranded (6) 76:12;93:3;109:20, 21,24;112:10 strategic (1) 83:14 strategies (1) 74:9 stretch (1) 73:11 strictly (1) 62:18 strike (3) 50:23;58:21;97:6 strikes (2) 75:8,19 strongly (1) 67:3 structural (2) 56:4;76:15 structurally (1) 58:17 structure (1) 23:10 stuck (2) 12:2,19 study (1) 69:4 subject (8) 19:1,5,6,6,8;37:14, 19;79:13 submitted (3) 41:3;113:14; 138:14 subsequently (1) 92:16 substantial (1) 115:17 substitute (3) 81:6,11,12 substitutes (1) 81:8 sufficient (4) 32:15;69:2;71:12,	22 suggest (1) 27:17 suggested (1) 123:17 suggesting (2) 7:23;42:21 suggests (3) 106:3;109:11; 122:19 stipulate (1) 56:14 summer (1) 98:22 supplemental (3) 116:10,16,23 supply (39) 15:14,15;16:4,7, 12;17:6;32:17,20; 38:19;42:7;50:11; 52:5,8,21,21,24;56:8; 57:13,20,22;59:17; 62:19;63:20;72:23; 73:10;75:7,13;79:3, 3;84:17;98:3,9,13; 99:19;102:9,12,20; 105:23;117:7 support (6) 30:15;41:5;54:1; 83:18;125:18,19 supported (2) 76:18;123:22 supporting (2) 30:20;121:17 supports (2) 114:8;115:7 supposed (1) 80:7 sure (23) 16:5;23:10;24:12; 26:2;32:11;42:18; 57:23;63:1;87:20; 94:13;95:3;97:20; 100:13;126:12; 128:1,2,10;132:7; 134:15,19;135:6; 136:15;138:17 surrounding (2) 65:22;74:4 surrounds (1) 114:17 Susan (1) 79:12 sustained (1) 58:19 switching (1) 107:17 sworn (3) 39:16,18;44:16 sync (1) 75:20 system (31) 23:24;24:4;32:20;
---	--	--	--	--

33:8,12,22;34:6,8; 35:2,12,19;36:24; 37:8,9;38:2,12,15,21; 40:10,11;42:7;47:2; 57:2,11;62:14;65:12; 69:17;73:5,7;77:21; 90:24 system-wide (3) 42:2,21;61:18	70:12 ten-minute (1) 81:24 Tennessee (20) 9:16;12:9;16:10; 19:13;20:1,17;30:1; 31:7;34:9,12;36:11, 11,21;37:24;38:3,4, 18;99:16;100:16; 114:14 Tennessee's (1) 34:17 tens (1) 67:9 tenure (1) 98:9 term (8) 12:24;13:11,17; 19:5,7;21:23;121:1,3 terminate (6) 10:12,14,23;11:3; 12:12;30:24 terms (14) 6:7;9:16,24;11:12; 21:14;26:18;36:21; 46:2;47:6;56:1;69:9; 73:14;94:13;109:24 territory (3) 38:21;48:8;92:4 test (2) 51:12,15 testified (5) 44:21;53:5;79:15; 106:16;109:15 testify (1) 85:16 testimonies (1) 44:15 testimony (53) 3:8,23;4:18,20,22; 5:5,6;6:18;13:19; 19:16;20:24;23:12; 24:12;28:9;40:22; 41:3,10,12,13,18,20, 23;44:17,22,23; 50:13;54:11;64:1; 68:6;74:23,24;83:1, 6;88:22;91:19;98:15; 113:8,11,15,16,16,18, 20,23;114:1;115:3,5; 117:4,14;120:4,8; 121:4;123:4 TGP (27) 31:20;37:15,20; 77:5;103:15,17,23; 104:12,13;105:9,19; 106:13;108:2,12; 109:3,6,12,18; 110:12,20;111:3,12, 20;112:6,8,13,15 thereby (1) 114:1 therefore (7)	35:2;48:9;97:10; 102:17;112:14; 119:7,9 therms (1) 137:15 thinking (2) 94:13;98:17 third (3) 48:18,19;133:23 though (8) 17:14;63:4,16; 65:5,12;103:18; 107:9;123:16 thought (5) 27:18;35:13;39:13; 98:14;99:14 thoughtful (1) 103:10 thousands (3) 4:1;67:9,9 three (3) 10:21,24;43:15 throughout (2) 69:15;103:14 tight (1) 13:13 timely (1) 136:6 times (6) 11:19;26:19;35:22; 63:23;123:21;126:9 today (21) 10:1,18;11:2,16; 18:22;98:14,15; 102:10;103:9; 114:19;120:5; 123:21;124:5,13; 125:3;126:7;131:12; 132:5;137:3;138:7; 139:13 today's (2) 100:19;138:17 together (2) 24:18;127:21 tolerance (2) 33:17;36:15 took (2) 118:7;128:16 top (4) 48:6;125:5;128:20; 136:20 total (7) 10:22;18:4;48:24; 49:4;93:24;127:13; 135:11 towards (1) 92:10 track (2) 97:23;130:6 traditional (2) 99:18;102:9 transformed (1) 101:20	translate (3) 4:3;8:2;26:13 translating (2) 9:15;27:13 translation (1) 3:19 transpired (1) 17:10 transportation (4) 28:4,22;85:4;117:6 treated (1) 115:22 treats (1) 107:9 trend (1) 65:24 trends (4) 70:7;71:2;92:10,11 Triennial (17) 25:1;26:1,8;40:23; 43:21;50:17;51:10; 53:22;54:6;57:19; 58:4,12,14;118:2,3,7, 9 triennium (1) 118:5 true (1) 44:11 truly (1) 131:5 try (7) 16:18;17:5,17; 18:18,18;94:12; 119:21 trying (14) 8:4;17:22;18:2; 21:8;22:11,14;26:6; 27:9;86:16;88:5,11; 121:6;131:6;133:11 turn (6) 5:23;6:18;13:18; 19:16;27:16;89:18 turned (1) 99:5 turning (2) 20:22;121:16 turns (1) 114:22 twice (1) 133:19 two (21) 4:3;10:18,19;11:1; 12:5,16;14:24;27:1, 8;33:17;36:6,15; 41:3,19;91:20; 100:12;101:2;111:7; 125:9;127:1;130:13 two-to-one (1) 51:16 type (7) 14:22;53:4;56:10; 62:14;68:20,20,22 types (6)	55:1,16;56:5;59:9; 68:11;92:7 typically (1) 86:9
T				U
Table (12) 4:4,8;7:7;8:1,6; 24:13,14,17;43:14; 124:10;129:7,13 tables (2) 4:3;23:11 talk (3) 94:23;101:1; 110:11 talked (2) 11:22;79:17 talking (7) 9:12;11:2;18:3; 83:9;84:4;102:3; 114:19 talks (2) 20:24;120:9 tapers (1) 6:15 target (1) 92:11 targets (4) 45:23;72:13,15; 73:5 tariff (2) 90:9,16 tariffs (1) 60:24 team (1) 6:12 technical (4) 33:2;40:12;41:5; 61:21 technologies (2) 67:10;101:12 tells (1) 133:20 temperature (4) 64:21;87:23;89:15, 18 temperatures (5) 64:19;65:13;67:15; 86:15,18 ten (11) 3:10;7:5;15:18; 17:20;30:2;31:7; 72:4;125:10;127:10; 132:10;133:1 tended (1) 61:11 tends (1)				ultimate (1) 37:16 ultimately (1) 31:2 unable (1) 109:17 unaffected (1) 107:10 unanswered (1) 138:6 uncontrolled (3) 62:13;89:5,7 under (7) 30:7;31:4,13; 32:16;46:24;68:13; 104:3 underlies (2) 114:21;117:15 underlines (1) 117:11 underneath (1) 127:15 underscore (1) 75:15 underscores (1) 49:6 Understood (3) 31:12;87:20; 136:15 undertake (1) 110:14 unfortunately (1) 16:14 unhelpful (1) 55:13 uninterrupted (1) 84:24 units (5) 3:24;4:1;8:3,5; 25:22 unmanaged (1) 62:13 unquote (1) 113:21 unrealistic (2) 60:6,11 up (31) 4:23;5:16;16:15; 18:7;19:21;23:15; 28:21;29:8,16;35:14; 72:7;74:13;89:16,20; 93:9;102:6;114:4; 116:8,24;117:9; 118:4,11;119:20; 122:7,12;126:18; 128:8;131:4;138:6;

120:12 1985 (3) 98:18,20,22	2021-2022 (1) 124:8 2021-2023 (1) 50:17 2022 (1) 32:16 2023 (5) 43:23;51:3;56:17; 58:4;105:8 2025 (1) 12:5 2029 (1) 11:6 2030 (1) 12:5 20K (1) 19:20 20-year (11) 10:9;87:12;88:7, 13;118:9;120:3,21; 121:1,3;123:9; 127:12 21 (2) 43:23;83:21 2-1 (1) 43:18 21-'22 (1) 26:11 23 (1) 43:23 25 (1) 77:1 2nd (1) 137:11	100:9 374:7 (1) 100:10 378:37 (1) 104:5 378:40 (1) 104:5	
2		4	6
2 (6) 3:6;10:10;11:19; 28:9;49:2;83:8 2.0 (1) 51:13 2.4 (4) 8:13,21;9:6,10 2.5 (1) 48:22 2:40 (1) 79:11 2:43 (1) 82:2 2:55 (1) 82:1 20 (17) 7:4;10:10;11:19; 14:20;42:2,9,21; 49:2;61:6,17,20; 83:8;100:5;108:3,7; 120:24;126:9 20,000 (7) 10:7,15,16,23;20:2, 6;66:13 2010 (2) 40:9;128:14 2011-2012 (2) 4:13;8:14 2012 (6) 6:20;127:3,17; 128:16;135:21;137:9 2013 (1) 137:10 2015 (2) 6:20;133:18 2016 (1) 120:13 2017 (3) 25:10;96:17; 124:22 2017-2018 (3) 3:17;7:1;8:1 2018 (3) 25:2,10;54:4 2019 (1) 25:10 2019-2020 (1) 4:13 2020 (6) 25:11;53:9,14,15; 54:4;128:14 2020-2021 (1) 3:18 2021 (8) 26:8;43:22;51:3; 53:9;56:16;58:4; 67:23;105:7	3	4 (6) 4:21;5:1,13;44:24; 72:10;113:22 4:07 (1) 134:23 4:10 (1) 134:21 4:21 (1) 134:24 4:27 (1) 139:16 4:30 (1) 39:12 40 (5) 11:20;12:2;23:13, 17;120:13 40,000 (8) 10:3;18:8;29:12, 14;36:9,13,17,23 40K (1) 9:17 40-year (3) 117:17;120:18; 121:2 41 (7) 4:17,19;5:1,13; 126:22;128:6,13 42 (1) 20:24 42-year (1) 13:11 45 (1) 17:8 46 (1) 32:2	6 (6) 4:24;5:2,5;97:8; 120:9,9 6.3 (2) 29:19,19 60 (2) 96:16;133:2 60K (1) 19:18 60-year (3) 76:6;95:11;109:23 65 (1) 133:5 67 (2) 25:3,12
			7
			7 (4) 5:3,5;43:24;97:8 70-something (1) 133:3
			8
			8 (18) 4:16,20,23;5:1,6, 11,13;20:23;41:9,15; 42:16,19;44:1,16; 83:2;91:19;126:22; 128:6 80,000 (1) 27:4 81 (1) 25:14
			9
			9 (6) 41:9,15;42:19; 44:16;83:4;91:19 9.1 (1) 31:13 90 (4) 25:14;80:3,5,18 90s (1) 31:9 973,000-plus (1) 48:21
		5	
	3:03 (1) 82:3 30 (2) 120:7;134:9 30,000 (1) 11:8 300 (3) 34:18;35:1;37:2 300-pound (1) 34:15 30-year (12) 87:12,18,21;88:9; 117:17,21;119:24; 120:2,15,18,20; 132:20 34 (1) 19:16 35 (1) 72:11 37 (1) 28:14 37- (1) 117:17 374:1 (2) 100:9,10 374:2 (1)	5 (3) 3:14,15;10:4 5.1 (1) 79:23 50,000 (1) 18:13 52 (1) 133:5 541-A33 (1) 97:10 58 (1) 25:12 5-year (1) 121:2	