

STATE OF VERMONT
PUBLIC UTILITY COMMISSION

CASE NO. 21-3883-RULE

PROPOSED CREATION OF VERMONT PUBLIC
UTILITY COMMISSION RULE CONCERNING
ENERGY STORAGE

January 13, 2022
9:30 a.m.

Via GoToMeeting

Workshop held before the Vermont Public
Utility Commission, via videoconference, on January 13,
2022, beginning at 9:30 a.m.

P R E S E N T

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Margaret Cheney
J. Riley Allen

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Kyle Wallace, Sunrun
Lou Cecere, DPS
Gabrielle Malina, DRM, ISO NE
Michael Hall, Stackpole
Chase Whiting, CLF

1 MS. WHITE: Okay. Good morning. It's
2 just about 9:30, so we are going to go ahead and get
3 started. Wow. We have got quite a list today; 43
4 people. I'm very happy you're all here. This is
5 quite a list. So we are glad that people have turned
6 up.

7 So Kim, I just want to ask Kim Sears,
8 our court reporter, can you hear me okay?

9 THE COURT REPORTER: Yes.

10 MS. WHITE: I think we have got all
11 three commissioners here; is that right?

12 COMMISSIONER CHENEY: (Waving).

13 COMMISSIONER ALLEN: I think so.

14 CHAIRMAN ROISMAN: Yes.

15 MS. WHITE: Okay wonderful. I think
16 everyone from the PUC is here. So we are going to go
17 ahead and get started. This is a workshop in Case
18 No. 21-3883-RULE, the proposed creation of the
19 Vermont Public Utility rule -- commission rule
20 concerning energy storage.

21 I'm Joan White, one of the commission
22 staff working on this matter. And with me today are
23 commission staff John Cotter, Mary Jo Krolewski and
24 DOE fellow Veronica Ung-Kono.

25 All commissioners are participating in

1 today's workshop. Chair Roisman and commissioners
2 Margaret Cheney and Riley Allen. So would the
3 representative from the department please identify
4 everyone from the department who is with us at
5 today's workshop. If you're talking, we can't hear
6 you. You're on mute.

7 Okay. We will come back around to the
8 department. So next let's go -- I'm going to try to
9 do this alphabetically but I might not quite have it.
10 Let's go to GMP. Could a representative from GMP let
11 us know who's in the room today.

12 MR. CASTONGUAY: Sure. Hey, Joan.
13 This is Josh Castonguay with Green Mountain Power.
14 And also with GMP we have Kim Jones and John Fiske
15 from our engineering team. Ryan Jarvis, Karly
16 Carrara from our interconnection distributed
17 generation team. And if I missed anybody else from
18 our team, let me know. Thanks.

19 MS. WHITE: Great. Okay. Wonderful.
20 So next -- oh, I should have done BED first. Sorry.
21 B comes before G. Is anyone from BED in the room?

22 MS. WIDMAYER: Good morning. This is
23 Amber Widmayer, Burlington Electric Department.

24 MS. WHITE: Great. Thanks, Amber.
25 Thanks for joining us. So then we are going to go

1 next to -- let's see. Stowe; is that right? Anyone
2 from Stowe with us today?

3 (No response).

4 MS. WHITE: They filed comments, but it
5 doesn't look like we have got anyone from Stowe.

6 Next VPPSA. Anybody from VPPSA here?

7 MR. ENTERLINE: Good morning. Shawn
8 Enterline here from VPPSA.

9 MS. WHITE: Oh, Shawn. Great. Okay.
10 Wonderful. So glad you're here. Shawn, I might just
11 -- forgive me if I get your organization wrong, okay?
12 You've jumped around a little bit over the last few
13 years. I'll try to keep track.

14 MR. ENTERLINE: No worries.

15 MS. WHITE: Great. You're with us. Is
16 anyone from WEC here?

17 MR. POWELL: Bill Powell from
18 Washington Co-op. Good morning.

19 MS. WHITE: Great. Thanks, Bill. And
20 how about Vermont Electric Co-op?

21 MR. KIENY: This is Craig Kieny --
22 sorry. This is Craig Kieny with Cyril. Kris Smith
23 and Dan Potter also.

24 MS. WHITE: Wonderful. Sounds good.
25 We are going to circle around to some state agencies.

1 I know ANR is in the room. Does someone from ANR
2 want to introduce who you've got?

3 MR. EINHORN: Don Einhorn with ANR and,
4 I believe Billy Coster, who is our director of policy
5 and planning, is also on.

6 MS. WHITE: Okay. Do we have AAFM
7 here?

8 MS. TISHER: Yeah. Elizabeth Tisher on
9 behalf of the Agency of Agriculture, Food and
10 Markets.

11 MR. DePilllis: Alex DePilllis also here
12 from the Agency. Good morning.

13 MS. WHITE: Okay. Great. So glad
14 you're both here. Any other state agencies that I'm
15 missing? People don't have their affiliations near
16 their name, so it's a little hard to tell who we have
17 got.

18 MR. CIVILETTI: This is Ben Civiletti
19 with the department. And with me also is Anne
20 Margolis from our planning team, Bill Jordan from our
21 engineering team, and Lou Cecere as well from
22 planning.

23 MS. WHITE: Lou Cecere. I don't think
24 we have met you yet, Lou, but I'm looking forward to
25 having you in today's conversation.

1 Great. Okay. And then we have got --
2 actually skipped VELCO. Let's hear from VELCO.

3 MR. SCIARROTTA: Hi. Good morning,
4 Joan. This is Mark Sciarrotta and Hantz Presume and
5 Shana Louiselle are joining me today. There may be a
6 few other folks from VELCO popping in to these
7 workshops from time to time as well. Thanks.

8 MS. WHITE: Great. Wonderful. Okay.
9 Is there anyone else on the call who I haven't
10 identified yet? Okay.

11 MR. VANDETTE: JJ Vandette from
12 Efficiency Vermont.

13 MS. WHITE: EVT. Great.

14 MR. DOWDS: Jonathan Dowds from
15 Renewable Energy Vermont.

16 MS. WHITE: Jonathan Dowds. Great.

17 MS. MALINA: Gabrielle Malina with
18 Downs Rachlin Martin, just listening, for ISO New
19 England.

20 MR. WOODWARD: Hi, Joan. You also have
21 John Woodward and Morgan Casella. I think Morgan is
22 here.

23 MS. BOUFFARD: Good morning. I'm Debra
24 Bouffard. I'm from Sheehey, Furlong & Behm.

25 MR. WHITING: Good morning. Chase

1 Whiting, Conservation Law Foundation.

2 MR. MORSE: Morning. Greg Morse is on
3 from VGS.

4 MS. WHITE: I didn't quite catch that,
5 Greg. Can you repeat yourself?

6 MR. MORSE: Greg Morse from VGS.

7 CHAIRMAN ROISMAN: Great. Anybody else
8 on the call?.

9 MR. WALLACE: Kyle Wallace with Sunrun.

10 MS. WHITE: Great. Okay. I think we
11 have got everyone. Is there anyone else? Okay.
12 Thank you, everyone. I really appreciate that.

13 So I think we will move on to some
14 logistics. So we received some comments in December,
15 and I just wanted to take a moment to thank everyone
16 who filed comments. They are really, really
17 invaluable to the process. So just as a reminder,
18 keep your microphone on mute to minimize background
19 noise, and then identify yourself for the court
20 reporter basically everytime you're speaking.

21 If you have any trouble with
22 GoToMeeting, just please let me know in the chat, and
23 we will try to resolve it. If for some reason you
24 get booted off or you can't use the chat, you can
25 always reach out to the clerk's office which is the

1 main number on our website, and they will let us
2 know. And we can pause the workshop until we can get
3 you back.

4 So we have got the agenda for today up.
5 I just wanted to let you know we will take a 10-
6 minute break around 11:00, and then we are going to
7 end the session promptly at 12:30. We decided to
8 break what normally would be a full-day workshop into
9 two half-day workshops. It's easier to stay fresh
10 and focused with a shorter time period.

11 So the plan is as we move through each
12 of the topics in the agenda, what I'm going to do is
13 first ask the commission staff if they have any
14 questions on that topic for people who filed comments
15 on the topic. And then I'll move on to the
16 commissioners and ask the commissioners if they have
17 questions. And then what I'll do is open up the
18 floor for kind of questions and discussion and ideas
19 from all the participants.

20 And so really write your questions down
21 and your ideas so that when we open up the floor you
22 can really chip in. And I want to encourage everyone
23 to, like, be lively, ask questions, engage, really
24 speak up. So we really rely on you to raise issues
25 and kind of problem solve with us, especially in this

1 field that is such a new area, and it's changing all
2 the time.

3 So if you have a question or a comment,
4 please just unmute your mic or type it into the chat
5 box. And you can also just kind of speak up, and we
6 will work it out.

7 So do any of the participants have
8 anything else to go over before we get started? Any
9 questions?

10 MR. HALL: Joan, this is Mike Hall. I
11 was on mute when you were asking for attendees. It's
12 Michael Hall with Stackpole & French.

13 MS. WHITE: Okay. Great. Thank you so
14 much. So we have got -- now we have got you in the
15 transcript.

16 Okay. Anyone else who logged on in the
17 meantime?

18 COMMISSIONER CHENEY: Joan, I just have
19 a request for process, and that is if -- it's great
20 if we can see people's faces when they are talking.
21 So I won't have my face on the whole time, but it
22 makes it so much easier and more human if we can see
23 each other when we speak.

24 MS. WHITE: I couldn't agree more.
25 It's really -- there is something disheartening about

1 being two years in the pandemic and still not seeing
2 people. Just that added bit of humanity makes the
3 process so much easier, if you can turn your camera
4 on. And it's helpful for the court reporter who can
5 read your expression more. So --

6 MR. COTTER: Ms. White, it's John
7 Cotter. If people -- there are a lot of people in
8 attendance, and I agree it is very helpful to see
9 people when they are speaking. One option that
10 people can have on GoToMeeting is at the very top of
11 the screen in the center, at least that's where it
12 shows up on mine, there is a selection for what
13 cameras you want to view. Mine right now is on view
14 everyone, so I have 46 little boxes at the top of my
15 screen, and they are very small. But if you click on
16 the up and down arrows, I can select "View who is
17 talking," so people can have their cameras on. And
18 as long as everyone is viewing who is talking that's
19 who you will see on your screen. You won't see
20 everybody.

21 MS. WHITE: Great. Okay. That's
22 really helpful, and it gives me an idea for if you
23 want to ask a question, you know, when we open up the
24 floor to everybody, if you could turn your camera on,
25 then I'll kind of see you and know that you have a

1 question. GoToMeeting doesn't have a hand raising
2 function like Zoom, so we will use -- either you can
3 unmute your mic or type it in the chat or turn your
4 camera on, and I'll try to keep an eye on that.

5 I'm going to ask the other hearing
6 officers if you see someone who looks like they want
7 to ask a question, maybe flag it for me so we can get
8 that person some floor time.

9 I had planned to read through the whole
10 list of participants on each topic and ask if they
11 have questions. It's such a long list, I would
12 rather not belabor the point since people won't have
13 something on every single topic.

14 MS. KROLEWSKI: Can we just remind
15 people to put their mics on mute when they are not
16 talking. I can still hear background noise right
17 now. So I think we might still have a couple people
18 who need to mute.

19 MS. WHITE: That's helpful. And I can
20 -- I may be able to mute people, which we don't -- oh
21 Alex DePilllis. Sorry, I shouldn't call you out.
22 Okay gotcha. I think that's --

23 THE COURT REPORTER: I leave mine on.
24 This is the court reporter.

25 MS. WHITE: Okay. That's very helpful.

1 Thank you, Kim. I will not mute you.

2 Okay. So mics on mute. Cameras on
3 when you're speaking. Any other logistics that folks
4 want to go over?

5 MS. MARSHALL-TORRES: Identify myself.
6 I'm Emma Marshall-Torres. I'm calling in from
7 Conversion Energy and Power.

8 MS. WHITE: Thanks for joining us
9 today, Emma. So glad you're here.

10 Good. So I think we are going to just
11 dive right in then. The first topic we have to talk
12 about is interconnection. And I think this should be
13 a relatively short topic even though there was a lot
14 of comments on it.

15 And what happened was we got the
16 comments in the storage docket, and then, like, a few
17 days later we released a draft interconnection rule.
18 So I believe the rule that we released in December
19 and that's in docket 19-08 -- yeah, 0856-RULE, I
20 believe that that addresses almost all of the
21 comments in interconnection that we received.

22 The basic concept is that any resource
23 of any size will be required to go to the utility,
24 interconnecting utility, get an interconnection
25 agreement first, before either registering or

1 applying for a CPG. So that is a somewhat
2 substantial, you know, change from what we have done
3 in the past. And then we also rolled in some
4 reporting up to VELCO, some cluster studies, other
5 things like that.

6 What I'm going to do now is just click
7 over to -- can everyone see this slide that has
8 sections of the interconnection rule on it? So I
9 kind of called out the sections that pertain
10 specifically to storage. And I would really
11 encourage everyone to just jot down these section
12 numbers and take a look in that docket at all those
13 sections and just see whether or not the rule, the
14 interconnection rule, kind of answers your concerns.

15 So we have tried to deal with things
16 like communications and telemetry, reporting, cluster
17 studies or how to calculate net -- the net sort of
18 generation off circuit given limited export battery
19 systems. So I'm sure there is work to be done.

20 So we would really appreciate it if you
21 took a look at those sections and filed comments in
22 that docket. The comment deadline is January 28,
23 2022.

24 So my first question on interconnection
25 really is, you know, we think we have kind of handled

1 all those problems in the interconnection docket.
2 But is there anything that anyone sees that really
3 does need to live in the storage rule uniquely and
4 not an interconnection that's related to
5 interconnection and storage?

6 And I guess first -- I might go to the
7 department first just because they filed the most
8 substantial comments. So maybe we can start with the
9 department and see who else has thoughts on that. If
10 you're from the department -- there we go. Oh, there
11 is Bill Jordan. Marvelous.

12 MR. JORDAN: Good morning everybody.
13 This is Bill Jordan from the Department of Public
14 Service. And to answer your question, we believe
15 that, as you stated, everything should be in the
16 interconnection rule. And that there is -- we
17 haven't identified anything at least that should be
18 in the storage rule. And I don't know if anybody
19 else from the department wants to chime in as well,
20 but that's what I have.

21 MS. WHITE: Great. Let's go to Ms.
22 Anne Margolis.

23 MS. MARGOLIS: Oh, thanks. I think
24 probably it would be good for us to just go back and
25 take a scrub and make sure all the codes and

1 standards that we recommended in the storage
2 rulemaking either make it into the interconnection
3 rule or are otherwise captured in the storage rule.
4 I'm thinking in particular of NFPA 855 which relates
5 to fire safety. I can't quite recall if that was
6 also included in the draft interconnection rule that
7 you guys put out, but that would just be maybe --
8 just a cross reference between the codes and
9 standards if they are all expected to live in the
10 interconnection rule versus the storage rule.

11 MS. WHITE: Okay. That's very helpful.
12 Yeah. We can do a detailed look at that and sort of
13 figure out which of the codes and standards live in
14 which rule. Great. Okay.

15 So I guess next let's see who else had
16 ideas about interconnection. Let's go to GMP next.
17 If, you know, if you feel comfortable commenting
18 today, that's great. If not, we can -- feel free to
19 file on January 28.

20 MR. CASTONGUAY: Sure, Ms. White.
21 Yeah. I think we are in alignment with what Mr.
22 Jordan just said in terms of everything living in the
23 5.500, and we will obviously provide comments in that
24 case as well.

25 MS. WHITE: Okay. Great. Great.

1 Great. Okay. So now we have got a theme going.
2 What I'm going to do is if anyone thinks that they
3 have got something that really ought to live --
4 related to interconnection that really ought to live
5 in the storage rule that's not living in the
6 interconnection rule, can you turn your camera on and
7 let us know? Okay.

8 Seeing none, I'm going to stop sharing
9 my screen. Oh, actually no. No. Sorry. We are
10 going next to the Department's proposal. And that's
11 kind of where I anticipate spending a pretty
12 significant chunk of time. It was the most
13 substantial kind of comments that were filed and also
14 had a fairly specific kind of delineation of
15 different categories that we would use for
16 determining kind of expedited siting.

17 So there are some parts of the
18 department's comments that pertain to topics that we
19 will discuss next week. And so I think what we are
20 going to do is John Cotter is our point person on the
21 department, so I'm going to lead with him to maybe
22 ask some questions of the department's folks.

23 MR. COTTER: Actually, Ms. White,
24 before we jumped into the department's proposal I had
25 one question I wanted to ask folks dealing with

1 interconnection. And I'm not really -- I don't
2 expect a response now. I think it's something that I
3 want people to think about. And maybe what we can do
4 is after today we will set another deadline for
5 filing post-workshop comments for after today and
6 next week's workshop obviously. And people could
7 address it then.

8 And that is that Act 54, when it
9 describes -- it describes a simplified process under
10 Section 248 for projects between 100 kilowatts up to
11 one megawatt. And it says that the -- in
12 establishing that process the commission can require
13 a letter from the interconnecting utility saying that
14 there are no interconnection issues or whatever
15 issues there might have been have been resolved. And
16 we can require that as part of the application
17 process.

18 One of the thoughts that we have been
19 having is -- as Ms. White talked about with respect
20 to the interconnection rule, is before anybody
21 applies for a CPG, they need to have a fully executed
22 interconnection agreement. And I'm curious if people
23 think that there is a conflict between that
24 requirement and the statutory language that says we
25 are allowed to require a letter from the

1 interconnecting utility.

2 In other words, can we require
3 something more than a letter, i.e., an executed
4 interconnection agreement, or is the statute allowing
5 us to require something a little less than an
6 executed interconnection agreement for the simplified
7 process. I want to make sure that we are not running
8 afoul of the statute. And so I think that would be
9 helpful to hear people's comments on that.

10 But as I said, we can do that in follow
11 up in writing. Thanks.

12 With respect to the department's
13 proposal, I want to reiterate Joan's thanks to people
14 for filing their comments. It's obvious that the
15 department put a lot of thought and time and effort
16 into this, and it was really, really helpful to us.
17 So thank you very much.

18 I have a general question to start out
19 with, and for the department, and then if other
20 people want to chime in as well, which is when the
21 comments were drafted and submitted, were you
22 thinking only about battery storage? Or were you
23 thinking about other types of storage facilities as
24 well? For example, pumped hydro storage is one that
25 I think we have all heard about. And I was

1 struggling to try and figure out if something like
2 that fits the definition of energy storage in Act 54.

3 So anyway, I'll just throw that out
4 there, and somebody from the department can respond.
5 And then I guess, Ms. White, I'll turn over the
6 conducting to you for further comment.

7 MS. WHITE: It looks like we have got
8 Ms. Margolis ready to answer the question.

9 MS. MARGOLIS: Do my best. You know, I
10 think probably speak for many folks that, you know,
11 battery storage is the predominant technology that we
12 are seeing deployed right now and that we are hearing
13 about being deployed in the near future. And that
14 was certainly in the top of mind in the Act 54
15 discussions.

16 Prior to Act 54 the department had put
17 out a couple reports on energy storage, and, you
18 know, they really kind of tried to emphasize that
19 energy storage is not just battery storage, and there
20 is potential for a number of other technologies in
21 the future. You know, pumped hydro, modular pumped
22 hydro, compressed air energy storage, even other
23 types of battery storage that we are not seeing right
24 now. Flow batteries. Different types of long-
25 duration battery storage technologies. Lithium ion.

1 I think it's, you know, we have the dual pressure of
2 kind of trying to address what we are seeing today
3 which is the primarily lithium ion battery storage,
4 and then prepare for the future.

5 I think when we were writing our
6 comments we were primarily focused on battery
7 storage, specifically looking at ion battery storage.
8 I think we made a few comments or footnotes to the
9 effect of, you know, we may need to think about other
10 technologies in terms of the simplified process, you
11 know, a compressed air energy storage project that's
12 500 kilowatts might have very different impact under
13 the criteria -- 248 criteria than a 500-kilowatt
14 battery storage project.

15 So I think we will continue to try to
16 hold that in mind, and I think it's important
17 throughout this discussion to think about the
18 technologies we are not seeing today and whether they
19 would be amenable for a simplified process, or really
20 if we are seeing the first of its kind, so not
21 automatically bump a new technology into a non-
22 simplified process.

23 My other colleagues may have comments
24 too.

25 MS. WHITE: Great. So does anyone else

1 from the department want to weigh in on that? Seeing
2 no one, are there any follow-up questions about that
3 from commission staff? How about from the
4 commissioners? Okay.

5 So let's move on then. Is there anyone
6 else from -- here comes Chairman Roisman.

7 CHAIRMAN ROISMAN: Yes. Given what Ms.
8 Margolis has said about this changing technology, and
9 that we are talking here about the process as opposed
10 to substantive rules, I would be interested in
11 people's thoughts on whether or not as the
12 technologies change and as new storage options show
13 up, how comfortable would people be with having us
14 write the rule in such a way that we can modify
15 application process requirements by order? Rather
16 than having to go through a rulemaking process.

17 Obviously, if we can do it by order,
18 it's a much more rapid process. Still involves
19 participation of the public, but does not involve all
20 those other steps.

21 So I would like to know what the
22 stakeholders think of giving us that option as new
23 technologies come along so we don't have to try to
24 anticipate it now in deciding which technologies are
25 going to get what kind of simplified process.

1 Thank you.

2 MS. WHITE: So we will open the floor
3 to anyone who wants to answer Chairman Roisman's
4 questions. So if you have some thoughts, maybe just
5 turn your camera on. Okay.

6 Is that Bill Powell? Sorry. I'm
7 having a little trouble.

8 MR. EINHORN: Hi. Don Einhorn with
9 ANR. I don't think at this time I'm prepared to
10 answer Chairman Roisman's question, but I did have a
11 comment related to, for example, Mr. Cotter's
12 question was really good. And we were thinking about
13 some of the same stuff here at the Agency.

14 For instance, the proposal that the
15 department has framed for the process, I think, in
16 general looks really good to us. The kind of 248(j)
17 process for the in between, if you would, from say a
18 hundred kilowatts to one megawatt or up to five
19 megawatts in the case of not within an existing
20 structure.

21 The caveat to that is, I think it works
22 for this standard battery storage type stuff that we
23 are seeing now. And I think from the Agency's
24 perspective, a pumped hydro storage type of a thing
25 probably wouldn't be appropriate to use what would be

1 similar to say 248(j) process right now.

2 I just wanted to put that out there,
3 but I would need to give more thought to Chairman
4 Roisman's concept. So I think perhaps we will give
5 that some more thought and maybe try to address that
6 when we file comments.

7 MS. WHITE: Thank you, Mr. Einhorn.
8 That's actually extremely helpful. It sounds like
9 the idea that's being floated is that battery storage
10 would go through the simplified process. Any other
11 kind of storage, fly wheels, pumped hydro would go
12 through a full 248. It sounds like that's the kind
13 of thinking from folks.

14 Anybody else want to weigh in on that
15 question and Chairman Roisman's question regarding
16 modification of the requirements by order rather than
17 rule?

18 COMMISSIONER CHENEY: So this is
19 Margaret. Hi. You mentioned, Ms. White, pumped --
20 hydro pumped storage, that kind of thing, as possibly
21 needing a rule Section 248 process, but that still
22 leaves open the question of some hypothetical storage
23 technology that we don't even know about yet. So --
24 and that may not require a full 248.

25 So I just think we should think about

1 how to leave open the possibility of such future
2 technology that may not need to go through so much
3 process. I think that's tied to Chairman Roisman's
4 question.

5 MR. COTTER: This is John Cotter again.
6 I think that people -- I think all of us need to keep
7 in mind that the way this statute is drafted might
8 make this a little tricky. Act 54 requires a
9 simplified process for storage facilities, and there
10 is a definition for storage facilities that I suppose
11 one could argue that pumped hydro doesn't even fit.
12 But I think that would be a bit of a stretch. But it
13 requires a simplified process for storage facilities
14 between a hundred KW and one megawatt. It doesn't
15 say battery storage facilities between that size.

16 So we, as technology changes, we are
17 going to be confronted with the kind of question that
18 Commissioner Cheney just raised. Somebody comes in
19 with something that's 500 kilowatts, what are the
20 impacts of it? Is it really suitable for a
21 simplified process? And how do we address that
22 possibility going forward? And, you know, remaining
23 in compliance with the statutory requirements.

24 Again, I know this probably isn't
25 something people are prepared to answer today, but I

1 think it's something we all really need to give some
2 serious thought to and couple that with Chair -- the
3 Chair Roisman's question regarding how we set
4 ourselves up to be able to move in response to
5 technological changes is an important question, too.

6 And if anybody has a response to that,
7 great.

8 MS. WHITE: I see Mr. Civiletti from
9 the department has his camera on. Go right ahead,
10 Mr. Civiletti.

11 MR. CIVILETTI: Hi. Thank you. Just a
12 quick note on Chair Roisman's comment. Certainly I
13 think the idea has a great deal of promise from a
14 practical perspective. And the department would just
15 want to carefully consider that, and we will keep it
16 in mind for follow-up comments.

17 MS. WHITE: That's very helpful. Yeah.
18 I'm keeping a list of topics we want to ask folks to
19 follow up with in the comments after the workshop.
20 Good.

21 Okay. If we are wrapped on that topic,
22 maybe I'll turn it back over to you, Mr. Cotter, for
23 your next question.

24 MR. COTTER: Sure. I had a question
25 for the department. They referred to part of the

1 simplified -- excuse me -- the simplified process
2 being used for facilities. And I'm quoting here:
3 Used solely for onsite backup power with no ability
4 to export to the grid either on demand or
5 inadvertently.

6 And Section 248 -- the simplified
7 process is about getting a Certificate of Public Good
8 under Section 248. But Section 248 exempts projects
9 that are used solely for onsite consumption. I was
10 curious if the department had that in mind when they
11 wrote that part of their proposal, and if so, how
12 they got the two things to mesh together so there was
13 no conflict with the statute.

14 MS. WHITE: So we will go next to Ms.
15 Margolis for an answer on that.

16 MS. MARGOLIS: Yeah. I think that's a
17 good point that if it's -- if we know there is a
18 slight -- no chance of export to the grid, and this,
19 I think, goes to that concept of inadvertent export
20 where you have a battery and you're not intending to
21 ever export, but there could be potential system
22 impacts for inadvertent export for a very short,
23 limited amount of time, but there might be grid
24 impacts from that, that would need potential
25 evaluation even if it's very a simplified evaluation

1 through interconnection.

2 I think where those lines are and how
3 that is defined, either in an interconnection rule or
4 in definition of -- for backup-power only, I think we
5 just wanted to put that out there as something we
6 need to consider. Because there is definitely
7 discussion of why do we need to -- if it's just for
8 -- if someone just has a battery for backup power, it
9 shouldn't be part of this process. It shouldn't be
10 implicated under this storage rule at all.

11 And I think we just want to make sure
12 that we have this discussion about inadvertent export
13 and the potential for that, and is the system -- if
14 somebody is using the term for backup power only, is
15 the system truly isolated from the grid. So yes. If
16 it's totally for backup only, keep it out of this
17 process. But if there is any kind of implication for
18 the grid, let's make sure to have that discussion and
19 make the definitions preclude that from being
20 considered a backup-only system.

21 MR. COTTER: Yeah. I totally
22 appreciate that. And actually this might be a good
23 time for somebody from the utility or someone with
24 some serious technical knowledge to weigh in.
25 Because our -- that's a Section 248 question, but

1 there is also a broader jurisdictional question under
2 Section 203 about who and what we have jurisdiction
3 over, period. Regardless of whether a CPG is
4 required under Section 248.

5 And I certainly don't know enough about
6 it. Is there a way for somebody to hook up a
7 battery, say in their house, so that it is strictly
8 unidirectional? So even though it is connected to
9 the grid and is charging from the grid that it will
10 only supply power to the house and will never kick
11 that back out onto the grid?

12 And I guess I float that for all the
13 technical people. And, Ms. White, I'll let you
14 juggle with the responders.

15 MS. WHITE: Sure. Well we have got a
16 quick volunteer, Mr. Castonguay. So let's go there
17 first.

18 MR. CASTONGUAY: Sure. Yeah, thank
19 you. So yeah. Mr. Cotter, so I do know that the
20 technology does exist to do, you know, self
21 consumption only it's called. It is different modes
22 where it doesn't push back to the grid.

23 The only -- the other thing I was going
24 to say, though, separate from the 248 process but to
25 Ms. Margolis's point of we -- from the utility

1 standpoint we still would want to track those, at
2 least know where they are and sort of what they are
3 doing. This could just be through the 5.500 process,
4 I assume.

5 Just because there is really two major
6 factors. One is it's just good to know where all the
7 battery storage is on the system. We track it in our
8 GIS system. And from a safety system standpoint it's
9 good regardless of if it pushes back or not. And
10 two, it actually does -- even using it to lower the
11 load, like, make the house look like it isn't on the
12 grid can have an impact on the broader grid when
13 there is a lot of solar being produced. The amount
14 of load that's there has an impact.

15 So that would be our hope. Keep it
16 still for those small systems very, very simple,
17 probably may just be a notification or something
18 along those lines. Very simple process. But
19 something where we can continue to keep track of
20 where they are on the grid.

21 But to your first question, yes,
22 technology does exist. It's being used today here
23 and all over where it can either charge from solar,
24 charge from the grid, but not export back to the grid
25 if that's the desire.

1 MR. COTTER: Thank you. I didn't mean
2 to imply that we wouldn't have any ability to do the
3 kind of thing, Mr. Castonguay, that you were just
4 describing for tracking purposes and so forth. If it
5 was entirely unidirectional. Because the commission
6 obviously still has jurisdiction over the
7 interconnecting utility and its facilities.

8 And so I think that, you know, fair to
9 say that the commission wouldn't want people
10 interconnecting anything that would negatively impact
11 those facilities. So I think there is mechanisms to
12 get at the problem even if a specific system itself
13 might not be jurisdictional to the commission. I'm
14 not suggesting that they wouldn't be today. These
15 are just things that we are still thinking through
16 very carefully. But I appreciate that response.

17 MR. CASTONGUAY: Sure.

18 MS. WHITE: Great. So I'll just
19 briefly summarize. It sounds like there is still
20 kind of an open legal question around jurisdiction.
21 But as a policy matter, most people are in agreement
22 that some kind of notice to the utility even for non-
23 exporting systems is important for system stability/
24 reliability.

25 Does anyone else have a viewpoint

1 that's counter to that?

2 MR. COTTER: Ms. White, just to be
3 clear, I think if it is an exporting system it's
4 clear that jurisdiction is there. Where it starts to
5 get a little fuzzy is the strictly non-exporting
6 systems. The one that, for example, Ms. Margolis
7 said systems that can't even inadvertently feed into
8 the grid. I think that's where it gets a little bit
9 gray, and we need to think very carefully about how
10 we define things while at the same time obviously
11 being very careful with impacts to the grid.

12 MS. WHITE: I'll just have one follow
13 up, and we will go to Chairman Roisman for a comment.

14 In the interconnection rule section
15 5.521, it really specifies some of those kind of
16 technical settings for non-exporting or limited
17 exporting systems. It would be very helpful if we
18 could have some kind of engineering eyes on that
19 particular section.

20 All right. So we are going to go to
21 Chairman Roisman for a follow up.

22 CHAIRMAN ROISMAN: And this is really,
23 as with John's questions, a technical question, Mr.
24 Castonguay or one of the other utility
25 representatives.

1 I understand that one issue that the
2 utilities have is that if they have repair people
3 going out to a site to fix a line or do something
4 else, it's important for them to know whether
5 anything is energized along the line that they might
6 be in contact with. We have a fair number of
7 independent generators that people use strictly for
8 backup that are not batteries. They are propane or
9 oil.

10 And I'm curious to know what
11 precautions do the utilities have or think we need to
12 think about to make sure that they are aware that
13 there is a generator at a site that may, in fact, be
14 energizing lines that the workers are coming out to
15 do work around. And apply that not just to
16 batteries, but to these other backup systems that are
17 not being charged from the grid but are nonetheless
18 being used as soon as there is some interruption with
19 the grid.

20 MR. CASTONGUAY: Yeah. Good question,
21 Mr. Chair. So there is a couple things there, I
22 would say. This is speaking for GMP. The other DU's
23 may have slightly different practices.

24 From a pure safety practices standpoint
25 we really adopted and changed over the years how we

1 treat the system, which essentially is everything's a
2 source. Meaning whether it's wires are down or not,
3 or we think -- it's always treated live in the way we
4 handle things, just because there is so much
5 distributed generation across the system now and
6 storage.

7 Where -- I would say where it comes
8 more into play, so the traditional propane backup
9 generator or other fossil generator traditionally has
10 what's called a transfer switch at the house, so it's
11 not connected to the grid in parallel. That's the
12 big difference with battery storage today. The
13 backup generator at your home, if the power goes out,
14 it's literally a switch switches over to the
15 generator and that fires up and backs up your home.

16 Whereas nowadays with storage, and
17 there are some unique scenarios where you can do it
18 with a generator and controls, but with storage
19 you're always connected to the grid. So it becomes
20 more of a, you know, safety procedures too, for like
21 first responders who are responding to an emergency
22 at a home and that sort of thing. And I know we have
23 connected with fire training facilities and things to
24 talk through this, and they have a number of
25 standards and practices.

1 So I think what from GMP's perspective,
2 like, we have really adopted a continual evolving set
3 of safety standards and protocols that we are just
4 treating everything as energized when we do this
5 work. I think we are sort of beyond the point where
6 you could go out and maybe shut off a solar here and
7 there. It's so distributed across the system we just
8 anticipate it to be there, and that's how we handle
9 it.

10 But again, from a first responder
11 standpoint they also have a set of safety standards
12 that they are looking at when they are responding
13 with respect to storage and solar and that sort of
14 thing.

15 MS. WHITE: Okay. That's very helpful,
16 Mr. Castonguay. Thank you. I want to make sure if
17 other DU's or other engineers in the room want to
18 weigh in that they have got the opportunity.

19 Okay. Seeing none, we will turn back
20 to Mr. Cotter for another question.

21 MR. COTTER: Yes. I actually had a
22 quick question. It's for ANR, but it is about the
23 department's proposal. And the department, for
24 example, as part of its proposal, envisions a more --
25 a very simplified process for projects up to one

1 megawatt that are located within existing structures.
2 And Mr. Einhorn, earlier you said sort of, you know,
3 roughly around the edges the department's proposal
4 looked pretty good to the Agency. The Agency's
5 comments at least suggest that the Agency believes
6 that as part of an application there should always be
7 a formal natural resources report so the Agency could
8 assess natural resources impacts.

9 Now I know that was the Agency's
10 position initially in the rule 5.400 rulemaking
11 process. But it was modified somewhat when we
12 started talking about how necessary would that be if
13 somebody were, for example, simply increasing the
14 capacity slightly of transformers within an existing
15 substation fence. And if my memory is serving me,
16 Agency sort of modified its position to, you know,
17 making sure that there was sufficient testimony and
18 exhibits so that the Agency could fully evaluate the
19 potential natural resource impacts.

20 And I'm curious is the Agency steadfast
21 in the idea of a natural resources report with
22 respect to battery storage, or I shouldn't say
23 battery storage. I'm sorry. Energy storage
24 facilities, or is it more of a case-by-case basis
25 just make sure we get the information that we need?

1 MS. WHITE: I'll go to -- sorry. Go
2 ahead.

3 MR. EINHORN: Yeah. I think it's -- I
4 mean if it's within an existing structure, then I
5 don't see that being something, right, that's
6 necessary, and a pretty simplified process works for
7 that. If it's not within an existing structure, I
8 don't know if there is a real bright line. I think
9 for the most part we would want to see some level of
10 a resource assessment done by someone who has
11 expertise in that area.

12 You know, that said, go ahead, Billy.

13 MR. COSTER: Billy Coster with the
14 Agency. I will agree with Don, I think how we are
15 approaching this is kind of similar to looking at the
16 commission's net-metering rule 5.100. For
17 registration projects there is very little
18 information that comes in with them. There is an
19 expectation that due to their location or scale there
20 is a limited natural resource impact potential. I
21 think we are comfortable with that approach here for
22 storage that's within a structure.

23 I think as Don suggested, I think
24 that's -- kind of outside of that registration
25 process there would be some expectations around a

1 natural resource assessment, the scope of which, you
2 know, we can certainly discuss further. But I think
3 that's where we are coming from, if that's helpful.

4 MR. COTTER: That is helpful. Thank
5 you. And so yeah. Ms. White, I just had -- I
6 suppose I should -- if anyone else has a response to
7 that inquiry now would be the time. I'll let Ms.
8 White handle those.

9 MS. WHITE: We have got Chairman
10 Roisman. Go right ahead.

11 CHAIRMAN ROISMAN: Yeah. I had a
12 follow-up question for ANR. Assuming for a moment
13 that the project that's proposed is not inside the
14 structure, but it's inside the footprint of a
15 previously licensed activity, for instance, a large
16 solar project that may have had an evaluation done
17 that covered more than just the exact spot where the
18 panels were placed; wants to put in a 5 megawatt
19 battery, but it's still inside the footprint of what
20 had been previously evaluated.

21 Does ANR believe that there is
22 something comparable to the inside the structure
23 that would allow that project to essentially rely on
24 the evaluations that had already been done when the
25 CPG was granted for the solar project? I would like

1 to hear what ANR's thoughts are on that.

2 MR. EINHORN: Sure. Don Einhorn. We
3 have actually dealt with that type of a situation in
4 some solar projects where that battery storage was
5 added a year, a couple years later. And I mean the
6 underlying assessment that was done for the initial
7 248 is a good baseline. But we would need to see in
8 that case, I think, further analysis about what
9 additional impacts, if any, the addition of this new
10 component, both the footprint of it, the manner and
11 method and timing of the installation, could
12 potentially have impacts, whether they be separate
13 just because of the time of year that the work is
14 being done. Because there are resources within, you
15 know, 300 feet, 500 feet that could be impacted by
16 say noise or other things; habitat comes to mind. Or
17 is there a cumulative impact when you add the two,
18 for instance, the solar project proper didn't trigger
19 the need, perhaps, for an operational stormwater
20 permit because it was less than an acre of
21 impervious. But adding these other components now
22 brings it over that limit and it triggers the need
23 for a permit.

24 So I think the baseline assessment
25 that's done for the initial project is -- have a

1 useful purpose, but then some additional look at the
2 addition -- the additional infrastructure and the
3 timing and the manner and method in which it's
4 installed, you know, I don't think it would perhaps
5 necessitate a fresh review of the suite of all the
6 potential criteria or sub criteria, but some of them
7 could certainly be in play.

8 And we have seen that in the past where
9 we needed to condition the additional work on whether
10 it be time of year, or looking at reevaluating the
11 impervious surface. So I hope that answers that
12 question.

13 MS. WHITE: Yes. That's very helpful.
14 And I have a follow up on that line which is the
15 department has proposed that anytime someone's adding
16 energy storage to an existing system that it be
17 proposed as an amendment to the CPG. So it would
18 come in as an amendment process. So you have the
19 underlying CPG docket there, and anything kind of new
20 or, you know, change in timing that's coming up,
21 evaluated.

22 Does that kind of satisfy the needs and
23 expectations of the Agency for amendments and kind of
24 the addition of storage to existing projects?

25 MR. EINHORN: I think it would. And we

1 see that with typical amendment applications there is
2 some level of assessment because, you know, is there
3 a potential for significant impact to the substantive
4 criteria. So that approach would work in these
5 instances.

6 And then again, the degree of the new
7 work to be done as far as the assessment work is
8 going to be not necessarily fixed; right? It's going
9 to vary to some extent from site to site, project to
10 project.

11 MS. WHITE: Thank you. That's very
12 helpful.

13 Now we are going to come back to
14 Chairman Roisman who has a follow up.

15 CHAIRMAN ROISMAN: Yes. Thank you, Ms.
16 White. That question goes to at least half of what I
17 was going to ask Mr. Einhorn to clarify. So if we
18 were operating under 248(j), 248(j) has these options
19 to move out of the simplified process into a more
20 thorough investigation, depending upon the nature of
21 issues that get raised.

22 Is ANR comfortable with allowing the
23 applicants to make their application under 248(j) for
24 a project that is not inside a structure, and then
25 ANR stepping forward and saying, well, I think you

1 need to do a more thorough study of X because there
2 is a wetland that wasn't impacted by the original
3 project but might now be impacted? Or there is more
4 impervious surface. In other words, where would you
5 feel comfortable having the burden lie initially with
6 regard to that? And would you be comfortable with
7 248(j) being used when a project was inside the
8 footprint of a preexisting approved project?

9 MR. EINHORN: That's a good question.
10 I haven't given that a lot of thought, but my
11 inclination is to say that we would be most
12 comfortable following the existing -- the process
13 that already exists which is essentially applying for
14 a CPG amendment.

15 MS. WHITE: Okay. So I think we
16 probably should kind of move on from this topic. We
17 have got about 35 minutes left on the department
18 proposal unless, Mr. Cotter, you have kind of an
19 urgent follow up on this, maybe we could jump to the
20 next question.

21 MR. COTTER: No. I only had two other
22 questions. Actually one of them does kind of follow
23 up on this. But it veers to the side a little bit,
24 and I'll start with that one.

25 I was curious, and I don't know that I

1 have ever seen this happen, but the moment you say it
2 will never happen, it does. And this has to do with
3 the department's proposal that adding storage to an
4 existing project should be done as a CPG amendment.

5 What happens if the person or entity
6 that wants to install the storage is not the person
7 or entity that holds the CPG for the solar project?
8 It's just, you know, another entity that has come in
9 and said, hey, I've got a great business idea. Are
10 we amending the existing CPG, or is this a new entity
11 getting a separate CPG? And if so, I would assume
12 they would need to just file from scratch. Not do a
13 CPG amendment.

14 Just curious if you thought about that,
15 and if so, what your thinking is.

16 MS. WHITE: We will go to the
17 department on that. If Mr. Civiletti or Ms. Margolis
18 weighs in.

19 And we are not sure. "We will file
20 reply comments" is a very acceptable answer.

21 MR. CIVILETTI: Thank you. Yes. I
22 think it's a great question, and we do need to think
23 about that more. So we will certainly follow up on
24 that.

25 MR. COTTER: Thank you. I need to

1 think about it more too.

2 My last question then, or I'm sorry,
3 Ms. White, I keep moving on when other people may
4 have responses. Please. Take back the control.

5 MS. WHITE: All right. So we have got
6 Mr. Einhorn with his camera on. So let's go to him
7 next.

8 MR. EINHORN: Yeah. Sorry. Maybe I'm
9 just slow or the computer is slow in getting devices
10 working. But that's a great question. Hypothetical.
11 Following that hypothetical, if truly somebody
12 different is coming along and saying we want to kind
13 of lease this little space here and drop our storage
14 component in it, yeah, I don't know what the best way
15 to deal with that process wise. But I would say that
16 we would fully expect if in a case like that, for
17 that new entity that comes along to not only assess,
18 you know, their impacts of their piece of that, but
19 to look at those cumulatively with the preexisting
20 project.

21 I just have a little level of
22 discomfort under a hypothetical like that of somebody
23 coming along and saying, hey, we have got nothing to
24 do with this other thing here. We just want you to
25 look at the stuff that we are doing. And our

1 experience has been there's always the potential, not
2 that it always is the case, but there is always the
3 potential for cumulative impacts when you have a
4 couple of things side by side even if they are within
5 the same footprint.

6 MR. COTTER: Right. And I appreciate
7 that. And I think the commission does as well. And
8 I believe that was really the intent of the
9 department's proposal was to make sure that we don't
10 lose track of potential cumulative impact.

11 So department, if I'm wrong, please
12 speak up.

13 MS. WHITE: Anyone else who wants to
14 weigh in on that particular question? Okay. Seeing
15 no one, we will go back to Mr. Cotter.

16 MR. COTTER: Okay. This is my last
17 question, and this is a great opportunity for me to
18 get educated on something. And department, this has
19 to do with page 5 of your comments. And there is a
20 quote from it that says: It is appropriate to
21 require storage projects that are part of wholesale
22 aggregations, and which therefore may bypass other
23 avenues for review of aggregate grid and ratepayer
24 impacts, such as utility tariffs and rate
25 investigations, to be subject to review under -- get

1 away from the quote -- under the criteria for need,
2 economic benefit and existing and planned
3 transmission.

4 I guess I had always thought of
5 aggregations as something that there would be a bunch
6 of people that already had 248 CPGs and had
7 independent storage facilities up and running
8 already. And then another person comes along who is
9 the aggregator and comes to them with a proposal, and
10 says, hey, let's aggregate all of this stuff, and
11 then we can, you know, realize the following benefits
12 from it.

13 And if that's the case, I haven't seen
14 yet how that becomes a 248 review issue, and it would
15 really be more that the aggregator needs to get a 231
16 CPG.

17 I see Ms. Margolis has turned her
18 camera on already, and I appreciate that. So --

19 MS. MARGOLIS: Anne Margolis. I can
20 see it happening both ways. You know, just call out
21 some folks on the call maybe who might want to
22 respond. You know, looking at, for instance, a
23 utility-run program like GMP's Powerwall program, you
24 know, that from the start, you know, when it started
25 out as a pilot and then became a tariff, the intent

1 was that these systems would have a dual purpose.
2 They would be -- there would be a value proposition
3 for the end use customer to have that system as
4 backup power. But then there would be a value
5 proposition for the whole body of ratepayers, you
6 know, all of GMP's customers. And that those systems
7 would be aggregated to reduce costs associated with
8 system peaks and some other values.

9 And, you know, those customers are not
10 likely to have all procured battery storage in the
11 absence of that, you know, preexisting aggregation
12 value proposition and the cost reduction that the
13 customer would then experience from that. So in that
14 case kind of the premise of the aggregation came
15 first. And then the individual systems rolled into
16 it.

17 And then I think there may also have
18 been some comments from Sunrun in this proceeding
19 related to the aggregations and, you know, the need
20 to kind of identify customers ahead of time or who
21 would be the customers and devices enrolled in the
22 aggregation at the time of going for a 231. I don't
23 want to put words in their mouth, they may have made
24 the point they might not know that up front. They
25 might know they want to do an aggregation and about

1 how big they are looking for the aggregation to be
2 and what types of resources because of opportunities
3 through the region, through ISO New England, then
4 they may also need to go out and get the individual
5 customers.

6 And then there could be, like you were
7 saying, Mr. Cotter, there could be opportunities
8 where customers have installed storage. Maybe once
9 the cost comes down, customers are installing storage
10 just for backup power purposes, and then an
11 aggregator comes along and says who is not enrolled
12 in an existing program already? Would you like to
13 enroll in our program?

14 So I see those as being less likely in
15 the near term and more likely that there is going to
16 be an aggregation idea out there, and then the
17 devices will follow. But you may want to hear from
18 other folks on that too.

19 MR. COTTER: Yeah. I appreciate that,
20 and I can see where if there is already people, for
21 example, identified to be part of an aggregation, and
22 then they come in for their Section 248 CPGs, that
23 that presents a very real opportunity to review the
24 aggregate impacts of those facilities coming online
25 aggregated together.

1 But what I was kind of curious about
2 was if somebody comes in -- you know, the 248 CPGs
3 already exist and somebody wants to then aggregate
4 them. And as far as I can tell they don't need
5 another 248 CPG to do that. They would need a 231
6 CPG. So I'm wondering where the review under the
7 (b) (2) need, (b) (4) economic benefit and (b) (10)
8 existing and plant transmission facilities would
9 occur.

10 MS. MARGOLIS: Yeah. I think it's
11 tricky unless you -- going into an aggregation
12 triggers an amendment. I can foresee that.
13 Reopening a proceeding where all of a sudden a
14 resource that was operating in a certain way had a
15 certain, you know, time of export, time of load, you
16 know, some of this could also be addressed through
17 utility tariffs or through the interconnection
18 process I guess if you -- I think I saw with GMP's
19 interconnection procedures and their comments, you
20 know, you have to kind of lay that all out when
21 you're going for your interconnection. So that might
22 actually trigger a rereview under interconnection.

23 You know, I can see this also just
24 being addressed in 231. But going into an
25 aggregation could really change how a battery is

1 operating, and that would potentially be something
2 that, you know, an aggregation could be adding load
3 at the wrong times to the system or in specific
4 areas, where exports could happen at the wrong time
5 for the system.

6 So I'm not sure -- we have to think
7 more about exactly the right places or all the places
8 that could be addressed to try to lay those out and
9 talk about pros and cons. But I think we just wanted
10 to flag the issue, very real system potentially
11 ratepayer impacts from a device being part of an
12 aggregation versus not being part of one.

13 MR. COTTER: Okay. Thank you. That's
14 very helpful. Ms. White.

15 MS. WHITE: John, back to you. That's
16 extremely helpful. And it's going to be helpful for
17 us to talk some more about this tomorrow when we talk
18 about that 231 CPG, we are going to need to spell out
19 some criteria, requirements, thoughts about the 231
20 CPG. So I think this idea will come back next week
21 when we are talking a little bit more about
22 aggregation.

23 I did want to open up the floor if
24 commission staff or commissioners have any follow up
25 on that topic. Seeing none.

1 Do any of the participants want to
2 follow up on that topic? Great. Okay.

3 So we will move to our next question.
4 Mr. Cotter, I think you are through with your
5 questions for the department; is that right?

6 MR. COTTER: Yes. I am through with
7 that. Thank you.

8 MS. WHITE: Wonderful. Okay. We have
9 got Commissioner Allen on, so I'll turn the mic over
10 to you.

11 COMMISSIONER ALLEN: Thanks, Joan. Can
12 you hear me?

13 MS. WHITE: Yes, we can hear you.

14 COMMISSIONER ALLEN: Thank you. This
15 is a question for the department. It came from an
16 issue raised by staff, but it relates to the
17 categories storage in existing structure or not in an
18 existing structure.

19 I can imagine that, you know, there
20 might be instances where a developer or consumer is
21 considering, you know, putting a project, you know,
22 on the outside of a structure or inside of the
23 structure, on top of the structure, in the footprint
24 of a structure. I wonder -- I'm trying to understand
25 whether there should be kind of a sharp distinction

1 in the department's mind being technically inside a
2 structure or attached or within the footprint of an
3 existing structure. Probably for Anne Margolis.

4 MS. MARGOLIS: Thanks, Commissioner
5 Allen. You know, we were, I think, thinking through
6 the scenarios that we could envision which was a
7 battery, you know, in that 100 kilowatt to one
8 megawatt range likely located within a building, some
9 part of that building. I have not yet necessarily
10 seen, you know, battery system like on top of a
11 building. But I suppose that, you know, on a
12 building that has a lot of its infrastructure and
13 facilities, HVAC facilities, etc., on the roof, that
14 could maybe be a possibility. And then appended to a
15 building maybe on the outside if that's a
16 possibility. I'm not sure given our weather
17 conditions if it is or not.

18 But I think we would like to hear from,
19 you know, some of the developers or installers and
20 utilities that are involved in battery programs
21 whether they see these systems being sort of appended
22 to a building as well as inside. Mostly we were
23 trying to go with the corollary of what's the synonym
24 to a rooftop solar system. Okay, it's a battery
25 located inside a building. But I think probably our

1 recommendation would hold for appended to a building.
2 There could be some aesthetic impacts there that
3 would be different from a system being inside a
4 building however.

5 COMMISSIONER ALLEN: Thanks. I think
6 the question extends to ANR whether they, you know,
7 they see any significant difference as well. Do you
8 have any comments?

9 MS. WHITE: Mr. Einhorn or Mr. Coster,
10 do you care to weigh in on whether this category of
11 inside and existing structure could include appended
12 or on the roof?

13 MR. EINHORN: I think certainly on the
14 roof. I mean the solar -- our thought process there
15 is we would deal with it the same way. Solar
16 projects on the roof which I think Billy --

17 (Technical difficulty)

18 MR. COSTER: This is Billy Coster.
19 I'll jump in. Yeah. I think generally speaking
20 within the footprint of the building, I think we
21 would treat the same way as inside the building. I'm
22 not familiar with how an appended battery necessarily
23 would be installed. But, you know, with more
24 information that that would be reasonable potentially
25 as well.

1 COMMISSIONER ALLEN: Thank you.

2 MS. WHITE: Great. I've got a follow
3 up that's a little bit related to Commissioner
4 Allen's question, and it relates to fire safety codes
5 and standards. And it's for the same size bucket
6 that we are talking about now which is the storage
7 in, or on or around existing structures that is
8 between 100 kilowatts and one megawatt. I'm a little
9 -- let's see.

10 So in this matrix that we have got on
11 the screen right now there is no kind of hook for
12 public safety. And in my mind, you know, having a
13 storage facility that's inside a building that is
14 kind of occupied by people on a regular basis, should
15 be covered by kind of safety codes and standards
16 related to fire hazards.

17 So I wondered if we could get the
18 department's feedback on that question. And also on
19 the question of, you know, if I'm developer who is
20 looking for the easiest path to a CPG, I might say,
21 look, great. It's really advantageous to site inside
22 structures. Are -- would we then be creating an
23 incentive -- kind of a regulatory cost incentive for
24 people to site inside structures, and if so, are
25 there public safety or public health implications of

1 that?

2 And we will go first to Mr. Jordan to
3 answer that question.

4 MR. JORDAN: Yes, thank you. I'm Bill
5 Jordan with the department. Yes, I agree with the
6 premise in your question that the fire safety codes
7 would be important if energy storage or battery
8 storage were located within a structure. That gets
9 to our discussion earlier in today's workshop versus
10 the codes and standards. Some of them are applicable
11 to the electrical interconnection and the grid
12 impacts, while other codes and standards are more
13 fire-safety-type codes and standards.

14 And so we would definitely advocate for
15 those to be included, probably in the storage rule,
16 because they are not specifically interconnection.
17 And we would have to take a close look at that. And
18 it might be prudent to reach out to division of fire
19 safety or the other fire safety stakeholders to get
20 their input on this topic.

21 MS. WHITE: Okay. That's very helpful.
22 So what I'm hearing is across the board, any size,
23 any category that fire safety rules should likely
24 apply. And if anyone has any kind of a different
25 view of that, we would really appreciate you filing

1 it in follow-up comments, or if there is more detail,
2 Mr. Jordan, that you can provide from the department
3 of public safety, that would be really helpful. And
4 maybe we can think through this question of are we
5 kind of directing people inside structures and is
6 that, you know, more or less preferable from a public
7 safety point of view. Maybe we can get that in
8 follow up.

9 But oh, Mr. Jordan, you had another
10 comment. Go right ahead.

11 MR. JORDAN: I was just going to
12 respond to your ask. And yes. I can follow up with
13 division of fire safety or the other stakeholders in
14 this matter. And we can provide follow-up comments
15 on that.

16 MS. WHITE: I think we would find that
17 really helpful. So I had, let's see, we are still
18 kind of on the department's proposal. And I had a
19 little bit of a question around -- this is just --
20 this should be brief, but on page 3 the department
21 you mentioned -- oh, I'm sorry, Chairman Roisman.
22 You had your camera on earlier. You go right ahead.

23 CHAIRMAN ROISMAN: I really just wanted
24 to hear the developers' answer to your question. You
25 directed it to the department and to the developers.

1 And I would like to know their thinking if the
2 stringent safety standards are applied to the inside
3 the building structure, but not if they are outside
4 the building, say on the wall or on the roof, will
5 the developers find that an incentive to not put the
6 battery inside. And how do they feel about us making
7 that kind of decision?

8 MS. WHITE: I'm so glad you asked for
9 that. So if you're comfortable, someone from REV or
10 Sunrun or, you know, GMP, even though you're a
11 utility you kind of do some battery development. Any
12 developers care to weigh in on this question? Okay.
13 If we don't have something today, it would be great
14 to have follow-up comments.

15 We just want to get a full range of
16 perspectives. Great. Okay. So I have another
17 question that -- this is actually for VEC, although
18 it's related to kind of which criteria are we
19 evaluating for which projects.

20 VEC had filed comments that just
21 mentioned, you know, that different chemical
22 compositions of batteries could potentially raise
23 different environmental concerns. And I wondered if
24 you could just help us understand that a little bit
25 more. If we were to follow the department's proposal

1 or something similar, and create a structure where a
2 lot of the natural resources criteria are waived for
3 certain kinds of projects, are there certain battery
4 chemistries that we need to be aware of that require
5 kind of extra attention to like air quality or solid
6 waste, or fire, or things like that. I just don't
7 have a good sense of anything beyond kind of the
8 traditional lead acid and lithium ion and vanadium
9 flow.

10 I was wondering if you could put a
11 little more detail on that. That is a question for
12 either Mr. Kieny or potentially for Mr. Potter. They
13 might not be on the call. I'm just going to check
14 the participant list.

15 MR. POTTER: Joan, can you hear me?

16 MS. WHITE: Yes. There you are. There
17 is Mr. Potter. Great.

18 MR. POTTER: Sorry about that. I don't
19 have much more detail to add on that particular
20 comment. We were just raising it as a consideration
21 because, you know, battery technology may evolve in
22 the future and different chemistry compositions may
23 come along that warrant consideration.

24 MS. WHITE: That's super helpful.
25 Yeah. So kind of more in the vein of we need to keep

1 this rule alive and flexible and evolving as the
2 technology is changing and be responsive to new
3 developments.

4 MR. POTTER: Yes.

5 MS. WHITE: Okay. That's great. Okay.
6 I think let's see, I definitely want to make sure
7 that we open up the floor for DPS questions; to the
8 other hearing officers; and to Veronica, our DOE
9 fellow.

10 Do you have any particular questions
11 for DOE, or if you have questions for other filers
12 that's kind of in this genre; what are the different
13 size buckets? And which criteria are we waiving.
14 That sort of thing. So Mary Jo or Veronica, if you
15 have anything to add, now's the time.

16 Great. Okay. And anything from the
17 commissioners on the department's proposal? We will
18 come back to certain aspects in a bit including the
19 interplay with net metering. I'm not exactly sure
20 whether -- if we can fit that in today we will, or we
21 might need to cover that next week. That's a fairly
22 substantive topic. Veronica -- I'm so sorry. Ms.
23 Ung-Kono, it's hard when you're friendly with people
24 to keep on last names. Please go right ahead.

25 MS. UNG-KONO: I don't have a comment

1 at this time, Joan. I was just turning on my camera
2 again at this point.

3 MS. WHITE: Okay, great. Thank you.
4 And how about anything from the commissioners on the
5 department's proposal? Seeing nothing, we will open
6 it up to the floor.

7 And by all means, we would really
8 appreciate kind of a lively dialogue. We have got
9 the department putting their first foot forward, but
10 my impression is they are interested in hearing from
11 folks on any number of questions.

12 So anybody else have anything to raise
13 or discuss? Okay. I hear someone's mic is on. No.
14 All right.

15 So seeing none, I think what we are
16 going to go ahead and do is we have got about 10
17 minutes until our break. And so I want to make sure,
18 I'm going to just stop screen sharing, because we are
19 kind of done with that. I want to make sure that the
20 other hearing officers have a chance to -- people
21 covered different comments. So if there are any
22 questions kind of more broadly for WEC or VEC or VEC
23 or Stowe Electric that filed comments kind of in the
24 genre of the simplified siting process, I want to
25 make sure we make some space for that.

1 Why don't we use our 10 minutes before
2 break to do that. It looks like Ms. Ung-Kono has her
3 mic unmuted. Go right ahead, Veronica.

4 MS. UNG-KONO: I do thank you, Ms.
5 White, although this question is directed at VEC
6 because they raised this issue, I would welcome any
7 of the stakeholders on the call to address it,
8 because it's very much a procedural issue moving
9 forward.

10 So would a nameplate capacity in
11 kilowatt or a kilowatthour battery rating be the most
12 appropriate unit to discuss energy storage system
13 thresholds in this rule? Do any of the stakeholders
14 on the line currently have a preference? Or would
15 they make recommendation for one versus the other?

16 MS. WHITE: Anyone have some thoughts
17 on that?

18 MR. SMITH: This is Kris Smith from
19 Vermont Electric Cooperative. I don't have a camera.
20 I would just point out that I think both kilowatts
21 and kilowatthours, so power and energy, would be
22 important. Both from an impact assessment, because
23 we would want to know how much and for how long, and
24 without knowing both, we wouldn't have the ability
25 for planning system assessments. Or even in certain

1 cases, it becomes very important from an operational
2 standpoint whether you would be relying on some of
3 that battery discharge at times, or if you would be
4 faced with a significant charging load say after --
5 say after an outage when people have relied on their
6 battery to keep them going.

7 Now all of a sudden the system is
8 restored, and we have multiple batteries throughout
9 the system drawing as much as they can. That's my
10 comment. Thank you.

11 MS. UNG-KONO: Thank you. That's
12 extremely helpful.

13 MS. WHITE: Any other responses to that
14 question? It seems like a really key question to me.
15 You could imagine someone trying to, like, game the
16 system by having a one megawatt battery with a
17 24-hour duration. That's absurd by design. But I do
18 think that there is some relevance to the duration in
19 setting the kind of size categories.

20 And I would love to get some other
21 thoughts on that as well. Go ahead, Mr. Castonguay.

22 MR. CASTONGUAY: Sure. So I think I
23 don't have it in front of me, but I guess I was going
24 to refer back to what the statute had actually said
25 too, because I think we had talked a lot about this

1 internally as well because the reality is like the
2 physical size of the battery is all about the energy.

3 The power is the rating of the inverter
4 and how much can put in real time, but in terms of
5 what kind of footprint and everything is really -- is
6 about the energy. My understanding is -- I'm
7 certainly not the legal reviewer on this call --
8 someone else may have a different view. The statute
9 did make it about the power rating or the kilowatt
10 rating. We had made a comment the same thing. In
11 the future if things change, taking into account, you
12 know, because long-duration storage is being
13 discussed; a one megawatt 100 megawatt-hour system
14 could be a really big system, but a one megawatt
15 threshold.

16 So, you know, yeah. That was our view.
17 It seemed like it was kind of locked in to be the
18 power rating, but we are in the same camp. At some
19 point we need to keep an eye on the energy side
20 because that's the physical footprint. From a system
21 impact standpoint the power is the important thing
22 for us, the key piece, how much can it push out
23 instantly or take in instantly. The duration will
24 have some impact, but I don't think as much from a
25 system impact as the instant power capability. So

1 yeah.

2 MS. WHITE: We are going to go to Mr.
3 Cotter, who is our sharp legal mind on the commission
4 here. So go right ahead.

5 MR. COTTER: I wouldn't go that far. I
6 did notice that there were a lot of comments in
7 regard to, you know, megawatt versus megawatthour,
8 kilowatt versus kilowatthour. And I'm wondering if
9 the concerns -- because it's the simplified process
10 again that keeps jumping in my mind. And it does go
11 up to one megawatt.

12 Mr. Castonguay is correct. It doesn't
13 refer to a time duration. But if we never waive, as
14 part of the simplified process, the system stability
15 and reliability and impacts to planned or existing
16 transmission facilities, and then if somebody then
17 comes in with one megawatt, a hundred megawatthours,
18 are we okay from a system protection standpoint with
19 that approach?

20 I understand that there might be, you
21 know, size impacts, natural resources impacts, as the
22 duration increases. But that's a different question
23 than what I'm asking right now. This is really more
24 of an engineering question, I guess.

25 MR. CASTONGUAY: Mr. Cotter, so your

1 question is if it is a long duration, a one megawatt,
2 one hundred megawatthour, system protection as in
3 like interconnection, distribution system protection.
4 Is that what you're referring to?

5 MR. COTTER: I guess what I'm asking is
6 that the simplified process, the simplified siting
7 process, applies to projects up to one megawatt. And
8 I notice that there is concern also not just about
9 the one megawatt size, but about the duration of the
10 batteries' ability to discharge. If I'm phrasing it
11 correctly.

12 And my question is that if as part of
13 the simplified process we simply never waive the
14 criteria that address stability and reliability and
15 impacts to plant or existing transmission, are we
16 okay? Have we covered that concern with respect to
17 those two criteria?

18 MR. CASTONGUAY: Gotcha. Okay. Yes.
19 Yes. I think so. I mean and our comments mentioned
20 in terms of criteria to be waived, asking not to
21 waive those for that reason. And again, it's still
22 more -- it is more about the means of that power that
23 one megawatt that really matters, but the duration
24 can have an impact. But I think, yeah, our answer is
25 yes. If we didn't waive that, we would study the

1 battery. Also based on the use case which the
2 developer, installer, or somebody would say I'm going
3 to use the battery to do this. You know, discharge
4 here, charge here. And that's how we would look at
5 it.

6 But we would agree with not waiving
7 those criteria for stability and reliability.

8 MR. COTTER: Okay. Thank you.

9 MS. WHITE: It seems like from what VEC
10 was saying there could be some land use concerns
11 around duration that we need to think about for
12 simplified siting as well. So we will kind of keep
13 that in mind.

14 Ms. Ung-Kono, do you have any questions
15 or any other comments that you covered?

16 MS. UNG-KONO: I did have one more for
17 VEC, Mr. Smith. I'm sorry to put you on the spot
18 again. But in the comments you did contend that some
19 smaller scale storage projects that are located
20 entirely within an existing structure or disturbed
21 footprint on a building site, these projects could
22 have portions of 248(b)(5) waived.

23 And I'm just wondering specifically
24 which sections of (b)(5) are you referring to? I
25 recognize that it is quite a large section. But any

1 of the subsections that you could cite to would be
2 extremely helpful for us in our process.

3 MR. SMITH: I'm going to have to defer
4 to others on the call because I did not weigh in on
5 that particular section. My apologies.

6 Dan, do you have any insights?

7 MR. POTTER: Yes. Ms. Ung-Kono, I was
8 just going to say we will take that as a follow up
9 and get back to you with the specific section we were
10 referring to when we file follow-up comments.

11 MS. UNG-KONO: That's greatly
12 appreciated. Thank you.

13 MR. POTTER: Sure.

14 MS. WHITE: Great. Marvelous. So now
15 I want to -- Ms. Ung-Kono, does that wrap up your
16 questions that you had for VEC and others?

17 MS. UNG-KONO: Yes, at this time.
18 Thank you.

19 MS. WHITE: Okay. Great. We will
20 cover some more topics after break. So I wanted to
21 make sure that Ms. Krolewski had a chance if we had
22 anything else to add before break. We have just got
23 a few minutes.

24 MS. KROLEWSKI: No. I don't have
25 anything to add, Joan. Thanks.

1 MS. WHITE: Great. We are going to go
2 to break a little bit early. I have 10:58 on my
3 clock. What we are going to do is take a 10-minute
4 break. I encourage everyone instead of rushing right
5 to your email, give yourself a real break. Get
6 yourself a warm drink. Take some -- these online
7 meetings can be really draining.

8 That means we will come back at 10
9 after 11, and we will move on to the next topics in
10 our agenda. Great. So we will see everyone at 8
11 minutes past 11. Thanks so much.

12 (Recess was taken.)

13 MS. WHITE: Great. So I think we are
14 ready to come back from break. I just want to make
15 sure, Kim, that we have got you with us.

16 THE COURT REPORTER: Yes.

17 MS. WHITE: And then double check we
18 have got all the commission and staff people here. I
19 see we have got two out of three commissioners. I
20 want to make sure, Chairman Roisman, are you on the
21 call right now? Here's Mr. Cotter.

22 CHAIRMAN ROISMAN: Yes. I'm on.

23 MS. WHITE: Great. And here comes Ms.
24 Ung-Kono. And Ms. Krolewski. Have we got you on the
25 line, Mary Jo?

1 MS. KROLEWSKI: Yes.

2 MS. WHITE: Great. Okay. I think we
3 are ready to start. So the next item on our agenda
4 was going to be to discuss the duration issue, like
5 whether the size categories that we set for the
6 simplified process have just a capacity limitation or
7 also an energy component. I feel like we have
8 covered that pretty well. And we can move onto the
9 next topic. I'll open it up.

10 Is there anything else anyone wants to
11 add on the idea of duration? Okay, seeing none, we
12 are going to move on to topic number 4 on the agenda
13 which is systems under 100 kilowatts.

14 So the statute actually does authorize
15 the commission to promulgate rules that pertain to
16 systems that are under a hundred kilowatts. So these
17 are really the kind of small-scale systems that might
18 be providing backup power to a single site, for
19 example. And in my mind there is kind of a -- maybe
20 some of the types of criteria we would think about
21 applying would be really to public safety, you know,
22 combined with fire codes.

23 Also interconnection. As the
24 interconnection rule is drafted currently, all
25 projects of all sizes need to go through an

1 interconnection process even if it's a very fast
2 streamlined simple one before they can kind of
3 interconnect.

4 And then the final one is
5 decommissioning. And I just wondered if -- several
6 people kind of addressed that topic for systems, for
7 small systems, and I wondered if we could just get
8 kind of a discussion on that. So VELCO in particular
9 had some comments, Mr. Sciarrotta, that related to
10 kind of a general permit model. And you mentioned
11 some criteria that include notice to DPS and local
12 fire departments, maintaining state and environmental
13 permits, and compliance with noise standards. And
14 then we have got this list: Kind of engineering code
15 construction, cybersecurity best practices.

16 And so we would just love a chance to
17 flesh that list out and kind of get your thoughts on
18 that general permit model. It seems like a fairly
19 novel but promising approach.

20 MR. SCIARROTTA: Sure. Thank you. I
21 can't tell you that we have noodled on that much more
22 than I've really kind of laid out because it is a bit
23 of a novel approach, but this felt like the right
24 place to raise this. I know from days as an
25 environmental lawyer that general permits are a

1 pretty good way to balance the regulatory needs with
2 the ability to kind of -- for developers to kind of
3 get things done and be able to model their business
4 cases. And it just gives everybody a lot of clarity
5 to begin with.

6 I don't think that the commission's
7 ever used that tool, and I haven't looked closely
8 enough to see, you know, to offer an opinion about
9 whether there is really legal authority for that. I
10 didn't see anything that would prohibit it. So it
11 just felt like this might be one of those trying to
12 balance the desire for most folks in this space who
13 want to encourage the deployment of batteries which
14 is like the, you know, the third leg of the stool for
15 creating the grid to have something that, you know,
16 provided the protections that, you know, that are
17 baked into the statute and rules. But kind of cut
18 back on maybe on some of the process that might not
19 be as needed given the scope of -- these wouldn't fit
20 for every -- and I'm thinking mostly battery
21 obviously. I'm not thinking about pump storage or
22 thinking anything like that. Just kind of your basic
23 battery projects that don't have a big footprint. It
24 just seemed like they would fit into something like
25 that.

1 So that's about the depth of our
2 thinking at this time, and I will say that I should
3 -- this is probably good enough place to put this,
4 that VELCO has an interest in these issues as the
5 grid operator. That's our primary, you know, focus.
6 But we are also project sponsor for some of these
7 types of things because we are using battery storage
8 or intending to use batteries storage for some of our
9 communications facilities. And in the future, I
10 think, for operating some of our substations. And we
11 are doing that at, for example, at our headquarters
12 at Pinnacle Ridge in Rutland. So we are trying -- I
13 was thinking about this general permit thing. I was
14 thinking about it, you know, as a regulatory piece
15 generally, but also with a developer's hat on as well
16 because we have it. So I just wanted to make that
17 clear as well.

18 There are other folks from VELCO on the
19 line; Hantz Presume and Shana are on, so they may
20 have a different view of that or be able to add to
21 that as well. Thank you.

22 MS. WHITE: Does anyone else from VELCO
23 want to weigh in? I have a follow-up question for
24 you actually which is like the application of
25 batteries as kind of part of substations is a really

1 interesting question. I wanted to just get a sense
2 of -- so if you're installing backup power at your HQ
3 and then also kind of considering some battery
4 storage for substations, what are the sizes of those
5 types of systems?

6 MR. SCIARROTTA: Well the system at
7 VELCO, I think, is a 500, if memory serves. It's
8 part of our solar and battery storage project there.
9 And that is really just consumption, you know, on-
10 campus consumption for charging our electric vehicles
11 and running our computer monitors. There is no
12 discharge -- well there is -- I think there is
13 actually a peak shaving element to it as well.

14 The -- in terms of the battery storage
15 at radio sites, they are not going to be mammoth
16 projects. And I'm hesitating here a little bit
17 because I'm thinking about this again with two hats
18 on. What we need, say, for a backup battery storage
19 at one of our remote radio sites might be a smaller
20 system. However, if the economics are there and the
21 land use impacts aren't so great, it might be
22 worthwhile looking at having a bigger battery there
23 that the distribution utilities, the local
24 distribution utility, could use for peak shaving, for
25 example.

1 So this -- mostly my answer is to be
2 determined because we are not at that stage yet. But
3 I think we would look at it as, in some places,
4 probably smaller units which would fit into some of
5 the issues we have been talking about. And there
6 would be probably some that would be -- at least as
7 pilots may be bigger and be looking to do things like
8 put energy back out on to the system in a way that
9 helps serve ratepayers.

10 MS. WHITE: Okay. That's really
11 helpful. And I was just so intrigued by that idea of
12 general permits. I would love to bring ANR into the
13 conversation both because, ANR, you've worked with
14 general permits as a construct before. So you can
15 give us some ideas of how that works and what your
16 experience has been. And then also whether you see
17 projects under a hundred kilowatts as being small
18 enough that they could qualify for some kind of a
19 general permit with a minimal, you know, natural
20 resources assessment or, you know.

21 So that ties into the comments we were
22 hearing earlier from ANR that they were really
23 interested in a full natural resources assessment.
24 So let's go to Mr. Einhorn for that.

25 MR. EINHORN: Yeah. I think for under

1 a hundred kilowatts, I don't see where we have an
2 issue with that. I think Billy could probably speak
3 better to this.

4 MR. COSTER: Thanks. Billy Coster.
5 Yeah. It's an intriguing idea. I think we would
6 want to think a little bit more about it. I think
7 what the commission has more traditionally done is
8 used the registration system for, like, in lieu of a
9 general permit for projects that are expected to have
10 very limited or known impacts. You've got the
11 registration approach which is somewhat similar.

12 But for something in between a
13 registration and something that would need treatment
14 through a 248(j) process, I think it's certainly
15 something that we would be happy to think with you
16 around, and I think, would benefit from a little bit
17 more information from VELCO around the application of
18 it.

19 And then we can certainly provide some
20 comments in our written response on how to move that
21 forward or work with you off line on it. But it's
22 certainly a tool that we use regularly with a good
23 deal of success for projects that are similar and
24 that are kind of repeated in a consistent manner.

25 MS. WHITE: Okay. That's really

1 helpful. So as we move forward, we may kind of reach
2 back out to just have some informal kind of dialogue
3 around that. I'll have to think about the difference
4 between a general permit and a registration a little
5 bit more. So we will do that internally, and we can
6 maybe put out some other questions. But I did want
7 to open it up. There were some other folks who had
8 thoughts on systems under a hundred kilowatts and
9 sort of which criteria should be addressed and which
10 waived and kind of the process. So let's go to Mr.
11 Jordan from the department.

12 MR. JORDAN: Thank you. I actually had
13 a question for VELCO on their written comments. The
14 way I read VELCO's written comments is that VELCO is
15 proposing that projects under a hundred kilowatts are
16 exempted from regulation, and the general permit they
17 are proposing would be for projects 100 to 500
18 kilowatts. And so I just wanted to ask VELCO if
19 their intent was for projects under a hundred
20 kilowatts to be exempted from all regulation, or if
21 the intent was something different, either
22 registration or general permit. Thank you.

23 MR. SCIARROTTA: I think they should be
24 -- I don't know that we fully thought that through.
25 But my sense is that there -- there should still be a

1 registration process for the smaller units. If
2 nothing else we would want to know where all the, you
3 know, on an aggregate basis like how much is out
4 there in terms of kind of universal system impacts as
5 we start to deploy more of those systems. But
6 generally those systems are, you know, from our
7 perspective just one, you know, company's
8 perspective, really don't have -- I'm thinking about
9 the value and the risk and the use of regulatory time
10 as we are for all of these issues. It just seems
11 like those are the lowest risk, especially for these
12 kinds of projects. Most of them are going to be
13 around, you know, built in or around existing
14 structures. Not going to have a lot of the same
15 impact.

16 Yes, for registration, but a lower
17 level or no real regulatory scrutiny on some of the
18 other issues which will mostly be, I think, non-
19 issues in most of the cases, if not all. Thanks.

20 MS. WHITE: I'm so glad you raised that
21 issue, Mr. Jordan. Because let's see. On the one
22 hand I think it's -- as Mr. Castonguay pointed out
23 earlier -- as Mr. Sciarrotta just mentioned, it's
24 very important -- sounds like it's very important for
25 the utilities and people running the grid to have a

1 geographic sense of where all these assets are, even
2 very small assets, potentially down to the home
3 battery level.

4 And on the other hand, I think there is
5 some concern that if we create a registration process
6 where there needs to be staff involved in kind of
7 reviewing paperwork that's filed, if the price of
8 homes for assistance declines to such an extent that
9 we are seeing volumes and volumes and volumes of it,
10 how is that going to affect kind of the regulatory
11 system? So that's a tension that we are holding at
12 the commission. And I would love to get some
13 thoughts on that and kind of get a sense of how deep
14 does the knowledge of the distribution grid need to
15 go. Like is it helpful for the distribution
16 utilities to know, like, have address data for the 7
17 kilowatt or 14 kilowatt Powerwall systems? And, you
18 know, Sonnon systems.

19 Is that something the utilities are
20 interested in? Have the capacity to absorb and
21 process? And should we kind of be creating some
22 regulatory infrastructure to make that happen? So,
23 you know, we could go first, I guess, to GMP or to
24 VEC, and VPPSA had some comments on this. So any of
25 the DU's who want to weigh in would be most welcome.

1 MR. CASTONGUAY: Sorry, Ms. White.
2 This is Josh Castonguay. GMP. I actually missed the
3 first part of the question on the size threshold you
4 were talking there.

5 MS. WHITE: Yeah sure. Sorry about
6 that. I'll just repeat. So I guess the idea of --
7 that Mr. Jordan and Mr. Sciarrotta were kind of
8 batting around is the really smallish systems, like
9 under a hundred, even deep down into the 7 kilowatt
10 or 14 kilowatt home systems. I think the commission
11 is kind of holding this tension of on the one hand it
12 seems like the distribution utilities want to have
13 and VELCO's interested in kind of a geographic, you
14 know, knowledge of where all that stuff is on the
15 grid at any given moment and some kind of two-way
16 telemetry. And then and on the other hand are we
17 going to be snowed under by -- if we have a
18 registration process at some point, as battery costs
19 decline, are we going to be snowed in by thousands of
20 applications every year that we are then needing to
21 kind of process and evaluate for what could be kind
22 of construed as, like, a home appliance.

23 I guess the question is should the
24 commission require small systems to register with us
25 or register under some kind of general permit.

MR. CASTONGUAY: Yeah. Gotcha. Yeah.

I mean again from our perspective, and there is probably even the less than 100 and probably, like you said, that subcategory of the residential scale which is typically max in the 10 to 15 kilowatt range. You know, two Powerwalls, for example, is 10 kilowatts. For that -- it's the same thing from our perspective, like we hope they are part of a program that we are managing them and using them for value so we know they are there anyway. But if not, still some process for at least GMP or the DU's to know the batteries are there, which can just be a simple notification to the DU, I think.

Then as you get above that, especially as you get into that 50 to 99 kilowatt range, at least having the ability to take a look and, you know, quickly understand if there is a potential for issues or not there. Because as you get into that size range that can be pretty substantial in a small business, for example, or something on a far-reaching part of our circuit, on single phase a long ways out.

That being said, again the same streamlined process would apply. For us would just be about the notifications so we make sure there is no overlapping impact there in the area. And then

1 for the residential scale it could be very simple
2 just making GMP aware. And, you know, I'm not
3 speaking for the other DU's, so there may need to be
4 something different there. If they are in a program
5 we are going to know about them, and obviously we
6 will know that. Probably in rare cases somebody does
7 a battery on their own, still knowing that it's there
8 is important.

9 MS. WHITE: Let's go next to Mr. Potter
10 who's got some comments from VEC.

11 MR. POTTER: Thanks, Ms. White. Dan
12 Potter, VEC. Just echo what Josh just said. It's
13 important for us to know where these systems are from
14 a system stability and reliability perspective. Even
15 down to the residential level. And I believe in our
16 comments we had proposed a registration of that, but
17 it also sounds like 5.500 at least as it's currently
18 drafted could serve as that notification process as
19 long as it includes, you know, location, size,
20 capabilities, benefits, part of an aggregation kind
21 of how it's being used.

22 MS. WHITE: That's really helpful. I
23 think the way that 5.500 is drafted now covers that.
24 That even small projects would be required to go get
25 an interconnection agreement which could be very

1 simple and streamlined to be kind of up to the DU.

2 So I am so delighted, Mr. Wallace.

3 Please. We would love to hear from you.

4 MR. WALLACE: Yeah. I would echo a lot
5 of what has been said of just the need to keep the
6 residential, in particular, that's our interest.
7 It's the residential systems, to keep that as simple
8 as possible. I think there is the possibility to not
9 add additional regulatory burden to the PUC's staff.

10 You know, in our case, you know, almost
11 a hundred percent of our batteries or all a hundred
12 percent of our batteries are paired up with
13 net-metered systems already. So, you know, some type
14 of additional information tied on to that already
15 existing registration, you know, may be sufficient.
16 Perhaps the notice, we could provide the basic
17 information. And it wouldn't be much of a burden.

18 So I think that that is something that
19 we would look at as ideal. We have no problem
20 notifying, and some type of process, but we just want
21 to make sure it's as simple as possible for everyone.

22 MS. WHITE: Great. And while I've got
23 you, Mr. Wallace, I might just follow up on something
24 I had raised at the beginning of this conversation
25 which was around for these small systems, you know, I

1 think we had heard earlier from Mr. Jordan that like
2 any system of any size would need to comply with some
3 of the fire safety codes including NFPA 855, possibly
4 some of the UL codes. We will talk about that in a
5 little bit.

6 I wonder if you could give us a sense
7 of if we were to require that kind of compliance and
8 maybe some decommissioning, what someone's position
9 on that might be for these smaller systems.

10 MR. WALLACE: Yeah. NFPA 855, that is
11 something that we are designing to in multiple states
12 in the northeast. So it's something we are already
13 incorporating in our standard operating procedures.
14 So that one, I think, would be a bit simpler at least
15 from our perspective to comply with.

16 I would have to get back to you on the
17 decommissioning. I think that that is, you know,
18 obviously kind of a trickier subject, and, you know,
19 we would need to think about that a little further.

20 MS. WHITE: Yeah. That's really
21 helpful. So maybe we will ask for some follow-up
22 comments, and since Sunrun operates across the
23 region, kind of getting a sense of how you're
24 handling both the fire and safety codes,
25 interconnection and also decommissioning in other

1 states would be really useful. We get some of that
2 from our counterparts at PUCs, but I think to have
3 someone who is on the ground installing systems,
4 that's pure gold. So we really appreciate your kind
5 of looking into that, and I'll put it on our list for
6 follow up.

7 Great. Okay. I kind of feel like I've
8 monopolized the questions a little bit. I want to
9 open it up to other commission staff who have
10 questions on systems under a hundred.

11 Does anybody have any kind of follow up
12 for really any of the stakeholders on that?

13 Okay. No one popping up on my screen.
14 So next we will go to the commission. Does the
15 commission have anything they want to ask or add for
16 the smaller systems that -- systems under a hundred?
17 Okay. Seeing none, let's jump then to other
18 stakeholders.

19 Does anybody in the room kind of have
20 any thoughts or questions or ideas bubbling up around
21 the smaller systems?

22 Okay. I think then we can move on to
23 our next topic which is we just got into a little
24 bit, but I'm pretty interested in talking about some
25 more, which is codes and standards. So the main

1 commenters who proposed specific codes and standards,
2 which we so appreciate, were the department and also
3 VEC had some.

4 So I am going to share my screen and
5 just pull up all the codes and standards that came up
6 in the comments so that people have a good sense of
7 that.

8 Okay. So we have got NFPA 855 which we
9 have talked about. And I think it's -- I'm trying to
10 judge the room here which is that most people are in
11 agreement that NFPA 855 should always apply no matter
12 the size.

13 The next one that I did have some
14 questions on was UL 9540. Okay. So here's where my
15 understanding of UL 9540 is that it's a pretty high
16 bar, and that it's basically like a whole bunch of
17 system components put together and how they might be
18 arranged in a particular site plan. So it could
19 include things like spacing between, you know,
20 independent, standing cabinet units, or something
21 like that.

22 And so to get certification under UL
23 9540 every project would have to go through some kind
24 of evaluation. And so it seems to me like it's a
25 code -- well I don't know. I just would love to get

1 some more feedback. So I think the party that had
2 recommended this was the department. I don't know,
3 Mr. Jordan or Ms. Margolis, if you could tell us a
4 little bit more about 9540, how it works and what
5 your thinking is around recommending it.

6 Go ahead, Mr. Jordan.

7 MR. JORDAN: Actually I'll comment.
8 For most of our list what we tried to do was compile
9 a list of the codes and standards that are out there
10 for battery storage, and this was a preliminary list.
11 And we haven't taken a deep dive necessarily into all
12 of these. And so we wanted to put a list out for
13 discussion. And in terms of whether we make a firm
14 recommendation to include any of these we would need
15 to provide that in follow-up comments.

16 MS. WHITE: Okay. That's really,
17 really helpful, because I could also see like if you
18 had a very large system, it might apply, but not
19 smaller systems. I think this is just one of those
20 things I need to go through and read all of these and
21 think about them. Maybe in another round of comments
22 we will provide a list of what people proposed, and
23 we can get additional comments on it.

24 Sorry. You had something else to add?

25 MR. JORDAN: No.

1 MS. WHITE: Okay. I had a similar
2 question about DNV recommended practice 43. Let's go
3 with Commissioner Allen. He had something to add.

4 COMMISSIONER ALLEN: I just wanted to
5 ask for just clarification on the comments from Bill
6 Jordan. Just want to be clear, Bill, you're saying
7 that you don't have any firm recommendation on any of
8 these at this stage. You'll just follow up on all of
9 those across the board; is that correct?

10 MR. JORDAN: Yes. NFPA 855 I'm more
11 sure on. But the rest of them I need to spend some
12 more time. The intent was to provide a list for
13 discussion that we could all look at and decide
14 whether to include them.

15 COMMISSIONER ALLEN: Thanks.

16 MS. WHITE: Great. I would love if
17 anyone else has any kind of deeper knowledge of UL
18 9540 or has some thoughts on that code in particular
19 and whether to include it. I would love to open up
20 the floor for that. It's just an area where we need
21 to learn some more. Okay. Yeah. Mr. Wallace, go
22 right ahead.

23 MR. WALLACE: I am by no means a code
24 expert and would need to bring some of our specific
25 technical folks in to given a full answer, but

1 currently UL 9540 is a challenge, particularly in the
2 residential storage market. There are some systems
3 that are -- I think there may be one or two that are
4 certified to that, but most are not. And so I think
5 that that's -- a big part of that, I think, is also
6 9540 A, which is, I think, the large -- or a fire
7 testing part of that.

8 So I'm just a little nervous about that
9 necessarily being required given most residential
10 batteries would not necessarily be able to comply at
11 this time. But that's just something we definitely
12 will follow up on as well with additional comments.

13 MS. WHITE: Okay. Okay. That's
14 helpful. And is it your understanding that over time
15 more systems might become certified as 9540? That's
16 sort of what we saw with IEEE 1547 in the 2018 draft.

17 MR. WALLACE: I fully expect there will
18 be plenty more in the future, but yes, just
19 currently it's pretty limited.

20 MS. WHITE: Okay. That's really
21 helpful. Okay. So then anyone else have anything to
22 add on 9540 or 9540 A that they want to get into?
23 Okay. Seeing nobody, let's kind of go through the
24 rest of this list.

25 Some of these are in interconnection.

1 So 1547 we have got in interconnection already. So
2 anything that's coming through interconnection, which
3 at this point includes all resources, would need to
4 comply with the latest version of 1547. The two that
5 seemed battery specific I honestly don't know much
6 about the DNV recommended practice and the IEC 62933.
7 Can somebody give us a rundown on what those are? I
8 think they were also in the department comments.
9 It's fine, Mr. Jordan, to say it's out there, we
10 don't know much yet.

11 MR. JORDAN: Yes. My answer for these
12 two is the same as for UL 9540, is that we tried to
13 compile a list of the codes and standards we saw that
14 were out there, and more investigation in terms of
15 whether we would make a firm recommendation to
16 include them still needs to be done.

17 MS. WHITE: Wonderful. Okay. So we
18 will ask about those as well in the follow-up
19 comments. So the next group came from VEC, and I
20 believe that these are all codes that we already
21 require an interconnection; NESC, NEC and then the
22 NFPA 70. The one I'm not sure about is NFPA 70.

23 I wondered, Mr. Potter, if you could
24 comment on, let's see, whether there is a unique
25 application in the storage space that we need to

1 include these codes that they are not in
2 interconnection. Oh, Mr. Jordan knows, and he
3 drafted the original rules, so he would know. Let's
4 hear.

5 MR. JORDAN: I just wanted to make the
6 point NFPA 70 is the NEC. They are the same thing.

7 MS. WHITE: That's helpful. Thank you.
8 I did not know that. So okay.

9 MR. JORDAN: It may have come from
10 different comments where people were using different
11 terminology, but it's the same code.

12 MS. WHITE: It's the same code. Okay.
13 Okay. In general, we always require NESC, NEC and
14 then 1547 through interconnection. So I think that
15 those codes don't necessarily need to live in the
16 storage rule as like these are codes that pertain to
17 storage that you need to abide by, because they will
18 be caught through interconnection.

19 But, Mr. Potter, I don't know if you
20 want to weigh in and have a different thought on
21 that.

22 MR. POTTER: I do not, Ms. White. I
23 think as long as they are captured somewhere, we
24 would be happy. And I must confess that I am not the
25 codes and standards expert at VEC.

1 MS. WHITE: Okay. So helpful. Yeah.
2 This is one of those areas that just takes a lot of
3 wonky reading and stuff to get straight. So we will
4 get there.

5 Okay. Is there anything else related
6 to codes and standards that folks want to raise? And
7 that includes let's go first to commission staff and
8 make sure we have covered all the codes and standards
9 issues. Okay. Anything from the commissioners on
10 codes and standards? And then let's just open it up
11 more generally to all participants.

12 Does anyone have anything they want to
13 kind of raise or ideas? Okay. Seeing none, oh,
14 there is Commissioner Allen. Go right ahead.

15 COMMISSIONER ALLEN: Well I guess this
16 is an across-the-board issue. You know, in my mind
17 when the rule is created, there is going to be a
18 certain iteration of these codes and standards, but
19 codes and standards are going to evolve over time.
20 And I'm just hoping that the rule has a flexible
21 process to, you know, integrate modifications to the
22 codes that do apply. And I guess putting that out
23 there as a comment for either today or for responses
24 as follow on.

25 MS. WHITE: Okay. That's helpful. One

1 thing that we did in the interconnection docket was
2 the statute authorized us to update by rule or order.
3 So we, in the rule, said we may from time to time
4 issue orders that update specific codes and
5 standards. And that was related to capturing the
6 idea that sometimes there are drafts issued of these
7 codes and standards. And those drafts really
8 represent the best practices, something that we want
9 to implement today. But they haven't been fully
10 adopted, so we might do that by rule.

11 I could also imagine, especially in the
12 space with batteries, but actually new codes and
13 standards are coming out that we need to incorporate
14 by order. So I think we need to work on the
15 jurisdiction there and whether we have the authority
16 to do something by order in the storage space.

17 But as a matter of policy, do any of
18 the stakeholders have preferences or thoughts or
19 ideas about whether they could update some of these
20 codes and standards by order instead of going through
21 a full rulemaking?

22 I'll just open that up for all
23 participants to reply. There's Ms. Margolis. Thank
24 you.

25 MS. MARGOLIS: I think we have

1 supported the concept of being able to update codes
2 and standards in the interconnection space by order
3 instead of through rulemaking. You know, thinking
4 about the source requirements document of ISO New
5 England and the distributed generation space and how,
6 you know, these new standards or codes or
7 requirements are going to be emerging probably at a
8 faster and faster pace as we go into a more
9 distributed future, more two-way generation load
10 future.

11 So I think we would continue to support
12 that in this space as well having some flexibility
13 around that.

14 MS. WHITE: Great. That's really
15 helpful. Does anyone have a differing point of view?
16 Think we should really limit ourselves to rulemaking
17 only?

18 Okay. Great. So I think we are ready
19 to move on to our next topic. I'm just going to stop
20 sharing my screen.

21 Let's see. So our next topic is going
22 to be decommissioning. And this is one where, you
23 know, we did not ask for comments on this topic, but
24 it's just -- it's so important. And I think what we
25 will do is in our request for reply -- kind of after

1 workshop comments, we will ask people to weigh in on
2 decommissioning. And we have some time to talk about
3 it now.

4 So ideas that have been floated that
5 are out there in the decommissioning space, and I'm
6 not necessarily endorsing any of these ideas, but
7 just to throw them out on the table. There's been
8 some talk of kind of creating an extended producer
9 liability program. So that would be where either
10 manufacturers or installers are kind of paying up
11 front into a centralized state program that then is
12 taking back batteries and helping to fund the
13 recycling of those batteries.

14 So Vermont does that in the space of
15 paint, for example, and also individual, like,
16 batteries that you get at the hardware store. So
17 that's something that's come up. I think that seems
18 legislative in nature, but maybe we can talk more.

19 Another idea would be to require
20 letters of credit from merchant facilities so that
21 there is a set aside for how to decommission sites,
22 and that would include recycling the unit itself but
23 then also other aspects of decommissioning which
24 could include removing infrastructure. Et cetera.

25 Another idea that was floated, I think

1 by VPPSA and WEC, was just having a decommissioning
2 plan similar to what we do in 5.900 I think it is,
3 and for net-metering systems after submitting a
4 decommissioning plan. So anyway those are just some
5 ideas that I wanted to throw out and maybe, you know,
6 I would love for people to just jump in if they have
7 thoughts or, you know, ANR you've got some solid
8 waste rules. I wonder if you could kind of elucidate
9 how they might apply, particularly with lithium ion
10 but other chemistries as well.

11 Maybe we should start there with ANR.
12 It seems like an ANR heavy issue, so why don't we go
13 straight to Mr. Coster.

14 MR. COSTER: Thanks, Ms. White. To be
15 honest, I'm not prepared to speak to this in detail
16 right now. I can say that there are solid waste and
17 hazardous waste rules applicable to certain battery
18 systems. And this is a topic that we have kind of
19 current interest in and have actually been in
20 conversations with REV about doing a series of
21 webinars around kind of the state of existing
22 regulations, the market for recycling, and
23 opportunities for aggregation of both solar panels
24 and batteries at end of life to see if there is
25 certain economies of scale that we can achieve to try

1 to decommission and dispose of those materials in the
2 most effective way.

3 So I think this is certainly something
4 we could follow up in written reply comments with,
5 but I think there is both existing regulations and
6 guidance that exist, and I think opportunities to
7 better match materials in the future. But certainly
8 having some plan or some, you know, a tentative path
9 for the larger batteries in the future is important.

10 MS. WHITE: That's really interesting.
11 I'm very happy to hear, and not surprised at all to
12 hear, that ANR is doing some great work on this. And
13 I would just say if there are things that we can
14 integrate into this rule or our decommissioning rule
15 or other places that help support that, that maybe we
16 make CPG conditions really, really clear what the
17 protocol is for handling these products, that would
18 be great. So we just want to support the work that
19 you're doing around decommissioning. If you can kind
20 of keep us in the loop, we will try to integrate it
21 into our various dockets on this.

22 MR. COSTER: Thank you. We will.

23 MS. WHITE: Okay. Wonderful. All
24 right. Any other ideas on decommissioning? The
25 department raised it kind of as a, like, gee, we

1 should be thinking about this. But I wondered if
2 there was anyone else who wanted to add some color
3 there. Let's go to Mr. Cotter.

4 MR. COTTER: Yeah. I just wanted for
5 context sake put out there that the petitions that we
6 are receiving for battery storage projects right now
7 under Section 248, and when I say battery storage
8 projects, I'm talking about the larger ones that we
9 are typically seeing. I guess they are 4.99
10 megawatts not 5 megawatts. But 5 megawatts. And I
11 think up to 4 hours of discharge capability. Those
12 have been filed with decommissioning plans and
13 decommissioning funds. People are doing it under our
14 decommissioning rule, so that they are treating them
15 as generators under that rule.

16 And to Mr. Coster's comments, they
17 oftentimes contain language to the effect of that the
18 components will be either disposed of or recycled in
19 compliance with regulations existing at the time of
20 the decommissioning. So that's how it's being
21 handled right now just for some context, if that
22 helps people develop responses either today or for
23 written filings later. Thanks.

24 MS. WHITE: Great. It sounds like
25 there is a general feeling that the same -- that we

1 should not be waiving those decommissioning
2 requirements in the simplified siting process. But
3 if anyone has a differing view, I would love to hear
4 it now, or you can file in reply comments too.

5 Once a project moves from kind of full
6 248 into simplified siting, we want to make sure we
7 are catching decommissioning in a meaningful and sort
8 of size appropriate way.

9 But I'll open up the floor if anyone
10 has a different view or wants to add on to that.
11 Here comes Mr. Cotter again.

12 MR. COTTER: Sorry. I'm like the cat
13 that you fed at the back door sometimes. I would be
14 curious what people think about -- I mean as I said
15 before, when we get petitions for some of these what
16 I think of as larger facilities, people are
17 submitting -- proactively submitting decommissioning
18 plans and clearly intend to comply with our
19 decommissioning requirements that are in the existing
20 rule on decommissioning.

21 But what do people think about
22 decommissioning requirements for basically home
23 installations? At some point those batteries are
24 going to wear out, for lack of knowledge of the
25 technical term. You know, my understanding is they

1 have a maximum number of charge and discharge cycles
2 that they can go through, and then something needs to
3 be done with them.

4 Should we at the Public Utility
5 Commission be concerned about that when we write our
6 rule that would cover all storage systems, or should
7 we be, for example, relying on the Agency of Natural
8 Resources to have some solid waste regulations in
9 place where when a homeowner takes one of those
10 batteries off the wall, they have to comply with
11 those. Thank you.

12 MS. WHITE: Let's go to Mr. Castonguay.

13 MR. CASTONGUAY: Sure. Thank you. If
14 I can speak to specifically the Powerwalls because we
15 have worked through this with Tesla over the years,
16 but essentially with the Powerwall systems they will
17 be recycled. Tesla will take them back once they
18 have reached their end of life, typically a 10 to 15-
19 year time frame. And then they will go through a
20 recycling process for that unit.

21 I don't know about say Sonnon or LG's
22 or others. Maybe Sunrun would have more ideas there.
23 I would assume they have a similar process and
24 centers to break down the components and recycle
25 those components back into either a new system or

1 something different.

2 MS. WHITE: Okay. That's interesting.
3 Can I ask a follow-up question? And feel free to
4 punt if you don't know, Mr. Castonguay. But for the
5 Teslas, that's -- my understanding there is like a
6 producer takeback and they will recycle.

7 Are there any issues around
8 transportation? Because one thing we have looked at
9 in the space of solar there are some components of
10 solar panels that can be construed as hazardous waste
11 which turns transportation into a giant pain. You
12 have to get certain certified waste management
13 companies to be dealing with it.

14 So I wondered -- obviously we are not
15 there yet, that's a ways away, but not so far away
16 for some of those early systems. I wondered if
17 you've thought about the transportation and hazardous
18 waste piece of that.

19 MR. CASTONGUAY: You know, it is a good
20 question, I have -- I'm not sure. It's something we
21 could follow up on. I would say I don't know if
22 something changes throughout the life of the system
23 because obviously they get transported to the home in
24 the first place and get installed. And that process
25 works pretty smoothly and easily from what I

1 understand. So but I'm not a hundred percent sure on
2 that and certainly can follow up on it, Ms. White.

3 MS. WHITE: Great. Yeah. That would
4 be really helpful. Anyway there is some other stuff
5 about that, but yeah, that's one piece of the puzzle
6 is how to kind of collect all the systems and get
7 them to the right place with hazardous waste rules
8 that, I think, are at a federal level.

9 So good. Okay. We are vastly ahead of
10 schedule. Does anyone else want to add anything on
11 decommissioning? I'm particularly interested in
12 hearing from the developer community like Sunrun or
13 REV, who can give us an idea of what their thoughts
14 on decommissioning some of those other systems, the
15 LGs and Sonnons, or what decommissioning is like in
16 other states where you might work. If any of the
17 developers want to weigh in, I think we would really
18 value that.

19 MR. WALLACE: I guess I can weigh in.
20 I don't have a lot to add at the moment. You know, I
21 think this is something that almost every state is
22 having to deal with currently and figure out what
23 they are or are not requiring. You know, I think we
24 have every intention to recycle these. And, you
25 know, I need to get more information on how exactly

1 that works with an LG or other types of batteries.

2 So I made a note to add this in our
3 comments, and we will obviously work with folks like
4 REV on this issue.

5 MS. WHITE: So helpful. Thank you.
6 Yeah. So great. So we will ask for a little more on
7 decommissioning on the follow-up comments and give
8 people a chance to do some research and thinking.
9 And kind of circle back with their stakeholders on
10 it. But I really appreciate the work that ANR is
11 doing and the work that DPS is putting in on it, and
12 REV too.

13 So we will just -- we would love to
14 keep a pulse on it and see how it could best
15 integrate with what we are doing here.

16 We are very ahead of schedule. Our
17 next topic that is not on the agenda, but I'm trying
18 to decide if we should address or not. In the
19 department's comments they had a fairly lengthy
20 discussion of the interaction of storage with net
21 metering programs. And included like a diagram from
22 Mass. DPU of what kind of systems are allowed to
23 participate in net metering and what kind aren't.

24 We have got a half an hour left today.
25 Option one would be to jump into that topic and

1 really start digging in. Option two would be to save
2 that topic for next week and then just end the
3 workshop now.

4 So you know what I might do actually is
5 if people have strong feelings if you just want to
6 pop it in the chat that would be helpful, because I
7 know we didn't have net metering on the agenda, so if
8 people aren't prepared to talk about it, I don't want
9 to raise it. If it's something people want to get
10 into it, let's do. If you have a strong opinion
11 whether we jump into net metering and storage add
12 that to the chat.

13 Here comes Commissioner Roisman. Go
14 right ahead.

15 CHAIRMAN ROISMAN: Joan, before we
16 decide that question, whether we should discuss it
17 today or wait until next week, one question that I
18 have which we haven't heard anything on, and as far
19 as I know the only possible representative of the
20 public other than the department itself is CLF on
21 this call. I wonder whether there is any concern
22 from those who represent the public's interest, not a
23 developer, not a state agency, over whether any of
24 the procedures we are talking about are incompatible
25 with sufficient public participation.

1 So I would just like to know does
2 anybody have a concern that using the more
3 streamlined approaches may in some way or another
4 keep public participation -- and this could include
5 not only private citizens but also local governments
6 and regional planning commissions.

7 So if anybody has thoughts on that, it
8 would be useful to hear those.

9 MS. WHITE: I'm so glad you raised that
10 concern. We didn't get too detailed on application
11 materials and notice periods and that kind of thing.
12 It seemed like there was a lot of agreement among
13 people who filed comments about that.

14 But I would love to turn the floor over
15 to Mr. Whiting. Are you still in the meeting? I
16 know you were this morning, from CLF, to maybe take
17 that question first. I'm just checking to see if
18 he's still here. Okay. It looks like we might not
19 have CLF with us at the moment.

20 Is there anyone else who wants to weigh
21 in on that question who's got kind of a -- represents
22 the public or public interest and has thoughts on the
23 process that the department laid out and that we have
24 been discussing today? Shy group. My goodness.

25 Okay. Well we can also add that to our

1 list for follow up and maybe people can add some
2 comments. Go ahead, Chairman Roisman.

3 CHAIRMAN ROISMAN: I was just going to
4 say since the department is represented here by their
5 public advocate office, I would expect that they
6 would actively respond to this, not necessarily now,
7 but in the answers that they give. So I would
8 particularly like to hear from the public advocate as
9 to whether or not we need to be careful that we don't
10 in some way or another inhibit the ability of the
11 public to participate, or if they feel that there is
12 really nothing the public needs to participate in, to
13 tell us that as well.

14 MR. CIVILETTI: Thank you, Chair
15 Roisman. Certainly it's an important topic, and one
16 that we have considered to a certain extent, but I
17 think needs to be much more carefully fleshed out.
18 And we will plan to do that.

19 I'll just note I suppose at the moment,
20 that part of the, you know, part of the appeal of
21 aligning some of these processes with existing
22 processes is potential for utilizing some of those
23 existing notice and comment structures. And we also
24 noted in our comments that we are considering, you
25 know, the utility of adding additional notice and

1 comment opportunities which may not currently exist
2 under 248(j), for example, perhaps some more advanced
3 notice for adjoining landowners and the like. So we
4 will certainly flesh that out.

5 MS. WHITE: Great. I would find that
6 -- I think we would find that really, really helpful.
7 One of the biggest things we do at the PUC is kind of
8 hold the process so everyone can be a part of it, so
9 making sure we have got clarity on for the different
10 size categories what the process is would be really
11 useful.

12 Great. Okay. So we have got a comment
13 here from Ms. Margolis which is, I think, spot on.
14 That kind of thinking through some of the issues with
15 net metering is going to take some time. So I think
16 what we will do is let's -- we have another workshop
17 in this case next week. It's also on Thursday, also
18 starting at 9:30. It's the same link that you
19 followed today. And we will add net metering and the
20 interplay with storage to that comment.

21 I'm just going to put up the agenda for
22 next week so that people have an idea of what we are
23 going to discuss.

24 Okay. Great. So we have got -- we
25 were going to lead with aggregation, but I think we

1 will jump straight to net metering first thing,
2 followed by communication and telemetry, system
3 optimization and utility visibility and control which
4 I'm really interested to talk about that.
5 Distribution system planning and geo-targeting.
6 Consistency with the CEP and 30 V.S.A. 248(b)(10).
7 We got into that a little bit today around
8 aggregation, whether that's in 248 or 231 we can
9 think more about that. Carbon intensity and equity
10 and access. It's a pretty full dance card for next
11 week. If we don't get through all the items, we will
12 probably schedule a third workshop with follow-on
13 comments, you know, sometime after that.

14 Are there any other items you feel like
15 we have left off the list that we really need to get
16 to before next week? I'll just open that up for
17 everybody to answer. Looks like Mr. Coster has got a
18 comment. Go right ahead.

19 MR. COSTER: Thanks. It's actually
20 just a question. Could you just explain a little bit
21 more the intent around the net metering and storage
22 topics?

23 MS. WHITE: Yes. Yeah. So let's see.
24 I'll start with the preface by saying in
25 Massachusetts they have been really rethinking how

1 storage interacts with net metering. Right now the
2 commission's policy is that if there is a storage
3 device that's interconnected with solar in the
4 net-metering program, that's not actually eligible
5 for net metering. But I think there are some real
6 advantages, potential advantages, in terms of
7 shifting solar to parts of the day when it's really
8 needed so that we have less of a duck curve and we
9 can kind of even out those peaks.

10 In the net-metering docket the
11 department has proposed some time-varying rates that
12 would almost -- it would be most easy to comply if
13 systems are paired with battery storage. There are
14 also some concerns around gaming the system. I'm
15 going to use that word knowing it might be a little
16 charged. This is where -- and it has happened in
17 other states, where people are charging their
18 batteries from the grid and then running that energy
19 through the production meter so it looks like solar.
20 And then charging -- basically getting bill credits
21 for it as though it were solar. So Mass. DPU came up
22 with some permissible configurations and
23 impermissible configurations for how the systems are
24 wired together to kind of prevent that gaming.

25 So I think the questions of how storage

1 plays in the net metering space I think we need to --
2 I mean maybe what we need to do is schedule a co-
3 workshop with the net-metering docket and this
4 docket. We haven't really kind of gotten there yet.
5 But we can get the conversation started next week.

6 Does that answer your question, Mr.
7 Coster? That was a really rambling response.

8 MR. COSTER: It does. Thank you very
9 much.

10 MS. WHITE: Great. Ms. Margolis, that
11 is an area where you've got so much expertise so I
12 would love to give you a chance to respond to that
13 question. Anne, are you there? If you are, you're
14 on mute. I would love to just get a fly over of the
15 net metering issue from you. She might have had to
16 step out. Let's hear from Ms. Margolis next time.

17 We are going to wrap this a little bit
18 early. Before we do, is there any follow up, any
19 kind of final items? Commissioner Cheney, go right
20 ahead.

21 COMMISSIONER CHENEY: I just would
22 note, perhaps you already saw, Anne does have a
23 message in the chat about net metering.

24 MS. WHITE: Oh, let's see. Yes. Yes.
25 Her recommendation was to cover it next week. So

1 let's do that. Okay. So if nobody else has anything
2 else for today, we will see you all at 9:30 next week
3 at this same link. And if you have anything you want
4 to add to the agenda in the meantime or additional
5 thoughts, feel free to make a filing with us, and we
6 will review it before Thursday.

7 And I hope everyone takes care and
8 stays safe. Bye bye now.

9 (Whereupon, the proceeding was
10 adjourned at 12:07 p.m.)
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C E R T I F I C A T E

I, Kim U. Sears, do hereby certify that I recorded by stenographic means the Workshop re: Case No. 21-3883-RULE, via videoconference, on January 13, 2022, beginning at 9:30 a.m.

I further certify that the foregoing testimony was taken by me stenographically and thereafter reduced to typewriting and the foregoing 110 pages are a transcript of the stenograph notes taken by me of the evidence and the proceedings to the best of my ability.

I further certify that I am not related to any of the parties thereto or their counsel, and I am in no way interested in the outcome of said cause.

Dated at Williston, Vermont, this 15th day of January, 2022.

A rectangular box containing a handwritten signature in cursive script that reads "Kim U. Sears". The signature is written in dark ink on a light-colored background.

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