



13 APR '18 PM 12:04

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

March 23, 2018 - 1:55 p.m. DAY 5
Concord, New Hampshire Afternoon Session ONLY

RE: DG 17-048
LIBERTY UTILITIES (ENERGYNORTH
NATURAL GAS) CORP. d/b/a LIBERTY
UTILITIES: Request for Change in
Rates. (Hearing on the Merits)

PRESENT: Chairman Martin P. Honigberg, Presiding
Commissioner Kathryn M. Bailey
Commissioner Michael S. Giaimo

Sandy Deno, Clerk

APPEARANCES: Reptg. Liberty Utilities (EnergyNorth
Natural Gas) Corp. d/b/a Liberty
Utilities:
Michael J. Sheehan, Esq.

Reptg. Residential Ratepayers:
D. Maurice Kreis, Esq., Consumer Adv.
Brian D. Buckley, Esq.
Pradip Chattopadhyay, Asst. Cons. Adv.
James Brennan, Finance Director
Office of Consumer Advocate

Reptg. PUC Staff:
Paul B. Dexter, Esq.
Alexander F. Speidel, Esq.
Stephen Frink, Dir./Gas & Water Div.
Al-Azad Iqbal, Gas & Water Division

Court Reporters: Steven E. Patnaude, LCR No. 52
Susan J. Robidas, NH LCR No. 44

I N D E X

WITNESS PANEL: GREGG H. THERRIEN
BEN JOHNSON

EXAMINATION BY:	PAGE
Cross-Examination by Mr. Dexter (resumed)	5
QUESTIONS BY COMMISSIONERS:	
Commissioner Bailey	64
Commissioner Giaimo	74
Chairman Honigberg	82
Commissioner Bailey (cont'd)	91
EXAMINATION BY:	
Redirect Examination by Mr. Buckley	94, 105
Redirect Examination by Mr. Kreis	98

* * * * *

WITNESS: AL-AZAD IQBAL

EXAMINATION BY:	PAGE
Direct Examination by Mr. Dexter	106

I N D E X

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

EXHIBITS		PAGE
61	Liberty Utilities sample bill	5
62	Company response to DG 17-048 Staff 4-34	109
63	Response to DG 17-048 Source Staff 4-34	109
64	Company response to DG 17-048 Staff 5-46	109
65	Decoupling Case Studies	134

P R O C E E D I N G S

(Hearing resumed at 1:55 p.m.)

CHAIRMAN HONIGBERG: Mr. Sheehan.

MR. SHEEHAN: If I may, based on the Commission's request before lunch, we contacted the office, and had what's been marked as "Exhibit 61", which is in front of you. And by way of brief explanation, and I know the witnesses will talk about it, if you were to take away all the yellow shading and the labels that are green, black, and red, that would be a typical Liberty Utilities bill. These are fictitious numbers.

The new line that would be part of the decoupling is the line in orange. And again -- and there was one math error. If you look, partly because Mr. Bonner was doing this quickly, under the "Distribution Charge", the two "Distribution Charges" above the orange line, of "\$30.35" and "\$36.14", that should add up to the number that is in the orange line, which says now "65.50". The math is wrong. It should be "66.49".

CMSR. BAILEY: Okay. You lost

1 me.

2 MR. SHEEHAN: So, if you look at
3 the orange line, it says "Normal weather
4 adjustment" --

5 CMSR. BAILEY: Got it.

6 MR. SHEEHAN: -- "65.50", that
7 should be "66.49", and it is the total of the
8 two lines above it.

9 And with that, I'll turn it
10 back to the witnesses.

11 (The document, as described, was
12 herewith marked as Exhibit 61 for
13 identification.)

14 CHAIRMAN HONIGBERG: Thank you,
15 Mr. Sheehan. Mr. Dexter.

16 MR. DEXTER: Thank you, Mr.
17 Chairman.

18 BY MR. DEXTER:

19 Q So, just before we broke for lunch,
20 Mr. Therrien, I believe, was talking about the
21 decoupling charge being -- we were -- being
22 smaller under the Settlement proposal, versus
23 what he had proposed under the original
24 proposal. And we were having a discussion about

1 that decoupling charge under the Settlement
2 proposal, and that's what produced Exhibit 61.

3 So, I guess, with this exhibit clearing
4 up what the bill would look like, all I will
5 ask is, Mr. Therrien, then to reaffirm that
6 the decoupling charge on Exhibit 61 is
7 smaller than what would have happened under
8 his proposal, under your original proposal?

9 A (Therrien) Yes. Because the weather-related
10 portion of decoupling happens real-time, on the
11 bill at the time that the bill was being
12 rendered.

13 Q And now, what will happen with the -- now that
14 we have the example bill in front of us, --

15 A (Therrien) Yes.

16 Q -- what will happen with the nonrevenue -- I'm
17 sorry, nonweather-related decoupling piece?

18 A (Therrien) As I mentioned earlier in my
19 testimony, that remaining portion will be
20 divided by approved throughput units, therms, to
21 create a volumetric rate. That volumetric rate
22 is my understanding would be included as part of
23 the LDAC charge, and that would happen the year
24 after the accrual.

1 So, in this particular case, in my
2 hypothetical example, the remaining \$479,131
3 would be refunded the following winter
4 through the LDAC.

5 Q And on Exhibit 61, the LDAC, is that the line
6 that's labeled "Distribution Adjustment"?

7 A (Therrien) Yes, it is.

8 Q Okay. And why was the decision made -- well,
9 let me rephrase that. What's the purpose of
10 splitting your original proposal into two
11 pieces, weather and decoupling?

12 A (Therrien) Well, it was the OCA's proposal to
13 have the real-time weather portion. And, as a
14 product of settlement, the decoupling -- the
15 full decoupling, which both parties agreed to,
16 the form of it took this form that you see in
17 the Settlement. So, "a product of negotiation"
18 is my answer.

19 Q But is there a practical reason why you would do
20 the weather monthly and the decoupling annually?
21 Or is it -- I'm sorry, annually or seasonally,
22 you can tell me which way it will be done? I
23 think you said "annually".

24 A (Johnson) Maybe I can jump in here for a minute.

1 The weather, by its nature, to get the full
2 benefit, we wanted to have it happen in
3 real-time. So, the person never sends the check
4 for that 66 cents. They never get it back.
5 It's just shown as a credit in that month. So,
6 that \$3 million, you know, over the course of
7 the various months, the cash flow never happens.
8 The customer doesn't overpay and they don't have
9 to get the money back.

10 In contrast, the other items, dealing
11 with electric efficiency and so on,
12 theoretically, you could calculate that
13 constantly as well. But it would be a whole
14 lot of work for very little benefit, because
15 it's a very slow-moving thing. You know,
16 energy efficiency gradually emerges over
17 time. So, doing it once a year is perfectly
18 acceptable. And because of its nature, it's
19 not quite as mechanical as the weather. So,
20 it's a chance for the Staff to audit the
21 numbers to make sure they're understanding
22 what's happening and review everything once a
23 year.

24 So, it sort of it seems logical to me

1 that you need to do the weather thing monthly
2 to get the full benefit that we were seeking.
3 It's optional whether you did the rest of it
4 in real-time. There wasn't any compelling
5 need to do it in real-time. So, I think it
6 sort of, by default, stuck with the Company's
7 original approach of having it periodically
8 done, subject to audit and review.

9 A (Therrien) To answer, I think, your more direct
10 question to me, on Page 11 of the Settlement,
11 third paragraph down, it says "annual revenue
12 per customer adjustment". So, we're not doing
13 it seasonally, as the Company had originally
14 proposed, but it will be an annual adjustment.

15 Q Thank you. Did the relative size of the
16 expected mechanisms play into the decision as to
17 whether or not it would be done -- whether or
18 not both would be done real-time or both would
19 be done annually or the hybrid that you came up
20 with?

21 A (Therrien) I think Dr. Johnson explained the
22 practical reasons why you would not want to
23 attempt to put the nonweather piece into the
24 bill in real-time. I think it would be very

1 difficult to calculate that number with any
2 precision and timeliness. I then think the size
3 of the expected adjustment being smaller
4 influenced the adjustment becoming annual, as
5 opposed to seasonal.

6 Q You said "it did" or "it didn't", I'm sorry?

7 A (Therrien) It did.

8 Q So, you expect, if I could just try to restate
9 this without as many negatives in it. I
10 apologize for the prior question. Do you expect
11 the decoupling piece to be significantly smaller
12 than the weather piece?

13 A (Therrien) Yes.

14 Q And that did play a role in the decision to go
15 annually versus seasonally, is that what you
16 just said?

17 A (Therrien) That's my understanding. Correct.

18 Q Okay. Thanks.

19 A (Johnson) But, just to be clear, they're both
20 decoupling. One is -- they're both trying to
21 serve the purpose of locking down and freezing
22 the revenues. So, they're both decoupling, but
23 the nonweather piece is the smaller piece, and
24 it is -- there's more things going on, economic

1 changes in the economy, trend towards energy
2 efficiency, et cetera. So, a lot of stuff with
3 very little dollars on net. It kind of made
4 sense, in my mind, to say "okay, I guess you
5 don't have to do that constantly every single
6 billing cycle." You could periodically look at
7 it and kind of, at your leisure, study the
8 causal factors that are going on and the like
9 that might happen in a Commission review process
10 once a year, should the Commission want to look
11 at it.

12 Q So, this is a hypothetical customer. And I want
13 to focus on the line that says "Normal Weather
14 Adjustment". It has a dollar figure times
15 1 percent. Could you explain what the 1 percent
16 is?

17 A (Johnson) That's a purely hypothetical number,
18 and assuming, in effect, that the weather was --
19 the heating degree days was 1 percent colder
20 than normal. So, you would collect 1 percent
21 more in volumetric charges than normal, if it
22 weren't for this adjustment. But, because the
23 adjustment cancels that out, there's 66 cent
24 credit. Basically, the end result is you're

1 paying the same amount towards the delivery
2 portion of the bill as if you had perfectly
3 normal weather for that particular month.

4 Q And again, I know we've gone over this. But
5 this is the first time we've had decoupling
6 before the Commission, so I want to make it as
7 clear as I can.

8 The fact that this is a credit, a
9 pass-back indicates colder-than-normal
10 weather, is that right?

11 A (Therrien) That's correct.

12 Q Okay. Good. And I think you said earlier, and
13 I just want to confirm it, that this 1 percent,
14 I know it's hypothetical, would apply to a given
15 billing cycle. And what I mean by that is
16 everyone in that cycle would get the same
17 adjustment. It happens to be 1 percent on this
18 bill. Is that right?

19 A (Johnson) Yes. Because the weather occurred
20 during a particular 29, 30, whatever it was,
21 31-day cycle. So, it's the weather for that
22 particular portion of the year that it's
23 calculated. The very next day another set of
24 bills will go out that will be very similar,

1 because it's almost the same set of weather.
2 It's only dropped one day at the beginning and
3 adding one day at the end, but the number will
4 just slightly change over time. And everybody
5 ultimately gets credited for the actual weather
6 through the entire year, but the slice of that
7 year that occurs in their particular bills that
8 only come once a month differs depending on what
9 cycle they're on.

10 Q Okay.

11 A (Therrien) I would add that it is possible that
12 you could have an exception within a billing
13 cycle, because it does look at all of the days
14 covered on your bill. So, 99 percent of the
15 customers in a billing cycle would have the same
16 amount of billed days. It would go from the
17 15th of the previous month to the 14th of that
18 month, and the bill would be rendered and this
19 1 percent would be the same for all of those
20 customers. However, it's possible that, if you
21 had a customer that was billed, for whatever
22 reason, a day earlier and they had 30 days on
23 their bill, instead of 29, that it would be
24 using the actual degree days for each one of

1 those days covered on their bill. So, it could
2 be a slightly different number.

3 A (Johnson) As a good example, that would be
4 somebody who starts service for the first time,
5 that's the first billing cycle, there's only 17
6 days that they were served. And the computer
7 program is going to pay attention to which 17
8 days. And if that particular 17 days happened
9 to be very cold, they're going to get their fair
10 credit for the cold weather during that part of
11 the month where they had just moved in and
12 started service.

13 Q So, if I understand, generally, there could be
14 20 different factors, assuming there's 20
15 billing cycles, but there could even be more,
16 depending on the circumstances of the individual
17 customers?

18 A (Therrien) That's correct.

19 A (Johnson) Yes. In the sense, that most
20 customers use gas the whole month, but not
21 everyone does. That those exceptions, if
22 someone had just started service, or they moved
23 from one part of town to the other, it's going
24 to be very precise, and everybody is being

1 treated very fairly to reflect the weather
2 during the period they were using gas.

3 Q You don't know what everyone's usage is during
4 every day within that billing cycle, correct?

5 A (Johnson) No.

6 Q So, how is that accounted for?

7 A (Johnson) Well, it's reflected in the sense that
8 they are responding to weather, so, obviously,
9 they're billed for the actual usage. But, as
10 far as the precision of day-by-day, no. There's
11 no attempt to actually measure it down to that
12 level of precision. But the important factor of
13 that, when we say it was "a cold March", but, in
14 reality, it was only cold, say, at the beginning
15 of March and not the end of March, and some
16 bills didn't include the beginning of March,
17 because that was on the previous bill. That's
18 the important one that was feasible to reflect.
19 And that's what we're referring to, and we're
20 saying it's kind of customer-specific.

21 Q So, now that we see that the two, I know they're
22 both decoupling mechanisms, as you testified,
23 there's two parts. Could you explain to me how
24 the part of the decoupling mechanism that's

1 called "Weather Normalization Adjustment" that
2 we were talking about, how does that tie into
3 the goals that Mr. Therrien discussed earlier in
4 the day about breaking the link, and thereby
5 fostering energy efficiency? How are those two
6 related?

7 A (Johnson) Well, I think it's clear that it
8 breaks the link, right? That, by not having the
9 Company have any skin in the game as to whether
10 it's a lot of volume or a little volume that
11 runs through the system, that holds true for
12 weather-related fluctuations. And it's closely
13 related to the question of energy efficiency, in
14 that many energy efficiency measures relate
15 directly to weather. That if people -- that's
16 why I keep giving examples, if we could
17 encourage the builders to convince customers
18 building homes to put more insulation in, take
19 out a slightly bigger mortgage, have a whole lot
20 more efficient home, it's going to pay for
21 itself over the life cycle of that building.
22 That's a complicated story to tell. That
23 question is directly linked to weather, which,
24 in turn, is directly linked to this.

1 But in terms of the original motivating
2 factor behind decoupling? I would have to
3 say "no". That's a separate issue. There
4 have been weather normalization adjustments
5 around the country long before people became
6 concerned about energy efficiency. It has
7 its own set of benefits.

8 But, in terms of the mechanics, they're
9 very closely related. And in terms of the
10 package of the Settlement, they're very
11 important, because, at least from my
12 perspective and OCA's perspective, gaining
13 that benefit, that risk reduction, that cash
14 flow benefit for customers, this was an
15 opportunity to achieve that at a time when
16 we're having to reprogram the billing cycle,
17 we're having to deal with these issues
18 afresh, why not go ahead and fix that as
19 well? And that's what's part of the
20 Settlement.

21 Q Okay. So, there were, and I was going to go
22 through these one-by-one, but I recall from the
23 discussion this morning three or four benefits
24 that I heard about the Settlement package. One

1 of which was, as we've talked about, "severing
2 the link and thereby fostering energy
3 efficiency". And I just want to make sure I
4 have this 100 percent clear from the panel. And
5 what I want to do is I want to go through the
6 benefits and ask which of these two mechanisms
7 on the bill tie into those benefits.

8 So, just to restate, the "breaking the
9 link to fostering energy efficiency" will
10 be -- there's a direct relationship between
11 the decoupling portion in the LDAC part of
12 the bill, but it's not directly related to
13 the weather normalization decoupling
14 mechanism that's put forth on the bill. Is
15 that a fair summary of what you just said?

16 A (Therrien) I don't -- I don't think so.

17 Q Okay.

18 A (Therrien) I think what would be a better
19 representation is that both components
20 contribute to the full decoupling and severing
21 the link. With one -- with one piece and
22 without the other piece, it's not a full
23 separation. You need both pieces to fully
24 separate throughput from revenues.

1 Q Right. No, I understand that.

2 A (Therrien) Okay.

3 Q But you said at the outset that your primary
4 reason to separate throughput from revenue was
5 to foster energy efficiency. I think we agreed
6 on that within the first few minutes.

7 A (Therrien) Right.

8 Q So, my question simply is, the line that's
9 marked "Normal Weather Adjustment", how does
10 that either help or hurt or have no impact on
11 that specific objective that we just --

12 MR. KREIS: Mr. Chairman, I'm
13 going to object at this point. That question
14 has been asked and answered about four times
15 already. The witnesses have both testified that
16 the weather -- real-time whether decoupling
17 process does not contribute directly to severing
18 the -- does not mitigate the effect of energy
19 efficiency on revenue. So, they are separate
20 things. So, it doesn't need to be asked and
21 answered anymore.

22 CHAIRMAN HONIGBERG: I didn't
23 understand much of what you just said, except
24 for the "asked and answered" part.

1 MR. KREIS: That's the essence of
2 what I'm trying to say.

3 CHAIRMAN HONIGBERG: Yes.
4 Thanks. No, we're going to let him -- we're
5 going to let Mr. Dexter work through this, so
6 that he's comfortable that he understands the
7 witness's position.

8 MR. DEXTER: Well, I would be
9 perfectly happy with Mr. Kreis's answer. I just
10 don't think I got that from the panel.

11 So, I would ask that my
12 question be reread. And if the panel can
13 simply confirm with what Mr. Kreis said, I'll
14 move on. I'm not trying to be repetitive at
15 all.

16 CHAIRMAN HONIGBERG: It's going
17 to be more efficient if you just reask the
18 question.

19 MR. DEXTER: Okay.

20 BY MR. DEXTER:

21 Q So, Mr. Therrien, we're in agreement, I believe,
22 that at the outset of your testimony you stated
23 that the primary reason for proposing decoupling
24 was to sever this link to foster energy

1 efficiency. We're agreed on that, right?

2 A (Therrien) Correct.

3 Q Okay. So, my question simply is, the line on
4 the bill that's marked "Weather Normalization
5 Adjustment", does that help, hurt, or have no
6 impact on that primary goal that we just stated?

7 A (Therrien) Helps.

8 Q And how is that?

9 A (Therrien) Because the Company won't be
10 encouraging or hoping for colder-than-normal
11 weather. It won't be hurt by declining normal
12 weather over time, like some of the exhibits
13 that both myself and Dr. Johnson produced in
14 testimony. Anything related to sales is now not
15 a concern of the Company's, insofar as --

16 A (Johnson) Let me jump in with a quick visual
17 example. Just visualize it's a big corporation.
18 People at the top may understand the goal is to
19 encourage energy efficiency. But you've got
20 people all through the system, engineers, all
21 kinds of people. And they know that, when they
22 have nice cold weather, and the system is
23 pumping a lot of energy through it, that's when
24 they're fat. That's when lots of revenues are

1 pouring in, profits are great. The company is
2 doing really well because of that cold weather.

3 And to try to convince everybody
4 throughout the corporate structure, "Forget
5 that, ignore that, focus on the idea of
6 helping the customers become more efficient",
7 it's very hard to change that corporate
8 culture unless you truly break the link. By
9 truly breaking it, where they no longer see
10 that, you know, that the earnings per share
11 are good because they had a cold winter, it's
12 very hard to do that.

13 You can talk to all you want in terms
14 of, you know, "well, theoretically, over time
15 weather doesn't matter." But, by really
16 making it not matter, they can totally change
17 their mindset throughout the company.

18 Q So, is it your testimony that under, for a gas
19 utility, under cold years, your conservation
20 efforts are more robust than under warm years?
21 Is that what I'm understanding?

22 A (Johnson) No. I'm saying they make a lot more
23 money. So, you can tell them "yes, we ought to
24 be talking to those builders", and they're going

1 to drag their feet try to convince the builders.
2 Because they know that, if you have a poorly
3 insulated house, with a lot of gas being burned,
4 the Company is doing well, there's room to give
5 bonuses, there's room to, you know, give raises
6 to the people working for them, and these are
7 real human beings.

8 And so, it's all very nice and well to
9 say "we have a regulation that says we have
10 to encourage energy efficiency." But to
11 really make that happen throughout a company,
12 it's hard to do unless they truly have no
13 financial incentive that's linked to volume.
14 That's why environmental groups tend to be
15 pushing for decoupling. That's why the
16 people that really understand this see it
17 helps achieve the public policy goals more
18 effectively.

19 Q Okay. I should have stuck with Mr. Kreis's
20 answer.

21 MR. KREIS: I like theirs better.

22 CHAIRMAN HONIGBERG: I had a
23 feeling that the witnesses didn't agree with Mr.
24 Kreis.

1 MR. KREIS: Thank you, Mr.
2 Chairman.

3 BY MR. DEXTER:

4 Q So, I'd like to ask that same question with
5 respect to the decoupling charge that's built
6 into the LDAC. Does that charge have an
7 increased effect on energy efficiency, a
8 decrease, or no effect on energy efficiency?

9 A (Johnson) It definitely benefits the mindset of
10 encouraging energy efficiency, if the entire
11 revenue stream is no longer tied to fluctuations
12 in volume, for whatever reason. So, both pieces
13 are related to this idea of decoupling revenues
14 from rates.

15 Q Is one more directly related to that goal or are
16 they both equally related to that goal?

17 A (Johnson) I don't know that -- how you can say,
18 maybe the second one is, in some sense,
19 mechanically more directly related. It would be
20 certainly true if we had a state where you
21 already had a weather normalization adjustment.
22 We're talking about whether or not we're adding
23 in the extra piece of the final line on the
24 bill. Then you could say "Well, you know, why

1 is someone still pushing for further decoupling,
2 we already have weather normalization?" And the
3 answer is "Because, you know, there's still part
4 of the bill that it creates a current incentive
5 for the company to push more revenue -- get more
6 revenue by pushing more volume through their
7 system."

8 Q So, I think one of other goals that I heard
9 about from this morning -- I'm sorry, one of the
10 other goals I heard this morning that would stem
11 from the Settlement had to do with cash flow,
12 and it was divided into "Company cash flow" and
13 "customer cash flow".

14 So, could you explain to me, I'll ask
15 the same question, which of those two charges
16 that are now on the bill are going to be
17 related to "customer cash flow"?

18 A (Johnson) The weather normalization one, or the
19 "Normal Weather Adjustment", is the one that
20 improves the customer's cash flow.

21 Q And with respect to "Company cash flow"?

22 A (Johnson) The Company's cash flow is improved by
23 the weather normalization line, the "Normal
24 Weather Adjustment". So, it's very simple. In

1 this example, the customer benefits from not
2 having to send in a check for 66 cents. And the
3 Company is on the flip-side of that, they don't
4 receive the 66 cents, which would have otherwise
5 been unexpected money. They would have had to
6 just park the cash, because they're not -- they
7 can't predict it. It's strictly a function of
8 weather. They would have gotten one or
9 two percent by parking the cash. That's not --
10 you know, it's a little bit of benefit in that
11 particular month.

12 But, when you have a reverse month,
13 where they happen to have milder-than-normal
14 weather, then they have a real problem. They
15 don't get the analogous 66 cents they were
16 counting on. So, they have to have a line of
17 credit lined up. They have to be managing
18 their cash to be able to handle unexpected
19 fluctuations in what comes from the customer.

20 So, it's the same problem, and it
21 happens to help both sides of the problem, if
22 you take away that unexpected risky element.

23 A (Therrien) And I would add. It's the real-time
24 nature of that particular adjustment that helps

1 the cash flows.

2 Q Now, when we're talking about the utility's cash
3 flow or a customer's cash flow, we're basically
4 balancing revenues and expenses, is that what
5 we're trying to do here? In other words,
6 everybody's got to match revenues and expenses,
7 and therefore pay their bills? It's basically
8 the same for the Company and the customer, is
9 that true?

10 A (Johnson) I'm not sure why you're asking that,
11 but that's not true. I mean, the whole point of
12 talking about cash flow is there is a slight
13 difference between accrual accounting for
14 revenues and expenses and actual cash flows.
15 So, you can accrue a debit or a credit that says
16 "I'll pretend I didn't get all that money from
17 unusual weather, because of the approach the
18 Company was originally proposing." And, so,
19 from their reporting to the financial community,
20 they could have stabilized the earnings stream
21 through their approach. But the actual cash
22 flows wouldn't have been stabilized. They would
23 still have this cash management problem, which
24 would, in turn, affect bond ratings,

1 calculations, and so on.

2 So, the real-time actually is a --
3 improves the cash. It doesn't just stabilize
4 the mixture of revenues and expenses. It
5 also improves the flow of cash itself.

6 Q Okay. So, from a Company standpoint, this
7 adjustment would apply to all the revenues that
8 come in. Would you agree?

9 A (Johnson) Not the commodity-related revenues.

10 Q Oh, true. Would you agree all the
11 distribution-related revenues?

12 A (Johnson) At delivery, yes.

13 Q Okay. And from the customer's standpoint, it
14 doesn't have any effect on their revenues.
15 They're revenues come from paychecks and things
16 like that.

17 A (Johnson) Right.

18 Q They don't get any revenues from the utility,
19 right?

20 A (Johnson) Normally, right.

21 Q Okay.

22 A (Johnson) Unless you happen to be an employee, I
23 guess.

24 Q Yes. So, on the expense side for the customer,

1 they're trying to pay their bills. And my
2 question, I guess very simply, is what
3 percentage of all the bills the residential
4 customer has to pay is reflected in their gas
5 bill? Do you think it's 10 percent of their
6 budget? Two percent of their budget? Fifty
7 percent of their budget? Is there any general
8 information you can give us on that?

9 A (Johnson) I'm not sure what would be a realistic
10 figure. Obviously, they have a lot of other
11 expenses as well. But, if it's the winter,
12 their gas bill is a pretty important item.

13 Q But we'd all agree that there are other bills
14 that customers have to pay as well, not just
15 their energy bill?

16 A (Johnson) Absolutely.

17 Q All right. How significant -- back on the
18 utility side of the cash flow question, how
19 significant a factor is this in the utility's
20 cash flow, taking weather out of the equation?

21 A (Johnson) Again, I think it's significant. I
22 mean, they can manage it. It's not like they're
23 overwhelmed by it. But it's a significant item.
24 It's worth thinking about it. It's beneficial

1 for them to stabilize it and make it more
2 predictable.

3 Q Okay. So, I want to talk about -- I want to
4 talk for a moment about price signals and rate
5 design goals and things like that. I think I
6 heard this morning that the primary -- well, let
7 me just ask it this way. What is the primary
8 rate design goal that you -- that you see coming
9 out of this Settlement decoupling mechanism?

10 A (Johnson) It sends stronger signals to
11 residential customers that adjusting their
12 thermostat or investing in more insulation or
13 more efficient appliances will have an impact,
14 that the extra effort of researching and buying
15 the better appliance, or the discomfort of
16 turning off the heat in some of the rooms in
17 their house, will have a stronger impact for
18 them. They will benefit more from their
19 personal action that they took, because we've
20 moved more of the bill into the volumetric
21 charge, and we've taken some out of the fixed
22 charge.

23 Q So, it would promote conservation, is that fair?

24 A (Johnson) Yes.

1 Q Okay. Now, in most rate cases or all rate
2 cases, rate design cases, there's four or five
3 rate design goals that are typically referred
4 to.

5 A (Witness Johnson nodding in the affirmative).

6 A (Witness Therrien nodding in the affirmative).

7 Q And I see you're both nodding your head, I'm
8 sure you're both familiar with them. And they
9 go something like fairness and stability and
10 equity, and I don't have them all at the tip of
11 my fingers, although I probably could read them
12 from a book, but we'll shortcut this.

13 Could you explain today how those other
14 goals are impacted or weighed in the -- if
15 the Settlement decoupling mechanism was
16 adopted?

17 A (Therrien) Well, let me take a crack at the
18 first part. You're right. They're competing
19 goals. And it's hard to say which one is more
20 important than the other. But that's why we
21 spend so much time, when we do rate design, on
22 bill impacts. And we run them at various usage
23 strata, to understand what changes that we make
24 in the proposed rate design, how will that

1 affect customers? And you can't just say "well,
2 this one class of customers may get a 5 percent
3 increase", because within that class you can
4 have significant differences.

5 So, when this rate design was settled,
6 we had run several iterations of rate design
7 before we came to a point that everybody felt
8 that the rate impacts, from where customers
9 are being billed today, to what the new rates
10 would result in bills for them. That they
11 were reasonable. They weren't -- there's no
12 rate shock involved. There was reasonable
13 gradualism taken into account. There was
14 fairness within the class, there was fairness
15 amongst the classes. And that's where there
16 is no magic button that you can press. It
17 does come down to judgment. And it does come
18 down to really digging into the data and the
19 stratas and saying, you know, "does these
20 rate design changes make sense?" So, from my
21 perspective, as a comparison from the current
22 rates to the new rates.

23 I think the second part of your question
24 maybe is a little bit better for Dr. Johnson

1 to explain, over the long run, how you bill
2 utility customers. So, it's really a
3 long-term price signal.

4 A (Johnson) Obviously, this question of rate
5 design and the relative importance of different
6 public policy goals was one of the fundamental
7 differences between the Company's filed
8 testimony and OCA's. In my case, I had
9 literally 80 pages of testimony on this concern,
10 trying to convince the Commission that moving
11 from one of the highest fixed charges in the
12 country, back down to lower fixed charges, and
13 thereby increasing the volumetric rate, creating
14 a stronger incentive for individual customers to
15 conserve was in the public interest. And so,
16 that's why we went through in detail both the
17 tradeoffs from a policy point of view, the
18 underlying economic arguments, a critique of the
19 Company's marginal cost study, which was a
20 fundamental defense they had for their
21 particular position. So, clearly, we felt very
22 strongly about it. And I believe the Commission
23 should look at that. If there is some
24 queasiness about "why are we reversing things,

1 and actually lowering fixed charges?", I would
2 encourage you to look at those arguments,
3 because I think they are very persuasive.

4 Q So, and I'll ask you this question, but I'd like
5 you both to answer it so I understand, is it the
6 opinion of both of you that the result of the
7 decoupling and rate design component of the
8 Settlement fairly weighs the various rate design
9 goals that underlie the proposals that you both
10 made?

11 A (Therrien) I can say "yes". I had extensive
12 conversations with the management of Liberty
13 over where their proposed rates were. As I
14 mentioned, we ran several iterations of rates to
15 make sure that we were not harming any
16 particular class or strata within a class.

17 And then I think, more importantly, that
18 a lot of the reasons why, over the years,
19 Liberty had pushed for higher fixed customer
20 charges, is why you still see a customer
21 charge of reasonably significant magnitude.

22 So, there was compromise made certainly
23 within, you know, the give-and-take of the
24 Settlement. Clearly, a more -- a heavily

1 volumetric charge does make people think
2 about how much gas they're using, compared to
3 everything being billed on a fixed basis.

4 So, if the goal of the decoupling was to
5 sever the link of sales and revenues, from
6 the Company's perspective, and also provides
7 an opportunity to send a price signal to
8 consumers that "the more you use, the more
9 it's going to cost", that makes sense.

10 Some of the other concerns that the
11 Company has about retaining fixed charges,
12 such as there's an inherent cost to the
13 distribution system for being ready and
14 available to serve, that was an important
15 consideration here as well. So, in other
16 words, we would not have advocated for a
17 complete reversal to, for instance, to use a
18 hypothetical, a zero customer charge. I
19 don't think that you see that here for a good
20 reason. That's something that the Company
21 was very adamant about, that there is a cost
22 of service. Whether you use it or not, it is
23 available for service.

24 So, clearly, in both my direct testimony

1 and Dr. Johnson's testimony, we had conflicts
2 over what the right amount of signal should
3 be sent for cost collection through rates. I
4 think the Settlement strikes a very good
5 balance. And yes, it moves more towards
6 volumetric, because the purpose of decoupling
7 is to encourage energy conservation. So,
8 from my perspective, but I think that it's a
9 good settlement.

10 Q And, Dr. Johnson, will you answer the same
11 question please?

12 A (Johnson) Yes. I'm obviously looking at it from
13 the other point of view. So, it's kind of
14 whether I'm looking if the glass is half full or
15 half empty. I had recommended lowering the
16 fixed charges a little bit more than the
17 Settlement provides. But I'm also sensitive to
18 the concerns about bill impacts and changing
19 things too much too quickly. So, it's
20 understandable that the OCA, within the
21 give-and-take of negotiations, wouldn't insist
22 on getting it all the way down to the level that
23 I was recommending.

24 And certainly, the Commission should

1 realize, in future proceedings, the OCA may
2 advocate lowering some of the fixed charges a
3 bit more than in this case. But, again,
4 that's just consistent with the idea of
5 gradualism.

6 So, yes, it's a compromise. I think
7 it's a fair compromise. And it doesn't
8 preclude the possibility of further gradual
9 reductions in future cases, if circumstances
10 warrant.

11 Q I wanted to finish up on price signals. And I'd
12 like to use the billing -- the sample bill,
13 Exhibit 61. And you both agreed, I believe,
14 that this indicates this is a situation where
15 weather was colder than normal, and therefore
16 there's a bill credit.

17 And my question to you is, do you find
18 that to be an appropriate price signal, to
19 give customers a credit when the weather is
20 colder and their usage is higher?

21 A (Johnson) Again, there's no perfect rate design.
22 If your only goal was to discourage energy usage
23 as much as possible, and encourage energy
24 efficiency to the maximum degree possible, then

1 you would have a 20 percent return on equity.
2 You would be just super generous in every step
3 of the process to make sure rates are as high as
4 possible. I think it's self-evident in that
5 example that there's tradeoffs. That we're also
6 concerned about other things besides simply
7 trying to maximize energy efficiency.

8 In this particular case, the tradeoff is
9 really, really minor. Because what we're
10 talking about is a bill that's arriving, it's
11 cold, they still see how important it was
12 whether or not they made that decision to put
13 in insulation. They're still sensitive to
14 the fact that it's colder, they're going to
15 pay more. The reason they're going to see
16 that is because of the gas supply element.
17 They're going to be paying more for the
18 commodity. So, we haven't completely wiped
19 out that awareness of the importance of
20 weather.

21 In terms of, "is there something they
22 could do if the rate was 66 cents higher or
23 lower, or \$5.00, in that one month, due to
24 that one thing?" No. The kinds of decisions

1 we're asking people to make really should be
2 made based on normal weather. The rational
3 decision whether to invest in a better
4 appliance or not, how good an appliance to
5 invest in, the economically rational decision
6 should be based on normal weather. It
7 averages out over the 20-year cycle of that
8 furnace, or 30 or 50-year cycle of the
9 building with its insulation. It's the
10 average weather they should be deciding, not,
11 you know, scaring them with, you know, the
12 phenomena of an unusually cold winter.

13 Q So, again, I want to make sure I understand.
14 So, you're not concerned that giving a customer
15 a refund on a colder-than-normal month sends an
16 incorrect or a confusing price signal?

17 A (Johnson) I'm not. Because, looking at this
18 example, if it were a normal month, they would
19 pay \$289.71, in terms of this part, or I'm not
20 sure what the number is -- \$66 or whatever.
21 They would have paid the same \$66. The only
22 question is the first two before the orange,
23 those two would have had slightly fewer units,
24 and therefore they would have been slightly less

1 billed on those two rows. And on a perfectly
2 normal month, this line item called "Normal
3 Weather" would have a zero adjustment. You
4 following me?

5 So, the total of the three is still
6 going to go with normal weather, and it's
7 going to be stabilized. If its a normal
8 February, you're going to be -- and they use
9 a normal amount for their normal February
10 usage, they will pay the same amount on those
11 three whether it's unusually cold or not.
12 They're simply going to pay based on the
13 characteristics of their house, the
14 characteristics of their furnace, and what
15 the normal weather is for that particular
16 month.

17 If you think of, say, April, yes,
18 they're still using the furnace some, but
19 it's not nearly as extreme as in January.
20 And that pattern that they can see over year
21 after year will be repeated in the cluster of
22 the three. And what we're removing is that
23 other element, that sudden spike that happens
24 due to unusually mild or unusually cold

1 weather that comes and goes from year to
2 year.

3 Q I'm sorry, but now I'm more confused than I was
4 before. Did you say that, and, again, these are
5 just examples, and this 66 cents could be \$5.00
6 for all we know.

7 A (Johnson) Sure.

8 Q We don't know proportionally that it's really
9 this small. But did you just say that the
10 "\$30.35", the "\$36.14", and "66 cents" credit,
11 when you add the three of those up, they will
12 always come out to normal weather?

13 A (Johnson) That's the basic idea. Let me try it
14 a different way. And I don't want to overstate
15 this, because, of course, there's fluctuations
16 that happen.

17 But the critical point is that
18 "1 percent" factor you see there, that's a
19 hypothetical representation of the idea that
20 it's 1 percent colder than normal. So, in
21 another month, it was 1 percent warmer than
22 normal, there would have been an extra charge
23 of 66 cents. But the net effect of the two,
24 if it, in fact, is 1 percent colder, then the

1 units that are in the two rows above it,
2 where you see this little count of units,
3 those would have been 1 percent higher or
4 lower, depending on the example. So, it's
5 all self-canceling within that little group
6 of three.

7 Q So, under traditional current ratemaking, rates
8 are set based on normal weather. And I think
9 you both said that, in a colder weather,
10 companies make more money, and, in warmer
11 weather, they make less money?

12 A (Johnson) Right.

13 A (Witness Therrien nodding in the affirmative).

14 Q And we can all agree on that. And do you agree,
15 in that situation, that the Company is bearing
16 the risk of weather fluctuations?

17 A (Johnson) Yes.

18 A (Therrien) They are bearing a risk of weather
19 fluctuations, and so are customers.

20 Q Well, that was going to be my next question.

21 A (Therrien) Okay. Because it's -- if I may? I
22 think it's a common misconception that weather
23 is a company risk. It is a company risk, but
24 it's a symmetrical risk with customers. They

1 have the same risk when the weather goes the
2 opposite direction.

3 Q In what sense?

4 A (Therrien) Well, if it's colder than normal,
5 they're essentially overpaying for the cost of
6 the distribution system.

7 Q And under the proposed decoupling mechanism, how
8 would those risks be allocated between the
9 Company and customer?

10 A (Therrien) They're eliminated. The reason for
11 that is because, when it's colder than normal,
12 the distribution portion of their bill includes
13 a credit to adjust it back down to the right
14 level that they should be paying, which is the
15 level of money that they would pay under normal
16 weather. And for the Company, they don't have
17 this, whether it's small or large, this windfall
18 amount of money of over-collection for their
19 costs on colder-than-normal weather.

20 And on the flip-side of that, when it's
21 warmer than normal, and they're not receiving
22 enough revenues to cover their costs, the WNA
23 brings them back to that level of revenues
24 that they need in order to cover their

1 operating costs.

2 Q Mr. Therrien, in your -- I think it was your
3 original testimony, there was a chart indicating
4 the number of LDCs in the country that have
5 implemented some sort of a decoupling mechanism.
6 Do you remember that?

7 A (Therrien) Yes. I have it in a few different
8 places throughout.

9 Q I think it's Bates 291. And maybe I'm thinking
10 of another one. You referenced it earlier, and
11 you said something about the -- well, let me
12 withdraw that question, just take a moment to
13 find the document.

14 So, I'm looking at your rebuttal
15 testimony. It's Bates 183.

16 A (Therrien) Yes. I have that.

17 Q And so, you would agree that this chart
18 indicates that there are 67 -- are these just
19 gas utilities?

20 A (Therrien) Yes, they are.

21 Q Sixty-seven (67) gas utilities that have
22 instituted a revenue decoupling mechanism?

23 A (Therrien) Correct.

24 Q Do you know, of that 67 total, how many gas

1 distribution utilities there are in the country?

2 A (Therrien) It's an ever-changing number. I
3 don't have an exact number for you, sir. I will
4 say that I believe it's in the 200 range.

5 Q In the 200 to 300 range or closer to 200?

6 A (Therrien) My reconciliation is 200.

7 Q Two hundred (200). Okay. There was another
8 statement in your rebuttal testimony that I
9 wanted to ask you about. It appears on
10 Page 179. And it starts at Line 17. And it
11 describes some limitations that you see in
12 Staff's proposal. Could you read that sentence
13 into the record that begins "Staff's proposal
14 limits".

15 A (Therrien) "Staff's proposal limits reconciling
16 changes in sales related to utility-funded
17 conservation programs only, and ignores other
18 energy efficiency and conservation actions
19 customers and other stakeholders take to reduce
20 gas consumption."

21 Q Now, you would agree that Mr. Iqbal's proposal
22 that will be presented tomorrow is based on a
23 revenue per customer calculation, would you not?

24 A (Therrien) Yes.

1 Q And doesn't the fact that it's done on a revenue
2 per customer basis take into account these other
3 items that you're saying are ignored? That it's
4 not just focused in on state utility-funded
5 conservation programs?

6 A (Therrien) One moment please.

7 Q Sure.

8 A (Therrien) What I'm looking for is, and maybe
9 you can help me, I recall that there was a limit
10 that was proposed, which made it a partial
11 decoupling mechanism, even like a -- I may have
12 said "partial", a limited, I think there was a
13 2 percent limit on the adjustment.

14 Q So, it would be the limiting part of the
15 proposal that would -- that was behind the
16 statement, not the fact that it was based on a
17 revenue per customer basis?

18 A (Therrien) That's correct. It was a combination
19 of the fact that it excluded the impacts of
20 weather and that it had a limitation. Yes.
21 Item (5), "The RDM adjustment should be capped
22 at plus or minus 2 percent."

23 Q So, I think we would all agree that Mr. Iqbal's
24 proposal was intended specifically to not adjust

1 for weather?

2 A (Therrien) Correct.

3 Q Okay. So, the 2 percent cap, what is it about
4 that 2 percent cap that you would find -- that
5 you would advise not adopting, if that's your
6 position?

7 A (Therrien) Well, frankly, I did find it a little
8 unclear whether there would be a deferral as a
9 result of it or just a plain disallowance for
10 any amount above and beyond the 2 percent. So,
11 I'm going to respond assuming that, if the
12 decoupling adjustment was greater than two
13 percent, it would be limited to 2 percent,
14 because that's the way I read the testimony.

15 So that, to me, is significant, because
16 there could be a lot of activity that happens
17 through all of these other factors that we
18 talked about this morning, such as
19 customer-driven conservation, building code
20 efficiency, a multitude of different
21 conservation activities, the effect of the
22 economy, price signals from the commodity
23 price. So, limiting it to 2 percent is a
24 significant throttling down of the intent of

1 decoupling.

2 Q Okay. And I think you also indicated in your
3 rebuttal testimony that you advocated against
4 weather normalizing the decoupling mechanism, as
5 Mr. Iqbal -- I'm sorry, excluding the effects of
6 weather from the decoupling mechanism, as Mr.
7 Iqbal proposed?

8 A (Therrien) That's correct.

9 Q One of the reasons for that you said is that "it
10 would be complicated"?

11 A (Therrien) I would say that it's --
12 "complicated" may be a poor word choice. It may
13 be imprecise. If you could point me to the line
14 in my testimony, I would appreciate it.

15 MR. DEXTER: Mr. Chairman, I
16 think I'm finished, but I'd like a minute or two
17 to discuss with Mr. Iqbal?

18 (Atty. Dexter conferring with Mr.
19 Iqbal.)

20 MR. SHEEHAN: Mr. Chairman, I
21 found the reference to my client's testimony to
22 "complicated". I could point him to that, if
23 that would be appropriate?

24 CHAIRMAN HONIGBERG: We'll see if

1 that's the direction Mr. Dexter wants to go.

2 Mr. Dexter, are you ready to
3 go?

4 MR. DEXTER: Yes.

5 BY MR. DEXTER:

6 Q I will just finish by referring to
7 Mr. Therrien's rebuttal testimony, Bates 194.
8 And you've listed four -- five reasons why
9 real-time decoupling is difficult and complex,
10 and then you go into some reasons why those are.

11 And I would like you to explain whether those
12 concerns still exist with respect to the
13 Settlement proposal, or have they been somehow
14 alleviated, and if so, could you explain how.

15 A (Therrien) Well, clearly, it was a product of
16 negotiation to arrive at the hybrid full
17 decoupling that we have in front of you in the
18 Settlement Agreement. I have worked with
19 real-time weather normalization adjustment
20 billing factors in my experience. And I guess I
21 would say, for most customers, it's not an
22 issue. It's a line item on the bill. Most
23 people look at the bottom line of their bill and
24 pay their bill. For those that get interested

1 in it, most consumers can understand the concept
2 of getting a refund when it's colder than
3 normal, and that usually is the end of the
4 conversation.

5 The issues that I pointed out here,
6 these five issues, I still believe they
7 exist. And I do believe that they can be
8 overcome, okay? And I did also point that
9 out in my rebuttal testimony saying that, you
10 know, there is a lot of benefits to real-time
11 decoupling as well. And that, if it were to
12 be implemented, and this is on Page Bates
13 196, and it goes back to a question asked
14 earlier, "if a real-time RDM were
15 implemented, the Company would work with both
16 the OCA and Staff to develop communications
17 materials for customers, and to address the
18 administrative and reporting requirements
19 associated with a real-time RDM."

20 So, it is more complicated than the
21 Company's original proposal. It has,
22 frankly, more benefits from cash flows that
23 we had discussed earlier. And probably --
24 well, not "probably", it does send a signal

1 on that customer's bill that matches the
2 weather that occurred during that customer's
3 billing timeframe.

4 So, I guess to answer your question, I
5 still believe that these five items are
6 something that can be -- that should be
7 addressed. And I have full faith that the
8 OCA, Staff, and the Company can work together
9 to minimize any implementation issues.

10 MR. DEXTER: That's all I have,
11 Mr. Chairman. Thank you.

12 CHAIRMAN HONIGBERG: Let's go off
13 the record for just one second.

14 [Brief off-the-record discussion
15 ensued.]

16 CHAIRMAN HONIGBERG: Commissioner
17 Bailey.

18 CMSR. BAILEY: Good afternoon.

19 WITNESS THERRIEN: Good
20 afternoon.

21 BY CMSR. BAILEY:

22 Q Could we start with Exhibit 61 please, it's the
23 bill. Can you tell me what the difference is in
24 the distribution charge, the two distribution

1 charges?

2 A (Therrien) Sure. The first distribution charge
3 is what's called the "head block".

4 Q Oh, okay.

5 A (Therrien) So, it's priced differently. So, and
6 it's a little confusing on the sample bill, but
7 it says "96.667 units". That's because it was
8 only a 29-day bill. So, the block itself gets
9 prorated. I believe the block is 100 therms is
10 the first block. And then anything over 100
11 therms gets billed at the tail block rate. So,
12 you just have a little adjustment here for the
13 fact that it wasn't a 30-day bill.

14 Q And your proposal has different rates for the
15 head block and the tail block?

16 A (Therrien) No. That's one of the Settlement --
17 one of the changes in the Settlement. The head
18 and tail block volumetric rates are now the
19 same.

20 Q Well, that's what I thought. But this bill
21 doesn't show that, does it? How am I misreading
22 this?

23 CHAIRMAN HONIGBERG: It's
24 because, I'm going to guess, Mr. Sheehan, that

1 it's because you haven't yet reprogrammed your
2 system for the new billing, if this were
3 approved, right?

4 MR. SHEEHAN: The proposal was to
5 put it in effect November 1.

6 CHAIRMAN HONIGBERG: Yes. So,
7 this is just an old bill.

8 CMSR. BAILEY: Oh. Okay. All
9 right. Okay.

10 WITNESS JOHNSON: So, in effect,
11 we'd be removing -- probably be able to remove
12 one of those rows to make room for this "weather
13 normalization" row. On net, it really doesn't
14 make the bill any longer than it was. A side
15 benefit of the fact we're flattening the rate.

16 MR. SHEEHAN: That's the real
17 reason we're doing it.

18 CMSR. BAILEY: All right.

19 BY CMSR. BAILEY:

20 Q Can you explain how you -- I don't really
21 understand heating degree days. I get the
22 1 percent concept, in that that means that it
23 was 1 percent colder than normal. But how do
24 you determine that 1 percent? What's the data

1 that you use to get there?

2 A (Therrien) Sure. Heating degree days are
3 reported daily at weather stations, and they're
4 reported to NOAA, and I'm going to mess up the
5 acronym, but it's the National Oceanographic --
6 N-O-A-A, NOAA.

7 So, every day they report in what the
8 reads are and they come up with an average
9 temperature for that day. And that
10 temperature --

11 Q An average temperature for that day for a bunch
12 of different locations?

13 A (Therrien) Right. But, in Liberty's service
14 territory, it's probably somewhere right around
15 here, I would think, at an airport, typically.

16 Q Okay.

17 A (Therrien) So, they would take that, and they
18 would average it, and they would say that's the
19 temperature for the day. And then they would
20 take that number, and you -- you would take
21 65 -- temperature 65, and then subtract out that
22 temperature, and it would give you the heating
23 degree days. So, for instance, if the
24 temperature was 30 degrees outside, the heating

1 degree days is 35. So, you have 35 heating
2 degree days.

3 Now, here's where we get into normals.
4 You would look back, and in New Hampshire
5 it's 30 years, you would look back over that
6 day, for the past 30 years, then you would
7 average it. And you would say "Oh, for
8 today, the normal temperature, stated in
9 heating degree days, would be 32." So,
10 today's actual heating degree day was 35, it
11 was three heating degree days colder than
12 normal. And you would just do that for every
13 single day within the billing month, add them
14 all up, and that's your answer.

15 Q Except you said 35 was three degrees lower than
16 the average, is that --

17 A (Therrien) Right, because it's a little bit of
18 an inverse relationship.

19 Q Okay.

20 A (Therrien) The higher the degree days you have,
21 the colder it is.

22 Q Okay. Can you explain to me, and this is a rate
23 design question I think, you have a
24 \$10.3 million revenue requirement -- no, that's

1 not the revenue requirement. That's the revenue
2 deficiency.

3 A (Therrien) The deficiency.

4 Q Right.

5 A (Therrien) Correct.

6 Q So, you -- what's the revenue requirement?

7 A (Therrien) The revenue requirement is, well,
8 let's say it's \$95 million. I'm not sure what
9 the total number is.

10 Q Okay. All right. Let's say "100 million" to
11 make it easy.

12 A (Therrien) Okay.

13 Q So, how does a \$100 million revenue requirement
14 translate to the revenue per customer?

15 A (Therrien) Well, there is -- actually, there was
16 a great diagram laid out in Dr. Johnson's
17 testimony. You go through an allocated cost
18 study. And in the case of New Hampshire, we
19 also look at marginal cost studies, okay? Which
20 says this is how much the class contribution
21 should be. So, it's this whole other marginal
22 cost study that was performed that helps
23 allocate these revenues to the individual
24 customer classes.

1 Q And are those allocation factors resolved right
2 now? We're not changing those?

3 A (Johnson) Yes.

4 A (Therrien) Well, what happened in the Settlement
5 is basically saying we're going to use the test
6 year revenues billed in each class to
7 determine -- we're going to say that's accurate,
8 that's an accurate allocation of revenues
9 amongst the classes.

10 Q Oh. So, it's allocated by revenue. I see.

11 A (Therrien) Correct.

12 Q Okay. So, that's not really a cost, that's
13 revenue. It's different.

14 A (Johnson) There was evidence about the proper
15 allocation of the revenues and the costs. The
16 Parties weren't very far apart, and it was
17 resolved in the Settlement through the mechanics
18 of what they've set forth, but, in essence, it
19 preserves the status quo, as far as how much is
20 residential, how much is small commercial, and
21 how much is industrial, and how much is high
22 load factor, low load factor
23 commercial/industrial. Those issues get
24 resolved by basically carrying forward the

1 percentage shares that were present during the
2 past rate case -- past allocation process as
3 reflected in the test year.

4 Q Okay.

5 CHAIRMAN HONIGBERG: Mr. Dexter,
6 can you refresh our memory what Staff's position
7 is on the allocation issue?

8 MR. DEXTER: The allocation
9 between the classes?

10 CHAIRMAN HONIGBERG: Uh-huh.

11 MR. DEXTER: I don't believe
12 Staff has any recommended changes to the class
13 allocations.

14 CHAIRMAN HONIGBERG: Thank you.

15 BY CMSR. BAILEY:

16 Q Okay. So, say 20 percent of the revenue gets
17 allocated to residential.

18 A (Therrien) Okay.

19 Q How do you get -- how do you -- how do you
20 figure out -- how do you translate \$20 million
21 into a revenue per customer?

22 A (Therrien) Divide by the average number of
23 customers in the test year.

24 A (Johnson) It's really that simple.

1 Q And then divide by 12 or --

2 A (Therrien) For an annual -- decoupling is based
3 on an annual. So, it's just as simple as it is,
4 dividing by customers.

5 Q Okay. And then how does that translate to the
6 per therm rate?

7 A (Therrien) Well, that's where rate design comes
8 into play.

9 Q That's what I'm trying to get to.

10 A (Therrien) Okay. So, Step 1 is determining the
11 revenue requirement. We just talked about that,
12 it's 100 million. Step 2 is saying what classes
13 should pay that 100 million. And then Step 3 is
14 "how should that class's contribution be
15 recovered through rates?" And that's when you
16 start to have the conversation about fixed
17 versus variable, block versus no blocks, season
18 versus no seasonal variation. And there's a lot
19 of rate design principles that can support
20 seasonal -- seasonal rates, like we have in New
21 Hampshire, that can support declining block
22 rates, or inclining block rates, if the price
23 signal that the commission wishes to send is one
24 to support a conservation price signal. And

1 then the one that I talked about earlier, the
2 fixed charge component. That's the \$20 a month
3 charge that residential customers currently pay
4 today.

5 So, what you do is you take number of
6 customers, and you take total volumes of
7 throughput, and you play around with these
8 rate components until it collects that
9 class's revenue responsibility.

10 A (Johnson) But, in terms of this particular
11 Settlement, it's in the terms of the Settlement,
12 basically, the Parties agree to a specific set
13 of customer charges that were lower than what
14 they are currently.

15 Q The fixed charge?

16 A (Johnson) The fixed charge. Once that number is
17 pinned, almost everything else just flows
18 automatically. Because there was also a
19 provision that says what's happening to the two
20 therm rates that are being flattened. So, then
21 the rest of the math really becomes pretty
22 simple from that point forward.

23 But, to the extent, you know, you want
24 to know what's happening, you've got

1 exhibits, basically, in the Settlement
2 showing the exhibits by specific classes and
3 the like. But the rest of it is pretty much
4 just carrying forward the pattern of the
5 rates that exist currently. There's no other
6 really major rate design changes being
7 proposed in the Settlement.

8 Q Okay.

9 A (Therrien) And earlier I mentioned the
10 importance of bill impacts. When you're
11 determining the fixed charge and your variable
12 charges, how much you move either one of those,
13 you really need to look at the individual bill
14 impacts. Because within that rate class, you
15 have varying size customers. So, you may live
16 in a 1,000 square foot house, and I live in a
17 1,500 square foot house. I may have elderly
18 parents that live with me. I'm going to use a
19 lot more gas than you. So, my bill impact is
20 going to be different than your bill impact,
21 depending on how we change those individual
22 fixed and variable rates.

23 So, you just need to make sure that
24 they're reasonable. And that's -- it's an

1 art. You really need to look at this stuff
2 and say "Is that fair?" "Is that fairness?",
3 as we discussed earlier today.

4 Q Okay. So, you did all that.

5 A (Johnson) We did.

6 Q Do you have -- can you show me where the bill
7 impact information is?

8 A (Therrien) Certainly. It was filed with the
9 Settlement Agreement. And they are shown in
10 Attachment 8. And there are 16 pages.

11 Q Okay. So, we looked at this yesterday, and we
12 looked at the impact on Keene customers.

13 A (Therrien) Correct.

14 Q But it was with respect to a different issue.
15 So, let's look at a Concord customer,
16 residential customer.

17 A (Therrien) Okay. So, if you could turn to
18 Page 2 of 18 [2 of 16?] of Attachment RATES-8,
19 or I believe it's Page 025 Bates.

20 Q Okay.

21 A (Therrien) So, this shows on the top portion of
22 the exhibit the proposed rates, and then the
23 bottom portion the current rates, and at the
24 very bottom the difference. And then kind of

1 the middle left portion is the winter season,
2 and then to the right side of the exhibit is the
3 summer season, and in the far right is the grand
4 total.

5 So, if you look at the bottom right of
6 this exhibit, Line 135, in the far right
7 column you'll see that, under the proposed
8 residential rates, the average customer,
9 okay, and that's Line 76, you can see the
10 usage there, they use, on average, "760
11 therms". So, the "average" customer on the
12 system will see a \$52.89 rate increase in a
13 year, which represents 4. -- think it's a 6 2
14 (4.62) percent increase.

15 Now, when we were evaluating various
16 rate designs, and the Company's bill impact
17 module, if you will, and this was filed in
18 direct testimony, we look at not just the
19 average customer, we look at smaller
20 customers, bigger customers, all different
21 strata of usage. And we did that as well. I
22 don't believe it's been filed here, but it's
23 part of the process.

24 A (Johnson) And I might just mention that, when I

1 prepared my testimony, I had their work papers.
2 And before I put in my proposal for even more
3 dramatic changes in the rate design, I was very
4 careful to check and make sure there was not
5 severe impacts on anyone.

6 So, to the extent the Settlement is
7 further moderating our proposal, I think you
8 can be very confident that, if you want it,
9 you can get it, a breakout of specific size
10 customers, that they're going to be pretty
11 moderate. We're not talking about 50 percent
12 increases or anything like that.

13 Q Okay, thanks.

14 CHAIRMAN HONIGBERG: We're going
15 to take a break, ten minutes.

16 (Recess taken at 3:04 p.m.)

17 CHAIRMAN HONIGBERG: Commissioner
18 Bailey.

19 COMMISSIONER BAILEY: Thank you.

20 QUESTIONS BY COMMISSIONERS:

21 BY COMMISSIONER BAILEY:

22 Q. Can we take a look at the bill impact on a large
23 commercial customer?

24 A. (Therrien) Certainly. Let's go to Page 9 of 18.

1 Q. Can you give me the Bates page?

2 A. (Therrien) Bates 032.

3 Q. Thanks.

4 A. (Therrien) This is a commercial/industrial, high
5 annual use, low load factor.

6 Q. Okay. Wait a second. High end --

7 A. (Therrien) High annual use, low load factor,
8 meaning that they use gas kind of more in some
9 seasons than others.

10 Q. So, not like a manufacturing plant.

11 A. (Therrien) Correct. Manufacturing plant would
12 be a high-usage, high-load factor. I don't know
13 which one you want to look at, but they're right
14 next to one another.

15 Q. Oh, let's look at them both then.

16 A. (Therrien) Okay. So, Bates 32 is the high-use,
17 low-load factor; Bates 33 is the high-use,
18 high-load factor.

19 Q. So would a low-load factor customer use -- their
20 high use would be in the winter, and it's kind
21 of lumpy, and then maybe -- well, no, not in the
22 summer; right? It would be mostly in the
23 winter?

24 A. (Therrien) I would think it would be in the

1 winter for a gas company.

2 Q. All right.

3 A. (Therrien) Electric might be either. But gas in
4 winter.

5 Q. Okay.

6 A. (Therrien) So, again, the format of the exhibit
7 is the same. So you go to the bottom right. In
8 the case of the high-usage, low-load factor, the
9 average customer would see a \$3,111 increase, or
10 3.76 percent, and a little less of an impact
11 for -- and it's really kind of the cream of the
12 crop of customer. The high-usage, high-load
13 factor, these are the highest utilization
14 customers on the system would receive a
15 3.20 percent increase.

16 Q. Okay. Thanks. The next topic I want to cover
17 is how you figure out the reconciliation. I
18 guess the only thing that you have to reconcile
19 is what's going to be included in the LDAC?

20 A. Correct.

21 Q. Okay. So you somehow have to figure out the
22 amount of revenue the Company expected based on
23 the per-customer revenue times the number of
24 customers in each class, subtract that from the

1 revenue --

2 A. (Therrien) Close.

3 Q. -- that you got --

4 A. (Therrien) Close.

5 Q. Okay. Tell me what --

6 A. (Therrien) We do everything first on a
7 revenue-per-customer basis. So when we come out
8 of the incident case, there will be an
9 established benchmark revenue per customer for
10 each rate class.

11 So let's just use residential heating.
12 Let's just say it's \$700, okay. A year from
13 now we'll look and see what the actual
14 revenue per customer was for that class. And
15 let's say it's \$690. So there is a \$10
16 shortfall. That \$10 shortfall will be
17 multiplied times the number of customers in
18 that class.

19 Q. Well, what if you added customers that year?
20 Doesn't it make sense to look at the total
21 revenue requirement from that class and how much
22 revenue you've got from that class?

23 A. (Therrien) Well, that was my colleague, Mr.

24 -- Dr. Johnson's proposal. While the Company is

1 on a use-per-customer -- or excuse me --
2 revenue-per-customer basis, you could also have
3 a decoupling mechanism based on total revenues.
4 The reason why I prefer a revenue per customer
5 is because over time you want to encourage to
6 add new customers to the distribution system.
7 And along with adding new customers comes
8 additional cost. At a minimum, you're going to
9 want to give them a service and a meter. So
10 there's the cost of the service and the meter,
11 setting up the bill, things like that. So the
12 revenue-per-customer decoupling construct allows
13 you to keep, on an average customer basis, some
14 additional revenue to cover that additional
15 cost.

16 Q. So this provides the Company incentive to add
17 customers, but not necessarily add, is it load?

18 A. (Therrien) Correct. That's exactly what it
19 does.

20 Q. Okay. And then in the technical details about
21 that calculation for the reconciliation, I think
22 there was a disagreement. And I'm not positive
23 because I don't think I completely understood
24 the settlement agreement until today, about

1 whether you should use the average customer
2 count for the year or the actual customer count
3 maybe. I mean, you have a billing -- or maybe
4 this was my own thoughts. You have a billing
5 system that's very sophisticated, so you know
6 actually how many customers you had each month.

7 A. (Therrien) Correct.

8 Q. So would it make sense to calculate the
9 reconciliation based on that number rather than
10 the average number of customers per year, or
11 does it really not make a material difference?

12 A. (Therrien) It's really the same thing. It's
13 really the same thing, because if you calculated
14 the adjustment on a monthly basis, where you
15 said the monthly revenue per customer target
16 should be \$50, and you did that for each month,
17 it would give you a -- I think it gives you the
18 same answer if you use average customer and an
19 annual number. I think the mathematics would
20 give you the same answer.

21 A. (Johnson) Right. The only other possibility
22 that might have been in your mind as you're
23 thinking about it would be conceivably you would
24 do this reconciliation every month rather than

1 once a year, looking at either that month
2 compared to the year before, whatever. There's
3 a variety of ways you could do the arithmetic.
4 The one doing that we're doing here is very
5 straightforward. You wait a year, you compare
6 that year to your benchmark, and then you put
7 the new adjustment in for the following year.
8 It's very similar to what they originally
9 proposed, except you don't need the complication
10 of doing it separately for summer and winter
11 because you don't have the weather issue, which
12 is the big difference between summer and winter.

13 Q. Okay. And what do you do about the MEP
14 customers? How did you settle out on that, the
15 managed expansion plan customers who pay
16 30 percent more?

17 A. (Therrien) Yes, they will be included in the
18 decoupling calculation. But the 30 percent
19 premium dollars will be excluded from the actual
20 revenue per customer calculation.

21 Q. Okay.

22 A. (Therrien) That way, they look just like a
23 regular heating customer.

24 Q. Okay. Do you have Staff's testimony up there?

1 A. (Therrien) Yes, we do.

2 Q. Could you look at Bates Page 13 of Mr. Iqbal's
3 testimony.

4 A. (Therrien) I have that.

5 Q. I don't. I'll get there. I think he's making a
6 point here --

7 CHAIRMAN HONIGBERG: What's the
8 page?

9 COMMISSIONER BAILEY: Bates
10 Page 13.

11 BY COMMISSIONER BAILEY:

12 Q. That C&I expected revenue should be calculated
13 at a rate class level and then combined. And
14 you're doing it a little different than that.
15 Is that --

16 A. (Therrien) Right, but --

17 Q. -- relevant anymore or --

18 A. (Therrien) It's not because in the settlement
19 agreement we've adopted Staff's calculation
20 methodology.

21 Q. Oh, so you do what he said.

22 A. (Therrien) Yes.

23 Q. Oh, okay. Thank you. That's probably why
24 Mr. Dexter didn't ask you that.

1 Is there a provision in the settlement
2 to record the actual reduction in usage to
3 see if this incentive, by decoupling, if the
4 idea to reduce usage actually works?

5 A. (Johnson) I don't think the settlement
6 specifically requires a particular look-back.
7 But I think it's a straightforward process that
8 would be worthwhile. It's just going to be hard
9 because we're talking about elusive things that
10 are not specific, individual programs that are
11 easy to tidily add up and match. But you can
12 certainly look at the trend rates in prior
13 years, and then a few years from now when we
14 have the next rate case, you can look at the
15 trends since. You'd potentially look at what's
16 happening elsewhere in the region, elsewhere in
17 the country during that time period, trying to
18 figure out whether these actually accelerated
19 the rate of decline.

20 It's something, if you're interested in,
21 you should urge the parties to do at the time
22 of the next rate case. But, again, it will
23 not be a nice, neat, tidy calculation like
24 the LRAM, where you've got kind of these very

1 careful buckets that are relatively easy to
2 measure. It's going to be much more
3 subjective in, you know, the econometric
4 modeling or some other method somebody would
5 have to use to try to give you a pretty
6 precise measure of how much we've changed
7 people's behavior.

8 The other part of it could be anecdotal.
9 The Company might be in a position to --

10 (Court Reporter interrupts.)

11 A. (Johnson) The other thing that you could
12 potentially have would be anecdotal. The
13 Company could make the effort to talk about the
14 efforts they made internally within the
15 corporate culture and efforts they made to go
16 out and talk to builders or the Kiwanis Club or
17 the like. Hopefully they're hearing and
18 thinking about these things, now that they've
19 got the incentive straightened out, assuming you
20 adopt the settlement, that they can come back in
21 a couple years and talk about, you know, they're
22 no longer -- I don't think they'll ever admit
23 that they were dragging their feet. But
24 hopefully they'll be happy to talk about how

1 much more aggressively they started working at
2 it once they were able to convince everyone
3 throughout the Company of the benefits of
4 encouraging people to be more efficient.

5 Q. That's all I have thank you.

6 CHAIRMAN HONIGBERG: Commissioner
7 Giaimo.

8 QUESTIONS BY COMMISSIONER GIAIMO:

9 Q. Good afternoon, gentlemen.

10 A. (Therrien) Good afternoon.

11 Q. Dr. Johnson, one of the themes I took from your
12 comments today is your and the OCA's belief that
13 prudent ratemaking emphasizes volumetric
14 pricing.

15 A. (Johnson) Yes. What I would say is, in this day
16 and age, given our concerns about energy
17 independence, greenhouse gases, there's a whole
18 series of reasons where as a country, not only
19 state, as a country we're trying to encourage
20 better and more prudent use of our energy
21 resources. Volumetric rates help do that
22 effectively, more effectively than high, fixed
23 charges.

24 Q. Conversely, you seek to have fewer fixed costs.

1 A. Exactly. And those states that continue to have
2 very high fixed charges and low volumetric rates
3 I think have one foot on the gas and one foot on
4 the brake at the same time. And it's terribly
5 inefficient, I mean, putting in all the
6 subsidiaries and programs and simultaneously you
7 have a rate design that's kind of going in the
8 other direction.

9 Q. And correct me if I'm wrong, but I thought I
10 heard you say, and I'm paraphrasing here, that
11 you and the OCA kind of reserve the right to
12 look to get lower fixed prices and more
13 volumetric pricing going forward.

14 A. (Johnson) Yes. There's nothing in the
15 settlement that prevents them from, three years
16 from now, suggesting a further \$2 or \$3 or
17 whatever reduction in fixed rate.

18 Q. That's exactly where I was going. Would you
19 expect it to happen prior to the next case,
20 which is scheduled for before the end of 2020?

21 A. (Johnson) I think you might see it in other
22 utilities' cases, if there are others in the
23 state. But for this Company, I don't think
24 you'd see a proposal until the next actual rate

1 case.

2 Q. Okay. Thanks. That's helpful.

3 Mr. Therrien, the Company has
4 experienced growth; is that correct?

5 A. (Therrien) Yes.

6 Q. And you're forecasting continued growth?

7 A. (Therrien) That's my understanding, yes.

8 Q. Or the Company is. If the Company weren't
9 forecasting continued growth, would you be less
10 supportive of the per-customer revenue model as
11 opposed to a total revenue model?

12 A. (Therrien) It's my belief that the
13 revenue-per-customer model is better suited for
14 a gas Company that's in a competitive market
15 competing against alternative fuels, compared to
16 an electric company that has essentially 100
17 percent market share within their service
18 territory. Therefore, I think total revenue
19 decoupling tends to work a little better for
20 electric companies. I don't think it's a great
21 fit for gas.

22 Q. Okay. And now I'll ask questions to the panel,
23 and you can better determine whoever wants to
24 answer.

1 What I thought I heard was, absent
2 weather normalization, there's going to be a
3 need for either more frequent rate cases or
4 step adjustments along the way. I think that
5 might have been Dr. Johnson's comments, but
6 I'm not sure. Is that true? Did I hear you
7 correctly?

8 A. (Johnson) I was alluding to this one subtle
9 issue of the trend towards warmer winters. And
10 I guess one of the issues that have sort of been
11 in controversy here is whether somehow through
12 this settlement has OCA kind of left money on
13 the table on behalf of the residential customers
14 they represent, that they would potentially
15 benefit from that trend by basically the Company
16 under-earning the allowed return that's allowed
17 in the case. Over the next few years, there'll
18 be this little bit of erosion in the revenues
19 because of that warming trend. Shouldn't, you
20 know, perhaps OCA have tried to help residential
21 customers continue to get the benefit of that.
22 And I was trying to say, look, first of all,
23 it's a little bit smaller amount of money that's
24 at stake. And it's not really, you know, one of

1 these issues I believe where you would want to
2 focus on that short run, a few dollars that
3 residential customers might be benefiting from
4 the status quo because there's inevitably going
5 to be a rate case. The Company has to come back
6 to cover their costs if this erosion is due to a
7 warming trend. They're going to have to come
8 back for a rate case when a problem builds up
9 enough to become noticeable and affect their
10 earnings and bond ratings and so on. So that's
11 how it gets into the timing of the rate case.

12 I think that ultimately there is not a
13 significant long-run benefit to the public or
14 to ratepayers from errors in the ratemaking
15 process is a summary way of saying it. When
16 we oversimplify the process and do things
17 like ignore the trend, which I get, I
18 understand why people ignore the trend, but
19 the states I've been in where people try to
20 make projections of the trend and try to
21 adjust the revenue requirement forward based
22 on the trend, they get shut down because it's
23 hard to be accurate, and it's controversial
24 as to how much of the trend is really there.

1 So you don't even try anymore. Well, what
2 I'm saying is, ultimately I don't think this
3 is something that is a loss for OCA. I think
4 the fact that maybe there's a little bit of
5 trend there, but it's all cancelled out. The
6 Commission, one way or another, finds a way
7 to be fair to the utility to make sure they
8 have an opportunity to earn their return.

9 Q. Thanks for the clarification.

10 This is a real simple one. I think I
11 know the answer. Is weather normalization
12 basically only a winter issue?

13 A. (Johnson) For gas utilities, that's where it's
14 most serious. But, you know, obviously it can
15 affect the spring and the fall. It shows up in
16 the data. And, of course, once you start
17 looking at it for electric companies, it tends
18 to be the reverse; it's the cooling-degree days.
19 Same sort of issue. If there is a warming in
20 the summer, then that affects the amount of
21 air-conditioning usage.

22 Q. So it's just inverted based on gas versus
23 electric.

24 A. Yes.

1 Q. And my last question is just about the \$50,000
2 threshold for the software upgrade. Just
3 wondering where that number came from. What's
4 the justification for \$50,000, and is it going
5 to be something that can be done in-house or --

6 A. (Johnson) We were provided with a cost. We
7 asked -- we were in some negotiations even
8 before this settlement about the issue once we
9 filed our testimony. The Company was trying to
10 figure out, could they swallow it, you know,
11 whatever.

12 So there was some phone calls and
13 discussions. And we asked them to go to
14 their vendors and get an estimate of what it
15 would cost to implement. And they got back
16 an estimate, I think it was \$50- to \$100,000,
17 something like that. That was the estimate.
18 And I felt confident they should be able to
19 bargain that down towards the \$50,000 range,
20 because this is a benefit to the software
21 provider that can then turn around and offer
22 this as a feature upgrade, even though --
23 because they're apparently considering
24 eventually changing vendors. This particular

1 Company may or may not be the one they use
2 over the long haul. But in terms of -- so,
3 therefore, perhaps the vendor might try to
4 give them the really hard price, the \$100,000
5 end of that range. And all I was doing in my
6 conversation was to urge them and say, well,
7 point out to them that other people are going
8 to benefit from this.

9 Bottom line, though, is we had this
10 number, 50 to 100. And in the negotiation,
11 the Company agreed to cap it at the 50.
12 They're either going to negotiate it down and
13 keep it to 50 or they're going to absorb the
14 difference if they're unable to.

15 Q. Any comment to that?

16 A. (Therrien) I think that's a fair representation.
17 Part of the give and take of a settlement.

18 Q. So I apologize. I guess I have one more
19 question. Will there be transferability to the
20 electric company for similar decoupling if that
21 was pursued for the other side of Liberty?

22 A. (Therrien) I'm afraid I just don't know the
23 answer.

24 Q. Okay. It's been a long day. Thank you both,

1 gentlemen.

2 QUESTIONS BY CHAIRMAN HONIGBERG:

3 Q. I don't have much to cover. I have a couple
4 questions about Exhibit 58 which is the thing
5 from AGA, the energy analysis.

6 The first question is about the listing
7 from Liberty Utilities on Page 10 of that
8 document. Right below the Liberty Utilities
9 entry there's an entry for National Grid-
10 EnergyNorth Natural Gas. I know this is 2015
11 data, and the survey may not have caught up
12 with the facts on the ground. Is that the
13 best explanation for why there are two
14 entries here?

15 A. (Therrien) I actually questioned that line item
16 myself when I saw this, and nobody can figure
17 out where it came from. So it should be
18 ignored.

19 Q. Excellent.

20 Is it your understanding that the list
21 of utilities that starts on Page 7 and runs
22 through Page 12 is close to, if not all, of
23 the gas utilities in the country?

24 A. (Therrien) Of the investor-owned utilities. So

1 this would not include -- and there's a
2 significant population of co-ops or smaller
3 utilities or municipally-owned utilities. So I
4 believe this is just investor-owned.

5 Q. There are roughly 200 gas utilities listed here.
6 I actually counted them up. Almost exactly 200.
7 Is that the number that you -- is that the
8 source of the thinking that you had when you
9 thought it was about 200?

10 A. (Therrien) No. It was from a different analysis
11 I had done based on a subscription service that
12 we have at Concentric called SNL, where we can
13 pull down all sorts of data, my recollection.

14 Q. Does that include the munis and the co-ops?

15 A. (Therrien) It does. I was just thinking of
16 investor-owned utilities when I said 200 earlier
17 in the day. So this validates --

18 Q. You feel good about that one.

19 A. (Therrien) I feel good about that one.

20 Q. Thank you.

21 Dr. Johnson, I think it was you who made
22 what I think is a useful point to remind
23 people that, although rates may go up, bills
24 may not if usage is controlled.

1 A. (Johnson) Yes.

2 Q. That is an important thing that we try to talk
3 to politicians about. And I know you're an
4 economist and you get how that works.

5 How do you convey that type of
6 information to people who fixate on rates?

7 A. (Johnson) Well, it can be hard, but that is
8 exactly the issue. Because when we say society
9 benefits as a whole when we encourage energy
10 conservation, it's really true. People's bills
11 will go down. The commodity portion of the bill
12 is going to go down. And furthermore, a lot of
13 times it will go down a whole lot more than they
14 realize because, again, people don't necessarily
15 have the information to understand the
16 trade-offs between more expensive insulation or
17 less and so forth. So a policy change like this
18 I think clearly sends better, stronger price
19 signals. It encourages the Company to be more
20 proactive in trying to encourage conservation
21 and ensure customers do.

22 And there's one more thing which is hard
23 to convey, but try to keep in mind, is that
24 to the extent we create less pressure on our

1 need for energy cumulatively as a country, we
2 don't need as much energy, then, in turn,
3 that upward pressure from the entire market
4 is less. The need to put new pipelines and
5 all the pressures and costs that come with
6 that as we try to put them in more and more
7 difficult areas, or areas that now have
8 become very populated when they weren't
9 before. In terms of just drilling and
10 acquiring gas, you're going, just over time
11 you're going from relatively easy areas to
12 harder areas. So there's these inherent
13 upward pressures. If we can just slow that
14 process down, it's beneficial to everyone.
15 It shows up in many ways that are very hard
16 to capture and quantify, but they're very
17 real.

18 Q. I believe it was you who said early on today
19 something along the lines of you didn't
20 understand why the Commission adopted the LRAM
21 in the EERS dockets. Was that just a little
22 hyperbole, or do you really not understand why
23 the LRAM was adopted in the EERS docket?

24 A. (Johnson) My attempt to be diplomatic about the

1 fact that I think you would have been better off
2 adopting a more balanced, symmetrical kind of
3 approach, rather than a one-way elevator that
4 only raises the bills rather than --

5 MR. KREIS: Mr. Chairman, if I
6 might. What Dr. Johnson doesn't realize is
7 that the settlement agreement --

8 (Court Reporter interrupts.)

9 MR. KREIS: I'm sorry. I just
10 wanted to make clear that what we haven't
11 explained to Dr. Johnson is that there was a
12 settlement agreement in that case. That subject
13 was hotly debated during settlement
14 negotiations. The fact that there is an LRAM
15 and not a decoupling mechanism is really the
16 result of bargaining for terms that we typically
17 don't really go through in the hearing room.

18 CHAIRMAN HONIGBERG: And I know
19 that, Mr. Kreis, and you know that. I
20 understand that Dr. Johnson doesn't. But I
21 really did want to hear whether that was
22 hyperbolic or whether he wanted to make a
23 substantive criticism beyond what he had already
24 said, and I heard about half of the substantive

1 criticism.

2 MR. KREIS: And I thank you
3 because I had the same question about his
4 comment to that effect.

5 A. (Johnson) Basically I was trying to be
6 diplomatic. I did not recall -- and probably
7 now that it's coming back to me, I think I did
8 see there was a settlement behind that, but I
9 didn't recall specifics. But I understood the
10 Commission had endorsed it, and I didn't want to
11 seem too critical of it. But I do think you
12 need to move past the LRAM. The LRAM was a
13 compromise. It be better to go ahead and do
14 decoupling right. And I think with this
15 real-time weather element in particular, it's
16 very much right, getting full decoupling,
17 completely changing the environment in which the
18 corporate culture exists and attitudes exist,
19 and simultaneously you're creating a very real
20 risk reduction for customers that will very much
21 benefit them.

22 Q. Thank you.

23 The last area that I had questions about
24 that haven't already been answered has to do

1 with the weather measurements and how
2 granular the geographic measurements are
3 going to be.

4 I think you indicated, Mr. Therrien,
5 that you thought a measurement would probably
6 be taken in Concord for this part of the
7 service territory. I'm not sure how far down
8 that goes. I mean, in general, I think we'd
9 agree that when it's colder than average in
10 Concord, it's probably colder than average in
11 Salem. But that's not always the case. And
12 in fact, there are a lot of Nor'easters where
13 the weather is quite different in Salem than
14 it is in Concord. Are there going to be --
15 you may not know the answer to this.

16 A. (Therrien) No, but I still -- if you don't mind,
17 I'd appreciate answering it because it's a very
18 valid concern, especially when you have a
19 service territory that is either very large or
20 has unique weather circumstances. And I'll give
21 you an example.

22 I used to work for Connecticut Natural
23 Gas, and it's primarily the city of Hartford.
24 But they also had the city of Greenwich,

1 which is almost in New York City. There were
2 two separate weather areas for that utility.
3 They maintained those separate billing
4 determinants and weather data for a reason.
5 Now, I don't know whether Liberty Utilities
6 maintains different records, but you need to
7 be able to have all of the underlying data in
8 order to do this the way that I think where
9 you're going.

10 And then second, I would say it's a
11 fairly big decision because, you know, it
12 should be material. And the difference
13 between Greenwich and Hartford is about
14 20 percent. So it was, you know, 20 percent
15 colder in the center of Connecticut than it
16 would be down on the shore by New York City.

17 So, not knowing New Hampshire quite as
18 well, though I know it pretty well, I'm not
19 sure that you see that much of a difference
20 between the two service areas that you talked
21 about.

22 Q. Well, I mean, anecdotally, I can tell you that
23 where I live in Concord, it is often 5 degrees
24 colder than it is where the temperatures are

1 reported in Manchester. And both are in the
2 service territory.

3 A. (Therrien) Well, I think it would be a simple
4 data request to just get the number of heating
5 degree days for those two areas.

6 Q. Right. And that is all knowable information.

7 A. (Therrien) Yes, public information.

8 Q. And it's also knowable how to do those
9 measurements because you've laid out how to do
10 those measurements.

11 A. (Therrien) Right.

12 A. (Johnson) Ultimately, it's just a question of
13 whether you -- I think the bills can be adjusted
14 on a more granular basis than on a statewide
15 territory. And I don't think the software
16 program is that much more. Now, whether it's a
17 little more effort for them to do it more
18 granularly, whether it's worth it is kind of the
19 point. I don't know myself whether it would be
20 worth it. But certainly I'm pretty confident if
21 that were the stumbling block that was causing
22 you to have second thoughts about accepting the
23 settlement, I don't see any inconsistency
24 between requiring it to be more granular where

1 practicable and still adopt the settlement
2 package should you ever want to go in that
3 direction.

4 Q. Don't be fooled. I just got interested in how
5 the bill would work, I got interested in how
6 you'd measure the weather. I think Mr. Sheehan
7 and I could tell you the weather's different in
8 downtown Concord than it is on the east side
9 where I live. But, again, they do tend to
10 travel together.

11 A. (Johnson) Right.

12 CHAIRMAN HONIGBERG: Commissioner
13 Bailey.

14 QUESTIONS BY COMMISSIONER BAILEY (CONT'D):

15 Q. One area that I forgot to ask that I was
16 thinking about this morning is the way this
17 works, if I as a customer, or all the customers
18 conserve and use less therms this year, won't
19 the rate per customer have to go up next year?

20 A. (Johnson) Yes, that's what happens, whether it's
21 decoupling or the LRAM. That is the issue. But
22 the bill will go down because they're
23 conserving, which is what the Commissioner's
24 point -- or the Chairman's point was just a

1 moment ago.

2 Q. That's what made me think of my thought from
3 this morning. But will it go down the next
4 year?

5 A. (Johnson) In most cases, yes, because you've
6 done something different. You've either
7 adjusted to the idea of having your thermostat a
8 little bit colder in the winter or you've
9 installed a better furnace. You've done
10 something that tends to be permanent in nature.
11 It's in response to the customers making --
12 they're conserving more. Once they change their
13 habits or change their infrastructure, they tend
14 to get benefits for many years in the future.

15 Q. But the whole premise of this is revenue per
16 customer, which sounds almost like a fixed
17 number to me.

18 A. (Johnson) Yes, it is. There's one of them
19 that's fixed in the mechanics of this. Out of
20 this rate case, you take a snapshot of this
21 particular test year's revenue per customer, and
22 that becomes part of the adjustment. Now, the
23 next year it might be 12 cents less and the
24 following year it might be 24 cents less and the

1 following year it might be a dollar less. Over
2 time it's trending down. And so the annual
3 element of the decoupling will tend to give them
4 more of a credit over time. But, again, their
5 bills will actually be going down as a result of
6 using less.

7 A. (Therrien) Right. Let me just maybe put this on
8 a simpler plane.

9 Revenue per customer doesn't mean you
10 bill all the customers in that class the same
11 amount. It just means that at the end of the
12 year, you accumulate all the data and do this
13 division and come up with a number that you
14 can reconcile to. Everybody will still have
15 their own specific bill based on their own
16 individual usage.

17 Q. Okay. I'll think about that some more. Thank
18 you.

19 CHAIRMAN HONIGBERG: I didn't
20 have anything else.

21 Mr. Sheehan, you're going to
22 defer to Mr. Buckley?

23 Mr. Buckley, do you have any
24 follow-up?

1 MR. BUCKLEY: We do have one or
2 two questions for follow-up. But would it be
3 possible to get just a two- or three-minute
4 break to discuss? I know that Dr. Johnson has
5 to arrange his travel very, very quickly.

6 MR. KREIS: Maybe just go off the
7 record for a second?

8 CHAIRMAN HONIGBERG: Sure.

9 (Discussion off the record)

10 CHAIRMAN HONIGBERG: Mr. Buckley.

11 MR. BUCKLEY: Thank you, Mr.

12 Chairman.

13 REDIRECT EXAMINATION

14 BY MR. BUCKLEY:

15 Q. So, Dr. Johnson, I want to return to a line of
16 questioning that Attorney Dexter dove into
17 regarding the benefits, how the two pieces that
18 would be either on the bill or in the LDAC, the
19 decoupling adjustment mechanism versus the
20 weather-normalization adjustment mechanism, how
21 they relate to energy efficiency. I observed
22 that your answer was fairly complex, and I'm
23 going to try to see if I can sum it up a little
24 bit just for a moment.

1 So would it be accurate to say Attorney
2 Dexter asked you how and why the
3 weather-normalization adjustment relates to
4 energy efficiency?

5 A. (Johnson) Yes.

6 Q. Would it be accurate to say that the
7 weather-normalization adjustment, including that
8 as part of this settlement agreement, provides
9 revenue assurances that allow a reduction in the
10 fixed customer charge, raising the volumetric
11 portion of the bill?

12 A. (Johnson) Yes, I think the Company is going to
13 be much more willing to accept the rate design
14 approach that we advocated, given that they are
15 obtaining the revenue. The normalization
16 element of the package -- because, again,
17 stabilizing that is significant to them and
18 beneficial -- and it's very sound theoretically,
19 but I also think it tends to be linked, in a
20 subtle way linked to the rate design issue as
21 well.

22 Q. And would you agree that in many instances
23 where -- in the vast majority of instances where
24 full decoupling is adopted, it is often

1 accompanied by a reduction in the customer
2 charge for that very reason?

3 A. (Johnson) I think that may often happen, yes.
4 Their resistance to lower customer charges goes
5 away or is weakened once they are not having to
6 deal with these large swings in their earnings
7 per share due to weather. The consequences of
8 that, in terms of trying to predict earnings,
9 it's just obviously less attractive to go out
10 into the investment market and have to have your
11 earnings per share bouncing around due to things
12 like weather.

13 So I think from the Company's point of
14 view, stabilizing this is valuable to them,
15 and in turn becomes -- that's the reason it's
16 all linked to this fixed amount per charge.
17 If you had a straight fixed value, but with a
18 \$50-a-month bill that never changes, then
19 their earnings per share would be nice and
20 stable, and they don't have to worry about,
21 you know, explaining how much of the poor
22 earnings performance they had is due to
23 weather, because none of it would be if you
24 had a straight fixed variable with a very

1 high fixed rate.

2 Q. So from a customer's perspective, having that
3 larger portion of their bill be attributable to
4 volumetric charges rather than the customer
5 charge, would you agree with me that that, in
6 and of itself, that creates an incentive for
7 customers to conserve more energy and invest in
8 energy-efficiency measures, and does so without
9 billing the rest of the customers via the
10 systems benefits charge?

11 A. (Johnson) Yes, it allows an incentive for
12 customers to be more conscious of their energy
13 usage, again, all these things that had
14 happened. And it does not show up in that kind
15 of charge. It's simply to encourage people to
16 be wiser. And it also has, in and of itself a
17 subtle benefit that I think is very real, which
18 is, the way you can word it is, the customers
19 have more control over the bill. Because with a
20 volumetric rate, they can actually control the
21 bill to some degree. There's actions they can
22 take. If everybody's charged \$60 month, no
23 matter what they do, it's kind of frustrating
24 for customers. Customers like choice. And

1 volumetric elements give them a greater degree
2 of choice.

3 Q. Thank you, Mr. Johnson.

4 REDIRECT EXAMINATION

5 BY MR. KREIS:

6 Q. I just have a couple of questions, just by way
7 of cleaning things up that I'm thinking about
8 today.

9 Mr. Johnson, at the very -- or Dr.
10 Johnson, I mean -- at the very beginning of
11 your cross-examination there was a question
12 about whether the Company, under the current
13 regime, which includes the lost revenue
14 adjustment mechanism has been dragging its
15 feet or not. And I wanted to point out that
16 the energy-efficiency research standards have
17 only been in effect since January 1st. Would
18 you agree with me it's a little too early to
19 determine whether the Company, under the
20 current regime, has been dragging its feet?

21 A. (Johnson) Yes. And I don't want to seem like I
22 was accusing them of consciously dragging their
23 feet. I was trying to convey the fact that it's
24 hard to communicate through a large Company to

1 everyone to change your mindset and start
2 encouraging people to use less of your product.

3 Q. So that would be a long-term phenomenon that
4 we'd be looking to observe in the Company.

5 A. (Johnson) Yes. And I think it's taking your
6 foot off the brake, and at the same time we're
7 putting our foot on the gas through other
8 programs.

9 Q. With respect to the lost revenue adjustment
10 mechanism, it's fair to say that that is limited
11 exclusively to revenue that is lost to programs
12 that are paid for through the systems benefits
13 charge; correct?

14 A. (Johnson) Yes, which is one of the weaknesses of
15 that approach. It gets into a mindset of we
16 have to have programs, we have to have
17 subsidiaries, we have to set things up. And
18 although there's room for that, I think more
19 market-oriented approaches of doing simple
20 things like getting builders to change their
21 attitudes, there's all kinds of things that are
22 not programmatic in nature, and trying to
23 encourage energy efficiency through those
24 non-programmatic solutions I think is equally

1 important. Thus, it's unfortunate with an LRAM
2 that companies tend to respond to incentives.
3 And if they see an incentive to try to focus on
4 that, they don't necessarily ignore everything
5 else, but they're going to give it less
6 attention in the current environment where you
7 only have an LRAM, and they do not have the same
8 sort of neutrality towards those other non-LRAM
9 activities.

10 Q. So, given that currently the building energy
11 code in effect in New Hampshire is actually the
12 2009 edition, would you agree with me that if
13 the Commission approves the settlement
14 agreement, the decoupling plan that we proposed
15 goes into effect, and we look to the Company's
16 behavior for evidence that the program is having
17 its desired effect, once signed, might be
18 vigorous advocacy by the Company for updating
19 the building energy codes in, say, something
20 like the 2018 edition?

21 A. (Johnson) Yes. Or at least at a minimum putting
22 a lot of effort into educating the
23 decision-makers, helping them understand the
24 numbers. Again, they have a lot of credibility.

1 It's not just a question of advocacy, but
2 providing information and putting that effort
3 into educating people and trying to explain it
4 to them, where otherwise their attitude might
5 be, you know, I've got better things to do with
6 my time than to try and sit down with whoever it
7 is that makes decisions about building codes in
8 New Hampshire.

9 Q. I think this might be a question for Mr.
10 Therrien.

11 With respect to Exhibit 61, which was
12 the bill that the Company was kind enough to
13 provide over the lunch hour, I just want to
14 make sure it's clear. It's not your
15 understanding that we, meaning the
16 signatories to the settlement agreement, are
17 committing ourselves to making Liberty
18 Utilities' bill look exactly like this should
19 the settlement agreement be adopted.

20 A. (Therrien) No. I agree. This is illustrative.
21 And my understanding of, and it's a thin
22 understanding of the requirements on bills, but
23 it looks like an extra line item to show the
24 weather adjustment is the right thing to do,

1 given the requirement to show actual metered
2 consumption on the bill, as opposed to changing
3 that consumption to reflect a normalized bill.
4 So, to me, I've seen a lot of bills. This is a
5 fairly typical presentation of a WNA.

6 Q. So we could work with the Company, in theory,
7 and actually improve on what's in Exhibit 61 and
8 create maybe a slightly improved version of this
9 bill that would make the decoupling mechanism
10 we're proposing really clear to customers in a
11 way that would really help advance policy
12 objectives.

13 A. (Therrien) I would say yes. And I think that
14 that's contemplated in part of the communication
15 plan, too. That would be joint among Staff, OCA
16 and the Company. And I think the bill is what
17 people get every month, so it is an opportunity
18 for education every time they get a bill.

19 Q. And just to be clear, if I told you there were
20 11 different weather stations that the national
21 weather service operates in New Hampshire, I
22 think I heard one or both of you testify that at
23 least theoretically we could be granular enough
24 to reflect those 11 different weather data

1 points in the decoupling mechanism.

2 A. (Therrien) Well, I would say that the \$50,000
3 number that the Company committed to the billing
4 changes would probably be insufficient if you
5 wanted to get as granular as 11 stations. But
6 if the data is there, it can be done.

7 Q. Fair enough. And I think Commissioner Bailey
8 was asking you distinguished gentlemen about
9 what sort of look-back requirement there would
10 be so that we could evaluate the success of the
11 decoupling plan.

12 In your judgment, does the commitment in
13 the settlement for the Company to come back
14 and file a rate case with a 2020 test year,
15 will that process be an adequate, sufficient
16 and appropriate opportunity to assess fully
17 the success of the program that we're
18 proposing here?

19 A. (Johnson) Certainly a first start. You only
20 have three years' worth of experience. But
21 there's no reason not to provide an update to
22 the Commission at that point. But ultimately,
23 some of the goals we're talking about are going
24 to take a decade or more to really take full

1 effect. We're talking about long-term benefits
2 here. I wouldn't want anyone in three years to
3 say, oh, gosh, we only moved the curve just a
4 little bit in the first couple years and be
5 disappointed.

6 But certainly there's nothing
7 inappropriate about taking a first look at it
8 in that first case because it does give you
9 several years of data to look at.

10 Q. My point being that you would agree that the
11 come-back requirement has as a purpose, at least
12 in part, at least that initial opportunity, to
13 take a comprehensive look at how well we've done
14 at least in that initial period.

15 A. (Therrien) I would agree with that. Also, I
16 would agree with earlier testimony that it
17 provides the Commission an opportunity to see if
18 the mechanism itself is working the way that
19 they expected it to work for customers.

20 MR. KREIS: That's all I have,
21 Mr. Chairman. Oh, sorry.

22 CHAIRMAN HONIGBERG: Maybe all
23 you have, but -- Mr. Buckley.

24 MR. BUCKLEY: Just one last

1 question.

2 REDIRECT EXAMINATION (cont'd)

3 BY MR. BUCKLEY:

4 Q. So to the extent that a full decoupling
5 mechanism, including the real-time weather
6 normalization, reduces the risk of revenue
7 volatility associated with weather, is that a
8 good thing for the utility, Dr. Johnson?

9 A. (Johnson) Yes.

10 Q. And because that is a good thing for the
11 utility, does that mean it's a bad thing for
12 ratepayers?

13 A. (Johnson) No, it's also a good thing for
14 ratepayers.

15 MR. BUCKLEY: Thank you. That's
16 all.

17 CHAIRMAN HONIGBERG: All right.
18 Thank you, gentlemen. You can return to your
19 seat or head for the bus, as appropriate.

20 Off the record.

21 (Discussion off the record.)

22 (WHEREUPON, AL-AZAD IQBAL was duly
23 sworn and cautioned by the Court
24 Reporter.)

1 CHAIRMAN HONIGBERG: Mr. Dexter.

2 MR. DEXTER: Thank you, Mr.

3 Chairman.

4 DIRECT EXAMINATION

5 BY MR. DEXTER:

6 Q. Would you please identify yourself for the
7 record, please.

8 A. I'm Al-Azad Iqbal. I'm a utility analyst in Gas
9 and Water Division.

10 Q. Mr. Iqbal, I have before me a document that's
11 been marked in this case as Exhibit 18. It's
12 called your Direct Testimony, dated
13 November 30th, 2017. Do you have that before
14 you?

15 A. Yes, I do.

16 Q. And Mr. Iqbal, that consists of a series of
17 questions and answers and some attachments to
18 that testimony. Do you have any corrections
19 that you'd like to make to either the testimony
20 or the attachments at this time?

21 A. At this time, only one correction. In the
22 Schedule of depreciation, I think it's Bates
23 Page 32, under the Distribution Plant, Account
24 381.20 Meter ERTS, the ASL is 32. That's wrong.

1 The Company proposal is actually 15.

2 Q. So that number of 32.0 about three quarters of
3 the way down the page, next to Meters ERTS,
4 should say 15. Is that my understanding?

5 A. Exactly.

6 Q. That's a typographical error; correct?

7 A. Yes.

8 Q. So all the other numbers are accurate on this
9 sheet.

10 A. Yes.

11 Q. Okay. So with that exception, Mr. Iqbal, if I
12 were to ask you the questions contained in your
13 prefiled testimony, would your answers be the
14 same as those contained therein?

15 A. Yes.

16 Q. And do you adopt your answer as your sworn
17 testimony in this proceeding?

18 A. Yes.

19 Q. Mr. Iqbal, your testimony is divided into
20 basically three topics. Would you agree?

21 A. Yes.

22 Q. And what are those topics?

23 A. I address the Depreciation, starting with
24 decoupling, rate design and Concord training

1 center.

2 MR. DEXTER: And by prior
3 agreement among the counsel, Mr. Chairman, we
4 had agreed that Mr. Iqbal's testimony at this
5 time would cover the decoupling and the training
6 center, and that the portion of his testimony
7 concerning depreciation we would reserve until
8 after Mr. Normand testified, which is scheduled
9 for first thing Monday morning.

10 CHAIRMAN HONIGBERG: Okay.

11 BY MR. DEXTER:

12 Q. So you recall the questioning last week of the
13 Company -- I'm going to deal with the training
14 center first.

15 Do you recall the questioning done last
16 week concerning the Concord training center?

17 A. Yes, I do.

18 Q. And you have a chart in your testimony that has
19 to do with utilization of that training center;
20 is that right?

21 A. Yes, I do.

22 Q. Could you direct the Commission to that chart,
23 please?

24 A. That's Bates Page 25, titled "Table 2,

1 EnergyNorth Training Costs."

2 Q. And you recall that I had asked the Company
3 whether or not they agreed with the accuracy of
4 that chart?

5 A. Yes, I remember that.

6 Q. And do you recall that the answer was that they
7 disagreed with it because it didn't include
8 certain training that had taken place?

9 A. Yes, I remember.

10 MR. DEXTER: And I'd like to hand
11 out three exhibits related to this chart at this
12 time. I provided them to counsel at the start
13 of the day, but I'll distribute them now.

14 CHAIRMAN HONIGBERG: Off the
15 record.

16 (Discussion off the record)

17 (The documents, as described, were
18 herewith marked as Exhibits 62-64
19 for identification.)

20 CHAIRMAN HONIGBERG: So, 62, 63
21 and 64 have been marked. Why don't you proceed.

22 MR. DEXTER: Thank you.

23 BY MR. DEXTER:

24 Q. Mr. Iqbal, I'd like to turn to Exhibit 62 first.

1 And would you agree with me that this exhibit
2 contains part of the spreadsheet that was
3 provided by the Company concerning the number of
4 hours used -- the number of training hours
5 performed in 2016?

6 A. This spreadsheet actually referred to training
7 activities at training center, I think.

8 Q. Right. And the spreadsheet contained many more
9 pages in the response. Would you agree?

10 A. Yes.

11 Q. And we've provided the first page for example
12 purposes and the last page because it had the
13 total hours on it. But to simplify things,
14 we've left off 15 or 20 pages in between. Would
15 you agree with that?

16 A. Yes.

17 Q. Okay. And I wanted to focus on the total hours.
18 So could you turn to Page 3 of this exhibit,
19 please.

20 A. I'm there.

21 Q. And would you read into the record the total
22 hours of training that's shown on the
23 spreadsheet.

24 A. Three thousand eight hundred forty-nine.

1 Q. And is it your understanding that this is the
2 total hours of training that was done at the
3 training center in 2016?

4 A. If you look at the question, we defer to Mr.
5 Mullen's testimony where he talks about the
6 hour, the 4,000 hour, Bates Page 25 of his
7 testimony, Line 7 to 20. And the response, I
8 think the response reflect that.

9 Q. And would that number include, to your
10 knowledge, both electric and gas --

11 A. Yes.

12 Q. -- employees?

13 A. To clarify, that table has lots of other
14 columns, not only hours. It has Employee ID,
15 last name, first name, e-mail address, what they
16 do, what type of training they perform on
17 particular date. So there is lots of
18 information there. So the point I'm trying to
19 make, that it is a more vast -- it has more
20 details than actually asked in my question.

21 Q. Sure. And now I'd like you to turn to Exhibit
22 63. Could you explain what this chart -- let me
23 ask you this: You prepared this chart; correct?

24 A. Yeah, based on that Excel sheet, I just created

1 a table where I'm looking at how many trainings
2 and how many hours for electric distribution and
3 natural gas was done based on that particular
4 spreadsheet. And the only thing I added is I
5 calculated the average of training, the last
6 column.

7 Q. So if I'm reading this table on 63 correctly,
8 under the Natural Gas column, there were 696
9 trainees that went through the training center
10 in 2016, and they spent a total of 1,917 hours.
11 That's your understanding?

12 A. That's what the spreadsheet says.

13 Q. That all comes from the Spreadsheet 4-34.

14 A. Yes.

15 Q. Now I'd like to turn now to Exhibit 64, which is
16 another data request. And could you describe
17 what that sheet is.

18 A. This sheet, this is a spreadsheet, actually, by
19 year of that number of training, number of hours
20 and associated cost and different categories.

21 Q. All for 2016; correct?

22 A. No. This start from 2013 to 2016.

23 Q. And this in fact was the source of the
24 information that led to your chart on Bates 25;

1 correct?

2 A. Yes, this is the source of my chart for Bates
3 25. And that chart actually is update from my
4 previous testimony on electric rate case. I
5 just added the latest number for 2016.

6 Q. So I wanted to make sure I understand. The
7 chart you have on Bates 25 was actually
8 performed -- was started last year during the
9 electric rate case. Is that what you just said?

10 A. Yes. I refer to that docket. And that format,
11 I asked for that specific format, and they
12 provided that. And only thing I did, I updated
13 that chart from previous testimony for this 2016
14 number only.

15 Q. So, where on Exhibit 64, which is the seven-page
16 document, could we find this figure of 2,756
17 hours related to training in 2016?

18 A. You have to use several lines, like year 2016,
19 the first section talks about management --

20 Q. And that's on Bates Page 2; correct?

21 A. Yes. The second section is --

22 Q. Well, before we leave the first section, is the
23 number that we're looking for 335 hours?

24 A. Yes. That's correct.

1 Q. And then moving on to the union --

2 A. That's 1,582.

3 Q. And is that all or is there more?

4 A. Then we have the Granite State Electric Union
5 and Management.

6 Q. And those did not factor into your 2017 --

7 A. Not in this table.

8 And then Bates Page 4, Environment,
9 Health and Safety, and that's gas and
10 electric, too. I added this number for gas,
11 year 2016. That is training hours, 839.

12 Q. Can you say that number again?

13 A. Eight hundred thirty-nine Training Hours Total
14 column.

15 Q. Yeah. So if one were to add 335 hours and the
16 1,582 hours on Bates 2 and the 839 hours on
17 Bates 4, you would get the figure that you
18 included in your testimony at 2,756 hours?

19 A. Yes, if the Excel is working fine. I guess the
20 Excel we use at PUC is fine, I think.

21 Q. Do you have anything else to add on why you
22 think maybe Mr. Mullen disagreed with the
23 accuracy of your chart?

24 A. I'm not sure, because if you look at his

1 testimony, direct testimony... give me one
2 minute.

3 (Witness reviews document.)

4 A. I can't find it. But reading from my data
5 request, it talks about his... well, June 30th,
6 I think, the testimony, Page 25, he referred to
7 a number around 4,000 number. So that in
8 support of that, Company provided Exhibit 62.
9 So there is a difference, 4,000 and some more,
10 and total number on Excel file they provided.
11 But my understanding is when Mr. Mullen is
12 talking about 4,000 hours extra, that he is
13 referring to that. Maybe I'm wrong, there is
14 something else.

15 Q. Well, Mr. Mullen's going to come back for
16 rebuttal, I understand, so we'll let him --

17 A. Yeah, in particular, I think in his testimony it
18 talks about what other things they do at
19 training center and then talk about 4,000 hours.
20 He didn't indicate it is incremental to
21 training, usual training or not. That actually
22 confuses me, when they are talking about 4,000
23 hours.

24 Q. Okay. So I want to get back to the chart. And

1 you put this in your testimony for a reason.

2 So, back on your initial testimony, Bates 25,
3 what was this chart intended to show?

4 A. The chart is actually self-explanatory. We are
5 showing that this chart actually shows that the
6 training cost per hour stays almost the same if
7 you look at the last column. But when you add
8 the training center, which is added in 2015,
9 that cost goes up significantly.

10 Q. And were the cost figures included in this chart
11 also derived from Exhibit 64?

12 A. Yes, it does.

13 Q. Okay.

14 A. Can I make a point about this 4,000 hours?

15 Q. Sure.

16 A. I remember when Mr. Mullen was talking about
17 4,000 hour, he did an on-the-fly calculation.
18 He used the same cost here and added 4,000 hour
19 to the hour I have that is 2,756 and said that
20 that will reduce the average cost per hour
21 compatible -- comparable to previous years.

22 Q. I believe you said it would come to \$90 per
23 hour.

24 A. Yeah, that's what I'm saying. It's compatible

1 to other years.

2 Q. Right.

3 A. But if you look at the cost, the Training Cost
4 column, those are the hour -- those are cost for
5 these 2,756 hour cost. So if you want to
6 compare apple to apple, you have to add the
7 4,000, if it exist, if it is incremental to this
8 number. Then you have to add the cost for those
9 hours in the cost column. Just dividing the
10 total current cost with increased number of
11 hours doesn't make any sense.

12 Q. So I think what you're saying is, if that figure
13 of 2,756 was in fact 4,000 hours too low, then
14 the cost figures in the first column would also
15 be too low because they don't reflect the cost
16 of an additional 4,000 hours.

17 A. Exactly, if that is true, that 4,000 hour is in
18 addition to this 2,756 hour.

19 Q. Okay. It's very late in the day, and I hesitate
20 to ask this question. But if you could
21 summarize briefly what is at the heart of
22 Staff's position that the training center costs
23 should be excluded from rate base. If you could
24 just boil it down to the core issue.

1 A. I think in my testimony, if you look at my
2 conclusion, that actually summarize why we
3 recommended the training center cost should be
4 disallowed. The first point is --

5 Q. Do you have a page to point everyone to?

6 A. Oh, yeah, yeah. It starts on my testimony,
7 Bates Page 26, where the question says, "Please
8 summarize your findings."

9 Q. Okay. I've got that. So you can proceed.

10 A. The whole idea is that it is focusing on how
11 they make the decision. And if you -- my
12 understanding of prudence is depending on the
13 decision-making process. If decision-making --
14 during the decision-making process known and
15 knowable requirement is not met, that doesn't
16 give the decision-maker or people who are
17 looking at it, like us, any basis to make a
18 decision. In this case, our finding is that
19 there is no analysis which actually support the
20 decision to build this training center at the
21 time of decision-making.

22 Q. And you were in the room when we questioned the
23 Company about the business case that was
24 submitted at the time the training center was

1 proposed to senior management; were you not?

2 A. Yes.

3 Q. And that's the essence of the decision-making
4 that you're talking about; correct?

5 A. Yes.

6 Q. Now, did you ask the Company whether or not
7 there were any subsequent financial assessments
8 of that decision, in light of the various
9 changes that took place with the project, in
10 terms of cost and things like that?

11 A. Yes, I did.

12 Q. And what did you receive?

13 A. Give me one minute. I'll find the data request.

14 Q. Sure.

15 (Witness reviews document.)

16 A. It's attached to my testimony, Bates Page 72.
17 Here we are asking that... whether Liberty
18 actually explored other option when they are
19 requesting this cost increase. And I guess
20 there is another data request where, in one of
21 the data request response... I cannot find it
22 right now. But the question was, "Did you do
23 any analysis based on the increased cost?" The
24 answer was that they didn't. They just reviewed

1 it. And I asked what does "review" mean or
2 "analysis" mean. They just looked at it.
3 That's my understanding of their response.

4 MR. SPEIDEL: Mr. Iqbal, that's
5 Bates Page 75; correct?

6 WITNESS IQBAL: Let me go there.

7 (Witness reviews document.)

8 WITNESS IQBAL: Yes. Exactly.

9 Thank you.

10 MR. SPEIDEL: Welcome, sir.

11 BY MR. DEXTER:

12 Q. And I was going to direct you to Bates Page 71.

13 Is there a similar answer contained on Bates
14 Page 71?

15 A. Yes, I'm there.

16 Q. Would you read the second paragraph of the
17 answer, please, into the record, the first
18 sentence.

19 A. "None of the topics discussed in the cited
20 reference were viable alternatives for providing
21 the range of gas and electric training needs
22 required by Liberty. So, no financial/economic
23 analysis of those options was warranted. With
24 respect to on-the-job training, please see

1 response to Staff 5-40, Staff 5-42, Bates 229 to
2 230 of the Smith-Mullen DE 16-383 rebuttal
3 testimony, and Bates 021 of my testimony in the
4 current docket."

5 MR. DEXTER: I think that's all I
6 had on the training center. I had some
7 questions on decoupling. How we doing on time?

8 CHAIRMAN HONIGBERG: Off the
9 record.

10 (Discussion off the record)

11 BY MR. DEXTER:

12 Q. So, Mr. Iqbal, your testimony contained a
13 recommended decoupling mechanism; correct?

14 A. Yes.

15 Q. And is it fair to say that you're decoupling
16 mechanism was intended to account for changes
17 that would occur over time on a
18 revenue-per-customer basis, but did not attempt
19 to account for the impacts of weather?

20 A. Exactly.

21 Q. Would you explain why you think it's important
22 that the decoupling mechanism that you
23 recommended that the Commission should adopt
24 should not reflect weather normalization?

1 A. There are several reason for that. I think I
2 address a few in my testimony. And based on
3 today's discussion, there are some more.

4 So, first of all, weather -- the basic
5 idea of decoupling came from energy
6 efficiency and revenue loss by the utilities.
7 So our first principal way is that we should
8 be focusing on that because the idea stemming
9 from energy efficiency, we should address
10 that. And if you look at the discussion we
11 had, the discussion today, what the
12 Commission actually talked about, every time
13 there was a discussion of decoupling, it was
14 under the revenue loss portion of the order
15 on discussion. Either it is LRAM, loss
16 revenue adjustment recovery or --

17 Q. Loss revenue adjustment mechanism.

18 A. Mechanism, yeah. Exactly. Thank you.

19 So, our understanding, I explain that in
20 my testimony, that if Commission wanted what
21 the Company and OCA is saying, that we have
22 to disconnect the revenue and sales. That
23 was never even discussed in Commission's
24 order in reference to decoupling. So that's

1 one of our principal, that, okay, what do you
2 do in New Hampshire? We look at decoupling
3 as a mechanism to address the lost revenue
4 because of energy efficiency. And when we
5 talk about that, we also look at weather
6 fluctuations. Are those energy
7 efficiency-related at all? And everybody
8 agrees that is not the case.

9 So our second principal is if weather is
10 not a contributing factor for the loss of
11 revenue because of emergency efficiency, then
12 why should that be part of decoupling.

13 Third of all, I think --

14 Q. Let me just interrupt you. So when you say
15 everyone agrees, what do you mean by "everyone"?

16 A. My understanding is that everyone who
17 understands that it's not about energy
18 efficiency, it's all about weather. So we are
19 talking about weather-related fluctuation.

20 Q. But you did hear the panel today say they
21 believe there was some link between the weather
22 adjustment that was put forth on the sample bill
23 and energy efficiency. You did hear that;
24 correct?

1 A. Yes. So that relationship is tangential. And
2 if we want to consider those type of
3 relationship, then we have to spend almost
4 another month to sort it out if we want to go at
5 that level.

6 Q. So can I sum up your testimony by saying that
7 the first objection you have to including
8 weather normalization is that it really was
9 never contemplated in the Commission's decision
10 that brought us decoupling in the first place?
11 Is that essentially what you're saying?

12 A. Yes. And if you look at my observation, my
13 study on the decoupling in other territories,
14 the whole idea that why we should not be doing
15 weather normalization is that Mr. Therrien's
16 argument that weather normalization itself is a
17 complicated process, methodology, and which I
18 address in my testimony, too. But it seems like
19 when it comes to decoupling, weather
20 normalization is a big issue. But later we find
21 in their settlement, that weather normalization
22 at customer level is also okay. So that's my --
23 that confuses me. Confuses me that, okay,
24 whether it is complicated or not. If it is

1 complicated at Company level, then how come it
2 is not complicated at customer level. I can
3 address what happens to customer level later.

4 Q. Do you have other concerns about weather
5 normalizing adjustment through the proposed
6 decoupling mechanism?

7 A. In our proposed decoupling mechanism, only thing
8 it takes out is weather-related fluctuations.
9 Everything else, all energy efficiency, whether
10 it is by the Company or by the individuals or
11 all the customers, or economic condition
12 changes, demographic condition changes, all
13 these things are included. Only difference
14 between Company proposal and our proposal is
15 that we are taking out weather from the
16 decoupling methodology.

17 And if I can elaborate a little bit
18 more, we can say that weather is not a policy
19 decision, unlike energy efficiency. So if
20 policy decision is reducing Company's
21 revenue, I understand that then the
22 policy-maker has to address that issue. But
23 weather is not a policy decision. And I
24 agree with Company testimony that weather is

1 symmetrical for the Company and the
2 customers. So our position is it is
3 symmetrical for Company and the customers,
4 and they are dealing with this risk,
5 weather-related risk, from the beginning of
6 the utility business. So they claim to deal
7 with this risk, customers and the company's.
8 So there is no need to address that in the
9 context of energy efficiency.

10 Q. So I think what you're saying is that from a
11 price signal -- is what you're saying, from a
12 price signal standpoint, that when it's colder
13 out and customers use more gas, they expect to
14 pay more?

15 A. Exactly. Customers also know from their
16 experience that when they pay more, that goes to
17 the utility. So there is no disconnect between
18 understanding that what happens. And it's not
19 only utility. When a customer is consuming a
20 product, everybody knows, understand that if
21 they consume more, they have to pay more. If
22 consume less, the cost will be less, too.

23 Q. And you were in the room when I asked the panel
24 earlier today whether or not the proposed

1 mechanism would in fact supply a credit on
2 months when it was colder than normal and
3 customers used more gas than they would have
4 under normal conditions. You were here for
5 that; correct?

6 A. I heard that. And I think you also questioned
7 about price signal on that context.

8 Q. Right. Yes, I was going to ask you to comment
9 on their answer. I asked the panel whether or
10 not they were concerned about the price signal,
11 where a customer would use more because of the
12 cold weather, but then get a credit. Do you
13 have concerns about that phenomena?

14 A. I do. If you look at energy efficiency, any
15 economist will tell you that the best way to
16 achieve energy efficiency is give the customer a
17 price signal that let them know if you use more,
18 it will be costlier. If you use less, that's
19 good for you and everybody else, too. And if
20 you look at the energy efficiency, any docket on
21 energy efficiency in New Hampshire, that's the
22 whole idea of energy efficiency, that we are
23 trying to give customers a signal that
24 conserving is a good thing for them and for the

1 society.

2 And in this case, what the Commission --
3 or the Company is proposing in their
4 settlement, that if you use more, you will
5 get a credit. That is totally wrong price
6 signal we are giving them. And if you
7 conserve more, your credit might be less. So
8 let me explain.

9 Like this credit -- let's talk about
10 credit. One customer is conserving and one
11 customer is not. If the billing data is the
12 same, the Exhibit 61, that one person applies
13 to both, whether they're conserving or not
14 conserving. And the person who is
15 conserving, he will be using less, so that
16 bill will be less, and then one person could
17 be much less than the non-conserving
18 customer.

19 So it goes two layer. One is the amount
20 of price signal they are given. And another
21 way, secondly, that conserving under this
22 situation, we are saying that might not be a
23 good idea because you will get less credit
24 because you are conserving. So I think

1 that's a totally wrong way to address this
2 price signal issue in the context of energy
3 efficiency.

4 Q. And in your example of two customers, one
5 conserving and one not, they would both get the
6 same weather normalization adjustment charge on
7 that example bill; correct?

8 A. Same percentage. That's what my point is, the
9 second one, that percentage would be the same,
10 but that basis of that percentage will be
11 different because the conserving customer's bill
12 is lower, so they get lower number, and
13 non-conserving customer, because they use higher
14 unit, their credit will be higher, too.

15 Q. They'd also get a credit.

16 A. Yeah.

17 Q. Do you have concerns over the proposal, the
18 settlement proposal that these decoupling
19 charges be applied -- I'm sorry -- that the
20 weather-normalization portion of the decoupling
21 charge be applied monthly?

22 A. I have lots of problem with that. Where to
23 start.

24 But before that, I think another issue

1 we should talk about in the context of
2 overall decoupling. If you look at all this
3 policy related to what the Commission should
4 do, they always talk about that the Company
5 should have reasonable opportunity to earn a
6 reasonable return. So if we
7 weather-normalize, that doesn't change. If
8 we don't weather-normalize, that doesn't
9 change, too. Only thing is different that
10 the risk is still with the Company and the
11 customer. And what the full decoupling does,
12 that eliminates the risk.

13 And the second question I think you talk
14 about that percentage of the bill for
15 customer for gas uses or something like that.

16 Q. When you say that risk is eliminated in your
17 last answer, what risk are you talking about
18 there?

19 A. The panels talked about that, that there is no
20 risk because either way their number based on
21 weather condition, if the Company get more
22 revenue, they have to return it, and if they get
23 less revenue, then the customer has to pay for
24 it.

1 Q. And that would be done on a real-time basis. So
2 Dr. Johnson would dispute your characterization
3 of having to return that money because it never
4 would have collected -- been collected. Would
5 you agree?

6 A. Yeah, if it is monthly. I'm talking about
7 overall decoupling concept, not the monthly
8 adjustment. I will address monthly adjustment a
9 little bit later. Give me one more opportunity
10 to talk about overall decoupling.

11 Q. Sure.

12 MR. KREIS: So, Mr. Chairman, I'm
13 having a little trouble with this. I mean --

14 CHAIRMAN HONIGBERG: Sit down and
15 speak into the microphone.

16 MR. KREIS: Sorry.

17 CHAIRMAN HONIGBERG: You can sit
18 down. It's okay. Just speak into the
19 microphone.

20 MR. KREIS: It's been a long day
21 and I'm tired of sitting.

22 The way this is supposed to
23 work is that counsel is supposed to ask
24 questions, and the witness is supposed to

1 answer them. And, you know, this isn't a
2 seminar or webinar or a technical session.
3 And so when it deviates from that paradigm, I
4 have a really hard time following it. And I
5 suspect you do, too.

6 CHAIRMAN HONIGBERG: It can be
7 difficult to follow when a witness gives a long
8 narrative, unbroken-up by questions. That is a
9 common problem in this room. This is not the
10 only witness we've had this problem with.

11 MR. KREIS: But this witness is
12 actually ignoring counsel's questions and just
13 deciding on his own what he feels like telling
14 us, and that is not the way this process is
15 supposed to proceed.

16 CHAIRMAN HONIGBERG: So you would
17 like to move to strike the answer as not
18 responsive to Mr. Dexter's questions? I hear
19 you, Mr. Kreis. Let me do this for you.

20 Mr. Iqbal, Mr. Dexter, I
21 think, really wants you to address the
22 monthly aspect of the proposal in the
23 settlement. That's what he asked you about.
24 I know you have a couple of other things you

1 want to talk about. It would probably be
2 helpful to Mr. Dexter, and obviously Mr.
3 Kreis, if you would answer that one and then
4 have Mr. Dexter ask you about the other
5 concerns that you have, okay.

6 WITNESS IQBAL: Okay.

7 CHAIRMAN HONIGBERG: All right.

8 A. Mr. Dexter, can you repeat the question?

9 BY MR. DEXTER:

10 Q. Yes. You understand that the settlement
11 proposed decoupling procedure contains a monthly
12 reconciliation for weather; do you not?

13 A. Yes, I do.

14 Q. And do you have reasons why you believe the
15 monthly adjustment should not be approved; and
16 if so, could you explain those now?

17 A. I think in one sentence, if I can answer that
18 question, that this proposal is ineffective,
19 costly, unclear, unnecessary, counter-productive
20 to the goal of energy efficiency. And there are
21 simpler solution to cash flow issue, which is
22 so-called cash flow issue it tries to solve
23 right now available.

24 MR. DEXTER: Okay. I have one

1 more exhibit I'd like to hand out. I would ask
2 that this be marked as Exhibit 65.

3 (The document, as described, was
4 herewith marked as Exhibit 65 for
5 identification.)

6 Q. Mr. Iqbal, earlier in the day there was an
7 exhibit handed out that had to do from the
8 regulatory assistance project that had to do
9 with some review of decoupling mechanisms that
10 have been put in place. Do you recall that?

11 A. Yes, I do.

12 Q. And this exhibit that you put together talks
13 about a couple of examples where utilities have
14 implemented decoupling mechanisms at least
15 several years ago; is that right?

16 A. Yes. It's actually the second part of that
17 study where they actually evaluated different
18 existing decoupling case study.

19 Q. And I've lost track of what the exhibit number
20 was for the original study, but --

21 A. That was 59.

22 Q. Exhibit 59. So I'd like to direct your
23 attention to what's marked as Page 37 in Exhibit
24 65. There's a little table there at the top of

1 that. Do you see that?

2 A. Which page?

3 Q. It's Page 37 of Exhibit 65. It's actually the
4 last page in the four-page document.

5 A. Yes, I'm there.

6 Q. Could you explain what you understand this table
7 is intended to show?

8 A. This table intends to show that how different
9 type of decoupling has impact on the energy
10 efficiency saving as a percentage of retail
11 sales by different companies. To clarify all
12 this, Company's case study done has different
13 type of decoupling.

14 Q. And are there two utilities in particular that
15 you want to draw attention to?

16 A. Yes. I want to draw attention to Idaho Power
17 Company and Baltimore Gas and Electric Company.

18 Q. And what is it about Idaho Power Company that
19 you'd like to point out in relation to this
20 table?

21 A. Idaho Power Company decoupling is almost as our
22 proposal, almost -- there might be some
23 difference in the details. But they do
24 weather-normalize their revenue. And Baltimore

1 Gas and Electric Company --

2 Q. Wait a second, if I can interrupt you. Before
3 you leave that, I didn't follow that. Could you
4 explain again what the Idaho -- how the Idaho
5 Power decoupling mechanism compares to what's
6 been put forth before the Commission in this
7 case?

8 A. The Idaho Power Company actually normalize their
9 revenue, weather-normalize their revenue. And
10 Baltimore Gas and Electric Company does a
11 monthly adjustment in their full decoupling.
12 And Idaho is partial decoupling.

13 Q. So would it be fair to say, then, that the
14 Baltimore example is more close to what's been
15 proposed in the settlement, and the Idaho
16 example is more closely aligned with what Staff
17 has proposed?

18 A. Yes. As I said, the details there might be some
19 difference. But like I can give you one
20 example.

21 Baltimore Gas and Electric Company, they
22 set the rate for the next month. They
23 don't -- based on what is -- if there is an
24 adjustment the previous month weather. They

1 don't do the credit or debit or surcharge.
2 So it's a little bit different how they
3 implement it. But the concept, the overall
4 concept of Baltimore Gas and Electric is the
5 same as the settlement that we provide.

6 Q. In that it adjusts for weather?

7 A. They adjust for weather, yeah, monthly.

8 Q. So, comparing these two utilities, what does
9 this chart tell you? What does it show?

10 A. Those are the highlighted years for these two
11 companies 2007. They actually implemented
12 energy decoupling, two different model of
13 decoupling. And then the next years it shows
14 how they actually perform energy efficiency
15 savings as a percentage of their retail sales.
16 I think on that point, I think of EERS actually
17 set a number for each Company in New Hampshire.

18 Q. So if I understand what you're saying, after
19 implementing -- for Idaho Power Company, after
20 implementing a weather -- after implementing a
21 decoupling mechanism that does not adjust for
22 weather, sales went down roughly one-plus
23 percent over the next three years.

24 A. Yes, that's what it shows.

1 Q. And for Baltimore Gas and Electric, which
2 implemented a full decoupling in the same year,
3 sales went down a little less than one percent
4 and then a little over one percent over the next
5 three years.

6 A. I'm not sure sales went down, but energy savings
7 as a percentage of their retail sales.

8 Q. Oh, energy savings as a percentage --

9 A. Yeah, retail sales. Yes, their sales went down,
10 but not maybe at this percentage.

11 Q. Okay. So would you conclude, then, that there
12 was no significant difference between these two
13 companies, in terms of the amount of energy
14 efficiency that they saved as a result of these
15 two different decoupling mechanisms?

16 A. That's exactly our point, that
17 weather-normalized or not weather-normalized,
18 decoupling is the issue.

19 So Company's proposal is that address
20 the weather-related risk for both customer
21 and for the Company. And our point is that
22 that risk is well known to those both
23 parties, and they can address those on their
24 level.

1 Q. And when you say "Company position" you mean the
2 settlement position?

3 A. Settlement position.

4 Q. But the point of this chart is that it didn't
5 seem to have a measurable impact on how much
6 energy savings were achieved.

7 A. Yeah, and that address our -- yeah, that
8 actually says that our position, that weather is
9 a risk for both customer and the Company. It
10 doesn't and it shouldn't impact energy
11 efficiency performance.

12 Q. Okay. Thanks. That's all I have, Mr. Chairman.

13 CHAIRMAN HONIGBERG: All right.
14 We will break for the day. When we resume on
15 Monday, we'll be coming at 9:00 and hope to
16 finish on Monday. So we're going to go off the
17 record and finish.

18 (Discussion off the record.)

19 CHAIRMAN HONIGBERG: All right.
20 We're going to adjourn.

21 (Whereupon the Afternoon Session of
22 Day 5 of the hearing was adjourned at
23 5:06 p.m.)
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.

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

\$	80:18;89:7	15:11;28:2;34:1;	136:11,24	97:5;98:18;100:12;
\$10 (2)	above (4)	56:15;69:6;72:4,18;	adjustments (2)	101:20;104:10,15,16;
67:15,16	4:19;5:8;42:1;	82:15;83:6;93:5;	17:4;77:4	107:20;110:1,9,15;
\$10.3 (1)	47:10	97:20;100:11;102:7;	adjusts (1)	125:24;131:5
55:24	absent (1)	107:1;110:6;111:20;	137:6	agreed (7)
\$100 (1)	77:1	112:18;113:3,7;	administrative (1)	7:15;19:5;21:1;
56:13	Absolutely (1)	115:21;116:4,5;	50:18	37:13;81:11;108:4;
\$100,000 (2)	29:16	118:2,19;119:18;	admit (1)	109:3
80:16;81:4	absorb (1)	122:12;132:12;	73:22	agreement (12)
\$2 (1)	81:13	134:16,17;135:3;	adopt (4)	20:21;49:18;62:9;
75:16	accelerated (1)	136:8;137:11,14,16;	73:20;91:1;107:16;	68:24;71:19;86:7,12;
\$20 (2)	72:18	139:8	121:23	95:8;100:14;101:16,
58:20;60:2	accept (1)	adamant (1)	adopted (6)	19:108:3
\$289.71 (1)	95:13	35:21	31:16;71:19;85:20,	agrees (2)
39:19	acceptable (1)	add (14)	23:95:24;101:19	123:8,15
\$3 (2)	8:18	4:21;13:11;26:23;	adopting (2)	ahead (2)
8:6;75:16	accepting (1)	41:11;55:13;68:6,16,	47:5;86:2	17:18;87:13
\$3,111 (1)	90:22	17:72:11;114:15,21;	advance (1)	air-conditioning (1)
66:9	accompanied (1)	116:7;117:6,8	102:11	79:21
\$30.35 (2)	96:1	added (6)	advise (1)	airport (1)
4:20;41:10	account (5)	67:19;112:4;113:5;	47:5	54:15
\$36.14 (2)	32:13;46:2;106:23;	114:10;116:8,18	advocacy (2)	AL-AZAD (2)
4:20;41:10	121:16,19	adding (3)	100:18;101:1	105:22;106:8
\$479,131 (1)	accounted (1)	13:3;24:22;68:7	advocate (1)	aligned (1)
7:2	15:6	addition (1)	37:2	136:16
\$5.00 (2)	accounting (1)	117:18	advocated (3)	alleviated (1)
38:23;41:5	27:13	additional (4)	35:16;48:3;95:14	49:14
\$50 (1)	accrual (2)	68:8,14,14;117:16	affect (4)	allocate (1)
69:16	6:24;27:13	address (16)	27:24;32:1;78:9;	56:23
\$50- (1)	accrue (1)	50:17;107:23;	79:15	allocated (4)
80:16	27:15	111:15;122:2,9;	affects (1)	43:8;56:17;57:10;
\$50,000 (4)	accumulate (1)	123:3;124:18;125:3,	79:20	58:17
80:1,4,19;103:2	93:12	22;126:8;129:1;	affirmative (3)	allocation (6)
\$50-a-month (1)	accuracy (2)	131:8;132:21;	31:5,6;42:13	57:1,8,15;58:2,7,8
96:18	109:3;114:23	138:19,23;139:7	afraid (1)	allocations (1)
\$52.89 (1)	accurate (6)	addressed (1)	81:22	58:13
63:12	57:7,8;78:23;95:1,	51:7	afresh (1)	allow (1)
\$60 (1)	6;107:8	adequate (1)	17:18	95:9
97:22	accusing (1)	103:15	afternoon (5)	allowed (2)
\$66 (2)	98:22	adjourn (1)	51:18,20;74:9,10;	77:16,16
39:20,21	achieve (3)	139:20	139:21	allows (2)
\$690 (1)	17:15;23:17;	adjourned (1)	AGA (1)	68:12;97:11
67:15	127:16	139:22	82:5	alluding (1)
\$700 (1)	achieved (1)	adjust (5)	again (17)	77:8
67:12	139:6	43:13;46:24;78:21;	4:16;12:4;29:21;	almost (9)
\$90 (1)	acquiring (1)	137:7,21	37:3,21;39:13;41:4;	13:1;60:17;83:6;
116:22	85:10	adjusted (2)	66:6;72:22;84:14;	89:1;92:16;116:6;
\$95 (1)	acronym (1)	90:13;92:7	91:9;93:4;95:16;	124:3;135:21,22
56:8	54:5	adjusting (1)	97:13;100:24;	along (3)
	action (1)	30:11	114:12;136:4	68:7;77:4;85:19
	actions (2)	adjustment (44)	against (2)	alternative (1)
	45:18;97:21	5:4;7:6;9:12,14;	48:3;76:15	76:15
	activities (3)	10:3,4;11:14,22,23;	age (1)	alternatives (1)
	47:21;100:9;110:7	12:17;16:1;19:9;	74:16	120:20
	activity (1)	21:5;24:21;25:19,24;	aggressively (1)	although (3)
	47:16	26:24;28:7;40:3;	74:1	31:11;83:23;99:18
	actual (12)	46:13,21;47:12;	ago (2)	always (3)
	13:5,24;15:9;	49:19;52:12;69:14;	92:1;134:15	41:12;88:11;130:4
	27:14,21;55:10;	70:7;92:22;94:19,20;	agree (25)	among (2)
	67:13;69:2;70:19;	95:3,7;98:14;99:9;	23:23;28:8,10;	102:15;108:3
	72:2;75:24;102:1	101:24;122:16,17;	29:13;42:14,14;	amongst (2)
	actually (35)	123:22;125:5;129:6;	44:17;45:21;46:23;	32:15;57:9
		131:8,8;133:15;	60:12;88:9;95:22;	amount (14)
[
[2 (1)				
62:18				
[Brief (1)				
51:14				
A				
able (5)				
26:18;53:11;74:2;				

12:1;13:16;36:2; 40:9,10;43:18;47:10; 66:22;77:23;79:20; 93:11;96:16;128:19; 138:13 analogous (1) 26:15 analysis (6) 82:5;83:10;118:19; 119:23;120:2,23 analyst (1) 106:8 anecdotal (2) 73:8,12 anecdotally (1) 89:22 annual (9) 9:11,14;10:4;59:2, 3;65:5,7;69:19;93:2 annually (5) 7:20,21,23;9:19; 10:15 answered (4) 19:14,21,24;87:24 anymore (3) 19:21;71:17;79:1 apart (1) 57:16 apologize (2) 10:10;81:18 apparently (1) 80:23 appears (1) 45:9 apple (2) 117:6,6 appliance (3) 30:15;39:4,4 appliances (1) 30:13 applied (2) 129:19,21 applies (1) 128:12 apply (2) 12:14;28:7 appreciate (2) 48:14;88:17 approach (6) 9:7;27:17,21;86:3; 95:14;99:15 approaches (1) 99:19 appropriate (4) 37:18;48:23; 103:16;105:19 approved (3) 6:20;53:3;133:15 approves (1) 100:13 April (1) 40:17 area (2)	87:23;91:15 areas (7) 85:7,7,11,12;89:2, 20;90:5 argument (1) 124:16 arguments (2) 33:18;34:2 arithmetic (1) 70:3 around (6) 17:5;54:14;60:7; 80:21;96:11;115:7 arrange (1) 94:5 arrive (1) 49:16 arriving (1) 38:10 art (1) 62:1 ASL (1) 106:24 aspect (1) 132:22 assess (1) 103:16 assessments (1) 119:7 assistance (1) 134:8 associated (3) 50:19;105:7; 112:20 assuming (4) 11:18;14:14;47:11; 73:19 assurances (1) 95:9 attached (1) 119:16 Attachment (2) 62:10,18 attachments (2) 106:17,20 attempt (4) 9:23;15:11;85:24; 121:18 attention (5) 14:7;100:6;134:23; 135:15,16 attitude (1) 101:4 attitudes (2) 87:18;99:21 Attorney (2) 94:16;95:1 attractive (1) 96:9 attributable (1) 97:3 Atty (1) 48:18	audit (2) 8:20;9:8 automatically (1) 60:18 available (3) 35:14,23;133:23 average (20) 39:10;54:8,11,18; 55:7,16;58:22;63:8, 10,11,19;66:9;68:13; 69:1,10,18;88:9,10; 112:5;116:20 averages (1) 39:7 awareness (1) 38:19 away (3) 4:10;26:22;96:5	79:12;87:5;107:20 basis (12) 35:3;46:2,17;67:7; 68:2,13;69:14;90:14; 118:17;121:18; 129:10;131:1 Bates (29) 44:9,15;49:7; 50:12;62:19;65:1,2, 16,17;71:2,9;106:22; 108:24;111:6; 112:24;113:2,7,20; 114:8,16,17;116:2; 118:7;119:16;120:5, 12,13;121:1,3 bearing (2) 42:15,18 became (1) 17:5 become (3) 22:6;78:9;85:8 becomes (3) 60:21;92:22;96:15 becoming (1) 10:4 beginning (5) 13:2;15:14,16; 98:10;126:5 begins (1) 45:13 behalf (1) 77:13 behavior (2) 73:7;100:16 behind (3) 17:2;46:15;87:8 beings (1) 23:7 belief (2) 74:12;76:12 below (1) 82:8 benchmark (2) 67:9;70:6 beneficial (3) 29:24;85:14;95:18 benefit (15) 8:2,14;9:2;17:13, 14;26:10;30:18; 53:15;77:15,21; 78:13;80:20;81:8; 87:21;97:17 benefiting (1) 78:3 benefits (15) 17:7,23;18:6,7; 24:9;26:1,50;10,22; 74:3;84:9;92:14; 94:17;97:10;99:12; 104:1 besides (1) 38:6 best (2)	82:13;127:15 better (14) 18:18;23:21;30:15; 32:24;39:3;74:20; 76:13,19,23;84:18; 86:1;87:13;92:9; 101:5 beyond (2) 47:10;86:23 big (4) 21:17;70:12;89:11; 124:20 bigger (2) 16:19;63:20 bill (73) 4:12;6:4,11,11,14; 9:24;12:2,18;13:14, 18,23;14:1;15:17; 18:7,12,14;21:4; 24:24;25:4,16;29:5, 12,15;30:20;31:22; 33:1;36:18;37:12,16; 38:10;43:12;49:22, 23,24;51:1,23;52:6,8, 13,20;53:7,14;61:10, 13,19,20;62:6;63:16; 64:22;68:11;84:11; 91:5,22;93:10,15; 94:18;95:11;96:18; 97:3,19,21;101:12, 18;102:2,3,9,16,18; 123:22;128:16; 129:7,11;130:14 billed (8) 13:16,21;15:9; 32:9;35:3;40:1; 52:11;57:6 billing (19) 11:6;12:15;13:12, 15;14:5,15;15:4; 17:16;37:12;49:20; 51:3;53:2,55;13; 69:3,4;89:3;97:9; 103:3;128:11 bills (15) 12:24;13:7;15:16; 27:7;29:1,3,13; 32:10;83:23;84:10; 86:4;90:13;93:5; 101:22;102:4 bit (14) 26:10;32:24;36:16; 37:3;55:17;77:18,23; 79:4;92:8;94:24; 104:4;125:17;131:9; 137:2 black (1) 4:11 block (12) 52:3,8,9,10,11,15, 15,18;59:17,21,22; 90:21 blocks (1)
		B		
		back (19) 5:10;8:4,9;29:17; 33:12;43:13,23; 50:13;55:4,5;73:20; 78:5,8;80:15;87:7; 103:13;115:15,24; 116:2 bad (1) 105:11 BAILEY (17) 4:24;5:5;51:17,18, 21;53:8,18,19;58:15; 64:18,19,21;71:9,11; 91:13,14;103:7 balance (1) 36:5 balanced (1) 86:2 balancing (1) 27:4 Baltimore (7) 135:17,24;136:10, 14,21;137:4;138:1 bargain (1) 80:19 bargaining (1) 86:16 base (1) 117:23 based (21) 4:4;39:2,6;40:12; 42:8;45:22;46:16; 59:2;66:22;68:3; 69:9;78:21;79:22; 83:11;93:15;111:24; 112:3;119:23;122:2; 130:20;136:23 basic (2) 41:13;122:4 Basically (11) 11:24;27:3,7;57:5, 24;60:12;61:1;77:15;		

59:17 boil (1) 117:24 bond (2) 27:24;78:10 Bonner (1) 4:17 bonuses (1) 23:5 book (1) 31:12 both (34) 7:15:9;18,18; 10:19,20,22;15:22; 18:19,23;19:15; 21:13;24:12,16; 26:21;31:7,8;33:16; 34:5,6,9;35:24; 37:13;42:9;50:15; 65:15;81:24;90:1; 102:22;111:10; 128:13;129:5; 138:20,22;139:9 bottom (6) 49:23;62:23,24; 63:5;66:7;81:9 bouncing (1) 96:11 brake (2) 75:4;99:6 break (4) 22:8;64:15;94:4; 139:14 breaking (3) 16:4;18:8;22:9 breakout (1) 64:9 breaks (1) 16:8 brief (1) 4:8 briefly (1) 117:21 brings (1) 43:23 broke (1) 5:19 brought (1) 124:10 buckets (1) 73:1 Buckley (10) 93:22,23;94:1,10, 11,14;104:23,24; 105:3,15 budget (3) 29:6,6,7 build (1) 118:20 builders (5) 16:17;22:24;23:1; 73:16;99:20 building (7)	16:18,21;39:9; 47:19;100:10,19; 101:7 builds (1) 78:8 built (1) 24:5 bunch (1) 54:11 burned (1) 23:3 bus (1) 105:19 business (2) 118:23;126:6 button (1) 32:16 buying (1) 30:14	cancelled (1) 79:5 cancel (1) 11:23 cap (3) 47:3,4;81:11 capped (1) 46:21 capture (1) 85:16 careful (2) 64:4;73:1 carrying (2) 57:24;61:4 case (31) 7:1;33:8;37:3; 38:8;56:18;58:2; 66:8;67:8;72:14,22; 75:19;76:1;77:17; 78:5,8,11;86:12; 88:11;92:20;103:14; 104:8;106:11;113:4, 9;118:18,23;123:8; 128:2;134:18; 135:12;136:7 cases (7) 31:1,2,2;37:9; 75:22;77:3;92:5 cash (26) 8:7;17:13;25:11, 12,13,17,20,21,22; 26:6,9,18;27:1,2,3, 12,14,21,23;28:3,5; 29:18,20;50:22; 133:21,22 categories (1) 112:20 caught (1) 82:11 causal (1) 11:8 causing (1) 90:21 cautioned (1) 105:23 cent (1) 11:23 center (16) 89:15;108:1,6,14, 16,19;110:7;111:3; 112:9;115:19;116:8; 117:22;118:3,20,24; 121:6 cents (10) 8:4;26:2,4,15; 38:22;41:5,10,23; 92:23,24 certain (1) 109:8 certainly (9) 24:20;34:22;36:24; 62:8;64:24;72:12; 90:20;103:19;104:6	cetera (1) 11:2 CHAIRMAN (51) 4:3;5:14,17;19:12, 22;20:3,16;23:22; 24:2;48:15,20,24; 51:11,12,16;52:23; 53:6;58:5,10,14; 64:14,17;71:7;74:6; 82:2;86:5,18;91:12; 93:19;94:8,10,12; 104:21,22;105:17; 106:1,3;108:3,10; 109:14,20;121:8; 131:12,14,17;132:6, 16;133:7;139:12,13, 19 Chairman's (1) 91:24 chance (1) 8:20 change (11) 13:4;22:7,16; 61:21;84:17;92:12, 13;99:1,20;130:7,9 changed (1) 73:6 changes (14) 11:1;31:23;32:20; 45:16;52:17;58:12; 61:6;64:3;96:18; 103:4;119:9;121:16; 125:12,12 changing (5) 36:18;57:2;80:24; 87:17;102:2 characteristics (2) 40:13,14 characterization (1) 131:2 Charge (29) 4:19;5:21;6:1,6,23; 24:5,6;30:21,22; 34:21;35:1,18;41:22; 51:24;52:2;60:2,3,15, 16;61:11;95:10;96:2, 16;97:5,10,15;99:13; 129:6,21 charged (1) 97:22 Charges (18) 4:19;11:21;25:15; 33:11,12;34:1,20; 35:11;36:16;37:2; 52:1;60:13;61:12; 74:23;75:2;96:4; 97:4;129:19 chart (21) 44:3,17;108:18,22; 109:4,11;111:22,23; 112:24;113:2,3,7,13; 114:23;115:24; 116:3,4,5,10;137:9;	139:4 check (3) 8:3;26:2;64:4 choice (3) 48:12;97:24;98:2 circumstances (3) 14:16;37:9;88:20 cited (1) 120:19 city (4) 88:23,24;89:1,16 claim (1) 126:6 clarification (1) 79:9 clarify (2) 111:13;135:11 class (17) 32:2,3,14;34:16, 16;56:20;57:6;58:12; 61:14;66:24;67:10, 14,18,21,22;71:13; 93:10 classes (6) 32:15;56:24;57:9; 58:9;59:12;61:2 class's (2) 59:14;60:9 cleaning (1) 98:7 clear (8) 10:19;12:7;16:7; 18:4;86:10;101:14; 102:10,19 clearing (1) 6:3 clearly (5) 33:21;34:24;35:24; 49:15;84:18 client's (1) 48:21 Close (4) 67:2,4;82:22; 136:14 closely (3) 16:12;17:9;136:16 closer (1) 45:5 Club (1) 73:16 cluster (1) 40:21 CMSR (8) 4:24;5:5;51:18,21; 53:8,18,19;58:15 code (2) 47:19;100:11 codes (2) 100:19;101:7 cold (13) 14:9,10;15:13,14; 21:22;22:2,11,19; 38:11;39:12;40:11,
	C			
	C&I (1) 71:12 calculate (3) 8:12;10:1;69:8 calculated (4) 12:23;69:13;71:12; 112:5 calculation (7) 45:23;68:21;70:18, 20;71:19;72:23; 116:17 calculations (1) 28:1 called (5) 16:1;40:2;52:3; 83:12;106:12 calls (1) 80:12 came (5) 9:19;32:7;80:3; 82:17;122:5 can (67) 7:22,24;12:7; 20:12;22:13,16,23; 24:17;27:15;29:8,22; 32:3,16;34:11;40:20; 42:14;46:9;50:1,7; 51:6,8,23;53:20; 55:22;58:6;59:19,21; 62:6;63:9;64:8,9,22; 65:1;72:11,14;73:20; 76:23;79:14;80:5,21; 82:16;83:12;84:7; 85:13;89:22;90:13; 93:14;94:23;97:18, 20,21;103:6;105:18; 114:12;116:14; 118:9;124:6;125:2, 17,18;131:17;132:6; 133:8,17;136:2,19; 138:23			

24;127:12 colder (20) 11:19;37:15,20; 38:14;41:20,24;42:9; 43:4,11;50:2;53:23; 55:11,21;88:9,10; 89:15,24;92:8; 126:12;127:2 colder-than-normal (4) 12:9;21:10;39:15; 43:19 colleague (1) 67:23 collect (1) 11:20 collected (2) 131:4,4 collection (1) 36:3 collects (1) 60:8 column (8) 63:7;112:6,8; 114:14;116:7;117:4, 9,14 columns (1) 111:14 combination (1) 46:18 combined (1) 71:13 come-back (1) 104:11 comfortable (1) 20:6 coming (3) 30:8;87:7;139:15 comment (3) 81:15;87:4;127:8 comments (2) 74:12;77:5 commercial (2) 57:20;64:23 commercial/industrial (2) 57:23;65:4 Commission (20) 11:9,10;12:6; 33:10,22;36:24; 59:23;79:6;85:20; 87:10;100:13; 103:22;104:17; 108:22;121:23; 122:12,20;128:2; 130:3;136:6 Commissioner (11) 51:16;64:17,19,21; 71:9,11;74:6,8;91:12, 14;103:7 COMMISSIONERS (1) 64:20 Commissioner's (1) 91:23 Commission's (3)	4:5;122:23;124:9 commitment (1) 103:12 committed (1) 103:3 committing (1) 101:17 commodity (3) 38:18;47:22;84:11 commodity-related (1) 28:9 common (2) 42:22;132:9 communicate (1) 98:24 communication (1) 102:14 communications (1) 50:16 community (1) 27:19 companies (7) 42:10;76:20;79:17; 100:2;135:11; 137:11;138:13 Company (85) 9:13;16:9;21:9; 22:1,17;23:4,11;25:5, 12,21;26:3;27:8,18; 28:6;35:11,20;42:15, 23,23;43:9,16;50:15; 51:8;66:1,22;67:24; 68:16;73:9,13;74:3; 75:23;76:3,8,8,14,16; 77:15;78:5;80:9; 81:1,11,20;84:19; 95:12;98:12,19,24; 99:4;100:18;101:12; 102:6,16;103:3,13; 107:1;108:13;109:2; 110:3;115:8;118:23; 119:6;122:21;125:1, 10,14,24;126:1,3; 128:3;130:4,10,21; 135:17,17,18,21; 136:1,8,10,21; 137:17,19;138:21; 139:1,9 Company's (14) 9:6;21:15;25:22; 33:7,19;35:6;50:21; 63:16;96:13;100:15; 125:20;126:7; 135:12;138:19 comparable (1) 116:21 compare (2) 70:5;117:6 compared (3) 35:2;70:2;76:15 compares (1) 136:5 comparing (1)	137:8 comparison (1) 32:21 compatible (2) 116:21,24 compelling (1) 9:4 competing (2) 31:18;76:15 competitive (1) 76:14 complete (1) 35:17 completely (3) 38:18;68:23;87:17 complex (2) 49:9;94:22 complicated (9) 16:22;48:10,12,22; 50:20;124:17,24; 125:1,2 complication (1) 70:9 component (2) 34:7;60:2 components (2) 18:19;60:8 comprehensive (1) 104:13 compromise (4) 34:22;37:6,7;87:13 computer (1) 14:6 conceivably (1) 69:23 Concentric (1) 83:12 concept (5) 50:1;53:22;131:7; 137:3,4 concern (3) 21:15;33:9;88:18 concerned (4) 17:6;38:6;39:14; 127:10 concerning (3) 108:7,16;110:3 concerns (8) 35:10;36:18;49:12; 74:16;125:4;127:13; 129:17;133:5 conclude (1) 138:11 conclusion (1) 118:2 Concord (8) 62:15;88:6,10,14; 89:23;91:8;107:24; 108:16 condition (3) 125:11,12;130:21 conditions (1) 127:4	conferring (1) 48:18 confident (3) 64:8;80:18;90:20 confirm (2) 12:13;20:13 conflicts (1) 36:1 confused (1) 41:3 confuses (3) 115:22;124:23,23 confusing (2) 39:16;52:6 Connecticut (2) 88:22;89:15 conscious (1) 97:12 consciously (1) 98:22 consequences (1) 96:7 conservation (11) 22:19;30:23;36:7; 45:17,18;46:5;47:19, 21;59:24;84:10,20 conserve (4) 33:15;91:18;97:7; 128:7 conserving (11) 91:23;92:12; 127:24;128:10,13,14, 15,21,24;129:5,11 consider (1) 124:2 consideration (1) 35:15 considering (1) 80:23 consistent (1) 37:4 consists (1) 106:16 constantly (2) 8:13;11:5 construct (1) 68:12 consume (2) 126:21,22 consumers (2) 35:8;50:1 consuming (1) 126:19 consumption (3) 45:20;102:2,3 contacted (1) 4:6 contained (5) 107:12,14;110:8; 120:13;121:12 contains (2) 110:2;133:11 CONT'D (2)	91:14;105:2 contemplated (2) 102:14;124:9 context (4) 126:9;127:7;129:2; 130:1 continue (2) 75:1;77:21 continued (2) 76:6,9 contrast (1) 8:10 contribute (2) 18:20;19:17 contributing (1) 123:10 contribution (2) 56:20;59:14 control (2) 97:19,20 controlled (1) 83:24 controversial (1) 78:23 controversy (1) 77:11 conversation (3) 50:4;59:16;81:6 conversations (1) 34:12 Conversely (1) 74:24 convey (3) 84:5,23;98:23 convince (5) 16:17;22:3;23:1; 33:10;74:2 cooling-degree (1) 79:18 co-ops (2) 83:2,14 core (1) 117:24 corporate (4) 22:4,7;73:15;87:18 corporation (1) 21:17 correction (1) 106:21 corrections (1) 106:18 correctly (2) 77:7;112:7 cost (35) 33:19;35:9,12,21; 36:3;43:5;56:17,19, 22;57:12;68:8,10,15; 80:6,15;112:20; 116:6,9,10,18,20; 117:3,3,4,5,8,9,10,14, 15;118:3;119:10,19, 23;126:22 costlier (1)
--	---	---	---	--

<p>127:18 costly (1) 133:19 costs (9) 43:19,22;44:1; 57:15;74:24;78:6; 85:5;109:1;117:22 counsel (3) 108:3;109:12; 131:23 counsel's (1) 132:12 count (3) 42:2;69:2,2 counted (1) 83:6 counter-productive (1) 133:19 counting (1) 26:16 country (9) 17:5;33:12;44:4; 45:1;72:17;74:18,19; 82:23;85:1 couple (6) 73:21;82:3;98:6; 104:4;132:24;134:13 course (3) 8:6;41:15;79:16 Court (3) 73:10;86:8;105:23 cover (7) 43:22,24;66:16; 68:14;78:6;82:3; 108:5 covered (2) 13:14;14:1 crack (1) 31:17 cream (1) 66:11 create (3) 6:21;84:24;102:8 created (1) 111:24 creates (2) 25:4;97:6 creating (2) 33:13;87:19 credibility (1) 100:24 credit (21) 8:5;11:24;12:8; 14:10;26:17;27:15; 37:16,19;41:10; 43:13;93:4;127:1,12; 128:5,7,9,10,23; 129:14,15;137:1 credited (1) 13:5 critical (2) 41:17;87:11 criticism (2)</p>	<p>86:23;87:1 critique (1) 33:18 crop (1) 66:12 cross-examination (1) 98:11 culture (3) 22:8;73:15;87:18 cumulatively (1) 85:1 current (9) 25:4;32:21;42:7; 62:23;98:12,20; 100:6;117:10;121:4 currently (4) 60:3,14;61:5; 100:10 curve (1) 104:3 customer (66) 8:8;9:12;11:12; 13:21;25:13,17;26:1, 19;27:8;28:24;29:4; 34:19,20;35:18; 39:14;43:9;45:23; 46:2,17;56:14,24; 58:21;60:13;62:15, 16;63:8,11,19;64:23; 65:19;66:9,12;67:9, 14;68:4,13;69:1,2,15, 18;70:20,23;91:17, 19;92:16,21;93:9; 95:10;96:1,4;97:4; 124:22;125:2,3; 126:19;127:11,16; 128:10,11,18;129:13; 130:11,15,23;138:20; 139:9 customer-driven (1) 47:19 customers (65) 13:15,20;14:17,20; 16:17;17:14;22:6; 29:14;30:11;32:1,2, 8;33:2,14;37:19; 42:19,24;45:19; 49:21;50:17;58:23; 59:4;60:3,6;61:15; 62:12;63:20,20; 64:10;66:14,24; 67:17,19;68:6,7,17; 69:6,10;70:14,15; 77:13,21;78:3;84:21; 87:20;91:17;92:11; 93:10;97:7,9,12,18, 24,24;102:10; 104:19;125:11; 126:2,3,7,13,15; 127:3,23;129:4 customer's (7) 25:20;27:3;28:13; 51:1,2;97:2;129:11</p>	<p>customer-specific (1) 15:20 cycle (13) 11:6;12:15,16,21; 13:9,13,15;14:5; 15:4;16:21;17:16; 39:7,8 cycles (1) 14:15</p> <p style="text-align: center;">D</p> <p>daily (1) 54:3 data (18) 32:18;53:24;79:16; 82:11;83:13;89:4,7; 90:4;93:12;102:24; 103:6;104:9;112:16; 115:4;119:13,20,21; 128:11 date (1) 111:17 dated (1) 106:12 day (22) 12:23;13:2,3,22; 15:4;16:4;54:7,9,11, 19;55:6,10,13;74:15; 81:24;83:17;109:13; 117:19;131:20; 134:6;139:14,22 day-by-day (1) 15:10 days (19) 11:19;13:13,16,22, 24;14:1,6,8,8;53:21; 54:2,23;55:1,2,9,11, 20;79:18;90:5 DE (1) 121:2 deal (4) 17:17;96:6;108:13; 126:6 dealing (2) 8:10;126:4 debated (1) 86:13 debit (2) 27:15;137:1 decade (1) 103:24 deciding (2) 39:10;132:13 decision (15) 7:8;9:16;10:14; 38:12;39:3,5;89:11; 118:11,18,20;119:8; 124:9;125:19,20,23 decision-maker (1) 118:16 decision-makers (1) 100:23</p>	<p>decision-making (5) 118:13,13,14,21; 119:3 decisions (2) 38:24;101:7 decline (1) 72:19 declining (2) 21:11;59:21 decoupling (100) 4:15;5:21;6:1,6,10, 17;7:11,14,15,20; 10:11,20,22;12:5; 15:22,24;17:2;18:11, 13,20;19:16;20:23; 23:15;24:5,13;25:1; 30:9;31:15;34:7; 35:4;36:6;43:7;44:5, 22;46:11;47:12;48:1, 4,6;49:9,17;50:11; 59:2;68:3,12;70:18; 72:3;76:19;81:20; 86:15;87:14,16; 91:21;93:3;94:19; 95:24;100:14;102:9; 103:1,11;105:4; 107:24;108:5;121:7, 13,15,22;122:5,13, 24;123:2,12;124:10, 13,19;125:6,7,16; 129:18,20;130:2,11; 131:7,10;133:11; 134:9,14,18;135:9, 13,21;136:5,11,12; 137:12,13,21;138:2, 15,18 decrease (1) 24:8 default (1) 9:6 defense (1) 33:20 defer (2) 93:22;111:4 deferral (1) 47:8 deficiency (2) 56:2,3 definitely (1) 24:9 degree (15) 11:19;13:24;37:24; 53:21;54:2,23;55:1,2, 9,10,11,20;90:5; 97:21;98:1 degrees (3) 54:24;55:15;89:23 delivery (2) 12:1;28:12 demographic (1) 125:12 depending (5) 13:8;14:16;42:4;</p>	<p>61:21;118:12 depreciation (3) 106:22;107:23; 108:7 derived (1) 116:11 describe (1) 112:16 described (3) 5:11;109:17;134:3 describes (1) 45:11 design (22) 30:5,8;31:2,3,21, 24;32:5,6,20;33:5; 34:7,8;37:21;55:23; 59:7,19;61:6;64:3; 75:7;95:13,20; 107:24 designs (1) 63:16 desired (1) 100:17 detail (1) 33:16 details (4) 68:20;111:20; 135:23;136:18 determinants (1) 89:4 determine (4) 53:24;57:7;76:23; 98:19 determining (2) 59:10;61:11 develop (1) 50:16 deviates (1) 132:3 Dexter (38) 5:15,16,18;20:5,8, 19,20;24:3;48:15,18; 49:1,2,4,5;51:10; 58:5,8,11;71:24; 94:16;95:2;106:1,2, 5;108:2,11;109:10, 22,23;120:11;121:5, 11;132:20;133:2,4,8, 9,24 Dexter's (1) 132:18 diagram (1) 56:16 difference (13) 27:13;51:23;62:24; 69:11;70:12;81:14; 89:12,19;115:9; 125:13;135:23; 136:19;138:12 differences (2) 32:4;33:7 different (30) 14:2,14;33:5;</p>
--	--	---	--	--

<p>41:14;44:7;47:20; 52:14;54:12;57:13; 61:20;62:14;63:20; 71:14;83:10;88:13; 89:6;91:7;92:6; 102:20,24;112:20; 129:11;130:9; 134:17;135:8,11,12; 137:2,12;138:15</p> <p>differently (1) 52:5</p> <p>differs (1) 13:8</p> <p>difficult (4) 10:1;49:9;85:7; 132:7</p> <p>digging (1) 32:18</p> <p>diplomatic (2) 85:24;87:6</p> <p>direct (10) 9:9;18:10;35:24; 63:18;106:4,12; 108:22;115:1; 120:12;134:22</p> <p>direction (4) 43:2;49:1;75:8; 91:3</p> <p>directly (7) 16:15,23,24;18:12; 19:17;24:15,19</p> <p>disagreed (2) 109:7;114:22</p> <p>disagreement (1) 68:22</p> <p>disallowance (1) 47:9</p> <p>disallowed (1) 118:4</p> <p>disappointed (1) 104:5</p> <p>discomfort (1) 30:15</p> <p>disconnect (2) 122:22;126:17</p> <p>discourage (1) 37:22</p> <p>discuss (2) 48:17;94:4</p> <p>discussed (5) 16:3;50:23;62:3; 120:19;122:23</p> <p>discussion (13) 5:24;17:23;51:14; 94:9;105:21;109:16; 121:10;122:3,10,11, 13,15;139:18</p> <p>discussions (1) 80:13</p> <p>dispute (1) 131:2</p> <p>distinguished (1) 103:8</p>	<p>distribute (1) 109:13</p> <p>Distribution (13) 4:18,19;7:6;35:13; 43:6,12;45:1;51:24, 24;52:2;68:6;106:23; 112:2</p> <p>distribution-related (1) 28:11</p> <p>Divide (2) 58:22;59:1</p> <p>divided (3) 6:20;25:12;107:19</p> <p>dividing (2) 59:4;117:9</p> <p>division (2) 93:13;106:9</p> <p>docket (4) 85:23;113:10; 121:4;127:20</p> <p>dockets (1) 85:21</p> <p>document (10) 5:11;44:13;82:8; 106:10;113:16; 115:3;119:15;120:7; 134:3;135:4</p> <p>documents (1) 109:17</p> <p>dollar (2) 11:14;93:1</p> <p>dollars (3) 11:3;70:19;78:2</p> <p>done (17) 7:22;9:8,17,18,19; 46:1;80:5;83:11; 92:6,9;103:6;104:13; 108:15;111:2;112:3; 131:1;135:12</p> <p>dove (1) 94:16</p> <p>down (32) 9:11;10:21;15:11; 32:17,18;33:12; 36:22;43:13;47:24; 78:22;80:19;81:12; 83:13;84:11,12,13; 85:14;88:7;89:16; 91:22;92:3;93:2,5; 101:6;107:3;117:24; 131:14,18;137:22; 138:3,6,9</p> <p>downtown (1) 91:8</p> <p>Dr (18) 9:21;21:13;32:24; 36:1,10;56:16;67:24; 74:11;77:5;83:21; 86:6,11,20;94:4,15; 98:9;105:8;131:2</p> <p>drag (1) 23:1</p> <p>dragging (4)</p>	<p>73:23;98:14,20,22</p> <p>dramatic (1) 64:3</p> <p>draw (2) 135:15,16</p> <p>drilling (1) 85:9</p> <p>dropped (1) 13:2</p> <p>due (6) 38:23;40:24;78:6; 96:7,11,22</p> <p>duly (1) 105:22</p> <p>during (10) 12:20;14:10;15:2, 3;51:2;58:1;72:17; 86:13;113:8;118:14</p>	<p>effectively (3) 23:18;74:22,22</p> <p>effects (1) 48:5</p> <p>efficiency (44) 8:11,16;11:2;16:5, 13,14;17:6;18:3,9; 19:5,19;21:1,19; 23:10;24:7,8,10; 37:24;38:7;45:18; 47:20;94:21;95:4; 99:23;122:6,9;123:4, 11,18,23;125:9,19; 126:9;127:14,16,20, 21,22;129:3;133:20; 135:10;137:14; 138:14;139:11</p> <p>efficiency-related (1) 123:7</p> <p>efficient (5) 16:20;20:17;22:6; 30:13;74:4</p> <p>effort (5) 30:14;73:13;90:17; 100:22;101:2</p> <p>efforts (3) 22:20;73:14,15</p> <p>eight (2) 110:24;114:13</p> <p>either (12) 19:10;61:12;66:3; 70:1;77:3;81:12; 88:19;92:6;94:18; 106:19;122:15; 130:20</p> <p>elaborate (1) 125:17</p> <p>elderly (1) 61:17</p> <p>electric (20) 8:11;66:3;76:16, 20;79:17,23;81:20; 111:10;112:2;113:4, 9;114:4,10;120:21; 135:17;136:1,10,21; 137:4;138:1</p> <p>element (6) 26:22;38:16;40:23; 87:15;93:3;95:16</p> <p>elements (1) 98:1</p> <p>elevator (1) 86:3</p> <p>eliminated (2) 43:10;130:16</p> <p>eliminates (1) 130:12</p> <p>else (7) 60:17;93:20;100:5; 114:21;115:14; 125:9;127:19</p> <p>elsewhere (2) 72:16,16</p>	<p>elusive (1) 72:9</p> <p>e-mail (1) 111:15</p> <p>emergency (1) 123:11</p> <p>emerges (1) 8:16</p> <p>emphasizes (1) 74:13</p> <p>employee (2) 28:22;111:14</p> <p>employees (1) 111:12</p> <p>empty (1) 36:15</p> <p>encourage (12) 16:17;21:19;23:10; 34:2;36:7;37:23; 68:5;74:19;84:9,20; 97:15;99:23</p> <p>encourages (1) 84:19</p> <p>encouraging (4) 21:10;24:10;74:4; 99:2</p> <p>end (8) 11:24;13:3;15:15; 50:3;65:6;75:20; 81:5;93:11</p> <p>endorsed (1) 87:10</p> <p>energy (60) 8:16;11:1;16:5,13, 14;17:6;18:2,9;19:5, 18;20:24;21:19,23; 23:10;24:7,8,10; 29:15;36:7;37:22,23; 38:7;45:18;74:16,20; 82:5;84:9;85:1,2; 94:21;95:4;97:7,12; 99:23;100:10,19; 122:5,9;123:4,6,17, 23;125:9,19;126:9; 127:14,16,20,21,22; 129:2;133:20;135:9; 137:12,14;138:6,8, 13;139:6,10</p> <p>energy-efficiency (2) 97:8;98:16</p> <p>EnergyNorth (2) 82:10;109:1</p> <p>engineers (1) 21:20</p> <p>enough (5) 43:22;78:9;101:12; 102:23;103:7</p> <p>ensued (1) 51:15</p> <p>ensure (1) 84:21</p> <p>entire (3) 13:6;24:10;85:3</p>
--	---	---	--	--

E

<p>entries (1) 82:14</p> <p>entry (2) 82:9,9</p> <p>environment (3) 87:17;100:6;114:8</p> <p>environmental (1) 23:14</p> <p>equally (2) 24:16;99:24</p> <p>equation (1) 29:20</p> <p>equity (2) 31:10;38:1</p> <p>erosion (2) 77:18;78:6</p> <p>error (2) 4:16;107:6</p> <p>errors (1) 78:14</p> <p>ERTS (2) 106:24;107:3</p> <p>especially (1) 88:18</p> <p>essence (3) 20:1;57:18;119:3</p> <p>essentially (3) 43:5;76:16;124:11</p> <p>established (1) 67:9</p> <p>estimate (3) 80:14,16,17</p> <p>et (1) 11:2</p> <p>evaluate (1) 103:10</p> <p>evaluated (1) 134:17</p> <p>evaluating (1) 63:15</p> <p>even (7) 14:15;46:11;64:2; 79:1;80:7,22;122:23</p> <p>eventually (1) 80:24</p> <p>ever-changing (1) 45:2</p> <p>everybody (8) 13:4;14:24;22:3; 32:7;93:14;123:7; 126:20;127:19</p> <p>everybody's (2) 27:6;97:22</p> <p>everyone (9) 12:16;14:21;74:2; 85:14;99:1;118:5; 123:15,15,16</p> <p>everyone's (1) 15:3</p> <p>evidence (2) 57:14;100:16</p> <p>exact (1) 45:3</p>	<p>exactly (13) 68:18;75:1,18; 83:6;84:8;101:18; 107:5;117:17;120:8; 121:20;122:18; 126:15;138:16</p> <p>EXAMINATION (4) 94:13;98:4;105:2; 106:4</p> <p>example (15) 6:14;7:2;14:3; 21:17;26:1;38:5; 39:18;42:4;88:21; 110:11;129:4,7; 136:14,16,20</p> <p>examples (3) 16:16;41:5;134:13</p> <p>Excel (4) 111:24;114:19,20; 115:10</p> <p>Excellent (1) 82:19</p> <p>except (3) 19:23;55:15;70:9</p> <p>exception (2) 13:12;107:11</p> <p>exceptions (1) 14:21</p> <p>excluded (3) 46:19;70:19; 117:23</p> <p>excluding (1) 48:5</p> <p>exclusively (1) 99:11</p> <p>excuse (1) 68:1</p> <p>Exhibit (34) 4:7;5:12;6:2,3,6; 7:5;37:13;51:22; 62:22;63:2,6;66:6; 82:4;101:11;102:7; 106:11;109:24; 110:1,18;111:21; 112:15;113:15; 115:8;116:11; 128:12;134:1,2,4,7, 12,19,22,23;135:3</p> <p>exhibits (5) 21:12;61:1,2; 109:11,18</p> <p>exist (5) 49:12;50:7;61:5; 87:18;117:7</p> <p>existing (1) 134:18</p> <p>exists (1) 87:18</p> <p>expansion (1) 70:15</p> <p>expect (4) 10:8,10;75:19; 126:13</p>	<p>expected (5) 9:16;10:3;66:22; 71:12;104:19</p> <p>expense (1) 28:24</p> <p>expenses (5) 27:4,6,14;28:4; 29:11</p> <p>expensive (1) 84:16</p> <p>experience (3) 49:20;103:20; 126:16</p> <p>experienced (1) 76:4</p> <p>explain (17) 11:15;15:23;25:14; 31:13;33:1;49:11,14; 53:20;55:22;101:3; 111:22;121:21; 122:19;128:8; 133:16;135:6;136:4</p> <p>explained (2) 9:21;86:11</p> <p>explaining (1) 96:21</p> <p>explanation (2) 4:8;82:13</p> <p>explored (1) 119:18</p> <p>extensive (1) 34:11</p> <p>extent (4) 60:23;64:6;84:24; 105:4</p> <p>extra (5) 24:23;30:14;41:22; 101:23;115:12</p> <p>extreme (1) 40:19</p>	<p>121:15;136:13</p> <p>fairly (5) 15:1;34:8;89:11; 94:22;102:5</p> <p>fairness (4) 31:9;32:14,14;62:2</p> <p>faith (1) 51:7</p> <p>fall (1) 79:15</p> <p>familiar (1) 31:8</p> <p>far (6) 15:10;57:16,19; 63:3,6;88:7</p> <p>fat (1) 21:24</p> <p>feasible (1) 15:18</p> <p>feature (1) 80:22</p> <p>February (2) 40:8,9</p> <p>feel (2) 83:18,19</p> <p>feeling (1) 23:23</p> <p>feels (1) 132:13</p> <p>feet (5) 23:1;73:23;98:15, 20,23</p> <p>felt (3) 32:7;33:21;80:18</p> <p>few (6) 19:6;44:7;72:13; 77:17;78:2;122:2</p> <p>fewer (2) 39:23;74:24</p> <p>fictitious (1) 4:13</p> <p>Fifty (1) 29:6</p> <p>figure (11) 11:14;29:10;58:20; 66:17,21;72:18; 80:10;82:16;113:16; 114:17;117:12</p> <p>figures (2) 116:10;117:14</p> <p>file (2) 103:14;115:10</p> <p>filed (5) 33:7;62:8;63:17, 22;80:9</p> <p>final (1) 24:23</p> <p>financial (3) 23:13;27:19;119:7</p> <p>financial/economic (1) 120:22</p> <p>find (9) 37:17;44:13;47:4,</p>	<p>7;113:16;115:4; 119:13,21;124:20</p> <p>finding (1) 118:18</p> <p>findings (1) 118:8</p> <p>finds (1) 79:6</p> <p>fine (2) 114:19,20</p> <p>fingers (1) 31:11</p> <p>finish (4) 37:11;49:6;139:16, 17</p> <p>finished (1) 48:16</p> <p>first (29) 12:5;14:4,5;19:6; 31:18;39:22;52:2,10; 67:6;77:22;82:6; 103:19;104:4,7,8; 108:9,14;109:24; 110:11;111:15; 113:19,22;117:14; 118:4;120:17;122:4, 7;124:7,10</p> <p>fit (1) 76:21</p> <p>five (4) 31:2;49:8;50:6; 51:5</p> <p>fix (1) 17:18</p> <p>fixate (1) 84:6</p> <p>fixed (27) 30:21;33:11,12; 34:1,19;35:3,11; 36:16;37:2;59:16; 60:2,15,16;61:11,22; 74:22,24;75:2,12,17; 92:16,19;95:10; 96:16,17,24;97:1</p> <p>flattened (1) 60:20</p> <p>flattening (1) 53:15</p> <p>flip-side (2) 26:3;43:20</p> <p>flow (16) 8:7;17:14;25:11, 12,13,17,20,22;27:3, 3,12;28:5;29:18,20; 133:21,22</p> <p>flow' (1) 25:21</p> <p>flows (5) 27:1,14,22;50:22; 60:17</p> <p>fluctuation (1) 123:19</p> <p>fluctuations (8)</p>
			F	
		<p>fact (16) 12:8;38:14;41:24; 46:1,16,19;52:13; 53:15;79:4;86:1,14; 88:12;98:23;112:23; 117:13;127:1</p> <p>factor (16) 15:12;17:2;29:19; 41:18;57:22,22;65:5, 7,12,17,18,19;66:8, 13;114:6;123:10</p> <p>factors (5) 11:8;14:14;47:17; 49:20;57:1</p> <p>facts (1) 82:12</p> <p>fair (11) 14:9;18:15;30:23; 37:7;62:2;79:7; 81:16;99:10;103:7;</p>		

16:12;24:11;26:19; 41:15;42:16,19; 123:6;125:8 focus (5) 11:13;22:5;78:2; 100:3;110:17 focused (1) 46:4 focusing (2) 118:10;122:8 follow (2) 132:7;136:3 following (6) 7:3;40:4;70:7; 92:24;93:1;132:4 follow-up (2) 93:24;94:2 fooled (1) 91:4 foot (6) 61:16,17;75:3,3; 99:6,7 forecasting (2) 76:6,9 Forget (1) 22:4 forgot (1) 91:15 form (2) 7:16,16 format (3) 66:6;113:10,11 forth (5) 18:14;57:18;84:17; 123:22;136:6 forty-nine (1) 110:24 forward (5) 57:24;60:22;61:4; 75:13;78:21 foster (2) 19:5;20:24 fostering (3) 16:5;18:2,9 found (1) 48:21 four (4) 17:23;19:14;31:2; 49:8 four-page (1) 135:4 frankly (2) 47:7;50:22 freezing (1) 10:21 frequent (1) 77:3 front (3) 4:7;6:14;49:17 frustrating (1) 97:23 fuels (1) 76:15	full (15) 7:15;8:1;9:2;18:20, 22;36:14;49:16;51:7; 87:16;95:24;103:24; 105:4;130:11; 136:11;138:2 fully (2) 18:23;103:16 function (1) 26:7 fundamental (2) 33:6,20 furnace (4) 39:8;40:14,18;92:9 further (4) 25:1;37:8;64:7; 75:16 furthermore (1) 84:12 future (3) 37:1,9;92:14	12:14;74:16;95:14; 100:10;102:1;128:20 gives (2) 69:17;132:7 giving (3) 16:16;39:14;128:6 glass (1) 36:14 goal (8) 21:6,18;24:15,16; 30:8;35:4;37:22; 133:20 goals (11) 16:3;23:17;25:8, 10;30:5;31:3,14,19; 33:6;34:9;103:23 goes (9) 41:1;43:1;50:13; 88:8;96:4;100:15; 116:9;126:16;128:19 Good (19) 12:12;14:3;22:11; 35:19;36:4,9;39:4; 51:18,19;74:9,10; 83:18,19;105:8,10, 13;127:19,24;128:23 gosh (1) 104:3 gradual (1) 37:8 gradualism (2) 32:13;37:5 gradually (1) 8:16 grand (1) 63:3 Granite (1) 114:4 granular (5) 88:2;90:14,24; 102:23;103:5 granularly (1) 90:18 great (3) 22:1;56:16;76:20 greater (2) 47:12;98:1 green (1) 4:11 greenhouse (1) 74:17 Greenwich (2) 88:24;89:13 Grid- (1) 82:9 ground (1) 82:12 group (1) 42:5 groups (1) 23:14 growth (3) 76:4,6,9	guess (12) 6:3;11:4;28:23; 29:2;49:20;51:4; 52:24;66:18;77:10; 81:18;114:19;119:19 H habits (1) 92:13 half (3) 36:14,15;86:24 Hampshire (10) 55:4;56:18;59:21; 89:17;100:11;101:8; 102:21;123:2; 127:21;137:17 hand (2) 109:10;134:1 handed (1) 134:7 handle (1) 26:18 happen (11) 6:13,16,23;8:2; 11:9;23:11;26:13; 28:22;41:16;75:19; 96:3 happened (4) 6:7;14:8;57:4; 97:14 happening (4) 8:22;60:19,24; 72:16 happens (9) 6:10;8:7;12:17; 26:21;40:23;47:16; 91:20;125:3;126:18 happy (2) 20:9;73:24 hard (12) 22:7,12;23:12; 31:19;72:8;78:23; 81:4;84:7,22;85:15; 98:24;132:4 harder (1) 85:12 harming (1) 34:15 Hartford (2) 88:23;89:13 haul (1) 81:2 head (5) 31:7;52:3,15,17; 105:19 Health (1) 114:9 hear (5) 77:6;86:21;123:20, 23;132:18 heard (9) 17:24;25:8,10;	30:6;75:10;77:1; 86:24;102:22;127:6 Hearing (4) 4:2;73:17;86:17; 139:22 heart (1) 117:21 heat (1) 30:16 heating (12) 11:19;53:21;54:2, 22,24;55:1,9,10,11; 67:11;70:23;90:4 heavily (1) 34:24 help (7) 19:10;21:5;26:21; 46:9;74:21;77:20; 102:11 helpful (2) 76:2;133:2 helping (2) 22:6;100:23 Helps (4) 21:7;23:17;26:24; 56:22 here's (1) 55:3 herewith (3) 5:12;109:18;134:4 hesitate (1) 117:19 high (9) 38:3;57:21;65:4,6, 7,20;74:22;75:2;97:1 higher (7) 34:19;37:20;38:22; 42:3;55:20;129:13, 14 highest (2) 33:11;66:13 highlighted (1) 137:10 high-load (3) 65:12,18;66:12 high-usage (3) 65:12;66:8,12 high-use (2) 65:16,17 holds (1) 16:11 home (1) 16:20 homes (1) 16:18 HONIGBERG (38) 4:3;5:14;19:22; 20:3,16;23:22;48:24; 51:12,16;52:23;53:6; 58:5,10,14;64:14,17; 71:7;74:6;82:2; 86:18;91:12;93:19; 94:8,10;104:22;
	G			
	gaining (1) 17:12 game (1) 16:9 gas (43) 14:20;15:2;22:18; 23:3;29:4,12;35:2; 38:16;44:19,21,24; 45:20;61:19;65:8; 66:1,3;75:3;76:14, 21;79:13,22;82:10, 23;83:5;85:10;88:23; 99:7;106:8;111:10; 112:3,8;114:9,10; 120:21;126:13; 127:3;130:15; 135:17;136:1,10,21; 137:4;138:1 gases (1) 74:17 general (2) 29:7;88:8 generally (1) 14:13 generous (1) 38:2 gentlemen (4) 74:9;82:1;103:8; 105:18 geographic (1) 88:2 gets (6) 13:5;52:8,11; 58:16;78:11;99:15 Gaiimo (2) 74:7,8 give-and-take (2) 34:23;36:21 given (6)			

105:17;106:1; 108:10;109:14,20; 121:8;131:14,17; 132:6,16;133:7; 139:13,19 hope (1) 139:15 Hopefully (2) 73:17,24 hoping (1) 21:10 hotly (1) 86:13 hour (13) 101:13;111:6,6; 116:6,17,18,19,20, 23;117:4,5,17,18 hours (26) 110:4,4,13,17,22; 111:2,14;112:2,10, 19;113:17,23;114:11, 13,15,16,16,18; 115:12,19,23;116:14; 117:9,11,13,16 house (5) 23:3;30:17;40:13; 61:16,17 human (1) 23:7 hundred (3) 45:7;110:24; 114:13 hurt (3) 19:10;21:5,11 hybrid (2) 9:19;49:16 hyperbole (1) 85:22 hyperbolic (1) 86:22 hypothetical (6) 7:2;11:12,17; 12:14;35:18;41:19	22:5;78:17,18; 100:4 ignored (2) 46:3;82:18 ignores (1) 45:17 ignoring (1) 132:12 illustrative (1) 101:20 impact (14) 19:10;21:6;30:13, 17;61:19,20;62:7,12; 63:16;64:22;66:10; 135:9;139:5,10 impacted (1) 31:14 impacts (8) 31:22;32:8;36:18; 46:19;61:10,14;64:5; 121:19 implement (2) 80:15;137:3 implementation (1) 51:9 implemented (6) 44:5;50:12,15; 134:14;137:11;138:2 implementing (3) 137:19,20,20 importance (3) 33:5;38:19;61:10 important (10) 15:12,18;17:11; 29:12;31:20;35:14; 38:11;84:2;100:1; 121:21 importantly (1) 34:17 imprecise (1) 48:13 improve (1) 102:7 improved (2) 25:22;102:8 improves (3) 25:20;28:3,5 inappropriate (1) 104:7 incentive (9) 23:13;25:4;33:14; 68:16;72:3;73:19; 97:6,11;100:3 incentives (1) 100:2 incident (1) 67:8 inclining (1) 59:22 include (5) 15:16;83:1,14; 109:7;111:9 included (6)	6:22;66:19;70:17; 114:18;116:10; 125:13 includes (2) 43:12;98:13 including (3) 95:7;105:5;124:7 inconsistency (1) 90:23 incorrect (1) 39:16 increase (6) 32:3;63:12,14; 66:9,15;119:19 increased (3) 24:7;117:10; 119:23 increases (1) 64:12 increasing (1) 33:13 incremental (2) 115:20;117:7 independence (1) 74:17 indicate (1) 115:20 indicated (2) 48:2;88:4 indicates (3) 12:9;37:14;44:18 indicating (1) 44:3 individual (7) 14:16;33:14;56:23; 61:13,21;72:10; 93:16 individuals (1) 125:10 industrial (1) 57:21 ineffective (1) 133:18 inefficient (1) 75:5 inevitably (1) 78:4 influenced (1) 10:4 information (9) 29:8;62:7;84:6,15; 90:6,7;101:2;111:18; 112:24 infrastructure (1) 92:13 inherent (2) 35:12;85:12 in-house (1) 80:5 initial (3) 104:12,14;116:2 insist (1) 36:21	insofar (1) 21:15 installed (1) 92:9 instance (2) 35:17;54:23 instances (2) 95:22,23 instead (1) 13:23 instituted (1) 44:22 insufficient (1) 103:4 insulated (1) 23:3 insulation (5) 16:18;30:12;38:13; 39:9;84:16 intended (4) 46:24;116:3; 121:16;135:7 intends (1) 135:8 intent (1) 47:24 interest (1) 33:15 interested (4) 49:24;72:20;91:4,5 internally (1) 73:14 interrupt (2) 123:14;136:2 interrupts (2) 73:10;86:8 into (29) 7:10;9:16,23;16:2; 18:7;24:6;25:12; 30:20;32:13,18; 45:13;46:2;49:10; 55:3;58:21;59:8; 78:11;94:16;96:10; 99:15;100:15,22; 101:3;107:19; 110:21;114:6; 120:17;131:15,18 inverse (1) 55:18 inverted (1) 79:22 invest (3) 39:3,5;97:7 investing (1) 30:12 investment (1) 96:10 investor-owned (3) 82:24;83:4,16 involved (1) 32:12 Iqbal (18) 48:5,7,17,19;	105:22;106:8,10,16; 107:11,19;109:24; 120:4,6,8;121:12; 132:20;133:6;134:6 Iqbal's (4) 45:21;46:23;71:2; 108:4 issue (20) 17:3;49:22;58:7; 62:14;70:11;77:9; 79:12,19;80:8;84:8; 91:21;95:20;117:24; 124:20;125:22; 129:2,24;133:21,22; 138:18 issues (7) 17:17;50:5,6;51:9; 57:23;77:10;78:1 item (7) 29:12,23;40:2; 46:21;49:22;82:15; 101:23 items (3) 8:10;46:3;51:5 iterations (2) 32:6;34:14
J				
January (2) 40:19;98:17 Johnson (88) 7:24;9:21;10:19; 11:17;12:19;14:3,19; 15:5,7;16:7;21:13, 16;22:22;24:9,17; 25:18,22;27:10;28:9, 12,17,20,22;29:9,16, 21;30:10,24;31:5; 32:24;33:4;36:10,12; 37:21;39:17;41:7,13; 42:12,17;53:10;57:3, 14;58:24;60:10,16; 62:5;63:24;69:21; 72:5;73:11;74:11,15; 75:14,21;77:8;79:13; 80:6;83:21;84:1,7; 85:24;86:6,11,20; 87:5;90:12;91:11,20; 92:5,18;94:4,15;95:5, 12;96:3;97:11;98:3, 9,10,21;99:5,14; 100:21;103:19; 105:8,9,13;131:2 Johnson's (4) 36:1;56:16;67:24; 77:5 joint (1) 102:15 judgment (2) 32:17;103:12 jump (2) 7:24;21:16				

<p>June (1) 115:5 justification (1) 80:4</p> <hr/> <p style="text-align: center;">K</p> <hr/> <p>Keene (1) 62:12 keep (4) 16:16;68:13;81:13; 84:23 kind (17) 11:3,7;15:20; 36:13;62:24;65:8,20; 66:11;72:24;75:7,11; 77:12;86:2;90:18; 97:14,23;101:12 kinds (3) 21:21;38:24;99:21 Kiwanis (1) 73:16 knowable (3) 90:6,8;118:15 knowing (1) 89:17 knowledge (1) 111:10 known (2) 118:14;138:22 knows (1) 126:20 KREIS (19) 19:12;20:1,13; 23:21,24;24:1;86:5,9, 19;87:2;94:6;98:5; 104:20;131:12,16,20; 132:11,19;133:3 Kreis's (2) 20:9;23:19</p> <hr/> <p style="text-align: center;">L</p> <hr/> <p>labeled (1) 7:6 labels (1) 4:10 laid (2) 56:16;90:9 large (5) 43:17;64:22;88:19; 96:6;98:24 larger (1) 97:3 last (12) 80:1;87:23;104:24; 108:12,15;110:12; 111:15;112:5;113:8; 116:7;130:17;135:4 late (1) 117:19 later (3) 124:20;125:3;</p>	<p>131:9 latest (1) 113:5 layer (1) 128:19 LDAC (7) 6:23;7:4,5;18:11; 24:6;66:19;94:18 LDCs (1) 44:4 least (7) 17:11;100:21; 102:23;104:11,12,14; 134:14 leave (2) 113:22;136:3 led (1) 112:24 left (3) 63:1;77:12;110:14 leisure (1) 11:7 less (25) 39:24;42:11;66:10; 76:9;84:17,24;85:4; 91:18;92:23,24;93:1, 6;96:9;99:2;100:5; 126:22,22;127:18; 128:7,15,16,17,23; 130:23;138:3 level (12) 15:12;36:22;43:14, 15,23;71:13;124:5, 22;125:1,2,3;138:24 Liberty (10) 4:12;34:12,19; 81:21;82:7,8;89:5; 101:17;119:17; 120:22 Liberty's (1) 54:13 life (1) 16:21 light (1) 119:8 limit (2) 46:9,13 limitation (1) 46:20 limitations (1) 45:11 limited (3) 46:12;47:13;99:10 limiting (2) 46:14;47:23 limits (2) 45:14,15 line (24) 4:14,15,20,22;5:3; 7:5;11:13;19:8;21:3; 24:23;25:23;26:16; 40:2;45:10;48:13; 49:22,23;63:6,9;</p>	<p>81:9;82:15;94:15; 101:23;111:7 lined (1) 26:17 lines (3) 5:8;85:19;113:18 link (9) 16:4,8;18:2,9,21; 20:24;22:8;35:5; 123:21 linked (6) 16:23,24;23:13; 95:19,20;96:16 list (1) 82:20 listed (2) 49:8;83:5 listing (1) 82:6 literally (1) 33:9 little (31) 8:14;11:3;16:10; 26:10;32:24;36:16; 42:2,5;47:7;52:6,12; 55:17;66:10;71:14; 76:19;77:18,23;79:4; 85:21;90:17;92:8; 94:23;98:18;104:4; 125:17;131:9,13; 134:24;137:2;138:3, 4 live (5) 61:15,16,18;89:23; 91:9 load (5) 57:22,22;65:5,7; 68:17 locations (1) 54:12 locking (1) 10:21 logical (1) 8:24 long (6) 17:5;33:1;81:2,24; 131:20;132:7 longer (4) 22:9;24:11;53:14; 73:22 long-run (1) 78:13 long-term (3) 33:3;99:3;104:1 look (47) 4:17;5:2;6:4;11:6, 10;13:13;33:23;34:2; 49:23;55:4,5;56:19; 61:13;62:1,15;63:5, 18,19;64:22;65:13, 15;67:13,20;70:22; 71:2;72:12,14,15; 75:12;77:22;100:15;</p>	<p>101:18;104:7,9,13; 111:4;114:24;116:7; 117:3;118:1;122:10; 123:2,5;124:12; 127:14,20;130:2 look-back (2) 72:6;103:9 looked (3) 62:11,12;120:2 looking (11) 36:12,14;39:17; 44:14;46:8;70:1; 79:17;99:4;112:1; 113:23;118:17 looks (1) 101:23 loss (6) 79:3;122:6,14,15, 17;123:10 lost (6) 4:24;98:13;99:9, 11;123:3;134:19 lot (19) 8:14;11:2;16:10, 19;21:23;22:22;23:3; 29:10;34:18;47:16; 50:10;59:18;61:19; 84:12,13;88:12; 100:22,24;102:4 lots (4) 21:24;111:13,17; 129:22 low (6) 57:22;65:5,7;75:2; 117:13,15 lower (9) 33:12;38:23;42:4; 55:15;60:13;75:12; 96:4;129:12,12 lowering (3) 34:1;36:15;37:2 low-load (3) 65:17,19;66:8 LRAM (10) 72:24;85:20,23; 86:14;87:12,12; 91:21;100:1,7; 122:15 lumpy (1) 65:21 lunch (3) 4:5;5:19;101:13</p> <hr/> <p style="text-align: center;">M</p> <hr/> <p>magic (1) 32:16 magnitude (1) 34:21 maintained (1) 89:3 maintains (1) 89:6</p>	<p>major (1) 61:6 majority (1) 95:23 makes (2) 35:9;101:7 making (4) 22:16;71:5;92:11; 101:17 manage (1) 29:22 managed (1) 70:15 management (5) 27:23;34:12; 113:19;114:5;119:1 managing (1) 26:17 Manchester (1) 90:1 manufacturing (2) 65:10,11 many (10) 10:9;16:14;44:24; 69:6;85:15;92:14; 95:22;110:8;112:1,2 March (4) 15:13,15,15,16 marginal (3) 33:19;56:19,21 marked (10) 4:6;5:12;19:9; 21:4;106:11;109:18, 21;134:2,4,23 market (4) 76:14,17;85:3; 96:10 market-oriented (1) 99:19 match (2) 27:6;72:11 matches (1) 51:1 material (2) 69:11;89:12 materials (1) 50:17 math (3) 4:16,23;60:21 mathematics (1) 69:19 matter (3) 22:15,16;97:23 maximize (1) 38:7 maximum (1) 37:24 may (17) 4:4;21:18;32:2; 37:1;42:21;46:11; 48:12,12;61:15,17; 81:1,1;82:11;83:23, 24;88:15;96:3</p>
--	--	--	--	---

<p>Maybe (16) 7:24;24:18;32:24; 44:9;46:8;65:21; 69:3,3;79:4;93:7; 94:6;102:8;104:22; 114:22;115:13; 138:10 mean (15) 12:15;27:11;29:22; 69:3;75:5;88:8; 89:22;93:9;98:10; 105:11;120:1,2; 123:15;131:13;139:1 meaning (2) 65:8;101:15 means (2) 53:22;93:11 measurable (1) 139:5 measure (4) 15:11;73:2,6;91:6 measurement (1) 88:5 measurements (4) 88:1,2;90:9,10 measures (2) 16:14;97:8 mechanical (1) 8:19 mechanically (1) 24:19 mechanics (3) 17:8;57:17;92:19 mechanism (31) 15:24;18:14;30:9; 31:15;43:7;44:5,22; 46:11;48:4,6;68:3; 86:15;94:19,20; 98:14;99:10;102:9; 103:1;104:18;105:5; 121:13,16,22;122:17, 18;123:3;125:6,7; 127:1;136:5;137:21 mechanisms (6) 9:16;15:22;18:6; 134:9,14;138:15 memory (1) 58:6 mention (1) 63:24 mentioned (3) 6:18;34:14;61:9 MEP (1) 70:13 mess (1) 54:4 met (1) 118:15 meter (3) 68:9,10;106:24 metered (1) 102:1 Meters (1)</p>	<p>107:3 method (1) 73:4 methodology (3) 71:20;124:17; 125:16 microphone (2) 131:15,19 middle (1) 63:1 might (20) 11:9;63:24;66:3; 69:22;73:9;75:21; 77:5;78:3;81:3;86:6; 92:23,24;93:1; 100:17;101:4,9; 128:7,22;135:22; 136:18 mild (1) 40:24 milder-than-normal (1) 26:13 million (8) 8:6;55:24;56:8,10, 13;58:20;59:12,13 mind (4) 11:4;69:22;84:23; 88:16 mindset (4) 22:17;24:9;99:1,15 minimize (1) 51:9 minimum (2) 68:8;100:21 minor (1) 38:9 minus (1) 46:22 minute (4) 7:24;48:16;115:2; 119:13 minutes (2) 19:6;64:15 misconception (1) 42:22 misreading (1) 52:21 mitigate (1) 19:18 mixture (1) 28:4 model (4) 76:10,11,13; 137:12 modeling (1) 73:4 moderate (1) 64:11 moderating (1) 64:7 module (1) 63:17 moment (5)</p>	<p>30:4;44:12;46:6; 92:1;94:24 Monday (3) 108:9;139:15,16 money (11) 8:9;22:23;26:5; 27:16;42:10,11; 43:15,18;77:12,23; 131:3 month (26) 8:5;12:3;13:8,17, 18;14:11,20;26:11, 12;38:23;39:15,18; 40:2,16;41:21;55:13; 60:2;69:6,16,24; 70:1;97:22;102:17; 124:4;136:22,24 monthly (13) 7:20;9:1;69:14,15; 129:21;131:6,7,8; 132:22;133:11,15; 136:11;137:7 months (2) 8:7;127:2 more (90) 9:9;10:24;11:21; 14:15;16:18,20; 20:17;22:6,20,22; 23:17;24:15,19;25:5, 5,6;30:1,12,13,18,20; 31:19;34:17,24;35:8, 8;36:5,16,37,3; 38:15,17;41:3;42:10; 50:20,22;61:19;64:2; 65:8;70:16;73:2; 74:1,4,20,22;75:12; 77:3;81:18;84:13,16, 19,22;85:6,6;86:2; 90:14,16,17,17,24; 92:12;93:4,17;95:13; 97:7,12,19;99:18; 103:24;110:8; 111:19,19;114:3; 115:9;122:3;125:18; 126:13,14,16,21,21; 127:3,11,17;128:4,7; 130:21;131:9;134:1; 136:14,16 morning (8) 17:23;25:9,10; 30:6;47:18;91:16; 92:3;108:9 mortgage (1) 16:19 most (7) 14:19;31:1;49:21, 22;50:1;79:14;92:5 mostly (1) 65:22 motivating (1) 17:1 move (4) 20:14;61:12;87:12;</p>	<p>132:17 moved (4) 14:11,22;30:20; 104:3 moves (1) 36:5 moving (2) 33:10;114:1 much (27) 19:23;31:21;35:2; 36:19;37:23;56:20; 57:19,20,21,21;61:3, 12;67:21;73:2,6; 74:1;78:24;82:3; 85:2;87:16,20;89:19; 90:16;95:13;96:21; 128:17;139:5 Mullen (3) 114:22;115:11; 116:16 Mullen's (2) 111:5;115:15 multiplied (1) 67:17 multitude (1) 47:20 municipally-owned (1) 83:3 munis (1) 83:14 myself (3) 21:13;82:16;90:19</p>	<p>81:12 negotiation (3) 7:17;49:16;81:10 negotiations (3) 36:21;80:7;86:14 net (3) 11:3;41:23;53:13 neutrality (1) 100:8 new (20) 4:14;32:9,22;53:2; 55:4;56:18;59:20; 68:6,7;70:7;85:4; 89:1,16,17;100:11; 101:8;102:21;123:2; 127:21;137:17 next (17) 12:23;42:20;65:14; 66:16;72:14,22; 75:19,24;77:17; 91:19;92:3,23;107:3; 136:22;137:13,23; 138:4 nice (4) 21:22;23:8;72:23; 96:19 NOAA (2) 54:4,6 N-O-A-A (1) 54:6 nobody (1) 82:16 nodding (4) 31:5,6,7;42:13 non-conserving (2) 128:17;129:13 none (2) 96:23;120:19 non-LRAM (1) 100:8 non-programmatic (1) 99:24 nonrevenue (1) 6:16 nonweather (2) 9:23;10:23 nonweather-related (1) 6:17 Nor'easters (1) 88:12 Normal (34) 5:3;11:13,20,21; 12:3;19:9;21:11; 25:19,23;37:15;39:2, 6,18;40:2,2,6,7,9,9, 15;41:12,20,22;42:8; 43:4,11,15,21;50:3; 53:23;55:8,12;127:2, 4 Normalization (21) 16:1;17:4;18:13; 21:4;24:21;25:2,18, 23;49:19;53:13;77:2;</p>
N				
			<p>name (2) 111:15,15 narrative (1) 132:8 National (3) 54:5;82:9;102:20 Natural (4) 82:10;88:22;112:3, 8 nature (5) 8:1,18;26:24; 92:10;99:22 nearly (1) 40:19 neat (1) 72:23 necessarily (3) 68:17;84:14;100:4 need (16) 9:1,5;18:23;19:20; 43:24;61:13,23;62:1; 70:9;77:3;85:1,2,4; 87:12;89:6;126:8 needs (1) 120:21 negatives (1) 10:9 negotiate (1)</p>	

<p>79:11;95:15;105:6; 121:24;124:8,15,16, 20,21;129:6 normalize (1) 136:8 normalized (1) 102:3 normalizing (2) 48:4;125:5 Normally (1) 28:20 normals (1) 55:3 Normand (1) 108:8 noticeable (1) 78:9 November (2) 53:5;106:13 number (46) 4:21;10:1;11:17; 13:3;14:2;39:20; 44:4;45:2,3;54:20; 56:9;58:22;60:5,16; 66:23;67:17;69:9,10, 19;80:3;81:10;83:7; 90:4;92:17;93:13; 103:3;107:2;110:3,4; 111:9;112:19,19; 113:5,14,23;114:10, 12;115:7,7,10;117:8, 10;129:12;130:20; 134:19;137:17 numbers (4) 4:13;8:21;100:24; 107:8</p>	<p>OCA's (4) 7:12;17:12;33:8; 74:12 occur (1) 121:17 occurred (2) 12:19;51:2 occurs (1) 13:7 Oceanographic (1) 54:5 off (15) 30:16;51:12;86:1; 94:6,9;99:6;105:20, 21;109:14,16; 110:14;121:8,10; 139:16,18 offer (1) 80:21 office (1) 4:6 off-the-record (1) 51:14 often (3) 89:23;95:24;96:3 old (1) 53:7 once (12) 8:17,22;11:10; 13:8;60:16;70:1; 74:2;79:16;80:8; 92:12;96:5;100:17 one (76) 4:16;10:20;13:2,3, 24;14:23;15:18; 17:24;18:21,21; 24:15,18;25:8,9,18, 19;26:8;31:19;32:2; 33:6,11;38:23,24; 44:10;46:6;48:9; 51:13;52:16,17; 53:12;59:23;60:1; 61:12;65:13,14;70:4; 74:11;75:3,3;77:8,10, 24;79:6,10;81:1,18; 83:18,19;84:22; 91:15;92:18;94:1; 99:14;102:22; 104:24;106:21; 114:15;115:1; 119:13,20;123:1; 128:10,10,12,16,19; 129:4,5,9;131:9; 133:3,17,24;136:19; 138:3,4 one-by-one (1) 17:22 one-plus (1) 137:22 one-way (1) 86:3 only (27) 13:2,8;14:5;15:14;</p>	<p>37:22;39:21;45:17; 52:8;66:18;69:21; 74:18;79:12;86:4; 98:17;100:7;103:19; 104:3;106:21; 111:14;112:4; 113:12,14;125:7,13; 126:19;130:9;132:10 on-the-fly (1) 116:17 on-the-job (1) 120:24 operates (1) 102:21 operating (1) 44:1 opinion (1) 34:6 opportunity (9) 17:15;35:7;79:8; 102:17;103:16; 104:12,17;130:5; 131:9 opposed (3) 10:5;76:11;102:2 opposite (1) 43:2 option (1) 119:18 optional (1) 9:3 options (1) 120:23 orange (5) 4:15,20,22;5:3; 39:22 order (4) 43:24;89:8;122:14, 24 original (8) 5:23;6:8;7:10;9:7; 17:1;44:3;50:21; 134:20 originally (3) 9:13;27:18;70:8 others (2) 65:9;75:22 otherwise (2) 26:4;101:4 ought (1) 22:23 ourselves (1) 101:17 out (37) 11:23;12:24;16:19; 29:20;30:9,21;38:19; 39:7;41:12;50:5,9; 54:21;56:16;58:20; 66:17,21;67:7;70:14; 72:18;73:16,19;79:5; 80:10;81:7;82:17; 90:9;92:19;96:9; 98:15;109:11;124:4;</p>	<p>125:8,15;126:13; 134:1,7;135:19 outset (2) 19:3;20:22 outside (1) 54:24 over (28) 8:6,16;12:4;13:4; 16:21;21:12;22:14; 33:1;34:13,18;36:2; 39:7;40:20;52:10; 55:5;68:5;77:17; 81:2;85:10;93:1,4; 97:19;101:13; 121:17;129:17; 137:23;138:4,4 overall (4) 130:2;131:7,10; 137:3 over-collection (1) 43:18 overcome (1) 50:8 overpay (1) 8:8 overpaying (1) 43:5 oversimplify (1) 78:16 overstate (1) 41:14 overwhelmed (1) 29:23 own (5) 17:7;69:4;93:15, 15;132:13</p>	<p>papers (1) 64:1 paradigm (1) 132:3 paragraph (2) 9:11;120:16 paraphrasing (1) 75:10 parents (1) 61:18 park (1) 26:6 parking (1) 26:9 part (24) 4:15;6:22;14:10, 23;15:24;17:19; 18:11;19:24;25:3; 31:18;32:23;39:19; 46:14;63:23;73:8; 81:17;88:6;92:22; 95:8;102:14;104:12; 110:2;123:12;134:16 partial (3) 46:10,12;136:12 particular (21) 7:1;12:3,20,22; 13:7;14:8;26:11,24; 33:21;34:16;38:8; 40:15;60:10;72:6; 80:24;87:15;92:21; 111:17;112:3; 115:17;135:14 parties (5) 7:15;57:16;60:12; 72:21;138:23 partly (1) 4:17 parts (1) 15:23 pass-back (1) 12:9 past (4) 55:6;58:2,2;87:12 pattern (2) 40:20;61:4 pay (19) 14:7;16:20;27:7; 29:1,4,14;38:15; 39:19;40:10,12; 43:15;49:24;59:13; 60:3;70:15;126:14, 16,21;130:23 paychecks (1) 28:15 paying (3) 12:1;38:17;43:14 people (22) 16:15;17:5;21:18, 20,21;23:6,16;35:1; 39:1;49:23;74:4; 78:18,19;81:7;83:23; 84:6,14;97:15;99:2;</p>
<p style="text-align: center;">O</p> <p>object (1) 19:13 objection (1) 124:7 objective (1) 19:11 objectives (1) 102:12 observation (1) 124:12 observe (1) 99:4 observed (1) 94:21 obtaining (1) 95:15 obviously (7) 15:8;29:10;33:4; 36:12;79:14;96:9; 133:2 OCA (10) 36:20;37:1;50:16; 51:8;75:11;77:12,20; 79:3;102:15;122:21</p>			<p style="text-align: center;">P</p> <p>package (4) 17:10,24;91:2; 95:16 Page (33) 9:10;45:10;50:12; 62:18,19;64:24;65:1; 71:2,8,10;82:7,21,22; 106:23;107:3; 108:24;110:11,12,18; 111:6;113:20;114:8; 115:6;118:5,7; 119:16;120:5,12,14; 134:23;135:2,3,4 pages (4) 33:9;62:10;110:9, 14 paid (2) 39:21;99:12 panel (7) 18:4;20:10,12; 76:22;123:20; 126:23;127:9 panels (1) 130:19</p>	

101:3;102:17;118:16 people's (2) 73:7;84:10 per (25) 9:12;22:10;45:23; 46:2,17;56:14;58:21; 59:6;67:9,14;68:4; 69:10,15;70:20; 91:19;92:15,21;93:9; 96:7,11,16,19;116:6, 20,22 percent (44) 11:15,15,19,20; 12:13,17;13:14,19; 18:4;26:9;29:5,6,7; 32:2;38:1;41:18,20, 21,24;42:3;46:13,22; 47:3,4,10,13,13,23; 53:22,23,24;58:16; 63:14;64:11;66:10, 15;70:16,18;76:17; 89:14,14;137:23; 138:3,4 percentage (11) 29:3;58:1;129:8,9, 10;130:14;135:10; 137:15;138:7,8,10 per-customer (2) 66:23;76:10 perfect (1) 37:21 perfectly (4) 8:17;12:2;20:9; 40:1 perform (2) 111:16;137:14 performance (2) 96:22;139:11 performed (3) 56:22;110:5;113:8 perhaps (2) 77:20;81:3 period (3) 15:2;72:17;104:14 periodically (2) 9:7;11:6 permanent (1) 92:10 person (4) 8:3;128:12,14,16 personal (1) 30:19 perspective (6) 17:12,12;32:21; 35:6;36:8;97:2 persuasive (1) 34:3 phenomena (2) 39:12;127:13 phenomenon (1) 99:3 phone (1) 80:12	piece (9) 6:17;9:23;10:11, 12,23,23;18:21,22; 24:23 pieces (4) 7:11;18:23;24:12; 94:17 pinned (1) 60:17 pipelines (1) 85:4 plant (4) 109:8;119:9; 124:10;134:10 places (1) 44:8 plain (1) 47:9 plan (4) 70:15;100:14; 102:15;103:11 plane (1) 93:8 plant (3) 65:10,11;106:23 play (4) 9:16;10:14;59:8; 60:7 please (10) 36:11;46:6;51:22; 106:6,7;108:23; 110:19;118:7; 120:17,24 plus (1) 46:22 pm (3) 4:2;64:16;139:23 point (30) 19:13;27:11;32:7; 33:17;36:13;41:17; 48:13,22;50:8;60:22; 71:6;81:7;83:22; 90:19;91:24,24; 96:13;98:15;103:22; 104:10;111:18; 116:14;118:4,5; 129:8;135:19; 137:16;138:16,21; 139:4 pointed (1) 50:5 points (1) 103:1 policy (9) 23:17;33:6,17; 84:17;102:11; 125:18,20,23;130:3 policy-maker (1) 125:22 politicians (1) 84:3 poor (2) 48:12;96:21	poorly (1) 23:2 populated (1) 85:8 population (1) 83:2 portion (16) 6:10,19;7:13;12:2, 22;18:11;43:12; 62:21,23;63:1;84:11; 95:11;97:3;108:6; 122:14;129:20 position (11) 20:7;33:21;47:6; 58:6;73:9;117:22; 126:2;139:1,2,3,8 positive (1) 68:22 possibility (2) 37:8;69:21 possible (6) 13:11,20;37:23,24; 38:4;94:3 potentially (3) 72:15;73:12;77:14 pouring (1) 22:1 Power (6) 135:16,18,21; 136:5,8;137:19 practicable (1) 91:1 practical (2) 7:19;9:22 precise (2) 14:24;73:6 precision (3) 10:2;15:10,12 preclude (1) 37:8 predict (2) 26:7;96:8 predictable (1) 30:2 prefer (1) 68:4 prefiled (1) 107:13 premise (1) 92:15 premium (1) 70:19 prepared (2) 64:1;111:23 present (1) 58:1 presentation (1) 102:5 presented (1) 45:22 preserves (1) 57:19 press (1)	32:16 pressure (2) 84:24;85:3 pressures (2) 85:5,13 pretend (1) 27:16 pretty (7) 29:12;60:21;61:3; 64:10;73:5;89:18; 90:20 prevents (1) 75:15 previous (6) 13:17;15:17;113:4, 13;116:21;136:24 price (20) 30:4;33:3;35:7; 37:11,18;39:16; 47:22,23;59:22,24; 81:4;84:18;126:11, 12;127:7,10,17; 128:5,20;129:2 priced (1) 52:5 prices (1) 75:12 pricing (2) 74:14;75:13 primarily (1) 88:23 primary (5) 19:3;20:23;21:6; 30:6,7 principal (3) 122:7;123:1,9 principles (1) 59:19 prior (4) 10:10;72:12;75:19; 108:2 proactive (1) 84:20 probably (11) 31:11;50:23,24; 53:11;54:14;71:23; 87:6;88:5,10;103:4; 133:1 problem (8) 26:14,20,21;27:23; 78:8;129:22;132:9, 10 procedure (1) 133:11 proceed (3) 109:21;118:9; 132:15 proceeding (1) 107:17 proceedings (1) 37:1 process (14) 11:9;19:17;38:3;	58:2;63:23;72:7; 78:15,16;85:14; 103:15;118:13,14; 124:17;132:14 produced (2) 6:2;21:13 product (5) 7:14,17;49:15; 99:2;126:20 profits (1) 22:1 program (4) 14:7;90:16;100:16; 103:17 programmatic (1) 99:22 programs (7) 45:17;46:5;72:10; 75:6;99:8,11,16 project (2) 119:9;134:8 projections (1) 78:20 promote (1) 30:23 proper (1) 57:14 proportionally (1) 41:8 proposal (30) 5:22,24;6:2,8,8; 7:10,12;45:12,13,15, 21;46:15,24;49:13; 50:21;52:14;53:4; 64:2,7;67:24;75:24; 107:1;125:14,14; 129:17,18;132:22; 133:18;135:22; 138:19 proposals (1) 34:9 proposed (19) 5:23;9:14;31:24; 34:13;43:7;46:10; 48:7;61:7;62:22; 63:7;70:9;100:14; 119:1;125:5,7; 126:24;133:11; 136:15,17 proposing (5) 20:23;27:18; 102:10;103:18;128:3 prorated (1) 52:9 provide (3) 101:13;103:21; 137:5 provided (7) 80:6;109:12;110:3, 11;113:12;115:8,10 provider (1) 80:21 provides (5)
---	---	--	---	--

<p>35:6;36:17;68:16; 95:8;104:17 providing (2) 101:2;120:20 provision (2) 60:19;72:1 prudence (1) 118:12 prudent (2) 74:13,20 public (5) 23:17;33:6,15; 78:13;90:7 PUC (1) 114:20 pull (1) 83:13 pumping (1) 21:23 purely (1) 11:17 purpose (4) 7:9;10:21;36:6; 104:11 purposes (1) 110:12 pursued (1) 81:21 push (1) 25:5 pushed (1) 34:19 pushing (3) 23:15;25:1,6 put (15) 9:23;16:18;18:14; 38:12;53:5;64:2; 70:6;85:4,6;93:7; 116:1;123:22; 134:10,12;136:6 putting (4) 75:5;99:7;100:21; 101:2</p>	<p>raises (2) 23:5;86:4 raising (1) 95:10 ran (1) 34:14 range (5) 45:4,5;80:19;81:5; 120:21 rate (58) 6:21,21;30:4,8; 31:1,1,2,3,21,24; 32:5,6,8,12,20;33:4, 13;34:7,8;37:21; 38:22;52:11;53:15; 55:22;58:2;59:6,7, 19;60:8;61:6,14; 63:12,16;64:3;67:10; 71:13;72:14,19,22; 75:7,17,24;77:3;78:5, 8,11;91:19;92:20; 95:13,20;97:1,20; 103:14;107:24; 113:4,9;117:23; 136:22 ratemaking (3) 42:7;74:13;78:14 ratepayers (3) 78:14;105:12,14 rates (26) 24:14;32:9,22,22; 34:13,14;36:3;38:3; 42:7;52:14,18;59:15, 20,22,22;60:20;61:5, 22;62:22,23;63:8; 72:12;74:21;75:2; 83:23;84:6 RATES-8 (1) 62:18 rather (5) 69:9,24;86:3,4; 97:4 ratings (2) 27:24;78:10 rational (2) 39:2,5 RDM (3) 46:21;50:14,19 read (5) 31:11;45:12;47:14; 110:21;120:16 reading (2) 112:7;115:4 reads (1) 54:8 ready (2) 35:13;49:2 reaffirm (1) 6:5 real (7) 23:7;26:14;53:16; 79:10;85:17;87:19; 97:17</p>	<p>realistic (1) 29:9 reality (1) 15:14 realize (3) 37:1;84:14;86:6 really (36) 22:2,15;23:11,16; 32:18;33:2;38:9,9; 39:1;41:8;53:13,20; 57:12;58:24;60:21; 61:6,13;62:1;66:11; 69:11,12,13;77:24; 78:24;81:4;84:10; 85:22;86:15,17,21; 102:10,11;103:24; 124:8;132:4,21 real-time (18) 6:10;7:13;8:3;9:4, 5,18,24;19:16;26:23; 28:2;49:9,19;50:10, 14,19;87:15;105:5; 131:1 reask (1) 20:17 reason (16) 7:19;13:22;19:4; 20:23;24:12;35:20; 38:15;43:10;53:17; 68:4;89:4;96:2,15; 103:21;116:1;122:1 reasonable (5) 32:11,12;61:24; 130:5,6 reasonably (1) 34:21 reasons (7) 9:22;34:18;48:9; 49:8,10;74:18; 133:14 rebuttal (7) 44:14;45:8;48:3; 49:7;50:9;115:16; 121:2 recall (9) 17:22;46:9;87:6,9; 108:12,15;109:2,6; 134:10 receive (3) 26:4;66:14;119:12 receiving (1) 43:21 Recess (1) 64:16 recollection (1) 83:13 recommended (5) 36:15;58:12;118:3; 121:13,23 recommending (1) 36:23 reconcile (2) 66:18;93:14</p>	<p>reconciliation (6) 45:6;66:17;68:21; 69:9,24;133:12 reconciling (1) 45:15 record (16) 45:13;51:13;72:2; 94:7,9;105:20,21; 106:7;109:15,16; 110:21;120:17; 121:9,10;139:17,18 records (1) 89:6 recovered (1) 59:15 recovery (1) 122:16 red (1) 4:11 REDIRECT (3) 94:13;98:4;105:2 reduce (3) 45:19;72:4;116:20 reduces (1) 105:6 reducing (1) 125:20 reduction (6) 17:13;72:2;75:17; 87:20;95:9;96:1 reductions (1) 37:9 refer (1) 113:10 reference (3) 48:21;120:20; 122:24 referenced (1) 44:10 referred (3) 31:3;110:6;115:6 referring (3) 15:19;49:6;115:13 reflect (7) 15:1,18;102:3,24; 111:8;117:15;121:24 reflected (3) 15:7;29:4;58:3 refresh (1) 58:6 refund (2) 39:15;50:2 refunded (1) 7:3 regarding (1) 94:17 regime (2) 98:13,20 region (1) 72:16 regular (1) 70:23 regulation (1)</p>	<p>23:9 regulatory (1) 134:8 relate (2) 16:14;94:21 related (14) 16:6,13;17:9; 18:12;21:14;24:13, 15,16,19;25:17; 45:16;109:11; 113:17;130:3 relates (1) 95:3 relation (1) 135:19 relationship (4) 18:10;55:18;124:1, 3 relative (2) 9:15;33:5 relatively (2) 73:1;85:11 relevant (1) 71:17 remaining (2) 6:19;7:2 remember (4) 44:6;109:5,9; 116:16 remind (1) 83:22 remove (1) 53:11 removing (2) 40:22;53:11 rendered (2) 6:12;13:18 repeat (1) 133:8 repeated (1) 40:21 repetitive (1) 20:14 rephrase (1) 7:9 report (1) 54:7 reported (3) 54:3,4;90:1 Reporter (3) 73:10;86:8;105:24 reporting (2) 27:19;50:18 represent (1) 77:14 representation (3) 18:19;41:19;81:16 represents (1) 63:13 reprogram (1) 17:16 reprogrammed (1) 53:1</p>
Q				
<p>quantify (1) 85:16 quarters (1) 107:2 queasiness (1) 33:24 quick (1) 21:16 quickly (3) 4:18;36:19;94:5 quite (3) 8:19;88:13;89:17 quo (2) 57:19;78:4</p>				
R				

<p>request (7) 4:5;90:4;112:16; 115:5;119:13,20,21</p> <p>requesting (1) 119:19</p> <p>required (1) 120:22</p> <p>requirement (12) 55:24;56:1,6,7,13; 59:11;67:21;78:21; 102:1;103:9;104:11; 118:15</p> <p>requirements (2) 50:18;101:22</p> <p>requires (1) 72:6</p> <p>requiring (1) 90:24</p> <p>reread (1) 20:12</p> <p>research (1) 98:16</p> <p>researching (1) 30:14</p> <p>reserve (2) 75:11;108:7</p> <p>residential (11) 29:3;30:11;57:20; 58:17;60:3;62:16; 63:8;67:11;77:13,20; 78:3</p> <p>resistance (1) 96:4</p> <p>resolved (3) 57:1,17,24</p> <p>resources (1) 74:21</p> <p>respect (7) 24:5;25:21;49:12; 62:14;99:9;101:11; 120:24</p> <p>respond (2) 47:11;100:2</p> <p>responding (1) 15:8</p> <p>response (7) 92:11;110:9;111:7, 8;119:21;120:3; 121:1</p> <p>responsibility (1) 60:9</p> <p>responsive (1) 132:18</p> <p>rest (4) 9:3;60:21;61:3; 97:9</p> <p>restate (2) 10:8;18:8</p> <p>result (7) 11:24;32:10;34:6; 47:9;86:16;93:5; 138:14</p> <p>resume (1)</p>	<p>139:14</p> <p>resumed (1) 4:2</p> <p>retail (4) 135:10;137:15; 138:7,9</p> <p>retaining (1) 35:11</p> <p>return (8) 38:1;77:16;79:8; 94:15;105:18;130:6, 22;131:3</p> <p>revenue (61) 9:11;19:4,19; 24:11;25:5,6;44:22; 45:23;46:1,17;55:24; 56:1,1,6,7,13,14; 57:10,13;58:16,21; 59:11;60:9;66:22,23; 67:1,9,14,21,22;68:4, 14;69:15;70:20; 71:12;76:10,11,18; 78:21;92:15,21;93:9; 95:9,15;98:13;99:9, 11;105:6;122:6,14, 16,17,22;123:3,11; 125:21;130:22,23; 135:24;136:9,9</p> <p>revenue-per-customer (5) 67:7;68:2,12; 76:13;121:18</p> <p>revenues (23) 10:22;18:24;21:24; 24:13;27:4,6,14;28:4, 7,9,11,14,15,18;35:5; 43:22,23;56:23;57:6, 8,15;68:3;77:18</p> <p>reversal (1) 35:17</p> <p>reverse (2) 26:12;79:18</p> <p>reversing (1) 33:24</p> <p>review (5) 8:22;9:8;11:9; 120:1;134:9</p> <p>reviewed (1) 119:24</p> <p>reviews (3) 115:3;119:15; 120:7</p> <p>right (53) 12:10,18;16:8; 19:1,7;21:1;28:17,19, 20;29:17;31:18;36:2; 42:12;43:13;53:3,9, 18;54:13,14;55:17; 56:4,10;57:1;63:2,3, 5,6;65:13,22;66:2,7; 69:21;71:16;75:11; 82:8;87:14,16;90:6, 11;91:11;93:7; 101:24;105:17;</p>	<p>108:20;110:8;117:2; 119:22;127:8;133:7, 23;134:15;139:13,19</p> <p>risk (20) 17:13;42:16,18,23, 23,24;43:1;87:20; 105:6;126:4,5,7; 130:10,12,16,17,20; 138:20,22;139:9</p> <p>risks (1) 43:8</p> <p>risky (1) 26:22</p> <p>robust (1) 22:20</p> <p>role (1) 10:14</p> <p>room (8) 23:4,5;53:12; 86:17;99:18;118:22; 126:23;132:9</p> <p>rooms (1) 30:16</p> <p>roughly (2) 83:5;137:22</p> <p>row (1) 53:13</p> <p>rows (3) 40:1;42:1;53:12</p> <p>run (4) 31:22;32:6;33:1; 78:2</p> <p>runs (2) 16:11;82:21</p>	<p>savings (4) 137:15;138:6,8; 139:6</p> <p>saw (1) 82:16</p> <p>saying (18) 15:20;22:22;32:19; 46:3;50:9;57:5; 59:12;78:15;79:2; 116:24;117:12; 122:21;124:6,11; 126:10,11;128:22; 137:18</p> <p>scaring (1) 39:11</p> <p>Schedule (1) 106:22</p> <p>scheduled (2) 75:20;108:8</p> <p>season (3) 59:17;63:1,3</p> <p>seasonal (4) 10:5;59:18,20,20</p> <p>seasonally (3) 7:21;9:13;10:15</p> <p>seasons (1) 65:9</p> <p>seat (1) 105:19</p> <p>second (14) 24:18;32:23;51:13; 65:6;89:10;90:22; 94:7;113:21;120:16; 123:9;129:9;130:13; 134:16;136:2</p> <p>secondly (1) 128:21</p> <p>section (3) 113:19,21,22</p> <p>seek (1) 74:24</p> <p>seeking (1) 9:2</p> <p>seem (3) 87:11;98:21;139:5</p> <p>seems (2) 8:24;124:18</p> <p>self-canceling (1) 42:5</p> <p>self-evident (1) 38:4</p> <p>self-explanatory (1) 116:4</p> <p>seminar (1) 132:2</p> <p>send (4) 26:2;35:7;50:24; 59:23</p> <p>sends (4) 8:3;30:10;39:15; 84:18</p> <p>senior (1) 119:1</p>	<p>sense (10) 11:4;14:19;15:7; 24:18;32:20;35:9; 43:3;67:20;69:8; 117:11</p> <p>sensitive (2) 36:17;38:13</p> <p>sent (1) 36:3</p> <p>sentence (3) 45:12;120:18; 133:17</p> <p>separate (6) 17:3;18:24;19:4, 19;89:2,3</p> <p>separately (1) 70:10</p> <p>separation (1) 18:23</p> <p>series (2) 74:18;106:16</p> <p>serious (1) 79:14</p> <p>serve (2) 10:21;35:14</p> <p>served (1) 14:6</p> <p>service (15) 14:4,12,22;35:22, 23;54:13;68:9,10, 76:17;83:11;88:7,19; 89:20;90:2;102:21</p> <p>session (2) 132:2;139:21</p> <p>set (9) 12:23;13:1;17:7; 42:8;57:18;60:12; 99:17;136:22;137:17</p> <p>setting (1) 68:11</p> <p>settle (1) 70:14</p> <p>settled (1) 32:5</p> <p>Settlement (57) 5:22;6:1,7;14,17; 9:10;17:10,20,24; 25:11;30:9;31:15; 34:8,24;36:4,9,17; 49:13,18;52:16,17; 57:4,17;60:11,11; 61:1,7;62:9;64:6; 68:24;71:18;72:1,5; 73:20;75:15;77:12; 80:8;81:17;86:7,12, 13;87:8;90:23;91:1; 95:8;100:13;101:16, 19;103:13;124:21; 128:4;129:18; 132:23;133:10; 136:15;137:5;139:2, 3</p> <p>seven-page (1)</p>
S				
		<p>Safety (1) 114:9</p> <p>Salem (2) 88:11,13</p> <p>sales (12) 21:14;35:5;45:16; 122:22;135:11; 137:15,22;138:3,6,7, 9,9</p> <p>same (34) 12:1,16;13:1,15, 19;24:4;25:15;26:20; 27:8;36:10;39:21; 40:10;43:1;52:19; 66:7;69:12,13,18,20; 75:4;79:19;87:3; 93:10;99:6;100:7; 107:14;116:6,18; 128:12;129:6,8,9; 137:5;138:2</p> <p>sample (3) 37:12;52:6;123:22</p> <p>saved (1) 138:14</p> <p>saving (1) 135:10</p>		

113:15 sever (2) 20:24;35:5 several (6) 32:6;34:14;104:9; 113:18;122:1;134:15 severe (1) 64:5 severing (3) 18:1,20;19:17 shading (1) 4:10 share (5) 22:10;76:17;96:7, 11,19 shares (1) 58:1 Sheehan (11) 4:3,4;5:2,6,15; 48:20;52:24;53:4,16; 91:6;93:21 sheet (4) 107:9;111:24; 112:17,18 shock (1) 32:12 shore (1) 89:16 short (1) 78:2 shortcut (1) 31:12 shortfall (2) 67:16,16 show (9) 52:21;62:6;97:14; 101:23;102:1;116:3; 135:7,8;137:9 showing (2) 61:2;116:5 shown (3) 8:5;62:9;110:22 shows (6) 62:21;79:15;85:15; 116:5;137:13,24 shut (1) 78:22 side (6) 28:24;29:18;53:14; 63:2;81:21;91:8 sides (1) 26:21 signal (17) 33:3;35:7;36:2; 37:18;39:16;50:24; 59:23,24;126:11,12; 127:7,10,17,23; 128:6,20;129:2 signals (5) 30:4,10;37:11; 47:22;84:19 signatories (1) 101:16	signed (1) 100:17 significant (12) 29:17,19,21,23; 32:4;34:21;47:15,24; 78:13;83:2;95:17; 138:12 significantly (2) 10:11;116:9 similar (4) 12:24;70:8;81:20; 120:13 simple (7) 25:24;58:24;59:3; 60:22;79:10;90:3; 99:19 simpler (2) 93:8;133:21 simplify (1) 110:13 simply (7) 19:8;20:13;21:3; 29:2;38:6;40:12; 97:15 simultaneously (2) 75:6;87:19 single (2) 11:5;55:13 sit (3) 101:6;131:14,17 sitting (1) 131:21 situation (3) 37:14;42:15; 128:22 Sixty-seven (1) 44:21 size (4) 9:15;10:2;61:15; 64:9 skin (1) 16:9 slice (1) 13:6 slight (1) 27:12 slightly (6) 13:4;14:2;16:19; 39:23,24;102:8 slow (1) 85:13 slow-moving (1) 8:15 small (3) 41:9;43:17;57:20 smaller (8) 5:22;6:7;10:3,11, 23;63:19;77:23;83:2 Smith-Mullen (1) 121:2 snapshot (1) 92:20 SNL (1)	83:12 so-called (1) 133:22 society (2) 84:8;128:1 software (3) 80:2,20;90:15 solution (1) 133:21 solutions (1) 99:24 solve (1) 133:22 somebody (2) 14:4;73:4 somehow (3) 49:13;66:21;77:11 someone (2) 14:22;25:1 somewhere (1) 54:14 sophisticated (1) 69:5 sorry (10) 6:17;7:21;10:6; 25:9;41:3;48:5;86:9; 104:21;129:19; 131:16 sort (8) 8:24;9:6;44:5; 77:10;79:19;100:8; 103:9;124:4 sorts (1) 83:13 sound (1) 95:18 sounds (1) 92:16 source (3) 83:8;112:23;113:2 speak (2) 131:15,18 specific (7) 19:11;60:12;61:2; 64:9;72:10;93:15; 113:11 specifically (2) 46:24;72:6 specifics (1) 87:9 SPEIDEL (2) 120:4,10 spend (2) 31:21;124:3 spent (1) 112:10 spike (1) 40:23 splitting (1) 7:10 spreadsheet (8) 110:2,6,8,23;112:4, 12,13,18	spring (1) 79:15 square (2) 61:16,17 stability (1) 31:9 stabilize (2) 28:3;30:1 stabilized (3) 27:20,22;40:7 stabilizing (2) 95:17;96:14 stable (1) 96:20 Staff (8) 8:20;50:16;51:8; 58:12;102:15;121:1, 1;136:16 Staff's (7) 45:12,13,15;58:6; 70:24;71:19;117:22 stake (1) 77:24 stakeholders (1) 45:19 standards (1) 98:16 standpoint (3) 28:6,13;126:12 start (8) 51:22;59:16;79:16; 99:1;103:19;109:12; 112:22;129:23 started (4) 14:12,22;74:1; 113:8 starting (1) 107:23 starts (4) 14:4;45:10;82:21; 118:6 state (5) 24:20;46:4;74:19; 75:23;114:4 stated (3) 20:22;21:6;55:8 statement (2) 45:8;46:16 states (2) 75:1;78:19 statewide (1) 90:14 stations (3) 54:3;102:20;103:5 status (2) 57:19;78:4 stays (1) 116:6 stem (1) 25:10 stemming (1) 122:8 step (5)	38:2;59:10,12,13; 77:4 still (15) 25:1,3;27:23; 34:20;38:11,13;40:5, 18;49:12;50:6;51:5; 88:16;91:1;93:14; 130:10 story (1) 16:22 straight (2) 96:17,24 straightened (1) 73:19 straightforward (2) 70:5;72:7 strata (3) 31:23;34:16;63:21 stratas (1) 32:19 stream (2) 24:11;27:20 strictly (1) 26:7 strike (1) 132:17 strikes (1) 36:4 stronger (4) 30:10,17;33:14; 84:18 strongly (1) 33:22 structure (1) 22:4 stuck (2) 9:6;23:19 studies (1) 56:19 study (9) 11:7;33:19;56:18, 22;124:13;134:17,18, 20;135:12 stuff (2) 11:2;62:1 stumbling (1) 90:21 subject (2) 9:8;86:12 subjective (1) 73:3 submitted (1) 118:24 subscription (1) 83:11 subsequent (1) 119:7 subsidiaries (2) 75:6;99:17 substantive (2) 86:23,24 subtle (3) 77:8;95:20;97:17
---	---	---	--	--

subtract (2) 54:21;66:24	systems (2) 97:10;99:12	54:14;76:18;88:7, 19:90:2,15	23:45:2,6,15,24;46:6, 8,18;47:2,7;48:8,11; 49:15;51:19;52:2,5, 16;54:2,13,17;55:17, 20;56:3,5,7,12,15; 57:4,11;58:18,22; 59:2,7,10;61:9;62:8, 13,17,21;64:24;65:2, 4,7,11,16,24;66:3,6; 67:2,4,6,23;68:18; 69:7,12;70:17,22; 71:1,4,16,18,22; 74:10;76:3,5,7,12; 81:16,22;82:15,24; 83:10,15,19;88:4,16; 90:3,7,11;93:7; 101:10,20;102:13; 103:2;104:15	tie (2) 16:2;18:7
success (2) 103:10,17	T	test (5) 57:5;58:3,23; 92:21;103:14	8,18;47:2,7;48:8,11; 49:15;51:19;52:2,5, 16;54:2,13,17;55:17, 20;56:3,5,7,12,15; 57:4,11;58:18,22; 59:2,7,10;61:9;62:8, 13,17,21;64:24;65:2, 4,7,11,16,24;66:3,6; 67:2,4,6,23;68:18; 69:7,12;70:17,22; 71:1,4,16,18,22; 74:10;76:3,5,7,12; 81:16,22;82:15,24; 83:10,15,19;88:4,16; 90:3,7,11;93:7; 101:10,20;102:13; 103:2;104:15	tied (1) 24:11
sudden (1) 40:23	table (10) 77:13;108:24; 111:13;112:1,7; 114:7;134:24;135:6, 8,20	testified (3) 15:22;19:15;108:8	57:4,11;58:18,22; 59:2,7,10;61:9;62:8, 13,17,21;64:24;65:2, 4,7,11,16,24;66:3,6; 67:2,4,6,23;68:18; 69:7,12;70:17,22; 71:1,4,16,18,22; 74:10;76:3,5,7,12; 81:16,22;82:15,24; 83:10,15,19;88:4,16; 90:3,7,11;93:7; 101:10,20;102:13; 103:2;104:15	timeframe (1) 51:3
sufficient (1) 103:15	talked (7) 18:1;47:18;59:11; 60:1;89:20;122:12; 130:19	testify (1) 102:22	Therrien's (2) 49:7;124:15	timeliness (1) 10:2
suggesting (1) 75:16	talk (17) 4:9;22:13;30:3,4; 73:13,16,21,24;84:2; 115:19;123:5;128:9; 130:1,4,13;131:10; 133:1	testimony (55) 6:19;20:22;21:14; 22:18;33:8,9;35:24; 36:1;44:3,15;45:8; 47:14;48:3,14,21; 49:7;50:9;56:17; 63:18;64:1;70:24; 71:3;80:9;104:16; 106:12,18,19;107:13, 17,19;108:4,6,18; 111:5,7;113:4,13; 114:18;115:1,1,6,17; 116:1,2;118:1,6; 119:16;121:3,3,12; 122:2,20;124:6,18; 125:24	thin (1) 101:21	times (5) 11:14;19:14;66:23; 67:17;84:13
suited (1) 76:13	talking (18) 5:20;16:2;22:24; 24:22;27:2,12;38:10; 64:11;72:9;103:23; 104:1;115:12,22; 116:16;119:4; 123:19;130:17;131:6	Thanks (8) 10:18;20:4;64:13; 65:3;66:16;76:2; 79:9;139:12	thinking (8) 29:24;44:9;69:23; 73:18;83:8,15;91:16; 98:7	timing (1) 78:11
sum (2) 94:23;124:6	talks (5) 111:5;113:19; 115:5,18;134:12	theirs (1) 23:21	third (2) 9:11;123:13	tip (1) 31:10
summarize (3) 117:21;118:2,8	tangential (1) 124:1	themes (1) 74:11	thirty-nine (1) 114:13	tired (1) 131:21
summary (2) 18:15;78:15	target (1) 69:15	theoretically (4) 8:12;22:14;95:18; 102:23	though (3) 80:22;81:9;89:18	titled (1) 108:24
summer (5) 63:3;65:22;70:10, 12;79:20	technical (2) 68:20;132:2	theory (1) 102:6	thought (6) 52:20;75:9;77:1; 83:9;88:5;92:2	today (12) 31:13;32:9;55:8; 60:4;62:3;68:24; 74:12;85:18;98:8; 122:11;123:20; 126:24
super (1) 38:2	telling (1) 132:13	thereby (3) 16:4;18:2;33:13	thoughts (2) 69:4;90:22	today's (2) 55:10;122:3
supply (2) 38:16;127:1	temperature (8) 54:9,10,11,19,21, 22,24;55:8	therefore (5) 27:7;37:15;39:24; 76:18;81:3	thousand (1) 110:24	together (3) 51:8;91:10;134:12
support (5) 59:19,21,24;115:8; 118:19	temperatures (1) 89:24	therein (1) 107:14	three (17) 17:23;40:5,11,22; 41:11;42:6;55:11,15; 75:15;103:20;104:2; 107:2,20;109:11; 110:24;137:23;138:5	told (1) 102:19
supportive (1) 76:10	ten (1) 64:15	there'll (1) 77:17	three-minute (1) 94:3	tomorrow (1) 45:22
supposed (4) 131:22,23,24; 132:15	tend (5) 23:14;91:9;92:13; 93:3;100:2	therm (2) 59:6;60:20	threshold (1) 80:2	took (4) 7:16;30:19;74:11; 119:9
surchARGE (1) 137:1	tends (4) 76:19;79:17;92:10; 95:19	thermostat (2) 30:12;92:7	throttling (1) 47:24	top (3) 21:18;62:21; 134:24
sure (29) 8:21;18:3;27:10; 29:9;31:8;34:15; 38:3;39:13,20;41:7; 46:7;52:2;54:2;56:8; 61:23;64:4;77:6; 79:7;88:7;89:19; 94:8;101:14;111:21; 113:6;114:24; 116:15;119:14; 131:11;138:6	terms (14) 17:1,8,9;22:13; 38:21;39:19;60:10, 11;81:2;85:9;86:16; 96:8;119:10;138:13	therms (5) 6:20;52:9,11; 63:11;91:18	throughout (5) 22:4,17;23:11; 44:8;74:3	topic (1) 66:16
survey (1) 82:11	terribly (1) 75:4	Therrien (122) 5:20;6:5,9,15,18; 7:7,12;9:9,21;10:7, 13,17;12:11;13:11; 14:18;16:3;18:16,18; 19:2,7;20:21;21:2,7, 9;26:23;31:6,17; 34:11;42:13,18,21; 43:4,10;44:2,7,16,20,	throughput (4) 6:20;18:24;19:4; 60:7	topics (3) 107:20,22;120:19
suspect (1) 132:5	territories (1) 124:13	therm (2) 59:6;60:20	Thus (1) 100:1	total (18) 5:7;40:5;44:24; 56:9;60:6;63:4; 67:20;68:3;76:11,18; 110:13,17,21;111:2; 112:10;114:13; 115:10;117:10
swallow (1) 80:10	territory (6)	thermostat (2) 30:12;92:7	tidily (1) 72:11	totally (3) 22:16;128:5;129:1
swings (1) 96:6		therms (5) 6:20;52:9,11; 63:11;91:18	tidy (1) 72:11	towards (6) 11:1;12:1;36:5; 77:9;80:19;100:8
sworn (2) 105:23;107:16		Therrien (122) 5:20;6:5,9,15,18; 7:7,12;9:9,21;10:7, 13,17;12:11;13:11; 14:18;16:3;18:16,18; 19:2,7;20:21;21:2,7, 9;26:23;31:6,17; 34:11;42:13,18,21; 43:4,10;44:2,7,16,20,	tradeoff (1) 38:8	tradeoffs (2) 33:17;38:5
symmetrical (4) 42:24;86:2;126:1,3		therms (5) 6:20;52:9,11; 63:11;91:18	tradeoffs (2) 33:17;38:5	
system (11) 16:11;21:20,22; 25:7;35:13;43:6; 53:2;63:12;66:14; 68:6;69:5		therms (5) 6:20;52:9,11; 63:11;91:18		

<p>trade-offs (1) 84:16</p> <p>traditional (1) 42:7</p> <p>trainees (1) 112:9</p> <p>training (33) 107:24;108:5,13, 16,19;109:1,8;110:4, 6,7,22;111:2,3,16; 112:5,9,19;113:17; 114:11,13;115:19,21, 21;116:6,8;117:3,22; 118:3,20,24;120:21, 24;121:6</p> <p>trainings (1) 112:1</p> <p>transferability (1) 81:19</p> <p>translate (3) 56:14;58:20;59:5</p> <p>travel (2) 91:10;94:5</p> <p>treated (1) 15:1</p> <p>trend (12) 11:1;72:12;77:9, 15,19;78:7,17,18,20, 22,24;79:5</p> <p>trending (1) 93:2</p> <p>trends (1) 72:15</p> <p>tried (1) 77:20</p> <p>tries (1) 133:22</p> <p>trouble (1) 131:13</p> <p>true (8) 16:11;24:20;27:9, 11;28:10;77:6;84:10; 117:17</p> <p>truly (3) 22:8,9;23:12</p> <p>try (15) 10:8;22:3;23:1; 41:13;73:5;78:19,20; 79:1;81:3;84:2,23; 85:6;94:23;100:3; 101:6</p> <p>trying (20) 10:20;20:2,14; 27:5;29:1;33:10; 38:7;59:9;72:17; 74:19;77:22;80:9; 84:20;87:5;96:8; 98:23;99:22;101:3; 111:18;127:23</p> <p>turn (11) 5:9;16:24;27:24; 62:17;80:21;85:2; 96:15;109:24;</p>	<p>110:18;111:21; 112:15</p> <p>turning (1) 30:16</p> <p>two (34) 4:19;5:8;7:10; 15:21,23;16:5;18:6; 25:15;26:9;29:6; 39:22,23;40:1;41:23; 42:1;45:7;47:12; 48:16;51:24;60:19; 82:13;89:2,20;90:5; 94:2,17;128:19; 129:4;135:14;137:8, 10,12;138:12,15</p> <p>two- (1) 94:3</p> <p>type (5) 84:5;111:16;124:2; 135:9,13</p> <p>typical (2) 4:12;102:5</p> <p>typically (3) 31:3;54:15;86:16</p> <p>typographical (1) 107:6</p>	<p>88:20</p> <p>unit (1) 129:14</p> <p>units (5) 6:20;39:23;42:1,2; 52:7</p> <p>unless (3) 22:8;23:12;28:22</p> <p>unlike (1) 125:19</p> <p>unnecessary (1) 133:19</p> <p>unusual (1) 27:17</p> <p>unusually (4) 39:12;40:11,24,24</p> <p>up (26) 4:21;6:4;9:19; 26:17;37:11;41:11; 54:4,8;55:14;68:11; 70:24;72:11;78:8; 79:15;82:11;83:6,23; 85:15;91:19;93:13; 94:23;97:14;98:7; 99:17;116:9;124:6</p> <p>update (2) 103:21;113:3</p> <p>updated (1) 113:12</p> <p>updating (1) 100:18</p> <p>upgrade (2) 80:2,22</p> <p>upward (2) 85:3,13</p> <p>urge (2) 72:21;81:6</p> <p>usage (14) 15:3,9;31:22; 37:20,22;40:10; 63:10,21;72:2,4; 79:21;83:24;93:16; 97:13</p> <p>use (31) 14:20;35:8,17,22; 37:12;40:8;54:1; 57:5;61:18;63:10; 65:5,7,8,19,20;67:11; 69:1,18;73:5;74:20; 81:1;91:18;99:2; 113:18;114:20; 126:13;127:11,17,18; 128:4;129:13</p> <p>used (4) 88:22;110:4; 116:18;127:3</p> <p>useful (1) 83:22</p> <p>use-per-customer (1) 68:1</p> <p>uses (1) 130:15</p> <p>using (6)</p>	<p>13:24;15:2;35:2; 40:18;93:6;128:15</p> <p>usual (1) 115:21</p> <p>usually (1) 50:3</p> <p>Utilities (19) 4:12;44:19,21; 45:1;79:13;82:7,8,21, 23,24;83:3,3,5,16; 89:5;122:6;134:13; 135:14;137:8</p> <p>utilities' (2) 75:22;101:18</p> <p>utility (12) 22:19;28:18;29:18; 33:2;79:7;89:2; 105:8,11;106:8; 126:6,17,19</p> <p>utility-funded (2) 45:16;46:4</p> <p>utility's (2) 27:2;29:19</p> <p>utilization (2) 66:13;108:19</p>	<p>view (3) 33:17;36:13;96:14</p> <p>vigorous (1) 100:18</p> <p>visual (1) 21:16</p> <p>visualize (1) 21:17</p> <p>volatility (1) 105:7</p> <p>volume (5) 16:10,10;23:13; 24:12;25:6</p> <p>volumes (1) 60:6</p> <p>volumetric (16) 6:21,21;11:21; 30:20;33:13;35:1; 36:6;52:18;74:13,21; 75:2,13;95:10;97:4, 20;98:1</p>
W				
<p>Wait (3) 65:6;70:5;136:2</p> <p>wants (3) 49:1;76:23;132:21</p> <p>warm (1) 22:20</p> <p>warmer (4) 41:21;42:10;43:21; 77:9</p> <p>warming (3) 77:19;78:7;79:19</p> <p>warrant (1) 37:10</p> <p>warranted (1) 120:23</p> <p>Water (1) 106:9</p> <p>way (26) 4:8;7:22;30:7; 36:22;41:14;47:14; 70:22;77:4;78:15; 79:6,6;89:8;91:16; 95:20;97:18;98:6; 102:11;104:18; 107:3;122:7;127:15; 128:21;129:1; 130:20;131:22; 132:14</p> <p>ways (2) 70:3;85:15</p> <p>weakened (1) 96:5</p> <p>weaknesses (1) 99:14</p> <p>weather (116) 5:3;7:11,13,20;8:1, 19;9:1;10:12;11:13, 18;12:3,10,19,21; 13:1,5;14:10;15:1,8;</p>				

16:1,15,23;17:4; 18:13;19:9,16;21:4, 11,12,22;22:2,15; 24:21;25:2,18,19,23, 24;26:8,14;27:17; 29:20;37:15,19; 38:20;39:2,6,10;40:3, 6,15;41:1,12;42:8,9, 11,16,18,22;43:1,16, 19;46:20;47:1;48:4, 6;49:19,51;2;53:12; 54:3;70:11;77:2; 79:11;87:15;88:1,13, 20;89:2,4;91:6;96:7, 12,23;101:24;102:20, 21,24;105:5,7; 121:19,24;122:4; 123:5,9,18,21;124:8, 15,16,19,21;125:4, 15,18,23,24;127:12; 129:6;130:21; 133:12;136:24; 137:6,7,20,22;139:8 weather-normalization (4) 94:20;95:3,7; 129:20 weather-normalize (4) 130:7,8;135:24; 136:9 weather-normalized (2) 138:17,17 weather-related (6) 6:9;16:12;123:19; 125:8;126:5;138:20 weather's (1) 91:7 webinar (1) 132:2 week (2) 108:12,16 weighed (1) 31:14 weighs (1) 34:8 Welcome (1) 120:10 weren't (5) 11:22;32:11;57:16; 76:8;85:8 what's (17) 4:6;7:9;8:22; 17:19;52:3;53:24; 56:6;60:19,24;66:19; 71:7;72:15;80:3; 102:7;134:23;136:5, 14 WHEREUPON (2) 105:22;139:21 whole (12) 8:13;14:20;16:19; 27:11;56:21;74:17; 84:9,13;92:15; 118:10;124:14;	127:22 willing (1) 95:13 windfall (1) 43:17 winter (13) 7:3;22:11;29:11; 39:12;63:1;65:20,23; 66:1,4;70:10,12; 79:12;92:8 winters (1) 77:9 wiped (1) 38:18 wiser (1) 97:16 wishes (1) 59:23 withdraw (1) 44:12 within (13) 13:12;15:4;19:6; 32:3,14;34:16,23; 36:20;42:5;55:13; 61:14;73:14;76:17 without (3) 10:9;18:22;97:8 Witness (15) 31:5,6;42:13; 51:19;53:10;115:3; 119:15;120:6,7,8; 131:24;132:7,10,11; 133:6 witnesses (4) 4:9;5:10;19:15; 23:23 witness's (1) 20:7 WNA (2) 43:22;102:5 wondering (1) 80:3 word (2) 48:12;97:18 words (2) 27:5;35:16 work (11) 8:14;20:5;50:15; 51:8;64:1;76:19; 88:22;91:5;102:6; 104:19;131:23 worked (1) 49:18 working (4) 23:6;74:1;104:18; 114:19 works (3) 72:4;84:4;91:17 worry (1) 96:20 worth (4) 29:24;90:18,20; 103:20	worthwhile (1) 72:8 wrong (6) 4:23;75:9;106:24; 115:13;128:5;129:1 Y year (37) 6:23;8:17,23; 11:10;12:22;13:6,7; 40:20,21;41:1,2; 57:6;58:3,23;63:13; 67:12,19;69:2,10; 70:1,2,5,6,7;91:18, 19;92:4,23,24;93:1, 12;103:14;112:19; 113:8,18;114:11; 138:2 years (21) 22:19,20;34:18; 55:5,6;72:13,13; 73:21;75:15;77:17; 92:14;104:2,4,9; 116:21;117:1; 134:15;137:10,13,23; 138:5 years' (1) 103:20 year's (1) 92:21 yellow (1) 4:10 yesterday (1) 62:11 York (2) 89:1,16 Z zero (2) 35:18;40:3 0 021 (1) 121:3 025 (1) 62:19 032 (1) 65:2 1 1 (17) 11:15,15,19,20; 12:13,17;13:19; 41:18,20,21,24;42:3; 53:5,22,23,24;59:10 1,000 (1) 61:16 1,500 (1) 61:17	1,582 (2) 114:2,16 1,917 (1) 112:10 1:55 (1) 4:2 10 (2) 29:5;82:7 100 (8) 18:4;52:9,10; 56:10;59:12,13; 76:16;81:10 11 (4) 9:10;102:20,24; 103:5 12 (3) 59:1;82:22;92:23 13 (2) 71:2,10 135 (1) 63:6 14th (1) 13:17 15 (3) 107:1,4;110:14 15th (1) 13:17 16 (1) 62:10 16] (1) 62:18 16-383 (1) 121:2 17 (4) 14:5,7,8;45:10 179 (1) 45:10 18 (3) 62:18;64:24; 106:11 183 (1) 44:15 194 (1) 49:7 196 (1) 50:13 1st (1) 98:17 2 2 (13) 46:13,22;47:3,4,10, 13,23;59:12;62:18; 63:13;108:24; 113:20;114:16 2,756 (6) 113:16;114:18; 116:19;117:5,13,18 20 (8) 14:14,14;38:1; 58:16;89:14,14; 110:14;111:7	200 (9) 45:4,5,5,6,7;83:5,6, 9,16 2007 (1) 137:11 2009 (1) 100:12 2013 (1) 112:22 2015 (2) 82:10;116:8 2016 (10) 110:5;111:3; 112:10,21,22;113:5, 13,17,18;114:11 2017 (2) 106:13;114:6 2018 (1) 100:20 2020 (2) 75:20;103:14 20-year (1) 39:7 229 (1) 121:1 230 (1) 121:2 24 (1) 92:24 25 (7) 108:24;111:6; 112:24;113:3,7; 115:6;116:2 26 (1) 118:7 29 (2) 12:20;13:23 291 (1) 44:9 29-day (1) 52:8 3 3 (2) 59:13;110:18 3.20 (1) 66:15 3.76 (1) 66:10 3:04 (1) 64:16 30 (8) 12:20;13:22;39:8; 54:24;55:5,6;70:16, 18 300 (1) 45:5 30-day (1) 52:13 30th (2) 106:13;115:5 31-day (1)
--	---	--	---	--

12:21 32 (4) 55:9;65:16;106:23, 24 32.0 (1) 107:2 33 (1) 65:17 335 (2) 113:23;114:15 35 (4) 55:1,1,10,15 37 (2) 134:23;135:3 381.20 (1) 106:24	109:20;111:22; 112:7 64 (4) 109:21;112:15; 113:15;116:11 65 (6) 54:21,21;134:2,4, 24;135:3 65.50 (2) 4:22;5:6 66 (9) 8:4;11:23;26:2,4, 15;38:22;41:5,10,23 66.49 (2) 4:23;5:7 67 (3) 44:18,21,24 696 (1) 112:8			
4				
4 (3) 63:13;114:8,17 4,000 (13) 111:6;115:7,9,12, 19,22;116:14,17,18; 117:7,13,16,17 4.62 (1) 63:14 4-34 (1) 112:13	7			
5	7 (2) 82:21;111:7 71 (2) 120:12,14 72 (1) 119:16 75 (1) 120:5 76 (1) 63:9 760 (1) 63:10			
5 (4) 32:2;46:21;89:23; 139:22 5:06 (1) 139:23 50 (4) 64:11;81:10,11,13 50-year (1) 39:8 5-40 (1) 121:1 5-42 (1) 121:1 58 (1) 82:4 59 (2) 134:21,22	8			
6	8 (1) 62:10 80 (1) 33:9 839 (2) 114:11,16			
6 (1) 63:13 61 (10) 4:7;5:12;6:2,6;7:5; 37:13;51:22;101:11; 102:7;128:12 62 (3) 109:20,24;115:8 62-64 (1) 109:18 63 (3)	9			
	9 (1) 64:24 9:00 (1) 139:15 96.667 (1) 52:7 99 (1) 13:14			