STATE OF NEW HAMPSHIRE

12 APR '17 PM1:32

PUBLIC UTILITIES COMMISSION

March 28, 2017 - 9:07 a.m. Concord, New Hampshire ONLY

DAY 2
MORNING SESSION

RE: DE 16-576

ELECTRIC DISTRIBUTION UTILITIES: Development of New Alternative Net

Metering Tariffs and/or Other Regulatory Mechanisms and Tariffs

for Customer-Generators.
(Hearing on the Merits)

PRESENT:

Chairman Martin P. Honigberg, Presiding

Commissioner Robert R. Scott Commissioner Kathryn M. Bailey

Sandy Deno, Clerk

APPEARANCES:

(No appearances taken - refer to the daily sign-in sheets for this date of the proceedings)

CERTIFIED ORIGINAL TRANSCRIPT

Court Reporter: Susan J. Robidas, NHLCR No. 44

			2
1	INDEX		
2	WITNESS PANEL:		
3			
4	HEATHER M. TEBBETTS ASHLEY C. BROWN		
5	EDWARD A. DAVIS MICHAEL HARRINGTON		
6	RICHARD C. LABRECQUE THOMAS P. MEISSNER		
7			
8			
9			
10	EXAMINATION	PAGE	
11	Direct Examination by Mr. Sheehan	9	
12	Cross-examination by Ms. Birchard	60	
13	Cross-examination by Mr. Hinchman	88	
14			
15			
16			
17			
18			
19			
20			
21			
22			
23			
24			

{DE 16-576} [Day 2 - Morning Session ONLY] {03-28-17}

				3
1		EXHIBITS		
2				
3	EXHIBITS	DESCRIPTION	PAGE	
4	16	Prefiled Direct Testimony of Heather M. Tebbetts	12	
5		MARKED FOR IDENTIFICATION		
6	27	Prefiled Direct Testimony of Michael Harrington	13	
7		ADMITTED		
8	62	Rebuttal Testimony of Michael Harrington	13	
9		ADMITTED		
10	63, 64	Attachments A and B	13	
11		ADMITTED		
12	67	July Average Residential PV profile	16	
13	1.4	MARKED FOR IDENTIFICATION	01	
14 15	14	Prefiled Direct Testimony of Richard Labrecque and Russell Johnson	21	
16		ADMITTED		
17	15	Prefiled Direct testimony of Edward Davis	21	
18		ADMITTED		
19	43	Prefiled Rebuttal Testimony of Labrecque, Johnson and Davis	21	
20		ADMITTED		
21	8	Prefiled Direct Testimony of Thomas Meissner	22	
22		ADMITTED		
23	40	Prefiled Rebuttal Testimony of Thomas Meissner	22	
24		ADMITTED		

{DE 16-576} [Day 2 - Morning Session ONLY] {03-28-17}

4																			
)	D)	1T	ON	(C	3	Т	Ε		В	I	н	x	E				1
	PAGE	· I	N	0	I	г :	۰ ج	I	₹	.]	С	s	E	D			BITS	EXHIB	2
																			3
	23	£	of	ıy	or	im	st.									Pre		9	4
		H. Edwin Overcast ADMITTED								11			5						
	23							es	1د	d۱					erc AD	Ove		10	6
	23						s	en	am	.c]						Ove		11	7
															AD				8
	23					t	as	rc	<i>т</i> е	O			_		ti:	Tes		12	9
																			10
	23					ts	en'	hm	3 C				ast MI:)ve:	(13	11
	23	rcast	<i>r</i> er	70	£	0:	ıy	mo	٤i	s	Tе	l'	:a:	ıtt	≀eb]		39	12
													MI:						13
	24	ny	lor	ir	st	Гe	L '	ta		W]	ro	B		110	Pre As]		41	14 15
	24						ເຮ	en					a Z		Br			42	16
	25	ent	em∈	:16	tt	3e	ı :	io	it	1:	oa	C,	ΞY	Lit	Jti	τ		5	17
													ree	_					18
	25	al	Lca	n	ch	Гe	ı '	io	it	1:	oa	C,	:y	Lit	Jti.	τ		6	19
)	_	_	eme		St				20
																			21
	67	rcast ION														2		68	22
	68	son ION														1		69	2324
	67	rcast ION son	/er \T]	Ov [C]	n Fl	wi: FI:	Ed' EN' se	ID us	H R	f f	oa t ED O F	Co ent FT: it ED	eme MI: av: RKI	Litate ADI ida KAI	Jti St Aff	ī		68	20 21 22 23

{DE 16-576} [Day 2 - Morning Session ONLY] {03-28-17}

				5
1		EXHIBITS (CONT'D)		
2	EXHIBIT	S DESCRIPTION	PAGE	
3				
4	70	"Draft 2016 CELT ISO-New England Annual Energy and	68	
5		Summer Peak Forecast" MARKED FOR IDENTIFICATION		
6	71	"Draft 2017 CELT ISO-New	73	
7		Summer Peak Forecast" MARKED FOR IDENTIFICATION		
8				
9	7	OCA Statement in Support of Partial Settlement	86	
10		ADMITTED		
11	72	3/17/17 Report on Grid Modernization in NH	90	
12	5 2	MARKED FOR IDENTIFICATION	111	
13 14	73	EFC186, Utility Q25, Page 1 ADMITTED	111	
15	67	July Average Residential	112	
16	67	PV Profile ADMITTED	112	
17	74	1/19/16 Boothbay Smart Grid Reliability Pilot Project	149	
18		MARKED FOR IDENTIFICATION		
19				
20				
21				
22				
23				
24				

PROCEEDINGS

CHAIRMAN HONIGBERG: Good morning.

We're back for Day 2. We have good attendance out there, and we have outstanding attendance over in the witness box. What, if anything,

Mr. Wiesner, do we need to do this morning before beginning?

MR. WIESNER: I am not aware of anything. We did circulate a sign-in sheet in lieu of taking appearances, and it seems like everyone is here who should be here. And we know who's here, in any event.

The Utility/Consumer Coalition panel has already take the stand, as you see. And I think we have general agreement in terms of order of questioning. My understanding is that it's proposed that the representatives of CLF and Acadia will go first in questioning this panel, followed by other members of the Energy Future Coalition.

CHAIRMAN HONIGBERG: Is there an order as to the rest of the questioning?

MR. WIESNER: I think we had generally agreed previously that City of

Lebanon would follow the opposing panel, followed by other non-aligned parties, with Staff bringing up the rear.

CHAIRMAN HONIGBERG: All right. Do
you want to -- do the Utility/Consumer group -and you don't have to do it right this second,
but maybe at the break you'll tell me what
order you want to do questioning of this panel?
Actually, I guess you're going to be going
first after CLF and Acadia. We might not make
it to the break at that point. So who's going
to go first for the Utility/Consumer settlement
group? Mr. Sheehan, you look like you're ready
to grab the microphone.

MR. SHEEHAN: These are the Utility/Consumer witnesses --

CHAIRMAN HONIGBERG: I got it reversed, don't I. Sorry. So it's Utilities questioning this panel to start introducing.

MR. WIESNER: On direct, right.

CHAIRMAN HONIGBERG: Then CLF and Acadia, or then the --

MR. WIESNER: So, direct questioning, followed by CLF and Acadia, followed by other

```
members of the Energy Future Coalition, City of
1
2
         Lebanon --
                   CHAIRMAN HONIGBERG: That's the group
3
         I want to know.
4
                   MR. WIESNER: -- then Staff.
5
                   CHAIRMAN HONIGBERG:
                                         That's what I
6
7
         want to know, if you have an order.
                   MR. HINCHMAN: Good morning, Mr.
8
         Chairman. I think I will start on behalf of
9
         ReVision, which is a member of the Coalition,
10
11
         and then Attorney Griset and then Attorney
         Buxton, all covering different topics.
12
                   CHAIRMAN HONIGBERG: Oh, yeah.
13
14
         You're right. You're covering different
15
         topics.
                  I understood that. I'm sorry. Who's
16
         going to be going second?
17
                   MR. HINCHMAN: Attorney Griset.
                   CHAIRMAN HONIGBERG: What's your --
18
19
         spell the last name.
                   MR. GRISET: G-R-I-S-E-T.
20
21
                   CHAIRMAN HONIGBERG:
                                         That answers
22
         partially the question of who's here today and
23
         wasn't here yesterday, or who's going to be
24
         speaking.
```

day r
r
hat
ho
the
et.
s.
Y
_

MR. SHEEHAN: We generally intend to follow the template that the other group went through yesterday. I'll introduce the witnesses, mark their testimonies, admit their testimonies, and after that process we will turn them loose to give the presentation, both supporting our settlement agreement and contrasting the others, and then they will be available for cross-examination.

CHAIRMAN HONIGBERG: How long do you think the period will be during which they are, as you put it, "turned loose"?

MR. SHEEHAN: We have an unofficial agreement that the other parties followed yesterday to be a total of 40 minutes. They divided it pretty evenly between support and critique. Our witnesses attended both of those. But in any event, we have made clear to these witnesses they have roughly six minutes a head to go through that process.

CHAIRMAN HONIGBERG: Perfect. Thank you.

1 DIRECT EXAMINATION

- 2 BY MR. SHEEHAN:
- 3 Q. I'll start with Ms. Tebbetts from Liberty.
- 4 Would you please introduce yourself and who you
- 5 represent this morning.
- 6 A. (Tebbetts) Yes. My name is Heather Tebbetts.
- 7 I work for Liberty Utility Service Corp. I
- work at our rate and regulatory group, and my
- 9 role there is to support the regulatory and
- 10 rates services for Granite State Electric.
- 11 Q. And Ms. Tebbetts, did you file testimony in
- 12 this docket?
- 13 A. (Tebbetts) Yes, I did.
- 14 Q. And that has been marked as Exhibit 16. And
- 15 did you also -- were you a signatory to the
- 16 technical statement filed in support of the
- 17 settlement agreement?
- 18 A. (Tebbetts) Yes, I was.
- 19 Q. And that has been marked as Exhibit 6; is that
- 20 correct? I will tell you that is correct. And
- 21 the settlement agreement itself is Exhibit 5.
- Ms. Tebbetts, do you have any changes or
- 23 additions to your testimony?
- 24 A. (Tebbetts) I do not.

[TEBBETTS|BROWN|DAVIS|HARRINGTON|LEBRECQUE|MEISSMER] 12 Q. And if I were to ask you those questions today, 1 2 would your answers be the same? (Tebbetts) Yes. 3 Α. So do you adopt your testimony here this 4 Q. 5 morning? 6 Α. (Tebbetts) Yes. 7 MR. SHEEHAN: Mr. Commissioner, I move the admission of Exhibit 16, Ms. Tebbetts' 8 9 testimony. 10 CHAIRMAN HONIGBERG: Without 11 objection, we'll strike the I.D. on that 12 testimony. (Exhibit 16 admitted.) 13 14 MR. SHEEHAN: Following the order 15 that they plan to speak, so next is Mr. 16 Harrington. 17 BY MR. HARRINGTON: Could you please introduce yourself and for 18 Q. 19 whom you are appearing this morning. 20 (Harrington) Yes. My name is Michael Α. 21 Harrington. I'm appearing for the New England

Q. And Mr. Harrington, did you file direct and -strike that.

Ratepayers Association.

```
13
              You did file both direct and rebuttal
1
2
         testimony in this matter; is that correct?
         (Harrington) Yes.
3
    Α.
         And your direct testimony has been marked as
4
    Q.
         27, and your rebuttal testimony has been marked
5
         as 62, with the attachments being Exhibits 63
6
7
         and 64. Are there any changes or corrections
8
         to that testimony or rebuttal testimony this
9
         morning?
         (Harrington) No, there are not.
10
    Α.
         If I were to ask you the questions contained in
11
    0.
         those testimonies, would your answers be the
12
         same this morning?
13
         (Harrington) Yes, they would.
14
    Α.
15
         Do you therefore adopt your testimony here this
    Q.
16
         morning?
17
    Α.
         (Harrington) Yes, I do.
                    MR. SHEEHAN: Mr. Chairman, I move
18
         the admission of 27, 62, 63 and 64.
19
20
                    CHAIRMAN HONIGBERG: Without
21
         objection, we'll strike the I.D. on those
22
         exhibits and they'll be admitted.
23
                (Exhibit 27, 62, 63, 64 admitted.)
    BY MR. SHEEHAN:
24
```

- Q. Next, Mr. Labrecque from Eversource. Please introduce yourself and for whom you are speaking today.
- A. (Labrecque) Good morning. My name is Richard

 Labrecque. I'm the manager of distributed

 generation for Public Service of New Hampshire,

 doing business as Eversource Energy.
- Q. And Mr. Labrecque, you were part of a group that filed both direct and rebuttal testimony this morning; is that correct?
- 11 A. (LaBrecque) Yes.
- Q. Your direct testimony has been marked as
 Exhibit 14, and that was with a Mr. Johnson.

 Is Mr. Johnson here this morning?
- 15 A. (LaBrecque) No, he is not.
- MR. SHEEHAN: Mr. Chairman, I

 understand that Mr. Fossum has filed the

 affidavit on behalf of Mr. Johnson. That's

 already in the record.
- 20 BY MR. SHEEHAN:
- Q. Mr. Labrecque, your direct testimony is 14 and your rebuttal testimony is Exhibit 43. Do you have any changes to either of those two testimonies?

- 1 A. (LaBrecque) No, I do not.
- Q. Do you have any other supplement that you wanted to raise here this morning as part of your testimony?
- A. (LaBrecque) Yes. We were hoping to supplement
 Attachment B to our settlement proposal and
 technical statement with a chart that is for
 illustrative purposes only to help us as we go
 through the course of the day and explain
 various quantities that people may be
 interested in discussing.
 - Q. Mr. Fossum is circulating a copy of that chart.

 And this is the document that was mentioned

 yesterday during the other panel's

 presentation; is that correct?
- 16 A. (LaBrecque) Yes.

12

13

14

15

17

18

19

20

21

22

23

24

MR. SHEEHAN: Okay. Mr. Chairman that does not have a number to it. We can either go to the next number or we could make it an attachment or Exhibit 6A, referencing the technical statement that is sort of part of the -- if it becomes more confusing, we can just go to the next number.

CHAIRMAN HONIGBERG: We're going to

- Q. And you intend to reference this in your presentation later this morning; is that correct?
- 23 A. (Labrecque) That's correct.

export or sale channel.

19

20

21

22

MR. SHEEHAN: Mr. Chairman, I move

```
but I don't know, that it's a subset of the data. And so this is one month versus a 12-month average from the chart yesterday. So I'd like them to put in the data so that the data is also available.
```

CHAIRMAN HONIGBERG: Mr. Fossum and Mr. Sheehan, this is a page from another exhibit in this record; is it not?

MR. FOSSUM: Mr. Chairman, no, not exactly. It is slightly different. But as you pointed out, Mr. Labrecque's prepared to testify about it today, and he can speak to it later and the information that it's intended to show.

CHAIRMAN HONIGBERG: I'll tell you what, Mr. Hinchman. We won't strike the I.D. yet. You keep track of this, Mr. Sheehan. If after Mr. Labrecque or others have testified about it further you want to raise an objection, you'll do it at that time, okay. Your objection for now, I guess, is granted. But they're not precluded from further testifying about it and moving it again.

Thank you, Mr.

MR. SHEEHAN:

```
1 Chairman.
```

2 BY MR. SHEEHAN:

11

23

24

- Q. Next is Edward Davis. Please introduce
 yourself and for whom you are appearing this
 morning.
- A. (Davis) Good morning. My name is Edward Davis.

 I am the director of rates for Eversource

 Energy. And I'm here on behalf of the

 utilities and the Utility Coalition to provide

 support for the proposal that we put before the
- Q. And Mr. Davis, you filed both direct testimony
 on your own, and you were part of a group of
 three that filed rebuttal testimony; is that
 correct?
- 16 A. (Davis) That's correct.

Commission.

- 17 Q. The direct testimony, your direct testimony, is
 18 Exhibit 15, and the rebuttal testimony with Mr.
 19 Labrecque [sic] and Mr. Johnson is Exhibit 43.
 20 If I were to ask you the questions -- well,
- 21 first, do you have any corrections or changes 22 to either of those testimonies?
 - A. (Davis) Yes, I do have one minor correction to Exhibit 15, the direct testimony I submitted.

```
20
         And on lines in that direct prefiled --
1
2
                    CHAIRMAN HONIGBERG: Wait, wait.
         have a lot of notebooks back here, like 15
3
         inches worth.
4
5
                (Pause in proceedings)
         (Davis) Bates Stamp 38. So, on Line 17 of that
6
    Α.
7
         testimony, the first date appearing on the line
         is 1996; it should be 1997. That's the
8
9
         correction.
         Mr. Davis, with that correction, if I were to
10
    Q.
11
         ask you the same questions this morning that
         are contained in both the direct and rebuttal,
12
         would your answers be the same?
13
         (Davis) Yes.
14
    Α.
15
         Do you this morning adopt those two
    Q.
16
         testimonies?
17
    Α.
         (Davis) I do.
                    MR. SHEEHAN: Mr. Chairman, I move
18
19
         the admission of Exhibit 15, which is Mr.
         Davis' -- I'm not sure I moved the admission of
20
21
         Mr. Labrecque's, which was 14. And I also move
22
         the admission of the joint testimony, which is
23
         43. So, 14, 15 and 43 are the Eversource
```

testimonies.

```
[TEBBETTS|BROWN|DAVIS|HARRINGTON|LEBRECQUE|MEISSMER]
                                                           21
                    CHAIRMAN HONIGBERG: All right.
1
         Without objection, we'll strike the I.D. on
2
         those three exhibits, and they are full
3
         exhibits.
4
                (Exhibits 14, 15, 43 admitted.)
5
    BY MR. SHEEHAN:
6
         Next, Mr. Meissner, please introduce yourself.
7
8
    Α.
         (Meissner) My name is Thomas Meissner.
         chief operating officer of Unitil Corporation
9
         and the senior vice-president of Unitil Energy
10
11
         Systems, Inc., where I oversee operations,
12
         planning and engineering functions. I am also
         here today to support the joint utility
13
         settlement that has been submitted.
14
15
         Mr. Meissner, you also filed direct and
    Q.
16
         rebuttal testimony in this matter?
17
    Α.
         Yes, I did.
         The direct is Exhibit 8 and the rebuttal is
18
19
         Exhibit 40. Do you have any changes or
20
         corrections to those testimonies?
21
    Α.
         (Meissner) I do not.
22
         If I were to ask you those questions today,
    0.
```

{DE 16-576} [Day 2 - Morning Session ONLY] $\{03-28-17\}$

would your answers be the same?

23

24

Α.

Yes.

```
MR. SHEEHAN: Mr. Chairman, I move
1
         the admission of Exhibits 8 and 40, Mr.
2
         Meissner's testimonies.
3
                   CHAIRMAN HONIGBERG: Without
4
         objection, we'll strike the I.D. on those two
5
         exhibits, and they are full exhibits.
6
7
                 (Exhibits 8, 40 admitted.)
8
                   MR. SHEEHAN: Also at this time, Mr.
         Chairman, Unitil also filed the testimony of
9
         Mr. Overcast, which is Exhibit 9.
10
11
         attachments are 10 and 11. His supplemental
         direct is 12, and supplemental attachments are
12
         13. And his rebuttal testimony is 39. As
13
         everyone knows, he is not present today.
14
15
         mechanism that has been discussed and agreed to
16
         admit his testimony this morning is to file an
17
         affidavit. And Mr. Licata has the appropriate
         original and copies of that affidavit.
18
         with that filing, we move the admission of
19
20
         Mr. Overcast's testimony, which is 9, 10, 11,
         12, 13 and 39.
21
22
                    CHAIRMAN HONIGBERG:
                                         Without
23
         objection, I.D. is struck, and those are
         admitted.
24
```

```
[TEBBETTS|BROWN|DAVIS|HARRINGTON|LEBRECQUE|MEISSMER]

23

(Exhibits 9, 10, 11, 12, 13, 39
admitted.)

BY MR. SHEEHAN:

Q. Last, but certainly not least, Mr. Brown.

A. (Brown) My name is Ashley Brown, and I'm here
```

- 5 A. (Brown) My name is Ashley Brown, and I'm here
 6 testifying on behalf of Unitil.
- 7 Q. These microphones, you need to get really close as you speak.
- 9 A. (Brown) Yeah, my name is Ashley Brown, and I'm

 10 here testifying on behalf of Unitil.
- 11 Q. And Mr. Brown, you also filed rebuttal
 12 testimony in this matter; is that correct?
- 13 A. That is correct.

2

3

- Q. And that has been marked as Exhibit 41, with attachments being Exhibit 42. Do you have any corrections to your testimony?
- 17 A. (Brown) I do not.
- Q. And if I were to ask you questions in that testimony this morning, would your answers be the same?
- 21 A. (Brown) It would.
- Q. And do you adopt your testimony here this morning?
- 24 A. (Brown) Correct.

```
24
                   MR. SHEEHAN: Mr. Chairman, I move
1
         the admission of Exhibits 41 and 42.
2
                   CHAIRMAN HONIGBERG: Without
3
         objection, I.D. will be struck and those are
4
         full exhibits.
5
               (Exhibit 41, 42 admitted.)
6
7
                    CHAIRMAN HONIGBERG: Mr. Sheehan, it
8
         may be just my notes keeping up. But when you
         were speaking with Mr. Harrington, did you deal
9
         with 63 and 64?
10
11
                   MR. SHEEHAN: I did mention them,
12
         yes.
                   CHAIRMAN HONIGBERG: Okay. Everybody
13
14
         else seemed to get it. I missed it.
15
                   MR. SHEEHAN: And I'm not sure I did
16
         it either, but I'll go back to Ms. Tebbetts.
17
    BY MR. SHEEHAN:
          The settlement agreement, which is Exhibit 5,
18
    Q.
         and the technical statement, is something that
19
20
         you prepared along with Mr. Labrecque and Mr.
21
         Debski of Unitil; correct?
22
         (Tebbetts) Yes.
    Α.
23
         And those documents -- the settlement agreement
    Q.
```

is what this group asked the Commission to

```
[TEBBETTS|BROWN|DAVIS|HARRINGTON|LEBRECQUE|MEISSMER]
                                                           25
         approve, and the technical statement is the
1
2
         statement in support of the settlement
         agreement; is that correct?
3
        (Tebbetts) Yes.
4
    Α.
5
                   MR. SHEEHAN: I would move the
         admission of 5 and 6.
6
7
                    CHAIRMAN HONIGBERG: Without
8
         objection, we'll strick the I.D. on those two
         and they're full exhibits.
9
                (Exhibit 5, 6 admitted.)
10
11
                   MR. SHEEHAN: Thank you.
                         Mr. Chairman, the plan is to
12
         have Ms. Tebbetts walk through the settlement
13
14
         agreement and explain its terms, to make sure
15
         the room understands our proposal. And then we
16
         will go through the witnesses in the order I
17
         introduced them, and they will each give a
         brief statement in support of and contrasting
18
19
         our settlement with the competing settlement.
20
         Thank you.
21
                    CHAIRMAN HONIGBERG: Have at it, Ms.
22
         Tebbetts.
23
         (Tebbetts) Thank you. Good morning.
                                                 The first
```

{DE 16-576} [Day 2 - Morning Session ONLY] {03-28-17}

piece that I'm going to talk about are the

terms of the agreement.

Section 1 deals with the proposed start date for both large, over 100 kW projects, and small projects, which is equal to and under 100 kW, that reserve a place in the queue, consistent with the requirements in Docket DE 15-271. After June 30th, 2017, they'll be moved to the proposed tariff once the utilities are able to bill these changes that we've proposed in our settlement. Until that time, these customers will be billed under the net metering tariff that's in effect as of March 2nd, 2017.

Section 2 is Interconnection Application

Fees. The proposed tariff will not change the application fee for large projects or small projects, and in the future, the utilities will file with the Commission for approval of a different application fee that is based on demonstrated costs.

Section 3 is the Customer Charge. The customer charge for each of the utilities won't change as a result of the approval or implementation of this tariff. In the future,

the utilities may request Commission approval for supplemental customer charge applicable to net-metered customers based on demonstrated incremental customer-related costs for metering, billing and interconnection.

CHAIRMAN HONIGBERG: Ms. Tebbetts, slow down just a little bit.

A. (Tebbetts) Section 4 is Rate Design. This tariff will not require, and the parties do not recommend, any changes to the rate design of the utilities. The utilities will apply the prevailing rates, as they maybe amended from time to time.

Section 5 is the Lost Revenue Recovery.

Once the tariff is approved, the utilities will be allowed to recover their lost revenues using the mechanism and calculations approved in Order No. 25,991, dated February 21, 2017. The parties agree that this mechanism is appropriate for the recovery of lost revenues. Parties also agree that they will support and not oppose any utility requests made before December 31st, 2020, to recover lost revenues consistent with that mechanism.

Section 6, the Applicability of Various Charges. For both the large and small projects, net-metered customers will be billed all charges applicable to the relevant rate class for which the electricity is imported from the grid. For electricity exported, net-metered customers will not receive credit for distribution service or for any rate element deemed to be non-bypassable, such as stranded cost charge, system benefit charge, electricity consumption tax, storm recovery adjustment, and the non-transmission portion of Unitil's external delivery charge.

Section 7 is the Commodity Credit for
Kilowatt Hours Exported to the Grid. For small
and large projects, all net-metered customers
taking default service will receive credit for
exported electricity at the default service
rate. Customers taking service from a
third-party supplier will receive credit for
those exports on the energy service portion of
their bill as calculated by PUC 903.02(I),
which is basically the avoided cost
calculations annually calculated by the

Commission. Consistent with the current existing tariffs, small and large group host projects, both the host customer and all members, must be default energy service customers of the interconnecting distribution utility. So this is not a change.

The parties recommend that the Commission investigate requiring competitive suppliers to notify their customers that becoming a net-metered customer will affect the terms under which they participate in net metering, such as the fact that they are going to be paid the avoided costs calculated rate rather than the energy service rate or any other rate.

For large projects, the net-metered customer must consume on site and behind the meter at least 20 percent of the actual or estimated generation from the large project on an annual basis to qualify for the tariff that we've proposed. They may take energy service from a competitive supplier, which will be responsible for any export terms and credits. That is also the case today.

Should the customer not consume at least

20 percent of the large project generation on site, the large project will be required to register as a group host.

Section 8, Transition Credit for Kilowatt Hours Exported to the Grid. For small projects, net-metered customers will receive a credit equal to a hundred percent of the volumetric transmission charge of the customer's applicable rate class for electricity exported to the utility, and large projects will not receive such credit, as is the case under current net metering rules as well.

Section 9, Renewable Energy Certificates.

Customers will own their RECs, with no obligation by the utility to purchase them.

Utilities will work with parties on solicitation for a third-party administrator or aggregator for customers who want to participate in the REC market, and utilities or their designee will be the independent monitor. The utilities agree to undertake customer education efforts relating to RECs and to assist in promoting REC participation.

2

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

Section 10, Monetary Credit to Customers and Recovery of Costs. For all projects, any credits relating to the amount of exported electricity will be provided as a credit on a dollar-value basis rather than a per-kilowatt-hour basis on the net-metered customer's bill. These customers may, at their election, convert the bill credit balance to a cash payment upon exiting the net metering program for reasons such as moving or otherwise terminating service, or once a year, each April, they may be provided a bill credit where they can cash it out if the balance is greater than \$100. Large group hosts will continue to receive a monthly payment check rather than on-bill monetary credit each month as they do today.

The default service or avoided cost credit, if the customer is with a third-party supplier for exported energy, will be recovered through the reconciliation of the default service charge. The total of all kilowatt-hour exports that are credited at default service or avoided cost rates will be applied to reduce

the utility's ISO-New England wholesale load obligation that is allocated to all suppliers, except for those projects registered with ISO-New England as settlement-only generators. The transmission credit will be recovered through the utility's annual transmission rate reconciliation proceedings. So the current structure of banking will no longer apply to these future -- to this future tariff -- or future customers who come online after the start date.

Section 11 is Grandfathering. Projects that come into the queue after June 30th, 2017, will be grandfathered until December 31st, 2040. For those customers who exit the net metering program prior to that time or elect to go to a new net metering tariff, they will be able to return to a net metering tariff that is available at the time that they decide to return.

Section 12 deals with Data Collection and Studies. So the settling parties agree to a locational value study similar to the Nexant study that was performed in New York and

referenced in the December 21, 2016 rebuttal testimony of Eversource witnesses, and performed under the supervision of the Commission.

To further review the appropriate compensation for avoided transmission cost allocation, particularly for large projects, the parties have agreed to review by April 30th, 2018, that compensation.

The Commission -- the parties are requesting that the Commission open a proceeding to conduct a value of DER study based on real-time market prices and distribution system needs, in which, 1), they'll differ -- different DER resources at various levels of capacity value will be considered; 2), valuation will be based as closely as possible to real-time prices and near-term marginal costs, with no long-term projections or forecasts to be considered in this study; 3) actual costs to installers and customers for implementing DER resources in New Hampshire are considered; and 4) there are opportunities for public comment prior to the

study being conducted.

1

2

3

4

5

6

7

8

9

24

Utilities will also be entitled to timely recovery of those reasonable costs related to the studies and associated data collection efforts.

- Q. Ms. Tebbetts, we're running a little tight on time, so why don't you move to the last one, metering, and we'll pick up the pilot task force as questions go along.
- (Tebbetts) So the last section is Metering. 10 Α. 11 And customer-generators are going to be required to have bidirectional meters. And the 12 customer has the opportunity to get that meter 13 14 for free, if they so choose. The utility is 15 willing to provide that customer with the 16 production meter if they are willing to put it 17 on the meter box. The utility will then request to recover costs associated the 18 production meter when it files for its annual 19 20 reconciliation. And by offering the production 21 meter to the customer, it gives them the 22 opportunity to participate in the REC program 23 previously mentioned.
 - Q. Mr. Harrington.

-	A.	(Harrington) Thank you. Good morning. I just
2		want to start by mentioning, as I think
3		everybody knows, we're facing a bit of a crisis
Ŀ		on the cost of electricity in New Hampshire.
5		We've seen recently SIG Sauer ship 200 jobs to
5		Arkansas. I received a letter a couple weeks
7		ago I know, slow, slow, right from
3		Wayland Engineering saying that they were
)		planning a major expansion which might be done
)		out of state. And the reasons for these were
-		strictly linked to high electric costs in New
2		Hampshire. And I think going forward on any of
3		these, I'm sure the Commission holds that in
Ŀ		high importance, that we need to be doing
5		something about electric rates or we're going
5		to continue to lose jobs like this.
	l	

This is a compromised agreement, which means just that. We don't necessarily agree with everything in here, but it is a compromise. And I think it addresses a lot of the issues that need to be done. The major thing here is that it's going to be paying default service rather than LMP -- though we feel LMP would be the more appropriate one.

2

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

```
But again, it's a compromise, so we do that.
And we need to not lose track of what we're
dealing with here. Solar power is an
intermittent, non-dispatchable, unpredictable
and highly volatile source of electricity.
There is no way that they have commitments such
as a regular generator. They don't have an
obligation to produce power in any particular
time or face any negative consequences.
fact, they're basically at the whim of the
weather. And, you know, the prediction has
gotten somewhat better over the years.
you know, a thunderstorm shows up an hour
earlier than predicted and it starts raining
heavily, the solar production goes way down.
But it takes a good amount of time for the
air-conditioning load to drop corresponding to
       So you have to bring on other resources.
Normally this involves reserves that have to be
there in case the solar cuts out unexpectedly.
Again, there's no requirement that the solar
produce at any given time.
     And also, we have to remember this is a
```

shift, a cost shifting from higher incomes to

2

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

lower incomes. I mean, if you look at this --I made a few calls to solar producers, and they told me that you should have somewhere in the vicinity of \$150-a-month bill at a minimum or higher in order to make the long-term cost-effectiveness of putting these in, even with all the various tax breaks. A lot of people have lower bills than that. A lot of people live in apartments, they live in mobile homes, they live in condos. They just live in a house that's not large enough to support solar panels, and their rates are going to be higher to support someone who has a very large house, maybe a hot tub and swimming pool and central air. Those are the people with the biggest electric bills that would get the most benefit from net metering.

And as far as one of the main points in here goes, we proposed that we treat the import and export of electricity as two different mechanisms, two different types of commodity, because they are completely different. And I'm not going to go into reading all the details of that, but I think that's a major point to

recognize what's imported onto a net-metering customer is a different type of product than what they export. One has to be there 24/7 for whatever they want all the time, and the other one can come and go basically as it pleases. There's no requirement, even if it's a bright, sunny afternoon. If someone's inverter breaks, there's nothing that requires a net-metering customer to go out and say, Well, I'll fix that today so I can start producing my electricity again as soon as possible. I'll fix it next week, or, hey, I might not get around to it for another month. But there is absolutely no requirements to do that.

The other thing on here is that we also gave credit to the transmission costs for -- and I think this is major concession for the net metering. I think a good case can be made that there's very little transmission costs saved by solar net metering. And we've also seen a lot of statements and studies recently that the load, as we look to the future, is at best leveling off and maybe even going down slightly. And it's really hard to say you're

going to save money on future transmission costs that aren't required because the load isn't going up. And as long as the load remains stable, there's no driving force to build a lot of new transition.

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

Additionally, in this settlement agreement we single out solar net metering and give it preferential treatment on transmission costs as compared to other resources -- and by that I mean energy efficiency. A lot of people in the room are familiar with the long battle that NESCOE and NECPUC had with ISO-New England on getting credit for energy efficiency. region spends about a billion dollars a year of ratepayer money on energy efficiency. And they got that into the future planning of transmission, so that the cost of transmission went down substantially in the 10-year Vermont-New Hampshire plan. Was in the hundreds of millions of dollars of deferred or eliminated cost for transmission because of energy-efficiency programs. But we don't pay any direct payments to energy-efficiency resources for this. They don't get any

- specific credit. They get to take advantage of 1 2 a lower electric bill like everybody else does, but there's no direct payments for them. 3 yet, in this case we're saying for net metering 4 5 we want to give additional payments for transmission savings that may or may not be 6 7 But that's one of the concessions we 8 made as part of this agreement.
- 9 Q. Mr. Harrington, it's time to move on to Mr.10 Labrecque. If you have --
- (Harrington) No. I just would like to bring up 11 Α. those things in general, that people should 12 keep in mind here what we're doing here in 13 14 this. And again, this was a settlement 15 agreement that was a compromise. And it's 16 certainly not what we would prefer, but it's 17 probably the best we can get at this time. 18 Thank you.
- 19 Q. Thank you. Mr. Labrecque.
- 20 A. (Labrecque) Thank you. Good morning,
 21 Commissioners. Good morning, everyone. If I
 22 can, I'm going to speak very briefly off this
 23 one-page supplement that we referred to a few
 24 minutes ago.

```
To demonstrate the quantities that we're
1
2
         talking about in the two various proposals --
                   MR. HINCHMAN: Is that in the record?
3
                    CHAIRMAN HONIGBERG: What do you
4
         mean?
5
                   MR. HINCHMAN: You're talking about
6
7
         the chart; right?
8
                   CHAIRMAN HONIGBERG:
                                         It's been marked
         as Exhibit 67 for identification, and he's
9
         going to talk about it.
10
11
                   MR. HINCHMAN: So is he building a
         foundation for admission?
12
                   CHAIRMAN HONIGBERG: I don't know.
13
14
         Why don't we find out what he has to say about
15
         it.
16
         (Labrecque) I've labeled four sections on this
17
         graph to try to help people understand the
         quantities involved. When you put a
18
19
         bidirectional meter on, you have the ability to
20
         measure the imported power -- in this case,
21
         Sections A1 and A3 -- separately from the
22
         exported power -- in this case, Section A4,
23
         when the solar is producing more than the
         customer is consuming. This is merely to point
24
```

```
out that in the Utility/Consumer proposal,
1
         we're going to bill full retail rates for full
2
         requirements, retail load-following,
3
         PUC-rate-approved structure, and we're going to
4
         pay a different quantity for the exported power
5
         in Section A4. And in our proposal, it's a
6
7
         compromise. We're suggesting that we would use
8
         the default energy rate plus the volumetric
         transmission rate, despite the fact that this
9
         bears no resemblance to full retail,
10
11
         PUC-approved rate structures.
                                         It is
         intermittent, customer-owned, non-dispatchable
12
         resource. And that's all I wanted to say about
13
         that particular piece of paper.
14
15
              Yesterday we heard --
16
                   MS. BIRCHARD: Mr. Chairman, I'm
17
         sorry --
               (Court Reporter inquiry)
18
                   CHAIRMAN HONIGBERG: Ms. Birchard.
19
20
                   MS. BIRCHARD: Melissa Birchard.
                                                       Is
21
         this not being admitted for the shape of the
         chart or the data that underlies it? I don't
22
23
         have an understanding of what data underlies
         it, and that's my concern. If this is being
24
```

```
admitted as a visual, you know, intended for us
1
         to look at and understand that the data is
2
         meaningful, if so, where does the data come
3
         from?
4
         (Labrecque) I can describe the data, if that's
5
    Α.
         what you'd like me to do.
6
7
                    CHAIRMAN HONIGBERG: Hang on just one
8
                  Is there a ground rule about one
9
         attorney per side lodging objections, or is it
         going to be a free-for-all and any of the
10
11
         lawyers on that side is going to be allowed to
         speak to this? I thought I was hearing from
12
         Mr. Hinchman.
13
14
                         Ms. Birchard, what's the
15
         arrangement here?
16
                    MS. BIRCHARD: The arrangement, to my
17
         understanding, was that there was some
         discussion as to Acadia being somewhat
18
19
         independent, so we have agreed to the --
20
                    CHAIRMAN HONIGBERG: Make sure it's
21
         on and you're close to it, please.
22
                   MS. BIRCHARD: So my understanding is
23
         that Acadia and CLF are acting in a combined
24
         manner.
```

	44
1	CHAIRMAN HONIGBERG: All right.
2	Thank you. It's not really appropriate for you
3	to start asking this witness questions. If you
4	want to object to what's going on, you address
5	that to us and we'll deal with it.
6	MS. BIRCHARD: Certainly. And I was
7	attempting to do so. I'm sorry I'm hiding
8	behind someone.
9	CHAIRMAN HONIGBERG: And I wasn't
10	even sure you were actually here for a while,
11	then I realized you were hiding behind the row
12	in front of you.
13	MS. BIRCHARD: I apologize.
14	CHAIRMAN HONIGBERG: So I take it you
15	are objecting to further discussion about this
16	unless there's some explanation of what the
17	numbers are? What I heard Mr. Labrecque just
18	talk about was the shape.
19	Really, in large measure, I'm
20	talking to Mr. Sheehan mostly right now. This
21	was being used as a chalk demonstration type of
22	thing that he could have drawn up and said,
23	well, these four sections of this curve are
24	going to be treated in different ways under our

approach.

MR. SHEEHAN: I believe that to be the case, and I believe Mr. Labrecque said,
"I'm done with that piece of paper for now."

And the questions that the CLF and others may have are cross-examination questions that should be reserved then. And at the end of the presentation today, I will move the admission of that document again. And based on that cross-examination and what use Mr. Labrecque intended for that document, you can then make a ruling as to whether it's admissible or not.

CHAIRMAN HONIGBERG: Well, I'd be concerned, if I were you, about the numbers that appear on here, because they may or may not mean anything. He didn't say anything about them. And if they choose not to ask anything about them, those -- I don't -- I mean, I understand the rules evidence don't apply. We can take it in and take it for what it's worth. But it seems to be just a little bit of the kind of thing he could draw up on a white board to show a demonstration. I'm not sure what significance of the numbers are

unless he testifies about them.

MR. SHEEHAN: And he has testified, well, to the extent that these presentations are testimony. If at the end of this proceeding there's still a question of what this document means, we have an opportunity for redirect, and we will make sure we get the sufficient foundation to get this document into evidence.

CHAIRMAN HONIGBERG: He said he's done with it, so I'm not sure there's really much for you all to do. It's not being moved at this time, and I think at this point it just feels like a chalk to me.

All right. Mr. Labrecque, you can continue.

A. (Labrecque) Thank you. Yesterday we heard repeatedly about the inability of solar providers to model the arrangement, the netting arrangement that the Utility Coalition has put forth. And it seems that only full retail monthly netting is a concept that they'd be able to sell. On the contrary, I think these are highly sophisticated technology companies

2

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

that are fully capable of modeling. If they would spend a little time with each customer perhaps getting to understand the load profile of the customer, they could install load-monitoring equipment for a period of weeks or months in order to get a better handle on the type of load profile of the customer that they are marketing to. They can take that opportunity to build a stronger relationship with their customer, create a workable model of the extent to which the solar power will be consumed internally by that customer rather than exported. That would also give them the opportunity to discuss with the customer additional products and services, such as battery storage and load-control technologies that might be used to ensure that a higher proportion of the solar power was matched with internal consumption.

Lastly, I just want to mention that in this docket there's been very little discussion about the concepts of reasonable opportunities to invest or fair compensation, which was part of the purpose statement of House Bill 1116.

Yesterday there was some attempt to talk about PPA pricing models and how it is that solar companies put together their pricing structures, but the witnesses were successful in avoiding that discussion. I think this -- it will be difficult for us to truly get a handle on what is the appropriate and fair level of compensation for distributed generation without an exploration of these topics. That's why the Utility/Consumer Coalition suggested value of DER study. We have suggested that these types of topics be addressed. Thank you.

14 Q. Mr. Davis.

A. (Davis) Good morning. I'm going to just build briefly off what my colleague said and have talked to so far.

In our proposal, you know, we provide a simple, transparent and easy-to-understand alternative to net metering. We are seeking to, recognizing it's a settlement, to move toward equitable cost recovery and rate structures. And our proposal provides a framework to make some corrections, but also,

2

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

more importantly, where we can measure, charge and compensate for actual transactions that occur in real time every month. transparency particularly afforded by separately measuring the imports and exports and addressing the current rate structures and the appropriate rate structures and cost recovery, as well as whatever the basis for compensation is, but transparent compensation where we do not promulgate net metering, but instead have very clear measurements of what the actual electric service being provided is in both directions. We don't necessarily presume so-called "value of solar pricing" is a foregone next step, but we have put forth pilots, research in other parts of our proposal to examine that. Meanwhile, having a framework in place that we can practically implement is, in our mind and reflected in our proposal, a reasonable and very well understood or easy-to-understand next step. We factored in many practical considerations, particularly on the metering and billing side. And how we can make this work is clearly one of the biggest

questions that is not often answered or not addressed when looking at all the conceptual and other frameworks and policy directions that have come up in this docket and that we've all had to work with extensively as we try to see what a proper alternative might be, both in the short term and long term. We think our proposal addresses both the short term and provides a platform going forward for fair and equitable rates going forward.

Our focus is on the customer and their electric service needs and the use that each customer requires; it's as different as each customer. Ratemaking in a regulated environment for certain aspects of service are clearly part of the consideration. We also recognize we're in a mixed mode of both competitive and regulated pricing and electric transactions. We think our framework in both the delivery and supply aspects of service provides a very clear, and as I said earlier, transparent basis for setting proper rates, for providing better cost recovery than net metering would provide, and for addressing a

number of issues that are reflected in our proposal. We address a number of other issues that are policy-related. And we think we have solutions, including cost shifting and renewable energy certificate production through our lost revenue mechanism and our proposal for having production meters. And working off of that, that integrates and fits well within the overall structure that we propose and is reflected in our proposal.

Q. Mr. Meissner.

A. (Meissner) Good morning. To ensure there's enough time for Mr. Brown, I'll be very brief.

But I just wanted to talk briefly about a couple of the differences between the two settlement proposals and how they might be seen differently by the utilities, in terms of their impact on our operations, that being the netting period and also the credit for distribution for exports of our electricity.

In terms of netting, I think the Utility proposal, which is to install two-channel kilowatt-hour meters, has been characterized as "instantaneous netting," which I believe is a

2

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

term we all prefer not to use. But there was a great deal of testimony that indicated it was very complicated. I think there was confusion between the meters that we would use and interval meters. I heard at one point 31 million data points. And just to be clear, the metering that we would be using is identical to the metering that would be used under the other proposal. It is simply a standard kilowatt-hour meter with two channels, one measuring import and one measuring outport -export. So at the end of the month, we would essentially have two pieces of information where we now have one. We would have imports and we would have exports instead of the net of the two.

In terms of the netting period,
instantaneous netting was described as "bad
policy," "bad pricing signals" that would
encourage behaviors that would be detrimental
to the distribution system. In fact,
instantaneous netting is far preferable, from
the standpoint of distribution planning,
because we would prefer the customers

right-size their generation equipment and then use as much of their own production as possible on site rather than exporting uncontrolled, intermittent and non-dispatchable generation onto the distribution system.

In contrast, the proposal from the

Coalition would be monthly netting. And I

believe there was some suggestion that it would

send price signals encouraging conservation

behaviors and shifting of consumption to

off-peak hours. In fact, monthly netting sends

no price signals. Customers are not incented

to change their behaviors at all. Instead, it

enables customers to continue to consume

electricity at their own convenience, as they

do now.

From a policy standpoint, though, I would make the argument that one clear policy implication is that monthly netting will act as a deterrent to on-site energy storage, as there is now no economic incentive for customers to install energy storage behind the meter and to manage their own consumption.

In terms of the distribution charge,

2

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

there's been a lot of testimony suggesting that there's no data in the record to support the lack of credit for exported electricity, in terms of its value to the distribution system. I would argue differently. I think during the course of this proceeding we have provided extensive information, including multi-year planning studies, multi-year circuit analysis. We've provided low profile showing coincidence with solar output. We've provided all of our multi-year capital budgets and investment plans. And I think, taken together when viewing that information, it was clear that there was little or no short-term benefit to the distribution system from these DER resources. And even over the longer term there was very minimal opportunity for solar DER to offset future investments by the electric utilities. So I just wanted to make those points. With regard to the Coalition settlement proposal, I would argue that there's no data underlying the 50-percent and 75-percent credit that has been proposed after monthly netting.

With that, I'll turn it over to Mr. Brown.

A. (Brown) Thank you. I wanted to do, really, two things and try to do it as quickly as possible.

One is to go through what I think are the very significant concessions that have been made by the utilities in offering the settlement proposal, and secondly, to talk about the positive aspects of what's being proposed. But let me put the concessions in context.

Many of these concessions are not simply concessions by the utilities, they are simply acquiescence to the shifting of costs from the people that cause them to be incurred -- in this case, the solar customers that are not solar customers who did not cause them to be incurred. And I'll go through those concessions specifically related to that and then go through the other concessions that are important.

No. 1, there is an agreement not to charge intermittent solar customers for the fixed costs of transmission and generation which they caused the system to incur, but for which they do not pay when they're generating energy with

2

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

him.

their solar panels, nor is there any -- and then there's also an agreement not to pass on demand charges that similarly are incurred, regardless of whether a customer has a solar panel or not. So that's a very significant economic concession. And it also largely forgives the fact that solar panels on rooftops are not only intermittent, they're a double-contingency intermittency. As Mr. Harrington said, they're dependent on the weather, but they're also dependent on the use of the customer premises. If the customer is using everything, it's not available to the So this is unlike wholesale renewable. system. This is a double-contingency intermittency.

Let me go through more rapidly some of the other concessions. Grandfathering existing units for more customers than are currently on the books, or than the statute actually provides, I should say, paying the default rate for export as opposed to LMP, that's a significant economic concession. Mr. Harrington spoke to that, and I agree with There's no change in the customer charge

for now, even though I think there are justifications for it. The agreement to do a value study subsequently after this proceeding, no change in rate design for solar customers, this has been a controversy for a lot of jurisdictions, but the utilities have agreed not to do that, at least for now. Customers get to keep the RECs. And that's interesting because, not only do the customers keep the -- the customers who don't get to keep their RECs under this plan are those that lease their units, and those customers -- those RECs belong to the solar companies. In the case of the customers have their RECs and purchase the units, they get to keep the RECs.

The incremental -- the change here is highly incremental. I mean, I've seen these cases in many other states where the changes are far more significant than they are here. These are very modest changes being proposed in this proposed settlement. It helps also -- the utilities have agreed to assist customers in managing their RECs, which is also important because it needs some degree of sophistication

to participate meaningfully in that market.

It overlooks the fact -- and this is not insignificant -- that solar preferences, distributed solar preferences, preferential pricing as opposed to other renewable energy resources, actually drives down the carbon price in the RGGI market, and by doing so decreases the cost of reducing carbon for everybody in New England, or from not just the New England region, but the entire RGGI region, including, of course, New Hampshire and the rest of New England.

(Court Reporter inquiry)

A. (Brown) The last two concessions that are important is that the bidirectional meters are being installed at no cost to the customer, and also that it overlooks the socially regressive effects that, or the remaining socially regressive effects that are only partially obviated by this proposed settlement. In many respects, what net metering has been is kind of a Robin Hood in reverse. This modifies it a bit, but not entirely. And there's an agreement not to entirely try to get rid of the

socially regressive effect at this point.

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

Apart from the concessions, there's six positive elements of what's being proposed that's important. One is the term we use or don't use, but the term in this case, "instantaneous netting," is actually incremental, a modest but incremental movement towards the kind of time-sensitive pricing that the solar people claim they support. And this is, in fact, moving in that direction. moves away from a flat, meaningless price to a price that has a little more meaning. much meaning as LMP, but it does have more meaning. It's a real price signal, and it actually fits very well with intermittent resources because it actually matches not quite in real time but comes much closer to that in measuring the output of an intermittent resource.

It also adds an element that's called for in House Bill 1116 of transparency in pricing. Net metering is almost the opposite of transparency pricing. In fact, it is the opposite of transparency pricing.

2

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

Also, and this is very significant, because what this actually -- this proposed settlement helps both the solar and non-solar customers because it's a step in the direction of allowing the declining costs, a greater share of the declining costs of solar panels to be passed on to customers. This is a critical point. Solar costs have declined dramatically in recent years. Net metering is a system by which those price signals, or those cost declines are hidden from customers, solar and non-solar, except to the limited extent that there's some competition among solar providers. But since the price is so arbitrarily high, the value of that competition is severely diminished. This is in fact a major move -- a significant move, although not as dramatic as one could argue could be made, in allowing the customers to see benefits of declining costs. That's important. In fact, it actually helps solar in the long run for that reason.

It also encourages more customers to be self-sufficient and effectively helps to shift load off peak. Most solar generate -- some of

2

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

the solar testimony we've seen actually argues that, well, the effect of shifting of this proposal would be to cause customers to use their appliances more when their solar panels are generating. Well, in fact, their solar panels, for the most part in New England and in New Hampshire, are generating off peak. they shift to when solar panels are producing. That's not an adverse thing. That's actually a good signal. So it's actually encouraging more customer self-sufficiency. And as was pointed out earlier, that also allows customers to use other things, like load management, like batteries and other kinds of storage to move in a more effective use of the solar panels much more efficiently.

It's also a step, only a modest step, but it is a step towards market pricing, which is what we have -- which I think is a desirable result.

And the last two items are it's an early start and a modest -- and I emphasize "modest start" on trying to get the prices right and send customers the right price signals.

And I mentioned this, but I want to
mention it again, and this is my final point.
It is a powerful incentive to enhance the value
of solar, the worth of solar to customers, by
encouraging the use of batteries, load
management and other things that not only
supplement solar power, but enhance its worth
to the customer. Thank you.
MR. SHEEHAN: Mr. Chairman, the
witnesses are available for cross-examination.
CHAIRMAN HONIGBERG: All right.
Who's up first? Ms. Birchard.

MS. BIRCHARD: Thank you. I'm grateful for the opportunity to examine the witness first today, but I'm also cognizant of the fact that there are many people who also are waiting to speak with the witnesses and that there are many witnesses on the panel. So I am intending to be as quick as I can, and my goal will be to, you know, specify to whom my questions are directed. If I fail to be specific, please go ahead and let me know and ask me to whom I'm intending to direct my question.

CROSS-EXAMINATION

2 BY MS. BIRCHARD:

1

3

4

5

6

7

8

9

10

11

20

- Q. Thank you for taking the panel today and for taking my questions.
- Mr. Labrecque, if I could start with you back in the corner. May we first turn to your direct prefiled testimony for a moment. I believe it's been marked Exhibit No. 14 at this point. And I'd just like to confirm a few details from that testimony. Do you have that there?
- 12 A. (Labrecque) I do.
- Q. Okay. So at the bottom of Page 15, Line 12 of your testimony, you state that intermittent power resources are, and I'm quoting now, "are capable of providing wholesale energy and capacity, both of which are compensated by ISO-New England." Can you confirm that's correct, that that's what it says there?
 - A. (Labrecque) Yes.
- Q. Thank you. And then moving on to the top of
 Page 16, you state that, "While most
 net-metered projects are very small scale (for
 example, an 8-kilowatt rooftop solar project),

```
64
1
         they provide wholesale products (energy and
         capacity) that are identical to those provided
2
         by large central station generation resources."
3
         Can you also confirm that's what you say in
4
5
         your testimony there?
         (Labrecque) Could you just give me the page
6
    Α.
         again? Did you say top of 16?
7
8
    Q.
         Top of 16. Is your pagination the same there?
         (Labrecque) Unfortunately, I've got probably
9
    Α.
10
         the incorrect pagination. Should I be in the
11
         binder? Is that...
         It may have been repaginated by Eversource.
12
    Q.
                   CHAIRMAN HONIGBERG: In the version
13
14
         that we have, what Ms. Birchard just read
         started at the bottom of 15 and continued on to
15
16
         the top of 16.
17
         (Labrecque) Ah, sorry. I got it.
    BY MS. BIRCHARD:
18
19
    Q.
         Okay. Great. Is that consistent with your
20
         version, Mr. Labrecque?
         (Labrecque) Yeah, and that is consistent.
21
    Α.
22
         Mr. Davis, ISO-New England is the Independent
    Q.
23
         System Operator of the New England electricity
```

grid; is that correct?

24

- 1 A. (Davis) That's my understanding.
- 2 Q. Just getting the basics.
- 3 Are you generally aware that ISO-New
- 4 England produces forecasts that concern the
- 5 regional electric system, including load
- 6 forecasts?
- 7 A. (Davis) I recall there's an annual forecast
- 8 produced, I believe in the second quarter of
- 9 the year.
- 10 Q. Thank you. And these are typically referred to
- 11 as "CELT" reports; is that right?
- 12 A. (Davis) Yes.
- 13 Q. Does that ring a bell?
- 14 A. Otherwise coined the "CELT" report, yes.
- 15 (Court Reporter inquiry)
- MS. BIRCHARD: C-E-L-T, for Capacity
- 17 Energy Loads and Transmission.
- 18 We have some copies of a couple
- of these reports that I'd like to bring to your
- attention, if I may. The first one is not in
- the binder, but I believe there are copies
- 22 available. So if I may hand those out now.
- It's the "Draft 2016 CELT ISO-New England
- 24 Annual Energy and Summer Peak Forecast,"

```
66
         produced by ISO-New England's Planning Advisory
1
         Committee.
2
                    CHAIRMAN HONIGBERG: Ms. Birchard,
3
         while this is happening, why don't you ask him
4
5
         something else while they're collecting the
         copies and handing them out, rather than us
6
7
         sitting here for three minutes while this
8
         happens.
9
                   MR. BIRCHARD: I apologize, but this
         is the subject of my cross-examination for
10
11
         Mr. Davis.
                    CHAIRMAN HONIGBERG: Let's go off the
12
         record for a minute.
13
                (Discussion off the record.)
14
15
                    CHAIRMAN HONIGBERG:
                                         The next exhibit
16
         is 68, and that's what has been distributed.
17
                   MR. WIESNER: Is that correct, Mr --
         chairman? The affidavit from Overcast --
18
                   CHAIRMAN HONIGBERG: No one's said
19
20
         anything about it. It was just, quote,
21
         unquote, filed. As far as -- I'm not sure.
                                                       No
22
         one asked. So I'm assuming that it's just
23
         going to become part of the docket associated
         with that testimony. We can mark it or not.
24
```

```
67
         Do you think that's advisable?
1
                    MR. WIESNER: I think that would be
2
         my preference, at least -- I don't know if
3
         others agree -- that that be marked as an
4
         exhibit.
5
                    CHAIRMAN HONIGBERG: Mr. Sheehan.
6
7
                    MR. SHEEHAN: I have no objection to
8
         that.
                (Exhibit 68 marked for identification.)
9
                    CHAIRMAN HONIGBERG: All right.
10
11
         that answers that question that we were just
         musing about up here. So the affidavit that
12
         Mr. Sheehan presented for -- which witness, Mr.
13
         Sheehan?
14
15
                   MR. SHEEHAN: Mr. Overcast.
16
                    CHAIRMAN HONIGBERG: -- for Mr.
17
         Overcast is going to be 68, just because we're
         not in order.
18
19
                   MR. FOSSUM: Mr. Chairman, before you
20
         continue --
21
                    CHAIRMAN HONIGBERG: Mr. Fossum, yes.
22
                   MR. FOSSUM: We had filed an
23
         affidavit on Friday for Russell Johnson.
         Should that -- it's in the Commission's docket
24
```

{DE 16-576} [Day 2 - Morning Session ONLY] {03-28-17}

```
68
         book.
                It was filed. Since we're making them
1
2
         exhibits, should that become an exhibit as
         well?
3
                                         It seems like
                   CHAIRMAN HONIGBERG:
4
5
         that would be the consistent way to treat that.
         Again, I'm not entirely sure that it's
6
7
         necessary. But if that's the practice that
8
         we're going to follow for this proceeding,
         that's fine with me. So we're going to make
9
         Mr. Johnson's -- is that what you just said Mr.
10
11
         Fossum?
                   MR. FOSSUM:
12
                                 Yes.
                   CHAIRMAN HONIGBERG: Mr. Johnson's
13
         affidavit will be 69.
14
15
               (Exhibit 69 marked for identification.)
16
               (Exhibit 70 marked for identification.)
17
                   CHAIRMAN HONIGBERG: All right. Ms.
         Birchard, having completely broken your
18
19
         flow...
20
                   MS. BIRCHARD: Can you hear me better
21
         now?
               Yes? Okay.
22
    BY MS. BIRCHARD:
         Okay. So, Mr. Davis, do you now have the
23
         exhibit I'm talking about?
24
```

{DE 16-576} [Day 2 - Morning Session ONLY] {03-28-17}

- 1 A. (Davis) I have the Draft 2016 CELT ISO-New
- 2 England Annual Energy and Summer Peak
- 3 Forecast --
- 4 Q. Great.
- 5 A. (Davis) -- Exhibit No. 68.
- 6 CHAIRMAN HONIGBERG: I think it's
- 7 actually 70.
- MS. BIRCHARD: Exhibit 70. Thank
- 9 you.
- 10 BY MS. BIRCHARD:
- 11 Q. Would you do me the favor of turning to
- 12 Page 31.
- 13 A. (Davis) I am at Page 31.
- 14 Q. Thank you. Can you read the header at the top
- of that page?
- 16 A. (Davis) I can. "Draft 2016 CELT ISO-New
- 17 England Annual Energy Forecast in Gigawatt
- 18 Hours."
- 19 Q. Thank you. And this is a graph of the annual
- 20 forecast energy needs of ISO-New England region
- in gigawatt hours for the years 2016 through
- 22 2025; is that correct? You can see the years
- at the bottom of the page.
- 24 A. (Davis) I'll take your word that that's what

this is. 1

2

3

5

6

7

8

9

10

11

15

16

17

18

19

20

21

22

23

24

- Can you tell me from this page what the blue, yellow and red lines are meant to describe? They are indicated at the bottom of the page in 4 blue -- excuse me -- blue, red and black lines. That's what we've got on this.
 - (Davis) The labels state that the blue line is Α. -- or show that the blue line is gross; the red line says "Net BTM Solar PV," and the black line represents "Net BTM Solar PV and Passive DR."
- Thank you. To be clear, "gross" is gross. 12 Q. "Net BTM solar PV" refers to net behind the 13 meter solar photovoltaic; is that correct? 14
 - (Davis) Well, I haven't had a chance to review Α. this report and the definitional terms. discussion, we can assume that "gross," my first initial reaction or interpretation is that would be gross production, that "BTM" is behind the meter. I'm not sure what "net" means in this context, but it's behind the meter something. And there's no units on the -- well, I assume these are all gigawatt hours. Are they gigawatt hours?

- Q. That's right, yeah. And "solar PV" means -(Court Reporter inquiry)
- A. (Davis) And the black, initially I'm going to interpret that represents solar PV behind the meter net and passive demand response.
- 6 Q. That's right, yes. Would that be --
- 7 A. (Davis) Subject to being able to confirm what
 8 these mean, that's my initial interpretation of
 9 what these might represent.
- 10 Q. Subject to check. Thank you very much.

Looking at the graph, we see the blue
line, which is gross, at the top; we see a red
line below, which is, as you said, net behind
the meter solar photovoltaic; and at the bottom
we see the black line with net behind the meter
solar photovoltaic and passive demand response.
Is that your reading of this graph?

- 18 A. (Davis) That's what it appears to indicate.
- 19 Q. And from your reading of this graph, does it
 20 indicate that behind the meter solar
 21 photovoltaic reduces the load demand, the load
 22 needs for the region?
- 23 A. (Davis) I'm not sure I can draw that
 24 conclusion.

- Q. What additional information would you require?
 Perhaps we can glean it from the rest of the report.
- A. (Davis) Well, I don't know what you're saying "reduction" is relative to in your question.
- Correct. So, the blue line is higher than the 6 Q. 7 red line. If the blue line is gross and the red line is net behind the meter solar 8 photovoltaic, then would that tend to indicate 9 10 to you on reading this graph that net behind 11 the meter -- solar photovoltaic indicates that when you subtract behind the meter photovoltaic 12 from the gross, you have a reduced load? 13
 - A. (Davis) I would interpret this as aggregated annual kilowatt hours, or gigawatt hours in this case --
- 17 Q. Right, gigawatt hour.

15

16

- 18 A. -- which on an energy basis this appears to

 19 indicate that the red line is a reduction of

 20 what the load otherwise would be, but for solar

 21 production behind the meter.
- 22 Q. Thank you. Thank you.
- Moving on, I would like to introduce

 another exhibit, which is in the exhibit binder

{DE 16-576} [Day 2 - Morning Session ONLY] {03-28-17}

```
74
         report, I'll go ahead and read the front.
1
2
         you can correct me if I'm wrong. "Draft 2017
         CELT ISO-New England Annual Energy and Summer
3
         Peak Forecast," prepared by ISO-New England and
4
         published on March 22nd, 2017. Is that what
5
         the front page reads?
6
7
         (Davis) Yes.
    Α.
8
    Q.
         Thank you.
              Would you please turn to Page 9 of the
9
10
         report. Mr. Davis, would you mind taking a
11
         moment to read over this page.
         (Davis) Page 9?
12
    Α.
         Correct. At the top it should read "2016
13
    Q.
14
         Summer Seasonal Peak - Friday, August 12, 2016.
         Observed Load vs. 2016 CELT Forecast."
15
16
                (Witness reviews document.)
17
    Α.
         (Davis) Okay. I read it.
         Thank you.
18
    Q.
         (Davis) You're welcome.
19
    Α.
20
         This references the peak day, peak load day for
    Q.
21
         ISO-New England in summer 2016; is that
22
         correct?
23
         (Davis) Yes, that's what it says.
    Α.
         And "Observed Load versus 2016 CELT Forecast"
24
    Q.
```

{DE 16-576} [Day 2 - Morning Session ONLY] {03-28-17}

- refers to the actual observed load that

 cocurred on that peak day in 2016, as opposed

 to the forecast that was made prior to that

 date; is that correct?
- 5 A. (Davis) I'll take it on its face that that's
 6 the case, particularly given this is a draft
 7 report.
- 8 Q. Thank you. Under the second bullet, after the
 9 first comma, it reads, "The observed system
 10 peak load on August 12th was about 1,100
 11 megawatts lower than the 2016 CELT 50/50 summer
 12 load forecast predominantly due to three
 13 factors." Have I got that right, Mr. Davis?
- 14 A. (Davis) That's what it says.
- 15 Q. And underneath that bullet there are three
 16 numbered items, each of which is one of the
 17 factors that predominantly explained why
 18 ISO-New England's 2016 system peak load was, in
 19 fact, unexpectedly low -- is that correct -20 from your reading of the page?
- 21 A. (Davis) That's your interpretation. I would 22 say that's probably consistent.
- Q. That's consistent with your interpretation as well?

- A. (Davis) Well, again, I haven't had a chance to study this. But my interpretation of what's stated in this second major bullet, that seems to be reasonable.
 - Q. So the second bullet says, "Despite the [relatively] severe weather, the observed system peak on August 12th was about 1,100" -- CHAIRMAN HONIGBERG: I think you already read that into the record.
- 10 BY MS. BIRCHARD:

6

7

8

9

21

22

23

- 11 Q. And then it lists three items.
- 12 CHAIRMAN HONIGBERG: And you're not
 13 going to read those into the record, are you?
 14 MS. BIRCHARD: No, but I am going to
 15 ask Mr. Davis to read No. 3 into the record, if
 16 he wouldn't mind.
- 17 A. (Davis) I can do that. No. 3 states -
 18 CHAIRMAN HONIGBERG: Hang on. Mr.

 19 Epler. Why don't you speak into the microphone
 20 so everybody can hear here you.
 - MR. EPLER: Yes, I mentioned
 yesterday that one of the Unitil's witnesses
 has a time constraint. And so the point I
 make, though, is a general one. If we're

already putting this exhibit in the record, I don't think we need to have witnesses read what's already in the record. So I would suggest that we could speed things up. And this is generally. I'm not trying to pick out this particular counsel. We might be able to speed things up. If we're introducing exhibits, we don't necessarily have to have them read. We can just refer to the page and state "on such-and-such a page."

MS. BIRCHARD: I appreciate that. I would say that I'm almost done with this line of questioning. And our instructions prior to the hearing were to reference any exhibits in hearing if we intend to have them admitted.

With that, Ms. Birchard. I think you have to use your judgment as to the best usage of your time. And if you believe that it's best to read and then have the witness read, that's entirely up to you. Whether you need to do that, you might want to confer with others as to whether they also agree with you that that's the best use of your time.

```
[TEBBETTS|BROWN|DAVIS|HARRINGTON|LEBRECQUE|MEISSMER]
                                                          78
                    MS. BIRCHARD: Thank you.
1
                                               I
         appreciate you patience. I am almost done with
2
         this line of questioning. And I can read No. 3
3
         if it would be faster?
4
5
         (Davis) Your preference.
    Α.
                   CHAIRMAN HONIGBERG: Well, we can all
6
7
         see it. We all have it front of us and it's in
8
         the record.
9
                   MS. BIRCHARD: Excellent.
    BY MS. BIRCHARD:
10
         So, "Peak occurred at hour ending 15."
11
    0.
         Mr. Davis is "hour ending 15" likely to refer
12
         to the hour between two and three?
13
14
         (Davis) Yes, although you might have to assume
    Α.
15
         whether it's Daylight Savings Time or Eastern
16
         Standard Time. But it's probably prevailing
17
         time.
18
         Granted. Thank you.
    Q.
19
              Peak occurred at hour ending 15, resulting
20
         in more behind the meter photovoltaic load
21
         reduction than forecast; is that correct?
22
         (Davis) Appears to be the case.
    Α.
23
         Thank you. And Mr. Davis, would you mind
    Q.
```

turning to Page 32 of the same report.

- 1 A. (Davis) I am at Page 32.
- 2 Q. Okay. At the top of the page it says "Draft
- 3 12th CELT ISO-New England Energy Forecast."
- 4 And this is parallel to the Draft 2016 report
- that we already looked at. It shows a blue
- 6 line for gross, a yellow line for net behind
- the meter photovoltaic, and a red line for net
- 8 behind the meter photovoltaic and passive
- 9 demand response; is that correct?
- 10 A. (Davis) Very similar.
- 11 Q. So this would appear to be the same forecast
- for the subsequent year; is that correct?
- 13 A. (Davis) I apologize. Could you please repeat
- 14 the question?
- 15 Q. This would appear to be the same type of
- 16 forecast for subsequent years. So, here at the
- 17 bottom says "2017 through 2026," whereas the
- 19 correct?
- 20 A. (Davis) They do appear to be the same type.
- 21 Q. And the yellow line indicates that behind the
- 22 meter photovoltaic reduces load in ISO-New
- 23 England; is that correct?
- 24 A. (Davis) consistent with what we described in

```
the 2016 draft chart, yes.
```

Q. Thank you, Mr. Davis.

2

10

11

12

13

Mr. Labrecque, if I may turn again to you and also, again, to your direct testimony. So hopefully you still have that before you.

On my Page 24 it states, and I quote,

"There is an uncertain contribution of

distributed generation to peak reduction."

Does that appear in your copy as well?

- A. (Labrecque) What line are you at? I see it.

 Around Line 5 and 6. "Hence, there is an

 uncertain contribution of such DG generation to

 peak reduction."
- Q. Thank you. In order to reduce the peak loads
 on the distribution equipment, distributed
 solar facilities would need to generate some
 energy at that time; is that accurate?
- 18 A. (Labrecque) Say that again, please?
- Q. In order to reduce the peak loads on the distribution equipment, distributed solar facilities would need to generate some energy at those times; is that accurate?
- 23 A. (Labrecque) Yes.
- Q. And if the solar PV doesn't generate at the

- times that equipment peaks, then it won't help
 relieve loads on equipment; is that accurate?
- 3 A. (Labrecque) Yes.
- Returning to your testimony at Page 24, you 4 **Q.** state that "There is an uncertain contribution 5 of distributed generation to peak reduction." 6 7 And for support of this conclusion, you state, 8 and I'm also reading from Page 24 now, beginning quote: "During the summer, peak 9 10 loads generally occur in the 5 to 8 p.m. time 11 period. Circuits with higher concentrations of commercial load peak earlier, and circuits 12 serving primarily residential customers peak 13 14 later. Solar generation begins to wane prior 15 to this peak, creating a mismatch between their 16 generation and system needs." Did I read that 17 correctly?
- 18 A. (Labrecque) You did.
- Q. Okay. And for context, when you refer to
 "system" in this passage, you're talking
 specifically about Eversource's distribution
 system in New Hampshire; correct?
- 23 A. (Labrecque) Yes.
- Q. Mr. Labrecque, today is the seventh day of

spring. The sun is going to set somewhat after 7 p.m. And by July 4th, when we're setting off fireworks, it will be setting another hour and a half later. But to be clear, when you say "solar generation begins to wane," what you're saying is that there isn't as much generation at 5, 6 or 7 p.m. as there is from a solar facility at, say, noon, not that solar PVs cease to produce before 7 p.m.; is that correct?

- A. (Labrecque) Today, it's doing very little, given the cloud cover. But, yeah, if you're just looking at the 24 hours of the day, yeah, it begins to wane prior to our peak. And depending upon the cloud cover, it's going to be at some reduced level relative to the peak production level of the system. And hour by hour, month by month, you know, that fraction of the full nameplate capacity is volatile.
- Q. Mr. Labrecque, you stated in your testimony that peak loads generally occur in the 5 to 8 p.m. time period as you read earlier.

Mr. Chernick, in his reply testimony on behalf of CLF, determined that the data

```
Eversource provided in response to a data
1
        request shows that the majority of Eversource's
2
        summer substation peak falls in the hours of
3
        noon to 5, with no summer substation peaks
4
        apparent in the hour ending at 8 p.m. Are you
5
        aware of that? Did you read Mr. Chernick's
6
7
        testimony analyzing your assertion and the data
8
        underlying it?
```

- 9 A. (Labrecque) I don't recall reading that
 10 particular statement.
- Q. Okay. Did you dispute or seek to correct Mr.

 Chernick's characterization of the data that

 you provided regarding your substation peaks?
- 14 A. (Labrecque) I don't recall whether we did or whether we didn't.
- 16 Q. Thank you, Mr. Labrecque.

Ms. Tebbetts, I have just a few questions
that I'd like to direct to you, if you'll bear
with me for a moment.

I believe your prefiled testimony has been admitted already as Exhibit No. 16; is that correct?

23 A. (Tebbetts) Yes.

20

21

22

Q. Great. Would you mind turning to Page 6, Lines

```
2 through 9. And there you state that, "The
Company has found that customer-sited
distributed generation facilities can provide a
long-term benefit to the equipment on the
```

distribution system"; is that correct?

6 A. (Tebbetts) Yes.

5

- 7 Q. Saving time, move down a little bit, it says,
 8 "The offset to load lessens the burden on the
 9 distribution system equipment, which in theory
 10 should extend the life of that equipment"; is
 11 that correct?
- 12 A. (Tebbetts) Yes.
- 13 Q. And at Page 7, Line 14, your testimony states
 14 that a long-term analysis -- and I'm quoting -15 "Long-term analysis could show whether the
 16 presence of distributed generation reduces the
 17 usage of distribution equipment, and therefore
 18 prolongs its life, resulting in a benefit to
 19 all customers." Is that correct?
 - A. (Tebbetts) Yes.
- Q. Ms. Tebbetts, as signatory to the Utility
 settlement agreement, Consumer Advocate Don
 Kreis submitted a statement to this docket
 shortly after the filing of the Utility

```
85
1
         settlement proposal. That statement has been
         included on a premarked exhibit list as I.D.
2
         No. 7. Are you aware of that letter that Mr.
3
         Kries submitted to the docket?
4
         (Tebbetts) I am aware that Mr. Kries submitted
5
    Α.
         something else after this was filed, but I
6
7
         don't have it in front of me.
         Hopefully you will in a moment.
8
    Q.
                   CHAIRMAN HONIGBERG: Off the record.
9
10
               (Discussion off the record).
11
                   CHAIRMAN HONIGBERG: Go back on the
12
         record.
    BY MS. BIRCHARD:
13
14
         Do you have it before you now, Ms. Tebbetts?
    Q.
15
        (Tebbetts) Yes.
    Α.
16
         Thank you. Do you recognize it as the
17
         statement that was submitted to the docket by
         the Consumer Advocate in support of the
18
         settlement that he signed with your
19
20
         organization?
21
    Α.
         (Tebbetts) I don't see a cover letter, but I do
22
         see the last page Mr. Kries signed.
23
                   CHAIRMAN HONIGBERG: No one's going
         to disagree with this, Ms. Birchard.
24
                                                It is
```

```
86
         what it is. Ask her what you want to ask her.
1
2
                    MS. BIRCHARD: I'd just like to move
         that it be admitted at this time.
3
                    CHAIRMAN HONIGBERG: Without
4
         objection, we'll strike the I.D. on Exhibit 7.
5
                (Exhibit 7 admitted.)
6
7
         Turn to Page 2 of that letter, Ms. Tebbetts,
    0.
8
         the last full paragraph reads, "Deployment of
         distributed generation" --
9
                    CHAIRMAN HONIGBERG: Slow down.
10
11
         There's no way the stenographer can keep up
12
         with that.
         "Deployment of distributed generation in New
13
    Q.
14
         Hampshire is in a relatively nascent state, and
15
         the effects of distributed generation are
16
         difficult to assess at this time, given the
17
         lack of advanced metering technology and the
         resulting derth of data." Do you see that, Ms.
18
19
         Tebbetts?
20
         (Tebbetts) Yes.
    Α.
21
         Thanks. Do you agree with Mr. Kries, that
    Q.
22
         there is a lack of advanced metering technology
23
         in the state?
24
         (Tebbetts) I'm not sure what you're defining as
    Α.
```

```
"advanced metering technology." I don't know
what Mr. Kries has defined as "advanced
metering technology" either, so I can't comment
on what Mr. Kries was insinuating with regards
```

- Q. Okay. Thank you. Do you agree with the
 statement that, if there were more advanced
 metering technology, we would have more data?
- 9 A. (Tebbetts) I honestly don't know.

to his statement here.

- Q. Ms. Tebbetts, would you agree with the
 statement that transmission costs in New
 England and in New Hampshire are pretty high?
- 13 A. (Tebbetts) I couldn't answer that because I
 14 don't know what you're comparing "high" to.
- Q. Do they make a significant -- do they represent
 a significant portion of the customer's bill,
 in your experience?
- A. (Tebbetts) Again, I don't know what

 "significant" is. I know Liberty's rates, and

 I don't -- I'm not familiar with the other

 utilities' rates, so I don't know.
- Q. Okay. That's fair. Can you offer your opinion as to your own bills?
- 24 A. (Tebbetts) Our transmission rate makes up a

- very small portion of the customer bill for our residential customers.
- Q. Would you agree that distributed energy
 resources can help to avoid some of the
 transmission costs that New Hampshire
 ratepayers pay, for example, just as energy
 efficiency can reduce some of those costs?
 - A. (Tebbetts) I for certain don't know if they can be reduced. And that's one of the reasons why we proposed a pilot to review and take a look at the charges, and maybe there's an opportunity there. But I just -- I don't know if that is certain. I just don't know.
- Q. Are you referring to energy efficiency, distributed resources, or both?
- 16 A. (Tebbetts) I'm referring to both.

9

10

11

12

- 17 Q. So you don't believe that energy efficiency can help lower a customer's transmission costs?
- 19 A. (Tebbetts) No, didn't say I don't believe that.
 20 I said I don't know.
- Q. Have the utilities not included certain avoided costs in their energy-efficiency work of late?
- 23 A. (Tebbetts) I am not familiar with the
 24 energy-efficiency work that has been filed as

[TEBBETTS|BROWN|DAVIS|HARRINGTON|LEBRECQUE|MEISSMER]

```
89
1
         of late.
         Okay. Is there anyone on the panel who is
2
         familiar with the utilities' energy-efficiency
3
         work of late?
4
5
               [No verbal response]
                    MS. BIRCHARD: Mr. Davis?
6
7
         (Davis) Not of late.
    Α.
8
    0.
         I'm sorry?
         (Davis) Not of late, if I interpret "of late,"
9
    Α.
10
         being, say, within the last six months.
11
         Correct. Yes. Well, thank you very much.
    Q.
         That answers my questions.
12
13
                   CHAIRMAN HONIGBERG: All right.
                                                     I
14
         think it's appropriate to take a break. It's
15
         quarter to eleven right now. We'll be back at
16
         eleven. So, off the record.
17
               (Brief recess was taken at 10:43 a.m.,
               and the hearing resumed at 11:05 a.m.)
18
                   CHAIRMAN HONIGBERG: Back on the
19
20
         record. Who's up next? Is it Acadia, or was
21
         that -- Ms. Birchard took care of that?
22
                   MS. BIRCHARD: Yes.
                   CHAIRMAN HONIGBERG: Is it Mr. Below?
23
              Who's up? Mr. Hinchman?
24
         No?
```

1 MR. HINCHMAN: Thank you, Mr. Chairman. The first exhibit I'm going to seek 2 admission on we just passed out. So we'll 3 maybe start by offering the final report for 4 the grid mod working group to the Commission 5 that was submitted by the working group on 6 7 March 17th. 8 CHAIRMAN HONIGBERG: So we're going to mark that as 72. 9 10 (Exhibit 72 marked for identification.) 11 MR. HINCHMAN: I'm going to talk about it in a minute. 12 13 CHAIRMAN HONIGBERG: It's marked. 14 MR. HINCHMAN: Everybody has a copy. 15 We have a few extra up here if anybody needs 16 them. 17 CROSS-EXAMINATION BY MR. HINCHMAN: 18 19 0. So, for the Utility members of the panel, if 20 you could refer to Exhibit 6 at Page 10. Just a clarification with regard to your settlement 21 22 proposal. The proposal requires bidirectional 23 meters for all net-metered DG; correct? (Tebbetts) It requires by directional meters 24 Α.

- for any customers coming online or placed in the queue after June 30th, consistent with Docket DE 15-271.
- Q. Okay. And the settlement's not clear. Are you proposing that any obligation to record and make available to customers their instantaneous usage data, or their instantaneous export data from the two channels in the metering?
- 9 A. (Tebbetts) I don't understand your question.
- 10 Q. Will you -- will the meter -- does the

 11 settlement proposal contemplate that the

 12 utilities will record interval data on an

 13 instantaneous basis for both of the two

 14 channels, the purchased channel and the sale

 15 channel, and make that data available to

 16 customers?
- A. (Tebbetts) The customer will have the
 bidirectional imports and exports recorded each
 month because that's part of what we'll bill
 them or credit them.
- Q. Okay. So you will be giving them the output of those meters on a monthly interval.
- 23 A. (Tebbetts) The output of the bidirectional meters.

- Sorry. I don't know if "output" is the right 1 Q. 2 The metering result that you give them each month will be just the monthly interval, 3 the accumulated usage over the month and the 4 5 accumulated exported solar production over the month, no shorter interval. You won't give 6 7 them daily, hourly, 5-minute, 15-minute, 8 nanosecond.
- 9 A. (Tebbetts) We will not be providing them

 10 anything less than what they would be provided

 11 under normal billing practices, which is

 12 monthly information, unless otherwise requested

 13 by customer. And our tariffs allow for that

 14 today.
- 15 Q. So, just to be clear, the default is monthly interval data.
- A. (Tebbetts) I don't understand because you're

 adding "interval data" in there, and that's -
 I don't know. I don't understand.
- Q. You're reporting the data collected from the
 two channel meters to the customer, and the
 aggregate information of the data you give the
 customer is the entire usage for a month, no
 shorter interval.

1 A. (Tebbetts) Yes, that's correct.

13

14

15

16

17

18

19

- Q. And the same for exports. It's the aggregate for that billing cycle, which we're calling a month, no shorter interval.
- 5 A. (Tebbetts) Yes, that's correct. That's the default of what we will provide customers.
- 7 Q. Thank you. Turning to the grid mod report, if
 8 you'd please turn to Exhibit -- to Appendix B.
 9 And Ms. Tebbetts, we'll start with you, I
 10 guess, since we're still talking -- I think
 11 it's Page 39, Table B.12a. Is it correct
 12 that -- first, the foundation.

As part of the grid mod docket, they collected the current technological capacity of the meters in use by the three utilities on this panel; correct?

- A. (Tebbetts) Yes. The utilities submitted a bunch of data as part of the grid modernization docket.
- Q. And part of that data included, in your case,
 the current number of total meters, 43,333,
 which is shown on Table B.12a on Page 39 of the
 report. The Bates says 40 of 45 at the top of
 the page.

- 1 A. (Tebbetts) Oh, okay. I apologize. 12a is
- actually shown on 39, but the table is on 40.
- Okay. We're -- yeah. Yes, that's correct,
- 4 43,333.
- 5 Q. And if you turn to Page 41 of the report, which
- is Bates Page 42, and you look at Table B.17 --
- 7 A. (Tebbetts) I'm there.
- 8 Q. So, of the 43,333 meters, we see a breakdown in
- 9 the first column of how many meters are set up
- for drive-by meter reading, time of use
- 11 registry, reading of interval data and daily
- reading at the company's office, and then
- on-demand/real-time meter reading.
- 14 So, is it fair to interpret this report
- saying 358 of the 43,000 meters are capable of
- 16 reading interval data?
- 17 A. (Tebbetts) Yes.

peak.

- 18 Q. And 1,178 are capable, I have time-of-use
- 19 register. Is that like a date stamp?
- 20 A. (Tebbetts) It's not a date stamp. The meters
- are programmed for our time-of-use rate. So
- they're static. They're not -- the periods do
- 23 not change for which we provide on peak or off
- 24

- Q. Okay. And the drive-by meter reading means -- can you explain to the -- what that means?
- A. (Tebbetts) So, Liberty has AMR meters, and we don't have to walk up to the meter to read it.

 We're able to grab a signal from a vehicle that has the capabilities to read it via driving by.
- Q. Okay. And for 8 of those -- or sorry -- for
 358 of those when you drive by, you could pick
 up some interval data.
- 10 A. (Tebbetts) No, that's not correct. C is the

 11 reading of interval data, which is not included

 12 in the drive-by meter reading. These are large

 13 customers, G1, our industrial customers, and

 14 G2, larger commercial customers that have

 15 specific interval meters associated with how we

 16 bill them for kilowatt VARs and kilowatt hours.
 - Q. So is it fair to say, then, that the non-industrial customers, the current metering they have is not capable of reading interval data?
- 21 A. (Tebbetts) That is correct.
- 22 Q. Thank you.

18

19

20

So, for Eversource, I'm not sure which
member of the panel wants to address it, but

[TEBBETTS|BROWN|DAVIS|HARRINGTON|LEBRECQUE|MEISSMER]

- 1 the same exercise. If you look at, I think
- it's Table B.12c, it shows you have just over
- 3 570,000 meters --
- 4 A. (Davis) Yes.
- 5 Q. -- total. And then if you'd look at Table
- 6 B.17?
- 7 A. (Davis) I have that.
- 8 Q. You have 1 meter capable of reading interval
- 9 data? I was going to ask if that was Cliff
- Below's meter, but I'm not sure he lives in
- 11 your territory.
- 12 A. (Davis) There is one residential meter with
- 13 that capability at the time these statistics
- were produced.
- 15 If you look across the row, there are 234
- 16 C&I remotely-read meters that can be picked up
- via AMR, or remotely. And there are 112
- residential and 1,815 C&I manually-read
- 19 interval meters.
- 20 Q. So, by and large, all of our meters currently
- 21 do not report interval data of less than the
- 22 billing cycle?
- 23 A. (Davis) If you're looking at the sum total of
- 24 all meters --

- 1 Q. I'm looking at the column "AMR & Remotely Read
- 2 Meters" for reading of interval data for
- residential; so there's one. But there's
- 4 487,716 residential meters that are read
- remotely that don't collect interval data; is
- that correct? Am I reading that correctly?
- 7 A. (Davis) That's my understanding, that the
- 8 487,716 residential meters are AMR drive-by
- 9 meters as Ms. Tebbetts explained, similar
- 10 capability. And those are strictly registers
- which capture total monthly kilowatt hours.
- 12 Q. Thank you.
- 13 A. (Davis) They are capable of being programmed to
- 14 capture bidirectional flow, as well as demand
- values.
- 16 Q. Thank you.
- 17 And for Unitil, Table B.12b,
- 18 77,000 meters; correct?
- 19 A. (Meisner) That's correct.
- 20 Q. Now, you have all AMI meters. Could you
- 21 short-circuit the questioning process and tell
- us the interval capability for the AMI meters?
- 23 A. (Meissner) Most existing AMI meters do not have
- 24 interval metering capability. The only ones

that have that capability are the 2170 listed on Line C.

Q. Thank you.

It says "currently expanding," meaning you have the capability to add -- do you have the ability to add that capacity to the AMR meters?

- A. (Meissner) As part of the normal migration path of our system, the vendor obviously makes improvements to their technology each ear year and over time. So we are currently upgrading to a new standard that they call PLX, which has interval metering capabilities. However, when we upgrade our substation facilities to that new technology platform, that does not mean we're going to change all the meters on our system. So the system will be capable of interval reading, but we would not get that capability unless we changed the meter.
- Q. Thank you.

If the Panel could turn to Page 20 of the report, which is Bates Page 21, and if you could look at the second paragraph, which is the first full paragraph on that page. If each of the utilities could take a second to read

1 that paragraph.

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

- 2 A. (Meissner) Can you please just identify the 3 heading of what we're supposed to read --
 - Q. Oh, sure. My apologies. The paragraph starting with, "The larger C&I customers of utilities..." And it's really the second sentence there. "Current utility metering for resi and smaller C&I customers typically doesn't record or report interval data, except for monthly meter readings." As we've just established the particulars for each of the

And then the paragraph goes on to make the point that upgrading your meters requires metering equipment, requires communication systems, and it requires a methodology for data collection, archiving and management of the data; is that correct?

three utilities with regard to that capacity.

- 19 A. (Labrecque) Yeah. Is that correct that that's what it says?
- 21 Q. Is that correct that that's what it says? Yes.
- 22 A. (Labrecque) Yes.
- 23 Q. I paraphrased.
- 24 Would you also agree that those are --

- functionally, that's what's required to install
 what we might call "advanced metering
 initiative," AMI, capable of detailed interval
 data collection and archiving?
 - A. (Labrecque) Well, our current meters that are deployed are capable of billing the tariff design that that customer is under. There's not additional, more granular data contained within those meters. But the customers are more than willing and able, if they're interested, to install their own monitoring equipment in order to get more granular data --
- 13 Q. Right. But I'm asking --
- 14 CHAIRMAN HONIGBERG: Mr. Hinchman,

 15 you need to wait until he's done. If you think

 16 that he's gone far afield and you need to stop

 17 him, look for help.
- 18 MR. HINCHMAN: Thank you.
- 19 BY MR. HINCHMAN:

6

7

8

9

10

11

12

Q. Okay. So, for the record, customers can do
what they want. But in terms of what the
utility is doing in order to record interval
data that is a shorter period than one month,
it would require these steps referenced in this

- paragraph: Changes to the equipment, a system
 to get that data from the customer's meter to
 the utility, and then a system to process,
- 4 manage and archive that data; is that correct?
- 5 A. (Labrecque) Yes.

7

8

9

10

11

12

13

- Q. Could you turn to Page 22 of the report. And let me just take a break for a second to back up and say this is a consensus report of the Working Group. But the Working Group -- it's my understanding that the Working Group didn't reach consensus on all issues. And where that was the case, the report will report out the non-consensus -- the non-consensus positions of each party.
- 15 CHAIRMAN HONIGBERG: Is that a question for the Panel?
- MR. HINCHMAN: I just want to
 establish that the Panel agrees that that's the
 methodology in this report.
- 20 A. (Tebbetts) Yes.
- 21 BY MR. HINCHMAN:
- 22 Q. And so in the discussion of metering
 23 technology, there's one of those situations
 24 where we have non-consensus. And so we have

two conclusions, one by the non-utilities position and one by the utilities.

So the non-utilities starts, I believe on Page 22, Item 6, if I have it right. I might have the wrong page. Hang on one second.

Item 4. So those are the non-utility parties.

And the non-utility parties' preference is an opt-in with hourly interval data and, ideally, 5-minute interval data, with customer access to the data? Do you agree that's the Utility position in the report?

- A. (Davis) I'm sorry. Could you re-reference exactly where you're looking? The page numbers, depending on which page you're on, are different. And you mentioned 6 and then 4 --
- Q. You're right, you're right. I see three different page numbers on this page. So I'm going to use the Bates page number. It's Page 23 of 45. At the bottom of the page it's Item 4. And the next page, which is the Utility, OCA and Pat Martin position, is also Item 4. So there's two contrasting positions with regard to discussion of metering technology on those two pages.

And is it fair to summarize the 1 non-utility position, the first one, as 2 recommending the ability of customers to opt-in 3 to an interval meter, including bidirectional 4 5 meters for DG customers, capable of logging, compiling and storing kilowatt-hour interval 6 7 data down to a granularity of at least hourly intervals, and ideally 5-minute intervals? Ms. 8 Tebbetts, is that fair? 9

- 10 A. (Tebbetts) Could you tell me where you see the
 11 word "bidirectional" in that paragraph? Maybe
 12 I'm just missing it.
- Q. So it's on the second line of No. 4, after the comma, "including bidirectional meters." The end of that --
- 16 A. (Tebbetts) Okay. So, actually, that's not -
 17 the utilities did not agree to that. That is

 18 the City of Lebanon, Revolution Energy, Acadia,

 19 RESA --
- Q. Correct. I'm framing this as the "non-utility position."
- 22 A. (Tebbetts) Okay. I apologize. I didn't hear 23 that in the question.
- 24 Q. So, to reframe the question, is it fair to say

the non-utility position is for a opt-in meter capable of logging, compiling and storing kilowatt interval data down to a granularity of at least hourly, and ideally 5-minute intervals, and customer able to access the data?

A. (Tebbetts) That's what this says.

7

16

17

18

19

20

21

22

23

- 8 0. Is it fair to say that the utility position next page is as Mr. Labrecque just said; 9 10 customers can buy whatever they want, but for 11 utilities, the utilities should not be obligated to produce 5-minute interval data out 12 13 of a concern that it's cost prohibitive and that there should be cost/benefit analysis done 14 15 before that's required?
 - A. (Tebbetts) That's correct. And as a participant in this docket, the grid modernization docket, the utilities felt that 15-minute interval data could be very well what is needed to provide to customers and that the back office costs associated with 5-minute intervals may be cost-prohibitive when looking at [having all customers pay for something that maybe only a fraction of customers will be

1 using.

- Q. All right. And you would also note that the
 ISO-New England settlement method is going to
 go to 5-minute interval data for generation and
 billing, not for resi, but at the level above
 the distribution system?
- 7 A. (Tebbetts) Yes.
- 8 Q. Thank you.

21

22

23

24

9 With regard to Exhibit 5, which is the
10 settlement proposal, the utilities offer an
11 opt-in for a DG production meter. So, to be
12 clear, that would be a second meter that would
13 be metering only the production of the net -14 qualified net metering facility?

- 15 A. (Davis) That's correct.
- Q. And would that meter be equipped with interval data; and if so, what interval will that data be collected, archived, maintained by the utility, and will that data be made available to customers?
 - A. (Davis) We contemplate a standard monthly kilowatt-hour meter. Typically it would be similar to the meters for residential customers, characterized as "AMR" and available

- for data capture by a drive-by metering van.
- 2 And that would be the most cost-effective
- meter. And I think also universally
- 4 cost-effective and applicable and compatible
- with each of the utilities' systems for data
- 6 collection and data processing.
- 7 Q. So is it fair to say you're going to -- you're
- 8 going to bill for usage on a monthly interval
- and you're going to record usage on a monthly
- interval and you're going to record production
- and/or exports, depending upon if the
- customer's opted in for a production meter on a
- 13 monthly interval, and that you have no plans to
- make interval data of a shorter duration than a
- 15 month available -- to either record it or make
- 16 that available to customers; is that fair?
- 17 Have I summarized your position?
- 18 A. (Davis) For the opt-in proposal, to the extent
- 19 the revenue meter is measuring and is used for
- 20 billing as you described, the production meter
- 21 would also match that period. And we would
- have plans in that case for a kilowatt-hour, a
- 23 monthly kilowatt-hour-based production meter.
- To the extent the customer has a meter that

- captures more granular data, for example,
 interval meters, we would still contemplate an
 opt-in production meters that measures total -or registers total monthly kilowatt hours.
 - Q. And is it correct that RSA 362-A:9, III, which defines net metering and the terms of net metering, which is quoted in, I believe, Mr. Labrecque's and in Mr. Meissner's testimonies, are referring to normal net metering practices, which is defined as a single meter that shows the customer's net energy usage by measuring both the inflow and the outflow of electricity internally, so that the current practice for net metering and the current meter requirement under statute is exactly what you have installed and what you're currently using?
 - A. (Labrecque) Yes.

Q. And you want to change the net metering practice in the statute to go to essentially instantaneous instead of netting on that monthly billing interval. You would change it to essentially an instantaneous recording.

Rather than measuring both the inflow and outflow of electricity internally in the meter,

you would like to go bidirectional meters that record those separately and no longer use a monthly net billing cycle.

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

A. (Davis) This may be a point of confusion, and maybe I can help clarify. And I'll speak for Eversource specifically, and maybe we can expand it to all three utilities.

But we currently measure, explicitly measure the separate kilowatt hours over the month for imports and exports at the customer delivery point. So that's a so-called "revenue meter." We do the netting after the fact in a software algorithm that nets the two. understanding is that that's not necessarily the case with the other utilities currently, where the netting of those import and export kilowatt hours occurs within the meter. our proposal would put all three utilities on the same platform as I described for Eversource, in which we would separately measure the export kilowatt hours over the month, separately measure the import kilowatt hours over the month, and those would support the Utility and Consumer Coalition proposal.

1 Q. Agreed.

12

18

19

20

21

22

23

24

- 2 A. (Davis) I just wanted to make sure --
- Let me clarify my question. The question is: 3 Q. The statute says that the interval that you net 4 those two channels of production -- currently 5 the interval is monthly. And in order to adopt 6 7 your proposal and the portion of our proposal 8 referring to non-bypassable charges, the Commission would have to exercise its authority 9 10 under HB 1116 to modify the section of 362-A:9, 11 III, definition of net metering terms and
- 13 A. (Davis) I would ask that we seek legal counsel
 14 on the interpretation of that statute and the
 15 necessary procedures and processes to make the
 16 changes contemplated in our proposal.
- 17 Q. Okay. Fair enough.

practices.

MR. HINCHMAN: Mr. Bean is going to pass out an exhibit. And Mr. Chairman, on the recess, I got together with counsel for Eversource, and we worked out a solution to the objections over the graphs from yesterday and the graphs from this morning. So the proposal is that the graph in Exhibit B of exhibit --

sorry -- Exhibit 5, Attachment B, and the graph that Mr. Labrecque used this morning are drawn from the same data, but they're not the same graph. And the issue yesterday was that the underlying data of that graph is not in the record. And we first saw that graph when the settlement proposal was submitted by the utilities. We had a very brief discovery period. We asked for the work papers that created the graph. They gave it to us. It's an Excel spreadsheet. If you print it out, it's 600 pages, and if I print 40 copies of that, it's 2400 pages.

CHAIRMAN HONIGBERG: That would be a really bad idea.

MR. HINCHMAN: So we have agreed that -- and you have in front of you the summary page and the -- which is EFC186, Utility Q25, Page 1. And the back page is the summary of the data. So, just to explain that, on the summary page, the box to the bottom right-hand side appears in Exhibit 5, Attachment B. And the box is --

CHAIRMAN HONIGBERG: I think it's

Exhibit 6, but I know the one you're talking about.

MR. HINCHMAN: My apologies. I stand corrected. Exhibit 6. That box is in the settlement statement. And that box draws data from the 600 pages. But the summary of that data is rolled up into Page 2 of the exhibit that we've just passed out. And I think I'm authorized to state that Eversource would not object if we simply admitted for the record the summary of the data rather -- and all the parties have the Excel sheet, including the Staff. And rather than print out all 2400 pages --

CHAIRMAN HONIGBERG: Okay. So the upshot of that is that the two-sided piece of paper you just handed us is going to become Exhibit 73. And there's no objection to it being a full exhibit; is that correct? 73 is the right number, isn't it? Okay.

(Exhibit 73 admitted.)

CHAIRMAN HONIGBERG: And as a consequence then, is there now no longer an objection making Exhibit 67 a full exhibit?

112 1 MR. HINCHMAN: For my part --CHAIRMAN HONIGBERG: I think you 2 objected and Ms. Birchard objected. 3 MR. HINCHMAN: I'll withdraw my 4 5 objection to this graph. MS. BIRCHARD: Sounds like a 6 7 solution has been agreed to, so I will also withdraw my objection. 8 CHAIRMAN HONIGBERG: So we'll 9 10 withdraw the objection to 67, and that will be 11 a full exhibit. Have we sorted that out? MR. HINCHMAN: And I'm going to --12 13 yes. (Exhibit 67 admitted.) 14 15 CHAIRMAN HONIGBERG: You have some 16 questions now you want to ask about this exhibit? 17 MR. HINCHMAN: I have questions I 18 want to ask about the graph. 19 CHAIRMAN HONIGBERG: Excellent. 20 21 MR. HINCHMAN: And just for the 22 edification of the Commission, Page 11 of 13 in 23 Exhibit 6, Attachment B, is a graph showing an

average of all 12 months of the data period.

- And Exhibit 67 is showing the average of just
- the month of July, of the data that we're
- 3 referring to.
- 4 BY MR. HINCHMAN:
- 5 Q. Is that correct, Mr. Labrecque?
- 6 A. (Labrecque) That is correct.
- 7 Q. So, in Exhibit 6, Attachment B, you describe
- 8 that graph as a "representative calculation of
- 9 the credits under the existing and proposed net
- metering tariffs." And on Page 9 you describe
- the chart as a "typical residential load"
- 12 profile and typical PV profile"; correct?
- 13 A. (Labrecque) Correct.
- 14 Q. So the red line -- let's use -- for ease of
- discussion, let's use Exhibit 67. So, Mr.
- Labrecque, the red line in Exhibit 67, is that
- 17 hourly load or instantaneous load?
- 18 A. (Labrecque) I apologize. I don't have a color
- one with me. Is it the more flat line --
- 20 Q. Yes.
- 21 A. (Labrecque) -- is the red line?
- 22 O. The red line is the more flat line and that in
- the key is marked as "usage."
- 24 A. (Labrecque) Yes, that is an average daily

- 1 profile of a Eversource residential customer
- 2 based on 2015 load research interval metering,
- I believe the sample is north of a hundred
- 4 sites.
- 5 Q. And that data is hourly; is that correct?
- 6 A. (Labrecque) That is hourly data.
- 7 O. Yes. And the peak line, which in the key is
- 8 marked "PV" and it's green on the colored
- 9 version, is that hourly or instantaneous solar
- 10 generation?
- 11 A. (Labrecque) Hourly.
- 12 Q. Hourly. Thank you.
- 13 And in your box you have -- you've done
- some math for each of the quadrants labeled
- "A1, A2, A3 and A4." And in doing that math to
- determine the usage behind the meter, you
- 17 subtracted the hourly average demand in that
- 18 hour, minus the hourly average production in
- 19 that hour; is that correct?
- 20 A. (Labrecque) That is correct.
- 21 Q. So it's correct to say that this graph
- represents hourly netting and not instantaneous
- 23 netting?
- 24 A. (Labrecque) It represents hourly average

1 quantities.

- Q. Does your settlement propose hourly netting or instantaneous netting?
- (Labrecque) Our proposal is that all the power 4 Α. that is recorded in the purchase channel of the 5 meter -- in this case, represented in Sections 6 7 A1 and A3 -- be charged the normal retail rate for the customer, and that excess depicted 8 here, Section A4, all of the excess, all of the 9 10 exported kilowatt hours, will be paid at the 11 settlement proposed rate.
- 12 Q. So that's recorded on essentially an instantaneous basis; correct?
- 14 A. (Labrecque) In the meter it would be, yes.
- 15 Q. Yes. So the reference to "instantaneous

 16 netting" refers to the fact that you're

 17 recording exports on an instantaneous basis and

 18 not the net of exports minus imports on an

 19 hourly or monthly basis; is that correct?
- 20 A. (Labrecque) Correct. The meters record 21 instantaneous quantities.
- Q. So, in this graph and Attachment B to
 Exhibit 6, you come up with some conclusions
 with regard to how much behind-the-meter usage

- there would be from a, quote, typical solar project.
- A. (Labrecque) I wouldn't refer to it as a

 conclusion, other than an illustrative case

 subject to fluctuations. Every customer is

 different, of course, and all of the quantities

 on there will be different. So I wouldn't call

 it a conclusion, but it's an illustration of

 the proposal.
- Q. And to come up with that illustrative graph,
 you use a methodology that is different than
 the methodology you actually used to bill
 customers; is that correct?
- A. (Labrecque) The methodology isn't different.

 We're still using the same quantities.
- 16 Q. All right. So in the methodology, you take an hour, say the 3:00 hour of generation, minus the 3:00 hour of -- sorry. You take the 3:00 hour of load minus the 3:00 hour of generation.

21

22

23

24

A. (Labrecque) No. There's no netting within the meter. The meter channels are measuring the total aggregate power quantities in the import direction and export direction. So it's not recording the net internal to the meter.

[TEBBETTS|BROWN|DAVIS|HARRINGTON|LEBRECQUE|MEISSMER]

- Q. Understood. The question I was asking, 1
- though -- and if you would turn to Page 2 of 2
- Exhibit 73. 3
- (Labrecque) Can you help me find that one? 4 Α.
- The one we just passed out? 5 Q.
- (Labrecque) Still in my hand. I have it. 6 Α.
- 7 So there's four banks of data on this page. **Q.**
- And the second bank is titled "Average of Rate 8
- kW." So if I'm interpreting this correctly, 9
- 10 this is hourly consumption. So, 1kW for one
- 11 hour would be a kilowatt hour. So these are
- kilowatt hours? 12
- (Labrecque) Yes. 13 Α.
- And that's from your 120 typical customer 14 Q.
- 15 database, correct, from 2015?
- 16 Α. (Labrecque) Yes.
- And the third bank is a scale of the PV data 17 Q.
- that you got from NHSEA. And it's scaled so 18
- that the annual generation is equal to the 19
- 20 annual load in the second bank; correct?
- (Labrecque) That's correct. 21 Α.
- 22 And the fourth bank -- and we're using the 3:00 **Q.**
- 23 hour. So if you look at the column labeled
- "15," the hour 15 -- and let's do it with the 24

- 1 hour starting 3:00, not the hour ending 3:00.
- 2 So that column labeled as the 15th hour would
- 3 be 3:00; correct?
- 4 A. (Labrecque) It would be an accumulation of the
- data between 2 and 3.
- 6 Q. Well, I'm just asking for the column.
- 7 A. (Labrecque) Ask that again, please.
- 8 Q. So if you just look at the 15, the hour labeled
- 9 "15," that column represents the 3:00 hour
- 10 correct?
- 11 A. (Labrecque) The hour ending at 3:00. Correct.
- 12 Q. Okay. And the formula is you're subtracting
- 13 the second bank of data, the load data from --
- 14 you're taking that and you're subtracting from
- it the PV data.
- 16 A. (Labrecque) Correct.
- 17 Q. So the data that you're outputting is on an
- 18 hourly recording interval; correct? So the
- methodology you've used to generate this table
- 20 uses hourly netting.
- 21 A. (Labrecque) It nets hourly quantities.
- 22 Q. Thank you. But your proposal would not net
- 23 hourly quantities; correct?
- 24 A. (Labrecque) Our proposal would use aggregate

- quantities accumulated in two separate channels
 over the month and treat them differently,
 according to our proposal.
- Q. Okay. Let's try it with a "Yes" or "No."
 Would your proposal net hourly quantities?
- 6 A. (Labrecque) No.
- 7 O. Thank you.

so we discussed this yesterday. Within a given hour, isn't it possible that you could have cloud cover for the first half of the hour, with zero solar generation, and the cloud goes away and you have full solar generation second hour. So your solar generation could be split 30/30 -- 30 minutes, 30 minutes -- over an hour. And your load could be coincident with the generation or also be split 30/30, and it could be non-coincident with the generation. And under those different scenarios, you might have a net of zero or a net of a hundred percent, correct, or something in between?

A. (Labrecque) I would agree with you that within the hour things can happen, so that, you know, the solar can fluctuate wildly during an hour and a customer's load, while it usually follows

1 a somewhat more well-behaved pattern, there are different types of equipment that cycle on and 2 off within an hour. So, yeah, those things 3 will be going on within the hour. And that is, 4 you know -- among other things, it's reflective 5 of the value that being connected to the 6 7 utility system provides to a solar customer, 8 the ability to handle those types of fluctuations, and under typical today's net 9 metering act as essentially a free battery for 10 11 those customers. So, for purposes of a customer considering a 12 Q. solar investment, as we discussed yesterday, 13 14 knowing their instantaneous generation 15 history -- sorry -- their instantaneous load 16 history --17 (Cell phone ringing.) MR. HINCHMAN: You want to collect 18 19 that \$5 now? CHAIRMAN HONIGBERG: Off the record. 20 21 (Discussion off the record) 22 CHAIRMAN HONIGBERG: We're back on 23 the record. 24

BY MR. HINCHMAN:

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

Let me just short-circuit. Keeping in mind the line of questioning from yesterday in which the suggestion was made, I think by Mr. Epler, that you don't really need to know your instantaneous usage data history, you could simply assume a worst case of zero coincidence between generation and load, and so 100 percent of your generation is exported, that would be one way to manage it. And also keeping in mind you're not planning on recording any interval data on either generation or load and not planning on making that data available to the customer. So, from the customer's perspective, they don't have the data they need to evaluate a solar proposal, or if they build a solar proposal, to take action to optimize the operation of that generation in relation to their usage without that data; is that correct? (Labrecque) No, that's not correct. There's --Α. the customer, in evaluating whether or not they want to go solar, there a lot of different

factors that go into play. Some of them have

considerable uncertainty. Even on a monthly or

yearly basis, their consumption over the span of a solar investment could be wildly volatile. They could even move out of the home in five years. So there's a lot of uncertainties. Also, when customers are the evaluating the economics of a potential investment, they might be considering what utility rate they might be avoiding. So, over 25 years there's a considerable degree of uncertainty in any kind of economic modeling of the value of their investment because, you know, you can't just say utility rates are going to escalate the Consumer Price Index for the next 25 years.

So, I agree with the general premise that there will be some fuzziness to any estimation of the exact amount of solar production, which is also volatile month to month, day to day. But the exact quantity that will be consumed internally in the property, you can only get to a working estimate, similar to the other quantities I just mentioned. But I think in developing a relationship with the customer, in reviewing their data -- and they can collect subhourly data for as long as they would like

in order to get comfortable with their investment decision -- they can do that. This is a big investment decision. It should not be made without a full and complete understanding of what they're about to do.

So I would agree with you to a limited extent. This would put solar companies that spend very little time educating their customers on the way this is going to affect their bill. I would suggest they will be at a slight disadvantage, but it's not insurmountable. You could develop a working estimate of the quantity you're getting to.

- Q. So you do agree that understanding how much of your load will be offset instantaneous by generation is an important factor in a customer's consideration of whether or not to invest in a solar project, one of others?
- 19 A. (Labrecque) It is one --

- 20 Q. Just a "Yes" or "No," please.
- 21 A. (Labrecque) Yes, I agree.
- Q. And you are suggesting that it's the customer's burden to collect and acquire that data, and that the utility, even though it's going to go

- to recommending a rate tariff that imposes this
 instantaneous structure on the customer, it's
 the customer's burden to collect that data, not
 the utility's burden.
 - A. (Labrecque) It's primarily the customer and the solar company's burden to analyze this investment.
 - Q. Okay. Thank you.

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

Could you turn to the grid mod report. What number is that, 73? Exhibit 72? And if you would turn to Bates Page 14 of 45, you'll see a discussion on rate design principles, and that's followed by a discussion of rate design recommendations. And if you would turn to the section on Bates Page 15 of 45 regarding demand charges, and if you'd take a moment to read the "small C&I customers" paragraph under Demand Charges. And reading that second sentence into the record, "Utilities should apply demand charges for small C&I customers only if metering and information is available as an option to customers in a timely manner so that they can take action to reduce and manage their costs."

So the question, Mr. Labrecque, is: Would you say that the same principle of rate design should apply here in this case, that the use of an instantaneous netting rate tariff should only be applied if there is metering information available to customers in a timely manner to unable them to take action and reduce and manage their costs?

- A. (Labrecque) I think we just had a discussion about that. And are you asking me to comment on whether that information should be coming from the utility?
- 13 Q. I'm asking you to comment if the same rate
 14 design principle should apply to instant
 15 netting tariff the way you've recommended that
 16 it apply to demand charge tariffs.
- A. (Labrecque) I was not involved in the grid mod,
 so I can't really reflect on exactly what
 principles are embodied in the few sentences
 you just pointed out.
 - A. (Brown) I'm not sure if I can interject in this, but if I could respond to that. You're comparing apples and oranges here, because what happens in the context of a solar -- when we

refer to the grid mod study and the recommendations vis-a-vis demand charges has to do with the utilities -- the actual charges imposed by the utility. And then the question is: Who caused those costs to be -- how do those costs get incurred, and who benefits from it? And that's entirely --

MR. HINCHMAN: Mr. Chairman, could I ask to halt the witness? This is not -- he's freelancing. This is not even germane to the -- he's talking about cost causation, not about information available to customers to act on --

CHAIRMAN HONIGBERG: I think Mr.

Hinchman probably is correct, that the question addressed to Mr. Labrecque, Mr. Labrecque answered to an extent saying that he wasn't familiar with the analysis that went into demand charges, so he couldn't be sure if it was the same. Based on the beginning of your statement, Mr. Brown, I'm not sure how what you're saying is responsive to the question.

WITNESS BROWN: It's responsive because the two applications to that issue are

quite different --

CHAIRMAN HONIGBERG: And I think Mr.

Labrecque probably would agree with you. And I think the others on the panel probably would agree with you. Maybe even Mr. Hinchman would agree with you.

7 Mr. Hinchman, you have another 8 question?

9 BY MR. HINCHMAN:

- Q. Well, since you've chimed in, Mr. Brown, you're the one who said that solar doesn't generate during peak periods; correct?
- 13 A. (Brown) I didn't make a flat statement. I said
 14 it's generally off peak.
 - Q. And we just heard that in the CELT report that the peak hour for generation in ISO-New England territory in 2016 was the 3:00 hour. If you look at the graph that we've been talking about, would you say that at hour 15 solar is generating at almost its peak, that there's a high coincidence of solar peak with the 2016 ISO-New England system peak? "Yes" or "No," please?
 - A. (Brown) I don't think that's "Yes" or "No"

1 answer.

- Q. Thank you. Another line of questioning, if I may.
- So, under the statute, it's my 4 understanding that the utilities -- I don't 5 This could be a statute, could be a 6 7 rule. You guys know this better than I do. 8 But you report the available room under the 100-megawatt cap through an online reporting 9 10 methodology which customers can look up and 11 find out what the current availability under the cap is; correct? Ms. Tebbetts? 12
- 13 A. (Tebbetts) I don't understand your question.

 14 Can you --
- Q. That Liberty Utilities has a web page that
 quantifies the total cap for net-metered
 projects applied to Liberty Utilities for both
 small and large projects -- small being under
 19 100 kW and large being over 100 kW.
- 20 A. (Tebbetts) Yes.
- Q. Subject to check, your cap is 8.74 megawatts, and your web page for March 17th said you had available about 3.39 megawatts.
- 24 A. (Tebbetts) Subject to check, if that's what it

[TEBBETTS|BROWN|DAVIS|HARRINGTON|LEBRECQUE|MEISSMER]

- 1 says.
- Q. And that would be about 40 percent of your cap remains open?
- 4 A. (Tebbetts) Subject to check, that calculation is correct.
- Q. So, Mr. Labrecque, for Eversource, same
 question. Your cap is just over 31 megawatts
 for -- excuse me -- for small projects.
- 9 A. (Labrecque) Small projects in the extra

 10 50-megawatt program, yeah, it's somewhat a

 11 little higher than 30. I'm sorry. I don't

 12 know the exact number.
- Q. Okay. And subject to check, as of

 February 6th, which is the last web page I

 could find that you had posted, the

 availability was about 15.8 megawatts.
- 17 A. (Labrecque) I did update it a few days ago. I
 18 don't know if it's posted on web page yet. But
 19 subject to check, the number sounds about
 20 right.
- Q. Thank you. So, roughly 50 percent of your cap remains open in the supplemental 50-megawatt for small projects.
- 24 A. (Labrecque) Correct.

- 1 Q. And Mr. Meissner, for Unitil, same question.
- 2 Your cap is roughly 12.7 kW -- sorry --
- 3 megawatts for small projects?
- 4 A. (Meissner) I'll accept that, subject to check.
- 5 Q. And your availability, as reported on
- February 16th, 2017, was 6.7 megawatts?
- 7 A. (Meissner) Again, subject to check.
- 8 Q. So that's just over 50 percent of your cap
- 9 remains open.

(Meissner) Yes.

10

Α.

- 11 Q. Okay. And the settlement proposal from the
- 12 utility parties says that -- I guess I'll refer
- to the statement, which would be Exhibit 6, at
- 14 Page 2, which is Section C1. It states that
- the utilities will require time to modify their
- 16 billing and data management systems to be able
- 17 to accurately bill customers taking service
- 18 under the new tariff. And the question would
- be for -- let's start with Ms. Tebbetts.
- 20 Do you currently have a billing system and
- other data needs capable of billing under this
- 22 proposed tariff?
- 23 A. (Tebbetts) We have a billing system that needs
- to be modified under either proposal, actually.

[TEBBETTS|BROWN|DAVIS|HARRINGTON|LEBRECQUE|MEISSMER]

- 1 Q. Thank you. In either order, Liberty or Unitil
- 2 and Eversource?
- 3 A. (Labrecque) Our answer is identical to that of
- 4 the Liberty witness.
- 5 A. (Meissner) And ours would be the same.
- 6 Q. And that would happen at some point after so
- you know what to design; correct?
- 8 A. (Tebbetts) Yes.
- 9 A. (Labrecque) Yes.
- 10 A. (Meissner) Yes.
- 11 Q. Okay. So the start date proposed in your
- proposal is June 30th; correct? And that's
- also, if you would, the qualifying date to be
- grandfathered under the existing tariff;
- 15 correct?
- 16 A. (Tebbetts) Yes.
- 17 Q. And so that is, based on your proposal, you
- 18 must be in the queue and under the cap in order
- 19 to qualify for grandfathering under the
- 20 existing tariff -- in the queue by June 30th
- and under the cap in order to qualify for
- 22 grandfathering.
- 23 A. (Tebbetts) No, that's not correct.
- 24 Q. Correct me then.

A. (Tebbetts) So the customer -- we don't have to be under the cap because, as I believe we have -- give me a moment, please.

(Witness reviews document.)

- A. (Tebbetts) So, in part of our settlement we talk about that, if they reserve a place in the queue after June 30th, 2017, consistent with the requirements in DE 15-271, or before that date if they're above the 100-megawatt cap, then they will be placed in there. So, once this approval -- my understanding is once -- let's assume our proposal was accepted and the Commissioner issued and order. Then any customer being placed in the queue would fall under this new tariff, regardless of the cap.
- Q. So, prior to June 30th -- so let's say the order says the tariff is effective June 30th, as you've requested. So, in order to be grandfathered under the existing tariff, you have to be placed in the queue prior to June 30th and you have to be under the cap; correct?
- 23 A. (Tebbetts) That's correct.
- 24 Q. And as we've established, you're not at your

1 cap.

7

8

9

10

11

12

18

- 2 A. (Tebbetts) That's correct.
- 3 Q. And if I apply on July -- or August 1st --4 sometime in July, but you haven't redone your

billing system, how are you going to bill me?

6 Under the old tariff or the new tariff?

(Witness reviews document.)

under the new tariff.

noted.

- A. (Tebbetts) So, in our settlement we described that these customers will be billed under the net metering tariff effective March 22, 2017, until such time as we're able to bill them
- Q. Once you're able to bill under the new tariff, are they grandfathered, or are they
- automatically switched over to the new tariff?
- 16 A. (Tebbetts) They would be moved over to the new
 17 tariff as part of our settlement, which we
- 19 Q. So, even though you have room under the cap and
 20 you don't have a billing system in place
 21 capable of managing the new tariff, you want
 22 the grandfathering date to be accelerated to
 23 June 30th; correct?
- 24 A. (Tebbetts) That's what we've proposed in our

settlement based on what was also available for information under House Bill 1116.

- Q. When you make a major -- when you make a change to a rate tariff, isn't it one of the principles of public utility rates and generally accepted practice that siting -- you know, issues like rate stability, avoiding unexpected changes, customer confusion, that there needs to be a period of notice in order for your customers to prepare for the rate change?
 - A. (Tebbetts) Yes, and all our customers will be notified if they -- let's assume for the purpose of this discussion that our proposal is accepted. When a customer sends us their interconnection application, we'll let them know -- we'll discuss with them that they will be billed under the current tariff in place.

 And once we're able to bill them, they will be billed under the new tariff. And we will provide the information to the customer so that they understand that will be a change based on the date that they've installed their system, and then when we subsequently are able to bill

1 them under this tariff.

- Q. So did you hear the testimony yesterday regarding the sales cycle for solar up to six months, with the first two to three months of that being the sales process, and the second half of that being the permitting and construction process?
- 8 A. (Tebbetts) Yes.

- So if the notice comes out -- a decision comes Q. out from the Commission per the current schedule on June 1st, you will have customers that are in the middle of a solar sales cycle who suddenly have 30 days to be grandfathered under the existing tariff that they've had no notice of because nobody knows what the new tariff is going to be; correct?
 - A. (Tebbetts) I don't know what "no notice" is.

 This docket was noticed for the past 10 months,
 so anyone has the opportunity to find
 information about that.
 - Q. Sure. Is that how you normally handle notice for rate tariffs, that there's a 30-day segue from a final decision to the implementation of the new tariff?

- A. (Tebbetts) When our customers -- actually, I'll be very honest. Since this docket has started, we have discussed with our customers that there will be changes coming up with the net metering structure. We don't know what those changes are going to be. We've been very clear with the customers who send us questions, and we --
 - Q. Does your customer --

(Court Reporter inquiry)

CHAIRMAN HONIGBERG: Mr. Hinchman, one moment. She was still answering that question.

A. (Tebbetts) So we have talked to our customers through e-mails and telephone calls to explain this to them and to let them know that, if they are looking to interconnect at some point, that there may be changes. We don't know what those changes are. But there may be changes, and they should talk to their solar developer about what it is they're installing and get more information, as best they can, and then we can provide them what we can for information about what's going on in the docket. We have been very open with our customers that changes in

- this docket are going to change what is
 happening with their solar installation if they
 don't install prior to an order coming out in
 this docket, or an effective date that the
 Commission imposes.
- Q. Thank you. Does anybody know right now what the new tariff is going to be?
- 8 A. (Tebbetts) No.
- 9 Q. Thank you.
- MR. HINCHMAN: Mr. Chairman, I have
 one last separate topic line of questioning, so
 this is a good time of break if we need one.
- 13 CHAIRMAN HONIGBERG: I don't think

 14 so. I think you're going to go because we've

 15 only been back for a little over an hour, and I

 16 think we can go a little longer before we break

 17 for lunch.
- 18 MR. HINCHMAN: Okay. No problem.
- 19 BY MR. HINCHMAN:
- Q. So I think most of these questions will be addressed to Mr. Meissner. They have to do with more of an engineering basis, so it probably suits your background.
- 24 So when you provide distribution service,

you have to meet certain criteria regarding the
parameters, the quality of that service for
each customer that takes service. And I'm
thinking of things like voltage and frequency
levels, also thermal ratings for all your
equipment you have to stay within certain
tolerances; correct?

A. (Meissner) In terms of the service we provide to customers, it's limited more to voltage and frequencies, certainly. I think some of the other characteristics you mentioned would be ones that we would employ in the design of our own system.

- Q. Sure. So, some of it is the circuit or the substation. Some of the parameters apply to equipment located at the substation or the circuit, the distribution circuit, which is the line. But something like voltage levels, the tolerance of voltage would apply at the customer's service.
- 21 A. (Meissner) Correct. We design our system to 22 meet those parameters for the customer.
- Q. And for a given voltage level at the customer's service, the tolerance is plus or minus

5 percent? Do I have that correct?

1

2

3

4

5

12

13

14

15

16

17

18

24

- A. (Meissner) There's an IEEE standard on that.

 We employ our own internal standards to ensure that we don't drop below those levels. But generally for a residential customer, it's
- going to be between 114 and 125 volts on a 120-volt service.
- 8 Q. What are some of the reasons why voltage for a 9 particular customer at a particular location on 10 a distribution circuit might exceed those 11 tolerances? I'll give you some examples.

A motor starting up, high load levels at peak, or maybe the distance of that customer from either the substation or source of reactive power, would those be some examples?

- A. (Meissner) Yes. Voltage decreases along a circuit, and it is affected by the operation of loads on the circuit.
- Q. Right. So in your planning practices, or if
 you discover an actual exceedance of the
 tolerance in practice, the utility must
 identify a solution and then make sure the
 solution is installed; correct?
 - A. (Meissner) Yes.

- 1 Q. And what types of solutions for this example,
- which is a voltage out of tolerance at
- 3 somewhere along the distribution circuit
- 4 affecting customer service, what type of
- 5 solutions do you typically have in your toolbox
- 6 to address that?
- 7 A. (Meissner) Solutions might commonly be voltage
- 8 regulators or capacitors in the type of
- 9 situation you mentioned.
- 10 Q. So you could add a capacitor on a pole or at
- 11 the substation?
- 12 A. (Meissner) That's correct.
- 13 Q. And could you also feed that customer from a
- 14 different -- if you had an alternate circuit
- 15 maybe with switches, you could feed part of
- that line from a different location addressing
- 17 the voltage problem?
- 18 A. (Meissner) It's possible.
- 19 Q. And if you didn't have a switching device,
- you'd have to add one, if that was the solution
- 21 chosen?
- 22 A. (Meissner) Conceivably, yes.
- 23 Q. So, who buys that equipment and pays for it to
- 24 be installed?

[TEBBETTS|BROWN|DAVIS|HARRINGTON|LEBRECQUE|MEISSMER]

- 1 A. (Meissner) The utility generally buys all the
- 2 equipment on the distribution system. And
- again, it's not typically done for benefit of
- 4 one customer. It's done for benefit of all the
- 5 customers installed on that system.
- 6 Q. And how does the utility get reimbursed for
- 7 that expense?
- 8 A. (Meissner) Through recovery and rates.
- 9 Q. So that equipment would be added to the
- 10 distribution rate base?
- 11 A. (Meissner) That's correct.
- 12 Q. And then those rates are charged to customers?
- 13 A. (Meissner) Yes.
- 14 Q. So the rate base has an effect on the rates
- customers pay.
- 16 A. (Meissner) Correct.
- 17 Q. Are there alternate ways that we haven't
- 18 discussed to meet this voltage requirement
- 19 situation we've been talking about?
- 20 A. (Meissner) It's an open-ended question. I
- 21 would say I'm sure there are. I just cited a
- couple of examples. Generally in planning, the
- engineers try to determine the least-cost way
- 24 to meet that requirement.

Q. So if the power-quality problem was caused by running -- a customer who is running inefficient motors, could the customer contribute to the solution by replacing those with more efficient motors, or perhaps installing a soft-start controls that would reduce the voltage surge?

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

A. (Meissner) I think we're talking about a number of different concepts. I mean, motor starting is distinct from the other things we're talking about. That's usually evaluated at the time the motor is installed. And if soft-starting is required, it would have been specified in advance by the engineers.

For most operation, if there's load out on the system that's contributing to a drop in voltage, the planning engineers don't necessarily know what that load is on any given day, but we do have an energy-efficiency group that works with customers on energy-efficiency measures.

- Q. So, could energy efficiency be a solution to a discrete voltage problem on a location?
- A. (Meissner) A reduction in load will result in a

- 1 change in voltage.
- Q. Are you aware that increasingly PV installations include smart inverters?
- 4 A. (Meissner) Yes.

15

16

17

18

19

20

21

22

23

- Q. And are you aware that smart inverters are capable of measuring voltage coming into the inverter from either the array or from the distribution circuit?
- 9 A. (Meissner) Not an expert on smart inverters,

 10 but I'll accept they're capable of doing that.
- 11 Q. Yeah. And some of those smart inverters can
 12 also act the same way as a capacitor and be,
 13 through dispatch, be directed to add reactive
 14 power to the circuit?
 - A. (Meissner) I think the operative phrase there is "through dispatch." There may be installations of solar on our system that have smart inverters. Those are not dispatchable.

 There's no control system where they have utility data or that the utilities have access to those inverters to dispatch them. So, in terms of the smartness of the inverter, I would say it's fairly limited in what they could do currently.

- Q. Well, they have the capability, but the capability is not currently usable to the utility; is that correct?
- 4 A. (Meissner) That's correct.

- Q. So you have potential customer actions to solve this discrete voltage problem that we've been talking about. Anything from reducing load to adding efficiency, to actually adding reactive power or some other sort of voltage regulation.
- 10 A. (Meissner) It's possible if it was
 11 cost-effective to do so.
 - Q. So if a third party, not the utility, but the customer, took actions -- say we have a customer that has a lot of motors, and they invest in efficiency. The customer with a large PV array, they offer to sell reactive power to the utility on dispatch to meet the reliability requirement. Checkcheck.

So the customer makes the investment, and the utility is simply rewarding that customer for that service through some fee structure that's negotiated. Then the utility would not have to invest in a switch gear or capacitor or other equipment to solve the problem.

- A. (Meissner) My concern with the scenario you're outlining is that might be true if the sun was shining. But as soon as the cloud passes over the PV on that circuit, we lose all the reactive power on that circuit.
- Q. Okay. I can accept that. The customer has a battery attached in between the array and the inverter, so the battery has sufficient storage to provide reactive capacity on dispatch whenever it's needed.
- 11 A. (Meissner) If the customer was able to dispatch
 12 reactive power at the same level of reliability
 13 as the utility equipment, and if we were able
 14 to dispatch it, then, yes, there would be value
 15 to that.
- Q. And if that were the case, then that customer equipment would not be added to the rate base; right?
- 19 A. (Meissner) Correct.
- Q. And so that customer equipment would not be added to distribution charges.
- 22 A. (Meissner) Well, there would be compensation 23 that would be, I assume.
- Q. That's right. But it wouldn't be the full

- 1 20 -- 40-year cost of the equipment
- 2 necessarily. It might be a different
- 3 arrangement?
- 4 A. (Meissner) It might be a different arrangement.
- 5 Q. Thank you. Could the same sort of thing happen
- for other criteria? For example, thermal
- 7 requirements for equipment in a substation or
- on a circuit where the thermal exceedance
- 9 really only occurs during peak load conditions,
- say in the 10 days of the summer?
- 11 A. (Meissner) Well, I would say that we don't
- 12 actually have thermal exceedance on our system
- 13 because we design our system to ensure we
- 14 don't.
- 15 Q. Right. And so thermal exceedances are a
- 16 function of your line capacity and peak load
- and ambient weather conditions.
- 18 A. (Meissner) That's how we rate our lines.
- 19 Q. So if you have a line with, for example,
- 20 peak-load growth, where you're starting to
- 21 approach your 90/10, or whatever your planning
- criteria are within the 10-year planning
- horizon, so you, in your planning process,
- forecast a need to upgrade that part of your

- distribution system to resolve a forecasted thermal violation.
- 3 A. (Meissner) That is correct.

- Q. Okay. So, one way to solve that problem, just like the voltage problem we discussed, would be by allowing third parties to perhaps remove load at peak through a variety of distributed energy resources, be it solar or storage or efficiency or demand response. Could be dynamic pricing. Could be load shifting.

 Could be load shedding. Any number of distributed energy resource type of strategies, which I'm defining as "customer-side strategies" could provide the necessary load relief to meet the thermal requirement.
- A. (Meissner) In theory, that is true. In reality, it's limited by some very real constraints, one of them being that the load-driven portion of our investment budget is small in comparison to our investment program.

 I think there's a presumption that a lot of our spending is for the reasons you're saying. And I think as we showed in discovery, it's not.

The other thing I'll point out is,

on our system. They don't tend to involve a large portion of our system. And they typically arise on short notice at the time of budgeting in the fall, for example, knowing that we have to meet a new load for a new customer or a new housing development, and we may have to implement that solution between the time of budgeting and June of the following year for the next summer's peak.

- Q. So are you aware of, as was discussed yesterday, some of the pilot projects where this exact thermal, for example, scenario has been addressed successfully by third parties through the use -- there's a pilot project in Maine, in Boothbay, where this exact scenario you're talking about was addressed successfully through use of non-wires and non-transmission solutions. Are you of that pilot project?
- A. (Meissner) I heard of that pilot program. I'm aware that that could be a solution in the right set of circumstances. I'm just not sure that we have any of those circumstances on our system.

		149
1	Q.	Fair enough. The locational issues are a
2		significant issue in dispute in the docket.
3		MR. HINCHMAN: Mr. Chairman, I'd like
4		to offer the final report for the Boothbay
5		Smart Grid pilot project.
6		CHAIRMAN HONIGBERG: That's 74. That
7		will be marked.
8		(Exhibit 74 marked for identification.)
9		CHAIRMAN HONIGBERG: Off the record.
10		(Discussion off the record.)
11		CHAIRMAN HONIGBERG: Yeah, we're back
12		on the record.
13		MR. HINCHMAN: Thank you. No further
14		questions.
15		CHAIRMAN HONIGBERG: You want to ask
16		him anything about 74?
17		MR. HINCHMAN: I just did ahead of
18		time, which was, "Is this an example?" and he
19		said, "Yes, it is an example."
20		CHAIRMAN HONIGBERG: Do you want to
21		ask him if he recognizes this as the report
22		that resulted from that study with which he had
23		some familiarity?
24		MR. HINCHMAN: Sure. Wasn't sure how

formal we were supposed to be.

CHAIRMAN HONIGBERG: Well, I kind of want to know if this is what you all are talking about. And I don't know if anybody's going to object. I kind of think not. But I see Mr. Epler ready to object.

Mr. Epler, do you have an objection before or after Mr. Hinchman asks his next question? And if you can speak into the microphone, it will help.

MR. EPLER: I have an objection before, and my objection is we've been at this docket for some time. We've had enumerable technical sessions and opportunities for discovery and so on. This report's dated January 19, 2016. It happens to be my birthday. And I'm not complaining about the quality of the report or what may be in here. But to introduce it now, at this late date, for purposes of trying to show that something can be done I find troubling. This is something that we could have discussed at many different sessions. So I object to trying to enter this at this late date.

1 MR. HINCHMAN: Mr. Chairman. CHAIRMAN HONIGBERG: Mr. Hinchman. 2 MR. HINCHMAN: I have to make an 3 enormous apology. There is a printing error. 4 The final report was filed March 17th, St. 5 Patrick's Day, 2017. This is the prior year's 6 7 report. So, with --8 CHAIRMAN HONIGBERG: So you -- okay. All right. So we have the wrong report in 9 10 front of us. 11 MR. HINCHMAN: We have the wrong report. During the summer of 2016, another 12 13 round of testing was done, which is covered in the final report for the year 2016 that was 14 released on March 17th of 2017. This prior 15 16 report is referenced in the testimony of 17 several witnesses and has been part of the discussion all along. The final report was not 18 available until last week. I will get this 19 20 corrected and bring you the corrected final 21 report. 22 MS. BIRCHARD: If I may? I believe 23 the report was included in the binder that was distributed as EFC Exhibit 182. It's not a 24

colored version, but it seems to be dated

March 17th 2017.

CMSR. BAILEY: Which number, please?

CHAIRMAN HONIGBERG: 182. I was in the same place you were, Ms. Birchard. Look in the binder. And so, just so I'm clear, the binder that I have, and I think everybody else has, was given to everybody in advance as a group of documents that the solar group might want to use as exhibits. And having found No. 182, thanks to Ms. Birchard, we see a document that on its face is dated March 17th, 2017 -- not Mr. Epler's birthday. Is that the document you meant to use?

MR. HINCHMAN: Yes. I stand corrected. Thank you.

CHAIRMAN HONIGBERG: Mr. Epler.

MR. EPLER: The fact that it's not my birth date doesn't change my objection because other reports obviously were available. And even if something comes in at a late date, the witnesses haven't had a chance to examine it. We haven't had a chance to ask discovery on it. So, putting it in now, I mean, there's a

boatload of information out there on many different subject areas. The fact that it may have been a reference in someone's testimony is meaningless. I attended, I believe, all the technical sessions, and I don't believe there was a discussion of the Boothbay Sub-Region Smart Grid Reliability Pilot Program. So, again, my objection still stands.

CHAIRMAN HONIGBERG: All right. Now, Mr. Hinchman, now that we have the right document in front of us, what is your response to what Mr. Epler just said?

MR. HINCHMAN: I think he's arguing surprise and that we should have given him the prior year's study of the Boothbay pilot project. That information was cited in the reports. Cites were given in discovery. It was discussed yesterday by the panelists as an example of the type of distributed energy resource solution that can result in reductions to the distribution rate base and that can make the grid more efficient. This is a pilot testing exacting that hypothesis. I would argue that it is offered for the purposes of

2

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

demonstrating for the record that, particularly with regard to the locational, proposed locational pilots in the settlement proposals, that these types of projects have been tried and they do work.

CHAIRMAN HONIGBERG: Okay, okay. I think you're making an argument about its value to us.

Do you want to ask these witnesses about their familiarity with it? They may or may not know anything about it. And I understand that this document -- I understand what this document is. I understand it's an update of something that has been discussed during the course of the docket you represented to me. But I don't really know what these people know about it. And it might be valuable for you to ask a few questions like that, which I think you were planning on doing after I prodded you to do that. So it might make sense for you to go ahead along those And we'll see how that shakes out lines. before we have -- I mean, we don't have anything else to do at this point, so why don't

we do that. 1 2 BY MR. HINCHMAN: So, Mr. Meissner, if you could turn to the 3 Q. executive summary, which is Bates Page 6 of 111 4 in the report, if looking at the very first 5 paragraph --6 7 MR. FOSSUM: Mr. Chairman --CHAIRMAN HONIGBERG: Who's speaking? 8 MR. FOSSUM: Me, Matthew. I have a 9 10 question about this document before we go 11 through it. Looking at the cover, it says 12 "2016 Final Report," but looking over the next 13 page, it's showing a whole series of cutoff 14 15 deletions in the margin. I have a real 16 question about, you know, is this someone's working draft? Is this truly a final report? 17 What is this document? 18 19 CHAIRMAN HONIGBERG: You make a good 20 point. It says on its cover, "Final Draft For 21 Review." That's how it's labeled on the cover. 22 Mr. Hinchman? MR. HINCHMAN: So, this is the final 23 draft filed with the Maine Public Utilities 24

1	Commission in Docket 2011-00138 add two
2	zeros documenting the results of the 2016
3	summer season
4	CHAIRMAN HONIGBERG: How do you know
5	that? How do I know that?
6	MR. HINCHMAN: I know that because I
7	am a partner in Grid Solar and I filed the
8	report myself and I helped write the report.
9	CHAIRMAN HONIGBERG: So it sounds
10	like maybe you should be testifying about this
11	and maybe you should be up there.
12	MR. HINCHMAN: I'm also general
13	counsel for Grid Solar, the smart grid energy
14	services operator that conducted the study.
15	CHAIRMAN HONIGBERG: Is anyone on the
16	panel familiar with the process that took place
17	in Maine that produced this report?
18	WITNESS MEISSNER: (Meissner) I am
19	not.
20	CHAIRMAN HONIGBERG: The record will
21	reflect they're all shaking their heads. The
22	only person who knows about this is you. So
23	I'm not sure what you would ask this panel to
24	talk about.

MR. HINCHMAN: My intent was simply, 1 having discussed the possibility of non-wires 2 solutions to offer a lower cost method to meet 3 the utilities' requirements for maintaining the 4 distribution plant, to offer the pilot as an 5 example of where this proposition has been 6 7 actually tested with a detailed pilot project. CHAIRMAN HONIGBERG: And my memory is 8 you asked Mr. Meissner a question about it 9 already, and he had heard of it. 10 11 MR. HINCHMAN: Yes. CHAIRMAN HONIGBERG: And that's about 12 it; right? 13 14 MR. HINCHMAN: Yes. I don't expect 15

that he has read the report because it was just filed.

16

17

18

19

20

21

22

23

24

CHAIRMAN HONIGBERG: Yeah, this -- I am sympathetic to the objections regarding the introduction of this report. This report, if it was relevant to your presentation, and it was -- the project was discussed yesterday by your witnesses. This document should have been offered then by people who knew something about it. Instead, you're the only one -- you're

testifying here about the bona fide of this
report and what it is or isn't. These
witnesses know nothing about it.

MR. HINCHMAN: If it pleases the

Chair, I'll withdraw the report. It is filed in the record of the adjacent jurisdiction and probably subject a record notice.

CHAIRMAN HONIGBERG: And if need us to take -- if you are asking us to take administrative notice of a filing in another court, I'm sure there's a way to do that under our rules. This is not it.

So at this point I accept your withdrawal of what was incorrectly marked because it was the wrong document as Exhibit 74 and ask if you have any other topics you want to cover with this panel?

MR. HINCHMAN: I'm done. Thank you.

CHAIRMAN HONIGBERG: Okay. Thank you, Mr. Hinchman. Mr. Below, can I help you?

MR. BELOW: Yes. With regard to
Exhibit 72, the grid mod report, I just wanted
to note for the record that I don't believe
this is actually the final report. I think

it's a near-final draft. It says "submitted March 17." That's in yellow highlighting. The actual final report I think was submitted on March 20th. For instance, the final report that I have says "New Hampshire Republic Utilities Commission" rather than "Public Service [sic] Commission." And the highlighting that was on the pages referenced is not in the final report, and there's a little different mix of where the parties align.

CHAIRMAN HONIGBERG: No one has moved its admission. If there is a filing at the New Hampshire Public Utilities Commission, which is something Commissioner Bailey and I are probably going to be the last two to find out about, then there is a way for us to take administrative notice of filings in our own docket. That would be an easy process. It would probably make sense for the parties to figure out what the correct document is to be in the record here. You've given me information I did not know, Mr. Below. I appreciate that. You know the ways of this

	160
1	Commission probably as well as anyone in this
2	room, along with Mr. Harrington. So it makes
3	sense for the parties to work that out. And I
4	appreciate you're raising that.
5	It's twenty minutes to one right
6	now. I know there's some other people who will
7	be questioning this panel. But it makes sense
8	for us to break at this point. Off the record.
9	(Discussion off the record)
LO	CHAIRMAN HONIGBERG: So, back on the
L1	record. We are breaking now, and we will look
L2	to come back at twenty minutes to two.
L3	(Lunch recess taken at 12:38 p.m. and
L4	concludes the Day 2 Morning Session. The
L5	hearing continues under separate cover in
L6	the transcript noted as "Day 2 Afternoon
L7	Session ONLY.")
L8	
L9	
20	
21	
22	
23	
2.4	

DE 10 270 EEEC 1	INIC DISTRIBETION	CILITIES NEW MET	JAN VILLE VE IVE IVE I	MING TIMMITSIII
	accumulated (3)	adjustment (1)	aggregate (4)	alternate (2)
\$	92:4,5;119:1	28:12	92:22;93:2;116:22;	140:14;141:17
	accumulation (1)	administrative (2)	118:24	alternative (2)
\$100 (1)	118:4	158:10;159:18	aggregated (1)	48:20;50:6
31:14	accurate (3)	administrator (1)	72:14	although (2)
\$150-a-month (1)	80:17,22;81:2	30:18	aggregator (1)	60:17;78:14
37:4	accurately (1)	admissible (1)	30:19	ambient (1)
\$5 (1)	130:17	45:12	ago (3)	146:17
120:19	acquiescence (1)	admission (14)	35:7;40:24;129:17	amended (1)
	- 55:12	12:8;13:19;17:1;	agree (23)	27:12
[acquire (1)	20:19,20,22;22:2,19;	27:19,21;30:22;	AMI (4)
	123:23	24:2;25:6;41:12;	32:22;35:18;56:23;	97:20,22,23;100:3
[having (1)	across (1)	45:8;90:3;159:13	67:4;77:23;86:21;	among (2)
104:23	96:15	admit (2)	87:6,10;88:3;99:24;	60:13;120:5
[No (3)	act (4)	10:4;22:16	102:10;103:17;	amount (3)
9:4,10;89:5	53:19;120:10;	admitted (18)	119:21;122:14;	31:3;36:16;122:16
[relatively] (1)	126:12;143:12	12:13;13:22,23;	123:6,14,21;127:3,5,	AMR (6)
76:6	acting (1)	21:5;22:7,24;23:2;	6	95:3;96:17;97:1,8;
[sic] (2)	43:23	24:6;25:10;42:21;	agreed (9)	98:6;105:24
19:19;159:7	action (3)	43:1;77:15;83:21;	6:24;22:15;33:8;	analysis (5)
	121:17;124:23;	86:3,6;111:10,21;	43:19;57:6,22;109:1;	54:8;84:14,15;
\mathbf{A}	125:7	112:14	110:16;112:7	104:14;126:18
	actions (2)	adopt (5)	agreement (19)	analyze (1)
A1 (3)	144:5,13	12:4;13:15;20:15;	6:15;10:7,14;	124:6
41:21;114:15;	actual (8)	23:22;109:6	11:17,21;24:18,23;	analyzing (1)
115:7	29:17;33:21;49:2,	advance (2)	25:3,14;26:1;35:17;	83:7
A2 (1)	12;75:1;126:3;	142:14;152:8	39:6;40:8,15;55:20;	and/or (1)
114:15	139:20;159:3	advanced (6)	56:2;57:2;58:24;	106:11
A3 (3)	Actually (22)	86:17,22;87:1,2,7;	84:22	annual (12)
41:21;114:15;	7:9;44:10;56:19;	100:2	agrees (1)	29:19;32:6;34:19;
115:7	58:6;59:6,15,16;60:2,	advantage (1)	101:18	65:7,24;69:2,17,19;
A4 (4)	20;61:1,9,10;69:7;	40:1	Ah (1)	72:15;74:3;117:19,
41:22;42:6;114:15;	94:2;103:16;116:12;	adverse (1)	64:17	20
115:9	130:24;136:1;144:8;	61:9	ahead (4)	annually (1)
ability (4)	146:12;157:7;158:24	advisable (1)	62:22;74:1;149:17;	28:24
41:19;98:6;103:3;	add (6)	67:1	154:21	answered (2)
120:8	98:5,6;140:10,20;	Advisory (1)	air (1)	50:1;126:17
able (15)	143:13;156:1	66:1	37:15	Apart (1)
26:9;32:18;46:23;	added (3)	Advocate (2)	air-conditioning (1)	59:2
71:7;77:6;95:5;	141:9;145:17,21	84:22;85:18	36:17	apartments (1)
100:10;104:5;	adding (3)	affect (2)	algorithm (1)	37:9
130:16;133:11,13;	92:18;144:8,8	29:10;123:9	108:13	apologies (2)
134:19,24;145:11,13	additional (4)	affected (1)	align (1)	99:4;111:3
above (2)	40:5;47:15;72:1;	139:17	159:11	apologize (7)
105:5;132:9	100:8	affecting (1)	allocated (1)	44:13;66:9;73:12;
absolutely (1)	Additionally (1)	140:4	32:2	79:13;94:1;103:22;
38:13	39:6	affidavit (7)	allocation (1)	113:18
Acadia (8)	additions (1)	14:18;22:17,18;	33:7	apology (1)
6:18;7:10,22,24;	11:23	66:18;67:12,23;	allow (1)	151:4
43:18,23;89:20;	address (4)	68:14	92:13	apparent (1)
103:18	44:4;51:2;95:24;	afforded (1)	allowed (2)	83:5
accelerated (1)	140:6	49:4	27:16;43:11	appear (5)
133:22	addressed (6)	afield (1)	allowing (3)	45:15;79:11,15,20;
accept (4)	48:13;50:2;126:16;	100:16	60:5,18;147:6	80:9
130:4;143:10;	137:21;148:14,17	afternoon (2)	allows (1)	appearances (1)
145:6;158:13	addresses (2)	38:7;160:16	61:12	6:10
accepted (3)	35:20;50:8	again (18)	almost (4)	appearing (4)
132:12;134:6,15	addressing (3)	18:23;36:1,21;	59:22;77:12;78:2;	12:19,21;19:4;20:7
access (3)	49:6;50:24;140:16	38:11;40:14;45:9;	127:20	appears (4)
102:9;104:5;	adds (1)	62:2;64:7;68:6;76:1;	along (7)	71:18;72:18;78:22;
143:20	59:20	80:3,4,18;87:18;	24:20;34:9;139:16;	110:22
according (1)	adjacent (1)	118:7;130:7;141:3;	140:3;151:18;	Appendix (1)
119:3	158:6	153:8	154:21;160:2	93:8
11/.J				
			~~	(4) 4400 4

apples (1)	38:12;80:11	91:6,15;105:19,24;	28:23;36:10;38:5	38:23;40:17;77:18,
125:23	arrangement (6)	106:15,16;121:13;	basics (1)	19,24;136:21
appliances (1)	43:15,16;46:19,20;	124:21;125:6;	65:2	better (5)
61:4	146:3,4	126:12;128:8,23;	basis (12)	36:12;47:6;50:23;
Applicability (1)	array (3)	134:1;151:19;152:20	29:19;31:5,6;49:8;	68:20;128:7
28:1	143:7;144:16;	average (8)	50:22;72:18;91:13;	bidirectional (12)
applicable (4)	145:7	18:3;112:24;113:1,	115:13,17,19;122:1;	16:17;34:12;41:19;
27:2;28:4;30:9; 106:4	ASHLEY (3)	24;114:17,18,24; 117:8	137:22	58:15;90:22;91:18,
Application (4)	9:20;23:5,9 aspects (3)	avoid (1)	Bates (8) 20:6;93:23;94:6;	23;97:14;103:4,11, 14;108:1
26:14,16,19;	50:15,20;55:8	88:4	98:21;102:18;	big (1)
134:16	assertion (1)	avoided (6)	124:11,15;155:4	123:3
applications (1)	83:7	28:23;29:13;31:18,	batteries (2)	biggest (2)
126:24	assess (1)	24;33:6;88:21	61:14;62:5	37:16;49:24
applied (3)	86:16	avoiding (3)	battery (4)	bill (24)
31:24;125:5;	assist (2)	48:5;122:8;134:7	47:16;120:10;	26:9;28:22;31:7,8,
128:17	30:24;57:22	aware (9)	145:7,8	12;37:4;40:2;42:2;
apply (10)	associated (5)	6:8;65:3;83:6;85:3,	battle (1)	47:24;59:21;87:16;
27:11;32:8;45:20;	34:4,18;66:23;	5;143:2,5;148:11,21	39:11	88:1;91:19;95:16;
124:19;125:3,14,16;	95:15;104:21	away (2)	Bean (1)	106:8;116:12;
133:3;138:15,19	Association (1)	59:11;119:12	109:18	123:10;130:17;
appreciate (4)	12:22	_	bear (1)	133:5,11,13;134:2,
77:11;78:2;159:24;	assume (7)	В	83:18	19,24
160:4	70:17,23;78:14;		bears (1)	billed (5)
approach (2)	121:7;132:12;	B12a (2)	42:10	26:11;28:3;133:9;
45:1;146:21	134:13;145:23	93:11,22	become (3)	134:18,20
appropriate (8)	assuming (1)	B12b (1)	66:23;68:2;111:17	billing (16)
22:17;27:20;33:5;	66:22	97:17	becomes (1)	27:5;49:23;92:11;
35:24;44:2;48:7;	attached (1)	B12c (1)	15:22	93:3;96:22;100:6;
49:7;89:14	145:7	96:2	becoming (1)	105:5;106:20;
approval (4)	Attachment (7)	B17 (2)	29:9	107:21;108:3;
26:18,23;27:1; 132:11	15:6,20;110:1,23; 112:23;113:7;115:22	94:6;96:6	beginning (3) 6:7;81:9;126:20	130:16,20,21,23; 133:5,20
approve (1)	attachments (4)	back (16) 6:3;20:3;24:16;	begins (3)	billion (1)
25:1	13:6;22:11,12;	63:6;73:20;85:11;	81:14;82:5,14	39:14
approved (2)	23:15	89:15,19;101:7;	behalf (6)	bills (3)
27:15,17	attempt (1)	104:21;110:19;	8:9;14:18;19:8;	37:8,16;87:23
April (2)	48:1	120:22;137:15;	23:6,10;82:24	binder (6)
31:12;33:9	attempting (1)	149:11;160:10,12	behaviors (3)	64:11;65:21;72:24;
arbitrarily (1)	44:7	background (1)	52:20;53:10,13	151:23;152:6,7
60:14	attendance (2)	137:23	behind (20)	BIRCHARD (44)
archive (1)	6:3,4	bad (3)	29:16;44:8,11;	42:16,19,20,20;
101:4	attended (2)	52:18,19;110:15	53:22;70:13,20,21;	43:14,16,22;44:6,13;
archived (1)	10:17;153:4	BAILEY (2)	71:4,13,15,20;72:8,	62:12,13;63:2;64:14,
105:18	attention (1)	152:3;159:15	10,12,21;78:20;79:6,	18;65:16;66:3,9;
archiving (2)	65:20	balance (2)	8,21;114:16	68:18,20,22;69:8,10;
99:17;100:4	Attorney (4)	31:8,13	behind-the-meter (1)	73:9,10,22,23;76:10,
areas (1)	8:11,11,17;43:9	bank (5)	115:24	14;77:11,17;78:1,9,
153:2	August (4)	117:8,17,20,22;	bell (1)	10;85:13,24;86:2;
argue (4)	74:14;75:10;76:7;	118:13	65:13	89:6,21,22;112:3,6;
54:5,21;60:18;	133:3	banking (1)	belong (1)	151:22;152:5,11
153:24	authority (1) 109:9	32:8 honks (1)	57:12 below (6)	birth (1) 152:19
argues (1)		banks (1)	` /	
61:1 arguing (1)	authorized (1) 111:9	117:7 base (4)	71:13;89:23;139:4; 158:20,21;159:23	birthday (2) 150:17;152:13
153:13	automatically (1)	141:10,14;145:17;	Below's (1)	bit (5)
argument (2)	133:15	153:21	96:10	27:7;35:3;45:22;
53:18;154:7	availability (3)	based (11)	benefit (7)	58:23;84:7
arise (1)	128:11;129:16;	17:8;26:19;27:3;	28:10;37:17;54:14;	black (4)
148:4	130:5	33:13,17;45:9;114:2;	84:4,18;141:3,4	70:5,9;71:3,15
Arkansas (1)	available (21)	126:20;131:17;	benefits (2)	blue (9)
35:6	10:9;18:5;32:19;	134:1,22	60:19;126:6	70:2,5,5,7,8;71:11;
around (2)	56:13;62:10;65:22;	basically (3)	best (6)	72:6,7;79:5
	, ,	• • •		, , ,

hoord (1)	148:5,9	136:21,21,22;137:16;	120:17	21;134:3,11,22;
board (1) 45:23	budgets (1)	143:11;145:6;150:9,	CELT (11)	137:1;143:1;152:19
boatload (1)	54:11	20;153:20,21;158:20	65:11,14,23;69:1,	changed (1)
153:1	build (4)	cap (17)	16;74:3,15,24;75:11;	98:18
bona (1)	39:5;47:9;48:15;	128:9,12,16,21;	79:3;127:15	changes (18)
158:1	121:16	129:2,7,21;130:2,8;	C-E-L-T (1)	11:22;13:7;14:23;
book (2)	building (1)	131:18,21;132:2,9,	65:16	19:21;21:19;26:9;
68:1;73:16	41:11	15,21;133:1,19	central (2)	27:10;57:18,20;
books (1)	bullet (4)	capabilities (2)	37:15;64:3	101:1;109:16;134:8;
56:19	75:8,15;76:3,5	95:6;98:12	certain (6)	136:4,5,17,18,18,24
Boothbay (4)	bunch (1)	capability (9)	50:15;88:8,13,21;	channel (6)
148:16;149:4;	93:18	96:13;97:10,22,24;	138:1,6	16:16,19;91:14,15;
153:6,15	burden (5)	98:1,5,18;144:1,2	certainly (4)	92:21;115:5
both (22)	84:8;123:23;124:3,	capable (16)	23:4;40:16;44:6;	channels (6)
10:6,17;13:1;14:9;	4,6	47:1;63:16;94:15,	138:10	52:10;91:8,14;
19:12;20:12;26:3;	business (1)	18;95:19;96:8;97:13;	certificate (1)	109:5;116:21;119:1
28:2;29:3;49:13;	14:7	98:16;100:3,6;103:5;	51:5	characteristics (1)
50:6,8,17,19;60:3;	Buxton (1)	104:2;130:21;	Certificates (1)	138:11
63:17;88:15,16;	8:12	133:21;143:6,10	30:14	characterization (1)
91:13;107:12,23;	buy (1)	capacitor (3)	Chair (1)	83:12
128:17	104:10	140:10;143:12;	158:5	characterized (2)
bottom (8)	buys (2)	144:23	CHAIRMAN (145)	51:23;105:24
63:13;64:15;69:23;	140:23;141:1	capacitors (1)	6:2,21;7:4,17,21;	Charge (13)
70:4;71:14;79:17;	C	140:8	8:3,6,9,13,18,21;9:5,	26:21,22;27:2;
102:19;110:21	C	capacity (10)	11,14,15,18;10:10,	28:10,10,13;30:8;
box (7)	COLO	33:16;63:17;64:2;	21;12:10;13:18,20;	31:22;49:1;53:24;
6:5;34:17;110:21,	C&I (6)	65:16;82:19;93:14;	14:16;15:17,24;	55:20;56:24;125:16
23;111:4,5;114:13	96:16,18;99:5,8;	98:6;99:12;145:9;	16:24;17:3,4,11,16,	charged (2)
break (7)	124:17,20	146:16	20;18:6,9,15;19:1;	115:7;141:12
7:7,11;89:14; 101:7;137:12,16;	C1 (1) 130:14	capital (1) 54:11	20:2,18;21:1;22:1,4, 9,22;24:1,3,7,13;	Charges (12) 28:2,4;56:3;88:11;
160:8	calculated (3)	capture (3)	25:7,12,21;27:6;41:4,	109:8;124:16,18,20;
breakdown (1)	28:22,24;29:13	97:11,14;106:1	8,13;42:16,19;43:7,	126:2,3,19;145:21
94:8	calculation (2)	captures (1)	20;44:1,9,14;45:13;	chart (10)
breaking (1)	113:8;129:4	107:1	46:10;62:9,11;64:13;	15:7,12;16:5,14;
160:11	calculations (2)	carbon (2)	66:3,12,15,18,19;	17:19;18:3;41:7;
breaks (2)	27:17;28:24	58:6,8	67:6,10,16,19,21;	42:22;80:1;113:11
37:7;38:7	call (3)	care (1)	68:4,13,17;69:6;73:4,	check (9)
brief (4)	98:11;100:2;116:7	89:21	6,18,20;76:8,12,18;	31:15;71:10;
25:18;51:13;89:17;	called (1)	case (23)	77:16;78:6;85:9,11,	128:21,24;129:4,13,
110:8	59:20	29:23;30:12;36:20;	23;86:4,10;89:13,19,	19;130:4,7
briefly (3)	calling (1)	38:18;40:4;41:20,22;	23;90:2,8,13;100:14;	Checkcheck (1)
40:22;48:16;51:14	93:3	45:3;55:14;57:13;	101:15;109:19;	144:18
bright (1)	calls (2)	59:5;72:16;75:6;	110:14,24;111:15,22;	Chernick (1)
38:6	37:2;136:14	78:22;93:20;101:12;	112:2,9,15,20;	82:23
bring (4)	can (72)	106:22;108:15;	120:20,22;126:8,14;	Chernick's (2)
36:18;40:11;65:19;	15:18,22;16:14;	115:6;116:4;121:7;	127:2;136:10;	83:6,12
151:20	17:3;18:12;31:13;	125:3;145:16	137:10,13;149:3,6,9,	chief (1)
bringing (1)	38:5,10,18;40:17,22;	cases (1)	11,15,20;150:2;	21:9
7:3	43:5;45:11,20;46:16;	57:18	151:1,2,8;152:4,17;	chimed (1)
broken (1)	47:8;49:1,18,23;	cash (2)	153:9;154:6;155:7,8,	127:10
68:18	62:19;63:18;64:4;	31:9,13	19;156:4,9,15,20;	choose (2)
BROWN (20)	66:24;68:20;69:14,	causation (1)	157:8,12,17;158:8,	34:14;45:17
9:21;23:4,5,5,9,9,	16,22;70:2,17;71:23;	126:11	19;159:12;160:10	chosen (1)
11,17,21,24;51:13;	72:2;74:2;76:17,20;	cause (3)	chalk (2)	140:21
55:1,2;58:14;125:21;	77:9;78:3,6;84:3;	55:13,15;61:3	44:21;46:14	circuit (14)
126:21,23;127:10,13, 24	86:11;87:22;88:4,7,8,	caused (3) 55:23;126:5;142:1	chance (4) 70:15;76:1;152:22,	54:8;138:14,17,17;
BTM (4)	17;95:2;96:16;99:2; 100:20;104:10;	cautioned (1)	23	139:10,17,18;140:3, 14;143:8,14;145:4,5;
70:9,10,13,19	100.20,104.10,	9:24	change (17)	14,145.8,14,145.4,5,
budget (1)	119:22,23;122:19,23;	cease (1)	26:15,23;29:6;	Circuits (2)
147:19	123:2;124:23;	82:9	53:13;56:24;57:4,16;	81:11,12
budgeting (2)	125:21;128:10,14;	Cell (1)	94:23;98:15;107:18,	circulate (1)
~ ~ ~ ~ (*)	125.21,120.10,11,	(1)	7 1.23,70.13,107.10,	

6:9	collected (3)	87:14;125:23	37:10	109:16
circulating (1)	92:20;93:14;	comparison (1)	conduct (1)	context (4)
15:12	105:18	147:20	33:12	55:9;70:21;81:19;
circumstances (2)	collecting (1)	compatible (1)	conducted (2)	125:24
148:22,23	66:5	106:4	34:1;156:14	continue (5)
cited (2)	Collection (5)	compensate (1)	confer (1)	31:14;35:16;46:16;
141:21;153:16	32:21;34:4;99:17;	49:2	77:22	53:14;67:20
Cites (1)	100:4;106:6	compensated (1)	confirm (4)	continued (1)
153:17	color (1)	63:17	63:9,18;64:4;71:7	64:15
City (3)	113:18	compensation (7)	confuse (1)	continues (1)
6:24;8:1;103:18	colored (2)	33:6,9;47:23;48:8;	9:9	160:15
claim (1)	114:8;152:1	49:9,9;145:22	confusing (1)	contrary (1)
59:9	column (6)	competing (1)	15:22	46:23
clarification (1)	94:9;97:1;117:23;	25:19	confusion (3)	contrast (1)
90:21	118:2,6,9	competition (2)	52:3;108:4;134:8	53:6
clarified (1)	combined (1)	60:13,15	connected (1)	contrasting (3)
17:19	43:23	competitive (3)	120:6	10:8;25:18;102:22
clarify (2)	comfortable (1)	29:8,21;50:18	consensus (2)	contribute (1)
108:5;109:3	123:1	compiling (2)	101:8,11	142:4
class (2)	coming (5)	103:6;104:2	consequence (1)	contributing (1)
28:5;30:9	91:1;125:11;136:4;	complaining (1)	111:23	142:16
28:5;30:9 clear (13)	137:3;143:6	150:17	consequences (1)	contribution (3)
		complete (1)	36:9	80:7,12;81:5
10:18;49:11;50:21;	comma (2) 75:9;103:14	123:4		
52:6;53:18;54:13; 70:12;82:4;91:4;	,	completely (2)	conservation (1) 53:9	control (1) 143:19
	comment (4)			
92:15;105:12;136:6;	33:24;87:3;125:10,	37:22;68:18	considerable (2)	controls (1)
152:6	13	complicated (1)	121:24;122:9	142:6
clearly (2)	commercial (2)	52:3	consideration (2)	controversy (1)
49:24;50:16	81:12;95:14	compromise (4)	50:16;123:17	57:5
CLF (7)	Commission (20)	35:20;36:1;40:15;	considerations (1) 49:22	convenience (1)
6:18;7:10,21,24;	19:11;24:24;26:18;	42:7		53:15
43:23;45:5;82:24	27:1;29:1,7;33:4,10,	compromised (1)	considered (3)	convert (1)
Cliff (1)	11;35:13;90:5;109:9;	35:17	33:17,20,23	31:8
96:9	112:22;135:10;	Conceivably (1)	considering (2)	copies (5)
close (2)	137:5;156:1;159:6,7,	140:22	120:12;122:7	22:18;65:18,21;
23:7;43:21	14;160:1	concentrations (1)	consistent (11)	66:6;110:12
closely (1)	Commissioner (3)	81:11	26:6;27:24;29:1;	copy (3)
33:18	12:7;132:13;	concept (1)	64:19,21;68:5;75:22,	15:12;80:9;90:14
closer (1)	159:15	46:22	23;79:24;91:2;132:7	corner (1)
59:17	Commissioners (1)	concepts (2)	constraint (1)	63:6
cloud (5)	40:21	47:22;142:9	76:23	Corp (1)
82:12,15;119:10,	Commission's (1)	conceptual (1)	constraints (2)	11:7
11;145:3	67:24	50:2	147:18;148:1	Corporation (1)
CMSR (1)	commitments (1)	concern (4)	construction (1)	21:9
152:3	36:6	42:24;65:4;104:13;	135:7	corrected (4)
Coalition (12)	Committee (1)	145:1	consume (3)	111:4;151:20,20;
6:13,20;8:1,10;	66:2	concerned (1)	29:16,24;53:14	152:16
19:9;46:20;48:11;	Commodity (2)	45:14	consumed (2)	correction (3)
53:7;54:20;73:1,2;	28:14;37:21	concession (3)	47:12;122:18	19:23;20:9,10
108:24	commonly (1)	38:17;56:6,22	Consumer (4)	corrections (5)
cognizant (1)	140:7	concessions (10)	84:22;85:18;	13:7;19:21;21:20;
62:15	communication (1)	40:7;55:5,9,10,11,	108:24;122:13	23:16;48:24
coincidence (3)	99:15	17,18;56:17;58:14;	consuming (1)	correctly (3)
54:9;121:7;127:21	companies (4)	59:2	41:24	81:17;97:6;117:9
coincident (1)	46:24;48:3;57:13;	concludes (1)	consumption (6)	corresponding (1)
119:15	123:7	160:14	28:11;47:19;53:10,	36:17
coined (1)	Company (1)	conclusion (4)	23;117:10;122:1	cost (20)
65:14	84:2	71:24;81:7;116:4,8	contained (3)	28:10,23;31:18,24;
colleague (1)	company's (2)	conclusions (2)	13:11;20:12;100:8	33:6;35:4;36:24;
48:16	94:12;124:6	102:1;115:23	contemplate (3)	39:17,21;48:22;49:7;
collect (5)	compared (1)	conditions (2)	91:11;105:21;	50:23;51:4;58:8,16;
97:5;120:18;	39:9	146:9,17	107:2	60:10;104:13;
122:23;123:23;124:3	comparing (2)	condos (1)	contemplated (1)	126:11;146:1;157:3
-	1			1

cost/benefit (1)	10:9;45:6,10;	135:11;136:1,3,7,13,	7,12;66:11;68:23;	86:24;147:13
104:14	62:10;63:1;66:10;	24;138:9;141:5,12,	69:1,5,13,16,24;70:7,	definition (1)
cost-effective (3)	90:17	15;142:20	15;71:3,7,18,23;72:4,	109:11
106:2,4;144:11	current (14)	customer's (14)	14;73:11,12,16,24;	definitional (1)
cost-effectiveness (1)	29:1;30:12;32:7;	30:9;31:7;87:16;	74:7,10,12,17,19,23;	70:16
37:6	49:6;93:14,21;95:18;	88:18;101:2;106:12;	75:5,13,14,21;76:1,	degree (2)
cost-prohibitive (1)	99:7;100:5;107:13,	107:11;119:24;	15,17;78:5,12,14,22,	57:24;122:9
104:22	14;128:11;134:18;	121:14;123:17,22;	23;79:1,10,13,20,24;	deletions (1)
costs (29)	135:10	124:3;138:20,23	80:2;89:6,7,9;96:4,7,	155:15
26:20;27:4;29:13;	currently (11)	customer-side (1)	12,23;97:7,13;	delivery (3)
31:2;33:19,21;34:3,	56:18;96:20;98:4,	147:13	102:12;105:15,21;	28:13;50:20;
18;35:11;38:16,19;	10;107:16;108:8,15;	customer-sited (1)	106:18;108:4;109:2,	108:11
	109:5;130:20;	84:2	13	demand (14)
39:2,8;55:12,22;60:5,				
6,8,19;87:11;88:5,7,	143:24;144:2	cutoff (1)	Davis' (1)	56:3;71:5,16,21;
18,22;104:21;	curve (1)	155:14	20:20	79:9;97:14;114:17;
124:24;125:8;126:5,	44:23	cuts (1)	Day (13)	124:15,17,19;125:16;
6	customer (80)	36:20	6:3;15:9;74:20,20;	126:2,19;147:9
counsel (4)	16:11;26:21,22;	cycle (6)	75:2;81:24;82:13;	demonstrate (1)
77:6;109:13,20;	27:2;29:3,10,16,24;	93:3;96:22;108:3;	122:17,17;142:19;	41:1
156:13	30:22;31:19;34:13,	120:2;135:3,12	151:6;160:14,16	demonstrated (2)
couple (4)	15,21;38:2,9;41:24;	_	Daylight (1)	26:20;27:3
35:6;51:15;65:18;	47:2,4,7,10,12,14;	D	78:15	demonstrating (1)
141:22	50:11,13,14;56:4,12,		days (3)	154:1
course (5)	12,24;58:16;61:11;	daily (3)	129:17;135:13;	demonstration (2)
15:9;54:6;58:11;	62:8;88:1;91:17;	92:7;94:11;113:24	146:10	44:21;45:23
116:6;154:15	92:13,21,23;100:7;	data (96)	DE (3)	dependent (2)
Court (7)	102:9;104:5;106:24;	17:6,8,15;18:2,4,5;	26:7;91:3;132:8	56:10,11
9:24;42:18;58:13;	108:10;114:1;115:8;	32:21;34:4;42:22,23;	deal (3)	depending (3)
65:15;71:2;136:9;	116:5;117:14;120:7,	43:2,3,5;52:6;54:2,	24:9;44:5;52:2	82:15;102:14;
158:11	12;121:14,21;	22;82:24;83:1,7,12;	dealing (1)	106:11
cover (9)	122:22;124:2,5;	86:18;87:8;91:7,7,12,	36:3	depicted (1)
82:12,15;85:21;	132:1,14;134:8,15,	15;92:16,18,20,22;	deals (2)	115:8
119:10;155:12,20,21;	21;136:8;138:3,22;	93:18,20;94:11,16;	26:2;32:21	depiction (1)
158:17;160:15	139:5,9,13;140:4,13;	95:9,11,20;96:9,21;	Debski (1)	16:10
covered (1)	141:4;142:2,3;144:5,	97:2,5;99:9,16,18;	24:21	deployed (1)
151:13	13,14,15,19,20;	100:4,8,12,23;101:2,	December (3)	100:6
covering (2)	145:6,11,16,20;148:7	4;102:8,9,10;103:7;	27:23;32:14;33:1	Deployment (2)
8:12,14	customer-generators (1)	104:3,6,12,19;105:4,	decide (1)	86:8,13
create (1)	34:11	17,17,19;106:1,5,6,	32:19	DER (6)
47:10	customer-owned (1)	14;107:1;110:3,5,20;	decision (4)	33:12,15,22;48:11;
created (1)	42:12	111:5,7,11;112:24;	123:2,3;135:9,23	54:15,17
110:10	customer-related (1)	113:2;114:5,6;117:7,	declined (1)	derth (1)
creating (1)	27:4	17;118:5,13,13,15,	60:8	86:18
81:15	customers (89)	17,118.5,13,15,15,17,121:6,12,13,15,	declines (1)	describe (5)
credit (21)	26:11;27:3;28:3,7,	19;122:23,24;	60:11	16:15;43:5;70:3;
28:7,14,17,20;30:4,	16,19;29:5,9;30:6,15,	19;122:23,24; 123:23;124:3;	declining (3)	10.13,43.3,70.3,
7,11;31:1,4,8,12,16,	19;31:1,7;32:10,15;	130:16,21;143:20	60:5,6,19	described (5)
19;32:5;38:16;39:13;	33:22;52:24;53:12,	database (1)	decreases (2)	52:18;79:24;
40:1;51:19;54:3,23;	14,21;55:14,15,21;	117:15	58:8;139:16	106:20;108:19;133:8
91:20	56:18;57:4,7,9,10,12,	date (16)	deemed (1)	description (2)
		20:7;26:3;32:11;	, ,	16:8,13
credited (1)	14,22;60:4,7,11,19,		28:9	,
31:23	22;61:3,12,24;62:4;	75:4;94:19,20;	default (11)	Design (12)
credits (3)	81:13;84:19;88:2;	131:11,13;132:9;	28:17,18;29:4;	27:8,10;57:4;
29:22;31:3;113:9	91:1,6,16;93:6;95:13,	133:22;134:23;	31:18,21,23;35:23;	100:7;124:12,13;
crisis (1)	13,14,18;99:5,8;	137:4;150:19,24;	42:8;56:20;92:15;	125:2,14;131:7;
35:3	100:9,20;103:3,5;	152:19,21	93:6	138:12,21;146:13
criteria (3)	104:10,20,23,24;	dated (4)	deferred (1)	designee (1)
138:1;146:6,22	105:20,24;106:16;	27:18;150:15;	39:20	30:21
critical (1)	116:13;120:11;	152:1,12	defined (2)	desirable (1)
60:7	122:5;123:9;124:17,	DAVIS (76)	87:2;107:10	61:19
critique (1)	20,22;125:6;126:12;	9:21;19:3,6,6,12,	defines (1)	despite (2)
10:17	128:10;130:17;	16,23;20:6,10,14,17;	107:6	42:9;76:5
cross-examination (7)		49 14 15 64 00 65 1	dofining (7)	I detailed (7)
cross examination (7)	133:9;134:10,12;	48:14,15;64:22;65:1,	defining (2)	detailed (2)

100:3;157:7	19:7	11:12;26:6;47:21;	driving (2)	39:10,13,15;88:7,
details (2)	disadvantage (1)	50:4;66:23;67:24;	39:4;95:6	14,17;142:22;144:8,
37:23;63:10	123:11	84:23;85:4,17;91:3;	drop (3)	15;147:9
determine (2)	disagree (2)	93:13,19;104:17,18;	36:17;139:4;	efficient (2)
114:16;141:23	77:16;85:24	135:18;136:2,23;	142:16	142:5;153:22
determined (1)	discover (1)	137:1,4;149:2;	due (1)	efficiently (1)
82:24	139:20	150:13;154:15;	75:12	61:16
deterrent (1)	discovery (5)	156:1;159:19	duly (1)	efforts (2)
53:20	110:8;147:23;	document (20)	9:23	30:23;34:5
detrimental (1)	150:15;152:23;	15:13;45:9,11;	duration (1)	either (11)
52:20	153:17	46:6,8;73:7,13;	106:14	14:23;15:19;19:22;
develop (1)	discrete (2)	74:16;132:4;133:7;	during (9)	24:16;87:3;106:15;
123:12	142:23;144:6	152:12,14;153:11;	10:11;15:14;54:5;	121:12;130:24;
developer (1)	discuss (2)	154:12,13;155:10,18;	81:9;119:23;127:12;	131:1;139:14;143:7
136:19	47:14;134:17	154.12,13,135.10,18,	146:9;151:12;154:15	elect (1)
developing (1)	discussed (12)	157.22,138.13,	dynamic (1)	32:16
122:22	22:15;119:8;	documenting (1)	147:10	election (1)
development (1)		156:2	147.10	31:8
	120:13;136:3;		E	
148:7	141:18;147:5;	documents (2)	IL.	Electric (10)
device (1)	148:11;150:22;	24:23;152:9	oom (1)	11:10;35:11,15;
140:19 DC (4)	153:18;154:15;	dollars (2)	ear (1)	37:16;40:2;49:12;
DG (4)	157:2,21	39:14,20	98:9	50:12,18;54:18;65:5
80:12;90:23;103:5;	discussing (1)	dollar-value (1)	earlier (5)	electricity (16)
105:11	15:11	31:5	36:14;50:21;61:12;	28:5,6,11,18;
differ (1)	discussion (21)	Don (1)	81:12;82:22	30:10;31:4;35:4;
33:15	43:18;44:15;47:21;	84:22	early (1)	36:5;37:20;38:10;
differences (1)	48:5;66:14;70:17;	done (14)	61:21	51:20;53:15;54:3;
51:15	73:5,19;85:10;	35:9,21;45:4;	ease (1)	64:23;107:12,24
different (30)	101:22;102:23;	46:11;77:12;78:2;	113:14	element (2)
8:12,14;18:10;	113:15;120:21;	100:15;104:14;	Eastern (1)	28:9;59:20
26:19;33:15;37:20,	124:12,13;125:9;	114:13;141:3,4;	78:15	elements (1)
21,22;38:2;42:5;	134:14;149:10;	150:21;151:13;	easy (1)	59:3
44:24;50:13;102:15,	151:18;153:6;160:9	158:18	159:19	eleven (2)
17;116:6,7,11,14;	dispatch (7)	double-contingency (2)	easy-to-understand (2)	89:15,16
119:18;120:2;	143:13,16,21;	56:9,15	48:19;49:21	eliminated (1)
121:22;127:1;	144:17;145:9,11,14	down (9)	economic (4)	39:21
140:14,16;142:9;	dispatchable (1)	27:7;36:15;38:23;	53:21;56:6,22;	else (8)
146:2,4;150:22;	143:18	39:18;58:6;84:7;	122:10	9:1,8;24:14;40:2;
153:2;159:10	dispute (2)	86:10;103:7;104:3	economics (1)	66:5;85:6;152:7;
differently (3)	83:11;149:2	DR (1)	122:6	154:24
51:17;54:5;119:2	distance (1)	70:11	edification (1)	e-mails (1)
difficult (2)	139:13	Draft (13)	112:22	136:14
48:6;86:16	distinct (1)	65:23;69:1,16;	educating (1)	embodied (1)
diminished (1)	142:10	74:2;75:6;79:2,4,18;	123:8	125:19
60:16	distributed (19)	80:1;155:17,20,24;	education (1)	emphasize (1)
direct (24)	14:5;48:8;58:4;	159:1	30:23	61:22
7:20,23;11:1;	66:16;80:8,15,20;	dramatic (1)	EDWARD (3)	employ (2)
12:23;13:1,4;14:9,12,	81:6;84:3,16;86:9,13,	60:17	9:21;19:3,6	138:12;139:3
21;19:12,17,17,24;	15;88:3,15;147:7,12;	dramatically (1)	EFC (1)	enables (1)
20:1,12;21:15,18;	151:24;153:19	60:8	151:24	53:14
22:12;39:23;40:3;	distribution (28)	draw (2)	EFC186 (1)	encourage (1)
62:23;63:7;80:4;	28:8;29:5;33:14;	45:22;71:23	110:18	52:20
83:18	51:20;52:21,23;53:5,	drawn (2)	effect (4)	encourages (1)
directed (2)	24;54:4,15;80:15,20;	44:22;110:2	26:12;59:1;61:2;	60:22
62:21;143:13	81:21;84:5,9,17;	draws (1)	141:14	encouraging (3)
direction (4)	105:6;137:24;	111:5	effective (4)	53:9;61:10;62:5
59:10;60:4;116:23,	138:17;139:10;	drive (1)	61:15;132:17;	end (4)
23	140:3;141:2,10;	95:8	133:10;137:4	45:7;46:4;52:12;
directional (1)	143:8;145:21;147:1;	drive-by (5)	effectively (1)	103:15
90:24	153:21;157:5	94:10;95:1,12;	60:23	ending (6)
directions (2)	divided (1)	97:8;106:1	effects (3)	78:11,12,19;83:5;
49:13;50:3	10:16	drives (1)	58:18,19;86:15	118:1,11
director (1)	docket (24)	58:6	efficiency (10)	Energy (45)
` /	` ´		" ` ′	, , ,

-				
6:20;8:1;14:7;	20;81:1,2;84:4,9,10,	153:23	existing (8)	90:15;129:9
19:8;21:10;28:21;	17;99:15;100:12;	exactly (4)	29:2;56:17;97:23;	70.13,127.7
				17
29:4,14,20;30:14;	101:1;120:2;138:6,	18:10;102:13;	113:9;131:14,20;	F
31:20;39:10,13,15;	16;140:23;141:2,9;	107:15;125:18	132:19;135:14	
42:8;51:5;53:20,22;	144:24;145:13,17,20;	EXAMINATION (1)	exit (1)	face (3)
55:24;58:5;63:16;	146:1,7	11:1	32:15	36:9;75:5;152:12
64:1;65:17,24;69:2,	equipped (1)	examine (3)	exiting (1)	facilities (4)
	105:16	49:17;62:14;	31:9	
17,20;72:18;73:1,2;				80:16,21;84:3;
74:3;79:3;80:17,21;	equitable (2)	152:22	expand (1)	98:13
88:3,6,14,17;103:18;	48:22;50:10	example (13)	108:7	facility (2)
107:11;142:22;	error (1)	16:15;63:24;88:6;	expanding (1)	82:8;105:14
147:8,12;153:19;	151:4	107:1;140:1;146:6,	98:4	facing (1)
156:13	escalate (1)	19;148:5,13;149:18,	expansion (1)	35:3
energy-efficiency (7)	122:12	19;153:19;157:6	35:9	fact (19)
39:22,23;88:22,24;	essentially (5)	examples (3)	expect (1)	17:22;29:12;36:10;
89:3;142:19,20	52:13;107:19,22;	139:11,15;141:22	157:14	42:9;52:21;53:11;
engineering (3)	115:12;120:10	exceed (1)	expense (1)	56:7;58:2;59:10,23;
21:12;35:8;137:22	establish (1)	139:10	141:7	60:16,20;61:5;62:16;
engineers (3)	101:18	exceedance (3)	experience (1)	75:19;108:12;
141:23;142:14,17	established (2)	139:20;146:8,12	87:17	115:16;152:18;153:2
England (25)	99:11;132:24	exceedances (1)	expert (1)	factor (1)
12:21;32:1,4;	estimate (2)	146:15	143:9	123:16
39:12;58:9,10,12;	122:20;123:13	Excel (2)	explain (5)	factored (1)
61:6;63:18;64:22,23;	estimated (1)	110:11;111:12	15:9;25:14;95:2;	49:21
65:4,23;69:2,17,20;	29:18	Excellent (3)	110:20;136:14	factors (3)
74:3,4,21;79:3,23;	estimation (1)	73:17;78:9;112:20	explained (2)	75:13,17;121:23
87:12;105:3;127:16,	122:15	except (3)	75:17;97:9	fail (1)
22	evaluate (1)	32:3;60:12;99:9	explanation (1)	62:21
England's (2)	121:15	excess (2)	44:16	fair (14)
66:1;75:18	evaluated (1)	115:8,9	explicitly (1)	47:23;48:7;50:9;
enhance (2)	142:11	excuse (2)	108:8	87:22;94:14;95:17;
62:3,7	evaluating (2)	70:5;129:8	exploration (1)	103:1,9,24;104:8;
enormous (1)	121:21;122:5	executive (1)	48:9	106:7,16;109:17;
151:4	even (14)	155:4	export (10)	149:1
enough (4)	17:9;37:6;38:6,23;	exercise (2)	16:19;29:22;37:20;	fairly (1)
37:11;51:13;	44:10;54:16;57:1;	96:1;109:9	38:3;52:12;56:21;	143:23
109:17;149:1	121:24;122:3;	Exhibit (83)	91:7;108:16,21;	fall (2)
ensure (4)	123:24;126:10;	11:14,19,21;12:8,	116:23	132:14;148:5
47:17;51:12;139:3;	127:5;133:19;152:21	13;13:23;14:13,22;	exported (14)	falls (1)
146:13	evenly (1)	15:20;16:3;17:1;	28:6,15,18;30:5,	83:3
enter (1)	10:16	18:8;19:18,19,24;	10;31:3,20;41:22;	familiar (6)
150:23	event (2)	20:19;21:18,19;	42:5;47:13;54:3;	39:11;87:20;88:23;
entire (3)	6:12;10:18	22:10;23:14,15;24:6,	92:5;115:10;121:9	89:3;126:18;156:16
58:10;73:13;92:23	Eversource (15)	18;25:10;41:9;63:8;	exporting (1)	familiarity (2)
entirely (5)	14:1,7;19:7;20:23;	66:15;67:5,9;68:2,15,	53:3	149:23;154:10
58:23,24;68:6;	33:2;64:12;83:1;	16,24;69:5,8;72:24,	exports (11)	far (6)
	95:23;108:6,20;			37:18;48:17;52:22;
77:21;126:7		24;73:3,7,8,11,14,14,	28:21;31:23;49:5;	
entitled (1)	109:21;111:9;114:1;	15;77:1;83:21;85:2;	51:20;52:15;91:18;	57:19;66:21;100:16
34:2	129:6;131:2	86:5,6;90:2,10,20;	93:2;106:11;108:10;	faster (1)
enumerable (1)	Eversource's (2)	93:8;105:9;109:19,	115:17,18	78:4
150:13	81:21;83:2	24,24;110:1,22;	extend (1)	favor (1)
environment (1)	Everybody (8)	111:1,4,7,18,19,21,	84:10	69:11
, ,				
50:15	24:13;35:3;40:2;	24,24;112:11,14,17,	extensive (1)	February (3)
Epler (9)	58:9;76:20;90:14;	23;113:1,7,15,16;	54:7	27:18;129:14;
76:19,21;121:4;	152:7,8	115:23;117:3;	extensively (1)	130:6
150:6,7,11;152:17,	everyone (3)	124:10;130:13;	50:5	fee (3)
18;153:12	6:11;22:14;40:21	149:8;151:24;	extent (7)	26:16,19;144:21
Epler's (1)	evidence (2)	158:15,22	46:3;47:11;60:12;	feed (2)
• , ,	, ,			
152:13	45:19;46:9	Exhibits (17)	106:18,24;123:7;	140:13,15
equal (3)	exact (5)	13:6,22;21:3,4,5;	126:17	feel (1)
26:4;30:7;117:19	122:16,18;129:12;	22:2,6,6,7;23:1;24:2,	external (1)	35:24
equipment (25)	148:13,16	5;25:9;68:2;77:8,14;	28:13	feels (1)
47:5;53:1;80:15,	exacting (1)	152:10	extra (2)	46:14
		102.10		10.11
		•		•

DE 10-370 ELECT		THE THE SINE WALLI		AING TAKIFFS
Fees (1)	68:19;97:14	43:10	generation (37)	19,23;113:8;114:21;
26:15	fluctuate (1)	freelancing (1)	14:6;29:18;30:1;	115:22;116:10;
felt (1)	119:23	126:10	48:9;53:1,4;55:22;	127:18
104:18	fluctuations (2)	frequencies (1)	64:3;80:8,12;81:6,14,	graphs (2)
few (8)	116:5;120:9	138:10	16;82:5,6;84:3,16;	109:22,23
37:2;40:23;63:9;	focus (1)	frequency (1)	86:9,13,15;105:4;	grateful (1)
83:17;90:15;125:19;	50:11	138:4	114:10;116:17,19;	62:14
129:17;154:18	follow (3)	Friday (2)	117:19;119:11,12,13,	great (4)
fide (1)	7:1;10:2;68:8	67:23;74:14	16,17;120:14;121:8,	52:2;64:19;69:4;
158:1	followed (6)	front (8)	9,12,18;123:16;	83:24
figure (1)	6:19;7:2,24,24;	44:12;74:1,6;78:7;	127:16	greater (2)
159:21	10:14;124:13	85:7;110:17;151:10;	generator (1)	31:13;60:5
file (5)	Following (2)	153:11	36:7	green (1)
11:11;12:23;13:1;	12:14;148:9	full (17)	generators (1)	114:8
22:16;26:18	follows (1)	21:3;22:6;24:5;	32:4	grid (19)
filed (18)	119:24	25:9;42:2,2,10;	germane (1)	28:6,15;30:5;
11:16;14:9,17;	force (2)	46:21;82:19;86:8;	126:10	64:24;90:5;93:7,13,
19:12,14;21:15;22:9;	34:9;39:4	98:23;111:19,24;	Gigawatt (6)	18;104:17;124:9;
23:11;66:21;67:22;	forecast (15)	112:11;119:12;	69:17,21;70:23,24;	125:17;126:1;149:5;
68:1;85:6;88:24;	65:7,24;69:3,17,	123:4;145:24	72:15,17	153:7,22;156:7,13,
151:5;155:24;156:7;	20;74:4,15,24;75:3,	fully (1)	given (11)	13;158:22
157:16;158:5	12;78:21;79:3,11,16;	47:1	36:22;75:6;82:12;	Griset (3)
files (1)	146:24	function (1)	86:16;119:9;138:23;	8:11,17,20
34:19	forecasted (1)	146:16	142:18;152:8;	G-R-I-S-E-T (1)
filing (4)	147:1	functionally (1)	153:14,17;159:22	8:20
22:19;84:24;	forecasts (3)	100:1	gives (1)	gross (9)
158:10;159:13	33:20;65:4,6	functions (1)	34:21	70:8,12,12,17,19;
filings (1)	foregone (1)	21:12	giving (1)	71:12;72:7,13;79:6
159:18	49:15	further (7)	91:21	ground (1)
final (16)	forgives (1)	9:9;17:12;18:19,	glean (1)	43:8
62:2;90:4;135:23;	56:7	22;33:5;44:15;	72:2	group (19)
149:4;151:5,14,18,	formal (1)	149:13	goal (1)	7:5,13;8:3;10:2;
20;155:13,17,20,23;	150:1	Future (13)	62:20	11:8;14:8;19:13;
158:24;159:3,4,9	formula (1)	6:20;8:1;26:17,24;	goes (4)	24:24;29:2;30:3;
find (7)	118:12	32:9,9,10;38:22;39:1,	36:15;37:19;99:13;	31:14;90:5,6;101:9,9,
41:14;117:4;	forth (2)	16;54:18;73:1,2	119:12	10;142:19;152:9,9
128:11;129:15;	46:21;49:15	fuzziness (1)	Good (16)	growth (1)
135:19;150:21;	forward (3)	122:15	6:2,3;8:8;14:4;	146:20
159:16	35:12;50:9,10	C	19:6;25:23;35:1;	guess (4)
fine (1)	Fossum (11)	G	36:16;38:18;40:20,	7:9;18:21;93:10;
68:9	14:17;15:12;18:6,	G4 (4)	21;48:15;51:12;	130:12
fireworks (1)	9;67:19,21,22;68:11,	G1 (1)	61:10;137:12;155:19	guys (1)
82:3	12;155:7,9	95:13	grab (2)	128:7
first (22)	found (2)	G2 (1)	7:14;95:5	TT
6:18;7:10,12;	84:2;152:10	95:14	grandfathered (5)	Н
19:21;20:7;25:23;	foundation (3) 41:12;46:8;93:12	gave (2) 38:16;110:10	32:14;131:14; 132:19;133:14;	half (2)
62:12,15;63:6;65:20; 70:18;73:24;75:9;	four (4)		135:13	half (3)
90:2;93:12;94:9;	16:13;41:16;44:23;	gear (1) 144:23	Grandfathering (5)	82:4;119:10;135:6
98:23;103:2;110:6;	10.15,41.10,44.25,		Granulamering (5)	halt (1)
	117.7	gonorol (5)	32.12.56.17.	126.0
	117:7	general (5)	32:12;56:17;	126:9
119:10;135:4;155:5	fourth (1)	6:15;40:12;76:24;	131:19,22;133:22	Hampshire (13)
119:10;135:4;155:5 fits (2)	fourth (1) 117:22	6:15;40:12;76:24; 122:14;156:12	131:19,22;133:22 Granite (1)	Hampshire (13) 14:6;33:23;35:4,
119:10;135:4;155:5 fits (2) 51:8;59:15	fourth (1) 117:22 fraction (2)	6:15;40:12;76:24; 122:14;156:12 generally (11)	131:19,22;133:22 Granite (1) 11:10	Hampshire (13) 14:6;33:23;35:4, 12;39:19;58:11;61:7;
119:10;135:4;155:5 fits (2) 51:8;59:15 five (1)	fourth (1) 117:22 fraction (2) 82:18;104:24	6:15;40:12;76:24; 122:14;156:12 generally (11) 6:24;10:1;65:3;	131:19,22;133:22 Granite (1) 11:10 granted (2)	Hampshire (13) 14:6;33:23;35:4, 12;39:19;58:11;61:7; 81:22;86:14;87:12;
119:10;135:4;155:5 fits (2) 51:8;59:15 five (1) 122:3	fourth (1) 117:22 fraction (2) 82:18;104:24 framework (3)	6:15;40:12;76:24; 122:14;156:12 generally (11) 6:24;10:1;65:3; 77:5;81:10;82:21;	131:19,22;133:22 Granite (1) 11:10 granted (2) 18:21;78:18	Hampshire (13) 14:6;33:23;35:4, 12;39:19;58:11;61:7; 81:22;86:14;87:12; 88:5;159:5,14
119:10;135:4;155:5 fits (2) 51:8;59:15 five (1) 122:3 fix (2)	fourth (1) 117:22 fraction (2) 82:18;104:24 framework (3) 48:24;49:17;50:19	6:15;40:12;76:24; 122:14;156:12 generally (11) 6:24;10:1;65:3; 77:5;81:10;82:21; 127:14;134:6;139:5;	131:19,22;133:22 Granite (1) 11:10 granted (2) 18:21;78:18 granular (3)	Hampshire (13) 14:6;33:23;35:4, 12;39:19;58:11;61:7; 81:22;86:14;87:12; 88:5;159:5,14 hand (2)
119:10;135:4;155:5 fits (2) 51:8;59:15 five (1) 122:3 fix (2) 38:9,11	fourth (1) 117:22 fraction (2) 82:18;104:24 framework (3) 48:24;49:17;50:19 frameworks (1)	6:15;40:12;76:24; 122:14;156:12 generally (11) 6:24;10:1;65:3; 77:5;81:10;82:21; 127:14;134:6;139:5; 141:1,22	131:19,22;133:22 Granite (1) 11:10 granted (2) 18:21;78:18 granular (3) 100:8,12;107:1	Hampshire (13) 14:6;33:23;35:4, 12;39:19;58:11;61:7; 81:22;86:14;87:12; 88:5;159:5,14 hand (2) 65:22;117:6
119:10;135:4;155:5 fits (2) 51:8;59:15 five (1) 122:3 fix (2) 38:9,11 fixed (1)	fourth (1) 117:22 fraction (2) 82:18;104:24 framework (3) 48:24;49:17;50:19 frameworks (1) 50:3	6:15;40:12;76:24; 122:14;156:12 generally (11) 6:24;10:1;65:3; 77:5;81:10;82:21; 127:14;134:6;139:5; 141:1,22 generate (6)	131:19,22;133:22 Granite (1) 11:10 granted (2) 18:21;78:18 granular (3) 100:8,12;107:1 granularity (2)	Hampshire (13) 14:6;33:23;35:4, 12;39:19;58:11;61:7; 81:22;86:14;87:12; 88:5;159:5,14 hand (2) 65:22;117:6 handed (2)
119:10;135:4;155:5 fits (2) 51:8;59:15 five (1) 122:3 fix (2) 38:9,11 fixed (1) 55:21	fourth (1) 117:22 fraction (2) 82:18;104:24 framework (3) 48:24;49:17;50:19 frameworks (1) 50:3 framing (1)	6:15;40:12;76:24; 122:14;156:12 generally (11) 6:24;10:1;65:3; 77:5;81:10;82:21; 127:14;134:6;139:5; 141:1,22 generate (6) 60:24;80:16,21,24;	131:19,22;133:22 Granite (1) 11:10 granted (2) 18:21;78:18 granular (3) 100:8,12;107:1 granularity (2) 103:7;104:3	Hampshire (13) 14:6;33:23;35:4, 12;39:19;58:11;61:7; 81:22;86:14;87:12; 88:5;159:5,14 hand (2) 65:22;117:6 handed (2) 73:13;111:17
119:10;135:4;155:5 fits (2) 51:8;59:15 five (1) 122:3 fix (2) 38:9,11 fixed (1) 55:21 flat (4)	fourth (1) 117:22 fraction (2) 82:18;104:24 framework (3) 48:24;49:17;50:19 frameworks (1) 50:3 framing (1) 103:20	6:15;40:12;76:24; 122:14;156:12 generally (11) 6:24;10:1;65:3; 77:5;81:10;82:21; 127:14;134:6;139:5; 141:1,22 generate (6) 60:24;80:16,21,24; 118:19;127:11	131:19,22;133:22 Granite (1) 11:10 granted (2) 18:21;78:18 granular (3) 100:8,12;107:1 granularity (2) 103:7;104:3 graph (20)	Hampshire (13) 14:6;33:23;35:4, 12;39:19;58:11;61:7; 81:22;86:14;87:12; 88:5;159:5,14 hand (2) 65:22;117:6 handed (2) 73:13;111:17 handing (1)
119:10;135:4;155:5 fits (2) 51:8;59:15 five (1) 122:3 fix (2) 38:9,11 fixed (1) 55:21 flat (4) 59:11;113:19,22;	fourth (1) 117:22 fraction (2) 82:18;104:24 framework (3) 48:24;49:17;50:19 frameworks (1) 50:3 framing (1) 103:20 free (2)	6:15;40:12;76:24; 122:14;156:12 generally (11) 6:24;10:1;65:3; 77:5;81:10;82:21; 127:14;134:6;139:5; 141:1,22 generate (6) 60:24;80:16,21,24; 118:19;127:11 generating (4)	131:19,22;133:22 Granite (1) 11:10 granted (2) 18:21;78:18 granular (3) 100:8,12;107:1 granularity (2) 103:7;104:3 graph (20) 41:17;69:19;71:11,	Hampshire (13) 14:6;33:23;35:4, 12;39:19;58:11;61:7; 81:22;86:14;87:12; 88:5;159:5,14 hand (2) 65:22;117:6 handed (2) 73:13;111:17 handing (1) 66:6
119:10;135:4;155:5 fits (2) 51:8;59:15 five (1) 122:3 fix (2) 38:9,11 fixed (1) 55:21 flat (4)	fourth (1) 117:22 fraction (2) 82:18;104:24 framework (3) 48:24;49:17;50:19 frameworks (1) 50:3 framing (1) 103:20	6:15;40:12;76:24; 122:14;156:12 generally (11) 6:24;10:1;65:3; 77:5;81:10;82:21; 127:14;134:6;139:5; 141:1,22 generate (6) 60:24;80:16,21,24; 118:19;127:11	131:19,22;133:22 Granite (1) 11:10 granted (2) 18:21;78:18 granular (3) 100:8,12;107:1 granularity (2) 103:7;104:3 graph (20)	Hampshire (13) 14:6;33:23;35:4, 12;39:19;58:11;61:7; 81:22;86:14;87:12; 88:5;159:5,14 hand (2) 65:22;117:6 handed (2) 73:13;111:17 handing (1)

135:21	35:11,14;60:14;	149:6,9,11,15,20;	idea (2)	include (1)
Hang (3)	87:12,14;127:21;	150:2;151:2,8;152:4,	17:6;110:15	143:3
43:7;76:18;102:5	139:12	17;153:9;154:6;	idealized (1)	included (5)
happen (3)	higher (7)	155:8,19;156:4,9,15,	16:10	85:2;88:21;93:20;
119:22;131:6;	36:24;37:5,13;	20;157:8,12,17;	ideally (3)	95:11;151:23
146:5	47:17;72:6;81:11;	158:8,19;159:12;	102:8;103:8;104:4	including (7)
	129:11	160:10	identical (3)	51:4;54:7;58:11;
happening (2)		Hood (1)	52:7;64:2;131:3	
66:4;137:2	highlighting (2)	58:22	identification (8)	65:5;103:4,14;
happens (3)	159:2,8		` '	111:12 incomes (2)
66:8;125:24;	highly (3)	hopefully (2)	16:3;41:9;67:9;	36:24;37:1
150:16	36:5;46:24;57:17	80:5;85:8	68:15,16;73:8;90:10;	*
hard (1)	HINCHMAN (66)	hoping (1)	149:8	incorrect (1)
38:24	8:8,17;17:3,4,5,14,	15:5	identify (2)	64:10
HARRINGTON (18)	18,24;18:16;41:3,6,	horizon (1)	99:2;139:22	incorrectly (1) 158:14
9:22;12:16,17,20,	11;43:13;89:24;90:1,	146:23	IEEE (1)	
21,23;13:3,10,14,17;	11,14,18;100:14,18,	host (3)	139:2	increasingly (1)
24:9;34:24;35:1;	19;101:17,21;	29:2,3;30:3	III (2)	143:2
40:9,11;56:10,23;	109:18;110:16;	hosts (1)	107:5;109:11	incremental (5)
160:2	111:3;112:1,4,12,18,	31:14	illustration (1)	27:4;57:16,17;
HB (1)	21;113:4;120:18;	hot (1)	116:8	59:7,7
109:10	121:1;126:8,15;	37:14	illustrative (3)	incur (1)
head (1)	127:5,7,9;136:10;	hour (39)	15:8;116:4,10	55:23
10:20	137:10,18,19;149:3,	36:13;72:17;78:11,	impact (1)	incurred (4)
header (1)	13,17,24;150:8;	12,13,19;82:3,17,18;	51:18	55:13,16;56:3;
69:14	151:1,2,3,11;152:15;	83:5;114:18,19;	implement (2)	126:6
heading (1)	153:10,13;155:2,22,	116:17,17,18,19,19;	49:18;148:8	independent (3)
99:3	23;156:6,12;157:1,	117:11,11,23,24;	implementation (2)	30:21;43:19;64:22
heads (1)	11,14;158:4,18,20	118:1,1,2,8,9,11;	26:24;135:23	Index (1)
156:21	history (3)	119:9,11,13,15,22,	implementing (1)	122:13
hear (4)	120:15,16;121:6	23;120:3,4;127:16,	33:22	indicate (4)
68:20;76:20;	holds (1)	17,19;137:15	implication (1)	71:18,20;72:9,19
103:22;135:2	35:13	hourly (22)	53:19	indicated (2)
heard (7)	home (1)	92:7;102:8;103:7;	import (6)	52:2;70:4
42:15;44:17;46:17;	122:3	104:4;113:17;114:5,	16:16;37:19;52:11;	indicates (2)
52:5;127:15;148:20;	homes (1)	6,9,11,12,17,18,22,	108:16,22;116:22	72:11;79:21
157:10	37:10	24;115:2,19;117:10;	importance (1)	industrial (1)
hearing (5)	honest (1)	118:18,20,21,23;	35:14	95:13
43:12;77:14,15;	136:2	119:5	important (6)	inefficient (1)
89:18;160:15	honestly (1)	Hours (20)	55:19;57:23;58:15;	142:3
HEATHER (2)	87:9	28:15;30:5;53:11;	59:4;60:20;123:16	inflow (2)
9:20;11:6	HONIGBERG (120)	69:18,21;70:24,24;	importantly (1)	107:12,23
heavily (1)	6:2,21;7:4,17,21;	72:15,15;82:13;83:3;	49:1	information (19)
36:15	8:3,6,13,18,21;9:5,	95:16;97:11;107:4;	imported (3)	18:13;52:13;54:7,
help (10)	11,15,18;10:10,21;	108:9,17,21,23;	28:5;38:1;41:20	13;72:1;92:12,22;
15:8;41:17;81:1;	12:10;13:20;15:24;	115:10;117:12	imports (5)	124:21;125:6,11;
88:4,18;100:17;	17:4,11,16,20;18:6,	house (5)	49:5;52:14;91:18;	126:12;134:2,21;
108:5;117:4;150:10;	15;20:2;21:1;22:4,	37:11,14;47:24;	108:10;115:18	135:20;136:21,22;
158:20	22;24:3,7,13;25:7,21;	59:21;134:2	imposed (1)	153:1,16;159:23
helped (1)	27:6;41:4,8,13;	housing (1)	126:4	initial (2)
156:8	42:19;43:7,20;44:1,9,	148:7	imposes (2)	70:18;71:8
helpful (1)	14;45:13;46:10;	hundred (3)	124:1;137:5	initially (1)
9:6	62:11;64:13;66:3,12,	30:7;114:3;119:19	improvements (1)	71:3
helps (4)	15,19;67:6,10,16,21;	hundreds (1)	98:9	initiative (1)
57:21;60:3,20,23	68:4,13,17;69:6;73:4,	39:20	inability (1)	100:3
Hence (1)	6,18,20;76:8,12,18;	hypothesis (1)	46:18	inquiry (5)
80:11	77:16;78:6;85:9,11,	153:23	Inc (1)	42:18;58:13;65:15;
hey (1)	23;86:4,10;89:13,19,		21:11	71:2;136:9
38:12	23;90:8,13;100:14;	I	incented (1)	insignificant (1)
hidden (1)	101:15;110:14,24;		53:12	58:3
60:11	111:15,22;112:2,9,	ID (11)	incentive (2)	insinuating (1)
hiding (2)	15,20;120:20,22;	12:11;13:21;17:13;	53:21;62:3	87:4
44:7,11	126:14;127:2;	18:16;21:2;22:5,23;	inches (1)	install (6)
high (7)	136:10;137:13;	24:4;25:8;85:2;86:5	20:4	47:4;51:22;53:22;
	, -,	, , , , , , , , , , , , , , , , , , , ,		, ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,

Marcination ()	·	1	T		
internally (4) 122:19 130:19 104:3107:4108:9, 156:1607:16; 134:23:192:23; 140:24:141:51:42:12 133:21 133:21 135:193:193:194 135:193:194 135:194 135:194 135:14 135:194 125:194 135:14 125:194 135:14 125:194 135:14 125:194 135:14 126:194:151:133:1 126:123:151:142:1 136:150 136:194 1	100:1,11;137:3	47:19;116:24;	148:2	28:15;30:4;72:15;	Labrecque's (3)
internally (4) 122:19 130:19 104:3107:4108:9, 156:1607:16; 134:23:192:23; 140:24:141:51:42:12 133:21 133:21 135:193:193:194 135:193:194 135:194 135:194 135:14 135:194 125:194 135:14 125:194 135:14 125:194 135:14 125:194 135:14 126:194:151:133:1 126:123:151:142:1 136:150 136:194 1	installation (1)	139:3	involved (2)	95:16,16;97:11;	18:11;20:21;107:8
installations (2)		internally (4)			
143:3.17 122:19 136:19 173:11.12 187:1.12 1					
interpret (d) 58:16:107:16; 58:16:107:16			` ′		
581-61/07-16; 134-231-392-3; 140-241-441-51-42:12 interpretation (6)					
134:23:139:23; 94:14 63:18:64:22:65:3.23; 103:6.105:22:106:22 31:14:337:37:11:14:92:115:14:337:37:11:14:92:115:14:33:22 105:31:27:16.20:3.23; 103:6.105:22:106:22 31:14:337:37:11:14:92:115:14:337:37:11:14:92:115:14:337:37:11:14:92:115:13:13; 107:20:14:15:13:13; 107:20:13:13:13:13:13:13:13:13:13:13:13:13:13:					
144:16,148:31,121 miterpretation (6)					
Installers (1) 70;187;18;78;21, 33:21 33:21 33:21 13:32;76:210914 10:33:217:16;22 10:10:4;126;24; 10:4;126;2					
183211					
Installing (2) 136:20:142:6 intervat (48) 525:59:112.22 instant (1) 92:3,6,16,18.24;93:4 125:14 103.22;12.22 instantaneous (23) 92:3,6,16,18.24;93:4 125:14;120:14,15 103.22;120:84,17,199:9 103.22;120:84,15 103.22;120:84,15 103.22;120:84,15 103.22;120:84,15 103.22;120:84,15 103.22;120:84,15 103.22;120:84,15 103.22;120:84,15 103.24;102:82,11 103.24;102:82,11 103.24;102:82,11 103.24;102:82,11 103.24;102:82,11 103.24;102:82,11 103.24;102:82,11 103.24;102:84,15 103.24;102:82,11 103.24;102:82,11 103.24;102:82,11 103.24;102:82,11 103.24;102:82,11 103.24;102:82,11 103.24;102:82,11 103.24;102:82,11 103.24;102:82,11 103.24;102:82,11 103.24;102:82,11 103.24;102:82,11 103.24;102:82,11 103.24;102:82,11 103.24;102:82,11 103.24;102:82,11 103.24;102:12,13 107:20;157:24 104.24;102:22; 118.18;121:11 104.15; 104.24;102:22; 125:44 104.24;102:22; 125:45 104.24;102:22; 125:45 104.24;102:22; 125:45 104.24;102:22; 125:15;103:13 104.24;102:12; 104.2					
136.20;142:6 17:9					,
Instruct (1)					
159.4	*				
Instant (1) 92:3,6,16,18,24/93-44 132:13 sinstantaneous (23) 199:68,19,21:97:2.5, 51:24,52:18,22; 22,49:81,2,17:99:9, 103:46,104:3,12,19; 103:46,12,185:22; 118:18; 121:11 instead (5) 49:11,52:15:53:13; 103:46,164:56,19; 139:166:8,32:13; 37:23; 107:20:157:24 intervenor (1) 103:8,32:13; 37:23; 139:16,468; 76:9,13, 116tended (3) 101:16:20; 77:15 intended (3) 101:16:20; 77:15 introduce (8) 103:11:41:218; 14:219:3; 21:7; 136:19; 136:16 62:19,23 introduce (1) 25:17 introduce (1) 157:19 introduce (1) 157:19 introduce (1) 157:19 interconnect (1)					
125:14 94:11.16959.11.15. 157:23	159:4	52:5;91:12,22;		61:14	95:14;99:5
instantaneous (23) 19:968.19:21:97-25, 51:24:21:12:12:12:18.22:18.22: 10:34.6(104:3.12.19: 10:24.6(20.22: 13:17: 10:24.6(20.22: 13:17: 12:16:1231:51:124: 10:24.6(20.22: 13:18:12: 10:24.6(20.22: 13:18:12: 10:24.6(20.22: 13:18:12: 10:24.6(20.22: 13:18:12: 10:24.6(20.22: 13:18:12: 10:24.6(20.22: 13:18:12: 10:24.6(20.22: 13:18:12: 10:24.6(20.22: 13:18:12: 10:24.6(20.22: 13:18:12: 10:24.6(20.22: 13:18:12: 10:24.6(20.22: 13:18:12: 10:24.6(20.22: 13:18:12: 10:24.6(20.22: 13:18:12: 10:24.6(20.22: 13:18: 10:24.6(20.22: 13:18: 13:14: 12:18: 10:46.6(5) 49:1152:15; 53:13; 10:34.8(104: 22: 13:18: 13:14: 12: 10:16 16:83:21: 13:37:12: 13:14: 12: 16:83:21: 13:14: 12: 13:14: 1	instant (1)	92:3,6,16,18,24;93:4;	132:13	knew (1)	last (13)
51:24:52:18,22; 59:691:67,13; 100:3,22:102:8,9; 107:20,22;113:17; 1149,22:115:3,13, 151,72:120:14,15; 103:4,6,104:3,12.19; 103:4,6,104:3,12.19; 103:4,6,104:3,12.19; 103:4,6,104:3,12.19; 103:4,6,104:3,12.19; 103:4,6,104:3,12.19; 103:4,6,104:3,12.19; 103:4,6,104:3,12.19; 103:4,6,104:3,12.19; 103:4,6,104:3,12.19; 103:14,6,114:2; 125:4 103:18,8,104:5,22 130:20,157:24 130:40,6,114:2; 130:40,6,114:4,114:18:18; 130:41,14:18;	125:14	94:11,16;95:9,11,15,	issues (6)	157:23	8:19;23:4;34:7,10;
51:24:52:18,22; 59:691:67,13; 100:3,22:102:8,9; 107:20,22;113:17; 1149,22:115:3,13, 151,72:120:14,15; 103:4,6,104:3,12.19; 103:4,6,104:3,12.19; 103:4,6,104:3,12.19; 103:4,6,104:3,12.19; 103:4,6,104:3,12.19; 103:4,6,104:3,12.19; 103:4,6,104:3,12.19; 103:4,6,104:3,12.19; 103:4,6,104:3,12.19; 103:4,6,104:3,12.19; 103:14,6,114:2; 125:4 103:18,8,104:5,22 130:20,157:24 130:40,6,114:2; 130:40,6,114:4,114:18:18; 130:41,14:18;	instantaneous (23)	19:96:8,19,21;97:2,5,	35:21:51:1,2;	knowing (2)	58:14:61:21:85:22;
107:20,221,13:17; 103:4,6104.31,2,19; 114:9,22;115:3,13, 105:4,16,17;106:8, 103:4,614,17;106:8, 103:4,614,17;106:8, 103:4,16,17;106:8, 103:4,16,17;106:8, 103:4,16,17;106:8, 103:4,16,17;106:8, 103:4,16,17;106:8, 103:4,16,17;106:8, 103:4,16,17;106:8, 103:4,16,17;106:8, 103:4,16,17;106:8, 103:4,16,17;106:8, 103:4,16,17;106:8, 103:4,16,17;106:8, 103:4,16,17;106:8, 103:4,16,17;106:8, 103:4,16,17;106:8, 103:4,16,17;106:8, 103:4,16,17;106:8, 103:4,16,17;106:8, 103:4,16,17;106:8, 103:8,104:5,22 118:12:11 intervate (1) 123:12 interduce (3) 10:1;16:20;77:15 intended (3) 10:3;11:4;12:18, 10:3;10:19 10:3;16:20;					
107-20.22:113:17;					
114:9.22:115:3,13, 105:4,16,17:106:8, 15,17,21:120:14,15; 10.13,14;107:2,21; 10.13,14;107:2,21; 10.13,14;107:2,21; 10.13,14;107:2,21; 10.13,14;107:2,21; 118:18;121:11 instead (5) 49:11:52:15:53:13; 107:20;157:24 intervenor (1) intervenountable (1) 16:83:21:13;72:3; 39:16:46:87:69:13. 15:19:23; 123:12 101:16:20:77:15 intended (3) 103:11:4;12:18; 14:2:19:3:21:7; introduced (1) interconnect (1) 13:11 20:13 136:16 interconnect (1) 13:11:10:11 interconnect (1) 13:11:10:11 interconnect (1) 15:11:10:11 interconnect (1) 15:11:10:11 interconnect (1) 15:11:10:11 interconnect (1) 15:11:10:11 intercesting (1) 29:5 15:21 interesting (1) 15:11:10:11 interesting (1) 15:11:10:13 interesting (1) 15:11:10:1					
1517.21:120:14.15; 109:46.114:2, 118:18;121:11 118:18;121:11 118:18;121:11 118:18;121:11 118:18;121:11 118:18;121:11 118:18;121:11 118:18;121:11 103:8.8104:5,22 118:18;121:12 103:8.8104:5,22 118:18;121:12 103:8.8104:5,22 118:18;121:12 103:8.8104:5,22 118:18;121:12 150:16 35:5,16 150:19,24;152:21 184:14;18;19:19; 16:21;18:13;81:14; 150:16 35:5,16 128:19,19;130:2 128:19,1					
121:6:123:15;124:2; 109:4-6:114:2; 118:18:121:1					
18:18:18:121:11 January (1) 15:21:5:33:13; 103:88;104:5;22 intervals (4) 103:88;104:5;22 intervenor (1) 103:83;137:23; 39:16;46:8;76:9,13 14:13;14,18;19:19; 14:13;14,18;19:19; 14:13;14,18;19:19; 14:13;14,18;19:19; 14:13;14,18;19:19; 14:13;14,18;19:19; 14:13;14,18;19:19; 14:13;14,18;19:19; 14:13;14,18;19:19; 14:13;14,18;19:19; 14:13;14,18;19:19; 14:13;14,18;19:19; 14:13;14,18;19:19; 14:14;11,17:23; 1abels (1) 16:13;41:16;			01.21,73.10,70.11	, ,	
instead (5) 49:11;52:15;53:13; 107:29;157:24 intervenor (1) 150:18,8;104:5,22 January (1) 87:2,4 later (4) later (4) later (4) later (4) 16:21;18:13;81:14; 82:4 later (4) later (4) 16:21;18:13;81:14; 82:4 latyres (1) 16:21;18:13;81:14; 82:4 latyres (1) 16:21;18:13;81:14; 82:4 latyres (1) 16:21;18:13;81:14; 82:4 latyres (1) 16:12 latyres (1) 16:21;18:13;81:14; 82:4 latyres (1) 16:21;18:13;81:14; 82:4 latyres (1) 16:21;18:13;81:14; 82:4 latyres (1) 16:12 latyres (1) 16:21;18:13;81:14; 82:4 latyres (1) 16:12 latyres (1) 16:12 latyres (1) 16:12 latyres (1) 16:12 latyres (1) 16:13 latyres (1)<			T		
49:11:52:15:53:13; 103:8.8;104:5.22 intervenor (1) 150:16 jobs (2) 26:3.5;117:9; 128:19,19;130:2 lawyers (1) 16:8;32:13:37:23; 39:16;46:8;76:9,13, 123:12 39:16;46:8;76:9,13, 124:18:12;18:13;14:12:12; 124:18:12;18:13;14:12:12; 16:12;13:12;13:13;14:14:17:23; 16:12;13:14:14:17:23; 16:12;13:14:14:17:23; 16:12;13:14:14:17:23; 16:12;13:14:14:17:23; 16:12;13:14:14:17:23; 16:12;13:14:14:17:23; 16:12;13:14:16; 16:12;13:14:17:13;			J		
Instructions (1) 9:2 instructions (1) 9:2 into (15) 9:3 insurmountable (1) 16:8;32:13;37:23; 39:16;46;87:69;13, 15;19;111:7;121:23; 51:8 124:18;126:18; 136:16;20;77:15 intended (3) 10:1;16:20;77:15 intended (3) 10:3;11:4;12:18; 14:2;19:3;21:7; intending (2) 7:2:23;150:19 136:16 interconnect (1) 157:19 introduced (1) 157:19 interconnect (1) 157:19 158:11;148:19:19;13:13:14;18:19:19;13:13:14;18:19:19;13:13:14;18:19:19;13:13:14;18:19:19;13:13:14;18:19:19;13:13:14:14:11:13:14:11:13:14:13:14;18:19:19;13:15:14:14:18:19:19;13:15:14:14:18:19:19;13:16:12 labeled (7) 16:13;41:16; 118:28;155:21 labeled (7) 16:13;41:16; 170:17; 104:44 layered (1) 16:12;41:19:13:14;19:19; 106:13;41:16; 118:28;155:21 labeled (7) 118:29;13:34; 118:29;13:34; 118:28;155:21 labeled			T (4)		to the state of th
introctions (1) 77:13 16:8;32:13;37:23; 39:16;46:8;76:9,13, 123:12 123:12 123:12 123:12 123:12 123:12 135:11:7:12:123; 123:18;126:18; 143:6;150:9 100:1;16:20;77:15 116:18;14:12:18; 142:19:3;21:7; 116:10ding (2) 116:13;14:12:18 142:19:3;21:7; 116:10ding (2) 116:13;14:12:18 157:1 116:10ding (2) 116:13;14:12:18 157:1 136:16 175:19 175:					
T7:13 insurmountable (1) 16:8;32:13;37:23; 39:16;46:8;76:9;13, 14:13,14,18;19:19; 51:8 124:18;126:18; 143:6;150:9 introduce (8) 10:3;11:4;12:18; 14:2;19:3;21:7; intending (2) 72:23;150:19 72:23;150:19 157:1 interduction (1) 157:19 17:17:7 72:17:77 73:17:12 13:12,0:13:27;16; 13:12,0:13:27;16; 157:19 17:18:18; 13:11,12,0:13:23; 19:19; 12:19:19; 12:19:19; 13:11,12,0:13:23; 13:11,12,0:13:18; 13:11,12,0:13					
Insurmountable (1) 16:8;32:13;37:23; 39:16;46:8;76:9,13; 39:16;16;16; 39:16;16; 39					
123:12 39:16;46:8;76:9,13, 14:13,14,18;19:19; 67:23 16:12 16:12 16:12 16:13;				128:19,19;130:2	
15,19;111:7;121:23; 124:18;126:18; 124:18;126:18; 13,134:16; 13,14:16; 142:19:3;21:7; 13,14:11; 142:19:3;21:7; 13,14:11; 142:19:3;21:7; 13,14:11; 142:19:3;21:7; 13,14:16; 13,14:16; 13,14:16; 13,14:16; 13,14:16; 143:16; 143:16; 143:16; 143:16; 143:16; 143:16; 143:16; 157:1 142:19:3;21:7; 13,14:16; 143:19; 143:19; 143:19; 143:19; 143:19; 143:19; 143:19; 143:19; 143:19; 143:19; 143:19; 143:19; 143:19; 144:15; 23 144:15; 23 144:15; 23 144:15; 23 144:19; 125:21; 144:19; 125:21; 144:19; 125:21; 144:19; 125:21; 144:19; 125:21; 144:19;				T	
124:18;126:18; 124:18;126:18; 143:6;150:9 introduce (8) intended (3) 10:3;11:4;12:18; 20:22;21:13 114:14;117:23; 18:13;43:1;45:11 14:2;19:3;21:7; intending (2) 72:23;150:19 10:11 25:17 10:11 157:19 13:11;2,20;132:7; 14:11;2,23; 13:11;418:9 14:15;23 14:15;23 14:15;23 13:12;213; 13:12;213; 13:12;213; 13:12;20;13:2,16; 13:11;10:11 47:23;123:18; 157:2 10:11;10:11 47:23;123:18; 157:2 10:11;10:11 47:23;123:18; 157:2 10:11;10:11 47:23;123:18; 157:2 10:11;10:11 47:23;123:18; 157:2 10:11;10:11 47:23;123:18; 157:2 10:11;10:11 47:23;123:18; 157:2 10:11;10:11 47:23;123:18; 157:2 10:11;10:11 47:23;123:18; 157:2 10:11;10:11 47:23;123:18; 157:2 10:11;10:11 47:23;123:18; 157:2 10:11;10:11 47:23;123:18; 157:2 10:11;10:11 47:23;123:18; 157:2 10:11;10:11 47:23;123:18; 157:2 10:11;10:11 47:23;123:18; 157:2 10:11;10:11 47:23;123:18; 157:2 10:11;10:11 47:23;123:18; 10:11;10:11 10:11 10:11 10:11 10:11 10:11 10:11 10:11 10:11				L	
intend (3) 143:6;150:9 introduce (8) 68:10,13 joint (2) 16:13;41:16; 114:14;17:23; 18:18; 18:13;43:1;45:11 14:2;19;3;21:7; judgment (1) 57:11 least (8) 18:13;43:1;45:11 intending (2) 72:23;150:19 72:23;150:19 77:18 70:7 Tabels (1) 70:7 70:7 104:4 (8) 57:11 least (8) 62:19,23 introducing (2) intends (1) 25:17 yintroducing (2) July (4) yinter (1) Labels (1) 70:7 LABRECQUE (103) yinter (10; 15:1; 15:15, 16:6:5, 15.15 141:23 yinter (10; 15:2; 15:15, 15, 16:6:5, 15.15 Least-cost (1) 14:14:13 141:23 yinter (10; 10; 14:13 Least-cost (1) 14:14:13 141:23 yinter (10; 10; 10; 14:13 Least-cost (1) 14:14:13 Least-cost (1) 14:14:13 141:23 yinter (10; 10; 10; 14:13 Least-cost (1) 14:14:13 Least-cost (1) 14:14:13 <td< td=""><td></td><td></td><td></td><td></td><td></td></td<>					
Introduce (8)				` /	
intended (3) 10:3;11:4;12:18; 14:2;19;3;21:7; 20:22;21:13 judgment (1) 118:2,8;155:21 labels (1) 9:6;23:4;29:17,24; 57:7;67:3;103:7; 104:4 intending (2) 72:23;150:19 introduced (1) July (4) LABRECQUE (103) Laber CQUE (1					
18:13;43:1;45:11					
intending (2) 72:23;150:19 77:18 70:7 LABRECQUE (103) least-cost (1) intends (1) 25:17 82:2;113:2;133:3,4 15:21;15:1,5,16:16:5, 14:23 intent (1) 7:19;77:7 26:7;32:13;91:2; 15:21;15:1,5,16:16:5, Lebanon (3) 157:1 introduction (1) 157:19 17:21;133:23; 19:19;24:20;40:10, 109:13 136:16 inverter (4) 15:11;148:9 17;63:5,12,20:64:69, 109:13 legal (1) interconnecting (1) 38:7;143:7,22; jurisdiction (1) 17;63:5,12,20:64:69, 9:2:10;96:21 29:5 145:8 jurisdictions (1) 17;02,21;80:3,10,18, lesses (2) Interconnection (3) 145:8 jurisdictions (1) 23:81:3,18,23,24; 82:11,20;83:9,14,16; lesses (2) interested (2) invest (4) justifications (1) 57:6 32:13;14:6 35:6;85:3,21;86:7 interpict (1) 47:23;123:18; K 10:2;113:5,61,3,16, level (6) intermittent (8) 122:2,6,11;123:2,3; 9,10,15;86:11 16:21,24;119:6,21; 10:5;51,38:5,18;					
Carrent of the first of the f					
intends (1) 25:17 82:2;113:2;133:3,4 9:22;14:1,4,5,8,11, 141:23 9:3 introducing (2) 7:19;77:7 26:7;32:13;91:2; 7,10,23;17:12;18:18; Lebanon (3) 157:1 introduction (1) 157:19 131:12,20;132:7,16, 19:19;24:20;40:10, legal (1) 136:16 inverter (4) 17;21;133:23; 19;20;41:16;43:5; less (2) interconnecting (1) 38:7;143:7,22; jurisdiction (1) 17;63:5,12,20;64:6,9, 109:13 29:5 145:8 158:6 17;20;183:3,10,48:15, less (2) Interconnection (3) 26:14;27:5;134:16 inverter (6) jurisdiction (1) 27:18:21;100:5 18:4:8 15:11;100:11 47:23;123:18; 57:2 84:8 16tetr (4) 35:6;85:3,21;86:7 57:8 investigate (1) 47:23;123:18; 57:2 K 10:2;113:5,6,13,16, 48:8;82:16,17; 125:21 investigate (1) 18:17;40:13;57:8, 13;16;21;118:47,11, 16:31,420;117:46, 10:5;138:23;145:12 56:9,15 122:2,6,11;123:2,3; 124:7;144:19; 124:7;144:19;					
Sintent (1)					
intent (1) 7:19;77:7 26:7;32:13;91:2; 7,10,23;17:12;18:18; 7:18:2;103:18 157:1 interconnect (1) 157:19 13:12,20;132:7,16, 19:19;24:20;40:10, 109:13 136:16 inverter (4) 13:11;148:9 44:17;45:3,10;46:15, legal (1) 109:13 136:16 inverter (4) 13:11;148:9 44:17;45:3,10;46:15, less (2) 19:20;4:1:6;43:5; less (2) 29:5 145:8 158:6 17;20;21;80:3,10,18, less (2) 92:10;96:21 Interconnection (3) inverters (6) jurisdictions (1) 23;81:3,18,23,24; 84:8 44:8 26:14;27:5;134:16 invest (4) justifications (1) 99:19,22;100:5; 84:8 18:21,24;114:6; 100:5;138;23;186:7 101:5;104:9;107:17; level (6) 35:6;85:3,21;86:7 57:8 investigate (1) K 18,21,24;114:6,11, 105:5;138:23;145:12 105:5;138:23;145:12 105:5;138:23;145:12 105:5;138:23;145:12 105:5;138:23;145:12 105:5;138:23;145:12 105:5;138:23;145:12 105:5;138:23;145:12 105:5;138:23;145:12 105:5;138:23;145:12 105:5;138:23;145:12					
157:1 introduction (1) 157:19 157:19 17,21;133:23; 19,20;41:16;43:5; 19,20;41:16;43:5; 109:13 18ss (2) 17;63:5,12,20;64:6,9, 17;63:5,12,20;64:6,9, 17;03:5,13,10,18, 18ss (1) 18ss (2) 18s (2) 18ss (2)				15,21;15:1,5,16;16:5,	
interconnect (1) 157:19 17,21;133:23; 19,20;41:16;43:5; 109:13 interconnecting (1) 38:7;143:7,22; jurisdiction (1) 17;63:5,12,20;64:6,9, 92:10;96:21 29:5 145:8 158:6 17,20,21;80:3,10,18, lessens (1) Interconnection (3) inverters (6) jurisdictions (1) 23;81:3,18,23,24; 84:8 26:14;27:5;134:16 invest (4) justifications (1) 99:19,22;100:5; level (4) interested (2) 47:23;123:18; 57:2 101:5;104:9;107:17; level (6) 15:11;100:11 47:23;123:18; 57:2 K 57:8 investigate (1) K 18,21,24;114:6,11, 20;24;115:4,14,20; 125:21 investment (11) keep (7) 18:17;40:13;57:8, 13,16,21;118:4,7,11, 10:5;138:23;145:12 intermittency (2) 54:11;120:13; 9,10,15;86:11 16,21,24;119:6,21; 33:16;138:5,18; intermittent (8) 124:7;144:19; keeping (3) 121:20;123:19,21; 139:4,12 intermittent (8) 14:13;23;114:7 126:16,16;127:3; 129:6,9,17,24;131:3,	intent (1)		26:7;32:13;91:2;	7,10,23;17:12;18:18;	7:1;8:2;103:18
136:16 inverter (4) 38:7;143:7,22; jurisdiction (1) 158:6 17;63:5,12,20;64:6,9, 17;03:5,12,20;64:6,9, 17;03:5,12,20;64:6,9, 17;03:5,12,20;64:6,9, 17;03:5,12,20;64:6,9, 17;03:5,12,20;64:6,9, 17;03:5,12,20;64:6,9, 17;03:5,12,20;64:6,9, 17;03:5,12,20;64:6,9, 17;03:5,12,20;64:6,9, 17;03:5,12,20;64:6,9, 17;03:5,12,20;64:6,9, 17;03:5,12,20;64:6,9, 17;03:5,12,20;64:6,9, 17;03:5,12,20;64:6,9, 17;03:5,12,20;64:6,9, 17;03:5,12,20;64:6,9, 17;03:5,12,20;64:6,9, 17;03:5,10,18, 184:8	157:1	introduction (1)	131:12,20;132:7,16,	19:19;24:20;40:10,	legal (1)
interconnecting (1) 38:7;143:7,22; jurisdiction (1) 17;63:5,12,20;64:6,9, 92:10;96:21 29:5 145:8 inverters (6) 158:6 17,20,21;80:3,10,18, lessens (1) 26:14;27:5;134:16 143:3,5,9,11,18,21 jurisdictions (1) 23;81:3,18,23,24; 84:8 interested (2) invest (4) justifications (1) 99:19,22;100:5; 35:6;85:3,21;86:7 57:8 investigate (1) K 18,21,24;114:6,11, 105:5;138:23;145:12 interject (1) 29:8 keep (7) 116:3,14,20;117:4,6, 38:23 intermittency (2) 54:11;120:13; 122:2,6,11;123:2,3; 9,10,15;86:11 16,21,24;119:6,21; 33:16;138:5,18; intermittent (8) 124:7;144:19; keeping (3) 121:20;123:19,21; 139:4,12 36:4;42:12;53:4; 147:19,20 24:8;121:2,10 124:5;125:1,9,17; Liberty (7) 55:21;56:8;59:15,18; 54:18 13:23;114:7 129:6,9,17,24;131:3, 128:15,17;131:1,4	interconnect (1)	157:19		19,20;41:16;43:5;	109:13
interconnecting (1) 38:7;143:7,22; jurisdiction (1) 17;63:5,12,20;64:6,9, 92:10;96:21 29:5 145:8 inverters (6) 158:6 17,20,21;80:3,10,18, lessens (1) 26:14;27:5;134:16 143:3,5,9,11,18,21 jurisdictions (1) 23;81:3,18,23,24; 84:8 interested (2) invest (4) justifications (1) 99:19,22;100:5; 35:6;85:3,21;86:7 57:8 investigate (1) K 18,21,24;114:6,11, 105:5;138:23;145:12 interject (1) 29:8 keep (7) 116:3,14,20;117:4,6, 38:23 intermittency (2) 54:11;120:13; 122:2,6,11;123:2,3; 9,10,15;86:11 16,21,24;119:6,21; 33:16;138:5,18; intermittent (8) 124:7;144:19; keeping (3) 121:20;123:19,21; 139:4,12 36:4;42:12;53:4; 147:19,20 24:8;121:2,10 124:5;125:1,9,17; Liberty (7) 55:21;56:8;59:15,18; 54:18 13:23;114:7 129:6,9,17,24;131:3, 128:15,17;131:1,4		inverter (4)	135:11;148:9	44:17;45:3,10;46:15,	less (2)
29:5	interconnecting (1)				, ,
Interconnection (3) inverters (6) jurisdictions (1) 23;81:3,18,23,24; 84:8 26:14;27:5;134:16 143:3,5,9,11,18,21 57:6 82:11,20;83:9,14,16; 144:15 interested (2) invest (4) justifications (1) 99:19,22;100:5; 35:6;85:3,21;86:7 15:11;100:11 47:23;123:18; 57:2 101:5;104:9;107:17; level (6) interesting (1) 144:15,23 110:2;113:5,6,13,16, 48:8;82:16,17; 57:8 investigate (1) 18,21,24;114:6,11, 20,24;115:4,14,20; 125:21 investment (11) keep (7) 116:3,14,20;117:4,6, 18:23 intermittency (2) 54:11;120:13; 18:17;40:13;57:8, 13,16,21;118:4,7,11, 16:21,24;119:6,21; 56:9,15 122:2,6,11;123:2,3; 9,10,15;86:11 16,21,24;119:6,21; 33:16;138:5,18; intermittent (8) 124:7;144:19; keeping (3) 121:20;123:19,21; 139:4,12 55:21;56:8;59:15,18; 47:19,20 24:8;121:2,10 124:5;125:1,9,17; 11:3,7;95:3; 63:14 54:18 113:23;114:7 129:6,9,17,24;131:3, 128:15,17;131:1,4 <td></td> <td></td> <td></td> <td></td> <td>lessens (1)</td>					lessens (1)
26:14;27:5;134:16	Interconnection (3)	inverters (6)			, ,
interested (2) invest (4) justifications (1) 99:19,22;100:5; 35:6;85:3,21;86:7 15:11;100:11 47:23;123:18; 57:2 101:5;104:9;107:17; level (6) interesting (1) 144:15,23 110:2;113:5,6,13,16, 48:8;82:16,17; interject (1) 29:8 29:8 20,24;115:4,14,20; leveling (1) 125:21 investment (11) keep (7) 116:3,14,20;117:4,6, 38:23 intermittency (2) 54:11;120:13; 9,10,15;86:11 16,21,24;119:6,21; 33:16;138:5,18; 56:9,15 122:2,6,11;123:2,3; 9,10,15;86:11 16,21,24;119:6,21; 33:16;138:5,18; intermittent (8) 124:7;144:19; keeping (3) 121:20;123:19,21; 139:4,12 55:21;56:8;59:15,18; 147:19,20 24:8;121:2,10 124:5;125:1,9,17; Liberty (7) 55:21;56:8;59:15,18; 54:18 113:23;114:7 129:6,9,17,24;131:3, 128:15,17;131:1,4			•		
15:11;100:11 47:23;123:18; 57:2 101:5;104:9;107:17; level (6) interesting (1) 144:15,23 110:2;113:5,6,13,16, 48:8;82:16,17; 57:8 investigate (1) K 18,21,24;114:6,11, 105:5;138:23;145:12 interject (1) 29:8 20,24;115:4,14,20; leveling (1) intermittency (2) 54:11;120:13; 18:17;40:13;57:8, 13,16,21;118:4,7,11, levels (5) 56:9,15 122:2,6,11;123:2,3; 9,10,15;86:11 16,21,24;119:6,21; 33:16;138:5,18; intermittent (8) 124:7;144:19; keeping (3) 121:20;123:19,21; 139:4,12 36:4;42:12;53:4; 147:19,20 24:8;121:2,10 124:5;125:1,9,17; Liberty (7) 55:21;56:8;59:15,18; 54:18 113:23;114:7 129:6,9,17,24;131:3, 128:15,17;131:1,4	the state of the s				
interesting (1) 144:15,23 57:8 investigate (1) K 18,21,24;114:6,11, 105:5;138:23;145:12 interject (1) 29:8 20,24;115:4,14,20; 117:4,6, 11, 105:5;138:23;145:12 intermittency (2) 54:11;120:13; 122:2,6,11;123:2,3; 142:12 18:17;40:13;57:8, 122:2,6,11;123:2,3; 124:7;144:19; 124:7;144:19; 136:4;42:12;53:4; 147:19,20 18:17;40:13;57:8, 122:2,6,11;123:2,3; 124:7;144:19; 124:7;144:19; 124:7;144:19; 124:7;144:19; 124:7;144:19; 124:7;144:19; 124:7;144:19; 124:7;144:19; 124:7;144:19; 124:7;144:19; 124:7;145:12 keeping (3) 124:7;125:1,9,17; 126:16,16;127:3; 129:6,9,17,24;131:3, 128:15,17;131:1,4 55:21;56:8;59:15,18; 63:14 54:18 113:23;114:7 129:6,9,17,24;131:3, 128:15,17;131:1,4			•		
57:8 investigate (1) K 18,21,24;114:6,11, 20; 115:4,14,20; 116:3,14,20;117:4,6, 116:3,14,20;117:4,0,1					
interject (1) 29:8 20,24;115:4,14,20; leveling (1) intermittency (2) 54:11;120:13; 18:17;40:13;57:8, 13,16,21;118:4,7,11, levels (5) 56:9,15 122:2,6,11;123:2,3; 9,10,15;86:11 16,21,24;119:6,21; 33:16;138:5,18; intermittent (8) 124:7;144:19; keeping (3) 121:20;123:19,21; 139:4,12 36:4;42:12;53:4; 147:19,20 24:8;121:2,10 124:5;125:1,9,17; Liberty (7) 55:21;56:8;59:15,18; investments (1) key (2) 126:16,16;127:3; 11:3,7;95:3; 63:14 54:18 113:23;114:7 129:6,9,17,24;131:3, 128:15,17;131:1,4			K		
125:21 investment (11) keep (7) 116:3,14,20;117:4,6, 38:23 intermittency (2) 54:11;120:13; 18:17;40:13;57:8, 13,16,21;118:4,7,11, levels (5) 56:9,15 122:2,6,11;123:2,3; 9,10,15;86:11 16,21,24;119:6,21; 33:16;138:5,18; intermittent (8) 124:7;144:19; keeping (3) 121:20;123:19,21; 139:4,12 36:4;42:12;53:4; 147:19,20 24:8;121:2,10 124:5;125:1,9,17; Liberty (7) 55:21;56:8;59:15,18; investments (1) key (2) 126:16,16;127:3; 11:3,7;95:3; 63:14 54:18 113:23;114:7 129:6,9,17,24;131:3, 128:15,17;131:1,4					
intermittency (2) 54:11;120:13; 18:17;40:13;57:8, 13,16,21;118:4,7,11, levels (5) 56:9,15 122:2,6,11;123:2,3; 9,10,15;86:11 16,21,24;119:6,21; 33:16;138:5,18; intermittent (8) 124:7;144:19; keeping (3) 121:20;123:19,21; 139:4,12 36:4;42:12;53:4; 147:19,20 24:8;121:2,10 124:5;125:1,9,17; Liberty (7) 55:21;56:8;59:15,18; 63:14 54:18 113:23;114:7 129:6,9,17,24;131:3, 128:15,17;131:1,4			keep (7)		
56:9,15 122:2,6,11;123:2,3; 9,10,15;86:11 16,21,24;119:6,21; 33:16;138:5,18; intermittent (8) 124:7;144:19; keeping (3) 121:20;123:19,21; 139:4,12 36:4;42:12;53:4; 147:19,20 24:8;121:2,10 124:5;125:1,9,17; Liberty (7) 55:21;56:8;59:15,18; investments (1) key (2) 126:16,16;127:3; 11:3,7;95:3; 63:14 54:18 113:23;114:7 129:6,9,17,24;131:3, 128:15,17;131:1,4					
intermittent (8) 124:7;144:19; keeping (3) 121:20;123:19,21; 139:4,12 36:4;42:12;53:4; 147:19,20 24:8;121:2,10 124:5;125:1,9,17; Liberty (7) 55:21;56:8;59:15,18; investments (1) key (2) 126:16,16;127:3; 11:3,7;95:3; 63:14 54:18 113:23;114:7 129:6,9,17,24;131:3, 128:15,17;131:1,4					
36:4;42:12;53:4; 147:19,20 24:8;121:2,10 124:5;125:1,9,17; Liberty (7) 55:21;56:8;59:15,18; investments (1) key (2) 126:16,16;127:3; 11:3,7;95:3; 63:14 54:18 113:23;114:7 129:6,9,17,24;131:3, 128:15,17;131:1,4					
55:21;56:8;59:15,18; investments (1) key (2) 126:16,16;127:3; 11:3,7;95:3; 63:14 13:23;114:7 129:6,9,17,24;131:3, 128:15,17;131:1,4					
63:14 54:18 113:23;114:7 129:6,9,17,24;131:3, 128:15,17;131:1,4					
		, ,			
into (c) into (c) into (c)					
		, 0110 (1)	IMONALL (13)	,	213011, 5 (1)

87:19	47:16	54:9;75:19	41:8;63:8;67:4,9;	measure (7)
Licata (1)	load-driven (1)	lower (6)	68:15,16;73:2,8,15;	41:20;44:19;49:1;
22:17	147:19	37:1,8;40:2;75:11;	90:10,13;113:23;	108:8,9,21,22
lieu (1)	load-following (1)	88:18;157:3	114:8;149:7,8;	measured (2)
6:10	42:3	lunch (2)	158:14	16:15,18
life (2)	load-monitoring (1)	137:17;160:13	market (5)	measurements (1)
84:10,18	47:5	7.7	30:20;33:13;58:1,	49:11
likely (1)	Loads (7)	M	7;61:18	measures (2)
78:12	65:17;80:14,19;		marketing (1)	107:3;142:21
limited (5)	81:2,10;82:21;	main (1)	47:8	measuring (9)
60:12;123:6;138:9;	139:18	37:18	marking (1)	49:5;52:11,11;
143:23;147:17	localized (1)	Maine (3)	73:6	59:18;106:19;
Line (40)	148:1	148:16;155:24;	Martin (1)	107:11,23;116:21;
20:6,7;63:13;70:7, 8,9,10;71:12,13,15;	located (1) 138:16	156:17 maintained (1)	102:21 match (1)	143:6 mechanism (5)
72:6,7,7,8,19;77:12;	location (3)	105:18	106:21	22:15;27:17,19,24;
78:3;79:6,6,7,21;	139:9;140:16;	maintaining (1)	matched (1)	51:6
80:10,11;84:13;98:2;	142:23	157:4	47:18	mechanisms (1)
103:13;113:14,16,19,	locational (4)	major (7)	matches (1)	37:21
21,22,22;114:7;	32:23;149:1;154:2,	35:9,21;37:24;	59:16	meet (8)
121:3;128:2;137:11;	3	38:17;60:16;76:3;	math (2)	138:1,22;141:18,
138:18;140:16;	lodging (1)	134:3	114:14,15	24;144:17;147:15;
146:16,19	43:9	majority (1)	matter (3)	148:6;157:3
lines (6)	logging (2)	83:2	13:2;21:16;23:12	megawatts (7)
20:1;70:3,5;83:24;	103:5;104:2	makes (5)	Matthew (1)	75:11;128:21,23;
146:18;154:22	long (7)	87:24;98:8;144:19;	155:9	129:7,16;130:3,6
linked (1)	10:10;16:8;39:3,	160:2,7	may (28)	Meisner (1)
35:11	11;50:7;60:21;	making (4)	15:10;24:8;27:1;	97:19
list (1)	122:24	68:1;111:24;	29:20;31:7,12;40:6,	MEISSNER (54)
85:2	longer (5)	121:13;154:7	6;45:5,15,15;63:6;	9:23;21:7,8,8,15,
listed (1)	32:8;54:16;108:2;	manage (5)	64:12;65:20,22;80:3;	21;51:11,12;97:23;
98:1	111:23;137:16	53:23;101:4;	104:22;108:4;128:3;	98:7;99:2;130:1,4,7,
lists (1)	long-term (5)	121:10;124:23;125:8	136:17,18;143:16;	10;131:5,10;137:21;
76:11	33:19;37:5;84:4,	management (4)	148:8;150:18;	138:8,21;139:2,16,
little (15) 27:7;34:6;38:19;	14,15 look (18)	61:13;62:6;99:17; 130:16	151:22;153:2; 154:11,11	24;140:7,12,18,22; 141:1,8,11,13,16,20;
45:21;47:2,21;54:14;	7:13;17:9;37:1;	manager (1)	maybe (15)	141.1,8,11,13,10,20, 142:8,24;143:4,9,15;
59:12;82:11;84:7;	38:22;43:2;88:10;	14:5	7:7;27:12;37:14;	144:4,10;145:1,11,
123:8;129:11;	94:6;96:1,5,15;	managing (2)	38:23;88:11;90:4;	19,22;146:4,11,18;
137:15,16;159:10	98:22;100:17;	57:23;133:21	103:11;104:24;	147:3,16;148:20;
live (4)	117:23;118:8;	manner (3)	108:5,6;127:5;	155:3;156:18,18;
37:9,9,10,10	127:18;128:10;	43:24;124:22;	139:13;140:15;	157:9
lives (1)	152:5;160:11	125:7	156:10,11	Meissner's (2)
96:10	looked (1)	manually-read (1)	mean (12)	22:3;107:8
LMP (4)	79:5	96:18	17:7;37:1;39:10;	Melissa (1)
35:23,24;56:21;	looking (12)	many (9)	41:5;45:16,19;57:17;	42:20
59:13	17:21;50:2;71:11;	49:22;55:10;57:18;	71:8;98:14;142:9;	member (2)
load (51)	82:13;96:23;97:1;	58:20;62:16,18;94:9;	152:24;154:23	8:10;95:24
32:1;36:17;38:22;	102:13;104:22;	150:22;153:1	meaning (4)	members (4)
39:2,3;47:3,7;60:24;	136:16;155:5,12,13	March (11)	59:12,13,14;98:4	6:19;8:1;29:4;
61:13;62:5;65:5;	loose (2)	26:13;74:5;90:7;	meaningful (1)	90:19
71:21,21;72:13,20;	10:6,12	128:22;133:10;	43:3	memory (1)
74:15,20,24;75:1,10,	lose (3)	151:5,15;152:2,12;	meaningfully (1)	157:8
12,18;78:20;79:22; 81:12;84:8;113:11,	35:16;36:2;145:4	159:2,4 margin (1)	58:1 meaningless (2)	mention (3) 24:11;47:20;62:2
17,17;114:2;116:19;	Lost (5) 27:14,16,20,23;	155:15	59:11;153:4	24:11;47:20;62:2 mentioned (8)
117:20;118:13;	51:6	marginal (1)	means (6)	15:13;34:23;62:1;
119:15,24;120:15;	lot (13)	33:19	35:18;46:6;70:21;	76:21;102:15;
121:8,12;123:15;	20:3;35:20;37:7,8;	mark (3)	71:1;95:1,2	122:21;138:11;140:9
139:12;142:15,18,24;	38:21;39:5,10;54:1;	10:4;66:24;90:9	meant (2)	mentioning (1)
144:7;146:9,16;	57:5;121:22;122:4;	marked (23)	70:3;152:14	35:2
147:7,10,11,14;148:6	144:14;147:21	11:14,19;13:4,5;	Meanwhile (1)	merely (1)
load-control (1)	low (2)	14:12;16:3;23:14;	49:17	41:24
	. ,	. , ,		

meter (59)	100:2;102:4;119:18;	109:10;130:15	45:8;48:21;60:16,17;	134:9
29:17;34:13,16,17,	122:6,7;139:10;	moment (7)	61:14;84:7;86:2;	negative (1)
19,21;41:19;52:10;	140:7;145:2;146:2,4;	63:7;74:11;83:19;	122:3	36:9
53:22;70:14,20,22;	152:9;154:17,20	85:8;124:16;132:3;	moved (5)	negotiated (1)
71:5,14,15,20;72:8,	migration (1)	136:11	20:20;26:8;46:12;	144:22
11,12,21;78:20;79:7,	98:7	Monetary (2)	133:16;159:12	NESCOE (1)
8,22;91:10;94:10,13;	million (1)	31:1,16	movement (1)	39:12
95:1,4,12;96:8,10,12;	52:6	money (2)	59:7	net (52)
98:18;99:10;101:2;	millions (1)	39:1,15	moves (1)	26:11;29:11;30:12;
103:4;104:1;105:11,	39:20	monitor (1)	59:11	31:9;32:15,17,18;
12,16,22;106:3,12,	mind (8)	30:21	moving (5)	37:17;38:18,20;39:7;
19,20,23,24;107:10,	40:13;49:19;74:10;	monitoring (1)	18:23;31:10;59:10;	40:4;48:20;49:10;
14,24;108:12,17;	76:16;78:23;83:24;	100:11	63:21;72:23	50:23;52:15;58:21;
114:16;115:6,14;	121:2,10	month (22)	much (10)	59:22;60:9;70:9,10,
116:21,21,24	minimal (1)	18:2;31:16;38:13;	46:12;53:2;59:13,	13,13,20;71:5,13,15;
metering (55)	54:17	49:3;52:12;82:18,18;	17;61:15;71:10;82:6;	72:8,10;79:6,7;
26:12;27:5;29:11;	minimum (1)	91:19;92:3,4,6,23;	89:11;115:24;123:14	105:13,14;107:6,6,9,
	37:4	93:4;100:23;106:15;		11,14,18;108:3;
30:12;31:9;32:16,17,			multi-year (3)	
18;34:8,10;37:17;	minor (1)	108:10,22,23;113:2;	54:7,8,11	109:4,11;113:9;
38:18,20;39:7;40:4;	19:23	119:2;122:17,17	musing (1)	115:18;116:24;
48:20;49:10,23;	minus (5)	monthly (23)	67:12	118:22;119:5,19,19;
			must (4)	120:9;133:10;136:4
50:24;52:7,8;58:21;	114:18;115:18;	31:15;46:22;53:7,		, , ,
59:22;60:9;86:17,22;	116:17,19;138:24	11,19;54:24;91:22;	29:4,16;131:18;	net-metered (11)
87:1,3,8;91:8;92:2;	minute (2)	92:3,12,15;97:11;	139:21	27:3;28:3,7,16;
95:18;97:24;98:12;	66:13;90:12	99:10;105:21;106:8,	myself (2)	29:10,15;30:6;31:6;
99:7,15;100:2;	minutes (8)	9,13,23;107:4,21;	9:9;156:8	63:23;90:23;128:16
			9:9;130:8	
101:22;102:23;	10:15,19;40:24;	108:3;109:6;115:19;		net-metering (2)
105:13,14;106:1;	66:7;119:14,14;	121:24	N	38:1,8
107:6,7,9,14,18;	160:5,12	months (6)		nets (2)
109:11;113:10;		47:6;89:10;112:24;	name (8)	108:13;118:21
	mismatch (1)			
114:2;120:10;	81:15	135:4,4,18	8:19;11:6;12:20;	netting (25)
124:21;125:5;	missed (1)	more (29)	14:4;19:6;21:8;23:5,	46:19,22;51:19,21,
133:10;136:4	24:14	15:22;35:24;41:23;	9	24;52:17,18,22;53:7,
meters (45)	missing (1)	49:1;56:16,18;57:19;		11,19;54:24;59:6;
			nameplate (1)	
16:17;34:12;51:7,	103:12	59:12,13;60:22;61:4,	82:19	107:20;108:12,16;
23;52:4,5;58:15;	mix (1)	10,15,16;78:20;87:7,	nanosecond (1)	114:22,23;115:2,3,
90:23,24;91:22,24;	159:10	8;100:8,10,12;107:1;	92:8	16;116:20;118:20;
92:21;93:15,21;94:8,	mixed (1)	113:19,22;120:1;	nascent (1)	125:4,15
9,15,20;95:3,15;96:3,	50:17	136:20;137:22;	86:14	New (40)
16,19,20,24;97:2,4,8,	mobile (1)	138:9;142:5;153:22	near-final (1)	12:21;14:6;17:19;
9,18,20,22,23;98:6,	37:9	morning (30)	159:1	32:17,24;33:22;35:4,
15;99:14;100:5,9;	mod (7)	6:2,6;8:8;11:5;	near-term (1)	11;39:5;58:9,10,11,
103:5,14;105:23;	90:5;93:7,13;	12:5,19;13:9,13,16;	33:19	12;61:6,7;64:23;
107:2,3;108:1;	124:9;125:17;126:1;	14:4,10,14;15:3;	necessarily (6)	81:22;86:13;87:11,
115:20	158:22	16:21;19:5,6;20:11,	35:18;49:13;77:8;	12;88:5;98:11,14;
method (2)	mode (1)	15;22:16;23:19,23;	108:14;142:18;146:2	130:18;132:15;
, ,	, ,			
105:3;157:3	50:17	25:23;35:1;40:20,21;	necessary (3)	133:6,12,13,15,16,
methodology (8)	model (2)	48:15;51:12;109:23;	68:7;109:15;	21;134:20;135:15,
99:16;101:19;	46:19;47:10	110:2;160:14	147:14	24;137:7;148:6,6,7;
116:11,12,14,16;	modeling (2)	most (8)	NECPUC (1)	159:5,13
118:19;128:10	47:1;122:10	37:16;60:24;61:6;	39:12	Nexant (1)
MICHAEL (2)	models (1)	63:22;97:23;106:2;	need (17)	32:23
0.04 15 50	48:2	137:20;142:15	6:6;9:9;23:7;35:14,	next (19)
9:21;12:20	40.2			12:15;14:1;15:19,
		*	21:36:2:77:2.21:	
microphone (3)	modernization (2)	mostly (1)	21;36:2;77:2,21;	
microphone (3) 7:14;76:19;150:10	modernization (2) 93:18;104:18	mostly (1) 44:20	80:16,21;100:15,16;	23;16:1;19:3;21:7;
microphone (3) 7:14;76:19;150:10 microphones (1)	modernization (2) 93:18;104:18 modest (5)	mostly (1) 44:20 motor (3)	80:16,21;100:15,16; 121:5,15;137:12;	23;16:1;19:3;21:7; 38:11;49:15,21;
microphone (3) 7:14;76:19;150:10	modernization (2) 93:18;104:18	mostly (1) 44:20	80:16,21;100:15,16;	23;16:1;19:3;21:7;
microphone (3) 7:14;76:19;150:10 microphones (1) 23:7	modernization (2) 93:18;104:18 modest (5) 57:20;59:7;61:17,	mostly (1) 44:20 motor (3) 139:12;142:9,12	80:16,21;100:15,16; 121:5,15;137:12; 146:24;158:8	23;16:1;19:3;21:7; 38:11;49:15,21; 66:15;73:7;89:20;
microphone (3) 7:14;76:19;150:10 microphones (1) 23:7 middle (1)	modernization (2) 93:18;104:18 modest (5) 57:20;59:7;61:17, 22,22	mostly (1) 44:20 motor (3) 139:12;142:9,12 motors (3)	80:16,21;100:15,16; 121:5,15;137:12; 146:24;158:8 needed (2)	23;16:1;19:3;21:7; 38:11;49:15,21; 66:15;73:7;89:20; 102:20;104:9;
microphone (3) 7:14;76:19;150:10 microphones (1) 23:7 middle (1) 135:12	modernization (2) 93:18;104:18 modest (5) 57:20;59:7;61:17, 22,22 modified (1)	mostly (1) 44:20 motor (3) 139:12;142:9,12 motors (3) 142:3,5;144:14	80:16,21;100:15,16; 121:5,15;137:12; 146:24;158:8 needed (2) 104:20;145:10	23;16:1;19:3;21:7; 38:11;49:15,21; 66:15;73:7;89:20; 102:20;104:9; 122:13;148:10;
microphone (3) 7:14;76:19;150:10 microphones (1) 23:7 middle (1) 135:12 might (23)	modernization (2) 93:18;104:18 modest (5) 57:20;59:7;61:17, 22,22 modified (1) 130:24	mostly (1) 44:20 motor (3) 139:12;142:9,12 motors (3) 142:3,5;144:14 move (19)	80:16,21;100:15,16; 121:5,15;137:12; 146:24;158:8 needed (2) 104:20;145:10 needs (10)	23;16:1;19:3;21:7; 38:11;49:15,21; 66:15;73:7;89:20; 102:20;104:9; 122:13;148:10; 150:9;155:13
microphone (3) 7:14;76:19;150:10 microphones (1) 23:7 middle (1) 135:12	modernization (2) 93:18;104:18 modest (5) 57:20;59:7;61:17, 22,22 modified (1) 130:24 modifies (1)	mostly (1) 44:20 motor (3) 139:12;142:9,12 motors (3) 142:3,5;144:14	80:16,21;100:15,16; 121:5,15;137:12; 146:24;158:8 needed (2) 104:20;145:10	23;16:1;19:3;21:7; 38:11;49:15,21; 66:15;73:7;89:20; 102:20;104:9; 122:13;148:10;
microphone (3) 7:14;76:19;150:10 microphones (1) 23:7 middle (1) 135:12 might (23) 7:10;35:9;38:12;	modernization (2) 93:18;104:18 modest (5) 57:20;59:7;61:17, 22,22 modified (1) 130:24 modifies (1)	mostly (1) 44:20 motor (3) 139:12;142:9,12 motors (3) 142:3,5;144:14 move (19) 12:8;13:18;16:24;	80:16,21;100:15,16; 121:5,15;137:12; 146:24;158:8 needed (2) 104:20;145:10 needs (10) 33:14;50:12;57:24;	23;16:1;19:3;21:7; 38:11;49:15,21; 66:15;73:7;89:20; 102:20;104:9; 122:13;148:10; 150:9;155:13 NHSEA (1)
microphone (3) 7:14;76:19;150:10 microphones (1) 23:7 middle (1) 135:12 might (23) 7:10;35:9;38:12; 47:17;50:6;51:16;	modernization (2) 93:18;104:18 modest (5) 57:20;59:7;61:17, 22,22 modified (1) 130:24 modifies (1) 58:22	mostly (1) 44:20 motor (3) 139:12;142:9,12 motors (3) 142:3,5;144:14 move (19) 12:8;13:18;16:24; 20:18,21;22:1,19;	80:16,21;100:15,16; 121:5,15;137:12; 146:24;158:8 needed (2) 104:20;145:10 needs (10) 33:14;50:12;57:24; 69:20;71:22;81:16;	23;16:1;19:3;21:7; 38:11;49:15,21; 66:15;73:7;89:20; 102:20;104:9; 122:13;148:10; 150:9;155:13 NHSEA (1) 117:18
microphone (3) 7:14;76:19;150:10 microphones (1) 23:7 middle (1) 135:12 might (23) 7:10;35:9;38:12;	modernization (2) 93:18;104:18 modest (5) 57:20;59:7;61:17, 22,22 modified (1) 130:24 modifies (1)	mostly (1) 44:20 motor (3) 139:12;142:9,12 motors (3) 142:3,5;144:14 move (19) 12:8;13:18;16:24;	80:16,21;100:15,16; 121:5,15;137:12; 146:24;158:8 needed (2) 104:20;145:10 needs (10) 33:14;50:12;57:24;	23;16:1;19:3;21:7; 38:11;49:15,21; 66:15;73:7;89:20; 102:20;104:9; 122:13;148:10; 150:9;155:13 NHSEA (1)

135:15	45:14,24;102:14,17	offset (3)	operations (2)	101:12;104:12;
non-aligned (1)		54:18;84:8;123:15	21:11;51:18	109:19,21;110:11;
7:2	0	often (1)	operative (1)	111:8,13;112:11;
non-bypassable (2)		50:1	143:15	117:5;122:3;125:20;
28:9;109:8	object (6)	old (1)	Operator (2)	128:11;135:9,10;
non-coincident (1)	17:13;44:4;111:10;	133:6	64:23;156:14	137:3;140:2;142:15;
119:17	150:5,6,23	on-bill (1) 31:16	opinion (1) 87:22	147:24;153:1;
non-consensus (3) 101:13,13,24	objected (2) 112:3,3	once (7)	opportunities (3)	154:22;159:16,21; 160:3
non-dispatchable (3)	objecting (1)	26:8;27:15;31:11;	33:24;47:22;	outflow (2)
36:4;42:12;53:4	44:15	132:10,11;133:13;	150:14	107:12,24
non-industrial (1)	objection (22)	134:19	opportunity (9)	outlining (1)
95:18	12:11;13:21;17:5;	on-demand/real-time (1)	34:13,22;46:6;	145:2
non-solar (2)	18:20,21;21:2;22:5,	94:13	47:9,14;54:17;62:14;	outport (1)
60:3,12	23;24:4;25:8;67:7;	one (56)	88:12;135:19	52:11
non-transmission (2)	86:5;111:18,24;	17:20,22;18:2;	oppose (1)	output (5)
28:12;148:18	112:5,8,10;150:8,11,	19:23;34:7;35:24;	27:22	54:10;59:18;91:21,
non-utilities (2)	12;152:19;153:8	37:18;38:3,5;40:7;	opposed (3)	23;92:1
102:1,3	objections (3)	43:7,8;49:24;52:5,10,	56:21;58:5;75:2	outputting (1)
non-utility (5)	43:9;109:22;	11,14;53:18;55:4;	opposing (1) 7:1	118:17
102:6,7;103:2,20; 104:1	157:18 obligated (1)	59:4;60:18;65:20; 66:22;73:15;75:16;	opposite (2)	outstanding (1) 6:4
non-wires (2)	104:12	76:22,24;88:9;96:12;	59:22,24	over (27)
148:18;157:2	obligation (4)	97:3;100:23;101:23;	opted (1)	6:5;9:12;26:3;
noon (2)	30:16;32:2;36:8;	102:1,2,5;103:2;	106:12	36:12;54:16;55:1;
82:8;83:4	91:5	111:1;113:19;117:4,	optimize (1)	74:11;92:4,5;96:2;
nor (1)	Observed (5)	5,10;121:10;123:18,	121:17	98:10;108:9,21,23;
56:1	74:15,24;75:1,9;	19;127:11;134:4;	opt-in (6)	109:22;119:2,14;
normal (4)	76:6	136:11;137:11,12;	102:8;103:3;104:1;	122:1,8;128:19;
92:11;98:7;107:9;	obviated (1)	140:20;141:4;147:4,	105:11;106:18;107:3	129:7;130:8;133:15,
115:7	58:20	18;157:24;159:12;	option (1)	16;137:15;145:3;
Normally (2) 36:19;135:21	obviously (2)	160:5	124:22	155:13
north (1)	98:8;152:20 OCA (1)	one-page (1) 40:23	oranges (1) 125:23	overall (1) 51:9
114:3	102:21	ones (2)	order (24)	Overcast (4)
note (2)	occur (3)	97:24;138:12	6:16,22;7:8;8:7;	22:10;66:18;67:15,
105:2;158:23	49:3;81:10;82:21	one's (2)	12:14;25:16;27:18;	17
notebooks (1)	occurred (3)	66:19;85:23	37:5;47:6;67:18;	Overcast's (1)
20:3	75:2;78:11,19	online (3)	80:14,19;100:12,22;	22:20
noted (2)	occurs (2)	32:10;91:1;128:9	109:6;123:1;131:1,	overlooks (2)
133:18;160:16	108:17;146:9	only (18)	18,21;132:13,17,18;	58:2,17
notes (1)	off (25)	15:8;46:21;56:8;	134:9;137:3	oversee (1)
24:8	38:23;40:22;48:16;	57:9;58:19;61:17;	organization (1)	21:11
notice (9)	51:7;60:24;61:7;	62:6;97:24;104:24;	85:20	own (10)
134:9;135:9,15,17,	66:12,14;73:4,5,18,	105:13;122:19;	organized (2)	19:13;30:15;53:2,
21;148:4;158:7,10; 159:18	19;82:2;85:9,10; 89:16;94:23;120:3,	124:20;125:5; 137:15;146:9;	9:6;73:12 original (1)	15,23;87:23;100:11; 138:13;139:3;159:18
noticed (1)	20,21;127:14;149:9,	156:22;157:24;	22:18	130.13,139.3,139.10
135:18	10;160:8,9	160:17	others (7)	P
notified (1)	offer (6)	on-site (1)	10:8;18:18;45:5;	_
134:13	87:22;105:10;	53:20	67:4;77:22;123:18;	page (67)
notify (1)	144:16;149:4;157:3,	onto (2)	127:4	18:7;63:13,22;
29:9	5	38:1;53:5	otherwise (4)	64:6;69:12,13,15,23;
number (15)	offered (2)	open (5)	31:10;65:14;72:20;	70:2,4;73:24;74:6,9,
15:18,19,23;16:1;	153:24;157:23	33:11;129:3,22;	92:12	11,12;75:20;77:9,10;
51:1,2;93:21;102:18;	offering (3)	130:9;136:24	ours (1)	78:24;79:1,2;80:6;
111:20;124:10;	34:20;55:6;90:4	open-ended (1)	131:5	81:4,8;83:24;84:13;
129:12,19;142:8;	office (2)	141:20	out (38)	85:22;86:7;90:20;
147:11;152:3	94:12;104:21	operating (1)	6:4;18:11;31:13;	93:11,22,24;94:5,6;
numbered (1) 75:16	officer (1) 21:9	21:9 operation (3)	35:10;36:20;38:9; 39:7;41:14;42:1;	98:20,21,23;101:6; 102:4,5,13,14,17,17,
numbers (7)	off-peak (1)	121:18;139:17;	61:12;65:22;66:6;	18,18,19,20;104:9;
17:6,10;44:17;	53:11	142:15	73:13;77:5;90:3;	110:18,19,19,21;
17.0,10,77.17,	55.11	112.13	13.13,11.3,70.3,	110.10,17,17,21,

111:7;112:22;	particulars (1)	147:7;148:10	133:20;134:18;	position (8)
113:10;117:2,7;	99:11	peak-load (1)	152:5;156:16	102:2,11,21;103:2,
124:11,15;128:15,22;	parties (18)	146:20	placed (4)	21;104:1,8;106:17
129:14,18;130:14;	7:2;10:14;27:9,19,	peaks (3)	91:1;132:10,14,20	positions (2)
155:4,14	21;29:7;30:17;32:22;	81:1;83:4,13	plan (4)	101:13;102:22
pages (6)	33:8,10;102:6;	people (13)	12:15;25:12;39:19;	positive (2)
			57:11	55:8;59:3
102:24;110:12,13;	111:12;130:12;	15:10;37:8,9,15;		
111:6,14;159:8	147:6;148:14;	39:10;40:12;41:17;	planning (15)	possibility (1)
pagination (2)	159:10,20;160:3	55:13;59:9;62:16;	21:12;35:9;39:16;	157:2
64:8,10	parties' (1)	154:17;157:23;160:6	52:23;54:8;66:1;	possible (7)
paid (2)	102:7	per (2)	121:11,13;139:19;	33:18;38:11;53:2;
29:12;115:10	partner (1)	43:9;135:10	141:22;142:17;	55:3;119:9;140:18;
panel (20)	156:7	percent (9)	146:21,22,23;154:19	144:10
6:14,19;7:1,8,19;	parts (1)	29:17;30:1,7;	plans (3)	posted (2)
56:5;62:18;63:3;	49:16	119:20;121:8;129:2,	54:12;106:13,22	129:15,18
			1	*
89:2;90:19;93:16;	party (2)	21;130:8;139:1	plant (1)	potential (2)
95:24;98:20;101:16,	101:14;144:12	Perfect (1)	157:5	122:6;144:5
18;127:4;156:16,23;	pass (2)	10:21	platform (3)	power (17)
158:17;160:7	56:2;109:19	performed (2)	50:9;98:14;108:19	36:3,8;41:20,22;
panelists (1)	passage (1)	32:24;33:3	play (1)	42:5;47:11,18;62:7;
153:18	81:20	perhaps (4)	121:23	63:15;115:4;116:22;
panels (8)	passed (4)	47:3;72:2;142:5;	please (17)	139:15;143:14;
37:12;56:1,7;60:6;	60:7;90:3;111:8;	147:6	11:4;12:18;14:1;	144:9,17;145:5,12
61:4,6,8,15	117:5	period (11)	19:3;21:7;43:21;	powerful (1)
panel's (1)	passes (1)	10:11;47:5;51:19;	62:22;74:9;79:13;	62:3
15:14	145:3	52:17;81:11;82:22;	80:18;93:8;99:2;	power-quality (1)
paper (3)	Passive (4)	100:23;106:21;	118:7;123:20;	142:1
42:14;45:4;111:17	70:10;71:5,16;79:8	110:9;112:24;134:9	127:23;132:3;152:3	PPA (1)
papers (1)	past (1)	periods (2)	pleases (2)	48:2
110:9	135:18	94:22;127:12	38:5;158:4	practical (1)
paragraph (10)	Pat (1)	per-kilowatt-hour (1)	plus (2)	49:22
86:8;98:22,23;	102:21	31:6	42:8;138:24	practically (1)
99:1,4,13;101:1;	path (1)	permitting (1)	PLX (1)	49:18
	nain (i)	Nermilling ()	PLX(I)	
103:11;124:17;155:6	98:7	135:6	98:11	practice (5)
103:11;124:17;155:6 parallel (1)		135:6 person (1)	98:11 pm (7)	
103:11;124:17;155:6	98:7	135:6	98:11	practice (5)
103:11;124:17;155:6 parallel (1) 79:4	98:7 patience (1) 78:2	135:6 person (1) 156:22	98:11 pm (7) 81:10;82:2,7,9,22;	practice (5) 68:7;107:13,19; 134:6;139:21
103:11;124:17;155:6 parallel (1) 79:4 parameters (3)	98:7 patience (1) 78:2 Patrick's (1)	135:6 person (1) 156:22 perspective (1)	98:11 pm (7) 81:10;82:2,7,9,22; 83:5;160:13	practice (5) 68:7;107:13,19; 134:6;139:21 practices (4)
103:11;124:17;155:6 parallel (1) 79:4 parameters (3) 138:2,15,22	98:7 patience (1) 78:2 Patrick's (1) 151:6	135:6 person (1) 156:22 perspective (1) 121:14	98:11 pm (7) 81:10;82:2,7,9,22; 83:5;160:13 point (20)	practice (5) 68:7;107:13,19; 134:6;139:21 practices (4) 92:11;107:9;
103:11;124:17;155:6 parallel (1) 79:4 parameters (3) 138:2,15,22 paraphrased (1)	98:7 patience (1) 78:2 Patrick's (1) 151:6 pattern (1)	135:6 person (1) 156:22 perspective (1) 121:14 phone (1)	98:11 pm (7) 81:10;82:2,7,9,22; 83:5;160:13 point (20) 7:11;37:24;41:24;	practice (5) 68:7;107:13,19; 134:6;139:21 practices (4) 92:11;107:9; 109:12;139:19
103:11;124:17;155:6 parallel (1) 79:4 parameters (3) 138:2,15,22 paraphrased (1) 99:23	98:7 patience (1) 78:2 Patrick's (1) 151:6 pattern (1) 120:1	135:6 person (1) 156:22 perspective (1) 121:14 phone (1) 120:17	98:11 pm (7) 81:10;82:2,7,9,22; 83:5;160:13 point (20) 7:11;37:24;41:24; 46:13;52:5;59:1;	practice (5) 68:7;107:13,19; 134:6;139:21 practices (4) 92:11;107:9; 109:12;139:19 precluded (1)
103:11;124:17;155:6 parallel (1) 79:4 parameters (3) 138:2,15,22 paraphrased (1) 99:23 part (20)	98:7 patience (1) 78:2 Patrick's (1) 151:6 pattern (1) 120:1 Pause (1)	135:6 person (1) 156:22 perspective (1) 121:14 phone (1) 120:17 photovoltaic (11)	98:11 pm (7) 81:10;82:2,7,9,22; 83:5;160:13 point (20) 7:11;37:24;41:24; 46:13;52:5;59:1; 60:8;62:2;63:9;	practice (5) 68:7;107:13,19; 134:6;139:21 practices (4) 92:11;107:9; 109:12;139:19 precluded (1) 18:22
103:11;124:17;155:6 parallel (1) 79:4 parameters (3) 138:2,15,22 paraphrased (1) 99:23 part (20) 14:8;15:3,21;	98:7 patience (1) 78:2 Patrick's (1) 151:6 pattern (1) 120:1 Pause (1) 20:5	135:6 person (1) 156:22 perspective (1) 121:14 phone (1) 120:17 photovoltaic (11) 70:14;71:14,16,21;	98:11 pm (7) 81:10;82:2,7,9,22; 83:5;160:13 point (20) 7:11;37:24;41:24; 46:13;52:5;59:1; 60:8;62:2;63:9; 76:23;99:14;108:4,	practice (5) 68:7;107:13,19; 134:6;139:21 practices (4) 92:11;107:9; 109:12;139:19 precluded (1) 18:22 predicted (1)
103:11;124:17;155:6 parallel (1) 79:4 parameters (3) 138:2,15,22 paraphrased (1) 99:23 part (20) 14:8;15:3,21; 19:13;40:8;47:23;	98:7 patience (1) 78:2 Patrick's (1) 151:6 pattern (1) 120:1 Pause (1) 20:5 pay (6)	135:6 person (1) 156:22 perspective (1) 121:14 phone (1) 120:17 photovoltaic (11) 70:14;71:14,16,21; 72:9,11,12;78:20;	98:11 pm (7) 81:10;82:2,7,9,22; 83:5;160:13 point (20) 7:11;37:24;41:24; 46:13;52:5;59:1; 60:8;62:2;63:9; 76:23;99:14;108:4, 11;131:6;136:16;	practice (5) 68:7;107:13,19; 134:6;139:21 practices (4) 92:11;107:9; 109:12;139:19 precluded (1) 18:22 predicted (1) 36:14
103:11;124:17;155:6 parallel (1) 79:4 parameters (3) 138:2,15,22 paraphrased (1) 99:23 part (20) 14:8;15:3,21; 19:13;40:8;47:23; 50:16;61:6;66:23;	98:7 patience (1) 78:2 Patrick's (1) 151:6 pattern (1) 120:1 Pause (1) 20:5 pay (6) 39:22;42:5;55:24;	135:6 person (1) 156:22 perspective (1) 121:14 phone (1) 120:17 photovoltaic (11) 70:14;71:14,16,21; 72:9,11,12;78:20; 79:7,8,22	98:11 pm (7) 81:10;82:2,7,9,22; 83:5;160:13 point (20) 7:11;37:24;41:24; 46:13;52:5;59:1; 60:8;62:2;63:9; 76:23;99:14;108:4, 11;131:6;136:16; 147:24;154:24;	practice (5) 68:7;107:13,19; 134:6;139:21 practices (4) 92:11;107:9; 109:12;139:19 precluded (1) 18:22 predicted (1) 36:14 prediction (1)
103:11;124:17;155:6 parallel (1) 79:4 parameters (3) 138:2,15,22 paraphrased (1) 99:23 part (20) 14:8;15:3,21; 19:13;40:8;47:23;	98:7 patience (1) 78:2 Patrick's (1) 151:6 pattern (1) 120:1 Pause (1) 20:5 pay (6)	135:6 person (1) 156:22 perspective (1) 121:14 phone (1) 120:17 photovoltaic (11) 70:14;71:14,16,21; 72:9,11,12;78:20;	98:11 pm (7) 81:10;82:2,7,9,22; 83:5;160:13 point (20) 7:11;37:24;41:24; 46:13;52:5;59:1; 60:8;62:2;63:9; 76:23;99:14;108:4, 11;131:6;136:16;	practice (5) 68:7;107:13,19; 134:6;139:21 practices (4) 92:11;107:9; 109:12;139:19 precluded (1) 18:22 predicted (1) 36:14 prediction (1) 36:11
103:11;124:17;155:6 parallel (1) 79:4 parameters (3) 138:2,15,22 paraphrased (1) 99:23 part (20) 14:8;15:3,21; 19:13;40:8;47:23; 50:16;61:6;66:23;	98:7 patience (1) 78:2 Patrick's (1) 151:6 pattern (1) 120:1 Pause (1) 20:5 pay (6) 39:22;42:5;55:24;	135:6 person (1) 156:22 perspective (1) 121:14 phone (1) 120:17 photovoltaic (11) 70:14;71:14,16,21; 72:9,11,12;78:20; 79:7,8,22	98:11 pm (7) 81:10;82:2,7,9,22; 83:5;160:13 point (20) 7:11;37:24;41:24; 46:13;52:5;59:1; 60:8;62:2;63:9; 76:23;99:14;108:4, 11;131:6;136:16; 147:24;154:24;	practice (5) 68:7;107:13,19; 134:6;139:21 practices (4) 92:11;107:9; 109:12;139:19 precluded (1) 18:22 predicted (1) 36:14 prediction (1) 36:11
103:11;124:17;155:6 parallel (1) 79:4 parameters (3) 138:2,15,22 paraphrased (1) 99:23 part (20) 14:8;15:3,21; 19:13;40:8;47:23; 50:16;61:6;66:23; 91:19;93:13,18,20; 98:7;112:1;132:5;	98:7 patience (1) 78:2 Patrick's (1) 151:6 pattern (1) 120:1 Pause (1) 20:5 pay (6) 39:22;42:5;55:24; 88:6;104:23;141:15 paying (2)	135:6 person (1) 156:22 perspective (1) 121:14 phone (1) 120:17 photovoltaic (11) 70:14;71:14,16,21; 72:9,11,12;78:20; 79:7,8,22 phrase (1) 143:15	98:11 pm (7) 81:10;82:2,7,9,22; 83:5;160:13 point (20) 7:11;37:24;41:24; 46:13;52:5;59:1; 60:8;62:2;63:9; 76:23;99:14;108:4, 11;131:6;136:16; 147:24;154:24; 155:20;158:13;160:8 pointed (3)	practice (5) 68:7;107:13,19; 134:6;139:21 practices (4) 92:11;107:9; 109:12;139:19 precluded (1) 18:22 predicted (1) 36:14 prediction (1) 36:11 predominantly (2)
103:11;124:17;155:6 parallel (1) 79:4 parameters (3) 138:2,15,22 paraphrased (1) 99:23 part (20) 14:8;15:3,21; 19:13;40:8;47:23; 50:16;61:6;66:23; 91:19;93:13,18,20; 98:7;112:1;132:5; 133:17;140:15;	98:7 patience (1) 78:2 Patrick's (1) 151:6 pattern (1) 120:1 Pause (1) 20:5 pay (6) 39:22;42:5;55:24; 88:6;104:23;141:15 paying (2) 35:22;56:20	135:6 person (1) 156:22 perspective (1) 121:14 phone (1) 120:17 photovoltaic (11) 70:14;71:14,16,21; 72:9,11,12;78:20; 79:7,8,22 phrase (1) 143:15 pick (3)	98:11 pm (7) 81:10;82:2,7,9,22; 83:5;160:13 point (20) 7:11;37:24;41:24; 46:13;52:5;59:1; 60:8;62:2;63:9; 76:23;99:14;108:4, 11;131:6;136:16; 147:24;154:24; 155:20;158:13;160:8 pointed (3) 18:11;61:11;	practice (5) 68:7;107:13,19; 134:6;139:21 practices (4) 92:11;107:9; 109:12;139:19 precluded (1) 18:22 predicted (1) 36:14 prediction (1) 36:11 predominantly (2) 75:12,17
103:11;124:17;155:6 parallel (1) 79:4 parameters (3) 138:2,15,22 paraphrased (1) 99:23 part (20) 14:8;15:3,21; 19:13;40:8;47:23; 50:16;61:6;66:23; 91:19;93:13,18,20; 98:7;112:1;132:5; 133:17;140:15; 146:24;151:17	98:7 patience (1) 78:2 Patrick's (1) 151:6 pattern (1) 120:1 Pause (1) 20:5 pay (6) 39:22;42:5;55:24; 88:6;104:23;141:15 paying (2) 35:22;56:20 payment (2)	135:6 person (1) 156:22 perspective (1) 121:14 phone (1) 120:17 photovoltaic (11) 70:14;71:14,16,21; 72:9,11,12;78:20; 79:7,8,22 phrase (1) 143:15 pick (3) 34:8;77:5;95:8	98:11 pm (7) 81:10;82:2,7,9,22; 83:5;160:13 point (20) 7:11;37:24;41:24; 46:13;52:5;59:1; 60:8;62:2;63:9; 76:23;99:14;108:4, 11;131:6;136:16; 147:24;154:24; 155:20;158:13;160:8 pointed (3) 18:11;61:11; 125:20	practice (5) 68:7;107:13,19; 134:6;139:21 practices (4) 92:11;107:9; 109:12;139:19 precluded (1) 18:22 predicted (1) 36:14 prediction (1) 36:11 predominantly (2) 75:12,17 prefer (3)
103:11;124:17;155:6 parallel (1) 79:4 parameters (3) 138:2,15,22 paraphrased (1) 99:23 part (20) 14:8;15:3,21; 19:13;40:8;47:23; 50:16;61:6;66:23; 91:19;93:13,18,20; 98:7;112:1;132:5; 133:17;140:15; 146:24;151:17 partially (2)	98:7 patience (1) 78:2 Patrick's (1) 151:6 pattern (1) 120:1 Pause (1) 20:5 pay (6) 39:22;42:5;55:24; 88:6;104:23;141:15 paying (2) 35:22;56:20 payment (2) 31:9,15	135:6 person (1) 156:22 perspective (1) 121:14 phone (1) 120:17 photovoltaic (11) 70:14;71:14,16,21; 72:9,11,12;78:20; 79:7,8,22 phrase (1) 143:15 pick (3) 34:8;77:5;95:8 picked (1)	98:11 pm (7) 81:10;82:2,7,9,22; 83:5;160:13 point (20) 7:11;37:24;41:24; 46:13;52:5;59:1; 60:8;62:2;63:9; 76:23;99:14;108:4, 11;131:6;136:16; 147:24;154:24; 155:20;158:13;160:8 pointed (3) 18:11;61:11; 125:20 points (3)	practice (5) 68:7;107:13,19; 134:6;139:21 practices (4) 92:11;107:9; 109:12;139:19 precluded (1) 18:22 predicted (1) 36:14 prediction (1) 36:11 predominantly (2) 75:12,17 prefer (3) 40:16;52:1,24
103:11;124:17;155:6 parallel (1) 79:4 parameters (3) 138:2,15,22 paraphrased (1) 99:23 part (20) 14:8;15:3,21; 19:13;40:8;47:23; 50:16;61:6;66:23; 91:19;93:13,18,20; 98:7;112:1;132:5; 133:17;140:15; 146:24;151:17 partially (2) 8:22;58:19	98:7 patience (1) 78:2 Patrick's (1) 151:6 pattern (1) 120:1 Pause (1) 20:5 pay (6) 39:22;42:5;55:24; 88:6;104:23;141:15 paying (2) 35:22;56:20 payment (2) 31:9,15 payments (3)	135:6 person (1) 156:22 perspective (1) 121:14 phone (1) 120:17 photovoltaic (11) 70:14;71:14,16,21; 72:9,11,12;78:20; 79:7,8,22 phrase (1) 143:15 pick (3) 34:8;77:5;95:8 picked (1) 96:16	98:11 pm (7) 81:10;82:2,7,9,22; 83:5;160:13 point (20) 7:11;37:24;41:24; 46:13;52:5;59:1; 60:8;62:2;63:9; 76:23;99:14;108:4, 11;131:6;136:16; 147:24;154:24; 155:20;158:13;160:8 pointed (3) 18:11;61:11; 125:20 points (3) 37:18;52:6;54:20	practice (5) 68:7;107:13,19; 134:6;139:21 practices (4) 92:11;107:9; 109:12;139:19 precluded (1) 18:22 predicted (1) 36:14 prediction (1) 36:11 predominantly (2) 75:12,17 prefer (3) 40:16;52:1,24 preferable (1)
103:11;124:17;155:6 parallel (1) 79:4 parameters (3) 138:2,15,22 paraphrased (1) 99:23 part (20) 14:8;15:3,21; 19:13;40:8;47:23; 50:16;61:6;66:23; 91:19;93:13,18,20; 98:7;112:1;132:5; 133:17;140:15; 146:24;151:17 partially (2) 8:22;58:19 participant (1)	98:7 patience (1) 78:2 Patrick's (1) 151:6 pattern (1) 120:1 Pause (1) 20:5 pay (6) 39:22;42:5;55:24; 88:6;104:23;141:15 paying (2) 35:22;56:20 payment (2) 31:9,15 payments (3) 39:23;40:3,5	135:6 person (1) 156:22 perspective (1) 121:14 phone (1) 120:17 photovoltaic (11) 70:14;71:14,16,21; 72:9,11,12;78:20; 79:7,8,22 phrase (1) 143:15 pick (3) 34:8;77:5;95:8 picked (1) 96:16 piece (4)	98:11 pm (7) 81:10;82:2,7,9,22; 83:5;160:13 point (20) 7:11;37:24;41:24; 46:13;52:5;59:1; 60:8;62:2;63:9; 76:23;99:14;108:4, 11;131:6;136:16; 147:24;154:24; 155:20;158:13;160:8 pointed (3) 18:11;61:11; 125:20 points (3) 37:18;52:6;54:20 pole (1)	practice (5) 68:7;107:13,19; 134:6;139:21 practices (4) 92:11;107:9; 109:12;139:19 precluded (1) 18:22 predicted (1) 36:14 prediction (1) 36:11 predominantly (2) 75:12,17 prefer (3) 40:16;52:1,24 preferable (1) 52:22
103:11;124:17;155:6 parallel (1) 79:4 parameters (3) 138:2,15,22 paraphrased (1) 99:23 part (20) 14:8;15:3,21; 19:13;40:8;47:23; 50:16;61:6;66:23; 91:19;93:13,18,20; 98:7;112:1;132:5; 133:17;140:15; 146:24;151:17 partially (2) 8:22;58:19 participant (1) 104:17	98:7 patience (1) 78:2 Patrick's (1) 151:6 pattern (1) 120:1 Pause (1) 20:5 pay (6) 39:22;42:5;55:24; 88:6;104:23;141:15 paying (2) 35:22;56:20 payment (2) 31:9,15 payments (3) 39:23;40:3,5 pays (1)	135:6 person (1) 156:22 perspective (1) 121:14 phone (1) 120:17 photovoltaic (11) 70:14;71:14,16,21; 72:9,11,12;78:20; 79:7,8,22 phrase (1) 143:15 pick (3) 34:8;77:5;95:8 picked (1) 96:16 piece (4) 25:24;42:14;45:4;	98:11 pm (7) 81:10;82:2,7,9,22; 83:5;160:13 point (20) 7:11;37:24;41:24; 46:13;52:5;59:1; 60:8;62:2;63:9; 76:23;99:14;108:4, 11;131:6;136:16; 147:24;154:24; 155:20;158:13;160:8 pointed (3) 18:11;61:11; 125:20 points (3) 37:18;52:6;54:20 pole (1) 140:10	practice (5) 68:7;107:13,19; 134:6;139:21 practices (4) 92:11;107:9; 109:12;139:19 precluded (1) 18:22 predicted (1) 36:14 prediction (1) 36:11 predominantly (2) 75:12,17 prefer (3) 40:16;52:1,24 preferable (1) 52:22 preference (3)
103:11;124:17;155:6 parallel (1) 79:4 parameters (3) 138:2,15,22 paraphrased (1) 99:23 part (20) 14:8;15:3,21; 19:13;40:8;47:23; 50:16;61:6;66:23; 91:19;93:13,18,20; 98:7;112:1;132:5; 133:17;140:15; 146:24;151:17 partially (2) 8:22;58:19 participant (1)	98:7 patience (1) 78:2 Patrick's (1) 151:6 pattern (1) 120:1 Pause (1) 20:5 pay (6) 39:22;42:5;55:24; 88:6;104:23;141:15 paying (2) 35:22;56:20 payment (2) 31:9,15 payments (3) 39:23;40:3,5	135:6 person (1) 156:22 perspective (1) 121:14 phone (1) 120:17 photovoltaic (11) 70:14;71:14,16,21; 72:9,11,12;78:20; 79:7,8,22 phrase (1) 143:15 pick (3) 34:8;77:5;95:8 picked (1) 96:16 piece (4)	98:11 pm (7) 81:10;82:2,7,9,22; 83:5;160:13 point (20) 7:11;37:24;41:24; 46:13;52:5;59:1; 60:8;62:2;63:9; 76:23;99:14;108:4, 11;131:6;136:16; 147:24;154:24; 155:20;158:13;160:8 pointed (3) 18:11;61:11; 125:20 points (3) 37:18;52:6;54:20 pole (1)	practice (5) 68:7;107:13,19; 134:6;139:21 practices (4) 92:11;107:9; 109:12;139:19 precluded (1) 18:22 predicted (1) 36:14 prediction (1) 36:11 predominantly (2) 75:12,17 prefer (3) 40:16;52:1,24 preferable (1) 52:22
103:11;124:17;155:6 parallel (1) 79:4 parameters (3) 138:2,15,22 paraphrased (1) 99:23 part (20) 14:8;15:3,21; 19:13;40:8;47:23; 50:16;61:6;66:23; 91:19;93:13,18,20; 98:7;112:1;132:5; 133:17;140:15; 146:24;151:17 partially (2) 8:22;58:19 participant (1) 104:17	98:7 patience (1) 78:2 Patrick's (1) 151:6 pattern (1) 120:1 Pause (1) 20:5 pay (6) 39:22;42:5;55:24; 88:6;104:23;141:15 paying (2) 35:22;56:20 payment (2) 31:9,15 payments (3) 39:23;40:3,5 pays (1) 140:23 peak (41)	135:6 person (1) 156:22 perspective (1) 121:14 phone (1) 120:17 photovoltaic (11) 70:14;71:14,16,21; 72:9,11,12;78:20; 79:7,8,22 phrase (1) 143:15 pick (3) 34:8;77:5;95:8 picked (1) 96:16 piece (4) 25:24;42:14;45:4;	98:11 pm (7) 81:10;82:2,7,9,22; 83:5;160:13 point (20) 7:11;37:24;41:24; 46:13;52:5;59:1; 60:8;62:2;63:9; 76:23;99:14;108:4, 11;131:6;136:16; 147:24;154:24; 155:20;158:13;160:8 pointed (3) 18:11;61:11; 125:20 points (3) 37:18;52:6;54:20 pole (1) 140:10	practice (5) 68:7;107:13,19; 134:6;139:21 practices (4) 92:11;107:9; 109:12;139:19 precluded (1) 18:22 predicted (1) 36:14 prediction (1) 36:11 predominantly (2) 75:12,17 prefer (3) 40:16;52:1,24 preferable (1) 52:22 preference (3)
103:11;124:17;155:6 parallel (1) 79:4 parameters (3) 138:2,15,22 paraphrased (1) 99:23 part (20) 14:8;15:3,21; 19:13;40:8;47:23; 50:16;61:6;66:23; 91:19;93:13,18,20; 98:7;112:1;132:5; 133:17;140:15; 146:24;151:17 partially (2) 8:22;58:19 participant (1) 104:17 participate (4)	98:7 patience (1) 78:2 Patrick's (1) 151:6 pattern (1) 120:1 Pause (1) 20:5 pay (6) 39:22;42:5;55:24; 88:6;104:23;141:15 paying (2) 35:22;56:20 payment (2) 31:9,15 payments (3) 39:23;40:3,5 pays (1) 140:23 peak (41)	135:6 person (1) 156:22 perspective (1) 121:14 phone (1) 120:17 photovoltaic (11) 70:14;71:14,16,21; 72:9,11,12;78:20; 79:7,8,22 phrase (1) 143:15 pick (3) 34:8;77:5;95:8 picked (1) 96:16 piece (4) 25:24;42:14;45:4; 111:16	98:11 pm (7) 81:10;82:2,7,9,22; 83:5;160:13 point (20) 7:11;37:24;41:24; 46:13;52:5;59:1; 60:8;62:2;63:9; 76:23;99:14;108:4, 11;131:6;136:16; 147:24;154:24; 155:20;158:13;160:8 pointed (3) 18:11;61:11; 125:20 points (3) 37:18;52:6;54:20 pole (1) 140:10 policy (4)	practice (5) 68:7;107:13,19; 134:6;139:21 practices (4) 92:11;107:9; 109:12;139:19 precluded (1) 18:22 predicted (1) 36:14 prediction (1) 36:11 predominantly (2) 75:12,17 prefer (3) 40:16;52:1,24 preferable (1) 52:22 preference (3) 67:3;78:5;102:7
103:11;124:17;155:6 parallel (1) 79:4 parameters (3) 138:2,15,22 paraphrased (1) 99:23 part (20) 14:8;15:3,21; 19:13;40:8;47:23; 50:16;61:6;66:23; 91:19;93:13,18,20; 98:7;112:1;132:5; 133:17;140:15; 146:24;151:17 partially (2) 8:22;58:19 participant (1) 104:17 participate (4) 29:11;30:20;34:22; 58:1	98:7 patience (1) 78:2 Patrick's (1) 151:6 pattern (1) 120:1 Pause (1) 20:5 pay (6) 39:22;42:5;55:24; 88:6;104:23;141:15 paying (2) 35:22;56:20 payment (2) 31:9,15 payments (3) 39:23;40:3,5 pays (1) 140:23 peak (41) 60:24;61:7;65:24;	135:6 person (1) 156:22 perspective (1) 121:14 phone (1) 120:17 photovoltaic (11) 70:14;71:14,16,21; 72:9,11,12;78:20; 79:7,8,22 phrase (1) 143:15 pick (3) 34:8;77:5;95:8 picked (1) 96:16 piece (4) 25:24;42:14;45:4; 111:16 pieces (1) 52:13	98:11 pm (7) 81:10;82:2,7,9,22; 83:5;160:13 point (20) 7:11;37:24;41:24; 46:13;52:5;59:1; 60:8;62:2;63:9; 76:23;99:14;108:4, 11;131:6;136:16; 147:24;154:24; 155:20;158:13;160:8 pointed (3) 18:11;61:11; 125:20 points (3) 37:18;52:6;54:20 pole (1) 140:10 policy (4) 50:3;52:19;53:17, 18	practice (5) 68:7;107:13,19; 134:6;139:21 practices (4) 92:11;107:9; 109:12;139:19 precluded (1) 18:22 predicted (1) 36:14 prediction (1) 36:11 predominantly (2) 75:12,17 prefer (3) 40:16;52:1,24 preferable (1) 52:22 preference (3) 67:3;78:5;102:7 preferences (2) 58:3,4
103:11;124:17;155:6 parallel (1) 79:4 parameters (3) 138:2,15,22 paraphrased (1) 99:23 part (20) 14:8;15:3,21; 19:13;40:8;47:23; 50:16;61:6;66:23; 91:19;93:13,18,20; 98:7;112:1;132:5; 133:17;140:15; 146:24;151:17 partially (2) 8:22;58:19 participant (1) 104:17 participate (4) 29:11;30:20;34:22; 58:1 participation (1)	98:7 patience (1) 78:2 Patrick's (1) 151:6 pattern (1) 120:1 Pause (1) 20:5 pay (6) 39:22;42:5;55:24; 88:6;104:23;141:15 paying (2) 35:22;56:20 payment (2) 31:9,15 payments (3) 39:23;40:3,5 pays (1) 140:23 peak (41) 60:24;61:7;65:24; 69:2;74:4,14,20,20;	135:6 person (1) 156:22 perspective (1) 121:14 phone (1) 120:17 photovoltaic (11) 70:14;71:14,16,21; 72:9,11,12;78:20; 79:7,8,22 phrase (1) 143:15 pick (3) 34:8;77:5;95:8 picked (1) 96:16 piece (4) 25:24;42:14;45:4; 111:16 pieces (1) 52:13 pilot (12)	98:11 pm (7) 81:10;82:2,7,9,22; 83:5;160:13 point (20) 7:11;37:24;41:24; 46:13;52:5;59:1; 60:8;62:2;63:9; 76:23;99:14;108:4, 11;131:6;136:16; 147:24;154:24; 155:20;158:13;160:8 pointed (3) 18:11;61:11; 125:20 points (3) 37:18;52:6;54:20 pole (1) 140:10 policy (4) 50:3;52:19;53:17, 18 policy-related (1)	practice (5) 68:7;107:13,19; 134:6;139:21 practices (4) 92:11;107:9; 109:12;139:19 precluded (1) 18:22 predicted (1) 36:14 prediction (1) 36:11 predominantly (2) 75:12,17 prefer (3) 40:16;52:1,24 preferable (1) 52:22 preference (3) 67:3;78:5;102:7 preferences (2) 58:3,4 preferential (2)
103:11;124:17;155:6 parallel (1) 79:4 parameters (3) 138:2,15,22 paraphrased (1) 99:23 part (20) 14:8;15:3,21; 19:13;40:8;47:23; 50:16;61:6;66:23; 91:19;93:13,18,20; 98:7;112:1;132:5; 133:17;140:15; 146:24;151:17 partially (2) 8:22;58:19 participant (1) 104:17 participate (4) 29:11;30:20;34:22; 58:1 participation (1) 30:24	98:7 patience (1) 78:2 Patrick's (1) 151:6 pattern (1) 120:1 Pause (1) 20:5 pay (6) 39:22;42:5;55:24; 88:6;104:23;141:15 paying (2) 35:22;56:20 payment (2) 31:9,15 payments (3) 39:23;40:3,5 pays (1) 140:23 peak (41) 60:24;61:7;65:24; 69:2;74:4,14,20,20; 75:2,10,18;76:7;	135:6 person (1) 156:22 perspective (1) 121:14 phone (1) 120:17 photovoltaic (11) 70:14;71:14,16,21; 72:9,11,12;78:20; 79:7,8,22 phrase (1) 143:15 pick (3) 34:8;77:5;95:8 picked (1) 96:16 piece (4) 25:24;42:14;45:4; 111:16 pieces (1) 52:13 pilot (12) 34:8;88:10;148:12,	98:11 pm (7) 81:10;82:2,7,9,22; 83:5;160:13 point (20) 7:11;37:24;41:24; 46:13;52:5;59:1; 60:8;62:2;63:9; 76:23;99:14;108:4, 11;131:6;136:16; 147:24;154:24; 155:20;158:13;160:8 pointed (3) 18:11;61:11; 125:20 points (3) 37:18;52:6;54:20 pole (1) 140:10 policy (4) 50:3;52:19;53:17, 18 policy-related (1) 51:3	practice (5) 68:7;107:13,19; 134:6;139:21 practices (4) 92:11;107:9; 109:12;139:19 precluded (1) 18:22 predicted (1) 36:14 prediction (1) 36:11 predominantly (2) 75:12,17 prefer (3) 40:16;52:1,24 preferable (1) 52:22 preference (3) 67:3;78:5;102:7 preferences (2) 58:3,4 preferential (2) 39:8;58:4
103:11;124:17;155:6 parallel (1) 79:4 parameters (3) 138:2,15,22 paraphrased (1) 99:23 part (20) 14:8;15:3,21; 19:13;40:8;47:23; 50:16;61:6;66:23; 91:19;93:13,18,20; 98:7;112:1;132:5; 133:17;140:15; 146:24;151:17 partially (2) 8:22;58:19 participant (1) 104:17 participate (4) 29:11;30:20;34:22; 58:1 participation (1) 30:24 particular (6)	98:7 patience (1) 78:2 Patrick's (1) 151:6 pattern (1) 120:1 Pause (1) 20:5 pay (6) 39:22;42:5;55:24; 88:6;104:23;141:15 paying (2) 35:22;56:20 payment (2) 31:9,15 payments (3) 39:23;40:3,5 pays (1) 140:23 peak (41) 60:24;61:7;65:24; 69:2;74:4,14,20,20; 75:2,10,18;76:7; 78:11,19;80:8,13,14,	135:6 person (1) 156:22 perspective (1) 121:14 phone (1) 120:17 photovoltaic (11) 70:14;71:14,16,21; 72:9,11,12;78:20; 79:7,8,22 phrase (1) 143:15 pick (3) 34:8;77:5;95:8 picked (1) 96:16 piece (4) 25:24;42:14;45:4; 111:16 pieces (1) 52:13 pilot (12) 34:8;88:10;148:12, 15,19,20;149:5;	98:11 pm (7) 81:10;82:2,7,9,22; 83:5;160:13 point (20) 7:11;37:24;41:24; 46:13;52:5;59:1; 60:8;62:2;63:9; 76:23;99:14;108:4, 11;131:6;136:16; 147:24;154:24; 155:20;158:13;160:8 pointed (3) 18:11;61:11; 125:20 points (3) 37:18;52:6;54:20 pole (1) 140:10 policy (4) 50:3;52:19;53:17, 18 policy-related (1) 51:3 pool (1)	practice (5) 68:7;107:13,19; 134:6;139:21 practices (4) 92:11;107:9; 109:12;139:19 precluded (1) 18:22 predicted (1) 36:14 prediction (1) 36:11 predominantly (2) 75:12,17 prefer (3) 40:16;52:1,24 preferable (1) 52:22 preference (3) 67:3;78:5;102:7 preferences (2) 58:3,4 preferential (2) 39:8;58:4 prefiled (3)
103:11;124:17;155:6 parallel (1) 79:4 parameters (3) 138:2,15,22 paraphrased (1) 99:23 part (20) 14:8;15:3,21; 19:13;40:8;47:23; 50:16;61:6;66:23; 91:19;93:13,18,20; 98:7;112:1;132:5; 133:17;140:15; 146:24;151:17 partially (2) 8:22;58:19 participant (1) 104:17 participate (4) 29:11;30:20;34:22; 58:1 participation (1) 30:24 particular (6) 36:8;42:14;77:6;	98:7 patience (1) 78:2 Patrick's (1) 151:6 pattern (1) 120:1 Pause (1) 20:5 pay (6) 39:22;42:5;55:24; 88:6;104:23;141:15 paying (2) 35:22;56:20 payment (2) 31:9,15 payments (3) 39:23;40:3,5 pays (1) 140:23 peak (41) 60:24;61:7;65:24; 69:2;74:4,14,20,20; 75:2,10,18;76:7; 78:11,19;80:8,13,14, 19;81:6,9,12,13,15;	135:6 person (1) 156:22 perspective (1) 121:14 phone (1) 120:17 photovoltaic (11) 70:14;71:14,16,21; 72:9,11,12;78:20; 79:7,8,22 phrase (1) 143:15 pick (3) 34:8;77:5;95:8 picked (1) 96:16 piece (4) 25:24;42:14;45:4; 111:16 pieces (1) 52:13 pilot (12) 34:8;88:10;148:12, 15,19,20;149:5; 153:7,15,22;157:5,7	98:11 pm (7) 81:10;82:2,7,9,22; 83:5;160:13 point (20) 7:11;37:24;41:24; 46:13;52:5;59:1; 60:8;62:2;63:9; 76:23;99:14;108:4, 11;131:6;136:16; 147:24;154:24; 155:20;158:13;160:8 pointed (3) 18:11;61:11; 125:20 points (3) 37:18;52:6;54:20 pole (1) 140:10 policy (4) 50:3;52:19;53:17, 18 policy-related (1) 51:3 pool (1) 37:14	practice (5) 68:7;107:13,19; 134:6;139:21 practices (4) 92:11;107:9; 109:12;139:19 precluded (1) 18:22 predicted (1) 36:14 prediction (1) 36:11 predominantly (2) 75:12,17 prefer (3) 40:16;52:1,24 preferable (1) 52:22 preference (3) 67:3;78:5;102:7 preferences (2) 58:3,4 preferential (2) 39:8;58:4 prefiled (3) 20:1;63:7;83:20
103:11;124:17;155:6 parallel (1) 79:4 parameters (3) 138:2,15,22 paraphrased (1) 99:23 part (20) 14:8;15:3,21; 19:13;40:8;47:23; 50:16;61:6;66:23; 91:19;93:13,18,20; 98:7;112:1;132:5; 133:17;140:15; 146:24;151:17 partially (2) 8:22;58:19 participant (1) 104:17 participate (4) 29:11;30:20;34:22; 58:1 particular (6) 36:8;42:14;77:6; 83:10;139:9,9	98:7 patience (1) 78:2 Patrick's (1) 151:6 pattern (1) 120:1 Pause (1) 20:5 pay (6) 39:22;42:5;55:24; 88:6;104:23;141:15 paying (2) 35:22;56:20 payment (2) 31:9,15 payments (3) 39:23;40:3,5 pays (1) 140:23 peak (41) 60:24;61:7;65:24; 69:2;74:4,14,20,20; 75:2,10,18;76:7; 78:11,19;80:8,13,14, 19;81:6,9,12,13,15; 82:14,16,21;83:3;	135:6 person (1) 156:22 perspective (1) 121:14 phone (1) 120:17 photovoltaic (11) 70:14;71:14,16,21; 72:9,11,12;78:20; 79:7,8,22 phrase (1) 143:15 pick (3) 34:8;77:5;95:8 picked (1) 96:16 piece (4) 25:24;42:14;45:4; 111:16 pieces (1) 52:13 pilot (12) 34:8;88:10;148:12, 15,19,20;149:5; 153:7,15,22;157:5,7 pilots (2)	98:11 pm (7) 81:10;82:2,7,9,22; 83:5;160:13 point (20) 7:11;37:24;41:24; 46:13;52:5;59:1; 60:8;62:2;63:9; 76:23;99:14;108:4, 11;131:6;136:16; 147:24;154:24; 155:20;158:13;160:8 pointed (3) 18:11;61:11; 125:20 points (3) 37:18;52:6;54:20 pole (1) 140:10 policy (4) 50:3;52:19;53:17, 18 policy-related (1) 51:3 pool (1) 37:14 portion (7)	practice (5) 68:7;107:13,19; 134:6;139:21 practices (4) 92:11;107:9; 109:12;139:19 precluded (1) 18:22 predicted (1) 36:14 prediction (1) 36:11 predominantly (2) 75:12,17 prefer (3) 40:16;52:1,24 preferable (1) 52:22 preference (3) 67:3;78:5;102:7 preferences (2) 58:3,4 preferential (2) 39:8;58:4 prefiled (3) 20:1;63:7;83:20 premarked (1)
103:11;124:17;155:6 parallel (1) 79:4 parameters (3) 138:2,15,22 paraphrased (1) 99:23 part (20) 14:8;15:3,21; 19:13;40:8;47:23; 50:16;61:6;66:23; 91:19;93:13,18,20; 98:7;112:1;132:5; 133:17;140:15; 146:24;151:17 partially (2) 8:22;58:19 participant (1) 104:17 participate (4) 29:11;30:20;34:22; 58:1 particular (6) 36:8;42:14;77:6; 83:10;139:9,9 particularly (5)	98:7 patience (1) 78:2 Patrick's (1) 151:6 pattern (1) 120:1 Pause (1) 20:5 pay (6) 39:22;42:5;55:24; 88:6;104:23;141:15 paying (2) 35:22;56:20 payment (2) 31:9,15 payments (3) 39:23;40:3,5 pays (1) 140:23 peak (41) 60:24;61:7;65:24; 69:2;74:4,14,20,20; 75:2,10,18;76:7; 78:11,19;80:8,13,14, 19;81:6,9,12,13,15; 82:14,16,21;83:3; 94:23,24;114:7;	135:6 person (1) 156:22 perspective (1) 121:14 phone (1) 120:17 photovoltaic (11) 70:14;71:14,16,21; 72:9,11,12;78:20; 79:7,8,22 phrase (1) 143:15 pick (3) 34:8;77:5;95:8 picked (1) 96:16 piece (4) 25:24;42:14;45:4; 111:16 pieces (1) 52:13 pilot (12) 34:8;88:10;148:12, 15,19,20;149:5; 153:7,15,22;157:5,7 pilots (2) 49:16;154:3	98:11 pm (7) 81:10;82:2,7,9,22; 83:5;160:13 point (20) 7:11;37:24;41:24; 46:13;52:5;59:1; 60:8;62:2;63:9; 76:23;99:14;108:4, 11;131:6;136:16; 147:24;154:24; 155:20;158:13;160:8 pointed (3) 18:11;61:11; 125:20 points (3) 37:18;52:6;54:20 pole (1) 140:10 policy (4) 50:3;52:19;53:17, 18 policy-related (1) 51:3 pool (1) 37:14 portion (7) 28:12,21;87:16;	practice (5) 68:7;107:13,19; 134:6;139:21 practices (4) 92:11;107:9; 109:12;139:19 precluded (1) 18:22 predicted (1) 36:14 prediction (1) 36:11 predominantly (2) 75:12,17 prefer (3) 40:16;52:1,24 preferable (1) 52:22 preference (3) 67:3;78:5;102:7 preferences (2) 58:3,4 preferential (2) 39:8;58:4 prefiled (3) 20:1;63:7;83:20 premarked (1) 85:2
103:11;124:17;155:6 parallel (1) 79:4 parameters (3) 138:2,15,22 paraphrased (1) 99:23 part (20) 14:8;15:3,21; 19:13;40:8;47:23; 50:16;61:6;66:23; 91:19;93:13,18,20; 98:7;112:1;132:5; 133:17;140:15; 146:24;151:17 partially (2) 8:22;58:19 participant (1) 104:17 participate (4) 29:11;30:20;34:22; 58:1 particular (6) 36:8;42:14;77:6; 83:10;139:9,9	98:7 patience (1) 78:2 Patrick's (1) 151:6 pattern (1) 120:1 Pause (1) 20:5 pay (6) 39:22;42:5;55:24; 88:6;104:23;141:15 paying (2) 35:22;56:20 payment (2) 31:9,15 payments (3) 39:23;40:3,5 pays (1) 140:23 peak (41) 60:24;61:7;65:24; 69:2;74:4,14,20,20; 75:2,10,18;76:7; 78:11,19;80:8,13,14, 19;81:6,9,12,13,15; 82:14,16,21;83:3;	135:6 person (1) 156:22 perspective (1) 121:14 phone (1) 120:17 photovoltaic (11) 70:14;71:14,16,21; 72:9,11,12;78:20; 79:7,8,22 phrase (1) 143:15 pick (3) 34:8;77:5;95:8 picked (1) 96:16 piece (4) 25:24;42:14;45:4; 111:16 pieces (1) 52:13 pilot (12) 34:8;88:10;148:12, 15,19,20;149:5; 153:7,15,22;157:5,7 pilots (2)	98:11 pm (7) 81:10;82:2,7,9,22; 83:5;160:13 point (20) 7:11;37:24;41:24; 46:13;52:5;59:1; 60:8;62:2;63:9; 76:23;99:14;108:4, 11;131:6;136:16; 147:24;154:24; 155:20;158:13;160:8 pointed (3) 18:11;61:11; 125:20 points (3) 37:18;52:6;54:20 pole (1) 140:10 policy (4) 50:3;52:19;53:17, 18 policy-related (1) 51:3 pool (1) 37:14 portion (7)	practice (5) 68:7;107:13,19; 134:6;139:21 practices (4) 92:11;107:9; 109:12;139:19 precluded (1) 18:22 predicted (1) 36:14 prediction (1) 36:11 predominantly (2) 75:12,17 prefer (3) 40:16;52:1,24 preferable (1) 52:22 preference (3) 67:3;78:5;102:7 preferences (2) 58:3,4 preferential (2) 39:8;58:4 prefiled (3) 20:1;63:7;83:20 premarked (1)
103:11;124:17;155:6 parallel (1) 79:4 parameters (3) 138:2,15,22 paraphrased (1) 99:23 part (20) 14:8;15:3,21; 19:13;40:8;47:23; 50:16;61:6;66:23; 91:19;93:13,18,20; 98:7;112:1;132:5; 133:17;140:15; 146:24;151:17 partially (2) 8:22;58:19 participant (1) 104:17 participate (4) 29:11;30:20;34:22; 58:1 particular (6) 36:8;42:14;77:6; 83:10;139:9,9 particularly (5)	98:7 patience (1) 78:2 Patrick's (1) 151:6 pattern (1) 120:1 Pause (1) 20:5 pay (6) 39:22;42:5;55:24; 88:6;104:23;141:15 paying (2) 35:22;56:20 payment (2) 31:9,15 payments (3) 39:23;40:3,5 pays (1) 140:23 peak (41) 60:24;61:7;65:24; 69:2;74:4,14,20,20; 75:2,10,18;76:7; 78:11,19;80:8,13,14, 19;81:6,9,12,13,15; 82:14,16,21;83:3; 94:23,24;114:7;	135:6 person (1) 156:22 perspective (1) 121:14 phone (1) 120:17 photovoltaic (11) 70:14;71:14,16,21; 72:9,11,12;78:20; 79:7,8,22 phrase (1) 143:15 pick (3) 34:8;77:5;95:8 picked (1) 96:16 piece (4) 25:24;42:14;45:4; 111:16 pieces (1) 52:13 pilot (12) 34:8;88:10;148:12, 15,19,20;149:5; 153:7,15,22;157:5,7 pilots (2) 49:16;154:3	98:11 pm (7) 81:10;82:2,7,9,22; 83:5;160:13 point (20) 7:11;37:24;41:24; 46:13;52:5;59:1; 60:8;62:2;63:9; 76:23;99:14;108:4, 11;131:6;136:16; 147:24;154:24; 155:20;158:13;160:8 pointed (3) 18:11;61:11; 125:20 points (3) 37:18;52:6;54:20 pole (1) 140:10 policy (4) 50:3;52:19;53:17, 18 policy-related (1) 51:3 pool (1) 37:14 portion (7) 28:12,21;87:16;	practice (5) 68:7;107:13,19; 134:6;139:21 practices (4) 92:11;107:9; 109:12;139:19 precluded (1) 18:22 predicted (1) 36:14 prediction (1) 36:11 predominantly (2) 75:12,17 prefer (3) 40:16;52:1,24 preferable (1) 52:22 preference (3) 67:3;78:5;102:7 preferences (2) 58:3,4 preferential (2) 39:8;58:4 prefiled (3) 20:1;63:7;83:20 premarked (1) 85:2
103:11;124:17;155:6 parallel (1) 79:4 parameters (3) 138:2,15,22 paraphrased (1) 99:23 part (20) 14:8;15:3,21; 19:13;40:8;47:23; 50:16;61:6;66:23; 91:19;93:13,18,20; 98:7;112:1;132:5; 133:17;140:15; 146:24;151:17 partially (2) 8:22;58:19 participant (1) 104:17 participate (4) 29:11;30:20;34:22; 58:1 participation (1) 30:24 particular (6) 36:8;42:14;77:6; 83:10;139:9,9 particularly (5) 33:7;49:4,22;75:6;	98:7 patience (1) 78:2 Patrick's (1) 151:6 pattern (1) 120:1 Pause (1) 20:5 pay (6) 39:22;42:5;55:24; 88:6;104:23;141:15 paying (2) 35:22;56:20 payment (2) 31:9,15 payments (3) 39:23;40:3,5 pays (1) 140:23 peak (41) 60:24;61:7;65:24; 69:2;74:4,14,20,20; 75:2,10,18;76:7; 78:11,19;80:8,13,14, 19;81:6,9,12,13,15; 82:14,16,21;83:3; 94:23,24;114:7; 127:12,14,16,20,21,	135:6 person (1) 156:22 perspective (1) 121:14 phone (1) 120:17 photovoltaic (11) 70:14;71:14,16,21; 72:9,11,12;78:20; 79:7,8,22 phrase (1) 143:15 pick (3) 34:8;77:5;95:8 picked (1) 96:16 piece (4) 25:24;42:14;45:4; 111:16 pieces (1) 52:13 pilot (12) 34:8;88:10;148:12, 15,19,20;149:5; 153:7,15,22;157:5,7 pilots (2) 49:16;154:3 place (7)	98:11 pm (7) 81:10;82:2,7,9,22; 83:5;160:13 point (20) 7:11;37:24;41:24; 46:13;52:5;59:1; 60:8;62:2;63:9; 76:23;99:14;108:4, 11;131:6;136:16; 147:24;154:24; 155:20;158:13;160:8 pointed (3) 18:11;61:11; 125:20 points (3) 37:18;52:6;54:20 pole (1) 140:10 policy (4) 50:3;52:19;53:17, 18 policy-related (1) 51:3 pool (1) 37:14 portion (7) 28:12,21;87:16; 88:1;109:7;147:19;	practice (5) 68:7;107:13,19; 134:6;139:21 practices (4) 92:11;107:9; 109:12;139:19 precluded (1) 18:22 predicted (1) 36:14 prediction (1) 36:11 predominantly (2) 75:12,17 prefer (3) 40:16;52:1,24 preferable (1) 52:22 preference (3) 67:3;78:5;102:7 preferences (2) 58:3,4 preferential (2) 39:8;58:4 prefiled (3) 20:1;63:7;83:20 premarked (1) 85:2 premise (1)

premises (1)	147:4,5	projects (23)	48:23;50:9,21;	123:13
56:12	procedures (1)	26:3,4,16,17;28:3,	56:20;120:7	quarter (2)
prepare (1)	109:15	16;29:3,15;30:6,11;	providing (3)	65:8;89:15
134:10	proceeding (5)	31:2;32:3,12;33:7;	50:23;63:16;92:9	queue (8)
prepared (4)	33:12;46:5;54:6;	63:23;128:17,18;	Public (6)	26:5;32:13;91:2;
16:5;18:11;24:20;	57:3;68:8	129:8,9,23;130:3;	14:6;33:24;134:5;	131:18,20;132:7,14,
74:4	proceedings (2)	148:12;154:4	155:24;159:6,14	20
presence (1)	20:5;32:7	prolongs (1)	published (1)	quick (1)
84:16	process (9)	84:18	74:5	62:19
present (1)	10:5,20;97:21;	promoting (1)	PUC (1)	quickly (1)
22:14	101:3;135:5,7;	30:24	28:22	55:3
presentation (5)	146:23;156:16;	promulgate (1)	PUC-approved (1)	quite (2)
10:6;15:15;16:21;	159:19	49:10	42:11	59:16;127:1
45:8;157:20	processes (1)	proper (2)	PUC-rate-approved (1)	quote (4)
presentations (1)	109:15	50:6,22	42:4	66:20;80:6;81:9;
46:3	processing (1)	property (1)	purchase (4)	116:1
presented (1)	106:6	122:19	16:16;30:16;57:14;	quoted (1)
67:13	prodded (1)	proportion (1)	115:5	107:7
presume (1)	154:20	47:18	purchased (1)	quoting (2)
49:14	produce (4)	proposal (46)	91:14	63:15;84:14
presumption (1)	36:8,22;82:9;	15:6;19:10;25:15;	purpose (3)	,
147:21	104:12	42:1,6;48:18,23;	16:9;47:24;134:14	R
pretty (2)	produced (4)	49:16,19;50:8;51:2,6,	purposes (4)	
10:16;87:12	65:8;66:1;96:14;	10,22;52:9;53:6;	15:8;120:12;	raining (1)
prevailing (2)	156:17	54:21;55:7;61:3;	150:20;153:24	36:14
27:12;78:16	producers (1)	85:1;90:22,22;91:11;	put (11)	raise (2)
previously (2)	37:2	105:10;106:18;	10:12;18:4;19:10;	15:3;18:19
6:24;34:23	produces (1)	108:18,24;109:7,7,	34:16;41:18;46:20;	raising (1)
price (10)	65:4	16,23;110:7;115:4;	48:3;49:15;55:9;	160:4
53:9,12;58:7;	producing (3)	116:9;118:22,24;	108:18;123:7	rapidly (1)
59:11,12,14;60:10,	38:10;41:23;61:8	119:3,5;121:16,17;	putting (3)	56:16
14;61:24;122:13	product (1)	130:11,24;131:12,17;	37:6;77:1;152:24	rate (40)
prices (3)	38:2	132:12;134:14	PV (13)	11:8;27:8,10;28:4,
33:13,18;61:23	production (21)	proposals (3)	70:9,10,13;71:1,4;	8,19;29:13,14,14;
pricing (12)	34:16,19,20;36:15;	41:2;51:16;154:3	80:24;113:12;114:8;	30:9;32:6;42:8,9,11;
48:2,3;49:14;	51:5,7;53:2;70:19;	propose (2)	117:17;118:15;	48:22;49:6,7;56:20;
50:18;52:19;58:5;	72:21;82:17;92:5;	51:9;115:2	143:2;144:16;145:4	57:4;87:24;94:21;
59:8,21,23,24;61:18;	105:11,13;106:10,12,	proposed (21)	PVs (1)	115:7,11;117:8;
147:10				
111110	20,23;107:3;109:5;	6:17;26:2,8,10,15;	82:8	122:7;124:1,12,13;
primarily (2)	20,23;107:3;109:5; 114:18;122:16	6:17;26:2,8,10,15; 29:20;37:19;54:23;		
			82:8 Q	125:2,4,13;134:4,7,
primarily (2)	114:18;122:16	29:20;37:19;54:23;		
primarily (2) 81:13;124:5	114:18;122:16 products (2)	29:20;37:19;54:23; 55:8;57:20,21;58:20;		125:2,4,13;134:4,7, 10;135:22;141:10, 14;145:17;146:18; 153:21
primarily (2) 81:13;124:5 principle (2) 125:2,14 principles (3)	114:18;122:16 products (2) 47:15;64:1	29:20;37:19;54:23; 55:8;57:20,21;58:20; 59:3;60:2;88:10;	Q	125:2,4,13;134:4,7, 10;135:22;141:10, 14;145:17;146:18;
primarily (2) 81:13;124:5 principle (2) 125:2,14	114:18;122:16 products (2) 47:15;64:1 profile (8)	29:20;37:19;54:23; 55:8;57:20,21;58:20; 59:3;60:2;88:10; 113:9;115:11;	Q Q25 (1)	125:2,4,13;134:4,7, 10;135:22;141:10, 14;145:17;146:18; 153:21 Ratemaking (1) 50:14
primarily (2) 81:13;124:5 principle (2) 125:2,14 principles (3)	114:18;122:16 products (2) 47:15;64:1 profile (8) 16:11,12;47:3,7;	29:20;37:19;54:23; 55:8;57:20,21;58:20; 59:3;60:2;88:10; 113:9;115:11; 130:22;131:11;	Q Q25 (1) 110:19	125:2,4,13;134:4,7, 10;135:22;141:10, 14;145:17;146:18; 153:21 Ratemaking (1)
primarily (2) 81:13;124:5 principle (2) 125:2,14 principles (3) 124:12;125:19;	114:18;122:16 products (2) 47:15;64:1 profile (8) 16:11,12;47:3,7; 54:9;113:12,12; 114:1 program (7)	29:20;37:19;54:23; 55:8;57:20,21;58:20; 59:3;60:2;88:10; 113:9;115:11; 130:22;131:11; 133:24;154:2 proposing (1) 91:5	Q Q25 (1) 110:19 quadrants (2)	125:2,4,13;134:4,7, 10;135:22;141:10, 14;145:17;146:18; 153:21 Ratemaking (1) 50:14
primarily (2) 81:13;124:5 principle (2) 125:2,14 principles (3) 124:12;125:19; 134:5	114:18;122:16 products (2) 47:15;64:1 profile (8) 16:11,12;47:3,7; 54:9;113:12,12; 114:1	29:20;37:19;54:23; 55:8;57:20,21;58:20; 59:3;60:2;88:10; 113:9;115:11; 130:22;131:11; 133:24;154:2 proposing (1)	Q25 (1) 110:19 quadrants (2) 16:14;114:14	125:2,4,13;134:4,7, 10;135:22;141:10, 14;145:17;146:18; 153:21 Ratemaking (1) 50:14 ratepayer (1)
primarily (2) 81:13;124:5 principle (2) 125:2,14 principles (3) 124:12;125:19; 134:5 print (3) 110:11,12;111:13 printing (1)	114:18;122:16 products (2) 47:15;64:1 profile (8) 16:11,12;47:3,7; 54:9;113:12,12; 114:1 program (7) 31:10;32:16;34:22; 129:10;147:20;	29:20;37:19;54:23; 55:8;57:20,21;58:20; 59:3;60:2;88:10; 113:9;115:11; 130:22;131:11; 133:24;154:2 proposing (1) 91:5 proposition (1) 157:6	Q25 (1) 110:19 quadrants (2) 16:14;114:14 qualified (1)	125:2,4,13;134:4,7, 10;135:22;141:10, 14;145:17;146:18; 153:21 Ratemaking (1) 50:14 ratepayer (1) 39:15
primarily (2) 81:13;124:5 principle (2) 125:2,14 principles (3) 124:12;125:19; 134:5 print (3) 110:11,12;111:13	114:18;122:16 products (2) 47:15;64:1 profile (8) 16:11,12;47:3,7; 54:9;113:12,12; 114:1 program (7) 31:10;32:16;34:22;	29:20;37:19;54:23; 55:8;57:20,21;58:20; 59:3;60:2;88:10; 113:9;115:11; 130:22;131:11; 133:24;154:2 proposing (1) 91:5 proposition (1) 157:6 provide (15)	Q Q25 (1) 110:19 quadrants (2) 16:14;114:14 qualified (1) 105:14	125:2,4,13;134:4,7, 10;135:22;141:10, 14;145:17;146:18; 153:21 Ratemaking (1) 50:14 ratepayer (1) 39:15 Ratepayers (2)
primarily (2) 81:13;124:5 principle (2) 125:2,14 principles (3) 124:12;125:19; 134:5 print (3) 110:11,12;111:13 printing (1) 151:4 prior (12)	114:18;122:16 products (2) 47:15;64:1 profile (8) 16:11,12;47:3,7; 54:9;113:12,12; 114:1 program (7) 31:10;32:16;34:22; 129:10;147:20;	29:20;37:19;54:23; 55:8;57:20,21;58:20; 59:3;60:2;88:10; 113:9;115:11; 130:22;131:11; 133:24;154:2 proposing (1) 91:5 proposition (1) 157:6	Q Q25 (1) 110:19 quadrants (2) 16:14;114:14 qualified (1) 105:14 qualify (3)	125:2,4,13;134:4,7, 10;135:22;141:10, 14;145:17;146:18; 153:21 Ratemaking (1) 50:14 ratepayer (1) 39:15 Ratepayers (2) 12:22;88:6 rates (16) 11:10;19:7;27:12;
primarily (2) 81:13;124:5 principle (2) 125:2,14 principles (3) 124:12;125:19; 134:5 print (3) 110:11,12;111:13 printing (1) 151:4	114:18;122:16 products (2) 47:15;64:1 profile (8) 16:11,12;47:3,7; 54:9;113:12,12; 114:1 program (7) 31:10;32:16;34:22; 129:10;147:20; 148:20;153:7	29:20;37:19;54:23; 55:8;57:20,21;58:20; 59:3;60:2;88:10; 113:9;115:11; 130:22;131:11; 133:24;154:2 proposing (1) 91:5 proposition (1) 157:6 provide (15)	Q25 (1) 110:19 quadrants (2) 16:14;114:14 qualified (1) 105:14 qualify (3) 29:19;131:19,21 qualifying (1) 131:13	125:2,4,13;134:4,7, 10;135:22;141:10, 14;145:17;146:18; 153:21 Ratemaking (1) 50:14 ratepayer (1) 39:15 Ratepayers (2) 12:22;88:6 rates (16)
primarily (2) 81:13;124:5 principle (2) 125:2,14 principles (3) 124:12;125:19; 134:5 print (3) 110:11,12;111:13 printing (1) 151:4 prior (12)	114:18;122:16 products (2) 47:15;64:1 profile (8) 16:11,12;47:3,7; 54:9;113:12,12; 114:1 program (7) 31:10;32:16;34:22; 129:10;147:20; 148:20;153:7 programmed (2)	29:20;37:19;54:23; 55:8;57:20,21;58:20; 59:3;60:2;88:10; 113:9;115:11; 130:22;131:11; 133:24;154:2 proposing (1) 91:5 proposition (1) 157:6 provide (15) 19:9;34:15;48:18;	Q25 (1) 110:19 quadrants (2) 16:14;114:14 qualified (1) 105:14 qualify (3) 29:19;131:19,21 qualifying (1) 131:13 quality (2)	125:2,4,13;134:4,7, 10;135:22;141:10, 14;145:17;146:18; 153:21 Ratemaking (1) 50:14 ratepayer (1) 39:15 Ratepayers (2) 12:22;88:6 rates (16) 11:10;19:7;27:12;
primarily (2) 81:13;124:5 principle (2) 125:2,14 principles (3) 124:12;125:19; 134:5 print (3) 110:11,12;111:13 printing (1) 151:4 prior (12) 32:16;33:24;75:3; 77:13;81:14;82:14; 132:16,20;137:3;	114:18;122:16 products (2) 47:15;64:1 profile (8) 16:11,12;47:3,7; 54:9;113:12,12; 114:1 program (7) 31:10;32:16;34:22; 129:10;147:20; 148:20;153:7 programmed (2) 94:21;97:13 programs (1) 39:22	29:20;37:19;54:23; 55:8;57:20,21;58:20; 59:3;60:2;88:10; 113:9;115:11; 130:22;131:11; 133:24;154:2 proposing (1) 91:5 proposition (1) 157:6 provide (15) 19:9;34:15;48:18; 50:24;64:1;84:3; 93:6;94:23;104:20; 134:21;136:22;	Q25 (1) 110:19 quadrants (2) 16:14;114:14 qualified (1) 105:14 qualify (3) 29:19;131:19,21 qualifying (1) 131:13 quality (2) 138:2;150:18	125:2,4,13;134:4,7, 10;135:22;141:10, 14;145:17;146:18; 153:21 Ratemaking (1) 50:14 ratepayer (1) 39:15 Ratepayers (2) 12:22;88:6 rates (16) 11:10;19:7;27:12; 31:24;35:15;37:12; 42:2;50:10,22;87:19, 21;122:12;134:5;
primarily (2) 81:13;124:5 principle (2) 125:2,14 principles (3) 124:12;125:19; 134:5 print (3) 110:11,12;111:13 printing (1) 151:4 prior (12) 32:16;33:24;75:3; 77:13;81:14;82:14; 132:16,20;137:3; 151:6,15;153:15	114:18;122:16 products (2) 47:15;64:1 profile (8) 16:11,12;47:3,7; 54:9;113:12,12; 114:1 program (7) 31:10;32:16;34:22; 129:10;147:20; 148:20;153:7 programmed (2) 94:21;97:13 programs (1)	29:20;37:19;54:23; 55:8;57:20,21;58:20; 59:3;60:2;88:10; 113:9;115:11; 130:22;131:11; 133:24;154:2 proposing (1) 91:5 proposition (1) 157:6 provide (15) 19:9;34:15;48:18; 50:24;64:1;84:3; 93:6;94:23;104:20;	Q25 (1) 110:19 quadrants (2) 16:14;114:14 qualified (1) 105:14 qualify (3) 29:19;131:19,21 qualifying (1) 131:13 quality (2) 138:2;150:18 quantifies (1)	125:2,4,13;134:4,7, 10;135:22;141:10, 14;145:17;146:18; 153:21 Ratemaking (1) 50:14 ratepayer (1) 39:15 Ratepayers (2) 12:22;88:6 rates (16) 11:10;19:7;27:12; 31:24;35:15;37:12; 42:2;50:10,22;87:19, 21;122:12;134:5; 141:8,12,14
primarily (2) 81:13;124:5 principle (2) 125:2,14 principles (3) 124:12;125:19; 134:5 print (3) 110:11,12;111:13 printing (1) 151:4 prior (12) 32:16;33:24;75:3; 77:13;81:14;82:14; 132:16,20;137:3; 151:6,15;153:15 probably (12)	114:18;122:16 products (2) 47:15;64:1 profile (8) 16:11,12;47:3,7; 54:9;113:12,12; 114:1 program (7) 31:10;32:16;34:22; 129:10;147:20; 148:20;153:7 programmed (2) 94:21;97:13 programs (1) 39:22 prohibitive (1) 104:13	29:20;37:19;54:23; 55:8;57:20,21;58:20; 59:3;60:2;88:10; 113:9;115:11; 130:22;131:11; 133:24;154:2 proposing (1) 91:5 proposition (1) 157:6 provide (15) 19:9;34:15;48:18; 50:24;64:1;84:3; 93:6;94:23;104:20; 134:21;136:22; 137:24;138:8;145:9; 147:14	Q25 (1) 110:19 quadrants (2) 16:14;114:14 qualified (1) 105:14 qualify (3) 29:19;131:19,21 qualifying (1) 131:13 quality (2) 138:2;150:18	125:2,4,13;134:4,7, 10;135:22;141:10, 14;145:17;146:18; 153:21 Ratemaking (1) 50:14 ratepayer (1) 39:15 Ratepayers (2) 12:22;88:6 rates (16) 11:10;19:7;27:12; 31:24;35:15;37:12; 42:2;50:10,22;87:19, 21;122:12;134:5; 141:8,12,14 rather (11)
primarily (2) 81:13;124:5 principle (2) 125:2,14 principles (3) 124:12;125:19; 134:5 print (3) 110:11,12;111:13 printing (1) 151:4 prior (12) 32:16;33:24;75:3; 77:13;81:14;82:14; 132:16,20;137:3; 151:6,15;153:15 probably (12) 40:17;64:9;75:22;	114:18;122:16 products (2) 47:15;64:1 profile (8) 16:11,12;47:3,7; 54:9;113:12,12; 114:1 program (7) 31:10;32:16;34:22; 129:10;147:20; 148:20;153:7 programmed (2) 94:21;97:13 programs (1) 39:22 prohibitive (1) 104:13 project (12)	29:20;37:19;54:23; 55:8;57:20,21;58:20; 59:3;60:2;88:10; 113:9;115:11; 130:22;131:11; 133:24;154:2 proposing (1) 91:5 proposition (1) 157:6 provide (15) 19:9;34:15;48:18; 50:24;64:1;84:3; 93:6;94:23;104:20; 134:21;136:22; 137:24;138:8;145:9; 147:14 provided (11)	Q25 (1) 110:19 quadrants (2) 16:14;114:14 qualified (1) 105:14 qualify (3) 29:19;131:19,21 qualifying (1) 131:13 quality (2) 138:2;150:18 quantifies (1) 128:16 quantities (13)	125:2,4,13;134:4,7, 10;135:22;141:10, 14;145:17;146:18; 153:21 Ratemaking (1) 50:14 ratepayer (1) 39:15 Ratepayers (2) 12:22;88:6 rates (16) 11:10;19:7;27:12; 31:24;35:15;37:12; 42:2;50:10,22;87:19, 21;122:12;134:5; 141:8,12,14
primarily (2) 81:13;124:5 principle (2) 125:2,14 principles (3) 124:12;125:19; 134:5 print (3) 110:11,12;111:13 printing (1) 151:4 prior (12) 32:16;33:24;75:3; 77:13;81:14;82:14; 132:16,20;137:3; 151:6,15;153:15 probably (12) 40:17;64:9;75:22; 78:16;126:15;127:3,	114:18;122:16 products (2) 47:15;64:1 profile (8) 16:11,12;47:3,7; 54:9;113:12,12; 114:1 program (7) 31:10;32:16;34:22; 129:10;147:20; 148:20;153:7 programmed (2) 94:21;97:13 programs (1) 39:22 prohibitive (1) 104:13 project (12) 29:18;30:1,2;	29:20;37:19;54:23; 55:8;57:20,21;58:20; 59:3;60:2;88:10; 113:9;115:11; 130:22;131:11; 133:24;154:2 proposing (1) 91:5 proposition (1) 157:6 provide (15) 19:9;34:15;48:18; 50:24;64:1;84:3; 93:6;94:23;104:20; 134:21;136:22; 137:24;138:8;145:9; 147:14 provided (11) 31:4,12;49:12;	Q25 (1) 110:19 quadrants (2) 16:14;114:14 qualified (1) 105:14 qualify (3) 29:19;131:19,21 qualifying (1) 131:13 quality (2) 138:2;150:18 quantifies (1) 128:16 quantities (13) 15:10;41:1,18;	125:2,4,13;134:4,7, 10;135:22;141:10, 14;145:17;146:18; 153:21 Ratemaking (1) 50:14 ratepayer (1) 39:15 Ratepayers (2) 12:22;88:6 rates (16) 11:10;19:7;27:12; 31:24;35:15;37:12; 42:2;50:10,22;87:19, 21;122:12;134:5; 141:8,12,14 rather (11)
primarily (2) 81:13;124:5 principle (2) 125:2,14 principles (3) 124:12;125:19; 134:5 print (3) 110:11,12;111:13 printing (1) 151:4 prior (12) 32:16;33:24;75:3; 77:13;81:14;82:14; 132:16,20;137:3; 151:6,15;153:15 probably (12) 40:17;64:9;75:22;	114:18;122:16 products (2) 47:15;64:1 profile (8) 16:11,12;47:3,7; 54:9;113:12,12; 114:1 program (7) 31:10;32:16;34:22; 129:10;147:20; 148:20;153:7 programmed (2) 94:21;97:13 programs (1) 39:22 prohibitive (1) 104:13 project (12)	29:20;37:19;54:23; 55:8;57:20,21;58:20; 59:3;60:2;88:10; 113:9;115:11; 130:22;131:11; 133:24;154:2 proposing (1) 91:5 proposition (1) 157:6 provide (15) 19:9;34:15;48:18; 50:24;64:1;84:3; 93:6;94:23;104:20; 134:21;136:22; 137:24;138:8;145:9; 147:14 provided (11)	Q25 (1) 110:19 quadrants (2) 16:14;114:14 qualified (1) 105:14 qualify (3) 29:19;131:19,21 qualifying (1) 131:13 quality (2) 138:2;150:18 quantifies (1) 128:16 quantities (13)	125:2,4,13;134:4,7, 10;135:22;141:10, 14;145:17;146:18; 153:21 Ratemaking (1) 50:14 ratepayer (1) 39:15 Ratepayers (2) 12:22;88:6 rates (16) 11:10;19:7;27:12; 31:24;35:15;37:12; 42:2;50:10,22;87:19, 21;122:12;134:5; 141:8,12,14 rather (11) 29:13;31:5,15;
primarily (2) 81:13;124:5 principle (2) 125:2,14 principles (3) 124:12;125:19; 134:5 print (3) 110:11,12;111:13 printing (1) 151:4 prior (12) 32:16;33:24;75:3; 77:13;81:14;82:14; 132:16,20;137:3; 151:6,15;153:15 probably (12) 40:17;64:9;75:22; 78:16;126:15;127:3, 4;137:23;158:7; 159:16,20;160:1	114:18;122:16 products (2) 47:15;64:1 profile (8) 16:11,12;47:3,7; 54:9;113:12,12; 114:1 program (7) 31:10;32:16;34:22; 129:10;147:20; 148:20;153:7 programmed (2) 94:21;97:13 programs (1) 39:22 prohibitive (1) 104:13 project (12) 29:18;30:1,2;	29:20;37:19;54:23; 55:8;57:20,21;58:20; 59:3;60:2;88:10; 113:9;115:11; 130:22;131:11; 133:24;154:2 proposing (1) 91:5 proposition (1) 157:6 provide (15) 19:9;34:15;48:18; 50:24;64:1;84:3; 93:6;94:23;104:20; 134:21;136:22; 137:24;138:8;145:9; 147:14 provided (11) 31:4,12;49:12; 54:6,9,10;64:2;73:1; 83:1,13;92:10	Q25 (1) 110:19 quadrants (2) 16:14;114:14 qualified (1) 105:14 qualify (3) 29:19;131:19,21 qualifying (1) 131:13 quality (2) 138:2;150:18 quantifies (1) 128:16 quantities (13) 15:10;41:1,18;	125:2,4,13;134:4,7, 10;135:22;141:10, 14;145:17;146:18; 153:21 Ratemaking (1) 50:14 ratepayer (1) 39:15 Ratepayers (2) 12:22;88:6 rates (16) 11:10;19:7;27:12; 31:24;35:15;37:12; 42:2;50:10,22;87:19, 21;122:12;134:5; 141:8,12,14 rather (11) 29:13;31:5,15; 35:23;47:12;53:3;
primarily (2) 81:13;124:5 principle (2) 125:2,14 principles (3) 124:12;125:19; 134:5 print (3) 110:11,12;111:13 printing (1) 151:4 prior (12) 32:16;33:24;75:3; 77:13;81:14;82:14; 132:16,20;137:3; 151:6,15;153:15 probably (12) 40:17;64:9;75:22; 78:16;126:15;127:3, 4;137:23;158:7;	114:18;122:16 products (2) 47:15;64:1 profile (8) 16:11,12;47:3,7; 54:9;113:12,12; 114:1 program (7) 31:10;32:16;34:22; 129:10;147:20; 148:20;153:7 programmed (2) 94:21;97:13 programs (1) 39:22 prohibitive (1) 104:13 project (12) 29:18;30:1,2; 63:24;116:2;123:18;	29:20;37:19;54:23; 55:8;57:20,21;58:20; 59:3;60:2;88:10; 113:9;115:11; 130:22;131:11; 133:24;154:2 proposing (1) 91:5 proposition (1) 157:6 provide (15) 19:9;34:15;48:18; 50:24;64:1;84:3; 93:6;94:23;104:20; 134:21;136:22; 137:24;138:8;145:9; 147:14 provided (11) 31:4,12;49:12; 54:6,9,10;64:2;73:1; 83:1,13;92:10 providers (2)	Q25 (1) 110:19 quadrants (2) 16:14;114:14 qualified (1) 105:14 qualify (3) 29:19;131:19,21 qualifying (1) 131:13 quality (2) 138:2;150:18 quantifies (1) 128:16 quantities (13) 15:10;41:1,18; 115:1,21;116:6,15, 22;118:21,23;119:1, 5;122:21	125:2,4,13;134:4,7, 10;135:22;141:10, 14;145:17;146:18; 153:21 Ratemaking (1) 50:14 ratepayer (1) 39:15 Ratepayers (2) 12:22;88:6 rates (16) 11:10;19:7;27:12; 31:24;35:15;37:12; 42:2;50:10,22;87:19, 21;122:12;134:5; 141:8,12,14 rather (11) 29:13;31:5,15; 35:23;47:12;53:3; 66:6;107:23;111:11,
primarily (2) 81:13;124:5 principle (2) 125:2,14 principles (3) 124:12;125:19; 134:5 print (3) 110:11,12;111:13 printing (1) 151:4 prior (12) 32:16;33:24;75:3; 77:13;81:14;82:14; 132:16,20;137:3; 151:6,15;153:15 probably (12) 40:17;64:9;75:22; 78:16;126:15;127:3, 4;137:23;158:7; 159:16,20;160:1	114:18;122:16 products (2) 47:15;64:1 profile (8) 16:11,12;47:3,7; 54:9;113:12,12; 114:1 program (7) 31:10;32:16;34:22; 129:10;147:20; 148:20;153:7 programmed (2) 94:21;97:13 programs (1) 39:22 prohibitive (1) 104:13 project (12) 29:18;30:1,2; 63:24;116:2;123:18; 148:15,19;149:5;	29:20;37:19;54:23; 55:8;57:20,21;58:20; 59:3;60:2;88:10; 113:9;115:11; 130:22;131:11; 133:24;154:2 proposing (1) 91:5 proposition (1) 157:6 provide (15) 19:9;34:15;48:18; 50:24;64:1;84:3; 93:6;94:23;104:20; 134:21;136:22; 137:24;138:8;145:9; 147:14 provided (11) 31:4,12;49:12; 54:6,9,10;64:2;73:1; 83:1,13;92:10 providers (2) 46:19;60:13	Q25 (1) 110:19 quadrants (2) 16:14;114:14 qualified (1) 105:14 qualify (3) 29:19;131:19,21 qualifying (1) 131:13 quality (2) 138:2;150:18 quantifies (1) 128:16 quantities (13) 15:10;41:1,18; 115:1,21;116:6,15, 22;118:21,23;119:1,	125:2,4,13;134:4,7, 10;135:22;141:10, 14;145:17;146:18; 153:21 Ratemaking (1) 50:14 ratepayer (1) 39:15 Ratepayers (2) 12:22;88:6 rates (16) 11:10;19:7;27:12; 31:24;35:15;37:12; 42:2;50:10,22;87:19, 21;122:12;134:5; 141:8,12,14 rather (11) 29:13;31:5,15; 35:23;47:12;53:3; 66:6;107:23;111:11, 13;159:6
primarily (2) 81:13;124:5 principle (2) 125:2,14 principles (3) 124:12;125:19; 134:5 print (3) 110:11,12;111:13 printing (1) 151:4 prior (12) 32:16;33:24;75:3; 77:13;81:14;82:14; 132:16,20;137:3; 151:6,15;153:15 probably (12) 40:17;64:9;75:22; 78:16;126:15;127:3, 4;137:23;158:7; 159:16,20;160:1 problem (8)	114:18;122:16 products (2) 47:15;64:1 profile (8) 16:11,12;47:3,7; 54:9;113:12,12; 114:1 program (7) 31:10;32:16;34:22; 129:10;147:20; 148:20;153:7 programmed (2) 94:21;97:13 programs (1) 39:22 prohibitive (1) 104:13 project (12) 29:18;30:1,2; 63:24;116:2;123:18; 148:15,19;149:5; 153:16;157:7,21	29:20;37:19;54:23; 55:8;57:20,21;58:20; 59:3;60:2;88:10; 113:9;115:11; 130:22;131:11; 133:24;154:2 proposing (1) 91:5 proposition (1) 157:6 provide (15) 19:9;34:15;48:18; 50:24;64:1;84:3; 93:6;94:23;104:20; 134:21;136:22; 137:24;138:8;145:9; 147:14 provided (11) 31:4,12;49:12; 54:6,9,10;64:2;73:1; 83:1,13;92:10 providers (2)	Q25 (1) 110:19 quadrants (2) 16:14;114:14 qualified (1) 105:14 qualify (3) 29:19;131:19,21 qualifying (1) 131:13 quality (2) 138:2;150:18 quantifies (1) 128:16 quantities (13) 15:10;41:1,18; 115:1,21;116:6,15, 22;118:21,23;119:1, 5;122:21	125:2,4,13;134:4,7, 10;135:22;141:10, 14;145:17;146:18; 153:21 Ratemaking (1) 50:14 ratepayer (1) 39:15 Ratepayers (2) 12:22;88:6 rates (16) 11:10;19:7;27:12; 31:24;35:15;37:12; 42:2;50:10,22;87:19, 21;122:12;134:5; 141:8,12,14 rather (11) 29:13;31:5,15; 35:23;47:12;53:3; 66:6;107:23;111:11, 13;159:6 ratings (1)

				1
101:11	35:6	reduce (7)	32:3	46:18
reaction (1)	recent (1)	31:24;80:14,19;	registers (2)	replacing (1)
70:18	60:9	88:7;124:23;125:7;	97:10;107:4	142:4
reactive (7)	recently (2)	142:7	registry (1)	reply (1)
139:15;143:13;	35:5;38:21	reduced (3)	94:11	82:23
144:8,16;145:5,9,12	recess (3)	72:13;82:16;88:9	regressive (3)	report (54)
read (25)	89:17;109:20;	reduces (3)	58:17,19;59:1	65:14;70:16;72:3;
64:14;69:14;74:1,	160:13	71:21;79:22;84:16	regular (1)	74:1,10;75:7;78:24;
11,13,17;76:9,13,15;	recognize (3)	reducing (2)	36:7	79:4,18;90:4;93:7,
77:2,9,20,20;78:3;	38:1;50:17;85:16	58:8;144:7	regulated (2)	23;94:5,14;96:21;
81:16;82:22;83:6;	recognizes (1)	reduction (7)	50:14,18	98:21;99:9;101:6,8,
95:4,6;97:1,4;98:24;	149:21	72:5,19;78:21;	regulation (1)	12,12,19;102:11;
99:3;124:16;157:15	recognizing (1) 48:21	80:8,13;81:6;142:24	144:9 regulators (1)	124:9;127:15;128:8;
reading (21) 37:23;71:17,19;	recommend (2)	reductions (1) 153:20	140:8	149:4,21;150:18; 151:5,7,9,12,14,16,
72:10;75:20;81:8;	27:10;29:7	refer (7)	regulatory (2)	18,21,23;155:5,13,
83:9;94:10,11,12,13,	recommendations (2)	77:9;78:12;81:19;	11:8,9	17;156:8,8,17;
16;95:1,11,12,19;	124:14;126:2	90:20;116:3;126:1;	reimbursed (1)	157:15,19,19;158:2,
96:8;97:2,6;98:17;	recommended (1)	130:12	141:6	5,22,24;159:3,4,9
124:18	125:15	reference (4)	related (2)	reported (1)
readings (1)	recommending (2)	16:20;77:14;	34:3;55:17	130:5
99:10	103:3;124:1	115:15;153:3	relating (2)	Reporter (6)
reads (3)	reconciliation (3)	referenced (4)	30:23;31:3	9:24;42:18;58:13;
74:6;75:9;86:8	31:21;32:7;34:20	33:1;100:24;	relation (1)	65:15;71:2;136:9
ready (3)	record (50)	151:16;159:8	121:18	reporting (2)
7:13;17:22;150:6	14:19;18:8;41:3;	references (1)	relationship (2)	92:20;128:9
real (5)	54:2;66:13,14;73:4,5,	74:20	47:9;122:22	reports (4)
49:3;59:14,17;	18,19,21;76:9,13,15;	referencing (1)	relative (2)	65:11,19;152:20;
147:17;155:15	77:1,3;78:8;85:9,10,	15:20	72:5;82:16	153:17
reality (1)	12;89:16,20;91:5,12;	referred (3)	relatively (1)	report's (1)
147:17	99:9;100:20,22;	40:23;65:10;73:14	86:14	150:15
realized (1)	106:9,10,15;108:2;	referring (5)	released (1)	represent (3)
44:11	110:6;111:10;	88:14,16;107:9;	151:15	11:5;71:9;87:15
really (12)	115:20;120:20,21,23;	109:8;113:3	relevant (2)	representative (1)
23:7;38:24;44:2,	124:19;149:9,10,12;	refers (3)	28:4;157:20	113:8
19;46:11;55:2;99:6;	154:1;156:20;158:6,	70:13;75:1;115:16	reliability (3)	representatives (1)
110:15;121:5;	7,23;159:22;160:8,9,	reflect (2)	144:18;145:12;	6:17
125:18;146:9;154:16	11	125:18;156:21	153:7 relief (1)	represented (2)
real-time (2) 33:13,18	recorded (3) 91:18;115:5,12	reflected (3) 49:19;51:1,10	147:15	115:6;154:16 represents (5)
rear (1)	recording (5)	reflective (1)	relieve (1)	70:10;71:4;114:22,
7:3	107:22;115:17;	120:5	81:2	24;118:9
reason (1)	116:24;118:18;	reframe (1)	remaining (1)	Republic (1)
60:21	121:11	103:24	58:18	159:5
reasonable (4)	recover (3)	regard (8)	remains (4)	request (3)
34:3;47:22;49:20;	27:16,23;34:18	54:20;90:21;99:12;	39:4;129:3,22;	27:1;34:18;83:2
76:4	recovered (2)	102:23;105:9;	130:9	requested (2)
reasons (5)	31:20;32:5	115:24;154:2;158:21	remember (1)	92:12;132:18
31:10;35:10;88:9;	Recovery (9)	regarding (5)	36:23	requesting (1)
139:8;147:22	27:14,20;28:11;	83:13;124:15;	remotely (3)	33:11
rebuttal (13)	31:2;34:3;48:22;	135:3;138:1;157:18	96:17;97:1,5	requests (1)
13:1,5,8;14:9,22;	49:8;50:23;141:8	regardless (2)	remotely-read (1)	27:22
19:14,18;20:12;	RECs (8)	56:4;132:15	96:16	require (4)
21:16,18;22:13;	30:15,23;57:8,10,	regards (1)	remove (1)	27:9;72:1;100:24;
23:11;33:1	12,14,15,23	87:4	147:6	130:15
REC (3)	red (12)	region (5)	Renewable (4)	required (6)
30:20,24;34:22	70:3,5,8;71:12;	39:14;58:10,10;	30:14;51:5;56:14;	30:2;34:12;39:2;
recall (3)	72:7,8,19;79:7;	69:20;71:22	58:5	100:1;104:15;142:13
65:7;83:9,14	113:14,16,21,22	regional (1)	repaginated (1)	requirement (7)
receive (6)	redirect (1)	65:5	64:12	36:21;38:6;107:14;
28:7,17,20;30:6,	46:7	register (2)	repeat (1)	141:18,24;144:18;
11;31:15	redone (1)	30:3;94:19	79:13	147:15
received (1)	133:4	registered (1)	repeatedly (1)	requirements (6)
	L	L	L	·

26:6;38:14;42:3;	89:18	role (1)	110:6	160:3,7
132:8;146:7;157:4	retail (5)	11:9	saying (8)	sentence (2)
requires (7)	42:2,3,10;46:21;	rolled (1)	35:8;40:4;72:4;	99:7;124:18
38:8;50:13;90:22,	115:7	111:7	82:6;94:15;126:17,	sentences (1)
24;99:14,15,16	return (2)	rooftop (1)	22;147:22	125:19
requiring (1)	32:18,20	63:24	scale (2)	separate (4)
29:8	Returning (1)	rooftops (1)	63:23;117:17	108:9;119:1;
re-reference (1)	81:4	56:7	scaled (1)	137:11;160:15
102:12	Revenue (4)	room (5)	117:18	separately (5)
RESA (1)	27:14;51:6;106:19;	25:15;39:11;128:8;	scenario (3)	41:21;49:5;108:2,
103:19	108:11	133:19;160:2	145:1;148:13,16	20,22
research (2)	revenues (3)	roughly (3)	scenarios (1)	series (1)
49:16;114:2	27:16,20,23	10:19;129:21;	119:18	155:14
resemblance (1)	reverse (1)	130:2	schedule (1)	Service (30)
42:10	58:22	round (1)	135:11	11:7;14:6;28:8,17,
reserve (2)	reversed (1)	151:13	season (1)	18,19,21;29:4,14,20;
26:5;132:6	7:18	row (2)	156:3	31:11,18,22,23;
reserved (1)	review (5)	44:11;96:15	Seasonal (1)	35:23;49:12;50:12,
45:7	33:5,8;70:15;	RSA (1)	74:14	15,20;130:17;
reserves (1)	88:10;155:21	107:5	second (20)	137:24;138:2,3,8,20,
36:19	reviewing (1)	rule (2)	7:6;8:16;43:8;	24;139:7;140:4;
	122:23	43:8;128:7		
resi (2)		43:8;128:7 rules (3)	65:8;75:8;76:3,5;	144:21;159:7
99:8;105:5	reviews (3)	30:12;45:19;	98:22,24;99:6;101:7;	services (3)
residential (12)	74:16;132:4;133:7		102:5;103:13;	11:10;47:15;
16:11;81:13;88:2;	ReVision (1)	158:12	105:12;117:8,20;	156:14
96:12,18;97:3,4,8;	8:10	ruling (1)	118:13;119:13;	serving (1)
105:23;113:11;	Revolution (1)	45:12	124:18;135:5	81:13
114:1;139:5	103:18	run (1)	secondly (1)	Session (2)
resolve (1)	rewarding (1)	60:21	55:7	160:14,17
147:1	144:20	running (3)	Section (19)	sessions (3)
resource (4)	RGGI (2)	34:6;142:2,2	26:2,14,21;27:8,	150:14,23;153:5
42:13;59:19;	58:7,10	Russell (1)	14;28:1,14;30:4,14;	set (3)
147:12;153:20	RICHARD (2)	67:23	31:1;32:12,21;34:10;	82:1;94:9;148:22
resources (13)	9:22;14:4		41:22;42:6;109:10;	setting (3)
33:15,22;36:18;	rid (1)	S	115:9;124:15;130:14	50:22;82:2,3
39:9,24;54:16;58:6;	58:24		sections (4)	settlement (39)
59:16;63:15;64:3;	right (46)	sale (2)	41:16,21;44:23;	7:12;10:7;11:17,
88:4,15;147:8	7:4,6,20;8:14;9:5,	16:19;91:14	115:6	21;15:6;21:14;24:18,
respects (1)	8,11,18;21:1;35:7;	sales (3)	seek (3)	23;25:2,13,19,19;
58:21	41:7;44:1,20;46:15;	135:3,5,12	83:11;90:2;109:13	26:10;39:6;40:14;
respond (1)	61:23,24;62:11;	same (27)	seeking (1)	48:21;51:16;54:21;
125:22	65:11;67:10;68:17;	12:2;13:13;20:11,	48:20	55:6;57:21;58:20;
response (6)	71:1,6;72:17;75:13;	13;21:23;23:20;64:8;	seemed (1)	60:3;84:22;85:1,19;
71:5,16;79:9;83:1;	89:13,15;92:1;	78:24;79:11,15,20;	24:14	90:21;91:11;105:3,
147:9;153:11	100:13;102:4,16,16;	93:2;96:1;108:19;	seems (6)	10;110:7;111:5;
response] (3)	105:2;111:20;	110:3,3;116:15;	6:10;45:21;46:21;	115:2,11;130:11;
9:4,10;89:5	116:16;129:20;	125:2,13;126:20;	68:4;76:3;152:1	132:5;133:8,17;
responsible (1)	137:6;139:19;	129:6;130:1;131:5;	segue (1)	134:1;154:3
29:22	145:18,24;146:15;	143:12;145:12;	135:22	settlement-only (1)
responsive (2)	148:22;151:9;153:9,	146:5;152:5	self-sufficiency (1)	32:4
126:22,23	10;157:13;160:5	sample (1)	61:11	settlement's (1)
rest (3)	right-hand (1)	114:3	self-sufficient (1)	91:4
6:22;58:12;72:2	110:22	Sauer (1)	60:23	settling (1)
result (5)	right-size (1)	35:5	sell (2)	32:22
26:23;61:20;92:2;	53:1	save (1)	46:23;144:16	seventh (1)
142:24;153:20	ring (1)	39:1	send (3)	81:24
resulted (1)	65:13	saved (1)	53:9;61:24;136:7	several (1)
149:22	ringing (1)	, ,		151:17
resulting (3)		38:20 Soving (1)	sends (2)	
	120:17	Saving (1) 84:7	53:11;134:15 senior (1)	severe (1)
70.10.04.10.06.10		X/I'/	Semior (L)	76:6
78:19;84:18;86:18	Robidas (1)			
results (1)	9:19	savings (2)	21:10	severely (1)

DE 10-5/0 ELECT	RIC DISTRIBUTION	UTILITIES NEW ALTE	EKNATIVE NET METE	ERING TARIFFS
154.22	52.10.52.0.12.	andalla (2)	110.1.116.10.	130.3
154:22	52:19;53:9,12;	socially (3)	110:1;116:18;	139:3
shaking (1)	60:10;61:24	58:17,18;59:1	120:15;129:11;130:2	standpoint (2)
156:21	signatory (2)	soft-start (1)	sort (3)	52:23;53:17
shape (2)	11:15;84:21	142:6	15:21;144:9;146:5	stands (1)
42:21;44:18	signed (2)	soft-starting (1)	sorted (1)	153:8
share (1)	85:19,22	142:12	112:11	start (15)
60:6	significance (1)	software (1)	Sounds (3)	7:19;8:9;11:3;
shedding (1)	45:24	108:13	112:6;129:19;	26:2;32:11;35:2;
147:11	significant (10)	solar (93)	156:9	38:10;44:3;61:22,23;
Sheehan (44)	55:5;56:5,22;	16:12;36:3,15,20,	source (2)	63:5;90:4;93:9;
7:13,15;9:12,13,16,	57:19;60:1,17;87:15,	21;37:2,12;38:20;	36:5;139:14	130:19;131:11
17;10:1,13;11:2;	16,19;149:2	39:7;41:23;46:18;	span (1)	started (2)
12:7,14;13:18,24;	sign-in (1)	47:11,18;48:2;49:14;	122:1	64:15;136:2
14:16,20;15:17;16:2,	6:9	54:10,17;55:14,15,	speak (10)	starting (5)
4,24;18:7,17,24;19:2;	similar (5)	21;56:1,4,7;57:4,13;	9:3;12:15;18:12;	99:5;118:1;139:12;
20:18;21:6;22:1,8;	32:23;79:10;97:9;	58:3,4;59:9;60:3,6,8,	23:8;40:22;43:12;	142:9;146:20
23:3;24:1,7,11,15,17;	105:23;122:20	11,13,21,24;61:1,4,5,	62:17;76:19;108:5;	starts (2)
25:5,11;44:20;45:2;	similarly (1)	8,15;62:4,4,7;63:24;	150:9	36:14;102:3
46:2;62:9;67:6,7,13,	56:3	70:9,10,13,14;71:1,4,	speaking (4)	State (12)
		14,16,20;72:8,11,20;	8:24;14:3;24:9;	11:10;35:10;63:14,
14,15 (hoot (2)	simple (1) 48:19			
sheet (2)		80:16,20,24;81:14;	155:8	22;70:7;77:10;81:5,
6:9;111:12	simply (7)	82:5,7,8;92:5;114:9;	specific (3)	7;84:1;86:14,23;
shift (3)	52:9;55:10,11;	116:1;119:11,12,13,	40:1;62:22;95:15	111:9
36:24;60:23;61:8	111:10;121:7;	23;120:7,13;121:16,	specifically (3)	stated (2)
shifting (6)	144:20;157:1	16,22;122:2,16;	55:17;81:21;108:6	76:3;82:20
36:24;51:4;53:10;	single (2)	123:7,18;124:6;	specified (1)	statement (19)
55:12;61:2;147:10	39:7;107:10	125:24;127:11,19,21;	142:13	11:16;15:7,21;
shining (1)	site (3)	135:3,12;136:19;	specify (1)	24:19;25:1,2,18;
145:3	29:16;30:2;53:3	137:2;143:17;147:8;	62:20	47:24;83:10;84:23;
ship (1)	sites (1)	152:9;156:7,13	speed (2)	85:1,17;87:5,7,11;
35:5	114:4	solicitation (1)	77:4,7	111:5;126:21;
short (3)	siting (1)	30:18	spell (1)	127:13;130:13
50:7,8;148:4	134:6	solution (10)	8:19	statements (1)
short-circuit (2)	sitting (1)	109:21;112:7;	spend (2)	38:21
97:21;121:2	66:7	139:22,23;140:20;	47:2;123:8	states (5)
shorter (5)	situation (2)	142:4,22;148:8,21;	spending (1)	57:18;76:17;80:6;
92:6,24;93:4;	140:9;141:19	153:20	147:22	84:13;130:14
100:23;106:14	situations (1)	solutions (6)	spends (1)	static (1)
shortly (1)	101:23	51:4;140:1,5,7;	39:14	94:22
84:24	six (4)	148:19;157:3	split (2)	station (1)
short-term (1)	10:19;59:2;89:10;	solve (3)	119:14,16	64:3
54:14	135:3	144:5,24;147:4	spoke (1)	statistics (1)
show (5)	slight (1)	someone (2)	56:23	96:13
18:14;45:23;70:8;	123:11	37:13;44:8	spreadsheet (1)	statute (7)
84:15;150:20	slightly (2)	someone's (3)	110:11	56:19;107:15,19;
showed (1)	18:10;38:24	38:7;153:3;155:16	spring (1)	109:4,14;128:4,6
147:23	slow (4)	sometime (1)	82:1	stay (1)
showing (4)	27:7;35:7,7;86:10	133:4	St (1)	138:6
54:9;112:23;113:1;	small (17)	somewhat (5)	151:5	stenographer (1)
155:14	26:4,16;28:2,15;	36:12;43:18;82:1;	stability (1)	86:11
shown (2)	29:2;30:5;63:23;	120:1;129:10	134:7	step (6)
93:22;94:2	88:1;124:17,20;	somewhere (2)	stable (1)	49:15,21;60:4;
shows (5)	128:18,18;129:8,9,	37:3;140:3	39:4	61:17,17,18
36:13;79:5;83:2;	23;130:3;147:20	soon (2)	Staff (3)	steps (1)
96:2;107:10	smaller (1)	38:11;145:3	7:3;8:5;111:13	100:24
side (4)	99:8	sophisticated (1)	Stamp (3)	still (8)
43:9,11;49:23;	smart (8)	46:24	20:6;94:19,20	46:5;80:5;93:10;
110:22	143:3,5,9,11,18;	sophistication (1)	stand (3)	107:2;116:15;117:6;
SIG (1)	149:5;153:7;156:13	57:24	6:14;111:3;152:15	136:11;153:8
35:5	smartness (1)	Sorry (14)	standard (5)	stop (1)
signal (3)	143:22	7:18;8:15;42:17;	52:9;78:16;98:11;	100:16
59:14;61:10;95:5	so-called (2)	44:7;64:17;89:8;	105:21;139:2	storage (6)
signals (5)	49:14;108:11	92:1;95:7;102:12;	standards (1)	47:16;53:20,22;
~- B (*/	.,,100.11	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	~ · · · · · · · · · · · · · · · · · · ·	,55.20,22,

DE 10 C/O EEEC				
61:14;145:8;147:8	subtracting (2)	supposed (2)	156:24	template (1)
storing (2)	118:12,14	99:3;150:1	talked (2)	10:2
103:6;104:2	successful (1)	sure (30)	48:17;136:13	tend (2)
storm (1)	48:4	20:20;24:15;25:14;	talking (16)	72:9;148:2
28:11	successfully (2)	35:13;43:20;44:10;	16:17;41:2,6;	term (7)
stranded (1)	148:14,17	45:24;46:7,11;66:21;	44:20;68:24;81:20;	50:7,7,8;52:1;
28:10	such-and-such (1)	68:6;70:20;71:23;	93:10;111:1;126:11;	54:16;59:4,5
strategies (2)	77:10	86:24;95:23;96:10;	127:18;141:19;	terminating (1)
147:12,14	suddenly (1)	99:4;109:2;125:21;	142:8,10;144:7;	31:11
strick (1)	135:13	126:19,21;135:21;	148:17;150:4	terms (16)
25:8	sufficient (2)	138:14;139:22;	tariff (37)	6:15;25:14;26:1;
strictly (2)	46:8;145:8	141:21;148:22;	26:8,12,15,24;27:9,	29:10,22;51:17,21;
35:11;97:10	suggest (2)	149:24,24;156:23;	15;29:19;32:9,17,18;	52:17;53:24;54:4;
strike (7)	77:4;123:10	158:11	100:6;124:1;125:4,	70:16;100:21;107:6;
12:11,24;13:21;	suggested (2)	surge (1)	15;130:18,22;131:14,	109:11;138:8;143:22
18:16;21:2;22:5;86:5	48:11,12	142:7	20;132:15,17,19;	territory (2)
stronger (1)	suggesting (3)	surprise (1)	133:6,6,10,12,13,15,	96:11;127:17
47:9	42:7;54:1;123:22	153:14	17,21;134:4,18,20;	tested (1)
struck (3)	suggestion (2)	suspect (2)	135:1,14,16,24;137:7	157:7
17:13;22:23;24:4	53:8;121:4	17:14,16	tariffs (5)	testified (2)
structure (6)	suits (1)	swear (1)	29:2;92:13;113:10;	18:18;46:2
32:8;42:4;51:9;	137:23	9:15	125:16;135:22	testifies (2)
124:2;136:5;144:21	sum (1)	swimming (1)	task (1)	17:12;46:1
structures (5)	96:23	37:14	34:8	testify (2)
42:11;48:4,23;	summarize (1)	switch (1)	tax (2)	17:23;18:12
49:6,7	103:1	144:23	28:11;37:7	testifying (5)
Studies (4)	summarized (1)	switched (1)	TEBBETTS (93)	18:23;23:6,10;
32:22;34:4;38:21;	106:17	133:15	9:20;11:3,6,6,11,	156:10;158:1
54:8	summary (6)	switches (1)	13,18,22,24;12:3,6;	testimonies (10)
study (12)	110:18,20,21;	140:15	24:16,22;25:4,13,22,	10:4,5;13:12;
32:23,24;33:12,21;	111:6,11;155:4	switching (1)	23;27:6,8;34:6,10;	14:24;19:22;20:16,
34:1;48:11;57:3;	Summer (12)	140:19	83:17,23;84:6,12,20,	24;21:20;22:3;107:8
76:2;126:1;149:22;	65:24;69:2;74:3,	sworn (1)	21;85:5,14,15,21;	testimony (53)
153:15;156:14	14,21;75:11;81:9;	9:23	86:7,19,20,24;87:9,	11:11,23;12:4,9,
subhourly (1)	83:3,4;146:10;	sympathetic (1)	10,13,18,24;88:8,16,	12;13:2,4,5,8,8,15;
122:24	151:12;156:3	157:18	19,23;90:24;91:9,17,	14:9,12,21,22;15:4;
subject (13)	summer's (1)	system (46)	23;92:9,17;93:1,5,9,	19:12,14,17,17,18,
66:10;71:7,10;	148:10	28:10;33:14;52:21;	17;94:1,7,17,20;95:3,	24;20:7,22;21:16;
116:5;128:21,24;	sun (2)	53:5;54:4,15;55:23;	10,21;97:9;101:20;	22:9,13,16,20;23:12,
129:4,13,19;130:4,7;	82:1;145:2	56:14;60:9;64:23;	103:9,10,16,22;	16,19,22;33:2;46:4;
153:2;158:7	sunny (1)	65:5;75:9,18;76:7;	104:7,16;105:7;	52:2;54:1;61:1;63:7,
submitted (11)	38:7	81:16,20,22;82:17;	128:12,13,20,24;	10,14;64:5;66:24;
19:24;21:14;84:23;	supervision (1)	84:5,9;98:8,16,16;	129:4;130:19,23;	80:4;81:4;82:20,23;
85:4,5,17;90:6;	33:3	101:1,3;105:6;120:7;	131:8,16,23;132:1,5,	83:7,20;84:13;135:2;
93:17;110:7;159:1,3	supplement (4)	127:22;130:20,23;	23;133:2,8,16,24;	151:16;153:3
Sub-Region (1)	15:2,5;40:23;62:7	133:5,20;134:23;	134:12;135:8,17;	testing (2)
153:6	supplemental (4)	138:13,21;141:2,5;	136:1,13;137:8	151:13;153:23
subsequent (2)	22:11,12;27:2;	142:16;143:17,19;	Tebbetts' (1)	Thanks (2)
79:12,16	129:22	146:12,13;147:1;	12:8	86:21;152:11
subsequently (2)	supplier (3)	148:2,3,24	technical (7)	theory (2)
57:3;134:24	28:20;29:21;31:20	Systems (4)	11:16;15:7,21;	84:9;147:16
subset (1)	suppliers (2)	21:11;99:16;106:5;	24:19;25:1;150:14;	therefore (2)
18:1	29:8;32:2	130:16	153:5	13:15;84:17
substantially (1)	supply (1)	T	technological (1)	thermal (8)
39:18	50:20	T	93:14	138:5;146:6,8,12,
substation (9)	support (15)		technologies (1)	15;147:2,15;148:13
83:3,4,13;98:13;	10:16;11:9,16;	Table (8)	47:16	thinking (1)
138:15,16;139:14;	19:10;21:13;25:2,18;	93:11,22;94:2,6;	technology (10)	138:4
140:11;146:7	27:21;37:11,13;54:2;	96:2,5;97:17;118:19	46:24;86:17,22;	third (4)
subtract (1)	59:9;81:7;85:18;	talk (10)	87:1,3,8;98:9,14;	117:17;144:12;
72:12	108:23	25:24;41:10;44:18;	101:23;102:24	147:6;148:14
			,	
subtracted (1)	supporting (1)	48:1;51:14;55:7;	telephone (1)	third-party (3)
			telephone (1) 136:14	third-party (3) 28:20;30:18;31:19

	т		1	
THOMAS (2)	4;116:22;128:16	78:13;91:8,13;92:21;	unexpected (1)	94:10;102:18;108:2
9:23;21:8	toward (1)	102:1,22,24;108:13;	134:8	113:14,15;116:11;
though (7)	48:22	102.1,22,24,108.13, 109:5;119:1;126:24;		118:24;125:3;
			unexpectedly (2)	
35:23;53:17;57:1;	towards (2)	135:4;156:1;159:16;	36:20;75:19	148:15,18;152:10,1
76:24;117:2;123:24;	59:8;61:18	160:12	Unfortunately (1)	used (8)
133:19	track (2)	two-channel (1)	64:9	16:14;44:21;47:17;
thought (1)	18:17;36:2	51:22	Unitil (9)	52:8;106:19;110:2;
43:12	transactions (2)	two-sided (1)	21:9,10;22:9;23:6,	116:12;118:19
three (13)	49:2;50:19	111:16	10;24:21;97:17;	uses (1)
19:14;21:3;66:7;	transcript (1)	type (9)	130:1;131:1	118:20
75:12,15;76:11;	160:16	38:2;44:21;47:7;	Unitil's (2)	using (7)
78:13;93:15;99:12;	Transition (2)	79:15,20;140:4,8;	28:13;76:22	27:16;52:7;56:13;
102:16;108:7,18;	30:4;39:5	147:12;153:19	units (4)	105:1;107:16;
135:4	transmission (19)	types (6)	56:18;57:12,15;	116:15;117:22
hunderstorm (1)	30:8;32:5,6;33:6;	37:21;48:12;120:2,	70:22	usually (2)
36:13	38:16,19;39:1,8,17,	8;140:1;154:4	universally (1)	119:24;142:11
ight (1)	17,21;40:6;42:9;	typical (7)	106:3	Utilities (46)
34:6	55:22;65:17;87:11,	16:11,12;113:11,	unless (4)	7:18;19:9;26:8,17,
imely (3)	24;88:5,18	12;116:1;117:14;	44:16;46:1;92:12;	22;27:1,11,11,15;
34:2;124:22;125:6	transparency (4)	120:9	98:18	30:17,20,22;34:2;
ime-of-use (2)	49:4;59:21,23,24	typically (7)	unlike (1)	51:17;54:19;55:6,1
94:18,21	transparent (3)	65:10;99:8;105:22;	56:14	57:6,22;88:21;91:12
imes (2)	48:19;49:9;50:22	140:5;141:3;148:1,4	unofficial (1)	93:15,17;98:24;99:
80:22;81:1	treat (3)		10:13	12;102:2;103:17;
ime-sensitive (1)	37:19;68:5;119:2	U	unpredictable (1)	104:11,11,18;105:1
59:8	treated (1)		36:4	108:7,15,18;110:8;
itled (1)	44:24	unable (1)	unquote (1)	124:19;126:3;128:5
117:8	treatment (1)	125:7	66:21	15,17;130:15;
oday (17)	39:8	uncertain (3)	up (32)	143:20;155:24;
8:22;9:1;12:1;	tried (1)	80:7,12;81:5	7:3;24:8;34:8;	159:6,14
14:3;18:12;21:13,22;	154:4	uncertainties (1)	36:13;39:3;40:11;	utilities' (4)
22:14;29:23;31:17;	troubling (1)	122:4	44:22;45:22;50:4;	87:21;89:3;106:5;
38:10;45:8;62:15;	150:21	uncertainty (2)	62:12;67:12;77:4,7,	157:4
63:3;81:24;82:11;	true (2)	121:24;122:9	21;86:11;87:24;	Utility (41)
92:14	145:2;147:16	uncontrolled (1)	89:20,24;90:15;94:9;	11:7;19:9;21:13;
today's (1)	truly (2)	53:3	95:4,9;96:16;101:8;	27:22;29:6;30:10,10
120:9	48:6;155:17	under (44)	111:7;115:23;	34:14,17;46:20;
ogether (3)		26:4,11;29:11;	116:10;128:10;	51:21;84:21,24;
48:3;54:12;109:20	try (6)	20.4,11,29.11,	110.10,120.10,	1 .11.71.04.71.74.
	41.17.50.5.55.2.	20.12.22.2.44.24.	125,2,126,4,120,12,	
old (1)	41:17;50:5;55:3;	30:12;33:3;44:24;	135:3;136:4;139:12;	90:19;99:7;100:22;
	58:24;119:4;141:23	52:8;57:11;75:8;	156:11	90:19;99:7;100:22; 101:3;102:10,21;
37:3	58:24;119:4;141:23 trying (5)	52:8;57:11;75:8; 92:11;100:7;107:15;	156:11 update (2)	90:19;99:7;100:22; 101:3;102:10,21; 104:8;105:19;
37:3 olerance (4)	58:24;119:4;141:23 trying (5) 61:23;73:12;77:5;	52:8;57:11;75:8; 92:11;100:7;107:15; 109:10;113:9;	156:11 update (2) 129:17;154:14	90:19;99:7;100:22; 101:3;102:10,21; 104:8;105:19; 108:24;110:19;
37:3 olerance (4) 138:19,24;139:21;	58:24;119:4;141:23 trying (5) 61:23;73:12;77:5; 150:20,23	52:8;57:11;75:8; 92:11;100:7;107:15; 109:10;113:9; 119:18;120:9;	156:11 update (2) 129:17;154:14 upgrade (2)	90:19;99:7;100:22; 101:3;102:10,21; 104:8;105:19; 108:24;110:19; 120:7;122:7,12;
37:3 olerance (4) 138:19,24;139:21; 140:2	58:24;119:4;141:23 trying (5) 61:23;73:12;77:5; 150:20,23 tub (1)	52:8;57:11;75:8; 92:11;100:7;107:15; 109:10;113:9; 119:18;120:9; 124:17;128:4,8,11,	156:11 update (2) 129:17;154:14 upgrade (2) 98:13;146:24	90:19;99:7;100:22; 101:3;102:10,21; 104:8;105:19; 108:24;110:19; 120:7;122:7,12; 123:24;125:12;
37:3 olerance (4) 138:19,24;139:21; 140:2	58:24;119:4;141:23 trying (5) 61:23;73:12;77:5; 150:20,23 tub (1) 37:14	52:8;57:11;75:8; 92:11;100:7;107:15; 109:10;113:9; 119:18;120:9; 124:17;128:4,8,11, 18;130:18,21,24;	156:11 update (2) 129:17;154:14 upgrade (2)	90:19;99:7;100:22; 101:3;102:10,21; 104:8;105:19; 108:24;110:19; 120:7;122:7,12; 123:24;125:12; 126:4;130:12;134:5
37:3 olerance (4) 138:19,24;139:21; 140:2	58:24;119:4;141:23 trying (5) 61:23;73:12;77:5; 150:20,23 tub (1)	52:8;57:11;75:8; 92:11;100:7;107:15; 109:10;113:9; 119:18;120:9; 124:17;128:4,8,11,	156:11 update (2) 129:17;154:14 upgrade (2) 98:13;146:24	90:19;99:7;100:22; 101:3;102:10,21; 104:8;105:19; 108:24;110:19; 120:7;122:7,12; 123:24;125:12;
37:3 olerance (4) 138:19,24;139:21; 140:2 olerances (2) 138:7;139:11	58:24;119:4;141:23 trying (5) 61:23;73:12;77:5; 150:20,23 tub (1) 37:14	52:8;57:11;75:8; 92:11;100:7;107:15; 109:10;113:9; 119:18;120:9; 124:17;128:4,8,11, 18;130:18,21,24;	156:11 update (2) 129:17;154:14 upgrade (2) 98:13;146:24 upgrading (2)	90:19;99:7;100:22; 101:3;102:10,21; 104:8;105:19; 108:24;110:19; 120:7;122:7,12; 123:24;125:12; 126:4;130:12;134:5; 139:21;141:1,6;
37:3 colerance (4) 138:19,24;139:21; 140:2 colerances (2) 138:7;139:11	58:24;119:4;141:23 trying (5) 61:23;73:12;77:5; 150:20,23 tub (1) 37:14 turn (15)	52:8;57:11;75:8; 92:11;100:7;107:15; 109:10;113:9; 119:18;120:9; 124:17;128:4,8,11, 18;130:18,21,24; 131:14,18,19,21;	156:11 update (2) 129:17;154:14 upgrade (2) 98:13;146:24 upgrading (2) 98:10;99:14	90:19;99:7;100:22; 101:3;102:10,21; 104:8;105:19; 108:24;110:19; 120:7;122:7,12; 123:24;125:12; 126:4;130:12;134:: 139:21;141:1,6;
37:3 colerance (4) 138:19,24;139:21; 140:2 colerances (2) 138:7;139:11 cook (3)	58:24;119:4;141:23 trying (5) 61:23;73:12;77:5; 150:20,23 tub (1) 37:14 turn (15) 10:6;55:1;63:6;	52:8;57:11;75:8; 92:11;100:7;107:15; 109:10;113:9; 119:18;120:9; 124:17;128:4,8,11, 18;130:18,21,24; 131:14,18,19,21; 132:2,15,19,21; 133:6,9,12,13,19;	156:11 update (2) 129:17;154:14 upgrade (2) 98:13;146:24 upgrading (2) 98:10;99:14 upon (3) 31:9;82:15;106:11	90:19;99:7;100:22; 101:3;102:10,21; 104:8;105:19; 108:24;110:19; 120:7;122:7,12; 123:24;125:12; 126:4;130:12;134:5; 139:21;141:1,6; 143:20;144:3,12,17; 20,22;145:13
37:3 colerance (4) 138:19,24;139:21; 140:2 colerances (2) 138:7;139:11 cook (3) 89:21;144:13; 156:16	58:24;119:4;141:23 trying (5) 61:23;73:12;77:5; 150:20,23 tub (1) 37:14 turn (15) 10:6;55:1;63:6; 74:9;80:3;86:7;93:8;	52:8;57:11;75:8; 92:11;100:7;107:15; 109:10;113:9; 119:18;120:9; 124:17;128:4,8,11, 18;130:18,21,24; 131:14,18,19,21; 132:2,15,19,21;	156:11 update (2) 129:17;154:14 upgrade (2) 98:13;146:24 upgrading (2) 98:10;99:14 upon (3)	90:19;99:7;100:22; 101:3;102:10,21; 104:8;105:19; 108:24;110:19; 120:7;122:7,12; 123:24;125:12; 126:4;130:12;134:5; 139:21;141:1,6; 143:20;144:3,12,17; 20,22;145:13
37:3 colerance (4) 138:19,24;139:21; 140:2 colerances (2) 138:7;139:11 cook (3) 89:21;144:13; 156:16	58:24;119:4;141:23 trying (5) 61:23;73:12;77:5; 150:20,23 tub (1) 37:14 turn (15) 10:6;55:1;63:6; 74:9;80:3;86:7;93:8; 94:5;98:20;101:6;	52:8;57:11;75:8; 92:11;100:7;107:15; 109:10;113:9; 119:18;120:9; 124:17;128:4,8,11, 18;130:18,21,24; 131:14,18,19,21; 132:2,15,19,21; 133:6,9,12,13,19; 134:2,18,20;135:1, 14;158:11;160:15	156:11 update (2) 129:17;154:14 upgrade (2) 98:13;146:24 upgrading (2) 98:10;99:14 upon (3) 31:9;82:15;106:11 upshot (1)	90:19;99:7;100:22; 101:3;102:10,21; 104:8;105:19; 108:24;110:19; 120:7;122:7,12; 123:24;125:12; 126:4;130:12;134:: 139:21;141:1,6; 143:20;144:3,12,17; 20,22;145:13 Utility/Consumer (6)
37:3 olerance (4) 138:19,24;139:21; 140:2 olerances (2) 138:7;139:11 ook (3) 89:21;144:13; 156:16 oolbox (1) 140:5	58:24;119:4;141:23 trying (5) 61:23;73:12;77:5; 150:20,23 tub (1) 37:14 turn (15) 10:6;55:1;63:6; 74:9;80:3;86:7;93:8; 94:5;98:20;101:6; 117:2;124:9,11,14; 155:3	52:8;57:11;75:8; 92:11;100:7;107:15; 109:10;113:9; 119:18;120:9; 124:17;128:4,8,11, 18;130:18,21,24; 131:14,18,19,21; 132:2,15,19,21; 133:6,9,12,13,19; 134:2,18,20;135:1, 14;158:11;160:15 underlies (2)	156:11 update (2) 129:17;154:14 upgrade (2) 98:13;146:24 upgrading (2) 98:10;99:14 upon (3) 31:9;82:15;106:11 upshot (1) 111:16 usable (1)	90:19;99:7;100:22; 101:3;102:10,21; 104:8;105:19; 108:24;110:19; 120:7;122:7,12; 123:24;125:12; 126:4;130:12;134:5 139:21;141:1,6; 143:20;144:3,12,17; 20,22;145:13 Utility/Consumer (66:13;7:5,12,16; 42:1;48:10
37:3 olerance (4) 138:19,24;139:21; 140:2 olerances (2) 138:7;139:11 ook (3) 89:21;144:13; 156:16 oolbox (1) 140:5 op (10)	58:24;119:4;141:23 trying (5) 61:23;73:12;77:5; 150:20,23 tub (1) 37:14 turn (15) 10:6;55:1;63:6; 74:9;80:3;86:7;93:8; 94:5;98:20;101:6; 117:2;124:9,11,14; 155:3 turned (1)	52:8;57:11;75:8; 92:11;100:7;107:15; 109:10;113:9; 119:18;120:9; 124:17;128:4,8,11, 18;130:18,21,24; 131:14,18,19,21; 132:2,15,19,21; 133:6,9,12,13,19; 134:2,18,20;135:1, 14;158:11;160:15 underlies (2) 42:22,23	156:11 update (2) 129:17;154:14 upgrade (2) 98:13;146:24 upgrading (2) 98:10;99:14 upon (3) 31:9;82:15;106:11 upshot (1) 111:16 usable (1) 144:2	90:19;99:7;100:22; 101:3;102:10,21; 104:8;105:19; 108:24;110:19; 120:7;122:7,12; 123:24;125:12; 126:4;130:12;134:5 139:21;141:1,6; 143:20;144:3,12,17 20,22;145:13 Utility/Consumer (6) 6:13;7:5,12,16; 42:1;48:10 utility's (3)
37:3 olerance (4) 138:19,24;139:21; 140:2 olerances (2) 138:7;139:11 ook (3) 89:21;144:13; 156:16 oolbox (1) 140:5 op (10) 16:12;63:21;64:7,	58:24;119:4;141:23 trying (5) 61:23;73:12;77:5; 150:20,23 tub (1) 37:14 turn (15) 10:6;55:1;63:6; 74:9;80:3;86:7;93:8; 94:5;98:20;101:6; 117:2;124:9,11,14; 155:3 turned (1) 10:12	52:8;57:11;75:8; 92:11;100:7;107:15; 109:10;113:9; 119:18;120:9; 124:17;128:4,8,11, 18;130:18,21,24; 131:14,18,19,21; 132:2,15,19,21; 133:6,9,12,13,19; 134:2,18,20;135:1, 14;158:11;160:15 underlies (2) 42:22,23 underlying (4)	156:11 update (2) 129:17;154:14 upgrade (2) 98:13;146:24 upgrading (2) 98:10;99:14 upon (3) 31:9;82:15;106:11 upshot (1) 111:16 usable (1) 144:2 usage (13)	90:19;99:7;100:22; 101:3;102:10,21; 104:8;105:19; 108:24;110:19; 120:7;122:7,12; 123:24;125:12; 126:4;130:12;134:5; 139:21;141:1,6; 143:20;144:3,12,17; 20,22;145:13 Utility/Consumer (6) 6:13;7:5,12,16; 42:1;48:10
37:3 olerance (4) 138:19,24;139:21; 140:2 olerances (2) 138:7;139:11 ook (3) 89:21;144:13; 156:16 oolbox (1) 140:5 op (10) 16:12;63:21;64:7, 8,16;69:14;71:12;	58:24;119:4;141:23 trying (5) 61:23;73:12;77:5; 150:20,23 tub (1) 37:14 turn (15) 10:6;55:1;63:6; 74:9;80:3;86:7;93:8; 94:5;98:20;101:6; 117:2;124:9,11,14; 155:3 turned (1) 10:12 turning (6)	52:8;57:11;75:8; 92:11;100:7;107:15; 109:10;113:9; 119:18;120:9; 124:17;128:4,8,11, 18;130:18,21,24; 131:14,18,19,21; 132:2,15,19,21; 133:6,9,12,13,19; 134:2,18,20;135:1, 14;158:11;160:15 underlies (2) 42:22,23 underlying (4) 17:8;54:22;83:8;	156:11 update (2) 129:17;154:14 upgrade (2) 98:13;146:24 upgrading (2) 98:10;99:14 upon (3) 31:9;82:15;106:11 upshot (1) 111:16 usable (1) 144:2 usage (13) 77:18;84:17;91:7;	90:19;99:7;100:22; 101:3;102:10,21; 104:8;105:19; 108:24;110:19; 120:7;122:7,12; 123:24;125:12; 126:4;130:12;134:5 139:21;141:1,6; 143:20;144:3,12,17 20,22;145:13 Utility/Consumer (6) 6:13;7:5,12,16; 42:1;48:10 utility's (3) 32:1,6;124:4
37:3 olerance (4) 138:19,24;139:21; 140:2 olerances (2) 138:7;139:11 ook (3) 89:21;144:13; 156:16 oolbox (1) 140:5 op (10) 16:12;63:21;64:7, 8,16;69:14;71:12; 74:13;79:2;93:23	58:24;119:4;141:23 trying (5) 61:23;73:12;77:5; 150:20,23 tub (1) 37:14 turn (15) 10:6;55:1;63:6; 74:9;80:3;86:7;93:8; 94:5;98:20;101:6; 117:2;124:9,11,14; 155:3 turned (1) 10:12 turning (6) 9:12;69:11;73:24;	52:8;57:11;75:8; 92:11;100:7;107:15; 109:10;113:9; 119:18;120:9; 124:17;128:4,8,11, 18;130:18,21,24; 131:14,18,19,21; 132:2,15,19,21; 133:6,9,12,13,19; 134:2,18,20;135:1, 14;158:11;160:15 underlies (2) 42:22,23 underlying (4) 17:8;54:22;83:8; 110:5	156:11 update (2) 129:17;154:14 upgrade (2) 98:13;146:24 upgrading (2) 98:10;99:14 upon (3) 31:9;82:15;106:11 upshot (1) 111:16 usable (1) 144:2 usage (13) 77:18;84:17;91:7; 92:4,23;106:8,9;	90:19;99:7;100:22; 101:3;102:10,21; 104:8;105:19; 108:24;110:19; 120:7;122:7,12; 123:24;125:12; 126:4;130:12;134:5 139:21;141:1,6; 143:20;144:3,12,17 20,22;145:13 Utility/Consumer (6) 6:13;7:5,12,16; 42:1;48:10 utility's (3)
37:3 colerance (4) 138:19,24;139:21; 140:2 colerances (2) 138:7;139:11 cook (3) 89:21;144:13; 156:16 colbox (1) 140:5 cop (10) 16:12;63:21;64:7, 8,16;69:14;71:12; 74:13;79:2;93:23 copic (1)	58:24;119:4;141:23 trying (5) 61:23;73:12;77:5; 150:20,23 tub (1) 37:14 turn (15) 10:6;55:1;63:6; 74:9;80:3;86:7;93:8; 94:5;98:20;101:6; 117:2;124:9,11,14; 155:3 turned (1) 10:12 turning (6) 9:12;69:11;73:24; 78:24;83:24;93:7	52:8;57:11;75:8; 92:11;100:7;107:15; 109:10;113:9; 119:18;120:9; 124:17;128:4,8,11, 18;130:18,21,24; 131:14,18,19,21; 132:2,15,19,21; 133:6,9,12,13,19; 134:2,18,20;135:1, 14;158:11;160:15 underlies (2) 42:22,23 underlying (4) 17:8;54:22;83:8; 110:5 underneath (1)	156:11 update (2) 129:17;154:14 upgrade (2) 98:13;146:24 upgrading (2) 98:10;99:14 upon (3) 31:9;82:15;106:11 upshot (1) 111:16 usable (1) 144:2 usage (13) 77:18;84:17;91:7; 92:4,23;106:8,9; 107:11;113:23;	90:19;99:7;100:22; 101:3;102:10,21; 104:8;105:19; 108:24;110:19; 120:7;122:7,12; 123:24;125:12; 126:4;130:12;134:5 139:21;141:1,6; 143:20;144:3,12,17 20,22;145:13 Utility/Consumer (6) 6:13;7:5,12,16; 42:1;48:10 utility's (3) 32:1,6;124:4
37:3 olerance (4) 138:19,24;139:21; 140:2 olerances (2) 138:7;139:11 ook (3) 89:21;144:13; 156:16 oolbox (1) 140:5 op (10) 16:12;63:21;64:7, 8,16;69:14;71:12; 74:13;79:2;93:23 opic (1) 137:11	58:24;119:4;141:23 trying (5) 61:23;73:12;77:5; 150:20,23 tub (1) 37:14 turn (15) 10:6;55:1;63:6; 74:9;80:3;86:7;93:8; 94:5;98:20;101:6; 117:2;124:9,11,14; 155:3 turned (1) 10:12 turning (6) 9:12;69:11;73:24; 78:24;83:24;93:7 twenty (2)	52:8;57:11;75:8; 92:11;100:7;107:15; 109:10;113:9; 119:18;120:9; 124:17;128:4,8,11, 18;130:18,21,24; 131:14,18,19,21; 132:2,15,19,21; 133:6,9,12,13,19; 134:2,18,20;135:1, 14;158:11;160:15 underlies (2) 42:22,23 underlying (4) 17:8;54:22;83:8; 110:5 underneath (1) 75:15	156:11 update (2) 129:17;154:14 upgrade (2) 98:13;146:24 upgrading (2) 98:10;99:14 upon (3) 31:9;82:15;106:11 upshot (1) 111:16 usable (1) 144:2 usage (13) 77:18;84:17;91:7; 92:4,23;106:8,9; 107:11;113:23; 114:16;115:24;	90:19;99:7;100:22; 101:3;102:10,21; 104:8;105:19; 108:24;110:19; 120:7;122:7,12; 123:24;125:12; 126:4;130:12;134:5 139:21;141:1,6; 143:20;144:3,12,17 20,22;145:13 Utility/Consumer (6; 6:13;7:5,12,16; 42:1;48:10 utility's (3) 32:1,6;124:4 V valuable (1)
37:3 colerance (4) 138:19,24;139:21; 140:2 colerances (2) 138:7;139:11 cook (3) 89:21;144:13; 156:16 coolbox (1) 140:5 cop (10) 16:12;63:21;64:7, 8,16;69:14;71:12; 74:13;79:2;93:23 copic (1) 137:11 copics (5)	58:24;119:4;141:23 trying (5) 61:23;73:12;77:5; 150:20,23 tub (1) 37:14 turn (15) 10:6;55:1;63:6; 74:9;80:3;86:7;93:8; 94:5;98:20;101:6; 117:2;124:9,11,14; 155:3 turned (1) 10:12 turning (6) 9:12;69:11;73:24; 78:24;83:24;93:7 twenty (2) 160:5,12	52:8;57:11;75:8; 92:11;100:7;107:15; 109:10;113:9; 119:18;120:9; 124:17;128:4,8,11, 18;130:18,21,24; 131:14,18,19,21; 132:2,15,19,21; 133:6,9,12,13,19; 134:2,18,20;135:1, 14;158:11;160:15 underlies (2) 42:22,23 underlying (4) 17:8;54:22;83:8; 110:5 underneath (1) 75:15 understands (1)	156:11 update (2) 129:17;154:14 upgrade (2) 98:13;146:24 upgrading (2) 98:10;99:14 upon (3) 31:9;82:15;106:11 upshot (1) 111:16 usable (1) 144:2 usage (13) 77:18;84:17;91:7; 92:4,23;106:8,9; 107:11;113:23; 114:16;115:24; 121:6,19	90:19;99:7;100:22; 101:3;102:10,21; 104:8;105:19; 108:24;110:19; 120:7;122:7,12; 123:24;125:12; 126:4;130:12;134:5 139:21;141:1,6; 143:20;144:3,12,17 20,22;145:13 Utility/Consumer (6) 6:13;7:5,12,16; 42:1;48:10 utility's (3) 32:1,6;124:4 V valuable (1) 154:18
37:3 colerance (4) 138:19,24;139:21; 140:2 colerances (2) 138:7;139:11 cook (3) 89:21;144:13; 156:16 coolbox (1) 140:5 cop (10) 16:12;63:21;64:7, 8,16;69:14;71:12; 74:13;79:2;93:23 copic (1) 137:11 copics (5) 8:12,15;48:10,12;	58:24;119:4;141:23 trying (5) 61:23;73:12;77:5; 150:20,23 tub (1) 37:14 turn (15) 10:6;55:1;63:6; 74:9;80:3;86:7;93:8; 94:5;98:20;101:6; 117:2;124:9,11,14; 155:3 turned (1) 10:12 turning (6) 9:12;69:11;73:24; 78:24;83:24;93:7 twenty (2) 160:5,12 two (29)	52:8;57:11;75:8; 92:11;100:7;107:15; 109:10;113:9; 119:18;120:9; 124:17;128:4,8,11, 18;130:18,21,24; 131:14,18,19,21; 132:2,15,19,21; 133:6,9,12,13,19; 134:2,18,20;135:1, 14;158:11;160:15 underlies (2) 42:22,23 underlying (4) 17:8;54:22;83:8; 110:5 underneath (1) 75:15 understands (1) 25:15	156:11 update (2) 129:17;154:14 upgrade (2) 98:13;146:24 upgrading (2) 98:10;99:14 upon (3) 31:9;82:15;106:11 upshot (1) 111:16 usable (1) 144:2 usage (13) 77:18;84:17;91:7; 92:4,23;106:8,9; 107:11;113:23; 114:16;115:24; 121:6,19 use (28)	90:19;99:7;100:22; 101:3;102:10,21; 104:8;105:19; 108:24;110:19; 120:7;122:7,12; 123:24;125:12; 126:4;130:12;134:5 139:21;141:1,6; 143:20;144:3,12,17 20,22;145:13 Utility/Consumer (6) 6:13;7:5,12,16; 42:1;48:10 utility's (3) 32:1,6;124:4 V valuable (1) 154:18 valuation (1)
37:3 colerance (4) 138:19,24;139:21; 140:2 colerances (2) 138:7;139:11 cook (3) 89:21;144:13; 156:16 coolbox (1) 140:5 cop (10) 16:12;63:21;64:7, 8,16;69:14;71:12; 74:13;79:2;93:23 copic (1) 137:11 copics (5) 8:12,15;48:10,12; 158:16	58:24;119:4;141:23 trying (5) 61:23;73:12;77:5; 150:20,23 tub (1) 37:14 turn (15) 10:6;55:1;63:6; 74:9;80:3;86:7;93:8; 94:5;98:20;101:6; 117:2;124:9,11,14; 155:3 turned (1) 10:12 turning (6) 9:12;69:11;73:24; 78:24;83:24;93:7 twenty (2) 160:5,12 two (29) 14:23;20:15;22:5;	52:8;57:11;75:8; 92:11;100:7;107:15; 109:10;113:9; 119:18;120:9; 124:17;128:4,8,11, 18;130:18,21,24; 131:14,18,19,21; 132:2,15,19,21; 133:6,9,12,13,19; 134:2,18,20;135:1, 14;158:11;160:15 underlies (2) 42:22,23 underlying (4) 17:8;54:22;83:8; 110:5 underneath (1) 75:15 understands (1) 25:15 understood (3)	156:11 update (2) 129:17;154:14 upgrade (2) 98:13;146:24 upgrading (2) 98:10;99:14 upon (3) 31:9;82:15;106:11 upshot (1) 111:16 usable (1) 144:2 usage (13) 77:18;84:17;91:7; 92:4,23;106:8,9; 107:11;113:23; 114:16;115:24; 121:6,19 use (28) 42:7;45:10;50:12;	90:19;99:7;100:22; 101:3;102:10,21; 104:8;105:19; 108:24;110:19; 120:7;122:7,12; 123:24;125:12; 126:4;130:12;134:5 139:21;141:1,6; 143:20;144:3,12,17 20,22;145:13 Utility/Consumer (6; 6:13;7:5,12,16; 42:1;48:10 utility's (3) 32:1,6;124:4 V valuable (1) 154:18 valuation (1) 33:17
37:3 tolerance (4) 138:19,24;139:21; 140:2 tolerances (2) 138:7;139:11 took (3) 89:21;144:13; 156:16 toolbox (1) 140:5 top (10) 16:12;63:21;64:7, 8,16;69:14;71:12; 74:13;79:2;93:23 topic (1) 137:11 topics (5) 8:12,15;48:10,12; 158:16 total (10)	58:24;119:4;141:23 trying (5) 61:23;73:12;77:5; 150:20,23 tub (1) 37:14 turn (15) 10:6;55:1;63:6; 74:9;80:3;86:7;93:8; 94:5;98:20;101:6; 117:2;124:9,11,14; 155:3 turned (1) 10:12 turning (6) 9:12;69:11;73:24; 78:24;83:24;93:7 twenty (2) 160:5,12 two (29) 14:23;20:15;22:5; 25:8;37:20,21;41:2;	52:8;57:11;75:8; 92:11;100:7;107:15; 109:10;113:9; 119:18;120:9; 124:17;128:4,8,11, 18;130:18,21,24; 131:14,18,19,21; 132:2,15,19,21; 133:6,9,12,13,19; 134:2,18,20;135:1, 14;158:11;160:15 underlies (2) 42:22,23 underlying (4) 17:8;54:22;83:8; 110:5 underneath (1) 75:15 understands (1) 25:15 understood (3) 8:15;49:20;117:1	156:11 update (2) 129:17;154:14 upgrade (2) 98:13;146:24 upgrading (2) 98:10;99:14 upon (3) 31:9;82:15;106:11 upshot (1) 111:16 usable (1) 144:2 usage (13) 77:18;84:17;91:7; 92:4,23;106:8,9; 107:11;113:23; 114:16;115:24; 121:6,19 use (28) 42:7;45:10;50:12; 52:1,4;53:2;56:11;	90:19;99:7;100:22; 101:3;102:10,21; 104:8;105:19; 108:24;110:19; 120:7;122:7,12; 123:24;125:12; 126:4;130:12;134:5 139:21;141:1,6; 143:20;144:3,12,17 20,22;145:13 Utility/Consumer (6) 6:13;7:5,12,16; 42:1;48:10 utility's (3) 32:1,6;124:4 V valuable (1) 154:18 valuation (1) 33:17 value (13)
37:3 tolerance (4) 138:19,24;139:21; 140:2 tolerances (2) 138:7;139:11 took (3) 89:21;144:13; 156:16 toolbox (1) 140:5 top (10) 16:12;63:21;64:7, 8,16;69:14;71:12; 74:13;79:2;93:23 topic (1) 137:11 topics (5) 8:12,15;48:10,12;	58:24;119:4;141:23 trying (5) 61:23;73:12;77:5; 150:20,23 tub (1) 37:14 turn (15) 10:6;55:1;63:6; 74:9;80:3;86:7;93:8; 94:5;98:20;101:6; 117:2;124:9,11,14; 155:3 turned (1) 10:12 turning (6) 9:12;69:11;73:24; 78:24;83:24;93:7 twenty (2) 160:5,12 two (29) 14:23;20:15;22:5;	52:8;57:11;75:8; 92:11;100:7;107:15; 109:10;113:9; 119:18;120:9; 124:17;128:4,8,11, 18;130:18,21,24; 131:14,18,19,21; 132:2,15,19,21; 133:6,9,12,13,19; 134:2,18,20;135:1, 14;158:11;160:15 underlies (2) 42:22,23 underlying (4) 17:8;54:22;83:8; 110:5 underneath (1) 75:15 understands (1) 25:15 understood (3)	156:11 update (2) 129:17;154:14 upgrade (2) 98:13;146:24 upgrading (2) 98:10;99:14 upon (3) 31:9;82:15;106:11 upshot (1) 111:16 usable (1) 144:2 usage (13) 77:18;84:17;91:7; 92:4,23;106:8,9; 107:11;113:23; 114:16;115:24; 121:6,19 use (28) 42:7;45:10;50:12;	90:19;99:7;100:22; 101:3;102:10,21; 104:8;105:19; 108:24;110:19; 120:7;122:7,12; 123:24;125:12; 126:4;130:12;134:5 139:21;141:1,6; 143:20;144:3,12,17 20,22;145:13 Utility/Consumer (6) 6:13;7:5,12,16; 42:1;48:10 utility's (3) 32:1,6;124:4 V valuable (1) 154:18 valuation (1) 33:17

	T	- · · · · ·	1	T
57:3;60:15;62:3;	walk (2)	withdrawal (1)	year's (2)	112:24
120:6;122:10;	25:13;95:4	158:14	151:6;153:15	12.7 (1)
145:14;154:7	wane (3)	within (13)	yellow (4)	130:2
values (1)	81:14;82:5,14	51:8;73:15,16;	70:3;79:6,21;159:2	12:38 (1)
97:15	wants (1)	89:10;100:9;108:17;	yesterday (21)	160:13
van (1)	95:24	116:20;119:8,21;	8:23;9:2;10:3,15;	120 (1)
106:1	way (13)	120:3,4;138:6;	15:14;17:21,23;18:3;	117:14
variety (1)	9:7;36:6,15;68:5;	146:22	42:15;46:17;48:1;	120-volt (1)
147:7	86:11;121:10;123:9;	Without (13)	76:22;109:22;110:4;	139:7
various (5)	125:15;141:23;	12:10;13:20;16:8;	119:8;120:13;121:3;	125 (1)
15:10;28:1;33:16;	143:12;147:4;	17:8;21:2;22:4,22;	135:2;148:12;	139:6
37:7;41:2	158:11;159:17	24:3;25:7;48:9;86:4;	153:18;157:21	12a (1)
VARs (1)	Wayland (1)	121:19;123:4	York (1)	94:1
95:16	35:8	witness (12)	32:24	12-month (1)
vehicle (1)	ways (3)	6:5;44:3;62:15;	52.2	18:3
95:5	44:24;141:17;	67:13;74:16;77:20;	${f Z}$	12th (3)
vendor (1)	159:24	126:9,23;131:4;		75:10;76:7;79:3
98:8	weather (4)	132:4;133:7;156:18	zero (3)	13 (4)
verbal (3)	36:11;56:11;76:6;	witnesses (19)	119:11,19;121:7	22:13,21;23:1;
9:4,10;89:5	146:17	7:16;9:16;10:4,17,	zeros (1)	112:22
		19;17:22;25:16;33:2;		14 (8)
Vermont-New (1)	web (4)		156:2	
39:19	128:15,22;129:14,	48:4;62:10,17,18;	1	14:13,21;20:21,23;
version (4)	18	76:22;77:2;151:17;	1	21:5;63:8;84:13;
64:13,20;114:9;	week (2)	152:22;154:10;	1 (5)	124:11
152:1	38:12;151:19	157:22;158:3	1 (5)	15 (17)
versus (3)	weeks (2)	word (3)	26:2;33:14;55:20;	19:18,24;20:3,19,
16:18;18:2;74:24	35:6;47:5	69:24;92:2;103:11	96:8;110:19	23;21:5;63:13;64:15;
via (2)	welcome (1)	work (11)	1,100 (2)	78:11,12,19;117:24,
95:6;96:17	74:19	11:7,8;30:17;	75:10;76:7	24;118:8,9;124:15;
vice-president (1)	well-behaved (1)	49:24;50:5;88:22,24;	1,178 (1)	127:19
21:10	120:1	89:4;110:9;154:5;	94:18	15.8 (1)
vicinity (1)	What's (10)	160:3	1,815 (1)	129:16
37:4	8:18;38:1;43:14;	workable (1)	96:18	15-271 (3)
viewing (1)	44:4;55:8;59:3;76:2;	47:10	10 (7)	26:7;91:3;132:8
54:13	77:3;100:1;136:23	worked (1)	22:11,20;23:1;	15-minute (2)
violation (1)	whenever (1)	109:21	31:1;90:20;135:18;	92:7;104:19
147:2	145:10	working (9)	146:10	15th (1)
vis-a-vis (1)	whereas (1)	51:7;90:5,6;101:9,	10:43 (1)	118:2
126:2	79:17	9,10;122:20;123:12;	89:17	16 (8)
visual (1)	WHEREUPON (1)	155:17	100 (5)	11:14;12:8,13;
43:1	9:20	works (1)	26:3,4;121:8;	63:22;64:7,8,16;
volatile (4)	whim (1)	142:20	128:19,19	83:21
36:5;82:19;122:2,	36:10	worst (1)	100-megawatt (2)	16th (1)
17	white (1)	121:7	128:9;132:9	130:6
voltage (19)	45:23	worth (4)	10-year (2)	17 (2)
138:4,9,18,19,23;	whole (1)	20:4;45:21;62:4,7	39:18;146:22	20:6;159:2
139:8,16;140:2,7,17;	155:14	write (1)	11 (5)	179 (3)
141:18;142:7,17,23;	wholesale (4)	156:8	22:11,20;23:1;	73:3,15,16
143:1,6;144:6,9;	32:1;56:14;63:16;	wrong (5)	32:12;112:22	17th (6)
147:5	64:1	74:2;102:5;151:9,	11:05 (1)	90:7;128:22;151:5,
volts (1)	who's (9)	11;158:15	89:18	15;152:2,12
139:6	6:12;7:11;8:15,22,	,	111 (1)	182 (3)
volumetric (2)	23;62:12;89:20,24;	Y	155:4	151:24;152:4,11
30:8;42:8		_	1116 (4)	19 (1)
20.0,12.0	155.8	I .		, ,
	155:8 Wiesner (8)	vear (7)	47.24.59.21.	150.16
vs (1)	Wiesner (8)	year (7)	47:24;59:21; 109:10:134:2	150:16 1996 (1)
	Wiesner (8) 6:6,8,23;7:20,23;	31:11;39:14;65:9;	109:10;134:2	1996 (1)
vs (1) 74:15	Wiesner (8) 6:6,8,23;7:20,23; 8:5;66:17;67:2	31:11;39:14;65:9; 79:12;98:9;148:10;	109:10;134:2 112 (1)	1996 (1) 20:8
vs (1)	Wiesner (8) 6:6,8,23;7:20,23; 8:5;66:17;67:2 wildly (2)	31:11;39:14;65:9; 79:12;98:9;148:10; 151:14	109:10;134:2 112 (1) 96:17	1996 (1) 20:8 1997 (1)
vs (1) 74:15 W	Wiesner (8) 6:6,8,23;7:20,23; 8:5;66:17;67:2 wildly (2) 119:23;122:2	31:11;39:14;65:9; 79:12;98:9;148:10; 151:14 yearly (1)	109:10;134:2 112 (1) 96:17 114 (1)	1996 (1) 20:8 1997 (1) 20:8
vs (1) 74:15 W Wait (3)	Wiesner (8) 6:6,8,23;7:20,23; 8:5;66:17;67:2 wildly (2) 119:23;122:2 willing (3)	31:11;39:14;65:9; 79:12;98:9;148:10; 151:14 yearly (1) 122:1	109:10;134:2 112 (1) 96:17 114 (1) 139:6	1996 (1) 20:8 1997 (1) 20:8 1kW (1)
vs (1) 74:15 W Wait (3) 20:2,2;100:15	Wiesner (8) 6:6,8,23;7:20,23; 8:5;66:17;67:2 wildly (2) 119:23;122:2 willing (3) 34:15,16;100:10	31:11;39:14;65:9; 79:12;98:9;148:10; 151:14 yearly (1) 122:1 years (8)	109:10;134:2 112 (1) 96:17 114 (1) 139:6 12 (7)	1996 (1) 20:8 1997 (1) 20:8 1kW (1) 117:10
vs (1) 74:15 W Wait (3)	Wiesner (8) 6:6,8,23;7:20,23; 8:5;66:17;67:2 wildly (2) 119:23;122:2 willing (3)	31:11;39:14;65:9; 79:12;98:9;148:10; 151:14 yearly (1) 122:1	109:10;134:2 112 (1) 96:17 114 (1) 139:6	1996 (1) 20:8 1997 (1) 20:8 1kW (1)

DE 10 270 EEEC I	IN EDISTRIBETION	STIETHES NEW MET	MUNITIVE IVET METERI
	25,991 (1)	14:22;19:19;20:23,	6A (1)
2	27:18	23;21:5	15:20
	27 (3)	43,000 (1)	6th (1)
2 (11)	13:5,19,23	94:15	129:14
6:3;26:14;33:17;	2nd (1)	43,333 (3)	
	26:13	93:21;94:4,8	7
84:1;86:7;111:7;	20.13	45 (4)	,
117:2;118:5;130:14;	3	93:23;102:19;	7 (8)
160:14,16	<u> </u>	124:11,15	
20 (4)	2 (6)	· · · · · · · · · · · · · · · · · · ·	28:14;82:2,7,9;
29:17;30:1;98:20;	3 (6)	487,716 (2)	84:13;85:3;86:5,6
146:1	26:21;33:21;76:15,	97:4,8	70 (3)
200 (1)	17;78:3;118:5	4th (1)	68:16;69:7,8
35:5	3.39 (1)	82:2	71 (4)
2011-00138 (1)	128:23	_	73:7,8,11,14
156:1	3:00 (11)	5	72 (4)
2015 (2)	116:17,18,18,19;		90:9,10;124:10;
114:2;117:15	117:22;118:1,1,3,9,	5 (14)	158:22
2016 (24)	11;127:17	11:21;24:18;25:6,	73 (5)
33:1;65:23;69:1,	30 (4)	10;27:14;80:11;	111:18,19,21;
	119:14,14;129:11;	81:10;82:7,21;83:4;	117:3;124:10
16,21;74:13,14,15,	135:13	105:9;110:1,22;	74 (4)
21,24;75:2,11,18;	30/30 (2)	139:1	149:6,8,16;158:15
79:4,18,18;80:1;	119:14,16	50 (2)	75-percent (1)
127:17,21;150:16;			• ` '
151:12,14;155:13;	30-day (1)	129:21;130:8	54:23
156:2	135:22	50/50 (1)	77,000 (1)
2017 (14)	30th (11)	75:11	97:18
26:7,13;27:18;	26:7;32:13;33:9;	50-megawatt (2)	0
32:13;74:2,5;79:17;	91:2;131:12,20;	129:10,22	8
130:6;132:7;133:10;	132:7,16,17,21;	50-percent (1)	- 151
151:6,15;152:2,13	133:23	54:22	8 (8)
2018 (1)	31 (4)	570,000 (1)	21:18;22:2,7;30:4;
33:9	52:5;69:12,13;	96:3	81:10;82:21;83:5;
2020 (1)	129:7	5-minute (7)	95:7
27:23	31st (2)	92:7;102:9;103:8;	8.74 (1)
2025 (2)	27:23;32:14	104:4,12,21;105:4	128:21
69:22;79:18	32 (2)		8-kilowatt (1)
2026 (1)	78:24;79:1	6	63:24
79:ÌŹ	358 (2)		
2040 (1)	94:15;95:8	6 (17)	9
32:15	362-A9 (2)	11:19;25:6,10;	
20th (1)	107:5;109:10	28:1;80:11;82:7;	9 (8)
159:4	38 (1)	83:24;90:20;102:4,	22:10,20;23:1;
21 (3)	20:6	15;111:1,4;112:23;	30:14;74:9,12;84:1;
27:18;33:1;98:21	39 (6)	113:7;115:23;	113:10
2170 (1)	22:13,21;23:1;	130:13;155:4	90/10 (1)
98:1	93:11,22;94:2	6.7 (1)	146:21
	, , , .	130:6	903.02I (1)
22 (3)	4	600 (2)	28:22
101:6;102:4;	-	110:12;111:6	20.22
133:10	4 (7)	62 (3)	
22nd (1)	27:8;33:23;102:6,	13:6,19,23	
74:5	15,20,22;103:13	63 (4)	
23 (1)	40 (8)	13:6,19,23;24:10	
102:19	70 (O)		
	10.15.21.10.22.2		
234 (1)	10:15;21:19;22:2,	64 (4)	
96:15	7;93:23;94:2;110:12;	13:7,19,23;24:10	
96:15 24 (4)	7;93:23;94:2;110:12; 129:2	13:7,19,23;24:10 67 (10)	
96:15 24 (4) 80:6;81:4,8;82:13	7;93:23;94:2;110:12; 129:2 40-year (1)	13:7,19,23;24:10 67 (10) 16:1,3;17:1;41:9;	
96:15 24 (4) 80:6;81:4,8;82:13 24/7 (1)	7;93:23;94:2;110:12; 129:2 40-year (1) 146:1	13:7,19,23;24:10 67 (10) 16:1,3;17:1;41:9; 111:24;112:10,14;	
96:15 24 (4) 80:6;81:4,8;82:13 24/7 (1) 38:3	7;93:23;94:2;110:12; 129:2 40-year (1) 146:1 41 (4)	13:7,19,23;24:10 67 (10) 16:1,3;17:1;41:9; 111:24;112:10,14; 113:1,15,16	
96:15 24 (4) 80:6;81:4,8;82:13 24/7 (1) 38:3 2400 (2)	7;93:23;94:2;110:12; 129:2 40-year (1) 146:1 41 (4) 23:14;24:2,6;94:5	13:7,19,23;24:10 67 (10) 16:1,3;17:1;41:9; 111:24;112:10,14; 113:1,15,16 68 (4)	
96:15 24 (4) 80:6;81:4,8;82:13 24/7 (1) 38:3	7;93:23;94:2;110:12; 129:2 40-year (1) 146:1 41 (4) 23:14;24:2,6;94:5 42 (4)	13:7,19,23;24:10 67 (10) 16:1,3;17:1;41:9; 111:24;112:10,14; 113:1,15,16 68 (4) 66:16;67:9,17;69:5	
96:15 24 (4) 80:6;81:4,8;82:13 24/7 (1) 38:3 2400 (2)	7;93:23;94:2;110:12; 129:2 40-year (1) 146:1 41 (4) 23:14;24:2,6;94:5 42 (4) 23:15;24:2,6;94:6	13:7,19,23;24:10 67 (10) 16:1,3;17:1;41:9; 111:24;112:10,14; 113:1,15,16 68 (4) 66:16;67:9,17;69:5 69 (2)	
96:15 24 (4) 80:6;81:4,8;82:13 24/7 (1) 38:3 2400 (2) 110:13;111:13	7;93:23;94:2;110:12; 129:2 40-year (1) 146:1 41 (4) 23:14;24:2,6;94:5 42 (4)	13:7,19,23;24:10 67 (10) 16:1,3;17:1;41:9; 111:24;112:10,14; 113:1,15,16 68 (4) 66:16;67:9,17;69:5	