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APPEARANCES: (C o n t i n u e d)

Reptg. Residential Ratepayers:
Donald M. Kreis, Esq., *Consumer Advocate*
Michael J. Crouse, Esq.
Office of Consumer Advocate

Reptg. New Hampshire Dept. of Energy:
Paul B. Dexter, Esq.
Alexandra Ladwig, Esq.
Elizabeth Nixon, Dir./Electric Group
Mark Toscano, Electric Group
(Regulatory Support Division)

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	22	Battery Storage Pilot Program Interim Evaluation Report by Guidehouse (November 2022)
		<i>premarked</i>

1 **P R O C E E D I N G**

2 CHAIRMAN GOLDNER: Okay. Good
3 afternoon. I'm Commissioner Goldner. I'm joined
4 today by Commissioner Simpson. We're here in
5 Docket DE 17-189, a docket on Granite State
6 Electric's Battery Storage Pilot Program.

7 Let's start by taking appearances,
8 beginning with the Company.

9 MR. SHEEHAN: Good afternoon,
10 Commissioners. Mike Sheehan, for Liberty
11 Utilities (Granite State Electric) Corp.

12 CHAIRMAN GOLDNER: Thank you. Just a
13 moment.

14 *[Short pause.]*

15 CHAIRMAN GOLDNER: Okay. Thank you.
16 Let's move to the Office of the Consumer
17 Advocate.

18 MR. KREIS: Good morning, Chairman
19 Goldner, Commissioner Simpson. I'm Donald Kreis,
20 the Consumer Advocate, here on behalf of
21 residential customers. With me today is our
22 Staff Attorney, Michael Crouse.

23 CHAIRMAN GOLDNER: Thank you. And I
24 don't see the City of Lebanon. Do I?

1 *[No indication given.]*

2 CHAIRMAN GOLDNER: On the screen? No.
3 Okay. Is ReVision Energy here?

4 *[No indication given.]*

5 CHAIRMAN GOLDNER: No. Conservation
6 Law Foundation?

7 MR. KRAKOFF: Good afternoon, Chairman
8 Goldner and Commissioner Simpson. Nick Krakoff,
9 with the Conservation Law Foundation.

10 CHAIRMAN GOLDNER: Thank you. Is the
11 Acadia Center here?

12 *[No indication given.]*

13 CHAIRMAN GOLDNER: Is Sunrun here?

14 *[No indication given.]*

15 CHAIRMAN GOLDNER: Clean Energy New
16 Hampshire?

17 *[No indication given.]*

18 CHAIRMAN GOLDNER: The New Hampshire
19 Sustainable Energy Association?

20 *[No verbal response.]*

21 CHAIRMAN GOLDNER: Mr. Emerson?

22 *[No indication given.]*

23 CHAIRMAN GOLDNER: And the New
24 Hampshire Department of Energy?

1 MR. DEXTER: Good afternoon, Mr.
2 Chairman, Commissioner. My name is Paul Dexter.
3 I'm representing the Department of Energy. I'm
4 joined today by Attorney Alexandra Ladwig, and
5 Liz Nixon and Mark Toscano, from the Department's
6 Regulatory Division.

7 CHAIRMAN GOLDNER: Thank you. And did
8 I miss anyone?

9 MR. SHEEHAN: Mr. Chairman, on the
10 screen are Kevin Joyce, who's the Tesla
11 representative, and Kajal Gaur, who is with
12 Guidehouse, along with Mr. Crawford, who is here
13 in the courtroom.

14 CHAIRMAN GOLDNER: Okay. Thank you,
15 sir.

16 Okay. Very good. All right. So,
17 various interim and final hearings on Phase 1 of
18 this Pilot were scheduled and rescheduled. So,
19 as a first order of business, I would like to
20 discuss the scope of this hearing before we dive
21 into the Phase 1 Report.

22 Looking at the procedural order dated
23 September 26th, 2022, this hearing is a final
24 hearing on Phase 1 of the Pilot. And Liberty has

1 not yet requested authorization to continue to a
2 potential Phase 2 of this Pilot. The procedural
3 order of September 26th also states that a
4 hearing regarding Phase 2 will be scheduled, if
5 Liberty decides to seek approval of Phase 2.

6 Does anyone have a different impression
7 of why we're here today?

8 MR. SHEEHAN: No, that's consistent.
9 There are a couple other loose ends that I think
10 can help wrap up Phase 1 that I would like to
11 raise.

12 One is, the order approving the Pilot
13 called for a working group to develop a Bring
14 Your Own Device component. That never got off
15 the ground, largely because the proponents of it
16 basically stopped participating. So, it was a
17 requirement -- actually, it was a requirement
18 that "the Commission shall begin a stakeholder
19 group." So, we would like, as part of today's
20 hearing, is a resolution to that.

21 Our proposal is simply to eliminate
22 that requirement in this docket. The Bring Your
23 Own Device programs are alive and well, and can
24 probably be addressed in some of the other

1 investigations the Commission has ongoing.

2 And the other is, we filed a request,
3 almost two years ago now, to confirm a component
4 of the program that is affecting our small solar
5 customers, and I'll have Ms. Tebbetts address
6 that on the stand, but is simply a statement from
7 the Commission that we can do what we'd like to
8 do with those customers in the Phase 1.

9 So, those are the three goals we hope
10 to get out of today's hearing.

11 CHAIRMAN GOLDNER: Okay. Thank you,
12 Mr. Sheehan.

13 Does Liberty have a position at this
14 time as to whether it will seek Commission
15 approval on Phase 2 of the Pilot?

16 MR. SHEEHAN: At this time, we have not
17 decided whether to do that. Our thinking is
18 severalfold. First is, it would be good to
19 continue Phase 1, continue collecting the data.
20 Although we have plenty of data, that's still
21 relatively new. Second, is to see what comes of
22 some of the other things rolling here in the
23 Commission, some of the other demand response
24 programs, *et cetera*, there may be an opportunity

1 to use -- to do something there, rather than
2 here.

3 But, at this point, we do not plan to
4 do so. We have not erased it forever. But we
5 don't have a current expectation to do it in the
6 near term.

7 CHAIRMAN GOLDNER: Okay. Okay, thank
8 you.

9 I'll ask at this time if there's any
10 other preliminary matters that we need -- that
11 need to be raised or discussed, before we dive
12 into the results of Phase 1?

13 And, Mr. Sheehan, you anticipated my
14 next comment, which is, this is the Commission's
15 oldest open docket. So, if there are any
16 requests for Commission action that remain
17 relevant and pending, please bring those to our
18 attention now.

19 So, Mr. Sheehan, I've heard Liberty.
20 Do the other parties have anything that they
21 would like to bring to the Commission's
22 attention?

23 MR. DEXTER: Nothing from the
24 Department of Energy.

1 CHAIRMAN GOLDNER: Thank you.

2 MR. KREIS: I don't think the
3 Commission should close this docket. The idea
4 that the Company should just be allowed to walk
5 away from Phase 2 is, I think, something that the
6 Commission shouldn't simply assume is okay.

7 CHAIRMAN GOLDNER: Yes, Mr. Kreis. I
8 think, to answer your question, if that was a
9 question, is that we have no plans to close the
10 docket. We're just trying to sort out the status
11 of the docket at this time.

12 Okay. So, maybe the next question I'll
13 direct to Mr. Sheehan, in terms of how you would
14 like to proceed? Would it be with the panel of
15 witnesses, and does the Company have anything
16 that they would like to present or show first?
17 Or, would you like to dive directly into
18 cross-examination and Commissioner questions?

19 MR. SHEEHAN: Aside from that one issue
20 related to the solar customers that I'd like to
21 have a brief direct with Ms. Tebbetts on,
22 otherwise we are here at the Commission's
23 request, brought the parties you wanted to speak
24 to to answer questions.

[WITNESS PANEL: Crawford|Joyce|Tebbetts|Gaur]

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CHAIRMAN GOLDNER: Okay. And we appreciate that.

So, let's swear in the witness panel, and then begin with direct examination.

(Whereupon **Samuel Crawford, Kevin Joyce, Heather M. Tebbetts, and Kajal Gaur** were duly sworn by the Court Reporter.)

MR. SHEEHAN: I will have each of them just introduce themselves, just so you can hear from them before we dive in, and then I'll have my questions for Ms. Tebbetts.

SAMUEL CRAWFORD, SWORN

KEVIN JOYCE, SWORN

HEATHER M. TEBBETTS, SWORN

KAJAL GAUR, SWORN

DIRECT EXAMINATION

BY MR. SHEEHAN:

Q Mr. Crawford, could you please introduce yourself?

A (Crawford) Hi. Sam Crawford, here with Guidehouse Consulting. I've been leading the evaluation effort for this Pilot, along with Kajal Gaur, who is on the line remotely.

[WITNESS PANEL: Crawford|Joyce|Tebbetts|Gaur]

1 Q Thank you. And, Mr. Joyce, please introduce
2 yourself?

3 A (Joyce) Hello. My name is Kevin Joyce. I'm with
4 Tesla, the Energy Division of Tesla. I am global
5 head for what we call our "Aggregation Programs",
6 that is virtual power plants and other advanced
7 applications of our behind-the-meter energy
8 products.

9 Q Thank you. Mr. Joyce, you're coming across a
10 little garbled. So, if you just speak slowly, I
11 think we'll be fine.

12 Ms. Tebbetts, please introduce
13 yourself?

14 A (Tebbetts) Yes. Heather Tebbetts, with Liberty
15 Utilities. I'm the Director of Business
16 Development.

17 Q And, Ms. Tebbetts, you were involved considerably
18 in the underlying docket in this -- in this
19 underlying docket from the beginning, is that
20 fair?

21 A (Tebbetts) Yes.

22 Q The one question I wanted to discuss with you
23 relates to a technical statement you filed in
24 January of '21. Can you please explain the issue

[WITNESS PANEL: Crawford|Joyce|Tebbetts|Gaur]

1 that gave rise to filing that technical
2 statement?

3 A (Tebbetts) Sure. So, we had customers who have
4 solar participate in this project. And come to
5 find out, when winter came, their solar systems
6 were too small to be able to power the home,
7 charge the batteries. And, so, the batteries are
8 not being charged in the wintertime. There's
9 just not enough daylight to allow that solar to
10 power the home and then charge the batteries.

11 And, because of that, these customers
12 actually are not -- two things. One, they're not
13 getting the benefits of the program where they
14 can use the batteries to offset their load during
15 those critical peak hours, as we provided for in
16 their contract. Then, two, we're unable to
17 actually call on these batteries, because they're
18 not charged during those peak events.

19 So, I'm not sure how many customers we
20 have, call it between five and ten, since then,
21 that have this issue. But, given that each
22 customer has, you know, 10 kW in the house, that
23 could be, you know, 100 kW we can't call on
24 during that period.

[WITNESS PANEL: Crawford|Joyce|Tebbetts|Gaur]

1 Q So, the non-solar customers don't have this
2 issue, because their batteries are charged from
3 the grid, and drawn back to the grid as needed
4 for these events, is that correct?

5 A (Tebbetts) Yes. So, customers who don't have
6 solar, the way their batteries are charged is,
7 they charge overnight in the off-peak hours.
8 And, so, they're ready for the next day to be
9 used at the critical peak hours, and also to be
10 called on for peak events. In the event that we
11 call on a peak event, it will automatically
12 charge after, in the off-peak hours.

13 For customers with solar, they don't
14 have that opportunity. So, if we call on an
15 event, and it didn't -- the batteries didn't
16 charge with their solar, which is the only way
17 they can charge them, then we can't use these
18 batteries, and neither can the customers.

19 Q And the difference between the two customers is
20 the non-solar customers are not net-metered
21 customers, but the solar are. And it's the fact
22 that they are net-metered that, arguably, places
23 some restrictions on their ability to charge the
24 battery. Is that correct?

[WITNESS PANEL: Crawford|Joyce|Tebbetts|Gaur]

1 A (Tebbetts) That's correct. I think there was --
2 there was a lot of discussion at this time, in
3 2021, whether or not the batteries would just
4 export power, even though they weren't called
5 upon for a peak event. And that was a concern
6 with our net metering rules and the statutes in
7 New Hampshire on net metering.

8 Q For the reason that you wouldn't want a customer
9 to get net-metering credit for exporting battery
10 power that was actually charged from the grid?

11 A (Tebbetts) Yes. That's correct.

12 Q Because we want net-metered power to be solar or
13 some other renewable?

14 A (Tebbetts) Yes.

15 Q So, what is it -- so, with that problem, what is
16 the solution that the Company proposed in your
17 technical statement?

18 A (Tebbetts) So, the proposal was to allow
19 customers with solar to charge from the grid only
20 if their solar was -- well, there was a couple
21 things in there. One we thought about, if the
22 customer's solar was too small to be able to
23 charge those batteries and their home -- and
24 power their home. There was also the issue of,

[WITNESS PANEL: Crawford|Joyce|Tebbetts|Gaur]

1 in the wintertime, you know, allowing customers
2 with solar to charge from the grid.

3 And the issue of the export isn't an
4 issue, because those batteries will never
5 charge -- those batteries will never export to
6 the grid, except during peak events, as required.
7 And Mr. Joyce can explain that further. But I
8 think that was the biggest issue, is "Will these
9 charge and then export to the grid?" No, they
10 won't.

11 Q At the beginning of this docket, the expectation
12 of these batteries is that the customers would
13 have control, and could have exported battery
14 power to the grid, is that correct?

15 A (Tebbetts) That's correct. And the programming
16 with Tesla has provided that the customers don't
17 have access to be able to just export to the
18 grid.

19 MR. SHEEHAN: Okay. Thank you. And,
20 in closing, I will refer to the language in the
21 Settlement Agreement that we think is consistent
22 with that. And what we'll be asking for is a
23 statement from the Commission that allowing the
24 customers with solar to be charged from the grid

[WITNESS PANEL: Crawford|Joyce|Tebbetts|Gaur]

1 in advance of an event is okay.

2 BY MR. SHEEHAN:

3 Q And, Mr. Joyce, just to close that loop, can you
4 confirm that the way the batteries are
5 programmed, these customers cannot export battery
6 power to the grid absent a called event?

7 A (Joyce) That's right. The batteries, under
8 normal operation, will not export to the grid,
9 because it is not, you know, the way it is
10 programmed, the systems do not see it as a
11 benefit to do so. But, when commanded to for a
12 grid event, they are able to export.

13 MR. SHEEHAN: Thank you. I have no
14 further questions.

15 CHAIRMAN GOLDNER: Thank you, Attorney
16 Sheehan. We'll move to the Office of the
17 Consumer Advocate for any cross-examination?

18 MR. KREIS: Just, I think, a few brief
19 questions, Mr. Chairman.

20 I think that my questions are really
21 for Ms. Tebbetts. And what I'd like to do, I'm
22 quite aware of the fact that the two
23 Commissioners sitting up on the Bench were
24 nowhere near the Walker Building, at least

[WITNESS PANEL: Crawford|Joyce|Tebbetts|Gaur]

1 nowhere near this docket, when it was first
2 opened quite a number of years ago. I was
3 interested in the fact that the Chairman
4 mentioned that this is the "oldest open docket"
5 that the Commission has. I didn't realize that,
6 but it did open in late 2017. So, I guess that
7 means it's now in first or second grade.

8 And, so, I just want to get these
9 Commissioners back up to the speed.

10 **CROSS-EXAMINATION**

11 BY MR. KREIS:

12 Q Ms. Tebbetts, if the Commissioners were to look
13 back at Exhibit 1, which is the testimony that
14 you filed with the Commission way back in 2017,
15 they would discover, would they not, that the
16 proposal that Liberty Utilities initially made
17 back in 2017 is considerably smaller than what
18 actually occurred or is occurring pursuant to
19 Phase 1 of the Pilot, yes?

20 A (Tebbetts) Well, what resulted is considerably
21 smaller. We proposed a thousand batteries
22 initially, and then we ended up with 200
23 batteries in this case.

24 Q Considerably smaller then?

[WITNESS PANEL: Crawford|Joyce|Tebbetts|Gaur]

1 A (Tebbetts) Yes. So, the result of the docket is
2 that we have considerably less batteries
3 installed. Yes.

4 Q And, when you made your initial proposal, as
5 reflected in Exhibit 1, the pilot was not
6 intended to proceed in two phases. You wanted to
7 do the whole pilot, everything, everywhere all at
8 once?

9 A (Tebbetts) So, we had proposed a non-wires
10 solution as part of it that targeted one of our
11 heavily high usage/high load circuits in the
12 Lebanon area, and that was part of the project,
13 and that's why we proposed so many. But, yes, we
14 did not propose two phases, we only proposed one
15 single pilot.

16 Q How did this thing morph into two phases then?

17 A (Tebbetts) Oh, now you're going to make me go
18 back into my brain in 2018. So, at the time, I
19 think folks were uncomfortable with the large
20 request of batteries. And also, at the time,
21 when we had first proposed this with Tesla, they
22 only required one Powerwall in the home. And
23 then, that changed during the docket as well,
24 they now require, I don't know if it's still the

[WITNESS PANEL: Crawford|Joyce|Tebbetts|Gaur]

1 same, but, at the time, it was now two
2 Powerwalls. And, so, right off the bat, that
3 changed the project from a thousand Powerwalls to
4 500.

5 I think 500 was still a lot for folks
6 at the time, because the technology, while I
7 won't say was "new", it was new to the New
8 Hampshire area. And, so, through, you know,
9 settlement and negotiations, we decided that we'd
10 do it in two phases. And we would do 100
11 customers, or 200 batteries, in Phase 1, and that
12 remainder of 300 batteries in Phase 2.

13 Q Could you briefly summarize the role that the
14 Office of the Consumer Advocate has played over
15 the years, in helping Liberty Utilities develop
16 the Pilot Program we're talking about in this
17 docket?

18 A (Tebbetts) Sure. So, what I'll say is, what we
19 proposed initially was good, but we had a really
20 great opportunity to work with parties. And I
21 think it's one of the first times, at least in my
22 long regulatory career, I've had folks from all
23 sides of the table come together. And the OCA
24 was definitely a big part of that. To come

[WITNESS PANEL: Crawford|Joyce|Tebbetts|Gaur]

1 together and say "This is a good thing. We want
2 to go forward with this. We want to learn more
3 about battery storage in New Hampshire."

4 And we were lucky enough to have Lon
5 Huber, who worked with the OCA as a consultant,
6 to come in and really help us, as a company, and
7 I think all the parties, come up with something
8 that was viable, that we believed would benefit
9 New Hampshire and the Liberty customers. And
10 also provide good data-gathering, so that we
11 could make future decisions on demand response,
12 potentially non-wires solutions, and just, you
13 know, getting behind the customer's meter. Is
14 this something we want to go into? Is this
15 something that's important to us? Or, is it
16 something that we're going to try and see where
17 it goes?

18 So, I would say that the OCA,
19 obviously, played a large part in this. And I
20 think that the parties worked really well
21 together to come with something that really is a
22 great project.

23 Q And just to clarify the role that Mr. Huber
24 played, at the time he was employed as a

[WITNESS PANEL: Crawford|Joyce|Tebbetts|Gaur]

1 consultant to the Office of the Consumer
2 Advocate, he got down and dirty into the details
3 of designing this program, so that it was a
4 viable pilot that was reasonably calculated to
5 prove or -- yes, "prove" the hypotheses that the
6 Company was bringing to the program, yes?

7 A (Tebbetts) He did. And I still talk to him this
8 day, and sometimes we talk about this project,
9 sometimes other things. But it's definitely
10 something that I think shaped his working with
11 the New Hampshire folks and all of us.

12 Q And would it be fair to say that, at some point,
13 Mr. Huber became so involved in the Pilot that he
14 actually migrated from being an employee or a
15 consultant under contract to my office, to
16 actually being a consultant under contract to
17 your company, yes?

18 A (Tebbetts) Yes. Yes, he did, for a little while,
19 while we were trying to figure out how we were
20 going to, you know, implement the things that we
21 had in the Settlement Agreement as smoothly as
22 possible, because all these things were knew to
23 us and our customers.

24 Q And just to alleviate any mystery, because I

[WITNESS PANEL: Crawford|Joyce|Tebbetts|Gaur]

1 personally would be deleted if Mr. Huber were
2 still involved in the work of our office and your
3 utility, could you tell the Commission where he
4 is now?

5 A (Tebbetts) Yes. He's the Vice President of
6 Regulatory of Duke Energy. So, he's moved up
7 pretty fast, and done very well for himself. But
8 this was a great opportunity for all of us to
9 work with him.

10 Q It was. And the reason I'm belaboring that is, I
11 just would like the Commission to know that,
12 consistent with what you just described, Ms.
13 Tebbetts, you know, our office was, and other
14 parties, were deeply involved in collaborating
15 with this utility on developing this Pilot
16 Program. So, this is, I guess, it's a little
17 different than the traditional divide between
18 utilities and people who kind of hover around
19 utilities, usually criticizing what they do.

20 And, so, when the Pilot got divided
21 into two phases, what part of the Pilot was
22 consigned to Phase 2?

23 A (Tebbetts) So, I think the idea -- well, I don't
24 "think", the idea behind a Phase 2 was to see,

[WITNESS PANEL: Crawford|Joyce|Tebbetts|Gaur]

1 first of all, could we even do what we set out to
2 do in Phase 1, which was, there was four items
3 there, and can we do it? And, if we did it,
4 then, "Hey, let's see if we can get to Phase 2."
5 And Phase 2 could be designed differently, or the
6 same, we had to come up with a proposal. And it
7 was really just a continuation of what we wanted
8 to do in Phase 1.

9 Q Well, doesn't Phase 2 provide for a Bring Your
10 Own Device component to the program?

11 A (Tebbetts) And Phase 1 did as well. The
12 difference was Phase 1, if an aggregator wanted
13 to do a Bring Your Own Device, then they would
14 have to predict the peaks. And Phase 2 provided
15 that they would, if an aggregator came in with a
16 Bring Your Own Device Program, then the
17 Liberty -- Liberty would predict the peak.

18 Q And did that happen in Phase 1?

19 A (Tebbetts) That did not happen in Phase 1. I
20 believe it started, and then I think it kind of
21 just fell off, people just fell off somehow, some
22 way, I don't remember really. But it didn't get
23 off the ground in Phase 1, no.

24 Q Presumably, you've read the Guidehouse Report

[WITNESS PANEL: Crawford|Joyce|Tebbetts|Gaur]

1 that is entered -- at least marked for
2 identification as "Exhibit 22", I believe?

3 A (Tebbetts) Yes.

4 Q Would you say, in general, that the Guidehouse
5 Report concludes that Phase 1 of the Pilot was a
6 success?

7 A (Tebbetts) Overall, I would say yes.

8 Q And, so, therefore, I listened to Mr. Sheehan
9 say, in response to the Commission's question,
10 about whether there will be a Phase 2, he
11 basically said "There won't be a Phase 2". What
12 he actually said was "At this point, we do not
13 have a plan to do so."

14 And, so, my question to you is, why is
15 this Company walking away from Phase 2 of this
16 Pilot Program?

17 A (Tebbetts) So, we're not walking away from
18 Phase 2. To be clear, we just don't have a
19 proposal today. To be honest, I sat here last
20 week, and we talked about demand response
21 opportunities in another docket. And the Company
22 is seeing this kind of docket and other things
23 come about. We don't think it makes sense at
24 this time to just come up and now propose a

[WITNESS PANEL: Crawford|Joyce|Tebbetts|Gaur]

1 Phase 2, when the Commission and other parties
2 are actually looking at potential demand response
3 programs.

4 So, what we'd like to do is understand
5 better what the Commission wants, understand what
6 parties want. You know, we're talking five years
7 after we made a filing, and see how have things
8 changed. Do the things that we set out to do in
9 Phase 1 still apply to a Phase 2? And, if they
10 do, let's do them. And, if they don't, what does
11 apply now? How have things in the world, and in
12 New Hampshire, since we actually proposed this?

13 We want to, if we're going to put a
14 Phase 2 out there, we want to make sure that we
15 are looking at current issues in New Hampshire,
16 and not looking back at 2017 and 2018 issues and
17 now pushing that forward.

18 Q And, finally, the service territory of your
19 Company, in its western zone, abuts the service
20 territory of Green Mountain Power, over in
21 Vermont, does it not?

22 A (Tebbetts) Yes, it does.

23 Q And are you familiar with what Green Mountain
24 Power is doing with Tesla Powerwalls?

[WITNESS PANEL: Crawford|Joyce|Tebbetts|Gaur]

1 A (Tebbetts) Well, I was familiar with their
2 program that they had. If that's changed in the
3 past year or two, then I am not familiar.

4 Q Would it be fair to say that Liberty, through
5 this Pilot, sort of the leapfrogged over what you
6 understood Green Mountain Power to be doing?

7 A (Tebbetts) We absolutely stole their program, and
8 I told them that when I worked with them. We
9 just made it better, because we added time-of-use
10 rates to it.

11 Q That's a big deal, though, right? I mean, Green
12 Mountain Power, like Liberty, was basically
13 partnering with customers to install Tesla
14 Powerwalls, they're helpful during outages, are
15 they not?

16 A (Tebbetts) Yeah, you're right. We did exactly
17 that, yes.

18 Q But, then, you went one better than your friends
19 in Vermont, by saying "Let's try some TOU
20 arbitrage with these batteries and see how that
21 goes", right?

22 A (Tebbetts) Yes.

23 Q And, so, if you live or work in the Upper Valley,
24 and you're trying to undermine the idea that

[WITNESS PANEL: Crawford|Joyce|Tebbetts|Gaur]

1 Vermont is more evolved, in terms of its
2 electricity service than New Hampshire is, would
3 there be a better example than what Liberty has
4 done with Tesla Powerwalls, versus what Green
5 Mountain Power has done?

6 A (Tebbetts) No.

7 MR. KREIS: Those are all the questions
8 I have for the Liberty witnesses at this time.

9 CHAIRMAN GOLDNER: Okay. Thank you.
10 We'll move to Mr. Krakoff.

11 MR. KRAKOFF: Yes, I have a few
12 questions.

13 BY MR. KRAKOFF:

14 Q Ms. Tebbetts, or the folks from Guidehouse, could
15 you please just explain what the purpose of the
16 Guidehouse Report was?

17 A (Tebbetts) Yes. Sure. So, as part of the
18 Settlement Agreement, we said we would have a
19 third party evaluate Phase 1, and it would look
20 at about 18 months of data, to figure out, you
21 know, "Did we meet what was set out to be met in
22 the Settlement Agreement?" And one of those
23 things was to get, you know, to predict the peak
24 at least 75 percent of the time; we looked at

[WITNESS PANEL: Crawford|Joyce|Tebbetts|Gaur]

1 cost-benefit analysis; customer engagement.

2 And, so, we agreed that we would have a
3 third party come and take a look at all of the
4 data and make those determinations for us.

5 Q Okay. And, when you said that they would look at
6 whether you met all the criteria they set out to
7 do in the Settlement Agreement, I mean, would you
8 agree that the Guidehouse Report largely finds
9 that you did meet those criteria?

10 A (Tebbetts) Yes.

11 Q Okay. And, so, one of those criteria you just
12 mentioned was reducing peak demand with an
13 accuracy of 75 percent or greater. So, that
14 criterion was met here?

15 A (Tebbetts) Yes.

16 Q Okay. And I guess one of the considerations in
17 this hearing today is whether to continue Phase 1
18 of the program, correct?

19 A (Tebbetts) Well, I think Phase 1 is going to
20 continue through the ten years.

21 Q Okay.

22 A (Tebbetts) As we have customer contracts saying
23 that we will continue this. I think my opinion,
24 and how I read the scope of this is, "Do we go to

[WITNESS PANEL: Crawford|Joyce|Tebbetts|Gaur]

1 Phase 2? And, if so, have we met the
2 requirements to go to Phase 2?"

3 Q Okay. So, your intention is to continue with
4 Phase 1 for the entire ten years of the program?

5 A (Tebbetts) Yes.

6 MR. KRAKOFF: Okay. And I have no
7 further questions at this time. Thanks.

8 CHAIRMAN GOLDNER: Thank you,
9 Mr. Krakoff. We'll move to Department of Energy,
10 and Mr. Dexter.

11 MR. DEXTER: Thank you.

12 BY MR. DEXTER:

13 Q I'd like to follow up on the issue that was
14 raised earlier about the customers that have
15 batteries that are also solar customers.

16 And, Ms. Tebbetts, you had identified
17 an issue that you said was of concern back in the
18 early parts of this program that concerned
19 whether or not a customer with solar would ever
20 export power to the grid, except when an event
21 was called. And you sort of answered your own --
22 you identified the issue, and then answered the
23 question by saying "that would never happen."
24 Did I understand that right?

[WITNESS PANEL: Crawford|Joyce|Tebbetts|Gaur]

1 A (Tebbetts) Yes. So, the batteries won't -- the
2 only time the batteries will ever export to the
3 grid is when they're called upon for a peak
4 event. And I think Mr. Joyce, from Tesla,
5 confirmed that they will not export power, except
6 in those instances.

7 Q Right. And Mr. Joyce, if I understood his
8 answer, said that that was "done through
9 programming", and I'm simplifying, but that's
10 what I understood.

11 And I wonder if Mr. Joyce would explain
12 in more detail how everyone can be sure that
13 that's, in fact, what happens or what doesn't
14 happen?

15 A (Joyce) The batteries are indeed controlled by a
16 local computer running control software that
17 includes an economic optimization for the sites.
18 And we have configured the economics of these
19 sites, as configured on the battery, so that it
20 never sees a financial benefit to exporting the
21 solar. And, so, it will use that energy to power
22 the loads in the house.

23 When we send a direct command, however,
24 it will obey that direct command, and that is how

[WITNESS PANEL: Crawford|Joyce|Tebbetts|Gaur]

1 we are able to see the extra benefit from
2 exporting during a grid event. When we don't
3 send that event command, the system will only
4 serve on-site load.

5 Q So, do I understand then that this solar system
6 would bypass the battery when a customer's solar
7 system exports to the grid?

8 A (Joyce) That's right. We don't block that. We
9 only are concerned with whether or not the
10 battery causes export to the grid.

11 Q And you can -- and how can you tell whether or
12 not an export from a battery is used by the
13 homeowner or it goes to the grid?

14 A (Joyce) Every installation has metering at three
15 different points in the home. Both a meter at
16 the site that is collocated with the service
17 meter, one at the battery, so that we know what
18 the battery is doing, and one at any solar
19 generation. So, using that data, we're able to
20 track the energy flows. And we can tell if
21 export to the grid is exceeding the amount of
22 solar generation. We can monitor that point, and
23 we can know that the battery is never causing
24 there to be more export to the grid than there is

[WITNESS PANEL: Crawford|Joyce|Tebbetts|Gaur]

1 solar generation.

2 MR. DEXTER: That's all the questions I
3 have. Thanks.

4 CHAIRMAN GOLDNER: Okay. Thank you,
5 Mr. Dexter. We'll move to Commissioner questions
6 now, beginning with Commissioner Simpson.

7 CMSR. SIMPSON: Thank you, Mr.
8 Chairman.

9 Okay. So, I'll start with a few
10 questions for the Company, and then I have some
11 questions for Tesla. Nice to see you both again.

12 BY CMSR. SIMPSON:

13 Q So, just as of today, how many installations are
14 out there? How many customers?

15 A (Tebbetts) We have 98 customers. We have two
16 customers still awaiting their installations,
17 because a couple of customers actually dropped
18 out right before their batteries were installed.
19 And, so, we've replaced them. We have a long
20 waiting list. So, we've replaced those two, and
21 those two are waiting to get their batteries
22 installed.

23 Q What's driving the waiting list?

24 A (Tebbetts) Oh, customers really want batteries.

[WITNESS PANEL: Crawford|Joyce|Tebbetts|Gaur]

1 Q And they're just not available?

2 A (Tebbetts) Well, we only have 100 allowed
3 participants. So, they're just waiting for maybe
4 Phase 2.

5 Q Okay. And can you point me to what you've spent
6 so far on those customers who are interconnected
7 today?

8 A (Tebbetts) Yes. I think it's in the Report. I
9 thought it was in the Report, the total.

10 Q Take your time.

11 A (Tebbetts) Yes. If it wasn't in the report, give
12 one second.

13 I have a number, let me just get into
14 it. Nope, shoot.

15 *[Short pause.]*

16 **CONTINUED BY THE WITNESS:**

17 A (Tebbetts) Okay. Okay. So, the total -- total
18 spent on Phase 1 was -- okay, well, that's not
19 right.

20 Jeez, I thought I had it really in
21 front of me, and I -- hold on. It's about two
22 and a half, 2.6 million.

23 BY CMSR. SIMPSON:

24 Q Okay.

[WITNESS PANEL: Crawford|Joyce|Tebbetts|Gaur]

1 A (Tebbetts) Approximately.

2 Q Okay. Where are you reading that from? Is that
3 in the record?

4 A (Tebbetts) You know, I'd have to look and see if
5 we -- did we file the cost-benefit analysis as
6 part of this? That's a good question. I just
7 can't remember what we did.

8 Q I can make it a record request, and then you can
9 go back and --

10 A (Tebbetts) Sure.

11 Q If you can? So, that would be just, as of today,
12 what have been the program expenditures?

13 A (Tebbetts) Yes, yes, yes. That's not a problem.

14 Q Thank you.

15 A (Tebbetts) We can get you that.

16 Q With respect to the "100 customer limit" that you
17 just spoke to, there's, I think as some of the
18 participants have articulated, that this Pilot
19 has evolved quite a bit over time, it's deferred
20 from what you initially proposed.

21 At some point, there was a distinction
22 between "at least 100 customers and less than
23 200", do you recall that?

24 A (Tebbetts) "At least 100 customers"?

[WITNESS PANEL: Crawford|Joyce|Tebbetts|Gaur]

1 Q In Phase 1, you had to get at least 100
2 customers, but not more than 200.

3 A (Tebbetts) So, it was -- it ended up being
4 batteries, because Tesla then required two
5 batteries per customer.

6 Q Okay. Okay.

7 A (Tebbetts) So, I think it evolved into "no less
8 than 50 customers, no more than 100", because of
9 that issue.

10 Q Okay. That's a helpful distinction. Thank you
11 for that.

12 Can you explain how customers are using
13 your time-of-use rate for charging, and
14 discharging, if they can use it? It sounds like
15 they're not using the TOU rate for discharging.
16 But, please, if you could explain it for me, that
17 would be helpful.

18 A (Tebbetts) Yes. Sure. So, the way the
19 time-of-use rates work is that, well, customers
20 have three periods during the week and two
21 periods on the weekends.

22 So, we'll talk about customers who
23 don't have solar. Customers who don't have
24 solar, their batteries will operate in their home

[WITNESS PANEL: Crawford|Joyce|Tebbetts|Gaur]

1 from -- during the critical peak hours, and they
2 will offset the load at the home, up to whatever
3 it is, until the batteries have 20 percent left.
4 In the event that a customer then uses more,
5 maybe they're running their air conditioning, --

6 Q Uh-huh.

7 A (Tebbetts) -- a hot day, they will then draw from
8 the grid at the time-of-use rate.

9 Q Uh-huh.

10 A (Tebbetts) And then, as far as the solar
11 customers go, same thing, but they will use their
12 solar, and then use their battery during those
13 periods.

14 Q Uh-huh.

15 A (Tebbetts) And then, if all of that's gone, then
16 they're going to draw from the grid. So, the
17 benefit is that, during those high-price periods,
18 customers have the opportunity to use the battery
19 to offset the imports of kilowatt-hours at the
20 very high prices.

21 Q Uh-huh.

22 A (Tebbetts) And we found in -- well, the
23 Guidehouse found, by doing some analysis, that
24 those customers actually saved money on their

[WITNESS PANEL: Crawford|Joyce|Tebbetts|Gaur]

1 bills, simply because they were using that price
2 arbitrage to benefit themselves.

3 Q The customers that just had the battery, with no
4 rooftop solar, or no solar, I should say? Is
5 that what you're distinguishing?

6 A (Tebbetts) No. All customers who have batteries
7 had an opportunity to reduce their bills.

8 Q Okay.

9 A (Tebbetts) Maybe customers with solar had, you
10 know, depending on how their solar worked, could
11 have reduced it higher, but they all had an
12 opportunity to reduce their bills.

13 Q So, customers use the time-of-use rate just to
14 charge the batteries, and then they offset their
15 own load during the peak period of the rate
16 design. Is that a correct characterization of
17 what you just said?

18 A (Tebbetts) Yes. So, the batteries for non-solar
19 customers charge overnight, --

20 Q Yes.

21 A (Tebbetts) -- in the off-peak hours, which start
22 at 8:00 p.m. and go until 8:00 a.m., on the
23 off-peak rate.

24 Q Okay.

[WITNESS PANEL: Crawford|Joyce|Tebbetts|Gaur]

1 A (Tebbetts) And then use it in the critical peak
2 hours, 3:00 p.m. to 8:00 p.m., to offset that
3 high rate, so they're not importing. So, they
4 get that price arbitrage when they're buying
5 power really cheap, using it at the high price
6 periods.

7 Q Okay. And then, I read your filing with respect
8 to the solar customers. And my takeaway was that
9 they're customers that have rooftop solar, and
10 there are times then they're not able to charge
11 their battery. Their battery has a very low
12 state of charge, because they can't charge it
13 from the grid. Is that correct?

14 A (Tebbetts) Yes.

15 Q And, seemingly, that would impact the life of the
16 battery, sitting at a very, very low state of
17 charge. Is that a fair assessment?

18 A (Tebbetts) I believe that's correct. But Mr.
19 Joyce, from Tesla, would have to confirm that.
20 But I do believe that I did hear that information
21 when we brought this up to Tesla a few years ago.

22 Q And, if there were a rate design that we looked
23 at, let's say your time-of-use rate, and were to
24 develop within those periods a charging and a

[WITNESS PANEL: Crawford|Joyce|Tebbetts|Gaur]

1 grid discharging rate, could that be an option
2 for those customers? To have the solar charge
3 their battery, and then have a separate rate
4 design for the export?

5 A (Tebbetts) Well, the batteries don't -- you mean
6 the batteries export or the solar export?

7 Because the batteries won't export at all, --

8 Q Uh-huh.

9 A (Tebbetts) -- except when we call on them. If
10 the issue is, we'd like to be able to charge
11 those batteries -- we'd like to make sure that
12 those batteries are ready for a peak event. And,
13 so, in the event that Tesla predicts a peak event
14 today, this morning we want to be able to send a
15 signal to it right away to be able to charge it,
16 regardless of the price.

17 Q Uh-huh. Right. So, I read what the
18 Department -- or, I guess PUC Staff at the time
19 had filed with respect to a concern around net
20 metering, and that that would violate the net
21 metering statute. Is that your understanding of
22 their concerns as well?

23 A (Tebbetts) Yes.

24 Q So, what I'm asking is, if there's no netting, if

[WITNESS PANEL: Crawford|Joyce|Tebbetts|Gaur]

1 we have a rate design, time-of-use rate design,
2 that has both import and export rates, and that
3 we have the technology, because I believe Mr.
4 Joyce said that there are meters or measurement
5 devices at the service point for the solar, and
6 for the battery, so, there should be no netting
7 that would be necessary, could we enable those
8 customers to gain the full benefits of these
9 installations and actually export during
10 time-of-use periods onto the grid? Could that be
11 an option for future application within this
12 program?

13 A (Tebbetts) I mean, anything is an option, I
14 guess, as long as we're not -- well, put it this
15 way. Let's forget the statutes for net metering
16 and everything else. Yes, if we actually wanted
17 those systems to export everything to the grid,
18 as a benefit to the grid, as a benefit to the
19 customer, call it whatever you want, we could do
20 that. Obviously, we'd have to program the
21 batteries, *et cetera*, and our billing. But, all
22 things being equal, it's not impossible.

23 CMSR. SIMPSON: Uh-huh. I don't know
24 if maybe the Department might want to address

[WITNESS PANEL: Crawford|Joyce|Tebbetts|Gaur]

1 that, that point at some point, you don't have to
2 do it right now, but the question of net
3 metering, and your concerns with respect to
4 violation of the statute.

5 BY CMSR. SIMPSON:

6 Q So, when does Liberty have control over these
7 batteries?

8 A (Tebbetts) All the time. Well, what I'll say is,
9 Liberty, ourselves, we don't have actual access,
10 or control. Tesla has control of those
11 batteries. But through, with that, we do, all
12 the time. The customer has no access to their
13 battery. They can look at the battery through
14 their phone app.

15 Q Uh-huh.

16 A (Tebbetts) But my understanding is they have no
17 access to do anything with the batteries. So,
18 even though the Settlement Agreement says "when
19 Liberty has control", the Settlement was written
20 while we were working through the control. And
21 it turned out that the customer never has
22 control.

23 Q And is that a positive or is that a negative, in
24 your view?

[WITNESS PANEL: Crawford|Joyce|Tebbetts|Gaur]

1 A (Tebbetts) I think it's a positive, because we
2 set out to the customers, in their contract, how
3 this program is going to work. If they were to
4 fuss with the batteries and the programming, no
5 longer are those batteries going to operate in
6 the manner that we set forth, and also that we
7 agreed with parties and the Commission on how we
8 would operate them.

9 Q And is that just underlying in the contractual
10 agreement or is there anything in your tariff
11 about that?

12 A (Tebbetts) I don't know if there's anything in
13 the tariff. I'd have to go back in the tariff
14 and look. But I think it's spelled out in the
15 contract, and I think some of the contract is in
16 the tariff. But, I think, for the most part,
17 it's the time-of-use periods really that are in
18 the tariff, not what's in the contract and how
19 the batteries will be used.

20 Q So, the only time that these batteries export
21 energy to the grid is when Liberty calls upon
22 them to do that, correct?

23 A (Tebbetts) That's correct.

24 Q And can you explain how the customer is

[WITNESS PANEL: Crawford|Joyce|Tebbetts|Gaur]

1 compensated during those times?

2 A (Tebbetts) Sure. Through net metering, same idea
3 as net metering credits. So, any kilowatt-hour
4 that goes back to the grid, the customer
5 receives, you know, we net it at the month -- at
6 the end of the month, just like if it was solar.

7 Q Uh-huh.

8 A (Tebbetts) So, any exports that go back to the
9 grid, they get a monetary compensation. They're
10 not in the grandfathered program for net
11 metering, they are in the tariff approved on
12 September 1st -- for effect September 1st, 2017.

13 Q Uh-huh.

14 A (Tebbetts) So, they get only a monetary credit
15 for 100 percent energy service, 100 percent
16 transmission, 25 percent distribution.

17 Q As applied to the relevant time period in the TOU
18 rate?

19 A (Tebbetts) That's correct. So, if, let's say, we
20 called on them and told them to, at 2:00, they
21 had to export, they would get whatever prevailing
22 rate that is. If it was at 5:00, they would get
23 that prevailing rate.

24 Q Okay. All right. Thank you.

[WITNESS PANEL: Crawford|Joyce|Tebbetts|Gaur]

1 I have a few questions for Mr. Joyce.

2 How are you today, sir?

3 A (Joyce) I'm doing well. Thank you.

4 Q I know that some of the participants here today
5 noted that we have some other ongoing focus areas
6 in the demand response. Are you aware of an
7 investigation that we have into demand response
8 technology?

9 A (Joyce) Only insofar as it was mentioned to me
10 that it exists.

11 Q Okay. And, just for the record, that's IR
12 22-076.

13 And I ask, because I don't want to
14 stand in the way of progress. But we do have a
15 balance, of course, in terms of what we're trying
16 to investigate and understand more broadly, with
17 respect to demand response, and any applications
18 of that technology that might help to enable the
19 energy statutes and policies here in New
20 Hampshire.

21 Which is really what I wanted to talk
22 to you about. I'm really curious to understand,
23 what's Tesla's vision for a retail electricity
24 market? How can state regulation enable that?

[WITNESS PANEL: Crawford|Joyce|Tebbetts|Gaur]

1 A (Joyce) Well, thank you.

2 Q That's an easy one.

3 A (Joyce) that's a very broad question. I'd say,
4 we do --

5 Q Just stage-setting.

6 A (Joyce) Yes. Thank you. We do have some visions
7 for different models for how all this can work.
8 What we have done in New Hampshire, with Liberty,
9 is one model, with the utility ownership of
10 the -- of the batteries themselves, you know,
11 providing benefits to the utility, you know,
12 therefore, lowering the barriers to various
13 customers adopting the technology, so that they
14 can get backup. And also, as was shown in this
15 Pilot, the benefit of managing their own energy
16 costs.

17 There are, you know, other approaches
18 that we've taken in other markets, more around
19 customer ownership of the batteries themselves.
20 And, in that case, it's really very similar in
21 the overall outcomes, but it is a -- sort of a
22 stack of allowing customers to manage their own
23 energy costs and achieve a certain amount of
24 systemic load shift through time-of-use rates.

[WITNESS PANEL: Crawford|Joyce|Tebbetts|Gaur]

1 And layering on top of that various programs to
2 address peak and address other grid needs, like
3 ancillary services, by having a virtual power
4 plant offering on top of that, which also
5 generates value to the customer that can help
6 benefit them financially. And, you know, also,
7 to a certain degree, pay for the investments that
8 they have made into solar and storage at their
9 home.

10 Q Would you characterize this program as a "virtual
11 power plant"?

12 A (Joyce) I would characterize this program as a
13 "virtual power plant", yes.

14 Q What do you think New Hampshire is missing, in
15 terms of enabling these technologies more
16 broadly?

17 A (Joyce) I think, probably, it would be from here,
18 you know, I think a lot of the basic pieces are
19 in place. You know, the -- you have the net
20 metering policy that allows customers to export
21 and realize value. That's a very key component,
22 that exports be valued. You are exploring, and
23 have explored through this program, time-varying
24 energy rates, which is another key component.

[WITNESS PANEL: Crawford|Joyce|Tebbetts|Gaur]

1 And I think, beyond that, it is finding
2 ways to attach value to other services that these
3 flexible resources can provide. Here, we've
4 talked about various capacity services, the RNS
5 and FCM values. And we've shown that we can
6 unlock those, and make that value -- pass that
7 value along to customers through various
8 mechanisms.

9 Those are the pieces. And I -- and
10 I've seen them all, you know, in place or under
11 development in New Hampshire.

12 Q And did you understand or do you understand the
13 concern that Liberty has raised, with respect to
14 customers that have distributed generation, in
15 addition to batteries, within this program, and
16 the inability, at least as understood by the
17 Company, of those customers to charge their
18 batteries from the grid?

19 A (Joyce) Yes, I am familiar with that issue. It
20 is one that has existed as long as we have had
21 batteries in cold climates, as you have in New
22 England. So, yes. We have been dealing with it
23 for a while.

24 Q In other states as well?

[WITNESS PANEL: Crawford|Joyce|Tebbetts|Gaur]

1 A (Joyce) In other states as well, to a degree.
2 But a lot of places we have been able to -- to
3 get to resolution to have the appropriate parties
4 agree that, as long as there is a control to
5 minimize or eliminate the export outside of when
6 it is needed as part of the program, that the --
7 that the challenge to existing policies is
8 non-existent or minimal.

9 Q Do you think there are rate design options that
10 could mitigate that issue? I mean, it seems to
11 revolve around the core concept of "netting".
12 And it seems as if these customers within the
13 Pilot, that they have multiple measurement nodes
14 that I would presume have telemetry, and fairly
15 close to real-time information.

16 Can you explain the granularity of
17 information that Tesla can see, in terms of how
18 energy is flowing within these systems?

19 A (Joyce) Sure. In terms of the way they are
20 controlled, as I mentioned, they are controlled
21 locally. And, so, honestly, we don't need to see
22 all this data in order to maintain all the
23 control. And, of course, that local controller
24 has, you know, extremely granular and extremely

[WITNESS PANEL: Crawford|Joyce|Tebbetts|Gaur]

1 fast ability to access this information and act
2 on that information.

3 In terms of what we, Tesla, can see, in
4 terms of telemetry that comes back to us, we do
5 sample all those measurement points that I
6 mentioned earlier, that is the premise, the
7 battery, and on-site generation, such as solar.
8 And we pull that data back to us regularly, at
9 five-minute intervals, and, when needed, at up to
10 every few seconds.

11 Q Okay. So, at a minimum, you have five-minute
12 interval information for all of those nodes, and
13 you can access data per five-second intervals, it
14 sounds like, down to that level?

15 A (Joyce) That's right. When the customer -- when
16 needed, for example, when the customer opens
17 their app, and is watching their system in
18 real-time, we're able to pull the data in near
19 real-time in order to support that.

20 Q Have you, in other jurisdictions, participated in
21 programs or pilots that led to the formation of
22 dynamic rates, for both importing and exporting
23 energy?

24 A (Joyce) We have not participated in any pilots of

[WITNESS PANEL: Crawford|Joyce|Tebbetts|Gaur]

1 dynamic rates to date. But I am familiar -- or,
2 I am aware, I should say, of some such pilots
3 that are under development.

4 Q Do you have any thoughts on value of these
5 systems that isn't being realized by the
6 inability of customers to export energy back onto
7 the grid, at times other than when Liberty calls
8 upon it?

9 A (Joyce) There are definitely -- yes. There are
10 definitely values to be had there. A lot of
11 those values can still be accessed through the
12 kinds of virtual power plant dispatches that
13 we're talking about. But dynamic rates is
14 another strategy that's being pursued.

15 Q Does Tesla have a preference, in terms of
16 regulatory constructs, that you're pursuing? I
17 mean, we're at this pivotal junction in this case
18 where we've deployed a couple hundred batteries
19 that are, --

20 A (Joyce) Uh-huh.

21 Q -- arguably, the most advanced, and seemingly
22 there is some regulatory hurdles that are in
23 place that limit the value that these resources
24 could provide to the system and to New Hampshire

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1 ratepayers. We're in a pilot.

2 What recommendations might you offer to
3 fully realize or to more fully realize the
4 potential that these resources could provide?

5 A (Joyce) Right. I think, at this point, so, when
6 we talk with people about creating programs and
7 unlocking value for customers, and for the grid
8 and all ratepayers, I think what we -- a lot of
9 what we focus on these days is achieving more
10 scale, honestly. That a lot of the pieces, a lot
11 of the technical proofs of concept have been done
12 with various pilots and programs, such as the one
13 we're talking about here. We're very interested
14 at this point, around the world, at finding
15 structures that can appeal to lots of consumers,
16 and, therefore, drive adoption, and, through
17 adoption, create more value, and, through
18 creating more value, making the proposition more
19 attractive to customers, and to get the -- grow
20 the resource that's available, as sort of a way
21 to accelerate what we're doing here.

22 To that end, I think we're very excited
23 about programs that are simple and transparent,
24 and exciting to customers. And, to that end, and

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1 that's why we're pursuing in many places the kind
2 of framework that I described when you asked the
3 first question, which is, you know, some simple
4 concepts, simple for those of us who live in the
5 utility space for our professional lives, like
6 time-varying energy rates, TOU rates, like
7 virtual power plants, that have discrete and
8 understandable responses, things like that. So
9 that we can get customers excited, and that we
10 can improve adoption, and so that we can start to
11 educate customers as to how these systems can be
12 extremely valuable as a foundation to build on.
13 At which point, maybe some of the more
14 sophisticated concepts can be brought in, once
15 that understanding and trust has been built.

16 Q I mean, I look at New Hampshire, and I see that
17 we have multiple utilities that have time-of-use
18 rates for a variety of customer types. We are on
19 our way with respect to advanced metering for
20 those utilities.

21 I guess, what should we do next? What
22 do you recommend that we do next, in order to
23 enable broader adoption and to realize benefits?
24 We're in this pilot environment where we can test

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1 things out.

2 A (Joyce) I think that continuing, you know, I
3 think that the idea of developing a BYOD-style
4 program, in order to mobilize the kind of VPP
5 value that we mobilized here in different ways
6 for more customers, is one thing that could be
7 done, in order to -- in order to more realize the
8 vision that I've been describing and to move
9 things forward.

10 Q And would that have, ideally, a broader customer
11 control component, in addition to a centralized
12 dispatch of these batteries in aggregate?

13 A (Joyce) In general, yes, it would. If we're --
14 if we were to go the Bring Your Own Device route,
15 and not a utility-owned route, generally
16 speaking, that comes with more customer controls,
17 so that customers can realize value from things
18 like the TOU rates as they elect. And there's no
19 necessarily -- it's not necessarily a
20 representation of the value from the utility that
21 we have to stand behind.

22 Q Okay. Just over two years ago, we received a
23 letter in this proceeding from Sunrun. I'm not
24 sure if you're familiar with that. If not, it's

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1 okay. I can give you a summary of my
2 perspective. Are you familiar with that letter?

3 A (Joyce) No, not the content of it. But, now that
4 you mention it, I do recall something like this
5 being part of the conversation a few years ago.

6 Q So, in my reading, the essence of this letter was
7 that, if this Pilot were continued into a second
8 phase, that the utility would not control the
9 batteries. That another DER provider would
10 control the operation of these batteries.

11 So, first off, can you explain, from
12 your understanding, who's really controlling the
13 batteries? Who's doing that economic dispatch
14 activity right now?

15 A (Joyce) The way this Pilot is put together, that
16 is us, Tesla, as a service to the utility. We
17 are predicting ISO-New England peaks, --

18 Q Uh-huh.

19 A (Joyce) -- and dispatching the VPP accordingly.

20 Q Okay. And that's the Company's understanding as
21 well? You're not in software, discharging
22 batteries, you defer to Tesla on this?

23 A (Tebbetts) Yes. That's correct.

24 Q So, are you familiar with the letter, Ms.

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1 Tebbetts?

2 A (Tebbetts) Yes, I am.

3 Q How do characterize your operation of these
4 batteries today? Do you feel that Liberty is
5 really calling on these batteries or is somebody
6 else? A partner?

7 A (Tebbetts) Yes, a partner is. You know, that's
8 part of the partnership with Tesla. If we had
9 this kind of software, and we had someone sitting
10 in a room every day making that determination, we
11 wouldn't need Tesla, I guess.

12 Q Uh-huh.

13 A (Tebbetts) But Tesla has the -- Tesla has the
14 EPI. Tesla has the algorithms already programmed
15 into it. They're already looking at the ISO-New
16 England data. And, so, we'd be reinventing the
17 wheel, if we did it for ourselves for a small
18 pilot like this. And, so, we have worked with
19 Tesla for the past few years to dispatch and
20 monitor the batteries. They have a really great
21 EPI, I can tell you, I use it all the time. And
22 a couple of us at the Company use it, we can look
23 at what the batteries are doing for any customer,
24 or, in aggregate, what those customers are doing,

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1 and are able to answer customer questions and
2 things like that.

3 So, we are not controlling those
4 batteries; Tesla is. And we're doing it in a
5 partnership.

6 So, when I look at the Sunrun's letter,
7 insert here, right, the company that's doing it
8 for us. It's Tesla today. If Tesla wasn't here,
9 tomorrow we'd find someone else to do it.

10 But, yes, it's a partnership. And we
11 don't control the batteries ourselves. We do it
12 through Tesla.

13 Q Okay. So, then, Mr. Joyce, can you explain to me
14 what software the Company uses in order to gauge
15 opportunities within the regional electricity
16 market, ISO-New England, as well as controlling
17 the batteries?

18 A (Joyce) Sure. You know, Tesla, what we have are
19 Autobidder software, which is an
20 algorithmic-based bidding strategy software that
21 we use for in-front-of-the-meter batteries, as
22 well as behind-the-meter virtual power plants,
23 such as this one.

24 In terms of how this particular system

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1 is -- this particular VPP is being dispatched, it
2 is a very, frankly, basic implementation. We do
3 have the data feeds that flow into our software,
4 but the dispatch for this program is a pretty
5 manual process on our side, with a human in the
6 loop that helps us monitor this on a day-to-day
7 basis and make the dispatch decisions.

8 Q And then, in some of the record request
9 responses, there's a mention of a tool called
10 "Powerhub". Can you explain that please?

11 A (Joyce) That is the portal that was just
12 described earlier, that allows you to see the
13 behavior of the VPP in aggregate, as well as the
14 behavior of the individual sites. Liberty has
15 access to that. We, internally, also have access
16 to that for this fleet, and it also includes the
17 ability to schedule dispatch commands manually
18 within it.

19 We, Tesla, have that capability, but
20 Liberty does not have that capability, because of
21 the arrangement, the dispatch arrangement that we
22 have with them. They could have that capability.

23 CMSR. SIMPSON: Okay. So, I'll return
24 to the Department, if you have anything you want

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1 to add on the "net metering" question? You don't
2 have to, if you don't want to. I just want to
3 give you that opportunity.

4 MR. DEXTER: Well, I think we explored
5 the concern that was raised several years ago.
6 And I think we heard the explanation from Liberty
7 and from Tesla on how the concern has been
8 addressed. And I think we're satisfied with
9 that. So, I don't have anything else to add.

10 We don't have a comment at this time on
11 your proposal to do this without netting. We'd
12 have to think about that a little bit.

13 CMSR. SIMPSON: So, with respect to
14 resolution, you're -- it sounds like the Company
15 hasn't resolved this question yet. They still
16 have it pending for us?

17 MR. DEXTER: Well, Mr. Sheehan started
18 with this as a pending -- as a request.

19 CMSR. SIMPSON: Yes.

20 MR. DEXTER: What I'm saying is, I
21 think, based on what we've heard today, we
22 wouldn't have any objection to the Commission
23 granting Liberty's request.

24 CMSR. SIMPSON: Okay. To enable their

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1 customers with rooftop solar to charge their
2 batteries from the grid?

3 MR. DEXTER: Correct.

4 CMSR. SIMPSON: Okay.

5 MR. DEXTER: Yes. Because, based on
6 what we heard today, it sounds like they would
7 not be in violation of the net metering statute
8 requirements.

9 CMSR. SIMPSON: Okay. Thank you.

10 And, as somebody that's been involved
11 from the beginning, I would ask the Consumer
12 Advocate, do you have any thoughts on dynamic
13 rate evolution?

14 Because, frankly, it's surprising that
15 we have hundreds of batteries that customers
16 themselves can't control and export to the grid
17 at their own discretion. So, I wonder "what
18 could be a next step?" "What could be a
19 regulatory paradigm that would enable them to
20 monetize, realize value that meets their needs?"

21 Any thoughts?

22 MR. KREIS: That's a terrific question,
23 Commissioner Simpson. I think I'd like to take
24 that one home and ponder it, though. I've had a

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1 long day.

2 CMSR. SIMPSON: No problem. That's
3 fine.

4 And then, I guess, moving forward, it
5 still seems like there's a lack of acquiescence
6 around a strategy to move forward. So, what does
7 the Company want from the Commission in order to
8 "complete Phase 1"? And do you have an appetite
9 to move to Phase 2?

10 It seems like there's a lot of
11 opportunity here, now that there are almost 200
12 batteries that are possibly controlled by Tesla
13 in the Granite State.

14 MR. SHEEHAN: Sure. As I said, one
15 question is this net metering issue. And, based
16 on DOE's position, we hope the Commission will
17 solve that in a way that allows those customers
18 to charge from the grid, because they can't
19 export.

20 Our goal, our request is, frankly, to
21 let this program run. You know, it's only been
22 18 months. We've had a couple of wacky years
23 with COVID. So, with that, we have -- it's going
24 to have an asterisk next to it.

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1 So, there's a lot of value to be gained
2 by not tinkering with it too much. Just let it
3 run, let's collect the info. And, as Mr. Joyce
4 said, it can be a foundation for maybe tweaking
5 this program, maybe Phase 2, or maybe a totally
6 different application we haven't thought of yet.

7 So, you know, it's always inviting to
8 want to keep tweaking and manipulating it, and I
9 think we should resist to a degree.

10 So, back to your question, we ask for a
11 nod on that issue, that it's okay to do that.
12 More for administrative reasons, it would be nice
13 to hear from the Commission that Phase 1, other
14 than letting it run out, is done. You know,
15 there's no more -- we don't have to show anything
16 more. You know, we had to show so many batteries
17 in operation by certain deadlines, and that we've
18 essentially met all those. And costs going
19 forward are minimal. We're not spending too much
20 money to run it. So, it's an expense of just to
21 let it run and collect the data.

22 Again, as to Phase 2, we have not
23 closed the doors. It's, as Ms. Tebbetts said,
24 that the parties that pushed for the BYOD kind of

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1 went silent on it. So, we should reengage with
2 them, or give them the opportunity to reengage,
3 because it's going to be them that's going to be
4 bringing their devices. So, it's -- we can't
5 force them to the table.

6 And, so, we hope that, through the
7 success of this program, through the other
8 investigations you have, is that maybe it does
9 become a Phase 2 here, or maybe it becomes
10 something else.

11 CMSR. SIMPSON: So, I'm not sensing a
12 real appetite to increase customer count and
13 Liberty's ownership of more batteries?

14 MR. SHEEHAN: Correct.

15 CMSR. SIMPSON: You don't want to do
16 that at this time?

17 MR. SHEEHAN: Not at this time. You
18 know, I can't speak for the whole corporate
19 hierarchy, but there's, you know, as a utility,
20 we're a wires and poles company, and owning
21 assets behind meters is not the core of our
22 business. You know, we're doing it here for all
23 the right reasons. We're not sure that that's
24 where we want to expand.

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1 CMSR. SIMPSON: Wow. Okay.

2 MR. SHEEHAN: I mean, it's not that
3 we're not.

4 CMSR. SIMPSON: Uh-huh.

5 MR. SHEEHAN: I'm just saying it's not
6 resolved one way or the other.

7 CMSR. SIMPSON: Okay. All right. I
8 don't have any further questions. Thank you.

9 CHAIRMAN GOLDNER: Mr. Patnaude, are
10 you okay to continue?

11 *(Mr. Patnaude indicating in the*
12 *affirmative.)*

13 CHAIRMAN GOLDNER: Okay. So, I'll
14 start with maybe some Guidehouse questions. I
15 don't want you to feel left out. You've had a
16 long day of sitting, sir, and ma'am, on the
17 screen.

18 BY CHAIRMAN GOLDNER:

19 Q So, at the Settlement, Page 6, says that the goal
20 of Phase 1 was to "test of program concept and
21 execution, benefit-cost analysis parameter
22 assumptions, and incurred actual costs, as well
23 as customer acceptance and engagement."

24 And the Guidehouse Report, which is

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1 very thorough, you have some comments in various
2 areas, including the customer acceptance and
3 engagement. Could you maybe comment on your
4 assessment of customer acceptance and engagement?

5 A (Crawford) So, we had gauged customer acceptance
6 and engagement through a series of two different
7 surveys. One for the customers after
8 installation had occurred, and then, two, at the
9 end of the Pilot. And, overall, the level of
10 satisfaction, I have to look this up, overall,
11 the level of satisfaction was rated as a 4.25 out
12 of 5. And I believe those that would recommend
13 it to a friend was -- I want to say around 80
14 percent, but I have to confirm that.

15 Yes, 79 percent of customers said they
16 would recommend it to a friend.

17 Q Very good. And do you -- does Guidehouse have
18 experience doing these kinds of studies with
19 other customers or is this a unique study for
20 you?

21 A (Crawford) We do have this experience. I will
22 say I am not a process evaluation expert. But
23 yes, Guidehouse has certainly expertise in this
24 area.

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1 Q And, really, my only question is, is how does
2 this compare to other Guidehouse studies? Is
3 this good customer acceptance and engagement,
4 relative to your other studies? Or, maybe you
5 don't know the answer, but --

6 A (Crawford) I am sorry, I do not know how this
7 stacks up to typical responses to a program like
8 this.

9 Q And, so, in isolation, just knowing what you see
10 in the Report, would you say these numbers are
11 good or, you know, poor? How would you
12 characterize the numbers in the study?

13 A (Crawford) I would say it seems to be -- it would
14 certainly not be poor. And also -- I would
15 overall say that there's a reasonable degree of
16 satisfaction, certainly not poor.

17 Q You would be the highest-rated barbecue place in
18 New Hampshire, 4.25. So, that seems --

19 A (Crawford) That would be excellent.

20 Q That would be excellent. So, I thought "4.25"
21 was pretty good. So, that was just me.

22 Okay. Let's see. Let me move to the
23 B-to-C ratio, and, again, a question for
24 Guidehouse. But, if Guidehouse is uncomfortable,

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1 I'm sure Ms. Tebbetts can take this one.

2 But it shows in the Report a B-to-C
3 ratio for 1 plus 2 combined, Phases 1 plus 2
4 combined, at about 1.00, 0.99, let's just round
5 that to 1.00.

6 A (Crawford) Yes.

7 Q I believe that we had a record request for
8 Phase 1, and the B-to-C there is 0.87. Is
9 that -- can you confirm that number? Or, Ms.
10 Tebbetts, please feel free, whoever can answer
11 the question.

12 A (Crawford) I am not sure about the assessment of
13 Phase 1 alone.

14 Q It was -- Ms. Tebbetts, it was in our Record
15 Request Number 2.

16 A (Tebbetts) Yes.

17 Q So, I just want to confirm it on the record. And
18 I think the issues are, as Commissioner Simpson
19 was highlighting, and really Mr. Sheehan and the
20 other parties highlighted, some of the pitfalls
21 in the current implementation, things that can be
22 remedied, improved, fixed, right? But where we
23 are right now is we're under 1.00, right?

24 A (Tebbetts) Yes. Right now, that is correct. We

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1 have a benefit-cost ratio of 0.87. Yes.

2 Q Very good. Thank you for confirming that. And
3 then, we were confused, or at least I was
4 confused on the average life of the batteries.
5 Is it a 10-year battery life that was used in the
6 analysis? And maybe this is a question for
7 Guidehouse. Or, is it 15 years? And, on the
8 Report, Page 31, there's a discussion on a
9 "nameplate lifetime of 10 years". But then it
10 talks about using the batteries all for 10 years
11 in the assumptions, then degrading them at, I
12 think, "2 percent a year" or something for the
13 next five years. So, we couldn't quite figure
14 out what the useful life of the battery was.

15 A (Crawford) Yes. So, the battery life is -- it's
16 a challenging topic, because there's different
17 ways to look at it. There's the warranty period.
18 There's the time in which it degrades to 80
19 percent, which may or may not be exactly the
20 timeframe that you predict. There's a lot of
21 sort of different metrics that are you used for
22 sort of end-of-life.

23 But, in this analysis, I believe all
24 the batteries were assumed to last at least 10

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1 years. But, then, it was assumed that some would
2 be able -- the loop [sic] would be taken out of
3 service, you know, between 10 to 15 years.

4 Q Okay. And then, they're all out of service at 15
5 years?

6 A (Crawford) I do not believe it's necessarily
7 assumed that they are all out of service. But
8 the analysis does not assume any additional
9 benefit is received after 15 years.

10 Q Okay.

11 A (Crawford) And, Ms. Tebbetts, correct me if I'm
12 wrong?

13 A (Tebbetts) That's correct.

14 Q Okay. Okay. And a question for Ms. Tebbetts,
15 has the Company had to replace any batteries
16 until now or have all the batteries that have
17 gone in, understanding that customers come and
18 go, but have there been any need, has any
19 batteries failed or was there a need to replace
20 any batteries for any reason?

21 A (Tebbetts) Nope. Not yet. No, not at all.
22 Knock on this [indicating].

23 Q Very good. Excellent. And, if you were
24 replacing a battery today or putting in a new

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1 battery today, what would the cost of that
2 battery be? And how does that compare to the
3 battery that you might have bought a few years
4 ago, when you started to implement the program?

5 A (Tebbetts) I actually don't know. We have a
6 contract with Tesla, and that price was set in
7 the contract. I have not looked at Tesla's
8 website to see what the battery prices are.

9 Maybe Mr. Joyce has an idea of what
10 those cost today, I don't know.

11 A (Joyce) To answer your question about "What it
12 would cost to replace the battery?" These
13 batteries are still all under their 10-year
14 warranty. And, so, the replacement cost for one
15 that would fail to Liberty would actually be
16 zero, as far as that goes.

17 In terms of, if we were to buy a
18 battery today, versus the contract price from
19 when this agreement was signed, I don't have the
20 exact numbers in front of me. But I can tell you
21 that the selling price for Powerwall 2s have
22 increased during that time.

23 Q Okay. And can you give us any, you know,
24 ballpark estimate? The question was asked to Ms.

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1 Tebbetts before, in terms of what the battery
2 installation cost, I show 1.7 million, for 100
3 installations.

4 A (Tebbetts) Oh.

5 Q I think Ms. Tebbetts might have suggested "2.6
6 million". But let's just call it roughly 20K per
7 installation for the batteries. Is that -- would
8 that be a low number in today's market or would
9 that be about right?

10 A (Joyce) I would characterize that as "about
11 right". You might see some two Powerwall
12 stand-alone installations higher than that, by
13 maybe 10 percent.

14 Q Okay. Thank you.

15 A (Tebbetts) And if I may correct myself. When I
16 did the math, I subtracted -- I added in the
17 CIAC, instead of subtracting it. And, so, the
18 total cost for Phase 1 was about 1.7 million.
19 And that is in your Record Request 2, on the --
20 within the battery revenue requirement.

21 Q So, now, it's my turn to struggle with the math.

22 A (Tebbetts) Sure.

23 Q So, it's 1.7 million, is that for -- that's for
24 200 batteries?

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1 A (Tebbetts) That is, yes, for 200 batteries.

2 Q Two hundred (200) batteries. So, we're talking
3 about 8, 9K a battery. And I think, Mr. Joyce, I
4 don't want to put words in your mouth, but I
5 think you're saying that 8, 9K a battery might be
6 10 percent low in today's environment?

7 A (Joyce) Yes, maybe even a bit lower than that.

8 Q Okay. Meaning it's more or less --

9 A (Joyce) Meaning that it is more than 10 percent
10 more expensive than that these days.

11 Q Okay. I see. Thank you. That's helpful. A
12 question for Ms. Tebbetts. Has there been --
13 there's talk I think in the Settlement about
14 "adverse changes in costs", I think Mr. Joyce
15 just talked about a modest cost increase, if it's
16 10 or 15 percent or something. Is there anything
17 else that you discovered in this Pilot that was
18 an adverse cost, it was something you didn't
19 expect?

20 A (Tebbetts) Not with regards to cost, because we
21 had a contract. So, we have not been subject to
22 those price increases.

23 Q So, meters, everything, came in as -- well, I
24 guess it was per contract. So, you're saying it

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1 didn't -- the contract didn't change?

2 A (Tebbetts) The contract did not change. The
3 meters, we had installed in 2020, luckily, before
4 all the supply chain issues happened with COVID.
5 Because, right now, I can tell you, we use the
6 same meters for our EV charging, and we can't get
7 them. It's almost impossible.

8 Q Okay.

9 A (Tebbetts) We've been requesting them for like a
10 year, and we've ordered a lot of them, like a
11 hundred at least. And it's impossible to get.
12 So, it's a good thing that we had the meters
13 installed first.

14 Other things that we found here is,
15 time-of-use rates are really hard for customers
16 to understand, because they have not been exposed
17 to it. While we think they're really great, it
18 does take a lot of education. And, so, for
19 customers, if they didn't have the batteries, and
20 they went on time-of-use rates, I'm not even sure
21 they would be able to go a few months, in my own
22 opinion, based on my discussions with customers.
23 They're very difficult to manage, if you don't
24 have that backstop.

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1 But there are customers out there who
2 do watch their energy. And they know the things
3 to do, and they know the things to change in
4 their lifestyle, so that they can take advantage
5 of those time-of-use rates. That's one of the
6 things we notice the most, is just understanding
7 time-of-use rates, for the most part.

8 Other than that, customers seem really
9 happy with the program. And the power outages
10 that we've had, we've gotten some feedback that
11 customers didn't even notice. So, that was nice.

12 Q Well, my compliments on offering time-of-use
13 rates. There's at least one utility in New
14 Hampshire that is struggling in that area. And,
15 so, what you guys are doing here is very
16 innovative.

17 You know, and I used to live in Oslo,
18 Norway. And there was -- we had device that sat
19 on our kitchen counter that told us red, yellow,
20 green, in terms of when -- when it would be a
21 good time to give power to the grid or take power
22 back. And, so, that was 15 years ago. So, I
23 think the technology is probably still there.

24 And I think, you know, my input would

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1 be, in the future, if this were to, you know,
2 continue is, there are easy ways to make it for
3 people to understand. You know, like giving them
4 a spreadsheet probably isn't too helpful. But,
5 if you have something that people can see and
6 visualize, it helps a lot.

7 And it was just a simple wireless
8 communication between the meter and the device in
9 the kitchen. So, it wasn't rocket science.

10 CMSR. SIMPSON: Can I ask a follow-up?

11 CHAIRMAN GOLDNER: Please.

12 CMSR. SIMPSON: A question for Mr.

13 Joyce on that.

14 BY CMSR. SIMPSON:

15 Q Are you able to provide push notifications to
16 customers that are Powerwall customers of when
17 you want to dispatch or when rate situations
18 change?

19 A (Joyce) We are capable of providing push
20 notifications from our app, and we do that from
21 time to time. We have never used it for
22 signaling time-of-use rates for Powerwall
23 customers, primarily because the Powerwall, of
24 course, is an excellent tool for doing that for

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1 you.

2 Q Uh-huh.

3 A (Joyce) And the idea would be to keep things as
4 simple and seamless as possible for customers.

5 Q But, if, let's say, a customer's load were to
6 dramatically increase during a period of higher
7 electricity prices, and you're able to model
8 that, the state of charge and the battery is not
9 going to last until the end of that period, would
10 you be able to provide that analysis -- or, that
11 information to a customer, in some form or
12 another, to encourage conservation?

13 A (Joyce) Yes. Yes, that is the kind of thing that
14 our technology is able to do. We also do have
15 the ability for customers to input their utility
16 rates into our system so that we have that
17 visibility.

18 Q And are you doing that type of real-time customer
19 engagement in other jurisdictions?

20 A (Joyce) In terms, like I said, we aren't. We're
21 doing pieces of that. We're certainly taking
22 information about energy rates, and optimizing
23 the behavior of our system to those rates, very
24 similar to how we are with Liberty in this

[WITNESS PANEL: Crawford|Joyce|Tebbetts|Gaur]

1 program.

2 Q Uh-huh.

3 A (Joyce) But, based on customer inputs in those
4 other -- as opposed to prescribed rates in those
5 other -- in those other markets, we do have push
6 notifications for things like notifying customers
7 if backup duration is not adequate, things like
8 that. But we have never used a push notification
9 to try to change customer's behavior for TOU
10 rates, for the reason I mentioned earlier, is
11 that our focus is more on making sure that our
12 products do the most that they can to assist.

13 CMSR. SIMPSON: Okay. Thank you, Mr.
14 Chairman.

15 CHAIRMAN GOLDNER: A follow-up
16 question, Mr. Joyce.

17 BY CHAIRMAN GOLDNER:

18 Q If a customer in New Hampshire, or really
19 anywhere, wants to buy Powerwalls today, does
20 Tesla require solar arrays to be included or will
21 Tesla sell just the Powerwalls?

22 A (Joyce) I don't specifically know the answer to
23 that question today. I do know that we do sell
24 Powerwall with solar in more markets than we do

[WITNESS PANEL: Crawford|Joyce|Tebbetts|Gaur]

1 sell Powerwall just by itself. And that's a
2 combination of managing the supply, and also
3 because, when Powerwall is paired with solar, it
4 is more full-featured and aligned with our
5 mission of accelerating to sustainable energy.

6 Q And I understand if my next question is
7 proprietary, but if you can share it, it would be
8 helpful for us to get a scale of the Tesla
9 Powerwall implementations in the U.S. last year,
10 you know, with and without solar? Is that
11 publicly available? Can you share the rough
12 implementation size or quantity that Tesla
13 installed last year?

14 A (Joyce) I don't, at my fingertips, have the
15 number of Powerwalls that we installed last year.
16 If it's of interest, I can share public available
17 information to that end after the -- after the
18 hearing.

19 In rough numbers, though, this product
20 has been in the market since approximately 2017,
21 and we have more than 800,000 units installed
22 worldwide.

23 Q Thank you, Mr. Joyce. No need for -- that was
24 what I needed. Thank you.

[WITNESS PANEL: Crawford|Joyce|Tebbetts|Gaur]

1 And I'm just curious, I know that GE,
2 for example, for wind turbines, has like a
3 central control center. You know, it's like War
4 Games. You know, they have got screens, and they
5 can monitor what's going on in all their turbines
6 across the world -- at least the U.S., if not the
7 world.

8 Does Tesla have a similar control
9 center? You know, again, if you can share that
10 or not share that, I'm just very interested in
11 how you monitor this massive volume of data?

12 A (Joyce) We don't have anything quite that showy,
13 but, yes. All Tesla products are
14 network-connected, and we do have access to the
15 telemetry that allows us to monitor the behavior
16 and health of the systems within appropriate
17 privacy concerns.

18 And, so, yes, we are monitoring the
19 systems, you know, for our customer support. And
20 we do a certain amount of proactive monitoring
21 and service as well.

22 Q Very good. And is it a large organization
23 monitoring this or is it like the Wizard of Oz,
24 with a guy behind the curtain?

[WITNESS PANEL: Crawford|Joyce|Tebbetts|Gaur]

1 Is there -- can you share any scale for
2 what, you know, how you monitor this massive
3 amount of data?

4 A (Joyce) I don't, I don't know specifically how
5 many people are on our service team. I would
6 characterize it as "dozens", not hundreds. A lot
7 of the work that we do is more automated
8 monitoring.

9 And I'm tempted to use a buzz word like
10 "machine learning" and "artificial intelligence",
11 but I'll stop short of there.

12 Q No problem. Thank you. That's very helpful.

13 There was a criticism in the Guidehouse
14 Report relative to Tesla's communication and
15 customer service to participants. So, I'd like
16 to give you an opportunity to respond to that.
17 And maybe I'll also follow up with, do you have
18 any metrics that sort of measure your customer
19 service and communication?

20 A (Joyce) I do acknowledge that that is an area
21 that we can -- that we can improve. I think
22 Guidehouse's observation was specifically around
23 customer communication and touch points, as it
24 applied to the installation of the batteries.

[WITNESS PANEL: Crawford|Joyce|Tebbetts|Gaur]

1 And that is an area that we are working to
2 improve.

3 I think one contributing factor here is
4 that the utility-owned model that we are -- that
5 we are installing here is, of course, not our
6 standard offer, and, therefore, does not benefit
7 from the same online communication and support
8 infrastructure that an individual buying the
9 system would benefit from.

10 Q Very good. And really, my last question is, you
11 know, in this "Bring Your Own Device" concept, if
12 somebody in the Liberty zone today wanted to
13 bring their own device, you know, could they do
14 that with Tesla, and could they bring it online
15 with Liberty? Or, how would that -- how would
16 that work or not work in today's environment?

17 A (Joyce) Today, there would not be an option for a
18 "bring your own virtual power plant" in New
19 Hampshire, to my knowledge, that would be
20 available to Tesla customers. We do have this
21 Pilot. For a short while, there was some
22 opportunity in New Hampshire for a Connected
23 Solutions demand response participation with
24 batteries. That is no longer available.

[WITNESS PANEL: Crawford|Joyce|Tebbetts|Gaur]

1 So, I think, while people in New
2 Hampshire can certainly purchase Powerwall
3 systems for their own purposes for backup, and,
4 you know, for what we call "self-supply", that is
5 to say to, you know, consume as much solar
6 on-site as possible, and to manage TOU rates
7 where available, there aren't additional virtual
8 power plants that we could plug into today to
9 make it available. That would be something that
10 we would need to -- need to be supported with a
11 utility program, or we would, you know, if there
12 is work being done for potentially accessing
13 products with the ISO in the utility markets.
14 But that is not something that we have available
15 in New Hampshire yet today.

16 CHAIRMAN GOLDNER: Okay. Thank you,
17 Mr. Joyce. You've been very helpful today.

18 Commissioner Simpson, do you have any
19 follow-up questions for anyone?

20 BY CMSR. SIMPSON:

21 Q I guess I would ask, is that something you're
22 interested in pursuing?

23 A (Joyce) I think we're always interested in
24 programs, like I said, to increase the

[WITNESS PANEL: Crawford|Joyce|Tebbetts|Gaur]

1 availability of this kind of value, so we can
2 take advantage of that virtuous cycle and get
3 more behind-the-meter resources providing value
4 to the grid.

5 CMSR. SIMPSON: Thank you.

6 *[Brief off-the-record discussion*
7 *ensued between Chairman Goldner and*
8 *Mr. Patnaude]*

9 CHAIRMAN GOLDNER: Okay. The
10 stenographer needs a break. So, let's take --
11 let's just take -- would five minutes be okay,
12 Steve?

13 *[Mr. Patnaude indicating in the*
14 *affirmative.]*

15 CHAIRMAN GOLDNER: Okay. Let's take
16 five minutes and return at 3:20.

17 *(Recess taken at 3:15 p.m., and the*
18 *hearing resumed at 3:25 p.m.)*

19 CHAIRMAN GOLDNER: Okay. Commissioner
20 Simpson, any additional questions from the
21 Commissioners?

22 *[Cmsr. Simpson indicating in the*
23 *negative.]*

24 CHAIRMAN GOLDNER: Okay. I think

[WITNESS PANEL: Crawford|Joyce|Tebbetts|Gaur]

1 that's all from the Commissioners.

2 We'll give the Company an opportunity
3 for redirect.

4 MR. SHEEHAN: I simply have one
5 question.

6 In my response to one of your
7 questions, I characterized the Company's interest
8 or lack of interest in future programs. And I
9 thought I should give the Company witness the
10 opportunity to say what the Company's position
11 is.

12 **REDIRECT EXAMINATION**

13 BY MR. SHEEHAN:

14 Q So, Ms. Tebbetts, could you express your
15 understanding of the Company's desire for future
16 programs here?

17 A (Tebbetts) Sure. So, I think there's a lot --
18 there's a lot to be said about this project. I
19 think customers are happy with it, the Company is
20 happy with it, we heard from other parties today
21 that they are happy with it.

22 I will also add that moving forward
23 with a Phase 2 comes with uncertainty, from folks
24 in this room, whether it be the Commission itself

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1 or the other parties here. And I say that
2 because this is a very small project, and it does
3 take capital. But it also takes us having the
4 understanding, and also knowing that, for
5 example, the Commission would want us to move
6 forward with something else like this.

7 What we heard today was really good. I
8 enjoyed the questions that we received, and I was
9 happy to see everyone engaged. But there is
10 hesitation when you move forward with a pilot,
11 because (a) it's 2023, and we're just having this
12 hearing now. So, four and a half years later,
13 we're finally getting through this.

14 So, to go to a Phase 2, how long is
15 that going to take? Five more years? That's a
16 long time when we're talking about, you know,
17 technology.

18 The other thing that we talk about, you
19 know, when we thought about Phase 2, is "what
20 does the Commission want from us?" I'm not sure,
21 and good, bad, indifferent, I'm not sure that we
22 have, as a company, received the -- I'm not sure
23 that we have seen from the Commission that this
24 program is a good idea, and that we should move

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1 forward with a Phase 2, or something like it.
2 And I'm not saying that we've asked for it
3 either.

4 But, certainly, the dockets that have
5 come up, that are coming up, if these are the
6 kinds of programs that the Commission wants us to
7 embark on, we want to hear that. We also want to
8 know that, when we're looking to embark on these
9 projects, the Commission is supportive of the
10 capital that it takes, and the staff that it
11 takes.

12 This is a small pilot. And, quite
13 honestly, even though I've left regulatory, and
14 I'm doing something different within the Company,
15 I'm still running it, and happy to, because I
16 love this project. But, you know, it takes
17 staff. And, so, we're in the process of trying
18 to hire staff to try to get somebody to do this,
19 because it can be a lot of work, working with the
20 customers and working with Tesla, and internally,
21 with billing, *et cetera*.

22 And, so, I think Mr. Sheehan was trying
23 to characterize that we're not -- we don't want
24 to say "no" to another behind-the-meter or

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1 additional behind-the-meter project. We just
2 need to be able to feel that we have support from
3 the Commission, and support from other parties,
4 that these projects are a good idea for our
5 company, our customers, and New Hampshire, in
6 general. And, if we feel that the parties feel
7 that way, we want to move forward. But I think
8 that we need to have -- we need to have that
9 reassurance somehow, some way, that these things
10 are a good idea.

11 Thanks.

12 MR. SHEEHAN: Nothing further. Thank
13 you.

14 CMSR. SIMPSON: Can I ask a question?

15 CHAIRMAN GOLDNER: Sure.

16 BY CMSR. SIMPSON:

17 Q So, what's missing, in terms of reassurance from
18 the Commission?

19 You received approval for this program.
20 You've brought it to a certain point today.
21 What's missing, for direction, from the
22 Commission?

23 A (Tebbetts) So, --

24 Q You don't have to answer it here, but --

[WITNESS PANEL: Crawford|Joyce|Tebbetts|Gaur]

1 A (Tebbetts) Yes. No, I'm happy to.

2 So, right now, I don't know that
3 there's anything missing, in the sense that we
4 are looking, like, we're asking for and we have
5 not received. I will say I was very happy to see
6 the engagement last week in the IR 22-076 docket
7 with regards to demand response. I think there's
8 a lot of opportunity in that docket to move
9 forward with a project like this.

10 But where I do get concerned is, when
11 the costs associated with a project like this, I
12 will say that I feel, as someone representing the
13 Company, that there is hesitation due to costs
14 associated with projects like this, from the
15 Commission's part, simply because it is a
16 balance. There are customers who pay and
17 customers -- they will benefit, but it's in a
18 longer period, versus the customers who have the
19 battery and receive that benefit right away. And
20 I understand and the Company understands there's
21 a balance with regards to rates and cost
22 recovery.

23 So, I'm not going to say that the
24 Commission or others are lacking in providing us

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1 direction. But I'm also going to -- I'm going to
2 say I have not seen anything proactive, to say
3 "We want this." Maybe that's coming, and we
4 haven't seen it yet. But we'd love to see it, if
5 it's out there.

6 CHAIRMAN GOLDNER: And let me maybe
7 jump in with a question.

8 And that is, since Mr. Sheehan is not
9 allowed to give testimony, I'll give the witness
10 an opportunity.

11 BY CHAIRMAN GOLDNER:

12 Q What Mr. Sheehan suggested earlier, and I want to
13 give the witness a chance to weigh in, is that
14 "this is not in the core competency of the
15 Company." And, so, there was something that "the
16 Company is trying to stick to its core
17 competency." Would you care to address that
18 topic?

19 A (Tebbetts) Yes. I mean, I think -- I think that,
20 so, we are a poles and wires company. That's
21 certainly our core. But, with modernization of
22 the grid, we recognize there are other areas we
23 can serve our customers well. This is one area.
24 We offer a service or a product that provides

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1 them value. And it's new to the utility world,
2 at least in New England -- maybe not in New
3 England, but certainly in New Hampshire, as, you
4 know, we're the only utility that has something
5 like this here.

6 And, so, as I mentioned, we want -- we
7 want to feel the way we felt when we went in with
8 this docket, where all parties were excited about
9 it, and parties wanted to make our proposal
10 better, instead of shooting it down, as Mr. Kreis
11 said. And I think that we can sell that up the
12 chain, again, if we find that parties are still
13 very interested in it.

14 If we find that parties are not
15 interested or they find ways to shoot -- I don't
16 want to say "shoot holes in it" in a bad way, but
17 really just don't want projects like this moving
18 forward in New Hampshire, then it's very hard to
19 sell that up the chain that what we have is a
20 great idea.

21 And, so, that's where I think
22 Mr. Sheehan was trying to convey that we want
23 support from the parties to do these kinds of
24 projects, and give our customers, and other

[WITNESS PANEL: Crawford|Joyce|Tebbetts|Gaur]

1 customers in New Hampshire, maybe other utilities
2 will adopt stuff like this, too.

3 CHAIRMAN GOLDNER: Anything else,
4 Mr. Simpson?

5 CMSR. SIMPSON: So, I often think about
6 "How can I, as a regulator in New Hampshire,
7 innovate? How can I foster a more innovative
8 regulatory environment?" And that's really why I
9 was asking Mr. Joyce's questions about "What's
10 Tesla's vision for a retail electricity market?"
11 And I'm genuinely interested in that.

12 This is a very interesting proceeding,
13 because of the partner that you have. You have a
14 very engaged and innovative partner in this
15 proceeding. And I'm curious to see what are
16 models that have been successful in other
17 jurisdictions. What could we enable further in
18 New Hampshire that can realize the value that's
19 often attributed and forecasted from these types
20 of technologies?

21 So, you now have a dataset. You have a
22 group of customers who have adopted this
23 technology through the Pilot. I don't think
24 either of us on the Bench today are going to tell

[WITNESS PANEL: Crawford|Joyce|Tebbetts|Gaur]

1 you what we want you to do. But we're certainly
2 open to proposals for moving forward. And that's
3 something that the Chairman is going to address
4 before closing today, that we expect to see
5 something further, based on what's gone -- what's
6 been implemented, what's been built.

7 And I would encourage Liberty to work
8 with Tesla, and to understand real applications
9 for this technology at the edge. How do we
10 demonstrate that New Hampshire wants to be the
11 most innovative state within the electricity
12 market? I think that we led the way in the '90s,
13 and there's a lot of opportunity to move forward.

14 So, speaking on my own behalf, I offer
15 that to the Company.

16 WITNESS TEBBETTS: If I may respond?
17 That's exciting to hear. And, as someone who has
18 sat up here for, like, 12 years, I'm not sure
19 I've heard that before. So, that's exciting for
20 us. And that's something for us to bring back,
21 because that's what we want to do.

22 And, in my new role, actually, that's
23 my opportunity to provide to you and others those
24 projects to come forward with. And, so, thank

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1 you.

2 We want to be cutting-edge, we want to
3 be leading. We want to bring these things to our
4 customers. And, so, those are the kinds of
5 things we want to hear, and we want opportunities
6 to present to you and the others in this room.

7 CHAIRMAN GOLDNER: If I could just jump
8 in and say, I, too, am a big fan of innovation.
9 I love tidal power and nuclear power, if anybody
10 cares, as things that I'm very interested in from
11 a technology perspective. And I think I might be
12 the only person in the room with a U.S. patent.
13 So, I get credit for innovation in a few
14 different areas.

15 And I'll just, you know, I'll just sort
16 of augment what Commissioner Simpson said.
17 There's a lot of cool technology out there, a lot
18 of interesting things. Ultimately, it has to be
19 cost-effective. Ultimately, you know, you can't
20 for it more than it benefits you.

21 And, ultimately, that's what we, in the
22 Commission, are looking for. And it's something
23 that I would always emphasize at every
24 opportunity, you know, cost -- technology is

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1 cool, I love technology, Commissioner Simpson
2 loves technology. But, ultimately, we're tasked
3 with making sure things are cost-effective.

4 So, I don't mean to pop any balloons,
5 but that's the way that I would phrase it.

6 Okay. Is there anything else that the
7 Company would like to add?

8 MR. SHEEHAN: No. I think I'm all set.

9 CHAIRMAN GOLDNER: Okay. Thank you.

10 So, let me go here, before we go to
11 closing, so that the parties have an opportunity
12 to comment, if they wish.

13 So, I'll put it in the form of a
14 question. Would the parties object to rooftop
15 solar being able to -- being able to charge from
16 the grid? Would any party object to that?

17 If the Commission issued an order that
18 said "If you have rooftop solar, you can now
19 charge from the grid", would any party object?

20 MR. DEXTER: Would you mind repeating
21 that one more time?

22 CHAIRMAN GOLDNER: Sure. Sure. Today,
23 our understanding from the testimony was that --
24 that customers with Powerwalls and rooftop solar

1 are not allowed to charge from the grid. So,
2 they can't receive power from the grid to charge
3 up their batteries so that it can be used at peak
4 mode.

5 And, so, our question for the parties
6 is, would the parties object if the Commission
7 issued an order that said "Never mind, you can
8 now charge from the grid"?

9 MR. SHEEHAN: If I may interject?

10 MR. DEXTER: "You can now charge from
11 the grid"?

12 CHAIRMAN GOLDNER: Pardon me? Sorry.

13 MR. DEXTER: "You can now charge from
14 the grid."

15 CHAIRMAN GOLDNER: You may, yes.

16 MR. DEXTER: Not "you cannot charge
17 from the grid."

18 CHAIRMAN GOLDNER: Sorry. "Now", yes.

19 MR. DEXTER: No, I think that's what
20 you said. I just wanted to make sure, "you can
21 now charge from the grid"?

22 CHAIRMAN GOLDNER: Yes, sir.

23 MR. SHEEHAN: And I was just going to
24 maybe make it easier. The Settlement Agreement

1 has the following language: "Net-metered
2 customers shall not be permitted to charge their
3 batteries from the grid, except when the
4 batteries are under Liberty's control."

5 And, so, you could make a finding that,
6 "under the facts presented, we understand the
7 batteries are always under Liberty's control,
8 therefore, they can charge from the grid."

9 So, if we can put some parameters
10 around it, which I'm hearing from the whisperers
11 next door, they're worried that your statement
12 might be a little bit too broad and run afoul of
13 the statute.

14 CHAIRMAN GOLDNER: Yes. Because I
15 think we just heard that Tesla is kind of
16 controlling it, so --

17 MR. SHEEHAN: Well, Tesla is working on
18 behalf of Liberty.

19 CHAIRMAN GOLDNER: On Liberty, yes.
20 Okay. Yes, we'll give the parties a chance to
21 comment?

22 *[Short pause.]*

23 CHAIRMAN GOLDNER: We always accept
24 briefs, if this is -- if we want to go down that

1 path. But take your time.

2 MR. DEXTER: So, yes. We would be okay
3 with an order like that. The issue is really
4 that the battery not discharge to the grid.

5 CHAIRMAN GOLDNER: "Not discharge to
6 the grid." And why not?

7 MR. DEXTER: Because, if the battery
8 was -- except during an event, except when
9 controlled by Liberty, or another way of saying
10 that is "during an event", because of the net
11 metering requirement that net-metered customers
12 be renewable. So, if the battery were being
13 charged with energy from the grid, that's not a
14 renewable energy, and, therefore, would violate
15 the net metering statute.

16 CHAIRMAN GOLDNER: It might be. We
17 just don't know, electrons --

18 MR. DEXTER: Well, what we heard today
19 is that it won't, based on the programming that's
20 built into the system.

21 CHAIRMAN GOLDNER: Well, if you're --
22 not to enter into a spirited debate, but, if
23 you're discharging into the grid at peak, then
24 you're ostensibly saving power plants from

1 turning on, that are typically, you know,
2 probably coal and natural gas.

3 Going the other direction, you're
4 taking energy from disparate sources, natural
5 gas, nuclear, water, what have you, turbines,
6 lots of different sources. So, in the net of
7 things, you're probably benefiting yourself by
8 taking that approach.

9 MR. DEXTER: Well, I think we might
10 have to take this as a record request. Mr.
11 Chairman, I'm sorry. I should -- I want to get
12 the answer right.

13 CHAIRMAN GOLDNER: Okay. Of course.
14 Yes. Thank you. Yes, that would be great. We
15 would be happy to have a record request.

16 Mr. Kreis?

17 MR. KREIS: Well, first of all, I don't
18 think I have any objection to the proposition
19 that you offered, Mr. Chairman.

20 But, you know, the phrase "record
21 request" is just bandied around the Walker
22 Building now with abandon. And I'm get more
23 concerned by the minute.

24 I mean, you're basically extending the

1 hearing, giving the Department of Energy time to
2 provide you with more evidence, and then just
3 admitting it into the record. What you have to
4 do, and this also relates to the two record
5 requests -- the two record request responses that
6 the Company filed with the Commission, I think,
7 back in January, if I'm remembering correctly, I
8 mean, I don't have any objection to those being
9 part of the record. But just filing documents
10 with the Commission into a docket doesn't
11 automatically make those exhibits part of the
12 record, even if someone attaches, in a fascial
13 way, the label "record request" to them.

14 What I'm really suggesting here is that
15 the Commission needs to be disciplined, we all
16 need to be disciplined, about -- this is an
17 adjudicative proceeding. And it needs to be very
18 clear what is in the record and what is not in
19 the record. And, if this issue is going to
20 require further litigation, then just saying "Oh,
21 we'll let the Department file a record request,
22 and then you'll make a decision based on it",
23 that's not okay. Then, you really are talking
24 about holding another hearing, and having the

1 Department testify, and giving other parties the
2 opportunity to cross-examine their witness. I
3 mean, --

4 CHAIRMAN GOLDNER: This is why I was
5 hoping for all three "yeses", and that would have
6 made life so much simpler.

7 MR. KREIS: Yes. Well, I said "yes".

8 CHAIRMAN GOLDNER: So, I've got, I
9 think, two "yeses", and one "maybe". So, I
10 think, Mr. Kreis, if the Department agrees, there
11 would be no problem. If the Department
12 disagrees, then we have an issue. Would that be
13 a fair summary?

14 MR. KREIS: Yes, Mr. Chairman. That
15 would be a fair summary.

16 MR. DEXTER: Maybe we could avoid a
17 record request with a short five-minute
18 conference amongst ourselves at the Department of
19 Energy, to make sure that we understand?

20 CHAIRMAN GOLDNER: That would be --
21 that would be fantastic. Maybe I'll mention part
22 two of my --

23 MR. DEXTER: Okay.

24 CHAIRMAN GOLDNER: -- of my preamble,

1 before we moved over to close, just so we have
2 all the information. And then, we can part ways
3 for a few minutes.

4 So, the next concept is for the Company
5 to propose next steps, whether it's -- I heard
6 the Company say earlier they're continuing
7 Phase 1, makes a lot of sense. But the Company
8 is not excited about daily reports or monthly
9 reports or quarterly reports, or what have you.
10 So, the Company would propose to continue with
11 Phase 1, but without continued reporting.

12 And then, there's this question of "Is
13 there a Phase 2? And, if so, what form does it
14 take?" Is it Bring Your Own Device? Is it, you
15 know, more Tesla Powerwalls? Is it solar? What
16 is it, if anything?

17 And, so, what the Commission would say
18 about that is that we would request, by May 30th,
19 the Company's proposal, and, hopefully, a
20 collaborative proposal, on what, if anything,
21 comes next. So, that just completes the picture.

22 And then, Mr. Dexter, if you'd like to
23 take, however long you need would be fine? Would
24 you like fifteen, or ten, five?

1 MR. DEXTER: I think ten minutes would
2 be plenty.

3 CHAIRMAN GOLDNER: Okay. Let's return
4 at five of, then. Thank you.

5 MR. DEXTER: Thanks.

6 *(Recess taken at 3:46 p.m., and the*
7 *hearing resumed at 3:58 p.m.)*

8 CHAIRMAN GOLDNER: All right. We'll
9 move to Mr. Dexter.

10 MR. DEXTER: Thank you, Mr. Chairman,
11 for that break.

12 The Department of Energy would not
13 object to including a directive in the order that
14 it would be okay for these solar battery
15 customers to charge their battery from the grid.

16 And I could just stop there, but that
17 actually wasn't the concern that we were raising
18 earlier. It's related. Our concern, and we
19 would object to the solar battery customers
20 discharging to the grid during a non-event.

21 We heard testimony from Tesla that that
22 will never happen, based on the programming. So,
23 it's not really a concern anymore because of the
24 testimony of what we heard today. But we thought

1 it might be useful for the Department to include
2 that language in the order as well, and then --
3 and that would be a more complete description of
4 the situation.

5 CHAIRMAN GOLDNER: Okay. Thank you for
6 that.

7 MR. DEXTER: And the reason we don't
8 object to it, it's really not up to us. It's, if
9 the order were phrased that way, in our view,
10 that would not violate the net metering statute
11 requirements.

12 CHAIRMAN GOLDNER: Okay. Thank you.
13 That's our understanding as well.

14 MR. DEXTER: Sure. And sorry it took
15 so long to get there.

16 CHAIRMAN GOLDNER: No, no, no. It's
17 time well invested.

18 Does the OCA or Liberty have any
19 additional comments on this topic or can we run
20 with "yes"?

21 MR. KREIS: We can run with the "yes"
22 that Mr. Dexter just offered to you.

23 CHAIRMAN GOLDNER: Excellent.
24 Excellent. No briefs or reply briefs today.

1 All right.

2 CMSR. SIMPSON: And, presumably, no
3 objection from the Company?

4 MR. SHEEHAN: Correct.

5 CMSR. SIMPSON: Okay. Thank you.

6 CHAIRMAN GOLDNER: All right. Very
7 good. Well, let us -- find the right page.
8 Okay. So, let's strike identification on
9 Exhibit 22 and admit it into evidence.

10 Let's see. Commissioner Simpson, you
11 had a record request earlier relative to some
12 revenue questions. Do you want to -- do you want
13 to keep that record request or would you --

14 CMSR. SIMPSON: No, I'd remove it.
15 Because I feel that Ms. Tebbetts adequately
16 addressed the question that I had. She was able
17 to speak to it later in testimony.

18 So, I don't have any record requests.

19 CHAIRMAN GOLDNER: Okay. Very good.
20 Then, it's just Exhibit 22 that we'll admit into
21 evidence.

22 And we can move to closing, beginning
23 with the OCA.

24 MR. KREIS: Before I offer a closing, I

1 do suggest, I mean, it's up to you, but you
2 talked about those two record request responses
3 that the Company filed, I think in January. And
4 they seem germane. You were asking about them.
5 I would feel more comfortable if you admitted
6 those into the record as well, even though I know
7 they're labeled "record requests". But I guess
8 that's up to you.

9 That would be my humble suggestion to
10 you.

11 CHAIRMAN GOLDNER: Just to follow up on
12 that. Mr. Kreis, would you recommend those and,
13 in the future, making those exhibits? Or how
14 would you recommend putting them into the record?

15 MR. KREIS: Well, I guess I would
16 continue, until you change them, to abide by the
17 rules. So, under the rules, I can't quote
18 chapter and verse from the procedural rules, but
19 the way they're -- the phrase "record request"
20 doesn't actually appear in the rules. What the
21 rules allow for is late-filed exhibits. So, at
22 the close of a hearing, you could say, as I think
23 maybe you are, or as you always did, but
24 Commissioner Simpson said it wasn't necessary,

1 you can reserve an exhibit number for some
2 late-filed exhibit that's responsive to some
3 question that was asked at hearing that a witness
4 said "Gosh, I'd like some more time to send you a
5 written reply." That is -- that's appropriate.

6 Then, there are those -- there are
7 things that parties file before a hearing that
8 you then want to put into the record. And I
9 guess I would reserve exhibit numbers for them.

10 So, it's up to you in the way you want
11 to manage your record. But I would feel more
12 comfortable if you took those two documents that
13 the Company filed and gave them exhibit numbers.
14 And, therefore, it would be clear, as you go back
15 to write your order, that that's part of the
16 record you can take into account, if you want to,
17 and make findings about it or talk about it to
18 your heart's content in your order.

19 CHAIRMAN GOLDNER: Thank you, Mr.
20 Kreis. That is very helpful. And if you would
21 like to proceed with closing, that would be
22 fantastic.

23 MR. KREIS: Well, this was sort of a
24 cranky afternoon, followed by -- following a

1 cranky morning for me. But I think, in the end,
2 all's well that ends well, relatively speaking.
3 In that, I liked the idea, from the perspective
4 of the OCA, of asking the Company to, as sort of
5 a next step, cogitate on the question of "What
6 happens next?" You gave them, if I am
7 understanding you correctly, you gave them a long
8 time to figure that out, all the way to May 30th.
9 That's probably appropriate. I mean, May 30th
10 seems like a futurous date, but I suppose it will
11 be here before we know it.

12 And the Company has given slightly
13 differing answers to the question "Well, is there
14 going to be a Phase 2?" I mean, depending on how
15 you look at it, they have either said "no", or
16 "maybe", or "we don't know." I guess I'll prefer
17 to stick with "we don't know." And I will deem
18 it reasonable for the Commission and the Company
19 to say "Hey, we need some more time to think
20 about where we go from here next", beyond
21 continuing -- allowing Phase 1 to continue to
22 operate and reach its logical conclusion, if
23 that's the way you want to think about it.

24 Commissioner Simpson asked me a

1 question that I would like the opportunity to
2 answer. It was a really good question, and it
3 sort of nested within the bigger question that he
4 asked, which is "How do we demonstrate that New
5 Hampshire wants to be the most innovative state
6 when it comes to electricity?" I'm really glad
7 to hear a member of the PUC ask that question,
8 and make that assumption, that, after all of this
9 time, we still would like to be an innovative
10 state, when it comes to how we do electricity in
11 this state.

12 And, I guess, I hope this docket stays
13 open as a way of figuring that out. I am glad
14 there's at least one other investigative
15 proceeding where that question can be addressed.
16 And the OCA hopes to be part of addressing it.

17 We, just to muse about something Ms.
18 Tebbetts said, as I -- as was reflected in my
19 colloquy with her, we did play a super active
20 role in helping the Company develop this Pilot
21 Program. And we're very proud of the results of
22 that collaboration.

23 For whatever reason, maybe it's my
24 personal affiliation with Vermont Law School, I

1 seem to hear a lot about Vermont in my life. And
2 I'm really proud of the fact that we actually
3 have a better approach to what to do with
4 customer-side batteries of roughly the size of a
5 Powerwall than they have over in Vermont.

6 I was a little disappointed to hear
7 Tesla equivocate on the subject of whether it is
8 okay to -- or, whether they're willing to sell
9 people Tesla Powerwalls that aren't paired with
10 solar PV systems. I only know enough about
11 antitrust law to be dangerous, having taken a
12 course on antitrust law in law school. But, you
13 know, there is a thing called "illegal tying"
14 under federal antitrust law. And, so, I really
15 hope that you don't have to have a bunch of solar
16 panels on your roof, or plans to install solar
17 panels on your roof, in order to be able to buy a
18 Tesla Powerwall. I really hope that they
19 proliferate here in New Hampshire, both among
20 people who do net meter and those who do not net
21 meter.

22 So, at the risk of rambling further, I
23 just would like to say that I'm looking forward
24 to working with Liberty Utilities on figuring out

1 what next steps they might propose on the
2 timeline that the Commission has proposed for
3 them to do that.

4 CHAIRMAN GOLDNER: Thank you, Mr.
5 Kreis. Mr. Krakoff.

6 MR. KRAKOFF: Yes. Thank you.

7 The Guidehouse Report really
8 demonstrates that Phase 1 of the Liberty Battery
9 Storage Pilot Program has been successful. And,
10 so, there's no reason to not continue the Pilot
11 Program, as Liberty has requested.

12 Particularly, it's met the criteria set
13 out in RSA 374-G:5, Subsection II, which is
14 outlined in the Settlement Agreement. And, you
15 know, really, it met all those criteria under
16 Phase 1, particularly with respect to
17 demonstrating reliability benefits, in decreasing
18 Liberty's customers' exposure to regional system
19 risks, and other benefits there.

20 And I think that the Guidehouse Report
21 provides strong evidence to show of the success
22 of the Phase 1 of the program. And, you know,
23 there's no reason to not continue that program
24 here.

1 Briefly, I'd like to address something
2 raised by Commissioner Goldner. He correctly
3 noted that, you know, the cost-benefit analysis
4 showed a value of less than one for Phase 1. You
5 know, if you look back at what was filed with the
6 proposal originally, that's very, very close to
7 what was expected for the cost-benefit ratio back
8 then. And, in fact, the actual savings from
9 Phase 1 have exceeded the projected savings from
10 Phase 1. So, there's no question that the
11 savings have been on target or have been higher
12 than expected.

13 And, finally, with respect to Phase 1,
14 I'd like to read from Page 20 of the Settlement
15 Agreement, in which "The Parties stipulated and
16 agreed that, although the benefit-cost analyses
17 reflect only a minimally positive net present
18 value for Phases 1 and 2 considered together, the
19 program offers value and warrants deployment due
20 to the qualitative benefits it will provide by
21 informing future battery storage or TOU proposals
22 brought before the Commission. The Settling
23 Parties further stipulate and agree that a
24 finding of positive net present value is not a

1 prerequisite to Commission approval under RSA
2 374-G:5 for a pilot program."

3 So, you know, again, looking at that,
4 the Commission recognized then that, you know, a
5 positive net present value wasn't a prerequisite
6 under Phase 1. And then, and now, the Company's
7 own analyses demonstrate that, you know, there is
8 a net, you know, present value of one for the two
9 phases considered together.

10 Also like to address something that
11 Commissioner Simpson said with becoming "a very
12 innovative state" and really "making New
13 Hampshire a most innovative state." I fully
14 support that idea. And, you know, and I think
15 one way to try to become that is to look at the
16 Commission's order back in Order Number 26,575,
17 which that ruled on Eversource's motion for
18 clarification in the grid mod. docket. And there
19 the Commission said that it would open, at some
20 point in the future, you know, an adjudication
21 docket to look at grid mod. again.

22 And I think grid mod. really provides a
23 lot of opportunities to make us more innovative
24 to look at some of these ideas that Commissioner

1 Simpson and Chairman Goldner have been
2 discussing. And that order suggested that you
3 would open an adjudication docket at some time in
4 the future. It's been a -- it was February 3rd,
5 2022. So, it's been a year. But I think the
6 Commission should consider opening that docket at
7 some point.

8 Finally, briefly, I'd like to address
9 Phase 2. The Settlement Agreement provides that
10 Liberty could request permission to commence
11 Phase 2 of the Pilot. And, if you look at the
12 Guidehouse Report and the Settlement Agreement,
13 there are certain criteria under which Liberty
14 could commence Phase 2. And these are outlined
15 on Page 9 of the Settlement Agreement. But,
16 basically, if Liberty is able to "dispatch
17 Phase 1 batteries coincident with the monthly
18 ISO-New England system coincident peak on average
19 with an accuracy of seventy seven percent of at
20 least 70 [75?] percent or greater determined with
21 reference to expected peak hour kWh reduction";
22 if there's "realized RNS and LNS and FCM cost
23 savings during Phase 1 that are not less than
24 projected in the submitted benefit-cost

1 analyses"; "it demonstrates...that the
2 investments and costs necessary to implement
3 Phase 2, when considered in conjunction with
4 those incurred...have a forecasted net present
5 value"; and "there have been no material adverse
6 changes in any relevant circumstances or
7 criteria."

8 I think the Guidehouse Report really
9 demonstrates that these four criteria have all
10 been met or are present. So, as the Commission
11 has indicated, they're considering a possible
12 Phase 2.

13 So, I would encourage the Commission to
14 direct Liberty to at least contemplate proposals
15 for Phase 2, and, to, if necessary, work with
16 stakeholders in developing that proposal for
17 Phase 2.

18 And thank you for your time.

19 CHAIRMAN GOLDNER: Thank you,
20 Mr. Krakoff. Mr. Dexter.

21 MR. DEXTER: Thank you, Mr. Chairman,
22 Commissioner Simpson.

23 So, the Department of Energy's position
24 is that Phase 1 has -- was a success. It is

1 finished, in the sense that its enrollment was
2 essentially met. We are in favor of that phase
3 continuing the way Ms. Tebbetts testified, in
4 other words, these devices are going to be out in
5 the field for a number of years. We believe
6 that's appropriate that that be continued.

7 We are satisfied that the information
8 provided in the Guidehouse Report provided the
9 information that the Department of Energy, then
10 the Commission Staff, expected the program to
11 produce. In other words, it was a pilot program
12 set out to learn things, and we believe that the
13 information that was received in Phase 1 is
14 useful and sufficient.

15 We would not be, at this time, in favor
16 of a Phase 2 that looked just like Phase 1. We
17 think the Commission's approach of giving the
18 Company three or four months to consider what
19 Phase 2 might look like is a good idea.

20 Ms. Tebbetts testified that these
21 programs come with significant capital costs, and
22 we appreciate the Company's recognition of that,
23 and we share the concerns. The idea of, you
24 know, doubling or tripling Phase 1 and just

1 getting the same results is not something,
2 sitting here, that the Department of Energy would
3 be in favor of.

4 You know, that being said, we're very
5 interested in seeing what the Company comes up
6 with with Phase 2. We would encourage that it be
7 different. We're very interested in hearing
8 about a "Bring Your Own Device" proposal from the
9 Company. We view that as a way to spread costs
10 away from all customers, and more towards the
11 participants, which we think is appropriate in a
12 case like this. So, we are very interested in
13 working with the Company and the parties on a
14 Phase 2 approach.

15 We -- I'm not sure I heard the Company
16 say that they were interested in "stopping the
17 reporting requirements of Phase 1". But I think
18 I heard the Commissioners say that they thought
19 "Liberty was interested in stopping the reporting
20 requirements from Phase 1." So, I'm not sure
21 where we stand on that.

22 The Department of Energy has found the
23 reports on Phase 1 useful, would like them to
24 continue, but believe that we could work with the

1 Company to come up with a more simplified form.
2 And maybe it would be monthly, but it wouldn't
3 have to be a seven- or eight-page narrative. We
4 would like the opportunity to discuss that with
5 the Company, to develop some sort of a
6 standardized, just a results-oriented report for
7 Phase 1, at least for a couple more years, to see
8 how this goes.

9 So, with that, we thank you for your
10 time today.

11 CHAIRMAN GOLDNER: Thank you, Mr.
12 Dexter. And thank you for the clarification on
13 the reporting. I was going to ask you about
14 that, but that's very much in line with our
15 thinking. So, thank you.

16 Mr. Sheehan.

17 MR. SHEEHAN: Thank you.

18 I started today by having three things
19 that we would ask for, and I think we've
20 addressed them all.

21 First was to indicate that the
22 requirements of Phase 1 have been met. Although,
23 as we all have discussed, the batteries will
24 remain in service for a number of years, and we

1 fully intend to continue that. The alternative
2 would be to go and take them out at great cost,
3 which makes no sense. The second was to address
4 the solar issue, which we have. And the third
5 is, as I said in the beginning of the hearing,
6 was to clarify the BYOD component of the
7 Settlement.

8 Your suggestion of giving us a couple
9 months to decide next steps makes sense to us.
10 And we would accept that as a resolution of the
11 BYOD component.

12 I encourage the folks in the room to
13 knock our door. "BYOD" is, by definition, not a
14 Liberty program. It's what others want to do
15 that we can facilitate. So, we can't do it by
16 ourself, we need people coming to us to say "We
17 want to do that." So, I know I have a lot of
18 ears in the room that have connections with those
19 people. So, we would like to reengage with those
20 that were so active in the original docket to see
21 where that stands now. Because, of course, it
22 would make no sense to pursue a BYOD device, if
23 no one was there to B-Y their Ds.

24 But, as Ms. Tebbetts says, we

1 absolutely want to explore these things. And we
2 will assess over the next couple months how best
3 to encourage that participation. So, that's, I
4 guess, all I have to say.

5 Oh, I guess the last issue was
6 reporting. Obviously, we're collecting a lot of
7 data. That's an important part. It is a cost,
8 too. So, I think we just have to find a line
9 between what reporting is simple and
10 cost-effective to produce, and not.

11 I am comfortable if the Commission
12 would simply indicate some -- propose some
13 reporting, and maybe we and the DOE and the OCA
14 can maybe submit a proposal of what reporting we
15 would provide over the coming years.

16 CHAIRMAN GOLDNER: Yes. I like Mr.
17 Dexter's proposal of, you know, simplifying,
18 getting it down to the critical essence, and then
19 would request that the parties would propose
20 something, so that we can all be aligned and
21 bless that off. That would be a very effective
22 model, I think.

23 Okay. Very good. Is there anything
24 else that we should discuss today?

1 *[No verbal response.]*

2 CHAIRMAN GOLDNER: No? Well, I'll
3 thank the witnesses. Very much appreciate the
4 time and the support today. I felt the --
5 Commissioner Simpson and I, I think, both feel
6 that the answers were excellent, and the
7 witnesses are much appreciated today. So, thank
8 you.

9 So, we'll take the matter under
10 advisement. And the hearing is adjourned.

11 ***(Whereupon the hearing was adjourned***
12 ***at 4:19 p.m.)***

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