DOCKETED	
Docket Number:	22-BUSMTG-01
Project Title:	Business Meeting Agendas, Transcripts, Minutes, and Public Comments
TN #:	247086
Document Title:	Transcript of the October 12, 2022 Business Meeting
Description:	***THIS DOCUMENT REPLACES TN 247085***
Filer:	Liza Lopez
Organization:	California Energy Commission
Submitter Role:	Commission Staff
Submission Date:	10/28/2022 12:36:11 PM
Docketed Date:	10/28/2022

BUSINESS MEETING

BEFORE THE

CALIFORNIA ENERGY COMMISSION

In the Matter of:	)
	)22-BUSMTG-01
Business Meeting	)
_____	)

WEDNESDAY, OCTOBER 12, 2022

10:00 A.M. – 3:30 P.M.

In-person at:
California Natural Resources Agency Building
715 P Street
First Floor Auditorium
Sacramento, California 95814
(Wheelchair Accessible)

Option for Remote Public Access via Zoom.

Please note that the CEC aims to begin promptly at the start time and the end time is an estimate based on the agenda proposed. The business meeting may end sooner or later than the time indicated depending on various factors.

Pursuant to California Code of Regulations Title 20 section 1104(e), any person may make oral comment on any agenda item. To ensure the orderly conduct of business, such comments will be limited to three minutes or less per person. Any person wishing to comment on information items or reports (non-voting items) shall speak during the general public comment portion of the meeting and have three minutes or less to address all remaining comments.

Reported by:
Peter Petty

APPEARANCES (*Present via Zoom)

Commissioners

David Hochschild, Chair
Siva Gunda, Vice Chair
Andrew McAllister
Patty Monahan
Kourtney Vaccaro

Staff Present:

Drew Bohan, Executive Director
Linda Barrera, Chief Counsel
Jimmy Qaqundah, Assistant Chief Counsel
Noemí Gallardo, Public Advisor
Dorothy Murimi, Public Advisor's Office
Kirk Oliver, Chief Counsel's Office
John Heiser, Compliance Project Manager

Also Present	Agenda Item
Stefanie Wayland	2
David Erne	4
Jason Harville	5
Jeffrey Lu	6
*Eric Knight	7
Hank Crook	8
Kari Anderson	9
Jared Babula	10
Elizabeth Huber	11
Misa Werner	12
Erik Stokes	13
Mike Gravely	13,14
Mark Perry	15

Public Comment

Katherine Larson, SMUD	2
Daniel Buch, CPUC	2
Delphine Hou, California ISO	2
V. John White, CEERT	2
*Steve Uhler, Self	2, 7, 8, 10, 13, 14
*Daniel Barad, Sierra Club	2
*Patrick Welch, California Municipal Utilities Association, CMUA	2

APPEARANCES (Cont.) (*Present via Zoom)

Public Comment	Agenda Item
*Ann Santilli, LADWP	2
*Sylvie Ashford, National Resources Defense Council, NRDC	2
*Marc Costa, The Energy Coalition	2
Barbara McBride, Calpine	11
Samantha Neumyer, Ellison Schneider Harris & Donlan	11
*Sampath Putta, Self (phonetic)	11, 12, 13, 14, 15
Allen G Cadreau, Indian Energy, LLC	13
Erich Hans, Viejas Casino & Resort	13
Colin Boone, Invinity Energy Systems	13
*Terry Considine, AIR Communities (Testimony read into the record.)	13
*Alex Morris, California Energy Storage Alliance	13
*Ivan Jones, Self	13
*Sam Garry, Uneva Energy Group	13
*Micah Sussman, Fellowship Energy	13
*Rey León, LEAP Institute	14
*Jason Crow, CARB	15
*Brian Dodds, SJVAPCD	15
*Emily Conway, Pepsi	15

I N D E X

I N D E X (Cont.)

P R O C E D I N G S

OCTOBER 12, 2022 10:03 a.m.

(Start of Introductory Video.)

MS. MURIMI: Welcome to the California Energy Commission Business Meeting. Zoom's closed-captioning feature has been enabled to make Energy Commission business meetings more accessible. Attendees can use this feature by clicking on the "Live Transcript" icon and then selecting either "Show Subtitle" or "View Full Transcript." Closed captioning can be stopped by closing out of the Live Transcript or selecting "Hide Subtitle." Those participating solely by phone do not have the option for closed captioning.

The Energy Commission will continue to post a recording of this business meeting on the Business Meeting webpage in addition to posting a transcript of this business meeting rendered by a professional court reporter in the docket system on the business meeting webpage.

To increase access to the California Energy Commission's proceeding, this meeting is being held in-person and is also available for remote participation.

The public can participate in the business meeting consistent with the instructions for remote participation found in the notice for this meeting, and as set forth on the agenda posted to the Energy Commission's

website. Pursuant to California Code of Regulations Title 20, section 1104(e) any person may make oral comments on any agenda item.

Once the public comment period begins, to indicate you would like to give a comment in-person please use the QR codes shown in the room and fill out the form.

For remote participants, please raise your hand by clicking on the "Raise Hand" icon at the bottom of your screen. If you are joining by phone, press *9 to raise your hand and *6 to unmute.

To ensure the orderly and fair conduct of business, public comments will be limited to three minutes or less per person for each agenda item voted on today.

Any person wishing to comment on information items or reports which are non-voting items shall reserve their comment for the general public comment portion of the meeting and shall have a total of three minutes or less to state all remaining comments. After the Public Advisor calls on you to speak, spell your name and state your affiliation, if any.

Welcome to the California Energy Commission's business meeting. The meeting will now begin.

(End of Introductory Video.)

CHAIR HOCHSCHILD: Thank you, and good morning friends. I'm David Hochschild, Chair of the California

Energy Commission. Today is Wednesday, October 12th. I call this meeting to order. Joining me are Vice Chair Gunda, Commissioner Vaccaro, Commissioner McAllister and Commissioner Monahan.

Commissioner McAllister, welcome back from your trip to Australia, good to have you home. And let's begin by having Commissioner McAllister lead us in the Pledge of Allegiance.

(Whereupon the Pledge of Allegiance was recited.)

CHAIR HOCHSCHILD: Thank you. Today I'm happy to announce the Commission is seeking to approve nearly $54 million in investments in our meeting today, contributing to our state's economic recovery.

I do want to clarify that a couple of items have been removed from today's agenda. Item 1b, the Danish Energy Agency Memorandum of Understanding and Item 3, the Information Item on getting California on track for 2030 and 2045 climate targets, has also been removed.

Before we take up the Consent Calendar, I just want to say it's great to be back in person in this amazing building. This is only the second in-person meeting we've had in this spectacular room. And I just want to say we've been, I think very, very productive working remotely. But there are definitely costs to that and I think building personal relationships is one of those costs. And we're

committed to finding that balance and really helping the next -- particularly the next wave of Energy Commission staff coming in to work for the agency at this amazing and exciting time to help build those relationships. And being in a meeting today, it's a great opportunity to have lunch with your colleagues, to reconnect.

We are entering what I would call the great implementation. Okay, we're just not debating whether to go big on climate solutions anymore, we're doing it. And it's really a phase of incredible execution. And so on behalf of all my colleagues, I want to thank all the Energy Commission staff and stakeholders who've worked with us to get us this point.

As we talked about last time, normally we would get about $1 billion a year and new resources annually from the Legislature and the Governor. This year, combined with the money we're getting from the federal government, it's $10.5 billion. It's historic, and we can do an amazing amount of good with that, that I think is going to benefit the state, the country, and the world. But it begins with people and supporting the team we have on it. And I wanted to just start with an opportunity to introduce some new staff, and let's begin with Commissioner Monahan.

COMMISSIONER MONAHAN: Thanks, Chair. So I want to introduce my new Advisor, Sarah Lim. Sarah, why don't

you stand up for us?

So Sarah is an attorney. And for nine years she worked in the Committee on Natural Resources in the House of Representatives, and she was the Chief Counsel there. So I'm going to get some good legal advice, or at least legal interpretations, which is really helpful to me.

So I want to just welcome, Sarah, and say to all the Energy Commission staff, please do welcome her. She's new to state service, new to California, so has a lot to learn. And I think she's really going to enjoy being part of the CEC culture. Please welcome her as I have. I also think it's okay on Sarah's part that I disclose that she's an avid surfer and a mom. So she doesn't just work and she doesn't just do legal work, but she also has a big life beyond work.

CHAIR HOCHSCHILD: Tough act to follow, wow. And Commissioner McAllister, you have --

COMMISSIONER MCALLISTER: Yeah, really. I just wanted to let everybody know I have two new advisors. As you know, Fritz Foo went back to staff after a couple of years in my office, and so it took more than one person to replace Fritz. So I had brought Morgan Shepherd over from the Existing Buildings Office in the Efficiency Division, and David Johnson from the Appliances Office in the Efficiency Division. Both of them are just really

wonderful, collegial, incredibly quick studies.

David has multiple degrees, culminating in a PhD and is a really incredible engineer, but also with a broad skillset that I think is going to really add a lot of value to the Commissioner row, and to the Commission as a whole.

Morgan has been working on Load Management Standards, which we'll talk about a little bit later in this meeting.

And also just has -- Chair, as you mentioned, we're entering the production mode for just getting it done. And that's going to require a lot of interaction with stakeholders, a lot of just outward-facing heavy lifting, trust-building across our a huge, diverse, great state. And I think Morgan has a skillset that really is going to prove very valuable for that process for my office. So just really looking forward to incorporating both of them.

And again, just as Commissioner Monahan suggested just welcome them to Commissioner row and I'm sure you'll look forward to -- you'll have a good experience working with them as well. So thanks for letting me introduce them.

CHAIR HOCHSCHILD: Great.

Any other introductions? Yes, Commissioner Vaccaro.

COMMISSIONER VACCARO: Thank you, Chair Hochschild. I too have a new advisor who just started last week. I am over the moon to announce that Andrea McGary, who's a 20-year attorney that was recently was an Administrative Law Judge with the California Public Utilities Commission, joined last week. We need the help in my office right now and I think she's going to do a great job.

I think, along with Commissioner Monahan's advisor and our existing legal team, we have a solid legal team who gives us really great interpretation and just having the attorneys on the row is going to be helpful. But I really just want to recognize Linda Barrera and her team. The fact that I'm bringing on an attorney just means that I am the Attorney Commissioner. It helps me, but we still look to you and your really solid team to provide us with that great legal advice and support. So I just wanted to acknowledge you, and your team as well.

So in any event, thank you for the few moments just to express how over the moon I am about this new hire.

CHAIR HOCHSCHILD: Thank you, Commissioner. And welcome, Andrea, good to have you on the team.

Let me see if the Executive Office or Chief Counsel had anyone you wanted to announce or welcome.

MS. BARRERA: Thank you, Chair. The Chief

Counsel's Office has added new members to its team, and you'll hear from two of them today. First is Kari Anderson. She's an Attorney IV, and also we have Hank Crook. And we have Tanner Kelsey, who is here also. And last but not least is our new edition, actually two new editions, we have Danielle who's here in the back, and Ash Neo (phonetic).

CHAIR HOCHSCHILD: Great, welcome to you all.

Okay, with that we'll turn now to the Consent Calendar. There will be recusals by Commissioners for the first two items, which requires that we separate the items. But first we'll vote on Items 1a through 1f, 1h and 1i; is that correct?

So do we have any public comment for Items a through f, h and i?

MS. MURIMI: Thank you, Chair.

So just a few instructions for folks. Once again, there are QR codes located in the back of the room for individuals that would like to make a comment that are in the room. And for individuals on Zoom go ahead and use the raised-hand feature, it looks like an open palm at the bottom of your screen.

Giving that one moment. Seeing no comments, Chair. I'll hand the mic back to you.

CHAIR HOCHSCHILD: Okay. Unless there is

Commissioner discussion, is there a motion from Vice Chair Gunda, for those items?

VICE CHAIR GUNDA: Yes, Chair. I move Items 1a through f, h and i.

CHAIR HOCHSCHILD: Okay. And is there a second? Commissioner Vaccaro, would you be willing to second?

COMMISSIONER VACCARO: Oh yes, I second.

CHAIR HOCHSCHILD: Thank you. All in favor say aye.

Vice Chair Gunda?

VICE CHAIR GUNDA: Aye.

CHAIR HOCHSCHILD: Commissioner Vaccaro?

COMMISSIONER VACCARO: Aye.

CHAIR HOCHSCHILD: Commissioner McAllister?

COMMISSIONER MCALLISTER: Aye.

CHAIR HOCHSCHILD: And Commissioner Monahan?

COMMISSIONER MONAHAN: Aye.

CHAIR HOCHSCHILD: And I vote aye as well. Those items pass unanimously.

We'll now turn to Item 1g, and ask Commissioner Monahan to make some comments.

COMMISSIONER MONAHAN: On Item 1g I will recuse myself from any discussion, consideration, and vote on the proposed contract to the University of California Regents on behalf of the Irvine Campus. For $250,000 for a

contract funded by the Clean Transportation Program for analysis to support decarbonization strategies that promote deployment of heavy-duty fuel cell electric vehicles.

I currently serve as a member on the Board of Advisors for the University of California Institute of Transportation Studies. In that role I do not make governance decisions on behalf of the Institute, but the Board exists to provide guidance and oversight to the UC Irvine's transportation research projects.

Additionally, I do not receive any compensation in any form, including reimbursements or per diem for expenses. Therefore, there is no financial interest in which there would be a conflict of interest under the Political Reform Act or Government Code section 1090. However, in an abundance of caution I will recuse myself in order to avoid any perception of a conflict of interest. I'm stepping out of the room. I'm going to take my cell phone so the Public Advisor can advise me when to return.

CHAIR HOCHSCHILD: Thank you.

We'll now turn to the Consent Item 1g. Is there any public comment on Item 1g?

MS. MURIMI: Thank you, Chair.

So for individuals that are in the room, go ahead and use the QR codes located in the back of the room. And for individuals on Zoom use the raised-hand feature. If

you are calling in, press *9 to indicate that you would like to make a comment.

Giving that one moment. Seeing none on Zoom and none in the room, Chair, I hand the mic back to you.

CHAIR HOCHSCHILD: Thank you.

Unless there is Commissioner discussion, Commissioner McAllister, would you be willing to move Item 1g?

COMMISSIONER MCALLISTER: I move Item 1g.

CHAIR HOCHSCHILD: All in favor say -- oh we need a second, sorry. Vice Chair Gunda, do you want to --

(Overlapping colloquy.)

VICE CHAIR GUNDA: I second.

CHAIR HOCHSCHILD: Moved by Commissioner McAllister, seconded by the Vice Chair. All in favor say aye.

Commissioner McAllister?

COMMISSIONER MCALLISTER: Aye.

CHAIR HOCHSCHILD: Vice Chair Gunda?

VICE CHAIR GUNDA: Aye.

CHAIR HOCHSCHILD: Commissioner Vaccaro?

COMMISSIONER VACCARO: Aye.

CHAIR HOCHSCHILD: And I vote aye as well. That item passes 4-0.

And now we will welcome back Commissioner

Monahan. And we will turn to the remaining item, which is 1j. And I will be recusing myself from this item. I will recuse myself from any discussion, consideration and vote on the proposed resolution for $100,000 in membership fees to VELOZ. I am currently a member of the Public Policy Board of VELOZ representing the Energy Commission. In that role, I do not make decisions on behalf of VELOZ. Together with my colleagues on the non-voting Public Policy Board, we lend policy guidance and support to the Board of Directors.

Additionally, I do not receive any compensation in any form, including reimbursements or per diem for expenses. So, there is no financial interests in which there would be a conflict of interest under the Political Reform Act or the Warren-Alquist Act. However, in an abundance of caution, I will recuse myself from the discussion and vote on this item in order to avoid any perception of a conflict of interest.

Vice Chair Gunda will lead the vote in my stead. I will leave my video box on, mute myself and step out of the room. And the Public Advisor will reach out once the vote concludes, at which time I will return.

VICE CHAIR GUNDA: Thank you. Now let's turn to the Consent Calendar Item 1j. All right, is there any public comment?

MS. MURIMI: Thank you, Vice Chair.

So once again for individuals in the room, use the QR codes in the back of the room. For folks on Zoom go ahead and use the raised-hand feature. It looks like an open palm at the bottom of your screen. Giving that one moment.

Seeing no raised hands and nothing in the room, Vice Chair back to you.

VICE CHAIR GUNDA: Thank you, Dorothy.

Is there any Commissioner discussion on this item? No, don't see any. We'll take the vote now. Commissioner Vaccaro, would you move the item?

COMMISSIONER VACCARO: Yes. I move approval of Item 1j.

VICE CHAIR GUNDA: Commissioner Monahan, would you second?

COMMISSIONER MONAHAN: I second.

VICE CHAIR GUNDA: We'll take the vote now. Commissioner Vaccaro?

COMMISSIONER VACCARO: Aye.

VICE CHAIR GUNDA: Commissioner Monahan?

COMMISSIONER MONAHAN: Aye.

VICE CHAIR GUNDA: Commissioner McAllister?

COMMISSIONER MCALLISTER: Aye.

VICE CHAIR GUNDA: I vote aye as well. It goes

4-0, thank you.

CHAIR HOCHSCHILD: Good, we're getting our steps in today. So we did Item 1, okay.

We'll turn now to Item 2, Amendments to the Load Management Standards. Welcome Stefanie Wayland.

MS. WAYLAND: Thank you. Hello, Chair and Commissioners. I'm Stefanie Wayland, Load Management Standards Lead for the Efficiency Division. I am joined by Kirk Oliver from our Chief Counsel's Office.

Staff at the California Energy Commission, or CEC, have been working with stakeholders and interested parties to develop these load management standards over the last three years. I'm very glad to now present them before the CEC. Next slide, please.

Load management, also known as demand management, load flexibility or demand flexibility, is the process of balancing supply and demand on the electric grid by adjusting the amount of electricity that customers use -- their demand or load -- to the available supply from all power plants. Next slide, please.

Load management rates and programs have a broad array of benefits including saving customers who participate in load shift programs money by allowing them to use energy at low-priced hours rather than the most expensive hours. This can also reduce the price utilities

pay for electricity, a savings which can be passed on to all customers in the form of lower rates.

They improve grid reliability by reducing electricity demand during peak hours, especially during times of grid stress from things like wildfires, heat storms, and other natural disasters.

They reduce greenhouse gas emissions by reducing electrical demand during peak hours when the highest emission power plants are operating.

They maximize the use of renewable energy that may otherwise have been thrown away during the middle of the day because there was not enough demand.

They increase customer choice by providing electricity customers access to dynamic rates and demand flexibility programs.

Finally, load management rates and programs reward electricity customers who consistently use less energy during peak hours. These customers, who often have lower or fixed incomes, are unable to take advantage of demand response programs that only reward customers for reducing energy usage compared to other days where they use more energy during peak hours.

On the right of the slide, we have a chart of cost versus benefits. CEC staff analysis shows that over the 15-year period following full implementation of the

proposed regulations, the standards will have costs of $24 million versus benefits of $267 million. The benefits are bill savings from shifting energy away from peak evening hours using smart thermostats and batteries. These savings will go directly to electricity customers. Next slide, please.

The Load Management Standards and the amendments proposed today are adopted pursuant to the Warren-Alquist Act of 1974. The relevant section is shown on the slide, but most importantly this gives the CEC the authority to adopt its load management standards for each utility service area. These standards can include, but are not limited to adjustments in rate structure to encourage off-peak usage and control of daily electrical load, and systems for the control of daily and seasonal peak loads. Next slide, please.

The proposed amendments to the load management standards cover the largest three investor-owned utilities, the two largest publicly owned utilities, and Community Choice Aggregators, CCAs, that deliver more than 700 gigawatt hours of energy annually. There are 12 CCAs that can currently deliver that much energy to their customers each year, and they are named in the standards. New or growing CCAs that deliver more than 700 gigawatt hours per year in the future will be included starting the year after

they provide that amount of energy to their customers.

In total, these utilities and CCAs supply over 75 percent of all electricity in California. Next slide, please.

There are four primary requirements in the standards. All four are necessary to provide electricity customers with what they need to effectively manage their usage in response to changes in electricity supply.

The first requirement is utilities and CCAs upload all time-dependent rates to CEC's MIDAS database and keep those rates updated whenever a rate changes or a new rate is implemented. CEC staff built the Market Informed Demand Automation Server, or MIDAS, to provide real-time access to all time-varying rates. MIDAS can be accessed by third-party service providers to help customers automatically adjust their energy in response to electricity prices, Flex Alerts, greenhouse gas emissions, or other grid signals. Notably, the MIDAS database does not and will not contain any private, confidential, sensitive, or customer-specific data.

Second, utilities and CCAs implement a single statewide standard method for providing automation service providers with access to their customers' rate information. Customers may then authorize one or more service providers to access their rate information. Service providers use

this rate information to look up the customer's hourly electricity prices in MIDAS and automate smart appliance electricity usage to maximize bill savings.

Third, utilities and CCAs will be required to develop opt-in retail electricity rates that change at least hourly to reflect locational marginal costs and submit those rates to the utility's governing body for approval. If approved by ratemaking authorities, these rates would provide customers with options for automating response to hourly and sub-hourly price signals. If rates are not approved by the rate-approving body, utilities and CCAs must provide programs that enable their customers to respond to hourly prices or grid signals provided by MIDAS. They are not required to develop rates for street lighting.

If the utility or CCA cannot implement an hourly marginal-cost based rate for a group of customers they must implement a program that enables customers to optimize load in response to hourly information from MIDAS.

And fourth, utilities and CCAs will be required to integrate information about time-dependent rates and automation technologies into existing customer education and outreach programs. Utilities must reevaluate existing programs and consider new ones to take advantage of the economic and organizational efficiencies provided by MIDAS. Education programs must also be updated, as most customers

are unaware of price-responsive automation technologies and services.

These amendments are designed to enable everyday demand flexibility by providing electricity customers with the tools and information they need. They also enable emergency response such as the following scenario.

We are on Day 3 of an extreme heat event hitting the western United States. Advanced smart thermostats download electricity prices, and the information shows the prices will be high in the late afternoon. Power plants will emit more greenhouse gasses from 4:00 to 8:00. And the State Independent Operator has issued a Flex Alert for 3:00 to 9:00 p.m. The advanced thermostats automatically adjust the temperature settings to cool before 3:00 and to set the evening temperature four degrees higher than the normal temperature.

At the same time connected water heaters, heat water before 3:00 and store it for later use. This keeps homes and businesses comfortable while also providing the grid the relief needed to avoid rolling blackouts. Next slide, please.

There are the six major milestones for the standards. We worked with CPUC staff to ensure alignment with their ongoing demand flexibility proceedings. If adopted today, the updated Load Management Standards will

take effect on April 1st, 2023.

Utilities and CCAs upload existing time-dependent rates, such as the time-of-use rates, by July 1st, 2023.

Utilities submit compliance plans by October 1st, 2023, and CCAs by April 1st, 2024.

By October 1st, 2024, the utilities and CCAs submit the rate information access tool designed as part of an upcoming CEC working group.

Next, IOUs submit rates to their governing body for approval by January 1st, 2025. POUs follow on April 1st, and CCAs on July 1st.

Finally, by April 1st, 2026, POUs implement load management rates or programs. IOUs implement by January 1st, 2027. And CCAs implement by July 1st, 2027. Next slide, please.

Because we know that different situations require different solutions the proposed amendments allow utilities and CCAs to request delays, modifications, and exemptions. These requests can be part of the initial compliance plan or requested later.

The process is different for the investor-owned utilities whose regulatory body is the CPUC than for the publicly owned utilities and CCAs whose governing bodies are officials elected by popular vote in their service areas.

The modification, delay, and exemption process, opens the door for utilities and CCAs to work with regulators and their governing bodies to implement solutions that best serve their customers, providing customers with options to participate in load management programs and rates. Next slide, please.

The process to get to this rulemaking has taken three years. For two years, we worked with stakeholders, utilities, and interested parties through outreach, meetings, workshops, a detailed staff report, and public comment periods.

Following the pre-rulemaking we began the formal rulemaking in December of last year by publishing the proposed amendments to the load management standards and opening a 45-day comment period. This year we revised the standard three more times based on comments we received during the 45-day and three 15-day comment periods. Throughout this process staff met with stakeholders and interested parties repeatedly to understand the various viewpoints. We believe that the proposed amendments developed through this process will serve the people of California well. Next slide, please.

That covers the proposed amendments to the Load Management Standards. CEC staff recommend that Commissioners vote to approve the proposed amendments to

the standards and adopt staff's finding that the action is exempt from CEQA. Next slide, please.

Thank you very much for your time. We are now available for questions.

CHAIR HOCHSCHILD: Thank you so much, Stefanie, to you and Mike Sokol and the whole team who worked on this. This is a lot of work to get to this state. Before we go to public comment I wanted to turn it over to Commissioner McAllister who had an acknowledgement.

COMMISSIONER MCALLISTER: So I'm going to make some non-substantive comments just before the public -- non-substantive on LMS.

But I did want to just say a few words about David Cuffee, who was a key member of the Load Management Standard Team. And he left this world on September the 26th at the age of only 54. He was a cherished friend to many, including here at the Commission. And many of whom considered him not only a great coworker and team member but also a friend. He served and supported his country, his family, his adopted state, and the CEC. MIDAS is his handiwork and Load Management Standards would not be what they are or where they are today before us at this business meeting without his incredible knowledge, skill, and care.

Our deepest sympathies are with his daughter, mother, family and loved ones. And I know that many staff

across the Commission share these sentiments. And I wanted to take this moment and it's really my honor to express those sentiments today. So with that, I wanted to just invite us to take a moment of silence to remember David.

(A Moment of Silence was observed.)

COMMISSIONER MCALLISTER: Thank you very much. Let's invite some public comment.

CHAIR HOCHSCHILD: Thank you, Commissioner. And our condolences to his family.

With that we'll go to public comment, Dorothy.

MS. MURIMI: Thank you, Chair.

So once again, for individuals that are in the room use the QR codes in the back of the room and for individuals that are on Zoom go ahead and use a raised-hand feature. We'll begin with individuals in the room. Once called on, go ahead and step up to the podium. Make sure the light is green on the microphone and then begin your comment. Katherine Larson.

MS. LARSON: Good morning, Chair Hochschild and Commissioners, great to be here. My name is Katherine Larson and I am with SMUD, the Sacramento Municipal Utility District. SMUD would like to thank Commissioner McAllister and the CEC staff for their commitment to working with stakeholders throughout this process and ensure that the Load Management Standards are ambitious but

practical.

In particular, we appreciate the revisions in the third 15-day language that allowed POU rate-approving bodies to decide to develop and offer rates or programs or modify requirements after considering specified factors. We believe these revisions reflect an acceptable balance between the CEC statutory authority and the POUs independent rate-making authority and expertise.

SMUD recognizes the importance of load flexibility, and we're already piloting programs to learn about the most effective ways for our customers to engage with behind-the-meter devices. We appreciate the third 15-day language that recognizes the importance of such efforts as we design, test, and refine rates and programs that our customers will adopt, enjoy, and actually stick with.

With that said, we'll also note that implementation of the LMS won't be easy. In our own experience it can be a quite lengthy process to study, design and successfully implement these rates and programs. And they may not always be appropriate for every customer class. Developing a single rate identification number access tool that works with all obligated utility systems may be challenging, and upgrades to utility billing systems can also be complex, time consuming and expensive. In general though, we understand the flexibility afforded to

POUs and the third 15-day language is intended to mitigate these challenges. But we have also submitted written comments recommending some express clarifications in the final statement of reasons as well.

Challenges notwithstanding, we believe the third 15-day language has substantially addressed all our most significant concerns and we support its adoption today with the clarifications that I've noted. We look forward to continuing to work with the CEC on implementation. Thank you very much.

MS. MURIMI: Thank you.

Next we have a Dan Buch. Apologies if I have misstated your name. Please unmute on your end, you may give your comment.

MR. BUCH: Good morning Chair Hochschild and Commissioners. Thank you for the opportunity to comment on this item. My name is Dan Buch, and I am the Branch Manager in the California Public Utilities Commission's Energy Division responsible for electric rate design and demand response, among other things. CPUC staff is very supportive of the LMS amendments that the CEC is considering today. They are consistent with, and supportive of several high priority initiatives at the CPUC. And I want to highlight a few of those initiatives to show just how closely aligned they are with the Load

Management Standards amendments that CEC is considering this morning.

First and most recently just in July of this year, the CPUC opened a new rulemaking to enable more widespread demand flexibility through electric rates. Preliminarily the scope of this demand flexibility rulemaking includes reforming fixed charges pursuant to Assembly Bill 205. Considering policies to enable widespread demand flexibility through retail dynamic rates in support of the state's electrification and distributed energy resource initiatives. And facilitating investor owned utility compliance with the anticipated updates to LMS requirements.

Second, in April of this year the CPUC also updated its Distributed Energy Resources Action Plan to set the following aspirational goals which align with the proposed LMS amendments. First by 2025, all utility customer classes have access to multiple rate options, including dynamic and real-time pricing rate pilots.

Second, available rates reflect time variant and location-based marginal costs and are transparent, equitable and aligned with Load Management Standards.

And third, by next year the CPUC plans to initiate consideration of proposals to ensure that customers, technology vendors, and third-party service

providers have access to pricing information for a wide range of rates through a universal access-pricing platform.

I'll also note a couple of additional items. The investor owned utilities are currently conducting two dynamic rate pilots ordered by the CPUC that incorporate components of the CEC's proposed to Load Management Standards amendments that you will vote on later today. And in May, CPUC staff released a Whitepaper with a proposed CalFUSE framework that we believe fully aligns with the proposed LMS amendments.

So in closing, I want to thank Commissioner McAllister and CEC staff for their close and productive collaboration with CPUC staff on the proposed LMS amendments and for incorporating our feedback into the final proposal. We see these standards as a crucial step toward enabling widespread demand flexibility in the electric system. And we look forward to continuing collaboration with CEC through the implementation phase. Thank you.

MS. MURIMI: Thank you.

Next we have Delphine Hou followed by V. John White. Please state and spell your name, and you may give your comment.

MS. HOU: Great. Good morning, Chair and Commissioners. My name is Delphine Hou. I'm a Director of

California Regulatory Affairs at the California ISO. Really pleased to be here. And I thank you so much for Commissioner McAllister and all of this incredible CEC staff to bring this important issue to the fore.

CAISO definitely supports this, but I do want to go into a little bit of the why. We think there is considerable latent potential to manage load. But the other reason we really support this is because CAISO has a very powerful signal that we use to signal what the grid needs, and that is our locational marginal prices.

But what does that really mean? Let me break it down to maybe three major components that are really relevant here. They're very effective grid signals, because first, it's a price. So if you are shifting load, and you want to understand what the economic impact and tradeoff that is, the LMPs can tell you that.

But another really important factor is that they are a GHG signal. When the prices are high it typically means there are emitting resources on the margin. When the prices are low it typically means there are renewables or low, non-emitting resources on the margin. So that is a very strong and very easy-to-understand signal for the end consumers to understand that when prices are high it's likely a) not as economic for them to use electricity; and is likely using emitting resources.

Lastly, and very important to the CAISO, it is a reliability signal. As Stefanie noted, when we are in grid emergency and in grid conditions the prices rise for a reason, it is classic supply-and-demand. But it's also signaling to the end consumer, "Hey, this is a time of grid stress. Please do not use electricity if you can. If you can shift that load, or don't charge your electric vehicles, or provide back to the grid if you can do that as well." So that's all a very effective, integrated signal that comes from the grid that we hope more and more retail consumers can discover.

But also, the CEC is doing this important groundwork in terms of the database having the automation. Because even I, working at the CAISO, I do not want to get a five-minute electricity signal ever. But if I had the devices, if I had the capability to set it and forget it, but have everything my house, my electric vehicle, conform with that to help the grid I think that would make me a very happy consumer. But also it would potentially reduce my costs and really reinforce everything that we're trying to pursue and achieve as a state.

So again, we're very excited about this foundational step. As Dan spoke from the CPUC we, the CAISO, was also very supportive of the efforts there. And we have encouraged the PUC to work very closely with the

CEC. And we're very glad that that cooperation is happening.

So again, we're very supportive of this, we want to be able to provide whatever the CAISO has as a signaling to the end consumers, for consumers who can use this; and we understand not every consumer can. But again, the idea is that maybe with more technology, that will be a bridge for all consumers to be able to adopt this. So again, really support this effort, please approve this. And thank you for your time.

MS. MURIMI: Thank you.

Next we have V. John White, followed by Katherine Larson. Oh, apologies, followed by Eric (indiscernible).

MR. WHITE: -- Center for Energy Efficiency and Renewable Technology. And I'm really, really happy to be here today, because this proposal, along with the other work that Commissioner McAllister is leading is basically reinventing what we used to call "demand response." And which has been lagging and falling behind. And we saw the first week of September how important demand flexibility and moving load around is.

And we saw -- based on a SMUD customer, so I can tell you that it wasn't news to me -- that the strategy to get through the days that are hot and expensive is cool your house overnight into the middle of the day, and then

raise the temperature in the afternoon. And the difference in that message is that it's not sacrifice, it's proactive.

And so what this proposal does is further empower customers, bypassing the historic resistance to time-of-use pricing and demand response programs. The combination of this strategy with the data that you are assembling and compiling and hopefully making available to third parties, combined with the Governor's budget initiatives, creates an opportunity for us to really put wheels under demand response. And have it ready as soon as we can, because we know that '23,'24,'25,'26 summers and Septembers are when we're going to be stressed.

So what this proposal does is enable us to catch up with this resource being available to the grid, as the ISO said, and the fact that the diplomacy and the development of this rule has been spot on. You know, we know there's always a temptation with the publicly owned utilities to be a little directive. But the fact is, L.A. and SMUD are leading the way on some of these initiatives. And so we want to adapt some of what they've done to what we need to get the IOUs and the PUC to do.

So I'm very encouraged. And I really think we're at the beginning of a new era of demand flexibility, and commend Commissioner McAllister and want to be there to help on any, any way we can, because this is a foundational

strategy for California. Thank you.

MS. MURIMI: Thank you.

Next we have the individual labeled as "Call-in User 2." Your line is open. Please unmute on your end and you may begin your comment.

MR. UHLER: Hello, Commissioners. This is Steve Uhler calling, U-H-L-E-R. This is a very important subject. But I have noticed that staff has overlooked posting whatever resolution and any other documents that you're going to vote on today in the docket, so it's currently not deemed a record for the proceedings. So hopefully you can get that done.

Also, hopefully you had a chance to look through my comments. They range from some recent ones that did direct comparisons of language with questions about why there are two pieces of language, one for CCAs and POUs, and one for IOUs. Or why there's no exemptions for POUs and CCAs, which I listed in my comments, my written comments.

Also I'd like to -- I put that system together, because I actually wanted to see what this whole thing looked like. Because there's a lot of markups in the express terms. Actually they go beyond what statute allows and markup strikethroughs are only for regulatory language that's approved.

But the other items would be related to MIDAS. If we will look at it, it's 1623(b) or 1623.1(c), which are almost exactly the same language, it says that the Commission will maintain public access to MIDAS. And all I have to do is give you a RIN and I'll get the information I want. Well MIDAS currently doesn't work that way. So and as you may know, once you write a regulation on how something's supposed to be worked, you can't embellish it with other writings such as a document that says you have to get a password.

So I'm really suggesting that you table this at least until you place into the record, or the staff place into the record what you're voting on here today. I'm particularly interested in why they talked about general exemptions for hardships for utilities and CCAs when the language explicitly limits that to IOUs. I would like clarification on that.

And pursuant to your meeting laws, I am making a request that you publish in the docket for the record what you're voting on, the actual document. And when I see it, I will continue my comments. This is quite unfair to the public, because your List Service is unreliable so I use your docket. If it's not in the docket I don't know about it. So please take care of that.

Can I hear from the Chair if he's going to do

that? I'm asking you a question pursuant to your meeting laws. Anybody hear me?

MS. MURIMI: Thank you for your comments. Your time is concluded.

MR. UHLER: Do I get my public request, records request resolved?

MS. MURIMI: Staff will reach out to you regarding Public Records Act requests. Thank you.

MR. UHLER: This is --

CHAIR HOCHSCHILD: Thank you. Yeah, we'll have the Public Advisor's Office respond.

Is there any further public comment on this item, Dorothy?

MS. MURIMI: Yes, Chair. There's a few more comments.

CHAIR HOCHSCHILD: Okay.

MS. MURIMI: We have Daniel Barad, B-A-R-A-D.

MR. BARAD: Good morning, Commissioners. Daniel Barad on behalf of the Sierra Club, California, and our 500,000 members and supporters throughout the state. Thank you so much for the opportunity to comment today. And we thank the staff for all their work on this. We support the amendments to the Load Management Standards proposed today. And we strongly encourage the Energy Commission to continue prioritizing load management and demand response

strategies.

As climate change threatens our grid the state must continue to build out renewables at an unprecedented rate, while investing in battery and long-duration storage, so we can utilize clean energy even as the sun sets and demand increases.

We also need to take actions like those proposed today to shift energy demand to the parts of the day when we are producing the largest amount of clean energy. Policies that support SMART load management and storage will help ensure that the state can keep lights on during unprecedented heat waves without continuing to prop up the fossil fuel infrastructure that continues to worsen these climate-fueled events and negatively impacts public health.

Thank you very much for the opportunity to comment and we look forward to continuing to support your work on these critical issues.

MS. MURIMI: Thank you.

Next we have Patrick Welch followed by Ann Santilli. Patrick please state your name, state and spell your name, and give your affiliation. You may begin.

MR. WELCH: Patrick Welch, P-A-T-R-I-C-K W-E-L-C-H, Senior Director of Energy Policy with the California Municipal Utilities Association. I wanted to first thank Commissioner McAllister and the staff involved, especially

Stefanie Wayland, for working with us to address our concerns on this proposed regulation.

CMUA shares the Commission's goals of providing safe, reliable, affordable, clean energy, and we recognize that flexible demand resources can be a valuable tool in those efforts. To help achieve these shared goals, it's paramount that the locally elected governing boards and councils of CMAU's members maintain control over rates and the rate design and development process. Maintaining this local control ensures that POU rates are reflective of the needs and values of the communities served by the POUs.

We support the approach of the current version of the regulations as it ensures that POU governing boards can shape the rate design process and initial stages and then make the ultimate decision on whether to approve programs or rates at the end of the process.

There are still important implementation issues to address however, which has been initially shared by Ms. Larson from SMUD. And should the Commission approve the regulation today we look forward to ongoing discussions about successful implementation. And thank you for your time.

MS. MURIMI: Thank you.

Next we have Ann Santilli followed by Sylvie Ashford.

MS. SANTILLI: Good morning, Chair Hochschild and Commissioners. My name is Ann Santilli and I am with the Los Angeles Department of Water and Power.

LADWP would like to thank Commissioner McAllister and the CEC staff for working with us on the Load Management Standards. LADWP recognizes and supports the end goals of the Commission's proposed loads management standards, which include minimizing cost, improving reliability, and promoting renewable energy resources. As such, LADWP continuously identifies and implements LADWP-centric solutions to meet these essential end goals considering the City of Los Angeles's unique customer base.

LADWP appreciates the revisions in the third 15-day language that allow publicly owned utilities, rate-approving bodies to offer rates or programs or modify requirements after evaluating specified factors such as equity, system reliability, and cost-effectiveness.

The implementation of the Load Management Standards will not be easy. Making changes to systems, meters, and other assets can be challenging and costly, as well as launching programs that many will embrace. While LADWP believes there remain technical and clerical concerns within the third 15-day regulations, that could be either addressed in an additional modification to the third 15-day regulations or clarified with the final statement of

reasons. We do look forward to continuing to work with the CEC staff on this implementation. Thank you.

MS. MURIMI: Thank you.

Next we have Sylvie Ashford. Please state and spell your name and you may give your comment.

MS. ASHFORD: Good morning. This is Sylvie Ashford, S-Y-L-V-I-E A-S-H-F-O-R-D, speaking on behalf of the National Resources Defense Council. NRDC would like to thank the Commission for their work on the Load Management Standards and encourage speedy adoption of the new requirements. Ensuring that hourly dynamic rates are standardized in the MIDAS database will create a new crucial data infrastructure for demand-flexible devices to automatically optimize their energy use. These technologies may include electric space and water heaters, building appliances, vehicle charging stations and industrial systems down the road.

Aligning retail electricity rates with marginal costs has clear environmental benefits, as renewable energy has no fuel costs, and typically the lowest marginal costs. These rates encourage customers to use appliances that will shift electricity consumptions to periods when energy is cleanest.

Customers can also save money by opting into these new dynamic rates. And by increasing consumption and

avoiding curtailment when energy is cheap and clean, more efficient, renewable energy use will put downward pressure on electricity prices across the board.

The proposed standards will also make the grid more reliable by incentivizing consumption during low-demand periods and reducing the likelihood of grid failure at peak times, lessening the need for emergency load shedding by voluntary demand response. This regular demand-smoothing is critical to support existing electric loads and new ones as California pursues Governor Newsom's ambitious targets for across sectors.

Again, NRDC thanks the Commission for their work on this critical topic and urges adoption of the Load Management Standards. Along with more efficient clean energy use greater electric demand flexibility will reduce grid costs, save customers money, bolster grid reliability, and spur clean technological innovation. Thank you.

MS. MURIMI: Thank you.

Next we have Marc Costa. Please unmute on your end, state and spell your name and you may begin.

MR. COSTA: Hi this is Marc Costa, M-A-R-C Costa, C-O-S-T-A, Policy Director at the Energy Coalition. I just want to say that we're very supportive of the Load Management Standards and acknowledge staff's cooperation with an EPIC grant that we have where we want to test out

this framework for MIDAS. And definitely want to acknowledge that the GitHub repository is accessible in multiple programming language. It's in the public. It's very well done, and we can see it and we can touch it. And that gives us confidence that we definitely support the new Load Management Standards.

We also encourage the Commission to participate in the intersecting CPUC regulatory proceedings. So there is an OIR that's -- well, that was held in this voting meeting -- but it should be coming out on customer program frameworks as well as a high DER proceeding, both at the Energy Commission but at the CPUC.

And so we really are optimistic that this framework for load management can be operationalized in multiple ways. And so one of those ways is through leveraging existing ratepayer funds on the front of the CPUC to get the technologies in the homes of the people that really need these technologies to test it out.

We also see immense opportunities, as EPIC 4 and 5 begin to really make a dedicated effort to carve out initiatives for low-income, disadvantaged communities, and underserved communities, to really be the first in line to have these technologies to be able to participate in such markets. And these markets do need to be created. And there's a long way to go in these middle markets where

local demand doesn't really hit the transmission system. And fair and adequate compensation for those customers is an ongoing process that we really want to look at, and to understand the locational marginal prices. But any other distribution system planning, either compensation or rates or any other types of markets or aggregations that may be created as a framework through those proceedings. So we really encourage you to participate, make comments in those proceedings.

And then lastly, as the Inflation Reduction Act funds are allocated and localized at the state level, we also hope that there's a tremendous effort to operationalize the Load Management Standards through those efforts. So thank you.

MS. MURIMI: Thank you.

And with that there are no more comments. Chair, I hand the mic back to you.

CHAIR HOCHSCHILD: Well my thanks to all the stakeholders. And I do want to say before I turn it over to Commissioner McAllister to kick us off on the discussion I think this is a big day. And it's a day that has been a long time in coming. You know, some of the future we're trying to build is a future that is 100 percent powered by clean energy, where the grid is reliable and the price of power is affordable. And some of the things that we have

to do to make that possible are in the category, I would say, of sort of building the plane as we're flying it. And I'm remembering the Demand Response Program that we adopted here in this room on August 10th, and got 250 megawatts signed up within a month to support the grid and help keep the lights on in the September heat event.

This is in a different category. This is really a long-term building block, foundational as John White and others have said. And I know it's been a long time coming, I think, at least three years in the making. You've been championing this concept for a long time, Commissioner. And so I'm really excited for the new era this ushers in.

I do want to highlight I know there's a lot of stakeholder input and feedback, and it was very iterative. And I just want to compliment you and the team for taking all that feedback and bringing forward into something that's really practical. And with that I'll turn it over to you to lead Commissioner discussion.

COMMISSIONER MCALLISTER: Thank you very much, Chair. So I totally agree this is a big day, a long time coming. And load management is not a new idea. It's been around for many, many decades. The utilities in the room and on the phone all know that. And I think the difference is just the tools that we have at our disposal now. And so I'm going to try to resist the temptation to kind of geek

out on this, but I did want to just make some comments, and thank some people.

So this, the significance of Load Management Standards is a little bit -- it's hard to overstate on the one hand, because I think we're doing something that no jurisdiction has ever done in terms of really operationalizing in the digital world, load flexibility in a way. Building that platform and making it part of kind of what the public sector, what the state, what the regulatory agencies do that nobody else is going to do, but only that. And so I think we're really putting in place a platform that's going to reduce transaction costs and set a level-playing field and unlock a lot of creativity and innovation. And that's what we need in this sector.

We talk about how load needs to shift to off-peak and that's true, but load can do a lot more. It can do a lot more, and more wildly, more deeply, more cheaply, more effectively, more predictably, and more surgically. Particularly when automated, load management can bolster the grid as a reliability resource. The Load Management Standards lays the groundwork for and against it to implement that vision.

And I think there's this tripartite of challenges we have that we have to succeed on, reliability certainly is number one, decarbonization and equity, need to manage

costs. And so I think over the long term -- in the near term, all three of those are absolutely taking place. In the long term, if you look at sort of where Point B is down the road 20 years from now when we have a completely carbon-free grid Load Management Standards will still be critical. Not so much for decarbonization, because we will have done that but for grid management, reliability, and optimization. So we end up with lower overall sets of issues and problems that we have to deal with if we manage the grid and optimize investment between now and then. And the Load Management Standards are going to help us do that.

And the Commission has had this authority since its beginnings. Load management has been a thing for a long time. And historically it's been more limited to industries in sort of a manual kind of approach. I did load management in South America with the industrial sector 25 years ago, and it was all phone calls and sort of very manual, but it worked. And today we're lucky to have myriad technologies at our disposal that operate automatically and rapidly enough to really be relevant to the grid at the timescales that we're talking about today in a modern economy.

So I'll leave sort of the technical piece there, but I'm just really proud of where we landed. But I'm equally proud of how we've gotten here. And I think we've

heard some of that in the comments. I believe that our process is our lifeblood of getting to good results. So we've heard about a few additional details that folks would like to talk through, and we can absolutely do that and look at the FSOR (phonetic) and keep tuning this effort in practice.

Want to just really acknowledge CMUA and SMUD and DWP for their iterative comments. I know three rounds of 15-day comments creates a fair amount of work for all of you, so I really appreciate your sticking with it. But I also think that the fact that this is something new, it's a new conceptualization, it's a new application of this authority, and it's something that really hasn't been done in this form, that that iteration was necessary to kind of draw out the thinking and get to the result that we have here today. So I think all this effort is going to really be worth it. And it's our way of listening, the formal record. And so I think it's worked in this case.

So in some ways -- you know, I mentioned it was really groundbreaking and innovative in some ways. In other ways the rates information is already, in theory at least, it's already public, right? So what we're doing is taking already public information and putting it into a digital, accessible, automatable format. And making it such that it's always up to date at every moment. And so

that customers can use it, it can be automated, prices to devices, set and forget. There's a lot of kind of buzzwords that we can use that are true. It's really a tool that's going to, I think, allow a lot of innovation. And we know it's already being used, there are third-party providers that are already using MIDAS and already automating their customers' loads. So it's a very compelling offering I think.

So I want to thank all those here to comment, just really for all the thoughtfulness and the continuous engagement. In a lot of ways this is a beginning. We're going to see as Load Management Standards, as the MIDAS gets more use, and as folks sort of figure out how to how to use it optimally as we get more deeply into the SB 49 work, the Flexible Demand Appliance Standards, such that fast forward 10-15 years we're going to have literally hundreds of millions of devices out there that have native load flexibility and can be automated around MIDAS.

I want to just to thank Delphine -- well I think there's a few others -- but for your comments and you're sort of going a little deeper on why it's important, the Flex Alert from the CAISO. That's, in addition to locational marginal pricing the Flex Alert itself is a signal that can be channeled through MIDAS and go to customers and the individual devices.

As well, a greenhouse gas signal. You want to organize your load, you want to shape your load control your load based on just how much carbon content the grid has at any given moment, you can do that. That MIDAS can carry that signal as well. So it really I think it's going to help in many, many different ways.

So I want to just thank everyone who commented, Ms. Larson from SMUD, Dan from the PUC, that collaboration with the PUC not only at the staff level, but also with the Commissioner level. I want to just thank Commissioners Houck and Rechtschaffen and President Reynolds for engaging on this as well. I think it has been and will be a really great collaboration going forward.

V. John White, thanks a lot for your engagement. And you mentioned data. We're going to have a presentation, which is Item 5, so I think it's related in many ways. So thanks for bringing that up.

DWP and NRDC and the Energy Coalition, obviously, really close partners in this and counting on you going forward as well.

On the staff level, I just want to acknowledge all the folks who have worked on this, and the list is kind of long. So I just want to make sure, Stefanie, thank you very much for the presentation. And just your stepping in and really taking the bull by the horns here and helping

push it forward and getting us to a result, thank you for all of your knowledge and skills.

Gavin Situ was the Technical Lead and the cost-effectiveness and a primary author of the staff report. So thanks to you Gavin.

Morgan Shepherd, I mentioned he's actually in the audience here, so thanks Morgan. You just worked hard on this and will continue to work hard in the implementation for my office.

Heather Bird, the Office Manager, thank you very much Heather. Jennifer Nelson, who is also here I believe, there she is, thanks. She's the Office Manager of the Existing Buildings Unit. And let's see, Corinne Fishman for regular regulatory support. Gabe Taylor is the second Load Management Standards Lead, so he pitched in a lot along the way. Tiffany Mateo was the LMS technical support staff.

Karen Herter, who was the first Load Management Standards Lead is not with the Commission anymore. I know she's listening, so thank you, Karen. Drafted the first regulatory language and worked with stakeholders and really kind of got the snowball rolling and growing and did the initial MIDAS design as well. So a big contributor to the report, the final staff report, and just really the glue that that kept this thing together for it's a sort of

initial conceptualization and pushed it forward. So thanks, Karen.

I mentioned David Cuffee. He was the lead programmer for MIDAS, so just a really core resource for this whole effort.

And on legal, Kirk Oliver, who is here. Thanks Kirk, for all of your work on the language and interaction with stakeholders. And really, your counsel throughout this process has been really great.

Michael Murza who was also assigned staff for the Chief Counsel's Office, and worked on the regulatory language, is now absconded to the Department of Energy. So we miss you, Michael, but thanks for your pitching in here.

And I had mentioned Commissioner Houck, because she was also Chief Counsel when we were working through some initial issues here. So thanks, Darcie, for all of your effort at the beginning.

And then Mike Sokol, the Deputy for the Efficiency Division is right in the audience here. Thanks, Mike, for just running herd on many issues alongside this. And on this, particularly, we really appreciate your leadership.

So I think that's all, those are my comments. Thanks for indulging me. But this is the beginning, but I think it really portends great things, and it's going to

enable us. If we think back to some of the challenges we've had with reliability in peak summer days, now obviously effectiveness sort of isn't limited to peak summer days. But I think if we had had this ecosystem in place a couple months ago we would have been able to mobilize in an automated way, and kind of just behind the curtain considerable resources. And it would have relieved pressure on the grid just as a matter of course.

And so I think this is another tool in our toolbox, a really important one, to get the load shaping that we want sort of systematically over time. And that's a great optimization tool, or sort of a great foundational tool for creating the grid that we want. That we need. That we're going to need as our supplies modulates by the rhythms of nature, solar and wind, yes we're going to put in a lot of storage. Yes, we're going to look at different kinds of firm resources. But this allows our demand to really do that handshake at the same rhythms. And so I think it's a powerful resource in that way and really appropriate for the future that we're trying to create.

So thanks again to everyone, particularly the staff.

CHAIR HOCHSCHILD: Thank you.

Let's go to Commissioner discussions starting with Commissioner Vaccaro.

COMMISSIONER VACCARO: Thank you, Chair Hochschild. So first of all I just want to recognize the tremendous leadership of Commissioner McAllister for this effort, and the work of the staff.

I think this meeting is kind of interesting. There's so much praise and support and discussion of cooperation and collaboration, but it's been a hard three years, right? It's very, very technical work, a lot of analytical rigor. And as was mentioned you got to the what, third 15-day language revisions to really be able to work some key issues with SMUD and LADWP. I had some opportunity to listen to some of the POU concerns. And I was very optimistic and I shared this: that with your leadership, with your ear, and with the cooperation of staff that I felt that there was going to be amicable resolution. And really, it's a testament to you, staff, and I think the stakeholders, for really wanting to engage in this process. And for everybody really having the same value set and the same objectives in this space.

I did have one question. I feel like I'm understanding, I've read a lot of the documentation, I've had briefings, I feel like I understand what we're looking to achieve here. The place where I just would love to hear you, Commissioner McAllister, or staff, explain a bit as what does this truly mean on the customer side? Like, how

does a customer reap the benefits of this? And what actions does a customer need to take? When does the customer need to engage in in readiness? Just a sketch of that I think would be really helpful, just to kind of really make this live in a different way.

COMMISSIONER MCALLISTER: So I would invite staff to chime in here as well. But the way we ended up, I think the result that we have now is actually quite flexible. And so the impact on the customer will really vary by utility and by kind of some of the processes that now begin to figure out how this translates into specific offerings for utilities. One of the issues that we really worked hard to get through with the POUs particularly -- and I just want to thank CMU and SMUD and DWP for bringing a lot of creativity to this conversation -- is how much flexibility to grant them in terms of allowing them to approach their customers with programs versus sort of just a straight tariff-based approach.

And so SMUD, for example, already has a lot of programs in place that functionally get to a similar place, but are kind of expressing the grid needs in through a program structure. That generally it would include a rate, but would also include some additional communications and sort of hand holding with the customer. So that's okay, they can write that into their plan. And that conforms

with the process that we've laid out.

So with industrial and commercial customers, they may just be a straight more kind of just a straight time of use or multiple time of use kind of rate, time-specific rate, that has more teeth to it maybe. And is even more expensive during on peak and less expensive off peak than maybe current rate structures are. That allows them to then work with a third party or use their own staff to put in place the automation that can take that signal and act on it that they're building, so which is more of a kind of traditional load management structure where it's like rate goes in and it gets responded to.

And I think pointing out maybe just in general it's more than a qualitative difference. We think of demand response is like, "Oh my gosh, we need capacity, drop load," right? And so we've got this peak summer day, we need load. This is a more kind of systematic or systemic approach. So with time we'll get to a place where it's not just the current rates are in MIDAS but the future rates are in MIDAS. And so that a customer can say, "Okay, well, tomorrow, I know the rate is going to be different. I'm going to pre-cool my building -- V. John White brought that up -- and I'm going to therefore I'm going to flatten my load shape or I'm going to shift my load shape in a way that really does respond to the grid and have some monetary

upside. And I'm just going to program that right in."

So the most optimistic or the most optimal outcome I think would be it actually doesn't have much effect on the customer, because it's pretty much automated behind the scenes once it's kind of set up. We're working right now on load management or flexible demand appliance standards for pool pump controls for example. Staff is working on that staff report.

So the pool pump replacement vendor would come in or the pool guy would come in and replace the controls in the pump maybe, and leave it in a place where it is operating to respond to load management signal. And so that major load across the state, that happens a few thousand, a million times, and then you're talking about real load. So it'll take a little time to sort of permeate, but I think the customer impact will be behind the scenes and not that evident to them in many cases, or it'll be managed by a third party in other cases, or it'll be through utility program and other cases.

So I don't know, probably I've said enough there. But anyway, it's a great question, because I mean I think time will kind of tell exactly, right? But I think that's the idea.

CHAIR HOCHSCHILD: Thank you.

Vice Chair Gunda?

VICE CHAIR GUNDA: Yeah. Thank you, Chair. I'll second the comments that Commissioner McAllister made. And Commissioner Vaccaro thank you for your comments, I think covered most of most of what I was going to say.

But I just wanted to reiterate thanks to Commissioner McAllister. I think the public process is at the heart of the Commission's work. And you really optimize that, as you do, and the Efficiency Division through the different standards work you all do. So I just wanted to say thank you for the incredible work and the thoughtfulness and navigating the recommendations that we received and making sure we got to a reasonable place in the amendments that we suggested.

From my vantage point I think I share the same vision, it helps with SB 100, reliability and equity. So I look forward to the continuing work.

I just want to make a couple of thanks. Stephanie, thank you for the time you've taken to help brief our office and bring us up to speed. And Mike Sokol and Jen at the top really helping guide the Division, so thank you so much.

CHAIR HOCHSCHILD: Commissioner Monahan?

COMMISSIONER MONAHAN: Well we all have to say something, because these are truly transformational. And I was really struck by something V. John White from CEERT

said -- he's no longer here, but I'm going to quote him -- that these standards are reinventing demand response.

And as somebody who's been in this energy space a long time and has felt frustrated by the slowness of progress in terms of demand response -- I'm sure Commissioner McAllister, who is much more steeped in this feels deeper frustration -- but relying on individual actions over and over again, individual decisions, with a complicated set of electricity rates that most people don't understand and that change frequently enough that it's very confusing. And to take that out of the hands of individual confused consumers, of which I count myself, and to put it into an automated system that is user-friendly and saves you money, it's like a dream come true in this world. In this world of energy, this nerdy world of energy.

And I think, as others have said, Commissioner McAllister deserves a lot of praise. I would call him the father of Load Management Standards, which is I think worthy of a lot of recognition, not just here in California but I hope it migrates.

And this is particularly important as we start electrifying more and more. We're facing higher rates in the state. We're electrifying vehicles. We're electrifying heat. We're electrifying our cooking. And these are all good for greenhouse gases, but if they're

done wrong they're bad for the grid. And as the Chair says we need all these devices that we are plugging in to be good citizens of the grid. I want to run my vehicle on sunshine, I think a lot of people do. And saving money while you do it is going to be a win for consumers and a win for the environment.

So I think I also want to thank our fellow energy agencies for their partnership. CAISO and Delphine, the CPUC is going to be critical, especially in the rate setting department of this, in order to ensure that we have the right rates, the right structures to be able to capitalize on these Load Management Standards most effectively.

So thanks to Stefanie Wayland and the entire Efficiency team. I think this took a lot of vision and wherewithal, many, many years of hard work to develop such transformational standards.

CHAIR HOCHSCHILD: Thank you.

And with that, I would like to turn it over to Commissioner McAllister, if you'd like to move Item 2.

COMMISSIONER MCALLISTER: All right.

MR. QAQUNDAH: Chair?

CHAIR HOCHSCHILD: What?

COMMISSIONER MCALLISTER: Oh?

MR. QAQUNDAH: Sorry, Chair. If I may?

CHAIR HOCHSCHILD: Go ahead.

COMMISSIONER MCALLISTER: Go ahead, Jimmy.

MR. QAQUNDAH: Thank you. I just wanted to clarify the record, because I know there was a question. The resolution that's being voted on today is actually included in the backup materials and correspondingly posted to the website.

MR. PETTY: Sorry, this is the court reporter. Who is speaking right now?

MR. QAQUNDAH: I'm sorry, Jimmy Qaqundah, Assistant Chief Counsel in the Chief Counsel's Office.

So the resolution is included. What's being voted on is the third 15-day language, which was posted to the LMS Rulemaking Docket on September 12th, along with notice that it would be considered at today's meeting.

CHAIR HOCHSCHILD: Great. Thank you, Jimmy.

Okay, Commissioner.

COMMISSIONER MCALLISTER: Okay. Well, with great pleasure and thanks to all the staff and everyone involved, I move Item 2.

CHAIR HOCHSCHILD: Vice Chair, would you like to second?

VICE CHAIR GUNDA: Second Item 2.

CHAIR HOCHSCHILD: All right. All in favor say aye.

Commissioner McAllister?

COMMISSIONER MCALLISTER: Aye.

CHAIR HOCHSCHILD: Vice Chair Gunda?

VICE CHAIR GUNDA: Aye.

CHAIR HOCHSCHILD: Commissioner Vaccaro?

COMMISSIONER VACCARO: Aye.

CHAIR HOCHSCHILD: Commissioner Monahan?

COMMISSIONER MONAHAN: Aye.

CHAIR HOCHSCHILD: And I vote aye as well. Congratulations to the whole team.

As we mentioned earlier Item 3 is going to be pulled from today's agenda. We'll take that up on our Commission meeting on October 24th.

We'll turn now to Item 4, Information Item on State Response to the September 22 Heat Wave. Welcome to David Erne.

MR. ERNE: Good morning Chair, Vice Chair and Commissioners, I'm David Erne. I'm the Deputy Director of the Energy Assessments Division. I'm going to give a high-level overview of the heat event that we had in early September and give some perspective on that. And just to say that we're in the early phases of doing analysis of this event and we'll have more information that we're providing later on and I'll touch on that at the end as well. Next slide.

I'm going to quickly go over this first slide, which we provided in our May reliability workshop. And I won't cover it in detail, but I want to touch on a few important points. The important points are that the issues facing the grid are compounding.

Let's start with our planning. So the planning is based on historic conditions. And as we have seen the years, recent years we do not have the historic conditions that we used to have, things are changing rapidly. And so that does affect in terms of how we plan for the grid and how we move things forward.

And that's a result of a number of issues that we're seeing, those issues being extreme heat, we've had multiple years of that. Extreme drought, multiple years of that.

We have wildfires that are affecting the grid, like last year when the Bootleg fire resulted in 3,000 megawatts not being available for imports because of that fire.

And then supply chain issues, which we saw not only during COVID, but we're seeing this year as well. And those supply chain issues really impact the types of technologies that we are wanting to procure for our grid to keep it safe and secure, like solar storage, etcetera. So we have supply chain issues that we have to deal with.

And of course, inflation. Inflation has affected everything, but it also affects our clean energy projects and those projects getting more and more expensive.

We have a number of events that are affecting and compounding our reliability. States taken a number of actions since the rolling outages that we had in 2020. CPUC made an unprecedented procurement requirement last year. And we also created a series of available resources that we call our contingency resources that we can bring on during emergencies that are above and beyond the resources that are called for in a resource adequacy. And those we've been able to bring to about 2,000 up to this year. So it's a pretty substantial amount of 2,000 megawatts, a pretty substantial amount of contingencies that we have available to us.

We're also reassessing our planning reserve margin. And as a result of -- and I'll talk about this in a second -- as a result of analysis that we've done earlier this year it drove the Governor to want to propose $5.5 billion for a strategic reserve. And I'll talk about that in a little bit more detail as well in a second. So next slide. Oh, I think we skipped a slide there, or several slides actually. All right. Well, I'll continue there. There it is.

So earlier this year the CEC, CPUC, and CalISO

looked at what could be the worst-case conditions that we might experience in 2022. And we put those into three separate buckets.

The first one is the inherent lag we have between the demand forecasts that we generate the PUC's requirement for procurement, and then how demand might change during the time where those resources are being procured. So the demand change between last year and this year for this summer of upwards of about 1700 megawatts, a greater demand than was anticipated. And part of that is as a result of us thinking more about climate change, but there are other factors that affected that as well.

In addition, I mentioned that we predicted that we would have delays in projects being approved or getting online. We estimate that about 600 megawatts. And then as I mentioned before, with things like wildfires and extreme weather risks we estimate probably 4,000 to 5,000 additional megawatts that might be needed.

If you added all of these up together we figured probably about 7,000 additional megawatts could be needed if we have a coincident event. We have not. We've been fortunate not to have coincident events so far, been very fortunate. But if we did, we need upwards of 7,000. As I mentioned we had about 2,000 megawatts in contingencies. So that left us about 5,000 megawatts that really would be

needed in the event of a bad situation. You go to the next slide.

That is what was the basis for the strategic reserve. So through AB 205 a strategic reserve was established, established at $3.4 billion, and that consisted of three programs. The first one is a Department of Water resources program, the Strategic Reliability Reserve Fund. That $2.4 billion is meant to procure additional emergency generators, procure imports, and also be able to take advantage of once-through cooling plants if necessary, moving forward.

We have two programs being run by CEC, the Demand Side Grid Support Program, which is $295 million. That was actually kicked off in very late in August. So they came through, our Renewables Division came through that very quickly, and got that program up and running for September. And I'll talk about that in a minute.

And we also had the Distributed Electricity Backups -- oh I'm sorry, the Demand Side Grid Support Program is like CPUC's Emergency Load Reduction program. *** It reimburses load reduction.

And then the last one is Distributed Electricity Backup Assets, which is really intended to convert diesel backup generators to clean energy backup generation, essentially. So there'll be an incentive program that will

be rolled out next year.

In addition to that SB 46, which covered Diablo Canyon and the potential need for Diablo Canyon, established a $1.4 billion fund that could support a loan to preserve the option to extend Diablo Canyon.

So a number of activities took place associated with our budgets this year that prepared us. Next slide.

Let me talk a little bit about this heatwave that we had. So from August 31st to September 9th we had extensive heat in all over California, but also across the west like we saw in 2020. However, if you look at the seven-day rolling average of temperatures you can see that the extremes that we saw in 2022 were quite high compared to previous years. And you might say, "Well, we had a substantial demand during that time." But I see points on this graph that are higher than that in 2020.

Now I'll point out specifically the little blue dot above 2022, which is actually representative of a day in September in 2020, where we had higher temperatures across California than we had this year. A big difference: that was a Sunday, we had COVID, it was only a single event as opposed to multiple days, and we know that when there are multiple days heat buildup causes additional concerns. So our 2022 was really a pretty substantial event that occurred for the state. And there was a lot of action that

was taken to try to address that. So let's go to the next slide.

Before I get into the actions I do want to talk specifically about September 6th, which was our worst day and the one that got the most press. So we keep clicking through to a couple of clicks there. Let's talk a little bit about the demand. So the gold band is what our demand forecast was, that's an average year. And you can see the green is actually what our demand actually was. Okay, much greater than our average, pretty substantial. You can click through again. We saw a high of 50,000 megawatts, which is a new record for California again.

And we saw some activities that were taken that were unprecedented.

CHAIR HOCHSCHILD: I'm sorry, David, if I can just -- that does not include behind the meter, correct?

MR. ERNE: It does not include behind the meter.

CHAIR HOCHSCHILD: So what is our estimate when you add that in of what the actual was?

MR. ERNE: The trajectory was about 53,000 megawatts is what we were heading up to. But that is overall demand that we would see, not including what would be accounted for by demand behind the meter, so we're still evaluating that.

Cal OES called a wireless emergency alert. That

was at about 5:45 and you can see what happened during that time period -- so you can barely see the green shading -- between 4:00 and 9:00 was our biggest concern. And you can see that starting in 4:00 we started having demand reduction occur because of Flex Alerts and other activities that CalISO took. But you can see that huge drop after the wireless emergency alert, which meant 27 million Californians heard the alert and took action; pretty impressive. So when we talk about what Californians will do to help support grid reliability there's perfect proof right there. Next, you can click through some more.

I do want to compare this to generation just to make that point again about why this happens, which is renewables, particularly solar which is in the kind of brown line, goes down rapidly which is what causes our problem. But we had wind come up a little bit, and we had batteries. Now batteries actually had some really good performance, and I'll talk about that in just a second. Next slide.

As bad as that day was, we made it through. It was a nail biter. And by the way I should say that it wasn't just an issue for CalISO territory this is an issue across the state, other territories were calling emergency alerts as well. We had very favorable conditions, so it could have been worse.

We had very low outages for our generation fleet.

We had fires in the state that CAL FIRE was working very hard to prevent those fires from encroaching upon transmission and generation resources, so it -- excuse me -- protected those resources.

We had very strong imports, 1,000 or more over what we would normally see as a max. And so it was a pretty valuable input that day. And that's important because we did have west-wide heat. And so usually when we have west-wide heat we're a little bit concerned about that.

And we had very strong battery performance. So I like this color chart, you don't need to dig into it just focus on the red and the green. Red is when batteries charge, green is when they discharge. They're doing exactly what we want them to, charging when solar is the greatest; discharging when we need them during the net peak, pretty substantial impact from energy storage. Next slide.

We made it through that day through a lot of actions from a lot of people. I mentioned customers overall took action to make sure that they reduced their load, that was pretty substantial. But there were a lot of other actions that were taken.

So on August 31st the governor proclaimed a State

of Emergency that allowed a number of actions to be taken and resources to be available that would not have normally been available, some of which were the strategic reserve. So although the strategic reserve was called into play, basically the budget came through in the summer, got those programs up and running, DWR had additional imports they procured, they had additional generation, emergency generation they had to get online. The Renewable Division's Demand Side Grid Support Program had over 300 megawatts of resources signed up and operating during that week.

So the strategic reserve just in its first few months already generated 1,600 megawatts to support the grid, pretty substantial value for us for this this year. And as you can see we were very close to the edge, so every megawatt counted and that was a pretty substantial impact. As I mentioned before, we had our contingencies: Flex Alert, Emergency Load Reduction Program, and CAISO had the ability through the Emergency Proclamation to increase some generation limits, and we had transfers from other balancing authorities; again, all providing value to the grid and keeping us from going over.

Another one that I want to point out is even though DWR normally goes in each one of these events and tries to maximize their hydro and reduce their pumping they

took extra time to look for more opportunities and actually be able to pony up more megawatts of hydro generation during the 4:00 to 9:00 peak during the 6th as well as reduce their pumping even further.

So I do say that I do notice that we are -- I do mention here that we are assessing these factors, we'll have more input on this. And we have several reports due to the Legislature later this year and early next year that will give a greater summary. And we'll incorporate more also in the IEPR this year. With that I'll close and I'm open for any questions you may have.

CHAIR HOCHSCHILD: Well, thank you so much. And let me just say again on behalf of all of us on the Commission we want to thank you for your professionalism and your whole team under the leadership of the Vice Chair. The lights did stay on.

I do want to point out unfortunately there are people out there who are rooting for us to fail and for the lights to go out. And I think you don't have to look too hard for some of the comments that were made over this past summer, and it was really historic, that we were able to come together through this unprecedented heat storm. And by the way, I really think "heat storm" is the right terminology to use, because these are incidents that have the effect of a natural disaster. And we need to treat it

that way and talk about it that way.

So I'm just incredibly proud of the team. I know all of my colleagues joined that sentiment and thank you for your professionalism. And with that let's open up to discussion. I don't think we're taking public comment, because this is an information item. But Vice Chair Gunda, would you start us off?

VICE CHAIR GUNDA: Yeah. Thank you, Chair.

So first of all, David, thank you for the excellent summary of the whole event. I just wanted to begin by kind of noting the importance of people coming together during times of crisis like this.

We would not have gotten through September without a rolling outage, without the kind of mobilization that we saw across all stakeholders coming together with the singular intent to make sure that the lights don't go off. So I think the state agencies have played a very important role in bringing people together, the Governor's Office was instrumental and there's leadership at the Governor's Office. But also many of you who reached out to us offering solutions, offering to help, and get us through this September.

A couple of high-level points I wanted to note in terms of the enormity that David just mentioned in his presentation. We were on trajectory to hit about 53,000

megawatts in a peak. We ultimately settled on about 52,000, right? So that's a 7 to 8,000-megawatt deviation of what we could have had in terms of demand in an average weather condition. So when we're talking about 7 to 8,000 megawatts, that is two LADWPs nearly added to the CAISO system. So the enormity of this could not be understated and the climate crisis could not be understated.

We could always as a state family, do better in terms of planning. We could do better in terms of procurement, we could take a lot of actions to make sure we are planning for the climate crisis. But these types of events are so outside the bounds of what we can reasonably expect we just have to recognize the extraordinary nature of that. And really commend the independent staff who has worked on it, but also the stakeholders who really carried us through that event.

Specifically, in at the CEC we have a number of staff members that worked on it. And I think this is a moment I'm going to just talk about both the joy of public service, but the pain of public service. Most of our staff are here, oftentimes not making as much as they could in private industry with the sole purpose of feeling empowered to serve the public. And they do it day in and day out. I know we all have flaws. We could do better. But I just want to recognize the CEC family and the team that has done

such extraordinary work during this time.

And it was just not CEC, I mean, it starts at the top. When we talk about CEC it starts at the top with the Executive Director Drew Bohan, who is standing in the back. Oftentimes he does not take the limelight. He just stays back and let people get the credit. I just want to say, Drew, from the bottom of my heart thank you for carrying the Commission during that week. It was extraordinary what you were able to do.

Also independently the Divisions. We have the Assessments Division, Aleecia and David and all the Division who worked so hard in data-gathering situational awareness, all the actions we've taken.

The Renewables Division, Deana, I can't -- I don't understand how you work, you and Ashley, for launching the program, the Demand Side Grid Support Program in less than two months and getting 300 megawatts of support to get us through that, so thank you.

And Elizabeth, to you and your team. STEP Division is kind of invisible to this, but the work that you do is extraordinary.

And all of the Divisions don't do work in a vacuum without the support of the Commissioners. So want to just extend my thanks to Commissioner Vaccaro for her leadership on STEP. For Commissioner Monahan on the

vehicle side, which becomes an important part. Commissioner McAllister for the Building side, so we all work on it together, individually, with our staff. I just want to say big thank you.

And a really big thank you to the Chair. For those of you who see him as kind of a bold visionary, you should see him getting there to clean the tables if needed on days like this. So thank you, Chair, for your work.

I also want to thank CCO. You guys have worked all the way from April getting -- you know, landing the extraordinary trailer bill (phonetic) language that gave us the money and the authority to do the work we're doing right now. And all the way. We had the Diablo conversation and then we had the heatwave to get through. And you're not just supporting reliability, but ten other things for other Commissioners. So thank you so much Linda and Lisa specifically for your thoughtful approach in helping us get through.

I want to just add Damien in the Admin Division, who was extraordinary. Lindsay and her teams in the Comms. As an engineer I never really liked or I appreciated what Comms brings to the table. Thank you. We would live in a panic if you didn't kind of communicate it properly, so thank you.

And last, but not the least, our office. Ben

Finkelor, Liz Gill, as well as Erik Lyon, who put hours behind the scenes. I mean, this is not -- I mean I'm kind of feeling a little emotional, because we don't -- our staff don't get paid enough to do this work. They, at the end of the day when you count the amount of hours they work to serve the public of California they probably make minimum wage, some of them. So thank you for showing up and working as hard as you do and putting your hearts out.

I also want to just note a big thanks to CAISO. So after coming out of 2020 we had a lot of issues that were raised. CAISO has an extraordinary team. I mean, they get a lot of things that they get criticism for that they have to work through. And some of them are legitimate, but just the extraordinary amount of professionalism. Delphine, Mark Rothleder and Elliot, great work there.

DWR was exceptional during this crisis. They were able to set up the strategic reserves quickly, quickly.

CPUC, same thing as our Chair. President Reynolds is somebody who will just jump in, roll up her sleeves and work. If it's like midnight making calls she will do that and so I just want to thank her, Commissioner Rechtschaffen, but also special thanks to Pete Skala, whose work is extraordinary and behind the scenes, and Leuwam Tesfai, who is the new Director.

Also want to just call out a special thanks to GO. It's not always visible what GO does, the Governor's Office, does. I just want to call out our former Commissioner Douglas, her extraordinary work in bringing all of us together there. But Christine, who's the Deputy Secretary, I just wanted to say thanks all around, it's important.

I'm going to make a couple of important points. We're not out of this, right? I mean, as the Chair mentioned -- I mean, one of the meetings that I was with the Governor -- I don't think I would ever share this publicly, but I want to -- is after we came out of the 2020 rolling outages we were meeting with him and talking about what happened and how do we make sure this doesn't happen. And I remember I was staff at that point, not yet appointed. And his call that what we do in California saves lives, not only in California, but in the country and the world.

Like the climate crisis is real. For us there is a million reasons why to back off from electrification at this time. It seems like a prudent thing to do. Maybe we shouldn't electrify. Maybe we should do other things to slow down on our climate actions, because the lights might go off. From my vantage point, a number of us in this room, we agree this is the time to double down, triple

down, to make sure we address climate change. And this is not going to stop. It's going to move forward. And we need to come together to make this happen.

And in terms of the collective action special thanks to all the POUs, the CCAs who showed up and helped us through this event, the IOUs, as well as some of the people with large loads, like the data centers, water agencies and such. We could not have gotten through this without all of you. And thank you so much for helping us get through this.

The one last point I want to make sure is the sobering point of all this. When we tried to keep the lights on one of the things we did is turn on diesel backup generators everywhere we could in the state. And most of those backup generators typically are in disadvantaged communities. And that's what happens, right? Our actions are then borne by disadvantaged communities. And this is where equity comes into place. And we need to make sure we act collectively to protect our communities who are in the frontlines. And I just make this both thank you to everybody who showed up, but a plea to continue to work together to solve this climate crisis and keep our world available for our future generations. So with that thank you, gratitude.

CHAIR HOCHSCHILD: You know, Vice Chair, if I

could just build on your comments? If we could just have a round of applause for all the staff who worked so hard to keep the lights on in '22. And just if I can, thank you for going through that list of comprehensively. Your point is so well taken.

I just want to emphasize there are 195 countries in the world. Our economy is bigger than all but 4 of those, okay? We get a lot of attention for what we're doing on climate. We're really leading the world in many of these arenas, from energy efficiency to energy storage, to electric vehicles, and so forth. And there are people who are rooting for our failure, and are going to use an outage in California as a reason to undermine the climate policy that we need. And so the stakes are incredibly high. I think that's why all of us are here. And so this was an incredible challenge to get through that period and I couldn't be prouder of you and the whole team.

And it just ties together everyone's work. Commission Vaccaro going forward on all the things that we're going to do for offshore wind, that is going to be good for the grid. Offshore wind is peaking during the time of day and the time of year when the grid needs it. All the energy efficiency work that's the bedrock of our work at the Energy Commission, we would be in a much worse position without the Efficiency Standards. And then going

forward, getting smart on demand. And then thinking about electric vehicles, how they integrate the vehicle to grid, it just ties together. And then some of the storage stuff that we're going to be voting on later today. So this is an all-hands-on-deck moment. The stakes are incredibly high. And I just couldn't be proud of the team, so thank you.

Let's go to other Commissioners wishing to comment, Commissioner Vaccaro?

COMMISSIONER VACCARO: Yeah. Thank you. Everything that you said, Chair and Vice Chair, so well put. And I would like to associate myself with your feedback, and certainly not repeat it but really just sort of amplify the messaging and the thanks.

I wanted to ask you though, David, first of all this is a great presentation. I think every time I get the opportunity to be educated about what happened it makes me feel better as I have to explain to others, right? And a lot of what I do is rely on the information I received from staff to be able to really understand it and articulate it. So you did a tremendous job today. I think you had mentioned that there are a few forthcoming reports to the Legislature. I just wondering if you could touch on the timing of those and then if we can expect to see you back here again. You just sort of updating us and letting us

know what you're sharing with legislative staff and legislators.

MR. ERNE: Yeah, so the two most near-term ones are a reliability report that is required by SB 846 that is due December 15th of this year to Legislature. And there's another one, an update of summer reliability and the plan forward of reliability for the next ten years. It's due in January 31st of next year. So there will probably be some overlap between those two reports, but those are the two most near-term reports that we need to generate.

COMMISSIONER VACCARO: Thank you and I look forward to seeing you here again with a few more informational items on this topic. I appreciate it.

CHAIR HOCHSCHILD: Commissioner Monahan?

COMMISSIONER MONAHAN: Well, I too just want to build on what the Vice Chair, Chair, and Commissioner Vaccaro have said in terms of just being so honored to work at the Energy Commission at this time of crisis. And to witness I think from somewhat afar in terms of this not being my lead area, but just to see the commitment of the staff and Vice Chair Gunda and Chair Hochschild to ensure that the lights stay on.

And as Vice Chair indicated this is a public service, people are working nights and weekends and very stressed. And I just want to acknowledge that and thank

everyone for that commitment. So it really is, as I said, just I feel very deeply proud of what you and the team were able to accomplish. And our job is not over.

So it is I think somewhat disheartening for all of us to think that this is going to be for the next several years at least. We're going to need to see you and hear more of these presentations. And I think this is a great opportunity I think for us, especially as we start managing more and more public dollars, to really spend time on the subjects that really matter and help define how we then allocate those dollars.

So I really appreciate actually Drew Bohan, our Executive Director, for having some more space for these kinds of conversations which I think are really critical to all of us as we think through the connective tissue between transportation and buildings and reliability and siting. It's clearer and clearer that we need to break down the barriers between these and become one and that takes communication like this. So thank you.

Let's go to Commissioner McCallister. Thank you.

COMMISSIONER MCCALLISTER: Great, so awesome comments. I want to just again sort of pile on the thanks to Vice Chair Gunda, I know how hard you worked on this, and also to Chair Hochschild.

Just the electrons really don't care what's

happening out there. And so I just think we kind of have to operate on their timeframe, which is a very quick one. And the system just requires cold, hard objectivity to make sure that the conditions for making it function properly are in place. And so just that is a many, many hands-on-deck effort. So I just want to acknowledge the staff and our counterparts in the other agencies.

And I'll talk about this a little bit in my comments, but I just got back from Australia right around 24 hours ago, I guess. And so not exactly clear what time zone I'm in. But we are not the only ones facing these kinds of issues as we really push the envelope on the transition, and really doubling down on renewables and making that our future and just putting all-hands-on-deck to get there. Just we have 100 percent commitment. And that looks different in other places, and Australia is facing similar analogous, but not identical challenges. And so I think we're all learning how to manage this high-renewables grid. And that's exactly as it should be, because it's changed. It's called "change" and so we have to manage change.

And so I just think Australia would not be facing some of the challenges they're facing if they had been doubling down on building efficiency for the last 40 years, 50 years like we have, right? They would have a lot more

advantageous situation. But they also have a different landscape on the supply side, and Europe, etcetera.

So anyway, I think we're treading new ground here and we're forging a path that other people are absolutely going to walk down. And I do have a lot of confidence that despite the challenges that we're going to figure it out and get there and understand what the new definition of reliability sort of really means in practice as we go forward. And so there's this bridge period to get to 80-90 percent renewables from where we are now is a particularly kind of precarious bridge to cross. But I think we have a team to do it. The next item is going to talk about some of our data resources.

And I want to just finally highlight the fact that our analytical chops and our cross-agency analytical work is going to just be key for building this bridge. Maybe it's flying -- the analog is flying a plane, building a plane while we're flying it, or crossing a bridge while we're building it, but I think either way we need some good engineers and analytical people. So pick your metaphor. But in any case, I have a lot of confidence. But also I think we all understand the responsibility we have, so looking forward to keeping on with teamwork going forward.

COMMISSIONER MONAHAN: Chair?

CHAIR HOCHSCHILD: Yes?

COMMISSIONER MONAHAN: I'm sorry, can I?

CHAIR HOCHSCHILD: Please.

COMMISSIONER MONAHAN: So one thing I forgot to mention is just I think it would be helpful, and it was something actually that Vice Chair Gunda said that spurred this comment, to understand sort of the price we paid in terms of using diesel backup generators in terms of costs and what we are learning from that. So that we can do our due diligence or do whatever we can to keep the lights on, but also keeping air quality, community impacts, and prices, electricity prices, minimized as much as possible. So I think for a future discussion that that's information that would really be helpful to me.

CHAIR HOCHSCHILD: Thank you so much.

VICE CHAIR GUNDA: So Chair, just a --

CHAIR HOCHSCHILD: Okay.

VICE CHAIR GUNDA: Commissioner Monahan, that's also required in the 205, 209 and 846 language. I think we need to look into that when we bring it back.

CHAIR HOCHSCHILD: It's a great point. Before we close on this item I did want to highlight one other success story. There were, as we discussed, all-hands-on-deck and people showing up and conservation and finding additional resources and everything else, but the energy storage piece of this is amazing.

So we increased energy storage, grid-connected, utility-scale energy storage fifteen-fold since 2019. We went from 200 megawatts to 3,600 megawatts in three years, which is amazing and unprecedented. And going forward we're going to get to -- the goal is to get to 15,000 megawatts by the end of the decade. And the Governor just signed this legislation accelerating SB 100. We're now doing 90 percent carbon-free by 2035, 95 percent by 2040, and energy storage is a critical piece of that.

And as I mentioned we'll be voting on an item later today in that field. But that's an incredible success story that I don't think is well understood in the state. And it's a huge part of the success and what we need to be accompanying these very low-cost, renewable resources like solar and wind storage. So thank you again David, to you and the whole team, really well done.

Colleagues with your permission, I was going to propose we take this next information item and then break for lunch. But if folks -- would that be amenable? Okay, so let's do that.

We'll move down to Item 5, Information Item On Energy Data Modernization. Welcome to Jason Harville.

MR. HARVILLE: All right, thank you Chair. It's a tough act to follow David, but a motivational one. Great.

Good morning Chair, Vice Chair and Commissioners. I am Jason Harville. I'm our Director of Energy Data and Analytics and I lead our Energy Data and Analytics Office. The office is responsible for enterprise-level data infrastructure, management, governance. It's also responsible for leading our data modernization efforts. Next slide, please.

I'm here this morning to update you on the successful completion of several major milestones in our data modernization efforts and where we plan to go from here. So these efforts are providing many benefits to the state of California. This analytical basis that we're talking about, the data work we are doing will power that: faster, more accurate, more powerful data-driven analysis in support of California's goals. We are also talking about getting Energy Commission data and analysis where it needs to be so that our partners in government and the private sector can make the most use of our data we are all working on this together. And we are doing this at significant cost savings to our organization, to other organizations in the state, and ultimately to ratepayers. All right. Next slide, please.

Before I tell you how we're doing this exactly I just kind of want to remind you where we started here. A few years ago we got new data collection authority for a

very large, disaggregated demand data under Title 20, Section 1353. It's hard to overstate how big this data is. It is orders of magnitude larger than we had the capacity to handle at the time. Nothing we had built would be able to come close to handling this level of data.

So we had a choice. Essentially, we could build out a specialized system just for this particular data effort to handle this data. That would have been very costly, required a lot of contractors' support. And instead we recognized the opportunity to modernize across the organization, how we're handling all of our data, our analytics, following the state's cloud-first posture, moving the Energy Commission into the cloud and into a modern data and analytics platform.

So to do that we created my office. I'm the first person to lead this office. And we have been getting a lot done. I'm excited to tell you about it here. Next slide, please.

Great. So first and foremost the catalyst for all of this, that very, very big, disaggregated demand data, we've done it. We are currently receiving this data now regularly from utilities. This is terabyte scale. A terabyte is a million megabytes, just for reference here. Coming into the Energy Commission, this is approximately two trillion records right now, which you could think of as

about two million Excel spreadsheets.

Another comparison, if you were to add up all of the data that we're storing in our IT systems right now, all of the documents, all of the staff picnic photos, all of the data, everything that we have in our network and all across it, we have brought in more than that over the last year alone now. So we've more than doubled our information assets here at the Energy Commission as a result of this data set.

It's huge, and it's going to be fundamental to making data driven decisions and analysis like we're all talking about here and maximizing the use of our data at the Energy Commission.

So we have all this data, but where does it go? And how are we making use of it? Next slide, please.

Fundamental to our technology strategy for dealing with this data is our data warehouse. We have built a cloud-based data warehouse. To my knowledge, it's the first instance of a centralized data repository in the history of our organization. We've never been this centralized, we never had all of our data pulled together for a common purpose and in a common way like this. This is important.

The technology for the size of the data like I mentioned, it's in the cloud. It's huge. Big data

requires a big space, but also very -- a lot of big computers, right? We need a lot of compute. We have that now in our data warehouse, we can handle this data at scale, we have compute at scale. And from a data strategy point of view we also have a single source of truth. When we bring our core data into the data warehouse, it is there as a master copy. And that's what I mean when I say a single source of truth. A core piece of data has a master copy that resides in one place in the data warehouse. And when anybody in the Commission asks a question of that data, we get the same answer. We get the right answer, we get it quickly, we don't have conflicting datasets. That's our single source of truth.

Now, this data warehouse, this cloud solution compared to the options that it would have taken us to build this on our own, build it in a state data center or whatnot, is more than an order of magnitude cheaper for us, for ratepayers. We're talking 90 percent-plus cost savings just on that technology alone compared to what we would have built.

And we have all the power and speed of the cloud. When we need more speed we just turn up the dial. It costs more, but it's there. It's available, there's no delay, there's no planning, none of that is required. We have that today. But how do we get data into the warehouse?

And what do we do with it when it's coming out? Next slide, please.

To address the first question we have built a data submission portal. This is a web application. But you can just think of it as another page on our website to standardize how we bring data into the Energy Commission. This is for our stakeholders who regularly submit data to the Energy Commission.

Right now we have a whole wide variety of ways that data is coming into the Energy Commission, probably more ways than the number of datasets that we actually bring in. It's all out there. And which means a lot of redundant overhead. Each one of these different data collection efforts can cost $30 or $40,000 a year annually to maintain. So the data submission portal is meant to centralize that, provide our stakeholders with a modern web-based capability to submit electronic data to the Energy Commission, give them a consistent user experience. A lot of our users submit multiple different kinds of data to us, especially at utilities. They'll have a single user, a single platform to do that. It reduces the burden on utilities and other stakeholders. They're realizing cost and time savings just like we are.

It also gives us, given that this is now in a standard electronic form, we can do things like reject,

disallow a submission from coming across if some kind of simple mistake has been made. If there is letters in a date field or something like that. The kind of thing that today the stakeholder would spend their time submitting. Our staff would spend time reviewing. They'd find an error. There's some back and forth. That's a delay in moving that data into being actionable and usable by the Energy Commission. It's also just a significant time waste on both sides of it. We can prevent that now. We can save our stakeholders money, we can save ourselves money, ratepayers money, and increase the time to action for our data from when we get it.

I think this will be very big and unpopular with our stakeholders also. All right, next slide, please.

Great. So we're bringing a bunch of data in. It's residing in this great new cloud infrastructure. What are we doing with it on the other side? The answer is whatever we want. We have an incredibly flexible platform now for all kinds of analysis.

But a feature here, a product that I want to highlight for you is Tableau. We've adopted Tableau. Tableau is software for interactively visualizing data on the web. So we have a number of these visualizations up already.

You can see an example here of our zero-emissions

vehicle dashboard, which is live on our website now. This allows folks who come to the website to be able to not just see our data visualized, not just receive our interpretation and our story of what this data is saying, but then to modify it themselves. To filter it, to sort the data, to look at it from different angles on their own right there on the web page. And then to download the data as we have it or to download it in the way that they have sorted and filtered it.

So again, this is this is an example of a lot of time and cost savings and much faster time to results for our data. Because currently the ideal situation is someone goes to the website and either the table of data that we have available for download -- it happens to be in a format that is useful for them and that they have the tools on their end to make use of -- or we have a static visualization that hopefully is representing the data in a meaningful way for them.

But that's not true for everybody. So for those that isn't, they need to contact the Energy Commission. This is a data request or a request for a different, I don't know, could be different aggregation of it, right? Okay, you have daily loads, but what's the hourly load? That's not on the website. That requires staff time. It requires time from the stakeholders to reach out to us.

There's all that back and forth again of somebody outside of the Energy Commission saying, "Okay, but what about it from this angle? What about this data?" This addresses a lot of that for us. It allows public direct access, self-service access to the information that we're putting out there in interactive visualizations.

So that's cost and time savings for us on serving a bunch of data requests, it's cost and time savings for our stakeholders. And since this is connected into our data warehouse, the information is always up to date. The most up-to-date and relevant information that we have is in that visualization. So we can have plausibly data submitted to the Energy Commission and within hours that data is ingested, processed in the data warehouse, visible in a visualization like this and accessible to the public. All without any additional time or cost on the Energy Commission and Energy Commission staff to get that data out to them. I think that's going to be huge. We're going to be building a lot of these.

We have, I think, six on the website. Now we have six more on deck. And we haven't even formally rolled Tableau out yet. It's been on kind of a limited access. We're actually in the middle of our rollout right now. So here in about two weeks we'll have formally rolled out to our largest Division, and that's only going to stimulate

the demand. So I'm really excited to see how we're going to be able to be putting our data and our results out there for the public faster, better. In a way that better serves them and saves all of us time and money in the process. Next slide, please.

Great. Now in my opinion, the use case for our data that I'm most excited about is data sharing. Getting our data out there where it needs to be securely, efficiently, flexibly. Being able to get our data into the hands of our partners and the public who need to use it and can and are working with us to achieve our collective goals. So we have now in our new cloud architecture, we have data-sharing capabilities like we've never had before. They're unprecedented. I'm very excited about them.

To give you a couple of examples we can now allow contractors access to large-scale data that would have required significant cost and time to provide to them before for when they're helping us with our work.

We can also provide them a walled-off space in the data warehouse. If it's data that we don't want to actually leave us we can put it in there and have them do their work and analysis there. They're having to query the data directly in our data warehouse and make use of it there.

Another example is we currently have a very

large-scale data share with the Public Utilities Commission. This is a terabyte-scale data share, which would have been significant cost in the old world just to just to get terabytes of data to someone. That's a significant effort. That's, I mean, it's such a significant technical challenge that sometimes folks just put it on a hard drive and drive it over where the data needs to go. We don't have to do that.

They've adopted the same data warehousing technology that we have. We have a direct share with them that does not duplicate the data. We haven't duplicated the data, we haven't duplicated the cost of storing and processing it, all of these things. They have direct access to the data that we've shared with them as if it was on their site. As if it was in their own data warehouse. They're making use of this data. And we're spending tens of thousands of dollars a year bringing this in, cleaning it, storing it, making that available. That means we are saving tens of thousands of dollars for the Public Utilities Commission alone with this one data share.

And we have the opportunity to do this with all of our partners to build this out, to spread it. And ultimately a key objective of my office, of our data monetization efforts, of our data vision is to become a centralized hub for energy data in California. That

doesn't serve just California, obviously like we've heard. We're leading the nation and the world in a lot of these efforts. And we have capabilities that our analogous energy agencies just simply don't have across the rest of the country.

So we can build this hub. We can be the central source of data to get it out where it needs to be into the hands of folks who need it reliably, quickly, and cheaply. Great. Thank you. Next slide, please.

All right. So we can do all this today, but we have more data and more data collection efforts than we could ever accomplish in the next year, right? We have a lot of work ahead of us.

Three priorities for continuing to build and grow everything that I've talked about today:

We're growing the size of this office, building a dedicated data engineering team. And basically bringing on more staff to help us accelerate these efforts. We have some additional funding and we're going to make use of that to just build this out as quickly as possible.

We are moving our core data to the cloud. Every new dataset that we want to realize these benefits and be shared like this and be in these Tableau visualizations needs to be moved up into the data warehouse.

That requires some engineering work to build that

out. But once it's there we see all this, so this is going to be a key priority for us is now that we have everything in place. It's implementation. It's bringing all of our core data flows in through the data warehouse into this new system to realize all of these benefits, which ultimately realizes the main goal I just talked about. Which is expanding our ability to share out our data and our analysis to the public, to our partners, to the rest of the world. All right, last slide, please.

This effort, like I mentioned this is there's more work than we could possibly do in a year, so we have a lot of prioritizing ahead of us. Figuring out what is the most important data to get out there, the best methods for getting it out there. How we can maximize the use of our data, which is ultimately public data in a way that protects the privacy and confidentiality of this data. Because it is big. A lot of it is very sensitive. And we need to do both. We need to maximize the benefit while protecting privacy.

We have a workshop coming up in November that is geared specifically towards helping us do this prioritization. What should our priorities be? What are the most effective methods that we should be considering to do this? And we're going to be featuring panel discussions across two dimensions of this.

The first is data sharing, which is pretty straightforward. How can we get data out there? What is the most useful forms to get it out there? And in cases where the data is too sensitive to give itself, is there some method we can do to anonymize that type of thing to protect privacy?

The second question is, in cases where the data itself just can't be put out there, it's either too sensitive to be put out in a usable form or it's just impractical. This data is very big. And not everybody can handle it. Not everybody can take on the cost of analyzing it themselves. So what can we at the Energy Commission do in terms of analysis as a public service to address those situations? So even if the data needs to stay on our side for pragmatic or legal reasons how can we still get the utility of that data out there, to the public, to our partners, to the markets to facilitate all the work that we're doing together in support of California energy goals? Thank you. Thank you so much.

CHAIR HOCHSCHILD: Great. Thank you so much, Jason.

Let's go to Commissioner discussion. Vice Chair you want to start us off?

VICE CHAIR GUNDA: Yeah, thank you Jason. Just I want to begin by saying a big thank you. I know how much

effort it's been. I liked that you started with Title 20 and how much work it's been since then. But I just recognize also Malachi Gutierrez who worked on in the Title 20 and his work in crafting that original work. So thanks, Malachi, if you're listening. And in all the work that you have been doing in both cultivating a team, but a collective vision.

And I wanted to call out just a couple of things that you have been doing that's exceptional. And I think collaboration doesn't happen on the natural, in a lot of these things. When something's cool everybody wants to do it in their own silo. So fostering collaboration requires thoughtfulness, calm and competence, but also kind of promoting a common vision which you have been able to really do both within the agency but with our collective partners. So I just want to thank you for your leadership in really developing a vision for all of us.

And as you mentioned, we want to be -- when CEC was put together one of our core missions was to be a data repository for the state. Obviously, things have changed, the meaning of what being a data repository has changed. I want to commend both your governance team, but also our CCO who has spent a lot of time thinking through the governance rules on how best to move this.

I am looking forward to the workshop. I think

it's a great next step.

And I also want to just congratulate all the staff who have been working with you to move this conversation forward. Specifically Hilary Poore, Erik Lyon, Kristen Widdifield and (indiscernible) who have been working with you closely on moving this forward.

Finally, before I hand it off, Commissioner McAllister for his incredible work on data for many, many years to really foster this vision for the future.

CHAIR HOCHSCHILD: Commissioner McAllister?

COMMISSIONER MCALLISTER: Thanks, Vice Chair Gunda. Thanks Jason, great presentation.

And I'm super-excited where we are. I mean, first of all let me just say you lead that office and everybody knows you lead that office. I don't think everybody knows the breadth of skills that you brought to this endeavor. So you are sort of a good -- just an excellent people-person manager and kind of just building the team, but also, when necessary -- and it has been necessary -- you've jumped in and actually done a fair amount of the data engineering that's actually required. And I just think from sort of soup to nuts, you've got this amazing skillset that's sort of held it all together. And just thank you for putting that to work every day.

And reiterate thanks to Malachi on the regulatory

front, because I think it took a number of years to kind of get everything aligned so that we can actually do this data collection.

And I remember -- I also want to just thank Drew. I remember the original meeting, maybe it's probably been, what, seven or eight years where we sort of said, "Okay everybody, --gosh darn it in so many words -- we're doing this." And it was a big lift, and not everybody was on board. And it took several years I think for kind of the lightbulbs to come on and say, "Okay, we are in the age that we need to be doing this." And that as you shared Vice Chair Gunda, as you said we -- historically, the Energy Commission was that repository back in the analog era. There just wasn't anywhere near the kinds and quantity of data that we have today. And so the modern version of the Energy Commission's leadership here is this.

And the fact that we can sort of be the node across all the energy agencies and actually even build with time, build relationships with non-energy agencies, and health care, and justice, across the board to many, many of the other agencies of this state. I think we're going to see a lot of creativity actually, in collaboration to address some of the core -- the housing agencies -- the core issues that we're facing in this state. And energy and then the work that we do on siting and land use and

everything, efficiency buildings, it really does intersect with some vital parts of our state's economy well beyond energy.

So as a shared resource I think we're showing amazing leadership here, which is exactly as it should be. And as I go and talk to other states through NASEO, and talk to other countries this idea, the thing we're doing with data and the authority that we have and how we're exercising it, it blows people away. They just have no concept. It opens their minds to things that they had not even thought about in terms of what an energy agency can do. And I think it's really opening the creativity.

And I think it's going to just have a lot of knock-on effects that are incredibly positive way beyond our borders, but certainly here in California. So I'm just really gratified at the point we've gotten to, and really hopeful and excited about what's to come. So thank you, Jason, for all your leadership on this front.

CHAIR HOCHSCHILD: Okay, let's go to Commissioner Vaccaro. I think you both had up your hands. Yeah, who would like to go first?

COMMISSIONER MONAHAN: (Indiscernible.)

CHAIR HOCHSCHILD: Yeah. Go for it.

COMMISSIONER VACCARO: Yeah, thanks so much for the presentation. It's funny to me how you make data so

interesting and exciting. And I think it's the attributes that you bring, like you're passionate about this work. And it shows that you've really demonstrated with your team just that attention to detail. And it shows in this presentation, and the things that happen internally in the building.

I'm wondering if you could spend a little bit of time -- and I'm not sure how much of this is public-facing, so just whatever you're comfortable with and that's appropriate -- just really talking a little bit about sort of the security and the protecting the data.

This is huge what we're doing. I mean, it's phenomenal. I remember, as Commissioner McAllister said, the beginnings of this. It was vision on the part of Drew and Executive Office to create this office, to bring you in, and to really think about the efficiencies. But it's a lot of data and we've modernized it. So I'm just wondering like as a repository in the sharing space, whatever makes sense in a public setting, what you can say just to sort of give assurances about that.

MR. HARVILLE: Yeah, sure. Thank you. We kind of split this into two things. One, one aspect of security is you're talking about infrastructure, right? Did somebody somewhere configure a server properly or update it or whatnot? These types of vulnerabilities are where a lot

of hackers get in, right? Something just wasn't configured right, there was some kind of infrastructure issue, right?

On the infrastructure side, moving to cloud services actually significantly improves our security posture. Our data warehousing service, Snowflake, this is what they do. And they're built on Amazon Web Services. For anybody who doesn't know Amazon Web Services powers a significant part of the Internet. Frankly they're absolutely massive, this is what they do. They have more security resources and experience than the state could ever reasonably put together building this on their own.

And so they are managing that. So that's the key aspect of the cloud is the concept of a managed service. And that's what that management part of it means. It means we aren't in there making sure that a server on the computer, out of 100 computers that are running some big powerful query for us in the cloud, we're not responsible for all those little computers. Amazon Web Services ultimately is. And this is what they do. It's their bread and butter and they're world leaders in it. So our security posture on the infrastructure side is significantly improved by moving to the cloud. And that's one of the reasons the state has a cloud-first posture on technology now. That's infrastructure.

There's the opportunity for human error though

also, right? Ultimately, the computers work, but they do what you tell them to do. Computers are dumb. They'll do exactly what you tell them to do which includes sharing your data to the whole world if you ask them to. Just ask the NSA. They've made this mistake in Amazon Web Services, releasing huge amounts of data, because somebody didn't use the technology correctly.

So broadly speaking, there's a lot to say on that. But I'll emphasize one thing. There's kind of two schools of thought. You can think of them as "opt in" and "opt out" from security, right? And "opt out" says someone gets access to something, and they have access to all of it. And then you create little areas that you opt them out of. That's what our network drives look like right now. Somebody gets access to their office network drive, and they can see everything. And if we have something that's private we create a special folder and exclude everybody else from it except the people who need it. That's an opt out.

A better approach is an "opt in." Somebody gets an account and they have access to nothing at all. And then you specifically say every single thing that they have access to. So it's more of an affirmative, you need to take action to give someone access to something. That's our posture in the cloud. That's our posture in the data

warehouse. These technologies in the service give us access to much more granular controls for that, so we can decide specifically which people or which roles or which groups need specific access to which things. And grant only those intentionally, so we don't have inadvertent access. And we really minimize the opportunity for human error when we do that. Yeah.

CHAIR HOCHSCHILD: Okay. Let's go to Commissioner Monahan.

COMMISSIONER MONAHAN: So Jason thanks for all your hard work. It actually seems like COVID in some way accelerated progress at the Energy Commission in terms of this embrace of remote technology and really kind of fostered the work that you're doing. Or maybe the work that you're doing was timely in that it kind of embraced this organization-wide change that was happening.

And I love that you put the ZEV dashboard up there and showcased the Tableau format. It's just I can't tell you how many stakeholders I work with -- I was just with the World Resources Institute on their School Bus Advisory, Electrification Advisory Committee. And I said, "Oh, we publish all this data. Just go to the ZEV dashboard. You can see all the school buses. You can see where they're located." And they were ecstatic. They were like, "What? Nobody else does this." And that's what we

want to be. We don't want to be like the state that nobody else does this. In fact, I would say globally it's hard to get the data.

And so I just want to congratulate you and the team. And I look forward to continuing to deepen that, like we really want the public to access our information. We want to make it easy for people understandable so they can take the action. And we can track our progress. I mean, the Governor's Office is chomping on the bit for the ZEV, like in vehicle sales. And they reach out to us and say, "When are we going to get that data?"

And so people are excited about this data. And I think I'm on that ZEV dashboard more than anybody in the country. I would say on a biweekly basis I'm on that. So I just look forward to more tools that are really consumer friendly.

And I had a question. I'm not sure actually if it's Vice Chair Gunda or to you, but there's also the California Planning Library effort that's going on. And I was unclear about how that intersects with like the ZEV dashboard and other analysis. For example, the AB 2127 analysis that the Fuels and Transportation Division is responsible for in terms of looking at 2030 charging needs. Like how do they all, how do all these pieces fit together?

VICE CHAIR GUNDA: Yeah, Commissioner Monahan,

just a kind of -- I think 30,000-foot level, the Planning Library is the idea of just an organizing principle, upper data. So what we'll see in the IEPR presentations towards the final IEPR adoption is kind of a recommended schema of organization. So all these dashboards and all, how do we organize in a way they're accessible?

So we might have landing pages for transportation, and from there you could have all these different elements within the transportation. So it's more of an organizing principle on bringing these different data products we're going to develop into a cohesive, user-friendly interface.

And Jason and I discussed about how best to have Hilary and others who are working on the IEPR front on the Planning Library with him to make sure that the organizing principle, the backbone that he is trying to present as well as Lindsay and the Comms, all come together in a way that we all agree on a synchronized vision of data access.

CHAIR HOCHSCHILD: I just had one last question just along the lines of Commissioner Vaccaro's question of the last item, which is just can you give us just one or two of the best-use cases specifically for this new capability? What comes to mind in terms of how this, these abilities can be used?

MR. HARVILLE: Well, data sharing is number one,

right? And we talked about that already, So I don't want to go back over that. But that is fundamental. That's how we get it out there to everybody who works with us.

But data sharing is the same challenge internally also for us. So I think I would highlight that side of it. We have the ability now to serve our data to our own staff -- our internal customers is how my office looks at it -- in a way that is more efficient and stable and reliable. And frees them up from the busy work of cleaning a dataset, of keeping track of where spreadsheets are, right? Our economists didn't get their degrees to manage a bunch of spreadsheets and folders, right? We can take that work off their shoulders, free them up to do the creative, intellectual work that we really need them here to do.

So I would say that as a broad category of use cases is going to be a big change for them. We will free up the staff who are organizing data. Free up the staff who are working with data to put their abilities to the best use possible.

CHAIR HOCHSCHILD: Yeah, okay. That's perfect.

Well on that note we'll break for lunch. It's now 12:30. I suggest we reconvene in an hour at 1:30 back in the room. Thank you.

(Off the record at 12:29 p.m.)

(On the record at 1:32 p.m.)

CHAIR HOCHSCHILD: Thank you, welcome back. And my thanks to the CNRA cafeteria. It's nice to have some good food. I remember the old one we had in the old building, so it's a really nice treat.

We concluded Item 5, so we'll turn now to Item 6, Information Item on Vehicle-to-Grid. I welcome Jeffrey Lu.

MR. LU: Good afternoon, Commissioners. And hello to all the in-person and remote attendees. My name is Jeffrey Lu, I work in the Fuels and Transportation Division. Today, I'd like to spend a bit of time going over the CEC's strategy to help realize our growing fleet of electric cars as grid assets. This is what we sometimes call vehicle grid integration. And I think I'll notice that the story here is actually pretty similar to what we heard this morning, just with different characters. Next slide, please.

Vehicle-grid integration, or VGI, is a blanket term for the various strategies that alter where, when, and how we charge up our EVs while considering both the needs of the grid and also the needs of the driver. Examples of VGI include managed one-way charging, where a charger or vehicle might schedule a charging for a later time in response to lower electricity rates. It also includes bi-directional charging, which enables cars to provide energy back to a home, a building, or even the grid.

VGI is a crucial tool that offers many benefits, and I'm highlighting four of those key benefits on the screen here.

As California brings on more renewable generation to decarbonize the electricity grid we'll need to adjust some of our electricity consumption to sync up to times when renewable generation is abundant. EV charging is a very significant load. However, it also happens to be usually quite flexible. VGI can help align EV charging to times when it's most beneficial to the grid. This EV load flexibility can support renewables integration, peak avoidance, and other desired outcomes.

Beyond the load flexibility aspect VGI is also an important tool in our chest to strengthen grid reliability. As a growing number of vehicles and chargers are equipped to provide energy back to the grid customers may choose to sell energy back to the grid during peak times in exchange for payment. During grid emergency events, like those we saw last month, the ability to harness this energy could be a gamechanger. Initial staff calculations suggest that in 2030 light-duty EVs in California could provide in the neighborhood of 6 gigawatts of export capacity, assuming improvements to V2G technology and also customer participation.

To be clear, VGI is not just bring good news for

the grid. It also brings a lot of good news for the drivers. Bidirectional chargers and vehicles can help provide backup power to a home or a microgrid during grid outages and this can provide much needed energy resilience.

Further, by intelligently scheduling charging around off-peak times drivers will save money and reduce the carbon emissions associated with their vehicle charging.

All this said, today VGI is often talked about in the theoretical. Practical options for VGI today are limited because most cars and chargers are not equipped with these features. Some products do support VGI today, but they can be clunky and difficult to use, or lock you into certain brands or certain vehicle-charger combinations. Importantly, drivers have little incentive to charge in grid-friendly ways today. Current electricity rates often do not reward load flexibility, and most don't allow for export at all. What's available today in the VGI space is inadequate if we want to scale. Next slide.

Staff have a vision for VGI moving forward. We want VGI to be widespread, easy to use, with diverse options for different customers. So what does this look like in practice? First, we'll need a range of options for folks to be compensated for being good grid citizens. This could mean improved electricity rates or event-based

programs that provide bill savings in exchange for responding to a specific grid event.

We'll also need a variety of easy-to-use and interoperable products that help customers participate in these rates and programs that we are talking about. Most folks won't want to constantly think about how or when they want to charge up their car, so we need products that keep this simple, delightful, and that help the customer accrue savings or other benefits.

I also want to emphasize the interoperability aspect here. To scale, we'll need these products to work regardless of the customer's vehicle model or charger model. At the end of the day we want options for VGI to be always available even if the customer chooses not to participate.

Finally, all of this is to yield widespread charging load flexibility that contributes to a cleaner and more reliable electric grid and it helps us achieve our climate goals.

To fulfill this vision we'll need every corner of the EV and charging ecosystem to do its part. CEC and other regulators play a very important role in setting the foundation for widespread VGI, and on the last slide I'll discuss some of the current actions we're taking at CEC to help realize this vision. Next slide.

On this slide here I'm calling out four verticals among CEC's existing core competencies. To support the VGI vision that I just discussed staff has identified ways we can improve or refocus our efforts in these existing workstreams.

I'll start at the very left with planning and analysis. One of the most important things we can do as an agency is to analyze and quantify how VGI fits into our EV charging and grid-planning models. That's our AB 2127 analysis and Integrated Energy Policy Report, respectively. The CEC's IEPR, for example, includes grid forecasting that's used by the Public Utilities Commission, and utilities. By quantifying VGI into these forecasts we can help ensure that utilities are considering VGI impacts in their own planning and grid buildout.

In the yellow box we have tech and funding deployment. CEC deploys a lot of money, and we'll be directing some of this money specifically to help accelerate the development and deployment of easy-to-use VGI products.

Additionally, we may also use funds to electrically prepare sites and buildings for EV charging. A driver can only integrate with the grid if they can plug in and connect to the grid, so we want to make sure that more drivers have opportunities to plug in where they park.

In the orange box the CEC is also implementing various regulations that will support VGI. This morning we had a great presentation on the Load Management Standards and those may help spur the availability of rates that better reflect grid conditions. That same team is also working on MIDAS, which will make sure that VGI products and other connected devices can actually access and respond to a customer's rate. The CEC may also explore other regulatory levers to promote VGI going forward.

Finally, on the very right, the CEC is doing a lot of work in the standards space, including providing recommendations on connector and communication standards to make sure that the VGI products out there are actually interoperable. We're supporting the industry's implementation of standards through testing facilities and collaborative events, and we're also working on an equipment list to streamline the interconnection of bidirectional chargers.

That's all I have for you today. I know this was extremely compressed, but I hope it gives you an overview of some of the work that we are doing in this area. I'm happy to take any questions. Thank you.

CHAIR HOCHSCHILD: Thank you so much. Let's go to Commissioner discussion starting with Commissioner Monahan.

COMMISSIONER MONAHAN: Well I am excited for this conversation. It actually fits so well with Load Management Standards, and actually discussions about reliability and how all these pieces fit together. And Jeffrey has been a real thought leader and just really great at collaborating across different divisions and pulling together a vision that is comprehensive across the agency.

And one of the reasons I was excited to have this conversation actually is because Vice Chair you and I cannot talk about this, except in public forums. And we have a process with the IEPR that the CPUC uses for its regulatory and oversight of the IOUs. And there's data that comes around vehicles' impact to the grid as part of that process. We have the AB 2127 report, which we're required to do by the Legislature which also does this.

And I've been talking with EAD about wouldn't it be nice if we just had one product, one talking point, and that we could all use it and not have different talking points with different audiences that creates some confusion periodically. And so it takes more work from EAD to engage with the 2127 report. It's not on the same cycle. And my hope is that the AB 2127 report becomes this repository for EAD's thinking on grid impacts -- our various research entities that are also providing that same information --

from looking at medium-, heavy-duty and light-duty as well and just trying as much as possible to have one talking point. I don't even know if it's possible, honestly. It may be too complex but to have, at least try to use AB 2127 to be like the singular voice of the Energy Commission.

VICE CHAIR GUNDA: Yeah, first of all thank you, Jeffrey. That was excellent kind of trying to pull the four teams together. I mean, I saw that planning and analysis was the first bucket. And also another bucket I think for an intersection would be the investment plan that 846 requests us to do. So I think those are the two elements I thought of as intersection specifically. And thank you for initiating the conversation.

I think two elements, just on the IEPR forecast and the demand scenarios and the synchronization of the 2127, I think it would be a really good discussion to have a couple of briefings internally on just the alignment of timing, as you said. So I think this year -- so currently, the staff in the forecasting side do demand modifiers based on what the charging profile could look like, right? I mean, I think two years ago when they first did it, and this last time, they are basing the charging profiles on some of the data we gathered from ChargePoint and such. So I think it would be really helpful, not only from the forecasting side but the intersection of the energy

scenarios, the demand scenarios, which then play into SB 100.

So I would really welcome the kind of opportunity to bring them all together, recognizing just two things, which is the time: how do we provide the information that's needed on timely -- like every year we have to do the IEPR. So there might be a way to say, "This vintage (phonetic) of 2127 analysis will be used for three IEPRs, right? Following that, something else." But to the extent that this is fast-moving, especially on the V2G, and then it kind of directly impacts the procurement strategy, I think we need to like make sure that the data is timely developed and the strategy. And so I welcome that absolutely. And I think we should do that. I don't like the idea of having two separate numbers, either. And I totally agree with you, Commissioner Monahan, on that.

The second element is just on the funding side. So with the 846, the strategy right now is to look at the broad reliability landscape, right? I think we've mentioned this morning David kind of talked about how we are framing the reliability problem. So there are at least three buckets of reliability problems that we have to address: whether it's the strategic reserve element, whether it's just timely procurement, or even kind of compensating for our long-term trajectory, right?

So the way that -- obviously, Drew has been an important part of this -- we've been thinking about is, "How do you take all the things that we haven't scaled yet, like V2G, DR, microgrids in some ways, DERs, and then really kind of think through where the Legislature and the governor already put money?" And how we could use that and where is it missing. For example, if V2G is a big bucket that's missing I think we want to be able to say, within the broad umbrella of that reliability investment plan, let's allocate money for V2G. And so that could be done through a programmatic basis. So that's kind of how we're thinking right now. And obviously it has to go through a public process on how many dollars we want to put in, in one bucket, and then what's the process for that. But I think absolutely welcome a much more close collaboration on the analysis side, but also the funding side.

COMMISSIONER MONAHAN: And just a quick note, I know other Commissioners want to speak, but just quickly on the V2G side I think, we, the team is really emphasizing the need to have some greater tools available to really capitalize on that. So there needs to be investment in just these interfaces.

But there has been an example -- I don't know if you got in the loop -- on the Cajon Valley School District in the last heat crisis it discharged 650 kilowatts to the

grid. I mean, that was one of the few things that we can point to like on the ground this actually had value in a moment of crisis in California. And school buses are a special application, which may be particularly well-suited for this, but just it's indicative of the opportunity in trying to figure out how to unlock that. It's something that Jeffrey and the team are really thinking about.

VICE CHAIR GUNDA: Yeah, I think I may just want to note on that one. Thank you for raising that. I think we used that as a talking point on kind of getting back at some of the criticism we are -- or at least offering some options for the criticism we received on electrification, transportation electrification, in the light of not being able to keep the grid safe, right? So I think that's an important element.

I wanted to just add to that. In terms of within the budget, we have two buckets of money that we could potentially use for V2G. One is the Reliability Investment Plan. But to the extent that it could serve as a backup we could also support it through the Distributed Energy Backup Assets Program, (Indiscernible.), so I think that's another $700 million that the Legislature gave us. And I think we just have to agree on how much we could transform the market. What's the value, public process and figuring out how much we can put into the V2G bucket between those two.

COMMISSIONER MCALLISTER: Okay, I'll go. So, imitation, great stuff. And there are a lot of analogs. And we also have a -- Commissioner Monahan and I kind of have a hard time talking about some of this stuff in anywhere except for public forums too, because of Bagley-Keene. But there are incredible parallels between the building space and the EV space as we electrify both. And I think a lot of the conversation from the Load Management Standards this morning applies as well.

Really just had a couple of observations and maybe a suggestion. So maybe the way we regulate buildings and appliances kind of obviously I think could map somewhat over to this. And certainly, as we go time-based and we do hourly forecasting around load shaping and costing and everything and cost-effectiveness those tools, I think, could apply.

I guess we have the unique authority in these other spaces and in buildings and appliances. And I'm wondering -- so during my reconfirmation process a few months ago, Senator Laird and really all five of the members of the Rules Committee said, "Hey, if you need anything from us feel free to ask, like new authorities or different ways to make and do your jobs better," and that kind of thing. And so I guess I'm not -- I haven't looked at this in detail, but it seems like if we did need --.

There's a completely different stakeholder base over in the EV and EV charger space. And to the extent that I've had opportunity to interact with them, which is nowhere near as deeply knowledgeable as your expertise here Commissioner Monahan, but it seems like maybe thinking through what tools we might need to be able to better utilize our authority, or just create a playing field and marketplace that everyone can thrive in and sort of not be too heavy-handed, but sort of figure out what, so how we can ensure that these loads have an opportunity to play in the marketplace, but still not sort of impede what they have to do as manufacturers and service providers, right? And so we'd love to engage in that conversation, and with both you and staff. Because I think probably we can plow a lot of new ground there. And maybe we need -- if we need tools in our toolbox, new ones, we should ask for them.

VICE CHAIR GUNDA: Can I just add one thing? I think it's a good example that Commissioner McAllister just raised because of the building codes and standards, and there is kind of like a working group between the Efficiency Division and the EAD in constructing the energy -- on the building electrification side. So I think a similar pathway is what we need to take in what are the analysis that the forecasting and the scenario development would need? What timeframe would that need? What are the

other products that are coming in statutorily developed? And how do we integrate them into the process, right? So I think that's the conversation, we just have to have to line them all up in sequence.

COMMISSIONER MCALLISTER: One thing just to throw in the mix, in the Load Management Standards and the Flexible Demand Appliance Standards, and all these different proceedings, the value of reliability in terms of like how we actually calculate the benefit. We, in the buildings we use long run, long-run average cost of energy more or less as kind of a proxy for cost-effectively justifying a new building standard over the next 30-plus years. When we talk about these peak benefits and really the sort of load shaping where the real value is a small number of hours, it seems like we probably need to have a methodological conversation at some point about what is the value of load flexibility at those particular moments.

And I think we understand qualitatively, but probably and I think -- well, Delphine is not here anymore -- but there we ought to try to put some numbers on that. I'm not sure it's actually totally doable, but we could come up with something I'm pretty sure. So if we could collaborate across divisions and (indiscernible) --

VICE CHAIR GUNDA: We should absolutely. And I think it's important, especially given that the CPUC is

kind of changing the audit paradigm. For example, how do these resources get valued in that audit paradigm, right?

And Commissioner Monahan, I forgot to just mention, I think once we figure out the investment strategy of this $1.7 billion or so, I think our go-to strategy would be to see which programs that we already have that could just absorb those dollars and enhance their kind of programs. Versus if we really need to create a new program, right?

I think if it's a V2G as the investment strategy I think the transportation team is set up to already do that. But we just kind of have to call out what the vision is, given that these dollars are tied to those two key pieces, right? One is the acceleration of the long-term strategy, which V2G and DR plays a very important role. But also we need to kind of do the short-term, what can we show between now and 2025.

So the both of them were asked in the Legislature, so we need to figure out how to structure those programs. And once we've set up that money we could talk about a way to and how to use the existing programs.

CHAIR HOCHSCHILD: I would just like to offer vigorous endorsement for not duplicating efforts. And where we have existing programs that are successful, just blessing those up. I think that keeps it simpler for

everybody.

Commissioner Vaccaro, any comments on this?

COMMISSIONER VACCARO: I just had probably a really basic question. I appreciated this discussion. I think it's really helpful. And mine is so much more basic than what you all are talking about.

So you said something really interesting in the presentation, and it was actually very refreshing. This is not a direct quote, but I kind of tried to write what you said, which is what we have today is inadequate if we want to scale. And that's like just a very direct statement. Sometimes we don't come at it quite that bluntly. And I appreciate that. And I guess what I'm wondering, maybe Commissioner Monahan or Jeffrey, could you just give a couple of examples of what is inadequate? And some thoughts about what adequacy looks like and the path to get there.

MR. LU: Yeah. The good news is I think a lot of the pieces are in place for adequacy to come about. I think one of the more important things is because the compensation structures, the rates that don't reflect load flexibility today. We have something like Emergency Load Reduction Program that the PUC has directed, and we have our own Demand Side Grid Support Program. Those are great starts. We're going to need more rate options and other

sort of event-based programs that folks can participate in, so that they actually get the signal to say, "Shift your charging to some other time of day today." That's sort of the regulatory side.

On the product side I mean, this industry is still kind of new, it's matured a lot. But I think in terms of actually being able to meld together the energy system with the transportation system, there's a lot of work and a lot of coordination that is still ongoing. And the communication there, like literally the signals being sent over wires is not always the ones that both parties want. So standardizing connectors and communication protocols there I think is extremely important as well.

Finally, with the interest in V2G, that's going to require a lot of utility involvement. Utilities are going to have to interconnect V2G chargers, and they don't have an existing process for that right now. It's being done on a one-off basis. Hopefully in the future it's as simple as rooftop PV or even simpler than that.

CHAIR HOCHSCHILD: I did have one question just on standardization. We've seen in the charging world this coming together around the J1772 CCS standard, which is great. And I think that represents a simplification of the industry. But just for the V2G, can you speak to some of the standardization challenges and opportunities there that

you see?

MR. LU: Yeah, so the convergence toward a common connector is a very good first step. However, those connectors can still support different communication protocols. So if the car is speaking one language and the charger speaks another language they still can't communicate. Maybe they can get you a basic charge. But the communication needed for V2G, how much you want discharge, things like reactive power, at what time, at what frequency, those are things that need to be communicated in a uniform method.

Right now those uniform methods exist, but are not widely implemented. And so some of the work we're doing is to support that implementation, so that we can have uniform communication.

CHAIR HOCHSCHILD: Yeah, I was just wondering if you could share a little bit what else can we the Energy Commission do to support standardization there?

MR. LU: Yeah. I'll talk about things we are doing and the things that we are going to do differently, going forward. Things that are going on right now. We funded a company called DEKRA to start a lab in Concord in the East Bay. That's going to help EVSE manufacturers test their conformance to communication protocols. In theory, if everybody passes these conformance tests they should be

able to talk to one another. We're also hosting industry events where EVSE makers and EV makers get together and make sure that their cars and chargers can talk with one another.

Going forward, one of the things we're going to do is we're going to actually provide funding, specifically to EVSE manufacturers and other EV networks, so that they can put some money and effort into implementing the standards and making sure that they're tied in with things like MIDAS that we talked about, with things like the Emergency Load Reduction Program.

CHAIR HOCHSCHILD: Super helpful. Yeah, I would just emphasize again it is cheaper, smoother, faster, better, the sooner this happens. And rougher, slower, tougher, the later it happens. So thank you for that. And I just want to emphasize again, we're going to be releasing -- we expect to release next week, the third quarter ZEV sales numbers. But we are today, in California, almost 1,000 electric vehicles a day being added to the roads in California. And virtually none of those are connecting to V2G and the grid needs it.

And I do agree with Commissioner Monahan the school bus case is particularly exciting. The duty cycle of those vehicles, and the size of those batteries are particularly compelling as an opportunity, but I think we

got to get smart and make use of all these batteries on four wheels.

And Drew, correct me if I'm misremembering this, this is a statistic that you worked up. But if you were to connect all million electric vehicles that have been sold in the state, to V2G we would have four hours of 10 gigawatts of capacity. Is that correct?

MR. BOHAN: I think the figure is if we had a million BEVs that they would be able to discharge for more than four hours 10 gigawatts into the system. That's if every single one of them connected, which of course would never happen, but for a thought experiment that's a good scale.

CHAIR HOCHSCHILD: It's a great kind of theoretical universal possibility to think about.

Well thank you so much. They can, of course, these vehicles can do double-duty, because as the Vice Chair has pointed out it's really only like 30 to 60 hours a year that we're worried about good reliability, and the rest of time we focus on being a good vehicle.

So okay, are there other comments or questions or dialogue around this? If not, Jeffrey thank you so much. That was a terrific presentation. I appreciate all your work.

All right, we will turn now to Item 7, Emergency

Rulemaking for Assembly Bill 205 Opt-in Certification Provisions. And I believe Eric is going to join us virtually.

Yeah, hi Eric, go ahead.

MR. KNIGHT: Hello, Chair and Commissioners. My name is Eric Knight. I am the manager in the Siting and Environmental Branch of the Siting, Transmission, and Environmental Protection, which I'll refer to as "STEP.". I'm presenting a proposed resolution to adopt emergency regulations for implementing the Opt-in Certification program, which was established by Assembly Bill 205, which was signed into law on June 30th of this year.

In just three months' time, Chief Counsel's Office and staff in STEP worked collaboratively to implement three key components of AB 205: the Opt-in certification, the coordination of Opt-in certification with three key state agencies, and the certification program for Department of Water Resources facilities, which will be proposed as part of the Strategic Reliability Reserve, which Dave Erne spoke about earlier today.

And then also over the summer, STEP and Chief Counsel's staff worked to finalize the proposed amendments to the small power plant exemption regulations to streamline that process.

Chief Counsel's Office staff will present the

other programs from AB 205 and the SPPE regulations, and I will present the substance of the Opt-in certification program contained in the regulations package before you for adoption today. And before I launch into the next slide, I'd just like to thank Linda Barrera and Kristen Driskell from the Chief Counsel's Office for their significant contributions to this program, their positive efforts, and their leadership. So next slide, please.

To accelerate the state's transition to renewable energy, and to maintain electrical system reliability under this transition and during extreme climate-change-driven events, staff is seeking your approval of a proposed resolution to adopt emergency regulations to implement a new optional or "opt-in" certification program for certain energy generation and storage and related manufacturing facilities. This opt-in certification program is found in Chapter 6.2, Division 15, of the Public Resources Code, and is the first significant change to the CEC's licensing authority in over 45 years.

The proposed emergency regulations will ensure that opt-in applications submitted to the CEC are reviewed in a timely and consistent manner, ensure the public transparency of the CEC's process, and that public participation is maximized, and ensure the environmental review of these projects is rigorous and comprehensive.

Next slide, please.

The opt-in certification program is limited to solar photovoltaic, terrestrial wind, and non-fossil, non-nuclear, thermal power plants of 50 megawatts or more, energy storage systems of at least 200 megawatt hours, and the transmission lines connecting these facilities to the transmission grid. And facilities that manufacture or assemble renewable energy / energy storage systems or components, with at least a $250 million investment. The program will be in effect until June 30th, 2029.

Under this program, a certificate or license by the CEC is in lieu of any other permit except that the CEC's permitting authority does not supersede the authority of the State Lands Commission, the California Coastal Commission, the San Francisco Bay Conservation and Development Commission, and the State Water Resources Control Board, or the applicable regional water quality control boards. And in the case of manufacturing facilities, CEC's authority would not supersede the local air quality management districts or the Department of Toxic Substances Control.

Hank Crook from Chief Counsel's Office will discuss the coordination plans or MOUs that CEC staff has developed as required by AB 205, with the California Department of Fish and Wildlife, Toxic Substances Control,

and the State Water Board, and regional boards, which are intended to ensure effective and timely participation by these agencies in the review of opt-in projects. Next slide, please.

The Public Resources Code provides the framework and timelines for the Opt-in certification process. Key takeaways from this slide are early engagement with interested and trustee agencies and California Native American tribes, multiple public meetings, a 60-day public comment period on the Draft Environmental Impact Report for the project. And a decision by the CEC on whether to certify the EIR and issue a certificate or license within 270 days of receiving a complete application. As well as decisions by other agencies that retain their permitting authority if they are applicable within 90 days of the CEC certifying the EIR. Next slide, please.

As I said, the Public Resources Code already contains most of the procedures for the CEC's review and consideration of an opt-in application, including timeframes, contents of the applications, and the CEC's Environmental Impact Report, as well as findings that must be made by the CEC to approve an application. Staff has proposed regulations that fill a few gaps and provide clarity. In the interest of time, I won't discuss each proposed regulation, but I'd like to highlight a few.

Proposed section 1876.5 mandates a pre-filing meeting at least 30 days prior to the submittal of an application, including a requirement that CEC staff must invite the affected local government or governments to attend. Staff may also invite state or federal agencies as appropriate. Because of the accelerated timeline for the CEC to reach a decision on the application, it is important for CEC staff and the applicant to understand any issues as soon as possible. And for CEC staff to provide project specific guidance to the applicant on the informational needs for the project.

Proposed section 1878.5 covers tribal engagement. The California Environmental Quality Act, or CEQA, already sets forth the requirements for consultation with tribes. AB 205 and these regulations do not change the requirements in CEQA. But new statutory language provides additional requirements on the CEC regarding tribal consultation, so the proposed regulatory language cites to the statute, which is Public Resources Code section 25545.7.4. The regulations also make it clear that the CEC can engage tribes even earlier than set forth in the Public Resources Code.

The planning for proposed section 1880 covers public outreach, which is an important part of the opt-in program. The Public Resources Code contains specific

details on the number of public events near the project site that are to be held, thus section 1880 references the statute. The regulatory language requires meeting sites with online meeting capabilities to facilitate maximum public and stakeholder participation. Next slide, please.

As part of the emergency rulemaking process, staff held informal meetings with stakeholders including energy developers and local government and state agency representatives. Staff, along with the CEC's Tribal Liaison, had consultation meetings with interested California Native American tribes.

On September 19th staff held a public workshop on the draft emergency regulations, which was attended by over 150 individuals. Oral comments were made by a broad spectrum of the attendees, and a total of 10 letters were filed following the workshop in the proceeding docket. Staff appreciates the robust stakeholder engagement and the thoughtful comments received. Staff has made changes to the proposed emergency regulations based on these comments where we believed it was appropriate. In some instances, the concerns raised are addressed by existing statutes or regulations, making changes to the regulations unnecessary. Next slide, please. The next slide, thank you.

So in conclusion, staff requests your approval of Resolution No. 22-1012-7, adopting sections 1875-1882 of

the California Code of Regulations, Title 20, Article 4.1. And finding that adoption of these regulations is not a project under CEQA, or any alternative is exempt from CEQA.

This completes my presentation. Thank you

CHAIR HOCHSCHILD: Thank you.

We'll go now to public comment on Item 7.

MS. MURIMI: Thank you, Chair.

For individuals that are in the room, go ahead and use the QR codes located in the back of the room to indicate that you'd like to make a comment. For those on Zoom, go ahead and use the raise-hand feature. It looks like an open palm at the bottom of your screen. And for those calling in go ahead and press *9 to indicate that you'd like to make a comment. Once called on, please state and spell your name, give your affiliation if any.

So going on to Zoom we have individual marked as "Call-in User 2."

MR. UHLER: Hello, Commissioners. It's Steve Uhler, U-H-L-E-R. A couple of things come to mind particularly since this has been a heavily data-oriented type of meeting, is what do you think the effects of not -- the Commission not taking up what is called "data modernization" in the 90s, which all of that --

CHAIR HOCHSCHILD: Sorry, Mr. Uhler, if your comments are not germane to Item 7 I will ask you to

(indiscernible).

MR. UHLER: Well, they're germane.

CHAIR HOCHSCHILD: You can speak to that at the public comment period at the end of the meeting, but this is for public comment that is germane to Item 7.

MR. UHLER: Okay. I will be very germane, Chair. Your resolution is not in the docket. Is it going to be a standard procedure to ignore Title 20 12088, and vote on things that you have not connected to an agenda item through a proceeding? And I would like to thank your legal staff for confirming that your load management one, which is why I'm asking this question now -- and are you going to continue to vote on things that have not been deemed record for the proceeding? I say you table this. I understand it's an emergency. I would like to know -- I would like to see you be actively discuss the situation on how to prevent this emergency for better use of data. That's how it's germane. That's how data is germane to this.

So I'm after the truth. Do I go look all over your website? And oh, you happen have a meeting page. But according to Title 20, nothing on that page is a record for the proceeding. Please consider that. All I ask is you correct that and you correct it for the next couple of items that you're going to take action on, which the public has a right to take anything that you consider and take

action on. And you appear to be taking action on even items that you call agenda items, or information items.

So please give me a reason to not continue to go on 8 and 0 for the same condition, and I won't bother with you -- with this again. Thank you.

MS. BARRERA: This is Linda Barrera, Chief Counsel with the Energy Commission, Mr. Uhler. Thank you for your comments.

I just want to direct you to our website. We posted both the agenda for this meeting 10 days before the Business Meeting. And the backup materials on the CEC website for the Business Meeting includes the resolution and all the documentations for this rulemaking.

In addition, the docket and the website for the opt-in rulemaking includes all the rulemaking materials, including the Express Terms and the Notice of Emergency. And we also filed the Business Meeting Agenda notifying the public of what the Commission was going to consider for potential adoption.

I'm happy also to have our office follow up with you to guide you through our website. And I know that you're also receiving these documents through the Service List for this rulemaking.

MS. MURIMI: Thank you, Linda.

And concluding public -- that concludes public

comment. Chair, I hand the mic back to you.

CHAIR HOCHSCHILD: Thank you. Let's go to Commissioner discussion, starting with Commissioner Vaccaro.

COMMISSIONER VACCARO: Thank you, Chair Hochschild.

So Eric, thanks so much and I'm looking off this way. I don't know which way to look right now. I thank you so much for that really solid presentation. I really appreciate that you recognized your CCO counterparts.

From my vantage point, what we have today shows great work and great partnership by both the STEP team and the CCO teams in moving swiftly and diligently to meet the moment, you know, of really trying to get renewable energy infrastructure, clean energy infrastructure on the ground quickly. And I think these regulations reflect the attention to moving swiftly, but also that focus on detail. And I think that's been really important here. Nothing's been compromised in this swift action process. And you emphasized a few points. And I just want to underscore them.

Eric, one of the things that you mentioned was the public outreach and engagement, which I think was incredible here. It wasn't just the public workshop, which I attended. I participated in meetings with STEP staff,

where we followed up on some of the comments that we received at the public workshop. I think what that did is it enabled my office, as well as staff, to develop new relationships, and ones that we didn't have before. We have some better perspective, better tribal perspective, as well as perspective from local governments.

And in fact, we were able to take some of the early feedback and build it into the regulations. And I think you really see that in language that requires mandatory pre-filing meetings, and a commitment by the Energy Commission to invite local governments and applicable federal government entities to engage early. That's something that we think is going to allow for integrity of the process as we move forward.

Another thing that is really important is we're not compromising on CEQA. That's something that's been, I think, misunderstood. We have an obligation to fully comply with CEQA. Indeed, that will be an environmental impact report that gets prepared in this process, and no circumvention, no abridgement of CEQA requirements. And that includes no abridgement of the meaningful Tribal Consultation requirements that are already built in to the law.

I think one other thing that didn't come out, I think maybe in a way that everybody understands, is there's

some really important findings the Commission has to make as well. So while it is a 270 day review and action on an application by the Commission, certain very specific findings have to be made. I'll just highlight a few.

There has to be an overall net positive economic benefit to the local jurisdiction that would otherwise have had permitting jurisdiction. That's a finding the Commission has to make.

Commission also has to make a finding that the applicant has entered into one or more community benefits agreements that benefit the local community or the region. That's important as well.

And so I just want to emphasize those points, because those are heightened provisions, in addition to heightened labor provisions that you typically don't see in our siting certification process. So while it's a swift process, there's a lot in there to ensure that local communities and Californians more generally benefit from this expedited process.

So I fully support this. And just again, want to thank the team, and the partnership, and we'll talk about the plans in a moment. But the plans are a really important aspect of this. Well, that's another item, really that that partnership with Fish and Wildlife, and other state agencies for how some of these things are going

to be implemented. So thank you, staff. And thank you to the stakeholders, and tribes who made this process better by offering candor and calling us out when you felt like we didn't understand things or get it quite right.

CHAIR HOCHSCHILD: Thank you.

Okay, unless there are other -- I mean, I did -- oh, do you want to make some comment?

VICE CHAIR GUNDA: Just a quick one.

CHAIR HOCHSCHILD: Yeah, go ahead.

VICE CHAIR GUNDA: Yeah, I think I just wanted to say thanks to Eric for the presentation and also providing briefings, I'm going to look at you here. Just kind of thanks for the briefing and also kind of a enumerating some of the concerns that were raised by different parties and how we are addressing them. So it was really helpful briefing and also helping me understand where some of the concerns might have been misunderstandings and such. So thank you for that.

And Commissioner Vaccaro, thank you for your leadership on this. You know, I think as we go towards SB 100 I think it's important that we build at a sustained, steady rate and accelerate the build rate. So, to the extent that this is an important tool for us, thank you so much for your leadership, and Eric and CCO for your work. Thanks.

CHAIR HOCHSCHILD: I was just going to say, you know Eric, we're still getting used to this virtual setup. And when you present remotely you're kind of on surround sound. You're in this giant screen behind us. You're up on each ceiling. And you're in front of the screen. So it's Eric Knight surround sound.

I did also want to add my thanks to you and the team, and to Commissioner Vaccaro for all the hard work. You know, this was a landmark year, a landmark year for our budget, for this incredible package of climate policies. And for whole new industries we're lifting up including long duration storage, which we'll get to later in the agenda. But the permitting changes were one of the most significant steps forward. And I just want to highlight how big a deal that was.

In fact, I was with the Governor at the signing ceremony for this package of climate bills. He specifically called that out. He knows how significant it is and how much we have to get permitting right to be successful in our climate goals. And I really just want to thank you for all your hard work. I know you and your team have put in many, many, many hours into this, Commissioner. So I just wanted to recognize that incredible work and I'm happy to support this this item.

Unless there are other comments. I'd welcome a

motion from Commissioner Vaccaro.

COMMISSIONER VACCARO: Yes, I move approval of Item 7.

CHAIR HOCHSCHILD: Is there a second, Commissioner Monahan?

COMMISSIONER MONAHAN: I second.

CHAIR HOCHSCHILD: All in favor say aye.

Commissioner Vaccaro?

COMMISSIONER VACCARO: Aye.

CHAIR HOCHSCHILD: Commissioner Monahan.

COMMISSIONER MONAHAN: Aye.

CHAIR HOCHSCHILD: Commissioner McAllister?

COMMISSIONER MCALLISTER: Aye.

CHAIR HOCHSCHILD: Vice Chair Gunda?

VICE CHAIR GUNDA: Aye.

CHAIR HOCHSCHILD: And I vote aye as well. Item 7 passes unanimously. Thank you, Eric. Thank you, team.

MR. KNIGHT: Thank you.

CHAIR HOCHSCHILD: We appreciate it.

We'll turn now to Item 8, Information Item on Interagency Plans under AB 205's Opt-in Permitting Program.

MR. CROOK: Hello, Chair and Commissioners. I'm Hank Crook. I'm an attorney in the Chief Counsel's Office and I'm here to provide you with information about the Energy Commission's Interagency Coordination Plans for the

Opt-in Permitting Program. Next slide, please.

The interagency coordination plans benefit Californians by streamlining interagency review of opt-in program applications. Ensuring interagency collaboration during the opt-in permitting process. And by expediting permitting of renewable energy generation, energy storage, and related manufacturing facilities. Next slide, please.

As noted during the prior agenda item, Assembly Bill 205 established the Energy Commission's new opt-in permitting program. Within 90 days of AB 205's effective date, the Energy Commission was required to develop plans with the California Department of Fish and Wildlife, the State Water Resources Control Board, and Department of Toxic Substances Control to ensure timely and effective consultation during the opt-in permitting process.

Over a three-month period, the Energy Commission engaged in a collaborative interagency effort with these partner agencies to develop opt-in coordination plans.

In addition to weekly internal meetings, the Energy Commission met with each partner agency several times. And the agencies exchanged numerous drafts, emails, and phone calls during the process.

The Energy Commission's partner agencies contributed to the substance of each plan, understand the opt-in program's expedited timeline, and agree on the

importance of interagency collaboration throughout the opt-in permitting process. Next slide, please.

I am happy to report that all agreements were executed on time. And as a quick summary, the Opt-in Coordination Plans address the unique interagency relationships under the opt-in permitting program. Establish frameworks for interagency consultation during the opt-in permitting process. And ensure partner agency input is considered in the Energy Commission's development of an Environmental Impact Report and Conditions of Certification for an opt-in program, or an opt-in project, excuse me.

We have included the plans as backup materials for this agenda item and will make the attachments to the plans available upon request. This concludes my presentation. I am happy to answer any questions you may have about the interagency coordination plans for the opt-in program. Thank you.

CHAIR HOCHSCHILD: Thank you, Hank. And I understand this your first time presenting --

MR. COOK: It is.

CHAIR HOCHSCHILD: -- for the Commission? Well, a job well done and thank you.

MR. COOK: Thank you.

CHAIR HOCHSCHILD: Welcome to the podium. With

that we'll go to -- actually, we're not going to do public comment on this, correct, as this is an informational item.

So let's go to discussion starting with Commissioner or Vice Chair Gunda, do you want to start us off on this? Sorry, who's this this? Sorry, who's this -- Commissioner Vaccaro. Sorry, so sorry, yes. Thank you. Commissioner Vaccaro, please go ahead. Yes.

COMMISSIONER VACCARO: Yeah. Well, thanks, Hank. I'm glad that the Chair acknowledged that this is not only your first meeting, but you're new to the Commission, new to the Chief Counsel's Office, and you were able to really hit the ground running on a really important set of documents to allow us to implement the opt-in legislation. So thanks to you.

And again, I don't think I can thank the CCO and STEP teams enough for their work in this space. They truly showed the leadership for this. This wasn't Commissioner Office leadership in the development of the plans. It was really those two offices coming together very well. And then meeting our interagency colleagues to do very impressive work. These are thorough, they are tailored to ensure rigorous review. And to meet the objectives of the legislation when I think this should allow us to seamlessly and quickly move forward with the directives given to us. So commendable work, and thanks again to this to our state

agency partners. But again, most importantly, CCO team and STEP team.

CHAIR HOCHSCHILD: Any other questions or comments on that?

Thank you, Hank. I appreciate it.

MR. COOK: Thank you very much.

CHAIR HOCHSCHILD: Okay. We'll turn now to Item 9, Emergency Rulemaking For AB 205/209 Certification For Department of Water Resources Facilities. Kari Anderson.

MS. ANDERSON: Thank you and good afternoon, Chair and Commissioners. My name is Kari Anderson, and I am an attorney in the Chief Counsel's Office. I am pleased to present this portion of the Strategic Reliability Reserve program to the commission and to recommend the commission vote to adopt the proposed regulations package. Next slide, please.

As Eric Knight and others have described, the Strategic Reliability Reserve Program in AB 205 is California's effort to maintain electricity reliability in the face of recent and future extreme events. One portion of that effort is the Department of Water Resource's development of backup energy generation capacity for use during summer peak load and extreme events.

The CEC's role in the development of this backup capacity is to certify those DWR facilities using these

proposed procedures. The benefits of the procedural regulations are to provide expedited review and thorough environmental evaluation when certifying these needed resources. Next slide, please.

Although CEC is to adopt expedited procedures, AB 205 determines most of the program requirements, including the four types of facilities DWR may develop summarized on this slide. I am not going to read this slide, but would like to highlight that the new facilities cannot use diesel fuel after July 31, 2023. And that new storage or zero emission facilities have to be operational by the end of 2024. Also, the CEC's licenses are valid for five years. Next slide, please.

Presented today for your approval are the expedited procedures for reviewing DWRs facility application. The statute requires the process to be concluded within 180 days. This expedited process begins with a pre-filing meeting between DWR, CEC and affected public agencies.

After a pre-filing meeting, DWR will file the application. CEC will notify affiliated Native American Tribes of the application and consultation may begin.

Staff has 20 days per the statute to review and ask for information from DWR. The procedures allow 30 days for DWR to provide the information, and 5 days for staff to

accept the information that's submitted or ask for further information. Next slide, please.

This slide shows the topics of information to be collected as part of the application. These requirements are in the Appendix SRR, which is before you for adoption. As you can see, the breadth of information required ensures a thorough environmental assessment. Next slide, please.

Once deemed complete, the application is provided to agencies who may respond within 30 days. And if they do staff will meet with them, because the statute requires compliance with all existing laws those agencies would enforce if it weren't for this program. After tribal consultation concludes, staff will publish a Preliminary Staff Assessment and it will be available for public comment for 60 days. After the public comment period, staff will develop a Final Staff Analysis.

The regulations also have procedures for termination or withdrawal of an application before a complete analysis has been performed. Next slide, please.

The document the Commission will be presented with is a Final Staff Analysis or FSA. The FSA will be published. It will contain the impacts analysis, including mitigation, other findings required in the statute, and will respond to issues raised in the comment period. Staff will make a recommendation on the application. The

Commission may grant the certification, deny the application, or take such other action it deems appropriate within 45 days of the publication of the FSA. Next slide, please.

Prior to presenting these proposed regulations for your adoption, staff held a duly noticed public workshop on September 30, took written comments through October 3, and held a tribal listening session on October 3. We had over 50 participants in the workshop and received some clarifying questions, but no written comments or suggestions for modification. Next slide, please.

Staff is recommending the Commission approve the resolution finding the regulations are exempt from CEQA and adopting the proposed regulations in Article 4.2 of Title 20 of the California Code of Regulations. As directed in statute in AB 205, these will be filed using the emergency regulation procedures in the APA. Staff and I are available for questions, but our staff is at home. So that concludes my presentation.

CHAIR HOCHSCHILD: Okay, thank you so much.

We'll go now to public comment on Item 9.

MS. MURIMI: Thank you, Chair.

Once again for individuals that are in the room, go ahead and use the QR codes located in the back of the room. For individuals that are on Zoom, go ahead and use

the raise-hand feature. It looks like an open palm at the bottom of your screen. And for those calling in, go ahead and press *9 to indicate that you'd like to make a comment.

Again, this is public comment for Item 9. We have "Call-in User 2."

MR. UHLER: Hello, Commissioners. This is Steve Uhler. It appears Chair that once again you're going to be voting on an item that you've yet to deem a record for the proceeding. Your legal staff have used a lot of words, but have not addressed why they do not publish those in the docket. Your Chief Counsel appears to believe that I am receiving a mail list or listserv information. That has not happened and she might want to check the records as I long ago abandoned that system.

So are you going to now and in the future, proceed to adopt something that is not a record for the proceeding? Can I -- will I also have to give up on Title 20 1208(a) as my means of knowing that you're going to talk about something that is the true document, not a document that's elsewhere in an uncontrolled situation on the website. And I'm talking the control difference between the dockets, which is a long ways from what you put on the website. Because that system, I can actually pull down the first copy of it, come back days later, and you've updated it from the same URL. Now, if I don't bother to pull up

just before the meeting, I'm left out to find out that you're not going to do something, or whatever.

So please, all I'm asking is it goes in the docket. They're publishing exemption memos. They're publishing presentations. And it goes into the docket for the item, not the business meeting. Because now we have to dig around and wonder, you know, which one goes with which. It needs to go into the docket, so please do that. That's all I'm asking.

Public doesn't have much chance to talk at your meetings. You talk about a lot of agenda items, so I'm definitely going to use items like this for you to correct and follow your own regulations. Please do that. And please confirm you will do that.

I still have public comment to go and I guess another item that you're going to take action on. Is really anything you take action on, is the public must be able to comment on. So please let me know, because I'm going to continue to do this. I don't even see anybody making an effort to pop them up on the website.

Okay, do you understand? I believe you should know what your mind says about that. And what the Bagley-Keene says about what you should do in answering my questions. Thank you.

MS. BARRERA: Chair, may I address that

commenter?

Hi, Mr. Uhler. This is Linda data again with the Chief Counsel's Office. I really appreciate your comments. I have myself -- I'm looking at both the dockets for the opt=in rulemaking and the DWR certification permitting program. And I'm looking at it right now and I can assure you that notice of the business meeting --

VICE CHAIR GUNDA: Would it be possible to pull it up on the on the screen, the docket?

MS. BARRERA: I'm not able to show? I guess I can, but I can also provide the number of the of the docket, and Mr. Uhler is familiar with our docket system. So I will proceed to give him that docket number. It's 2020 -- 22-OIR-02. And you'll see that notice of this business meeting with the rulemaking materials was posted on October 3, 2022.

MS. MURIMI: There are no more comments in the room, and no more common commenters on Zoom (indiscernible).

CHAIR HOCHSCHILD: Okay, let’s go to Commissioner discussion starting with Commissioner Vaccaro.

COMMISSIONER VACCARO: Thank you. So Kari, you're one of our newer attorneys as well, an experienced attorney, but one of our newer attorneys, so very well done. I've had the opportunity to work with you in the

development of this rulemaking along with your CCO counterparts, and STEP staff. So I think everything I said for Item 7 is equally applicable here. I think it's always worth saying the thanks again and recognizing the work of the legal team and the staff team in quickly working through this.

One of the really important facets of this rulemaking is that you did it collaboratively as well with Department of Water Resource colleagues. And I think we've been able to forge a very good relationship with them starting even before an emergency proclamation that was issued, not in the in the recent past. But that really I think set the relationship of respect, of trust, and the ability to work through different perspectives quickly. I saw that happen here as well.

And so again, not going to be labor the points that I already made, but I think this is well done. I support approval of this item.

CHAIR HOCHSCHILD: Vice Chair Gunda?

VICE CHAIR GUNDA: Thank you, Chair.

I just wanted to do a collective in the last three items -- 7, 8, and 9 -- just a collective thank you. Again, just for the work. I mean, I was on the sidelines on this particular element of the 205. But really I watched from the sidelines how much the CCO, Commissioner

Vaccaro, has worked on making this happen, all these elements. And since then, you know, all the implementation parts of it.

Kari, it was a pleasure to meet you in the briefings and appreciated your work. And Hank, nice to meet you as well and welcome on board. I look forward to supporting this item. Thank you.

CHAIR HOCHSCHILD: Thank you. I'd echo all those. Unless there are other comments, I'd welcome a motion from Commissioner Vaccaro on Item 9.

MS. BARRERA: If I may? I just -- sorry to interrupt.

CHAIR HOCHSCHILD: Yeah.

MS. BARRERA: I got additional information I would like to share with the public that our rulemaking materials and notice of this agenda item was also sent to about 11 different service lists. Those are thousands of people. And more specifically, this notice of this agenda item was sent to all of our siting, like the big service liaison that sends the information to on all siting matters to the public. And to two different general rulemaking service lists.

So in addition of being posted on our website, it also was sent to various service lists to the general public. So I hope that that helps answer Mr. Uhler's

question.

CHAIR HOCHSCHILD: Thank you. I'd welcome a motion on Item 9 from Commissioner Vaccaro.

COMMISSIONER VACCARO: Yes, I move approval of Item 9.

CHAIR HOCHSCHILD: Is there a second from Vice Chair?

VICE CHAIR GUNDA: I second Item 9.

CHAIR HOCHSCHILD: All in favor say aye, Commissioner Vaccaro?

COMMISSIONER VACCARO: Aye.

CHAIR HOCHSCHILD: Vice Chair Gunda?

VICE CHAIR GUNDA: Aye.

CHAIR HOCHSCHILD: Commissioner McAllister?

COMMISSIONER MCALLISTER: Aye.

CHAIR HOCHSCHILD: Commissioner Monahan?

COMMISSIONER MONAHAN: Aye.

CHAIR HOCHSCHILD: And I vote aye as well. Item 9 passed unanimously.

We'll turn now to Item 10, Amendments to the Small Powerplant Exemption SPPE Regulations.

MR. BABULA: Okay, let me make sure people can hear me. I had an issue in practice. Okay, now for the main event.

Good afternoon, Commission. My name is Jared Babula, Senior Attorney in the --

CHAIR HOCHSCHILD: Hey, Jared can you raise the mic little bit? It's a little bit hard to hear you. Is there a way to --

MR. BABULA: I have a plan for that. There we go.

CHAIR HOCHSCHILD: There we go.

MR. BABULA: Once again, so my name is Jared Babula, Senior Attorney in the Chief Counsel's Office. And I will be presenting the amendments to the Small Power Plant Exemption Regulations for your consideration. Next Slide.

The benefits of the proposed regulatory changes include:

Reducing administrative procedures by eliminating evidentiary hearings and other unnecessary requirements that currently apply to SPPEs. This is the most significant proposed change of this rulemaking. This streamlines CEC review and expedites the ability for a small power plant, 100 megawatts or less, to be considered by the local permitting authority.

Updating 1970s era language that created an adjudicatory process, not required in statute, which primarily was used to address the need of utility owned

projects, an issue no longer adjudicated by the CEC in powerplant siting cases.

And finally, improving transparency. By updating the required informational contents of the SPPE application, the public and stakeholders will be provided with more detailed information about the project and its impacts at the beginning of the review process, allowing for more effective engagement. Next Slide

The Warren-Alquist Act provides that if certain requirements are met, the CEC may exempt from its jurisdiction thermal powerplants up to 100 megawatts. It is important to note that approval of the exemption is not approval of the project. The project owner would still have to obtain required authorization and permits from the relevant local authorities. Next Slide

The current SPPE process includes two procedural steps. Staff performs an environmental analysis under the California Environmental Quality Act, which results in an environmental document such as a mitigated negative declaration or a draft and final Environmental Impact Report. Then an evidentiary process occurs in which a committee holds evidentiary hearings and issues a proposed decision. And finally the CEC issues a final decision.

To update and modernize the process to reflect changes in energy markets, and the fact that the CEC no

longer determines the need for a specific generating facility, staff is proposing through this rulemaking the elimination of the evidentiary process, a component that has been in place for decades.

To be clear, what is not being changed is CEQA and its requirements related to public noticing, public comment periods, responses to comments and requirements to consult and engage tribes.

Staff is also proposing to repeal Appendix F, which serves as the information requirements of the SPPE application and to update Appendix B, to comport with changes in CEQA, which is currently the information requirements for an application for certification and apply Appendix B to SPPE applications. Next Slide

Staff recommends the Commission approve the resolution finding the adoption of the regulations not a project under CEQA or alternatively exempt, and adopting the amendments to the SPPE Regulations contained in Title 20. This concludes my presentation. I'm available to answer any questions.

CHAIR HOCHSCHILD: Thank you.

We'll get to public comment at this time on Item 10.

MS. MURIMI: Thank you, Chair. Once again, for individuals that are in the room, go ahead and use the QR

codes located in the back of the room. And for individuals on Zoom, use the raise-hand feature. It looks like an open column at the bottom of your screen. And for those calling in press *9. We have "Call-in User 2."

MR. UHLER: Hello, Commissioners. Steve Uhler. Sorry to have to do this again, but your Counsel came back and said something that makes me believe that I'm not getting my point across. It's simple. You have a rule, a regulation, the force of law. It's an enactment, Title 20 1208(a) that if you want a document or a writing or a record, to be considered a record for the proceeding, it has to be filed through the docket. And what's the trouble? Why do you maintain a separate system? And then try to connect it through an agenda? Does that mean if you write something on the agenda, you can connect to the entire world? That's -- it seems to be a very large procedural innovation, that just placing an agenda in a docket means that everything that's on that meeting page is the factual real and never changed, and never superseded document. That doesn't happen.

So I have not heard your counsel say that those docket documents on the meeting page that she's suggesting that I go to, are a record for the proceeding. So you will appear to continuously even under objection, vote for items that you have not taken the time to make a record for the

proceeding. You can talk about your list servers, and so on and so forth. Docket's pretty damn reliable.

MS. BARELLA: Mr. Uhler, this is Linda again, Chief Counsel with the Energy Commission. For many, many years the process here at the Energy Commission is that draft resolutions that have not been voted on are placed on the Commission's "This is a meeting" website. Resolutions that are final that are approved by the Energy Commission are immediately or soon thereafter, after the business meeting, docketed on the proceedings docket number.

That is consistent with what we've done for many years. I would be happy to talk to you after the business meeting just to give you examples. Just for example, last business meeting our resolutions once their final once the Commission takes a vote. We proceed and file those resolutions in the appropriate dockets.

CHAIR HOCHSCHILD: All right, unless there's further public comment I'd welcome a motion on Item 10 from Commissioner Vaccaro.

COMMISSIONER VACCARO: Can we -- I have a few comments to make first.

CHAIR HOCHSCHILD: Oh yeah, okay.

COMMISSIONER VACCARO: Yeah, I know we got a little turned around there. So Jared, thanks so much for the presentation. I sound a bit like a broken record. But

maybe the best kind of record again, just recognizing this rulemaking is yet another good example of the collaboration between our legal teams and our staff teams.

I know that there was very good outreach and engagement with respect to this rulemaking. It even included briefings before the Blue Ribbon Commission on lithium extraction in California, also known as the Lithium Valley Commission, just to make sure that there was breath in sort of state-wide recognition of this rulemaking.

I know there was also conversation with tribal representatives who had some feedback with respect to appendix B, that we considered. So thank you so much for the work on this. I want to underscore just a couple of points that you made.

We are making a big change here, moving away from a quasi-adjudicative process with intervenors to one where it's just a strictly CEQA process. I support both. I think someone has quoted me in the record of this proceeding, someone who had some comments not in support of this move saying, "Commissioner Vaccaro says that intervention and adjudication are valuable." They are and I love that process, and I support it. But I also see great value in what we're doing here, which is currency of regulations. Looking at other ways to refresh and maximize efficiency, and still allow for robust public process and

necessary analytical rigor. I think we have all of that in this package. I'm very supportive of it.

And, you know, unless my Commissioners, fellow Commissioners have other comments I would move approval of this item.

CHAIR HOCHSCHILD: Great, is there a --

COMMISSIONER VACCARO: Oh, Patty or Commissioner Monahan.

CHAIR HOCHSCHILD: Oh, okay. Go ahead.

COMMISSIONER MONAHAN: I just want to say how excited I am about this and very strongly supportive. I just think it'll make the process smoother, swifter, hopefully with greater communication. And for those of us who aren't attorneys and have been part of the SPPE process, it's going to save us a lot of pain and heartache.

CHAIR HOCHSCHILD: Are you excited enough to second the motion?

COMMISSIONER MONAHAN: I would be thrilled to second the motion.

COMMISSIONER MCALLISTER: I want to just pile on actually. I want to thank Commissioner Vaccaro for your leadership on this. And, and yeah I echo the non-attorney viewpoint of this. And this is a dynamic space. And it's -- we're doing a lot of it. And so having it just kind of up to date and adapting to our needs is great. So thanks,

Jared and team for that.

CHAIR HOCHSCHILD: Okay, we have a motion from Commissioner Vaccaro, a second from Commissioner Monahan, all in favor say aye.

Commissioner Vaccaro?

COMMISSIONER VACCARO: Aye.

CHAIR HOCHSCHILD: Commissioner Monahan?

COMMISSIONER MONAHAN: Aye.

CHAIR HOCHSCHILD: Commissioner McAllister?

COMMISSIONER MCALLISTER: Aye.

CHAIR HOCHSCHILD: Vice Chair Gunda?

VICE CHAIR GUNDA: Aye.

CHAIR HOCHSCHILD: And I vote aye as well. That item passes unanimously. Thank you, Jared.

I will turn now to Item 11, Lumen Energy Strategy, LLC. [sic] Welcome, Elizabeth.

MS. HUBER: Good morning, Chair, Vice Chair, and Commissioners. My name is Elizabeth Huber. I am the Director for the Siting, Transmission, and Environmental Protection Division. With me this afternoon is John Heiser, Compliance Project Manager, and Lead Counsel, Jared Babula. Representing the Project Owner, Calpine Corporation, is Director of Strategic Origination, Barbara McBride. And from their project partner, ION Clean Energy, is Jennifer Atchenson, Operations Vice President, and

Andrew Awtry, Vice President of Engineering.

We are here today to request your approval of a petition to allow the Los Medanos Energy Center to work with ION Clean Energy to demonstrate, on a pilot scale, its solvent technology to capture carbon dioxide from a small portion of flue gas from a single turbine exhaust at the power plant. Next slide, please.

In May 2022, the Biden Administration announced their intention to provide funding to the Bipartisan Infrastructure Law's $3.5 billion program to capture and store carbon dioxide pollution directly from the air. U.S Secretary of Energy, Jennifer Granholm stated, "Efforts to deeply decarbonize the economy through methods like clean power, efficiency, and industrial innovation, the widespread deployment of direct air capture technologies, and carbon dioxide transport, and storage infrastructure plays a significant role in delivering on President Biden's goal of achieving an equitable transition to a net-zero economy by 2050."

Then on September 16, 2022, California Governor Newsom enacted some of the nation's most aggressive climate measures in history to accelerate the state's transition to clean energy. Included in this legislative package is his signing of Senate Bill 905, which advances engineered technologies to remove carbon capture pollution by

establishing a regulatory framework for carbon removal and carbon capture, utilization, and sequestration.

With a grant total of $25 million between federal funding and a public/private cost share, Los Medanos Energy Center filed their petition with the CEC for a carbon dioxide capture pilot project, which will in the long term if the pilot is successful, reduce carbon dioxide emissions and carbon dioxide product emitted to the atmosphere, recombine adsorber effluent gas, and could provide as a resource to a third-party user. Next slide, please.

The Los Medanos Energy Center is a 500-megawatt natural gas-fired, combined-cycle power plant. It was licensed by the CEC in August of 1999 and began commercial operations in July of 2001.

On May 18, 2011, the CEC approved an efficiency improvement project for additional generation to support the state's early reliability initiatives. In 2020, the CEC staff approved a software modification to allow for increased firing temperature when additional generation is needed during extreme weather events.

Then in March of this year, the CEC approved the first of two carbon capture projects at Los Medanos, which was the installation of a flue gas transit pipe for use in an offsite demonstration project that is manufacturing carbon dioxide sequestration upcycled rock products.

I defer here for a second to show you what these little projects rocks look like, and an example of how it is used in construction for beams in large buildings.

CHAIR HOCHSCHILD: Could you (indiscernible) --

MS. HUBER: Absolutely!

CHAIR HOCHSCHILD: Thank you.

MS. HUBER: Now, back to the petition before you today. This is an onsite project at Los Medanos Energy Center that will require the power plant to supply approximately 0.04 percent of its flue gas through an above-ground pipeline to a carbon capture and utilization pilot system. The pilot project would be in operation for approximately 15 months with the equipment removed from the site after the pilot project is completed.

For this pilot, the CEC staff is recommending the addition of new air quality Conditions of Certification for consistency with the Bay Area Air Quality Management District's new permit language. Next slide, please.

The diagram before you shows the carbon capture utilization and storage pilot project. The carbon dioxide from the power plant's flue gas is absorbed in an Amine-based solvent. The almost pure carbon dioxide is then separated from the solvent in the stripper. The solvent is then recirculated back to the absorber. For this pilot, the carbon dioxide will be vented to the atmosphere as this

is only testing the capture technology.

The ION Clean Energy ICE-31 Solvent that is being tested, is a transformational Amine-based solvent that was specifically designed for natural gas facilities. The ICE-31 solvent is expected to demonstrate lower emissions, less solvent degradation rates, and less energy requirements. The pilot will test a generic amine solvent and the ICE-31 to compare specific design criteria like emissions, energy requirements, and solvent degradation rates; and will provide a first-hand opportunity to learn about the implications of integrating post-combustion carbon capture with power plant operations prior to progressing into a commercial scale.

Since the typical carbon capture technology used in Amine-based solvent to capture carbon dioxide in its absorber, there is a potential for additional ammonia and VOC emissions from the stack at the absorber outlet. Similar to an ammonia slip in a catalytic reduction system for NOx control, as you are all aware from our temporary power generator projects.

One of the purposes of this project is to measure actual emissions during carbon dioxide capture determine what the emissions are during carbon capture. Currently there is insufficient data from carbon capture of natural gas combined cycles, so the emission estimates in the

application are very conservative. Next slide, please.

In conclusion, the CEC staff recommends your approval of the order allowing for the Carbon Capture Pilot Project and adopting the new Conditions of Certification. Thank you.

CHAIR HOCHSCHILD: Elizabeth, before we move on to discussion and public comment, just so we're clear that chunk of cement there that you showed us, that is containing this carbon that's been captured, the CO2 that has been captured. Is that used as a construction material or what's the application of that?

MS. HUBER: That's the intent for that one. We do have Barbara here who could speak a little more detail on it, yeah.

CHAIR HOCHSCHILD: I'm just curious if that affects the structural integrity of cement or can it be used?

MS. MCBRIDE: It is used for lightweight aggregate (indiscernible) for high rises (indiscernible).

CHAIR HOCHSCHILD: Got it. Oh, yeah. Thank you, Barbara, I appreciate it.

(Off-mic colloquy.)

MS. MCBRIDE: Sorry, yeah it is used for lightweight aggregate, which is normally is specifically used for like high rise buildings, or like parking

structures where it's, you know -- you need that lighter concrete to get to the top of the structures.

CHAIR HOCHSCHILD: And there's no issue with the structural integrity of the (indiscernible)?

MS. MCBRIDE: No, that's what they test. That's really what they're testing in their pilot out there, is making sure that it does meet all those structural integrity tests then. Yeah.

COMMISSIONER MCALLISTER: Could you say your name and spell it for the court reporter?

MS. MCBRIDE: Oh, Barbara McBride, B-A-R-B-A-R-A M-C-B-R-I-D-E. Sorry.

CHAIR HOCHSCHILD: Thank you. Thank you, and appreciate the show and tell.

So let's move now to public comment on Item 11. You were finished right, Elizabeth?

MS. HUBER: I'm done.

CHAIR HOCHSCHILD: Any public comment, Dorothy?

MS. MURIMI: Thank you, Chair.

So for individuals that are in the room, go ahead and use the QR code feature in the back of the room. And for individuals that are in Zoom go ahead and use the raise hand feature.

Actually, go ahead to the mic and please state spelling your name for the court reporter.

MS. NEUMYER: Good afternoon, Chair, Commissioners. I apologize for not using the QR code. I'm a little new to this in person hearing thing. My name is Samantha Neumyer with Ellison Schneider Harrison & Donlan on behalf of the Project Owner. With us today is Barbara McBride, who you just heard from as well as Peter So with Calpine Corporation.

We're excited to be here today in support of the petition. And we'd really like to thank staff for their hard work, particularly Elizabeth Huber for her leadership and the Compliance Project Manager John Heiser, for helping to move this petition along.

We've reviewed staff's assessment and the proposed order. We support staff's recommendation to approve the petition, and we request that the Commission adopt the proposed order. We're available for any other questions. I'm going to leave the technical ones for Barb and thank you.

CHAIR HOCHSCHILD: Thank you.

Any other public comments?

MS. MURIMI: Thank you, Chair. No public comment on Zoom. Oh, we have one more commenter. I cannot say this name. If -- I will unmute. Again, this is public comment for Item 11. Your line is unmuted. Please state and spell your name for the record.

MR. PUTTA: Hi, my name is Sampath Putta. I would like to know what would be the effects of the depleted carbon dioxide that will be released into the atmosphere? Can somebody please answer?

CHAIR HOCHSCHILD: Sorry, sir. Could you repeat your question, it is a little difficult to hear. And if you could speak a little more slowly?

MR. PUTTA: Sure.

MS. MURIMI: And apologies if you could state and spell your name for the court reporter. Thank you.

MR. PUTTA: Yeah, sure. Hi, everyone. My name is Sampath Putta. I'm a California, San Jose resident. I just have a general question about Item Number 11, which was just presented. And the question is, what -- would there be any environmental effects for the depleted carbon dioxide that would be released back into the atmosphere? Can somebody clarify?

VICE CHAIR GUNDA: I think they're asking if there is an environmental impact in terms of the release of the CO2?

MR. PUTTA: Yes.

MS. HUBER: Our analysis that we did in conjunction with the Bay Area Air Quality Management District determined it would be less than significant environmental impacts.

MS. MURIMI: And apologies, commenter, if you could give your first name for the court reporter, spell it?

MR. PUTTA: Sure, my name is Sampath, S-A-M-P-A-T-H, Sampath.

MS. MURIMI: Thank you so much.

CHAIR HOCHSCHILD: Is there any other public comment?

MS. MURIMI: Chair, no more public comment in person or on Zoom. Back to you.

CHAIR HOCHSCHILD: With that I would turn it over to begin a Commissioner discussion to Commissioner Vaccaro.

COMMISSIONER VACCARO: Thank you.

So thank you, Elizabeth, for the presentation and for bringing the visual aids. It's always helpful to kind of see what we're talking about. So I really appreciate that.

I have just a few brief comments. I mean, I read the staff report. I think it's very thorough. I think It makes the case for why the Commission can move forward, I think with approving this application.

And I think the Project Owner should be commended as well for just, you know, really kind of thinking about all of the different ways and how broad the solution set can be to help us advance our clean energy goals. I think

this is just an example of that. I know it's a pilot, so there's information that's going to be learned from this. I do look forward to seeing what the results are. But again, I think this is a good solid application.

I appreciate that this was a discussion item, instead of a consent item. I think it's always important for us to kind of see where the different areas of innovation are at the Commission. So with that, I support this and unless my fellow Commissioners have comments, I would move approval of this item.

CHAIR HOCHSCHILD: Great. Moved by Commissioner Vaccaro, is there a second, Commissioner McAllister?

COMMISSIONER MCALLISTER: I'll second.

CHAIR HOCHSCHILD: All in favor say aye.

Commissioner Vaccaro?

COMMISSIONER VACCARO: Aye.

CHAIR HOCHSCHILD: Commissioner McAllister?

COMMISSIONER MCALLISTER: Aye.

CHAIR HOCHSCHILD: Vice Chair Gunda?

VICE CHAIR GUNDA: Aye.

CHAIR HOCHSCHILD: Commissioner Monahan?

COMMISSIONER MONAHAN: Aye.

CHAIR HOCHSCHILD: And I vote aye as well. Item 11 passes unanimously. Thank you, Elizabeth, and to the stakeholders.

We'll turn now to Item 12, Proposed Resolution Approving the *Gas Research and Development Program 2022 Annual Report*.

MS. WERNER: Hello, Chair, Vice Chair, Commissioners. My name is Misa Werner, and I work in the Energy Research and Development Division. I am happy to present this year's Gas R&D Annual Report covering fiscal year '21-'22. Next slide, please. Thank you.

Highlighting benefits to Californians. This report increases awareness of gas-funded technologies. And it synthesizes information on innovative approaches to reduce gas consumption and greenhouse gas emissions. Next slide, please.

The report provides the Legislature, the CPUC, and the public with a summary of the CEC's Gas R&D progress, its impacts, and ratepayer benefits. The report is structured as a CEC staff report and it covers the topics shown on the slide. I will jump right into the main points that are bolded. Next slide please

I'm excited to show you some Gas R&D Program Metrics here on the slide. This is an essential portion of the report where we highlight program level metrics that are aggregated and show the impact of our research projects.

Over $311 million in Gas R&D Program funds has

been invested to date through nearly 300 projects. Project recipients have gone on to attract over $6.1 billion in private investment after being selected for a Gas R&D Program award. That's 20 times the initial public investment.

About 71 percent of program funds have been invested in disadvantaged, low-income communities, or both since 2016.

More than 20 projects have informed codes, standards, proceedings, or protocols.

And at least 44 technologies or products have been commercialized resulting from Gas R&D projects and many more moving toward commercialization.

And more than 15,700 citations have been made to publications referencing research from gas-funded projects. Next slide, please.

Next, we have an aggregated view of total funding in our investment areas since program inception. This shows investment priorities over time, and some of the areas where we will be highlighting projects next. Gas R&D investment areas include the entrepreneurial ecosystem; building decarbonization; gas system decarbonization; industrial and agricultural innovation; transportation; and resiliency, health, and safety. Next slide, please.

So stepping into our project highlights this year

for Building Decarbonization. Healthcare facilities and large commercial buildings use large amounts of natural gas for space and water heating and for other process loads, so for this investment area we have two highlights featuring those types of buildings.

First up is a demonstration of a systems-efficient approach at the Kaiser Hospital in Baldwin Park. GTI is demonstrating four primary measures, which together add up to a cost effective systems approach with significant gas use reduction.

Those measures include using a heat recovery chiller and integrating stack economizers to reduce steam boiler fuel requirements. Implementing a variable-air-volume system. Designing air handlers with separate cold and hot decks to optimize economizer mode. And employing an optimal control strategy to minimize building HVAC energy consumption.

Some of the key project metrics are shown here in the blue box like the goal of 30 percent reduction in greenhouse gas emissions. Next slide, please.

The next project on building decarbonization is with UC Berkeley's Center for the Built Environment. And it focuses on existing large commercial buildings. The focus is on unnecessary demand for space heating, hot water distribution losses, and poor boiler operational

efficiency.

CBE is demonstrating and evaluating scalable packages of non-proprietary low-cost software control, and other measures to substantially reduce gas consumption. That includes measures helping ensure higher cost retrofit items like boiler replacements are done as energy and cost efficiently as possible.

One of the project goals that we show here includes reducing annual gas consumption by 60 percent. Next slide, please.

Next up is a project in the areas of gas system decarbonization and industrial and agricultural innovation. Element-16 Technologies had developed and demonstrated a combined cooling, heating and power with thermal energy storage system, or CCHP-TES for short, for commercial sectors.

The key aspect of this technology is the novel integration of low-cost molten sulfur as the storage fluid, and this can store and discharge heat efficiently. In doing so, flexibility is added to the CCHP system by allowing the production of electricity and steam to occur at different times. This allows the system to operate at high efficiency by storing waste heat for cooling or for power generation during high demand. The system stores high temperature heat and discharges energy more

efficiently and compactly compared to conventional hot water thermal storage.

Some project metrics are listed on the slide. For example, notably the project's annual natural gas savings of approximately $7,000-$9,000. Use of the system can reduce peak demand and interact with the grid to provide dispatchable power and essential services. Next slide, please.

For transportation, we have a project that is developing an actionable hydrogen fuel cell-powered tugboat design that will be ready for construction and implementation at the Port of Los Angeles. The design and feasibility study is addressing challenges related to using liquid hydrogen to power the tugboat, including how it can be produced and delivered ports.

As you can see from al the logos on the slide, this is a team effort involving a diverse consortium of leading maritime industry stakeholders and others.

Some key takeaways from this project:

Renewable gas, such as hydrogen, can play a role in decarbonizing maritime applications that may be challenging to electrify directly.

The project will address safety, technical, and economic challenges of using liquid hydrogen and fuel cells at megawatt-scales and substantially reduce harmful

emissions to local communities near ports.

The team has completed a preliminary vessel design, developed a regulatory map, and is seeking follow-on funding to build the vessel. Next slide, please

The last highlight is in the resiliency, health, and safety area. This project develops, tests, and demonstrates a smart shutoff safety system to help gas customers safeguard their lines in homes and businesses. The system provides additional protection during hazardous events and the ability to automatically terminate gas flows when necessary. This research integrates safety sensors and shutoff valves into a smart shutoff platform, and provides network connectivity to monitor the system status via a web-based interface.

Some key takeaways: Current safety devices do not possess "Internet of Things" or IOT connectivity to automate the safety response among emergency personnel, customers, and gas utilities.

This tech provides a safety layer that protects ratepayer life and property. With smart sensors and automation, the necessary interventions will be in place and avoid potentially hazardous events from gas leaks, fires, earthquakes, and floods.

On this slide are some metrics from the project including the estimated market at 9 billion in just a

couple years. Next slide, please.

Staff recommends the Commission approve the *Gas R&D 2022 Annual Report*. That concludes my presentation and I have technical staff here and online to back me up on project-specific questions you may have. Thank you.

CHAIR HOCHSCHILD: Thank you so much.

So let's go to public comment on item 12.

MS. MURIMI: Thank you, Chair.

Once again, for individuals that are in the room, utilize the QR codes in the back of the room, not just for this item, for other items as well. For individuals on Zoom, go ahead and use the raise-hand feature. It looks like an open palm at the bottom of your screen. And for individuals calling in press * 9 to indicate that you'd like to make a comment giving.

Giving that one moment. Oh, we have one commenter on Zoom. Go ahead, Mr. Butta.

MR. PUTTA: Yeah. Hi, everyone. Again, my name is Sampath Putta. I have a question about the transportation slide that was presented, which will -- which involved in seeking vessel design and the funding to build the vessel? Can you please clarify how feasible it is to switch from hydrogen -- I'm sorry, to switch from natural gas to hydrogen? Because hydrogen, in my opinion, is much costlier than gasoline at the moment. So how are

you taking the trade off in? transitioning? Can somebody please clarify?

MS. WERNER: I believe that's part of the feasibility study. But I do have a technical person here that might be able to answer that.

MR. STOKES: Yeah, so I think that's a much bigger question for regarding the cost feasibility of hydrogen versus gas. Just one of the things we're looking at --

UNIDENTIFIED SPEAKER: Identify yourself?

MR. STOKES: Sorry, Erik Stokes, Energy Research and Development Division. You know, for this specific project, but we're really looking at the feasibility for this specific application, this hygiene application. And really the benefits that go along with it.

And as Misa touched upon in her presentation, there's tremendous air quality benefits too, not just in terms of greenhouse gas emissions, and specifically around areas that have experienced some pollution burns. So like I said, really the focus of this project is just around kind of the feasibility of this specific application. And I think to the broader question, that's a much longer discussion.

CHAIR HOCHSCHILD: Thank you.

Any other public comment on Item 12?

MS. MURIMI: Thank you, Chair, no more public comment. Back to you.

CHAIR HOCHSCHILD: Well, I would just pick this opportunity to say thank you, Misa. So I reviewed the report. I'm really happy with the breadth and depth and the focus. And this is a terrific set of projects and priorities.

Commissioned McAllister, I don't know if you want to add?

COMMISSIONER MCALLISTER: Yeah, just briefly, great report. Thanks for being so diligent and comprehensive. And I just wanted to highlight you know, this program is actually a long-standing program that's produced a lot of innovative research over the years. And as we pivot to decarbonization, it requires us to sort of be creative in how we actually define the problem and select projects. And I think this portfolio does that. And I know that you're doing that in future solicitations, as well. So thanks for this sort of stake in the ground at this particular moment and really appreciate the report and update.

CHAIR HOCHSCHILD: Great. Do you mind moving the -- Oh, yeah, go ahead.

COMMISSIONER MONAHAN: Just a quick comment. Also, I really appreciate actually the pithiness of the

report. It really got to the salient issues quickly. So just, it's nice to be able to have -- a lot of times we get so many long 100-page reports it actually makes it hard to read everything. I could read this report, so thank you.

Also, I just want to comment, maybe building on what Erik was saying about the hydrogen tugboat demonstration project. I actually think that's a great use of these monies. I want to emphasize that, you know, marine vessels may be a really good place for hydrogen to play a role, and particularly for marine vessels that have to cross the ocean. So I think we want to really explore.

And I know, we facilitate a ports collaborative. The ports are really interested in hydrogen and trying to figure out what role hydrogen could play in port decarbonization. And as Erik noted, it's really important for communities that live nearby ports too, so this is a really good area of research.

I also think we're all I would say, concerned about what happens to lower-income families if higher-income families electrify and the gas system becomes more costly. So this intersection with equity is really important. I know the report really emphasized how much funding is going in disadvantaged communities. And I would just encourage that continued exploration of how do we make sure that lower-income families are not burdened even

further as we decarbonize our system.

CHAIR HOCHSCHILD: Thank you, Vice Chair?

VICE CHAIR GUNDA: Thank you, Misa, for the presentation. Also, the briefing on this.

And actually Commissioner Monahan just touched upon a couple of things we discussed in our meeting as well. And I just wanted to share that I think the report does a good job on just, you know, kind of looking at the investments we're making in terms of disadvantaged communities and low income. I think, you know, we want to adapt that further to look at what the impacts of the investments are, for the communities. And I think that's something that no me has been working on in terms of developing a broader framework and look forward to furthering that conversation. Thank you.

CHAIR HOCHSCHILD: Okay, Commissioner McAllister, would you be willing to move Item 12?

COMMISSIONER MCALLISTER: I move Item 12.

CHAIR HOCHSCHILD: Is there a second, Vice Chair Gunda?

VICE CHAIR GUNDA: Second.

CHAIR HOCHSCHILD: All in favor say aye.

Commissioner McAlister?

COMMISSIONER MCALLISTER: Aye.

CHAIR HOCHSCHILD: Vice Chair Gunda?

VICE CHAIR GUNDA: Aye.

CHAIR HOCHSCHILD: Commissioner Vaccaro?

COMMISSIONER VACCARO: Aye.

CHAIR HOCHSCHILD: Commissioner Monahan?

COMMISSIONER MONAHAN: Aye.

CHAIR HOCHSCHILD: And I vote aye as well, Item 12 passes unanimously. Thank you, Misa.

We'll turn now to Item 13, Indian Energy, LLC.

MR. STOKES: There we go. Good afternoon, Commissioners. My name is Erik Stokes. I'm the Deputy Director in the Research and Development Division. I'm joined by my colleague Mike Gravely today. And we're seeking Commission approval for approximately a $31 million grant with Indian Energy to deploy what's really the first of a kind 60 megawatt hour energy storage battery system. This is our first award from the new long-duration energy storage program, which was approved in this most recent budget.

Before we get to the project, I'd like to take a few minutes just to talk about why this program is so critical. Next slide, please.

So Mike really touched upon this in his presentation last month at the business meeting. But energy storage is critical to a lot of our clean energy policy goals, both around near-term reliability, as well as

our longer term decarbonization goals and kind of everything in between those two. Chair, you touched upon this earlier today. I mean, California is already delivered 3,600 megawatts of energy storage. And that's an incredible milestone, specifically looking back to where we were just a few years ago.

But there's still a major ramp up in energy storage that needs to happen. And just looking back to the joint energy agency, SB 100 report, which identified the need for 40 to 50 gigawatts of energy storage to come online around 2045. And looking a little more near term to midterm the CPUC published plans to procure up to 15,000 megawatts of energy storage by 2032. And know that 1,000 is called for long-duration energy storage. Most of this procurement is expected to take place between the 2025 to 2028 timeframe, to really be online by 2032. And we think this window is a major opportunity for these non-lithium technologies, if we can get them to scale so that they can compete in this timeframe. And we really see the LDS program as a major, major force in being that stepping stone to get these technologies from where they're currently at to a full scale system by that timeframe. Next slide.

Yeah, so why do we care about establishing the commercial viability of these non-lithium long duration

energy storage technologies? You know, currently, we're relying on one technology for energy storage in using lithium ion. And lithium is a great technology, it's really enabled us to achieve a lot of our clean energy progress.

But it's not a silver bullet. There's been a lot of well-publicized concerns about supply chains and safety issues with lithium ion technology. And as part of our broader energy storage strategy we're working to develop safer lithium battery cells. We're also doing a lot of work to bring a lot of that domestic supply chain manufacturing into California. But there's also a lot of opportunities with new types of non-lithium storage technologies. And may the non-lithium technologies we're seeing can help address these supply chain safety challenges. They typically use more earth abundant materials. They don't suffer from the same thermal runaway challenges that lithium ion does.

However, these technologies are still very nascent technologies, and right now they're having to compete with a much more mature, bankable technology that's really already realized economies of scale in lithium ion. Next slide.

So through our programs, we're calling what we call kind of this bridge to bankability. And it's really

starts with our EPIC program and through EPIC, we've really helped move a lot of these non-lithium technologies kind of through the innovation pipeline and through some of these valleys of death. And just as one example is our CalSEED Program. It really kind of targets that first valley of death. It's a small amount of funding, but it's so critical at that stage towards that startup foundation.

But there's really been a major gap that EPIC hasn't been able to address. And it's at that later stage of the pipeline, kind of that last valley of death, in which these new technologies -- they need to really move from, you know, what's typically been kind of a one megawatt pilot system to something that's more full scale. And through that full scale system can really demonstrate and de-risk the technologies for the private sector. And really start to make these technologies be seen as bankable for project financing, as well as our investments really ramped up the manufacturing. Next slide, please.

So lastly, before I turn it over to Mike, I just wanted to provide a little bit of look ahead for our long-duration energy storage activities in 2023. We're planning to have our next CalSEED solicitation sometime in the winter timeframe. So it'll be you know, really kind of the pot funding for some of these new advanced non-lithium technologies that are still kind of early and maybe they're

spinning out of the universities and labs into some startup companies. We also have our ramp program, in which several non-lithium technologies have benefitted from. Applications are due in the winter 2023 timeframe. And this really helps companies start to ramp up their manufacturing to be able to fulfill some of these larger orders.

Also, we have our federal cost share process. We're going to really be looking at Department of Energy solicitations and really been using to leverage our funding to bring a lot of federal funding for these types of projects to California. And then we're targeting a solicitation, a large scale solicitation 2023 timeframe. It's somewhere you'll see the range between $50 to $180 million, 50 million would be the minimum. And that would only be if we don't get kind of the remaining $240 million authorized through the budget for this process, for this program. We fully expect to, and if we do, that solicitation will be more towards $180 million mark.

Part of that solicitation, we're planning a public workshop to really get input on how we design the solicitation, including some of the requirements.

And with that, I'll turn it over to my colleague, Mike Gravely, who will talk a little more about this project and some of the technologies.

MR. GRAVELY: Thank you, Erik. Next slide, please.

So as Erik mentioned, the EPIC program has a long history in energy storage and also long-duration energy storage. In 2020, the Commission released -- awarded 25 grants of which 11 of those grants were for long-duration storage. Eight of those were actually for field demonstrations, anywhere from 50 to 500 megawatts, and up to as large as 8 megawatt hours.

And also, three of those grants were for long duration (indiscernible) for early states 100 hours of systems for so multiple day systems. So we have a long history and we've been doing this for the last three years. The legislation that authorized a long-duration storage also provided us very specific guidance and ability to take these programs that are ready for the advancement to the next level and do those in a noncompetitive environment. And (indiscernible) does mention our competitive approach we'll be pursuing. Next chart.

In doing this and setting up these programs, we developed a solicitation selection process or qualification selection process. Obviously, the first thing these companies have to do is have one or more competitive awards, that they have won through the EPIC competitive process. They have to perform well in those grants.

The second thing is they have to have the ability to expand. Most of these companies have to grow their manufacturing capacity to get to the scale we're talking about. And not all of them have the ability to do that. So we look -- the other one is we're looking for companies that are doing more than just the EPIC grants. They've expanded their horizon to the US and outside the US.

Also, they have many -- in the case of the ones we're talking today, the two companies today, both have recently received private capital investments to help them grow their manufacturing. Not only can meet this scale, but meet even a bigger scale.

When you look at the goals for California, and we're talking about 15,000 megawatts and potentially 40 or 50,000 megawatts, you need to be able to deliver systems in a 500 to 100 megawatt scale. We had a workshop in April here. We talked to several other companies. They all said the same thing: this 5 megawatt to 10 megawatt is the stepping stone that they need to convince the investment community that they can perform and convince the world that they're there. And then they can take that next step up to that 50 megawatt system.

And also one of the benefits of today's systems is the system we're proposing today, if approved, will actually be up and running by June of next year. And being

able to support the grid next summer. Next chart.

The project itself is a micro grid project with the Viejas tribe of Kumeyaay Indians. And it's a 60 megawatt, 6 megawatt 10 hour battery. It also includes 15 megawatts of PV and includes a upgraded distribution system to make it more efficient and more productive.

It also will provide -- the micro grid will provide key support to the to the tribe itself, but also the community around it. Many of you have had a chance to visit the Blue Lake Rancho Ria micro grid, and how during emergencies they were able to help the community not just their community, but the community around them. This micro grid will be providing the same services to their community and the community around them.

If you look at the picture here, up in the upper right corner, you'll see where the location of the 60 megawatts of batteries will be. And then in the lower left, you'll see where the 15 megawatts of PV and also their undergrounding of the distribution system to upgrade it for higher reliability. Next chart.

So as I mentioned, we have two technologies today that we'll be demonstrating and advancing to a higher level. EOS is a zinc hybrid-based technology and Invinity is a flow battery. Both of these have won multiple EPIC awards and performed well. Both of these companies have

gotten orders both in the US and outside the US. So they've expanded their knowledge from EPIC to allow them to grow. And both of them have received substantial investments in growing their manufacturing capacity. So they can not only meet the needs of this program in the next nine months, but also grow to a bigger system in the next few years. Next chart.

So with that, I'm here to answer any questions, but we're requesting approval of the grant and requesting the staff approval the staff determination that the project is exempt from CEQA. I'm here to answer your questions.

In addition, we have representatives from the tribe, from Indian Energy, EOS and Invinity, either here in person or on online to talk and make few comments. And with that I will be glad to answer any questions the Commissioners have.

CHAIR HOCHSCHILD: Thanks so much, Michael.

We'll turn now to public comment on Item 13.

MS. MURIMI: Thank you, Chair.

Once again for individuals that are in the room, go ahead and use the QR codes located in the back of the room. For those on Zoom go ahead and use the raise hand feature. It's looks like an open palm at the bottom of your screen. And for those calling in press * 9.

We'll start with individuals in the room. I have

Allen Gcadreau, apologies for misstating your name. Please stand to the podium, state and spell your name, and you may give your comment.

MR. CADREAU: G like George, C-A-D-R-E-A-U. I want to say thank you, Chair, Vice Chair, Commissioners. This is an honor to be standing before you. That was my birth name. My given name in Anishinaabe is Nukazid Oday Ing Najinikaz. (phonetic) And that is "the soft-hearted one" that I'm called.

On behalf of the Kumeyaay Indians and the Indian Energy team we really want to express our gratitude for this opportunity. This has a wide ranging up opportunity to apply in so many different manners, the extension of what's before us right now in terms of our current partnership. And it's been wonderful.

I can't tell you how much of an honor it has been and the talent that is working collaboratively not only this project, but on our MCCAST for the Marine Corps, as well as Camp Pendleton. And this opportunity to blend and support in a time it was amazing to me to listen and experience what you guys are doing here from 10:00 o'clock until now. And the dovetail of everything that you guys and gals have put together is phenomenal.

And on behalf of the Department of Energy, on behalf of the Expeditionary Warfare Center on the Marine

Corps, the Department of the Navy, all of the indigenous within this country, and I would say across the world, we're thankful for this opportunity and this consideration. Chi-miigwech, thank you very much.

CHAIR HOCHSCHILD: Thank you so much for being here.

MS. MURIMI: Next we have Erich Hans. Apologies if I've misstated your name.

MR. HANS: No, you stated it perfectly. Thank you.

MS. MURIMI: Please state and spell your name for the record.

MR. HANS: Sure, Erich Hans, with the Viejas, Chief Financial Officer, E-R-I-C-H H-A-N-S.

Earlier this morning, I heard very exciting terminology. I heard moments of action. I heard doubling down. I heard tripling down. We can relate to that as casino operators. But more importantly, it's really critical that everyone understands that Viejas Casino and Resort is more than a casino. It's more than a commercial operation. It provides the entire economic resource for the tribe and the tribal community. So when we talk about diverting our power source, it is significant.

If we have the ability to go back to the screen that had the physical shot of the property, what's

important for us to realize is as a Chief Financial Officer, what you always want is reliable, abundant source of power with predictive pricing. We have none of that in San Diego County at the moment at the moment, and it's not anyone's fault. We have high wind speeds. We have rolling blackouts. We have intermittent shut offs.

And we have a pricing model that is impossible to keep pace with. We currently have seven-figure annual utilities rapidly approaching eight-figure annual utilities with inconsistent reliability. And that does not work for a 24/7 operation; 24/7 is not a slogan. We in fact do operate 24/7. So power consistency is vital.

It's also important for me to have you realize that you have an engaged partner in Viejas. And it's important when a solution set is under consideration that everybody has skin in the game. And I'd like to speak for a moment of the financial skin that Viejas is contributing to this. We have funded for the past three years our collaboration with Indian Energy to develop non-lithium based long-duration battery storage on site. We have provided commercial contracts, which commit hundreds of millions of dollars from Viejas over the next 30 years, that they in turn can use for their commercial lending purposes. We ourselves are funding directly assets in excess of $30 million that will serve as the generator

backup to the system and integrate directly with the system.

In our most recent expansion, which is underway as we speak, we are bringing forward a 2,500 space parking garage. We are doubling the state's minimum requirements for EV charging stations. We are pre-wiring for 20 percent. We are delivering 10 percent upon installation and opening of that facility next year. We know the importance of sustainable energy, not just for our future as a commercial entity, but for the tribe and for our community.

Last but not least, we as a big box operator are putting too much pressure on our local grid, right? So when we step off of that grid, we are not the lone benefactor of that. The San Diego community at large benefits from that. And if we can serve as a viable alternative in a big box utilizer to show that this can be done in a different way wouldn't we all benefit from that? I think the answer to that is yes. We appreciate your consideration. Thank you so much.

CHAIR HOCHSCHILD: Thank you.

MS. MURIMI: Thank you for your comment. Next we have -- oh, apologies, one moment. Next we have Colin Boone. That’s C-O-L-I-N B-O-O-N-E.

CHAIR HOCHSCHILD: Dorothy, who's up after that?

MS. MURIMI: After that we have a few folks on Zoom.

MR. BOONE: Good afternoon. Thank you for spelling My name beforehand. That's helpful.

I first want to thank you, Commissioners and Chair and Vice Chair. It's very much a privilege to be up here in front of you today. This is an important moment we think. As we look forward to focusing on long-duration energy storage, non-lithium energy storage, it is something that's critically important to our company personally. And Invinity Energy System was born from Avalon Battery in Oakland, California, the powerhouse incubator. So we spent many years there developing our products and working. For those of us who live and work and have children in California this is an incredibly important moment for our energy future.

I want to talk about just a couple of things in this project that we think are exemplary and unique. And it's important to note that first of all this is this is something for us that we've been working on for a long period of time. It is something that we actually believe is a critical undertaking in something that's rather unique. We're focused on long-duration energy storage as a key component of a 24 by 7 operation. We're going well beyond 2 hours, we have 10 hour goals. We'll exceed those

goals. We're looking at doing longer and longer energy duration with our product and many other products in this group.

The micro grid that we're going to support will support both the community as well as the commercial aspects of the area. It'll also be a proof source and a stepping stone to future much more scalable projects that will have greater and greater impact in the State of California as we look towards moving towards a carbon neutral environment.

The thing that's really very unique is that we're going to deliver this in less than a year. So a year from now, we can be standing here talking about this and have this up and operational and we can see the impact and we can measure it. And we can resolve any issues that come up. And we can start to plan for the future, because we realize that scaling is really the important event that comes out of this ability to really impact California's future as well as the global future.

So I want to thank our partners. I want to thank the committee. We appreciate the opportunity. We want to thank Indian Energy, Viejas Tribe, EOS. We've had great partnerships and great working relationships and we very much appreciate the work that Mike has done with this over the years. So thank you very much.

MS. MURIMI: Thank you.

Before moving to our Zoom commenters, we have a comment to be read out from Terry Considine. I'll go ahead and read that out. That's Terry T-E-R-R-Y Considine, C-O-N-S-I-D-I-N-E, CEO of AIR Communities.

"I am writing you today to voice our support for the Viejas Enterprise Micro Grid Project and the grant award to Indian Energy.

"In 2014, our team at Rams Hill in Borrego Springs, California undertook the move toward a more grid secure and cost predictable model for our properties in California. Starting in San Diego County with our Rams Hill property, we looked for subject matter experts with unique skill sets to help us accomplish this corporate goal via renewable microgrids.

"Through this effort, we began to work with the Indian Energy team. The result was the solar 12 KV micro grid that we and members of the Indian Energy team still operate today at Rams Hill.

"Currently members of the Indian Energy team are involved in the operations of our micro grid as we prepare to make that system 100 percent renewable based on long-duration energy storage coming out of the rapid integration and commercialization unit, or RICU at MCAS Miramar. This is a major goal for us.

"The technologies and technical solutions coming from this award will be of great benefit to us and to those who follow after us with real estate investments throughout California. I watch with great interest the work of your Commission. We are eager to utilize the technical derivatives within our own portfolio to support the state's resiliency and climate adaptation goals. This will benefit our properties, our customers, and the California community at large.

"We're enthusiastic and our support for this project and the Indian Energy team. We recommend that you make the award on the October 12th. It will be a big step forward with this group, with this proven and capable team. Sincerely, Terry Considine."

MS. MURIMI: Now we'll move on to Zoom. We have Alex Morris, please state and spell your name, and give your affiliation if any. You may begin.

MR. MORRIS: Hi, Commissioners. Alex Morris, A-L-E-X M-O-R-R-I-S, with the California Energy Storage Alliance or CESA. I wanted to thank everybody for the chance to comment, and Chair Hochschild, and those you have had a chance to connect with, I appreciate your time. We're excited to have this long-duration energy storage program starting to take shape. And I wanted to just explain briefly CESA's role and where we go from here.

CESA is the voice of grid connected storage in California. We have 120 members and we helped shape and support the growth of storage for many years over a decade now working with the Energy Commission. It's exciting to collaborate with the Energy Commission and we appreciate the staff's willingness to work with us over the years, and to receive valuable and critical input from industry on how to design programs that truly will commercialize storage.

The commercialization of energy storage, as we're contemplating here, requires the maturation of the entire commercial system of a new technology. And that includes financing insurance, contracting terms, operational safety and standards, permitting and operations, and all of this at sufficient scale.

As such, we need a program that rises to this challenge. And this means that we need to make material and competitive program awards that recognized this program needs to be bigger and different from the smaller grant programs we also rely on through the Commission. I think Erik Stokes chart of the different valleys of death highlights this. And we're really appreciative of the chance to focus on those later valleys of death, which are truly a significant barrier to commercializing all of these technologies.

One thing is I do want to emphasize the need

going forward to have further competitive solicitations for these funding opportunities. And CESA appreciates the plans to develop more program input from stakeholders. Hearing from the voice of storage in California, I think is crucial and beneficial to designing a program that really works to meet California's toolkit. And it's important that we do that, because this long-duration commercialization program, which CESA helped to pass is one of a kind. It very well may be the last best shot we have to bolster our energy storage toolkit to meet our decarbonization needs. And as such CESA's keenly focused on making sure this program is designed to achieve success.

So input on commercialization plans from various candidate technologies are going to be key. And we want to allow proper competition and we're for the funding to ensure that the right levels of skin in the game occur. And that we're pursuing projects with an eye towards the company's specific commercialization plans. I look forward to maximizing the value of this critical program and ensuring it supports both the program's goals and our state's goals and reliability.

And with that, I want to say thank you and good luck with the Indian Energy project and good luck to that team.

MS. MURIMI: Thank you.

Next we have Ivan Jones. Please say spell your name. Give your affiliation you may begin your comment. Please unmute on your end.

MR. JONES: Am I unmuted?

MS. MURIMI: Yes, you are now. Thank you.

MR. JONES: My name is Ivan Jones. I am a member from the Khoikhoi and the same ancient tribes from Cape Town, South Africa. I am here to support Viejas micro grid, long-duration energy storage project led by Indian Energy. I met the leadership of Indian Energy in San Diego, around 2014. And since that time, they have assisted me in South Africa to develop utility scale energy projects. And those projects have now started to mature, so that we can talk to government about the program. And at the same time, speak to the big mining houses and other big energy users in South Africa.

Currently, South Africa is a state of a serious, serious energy crisis. We lack the basic technology and know-how to solve our energy challenges. We have regular rolling blackouts for the past 14 years. For three hours while I was on the Zoom, I was sitting in darkness, because of these rolling blackouts.

It is through our partnership and the knowledge we have learned from Indian Energy that we know the technology and solutions exist to solve these problems. We

hope to roll out the same long duration energy storage microgrid project in South Africa, using American technology and the support of Indian Energy in the near future.

We thank the California Energy Commission for its boldness in leading through action. And once again, strongly support the Viejas Enterprise Micro Grid Project in partnership with Indian Energy.

I'd like to commend Commissioner Hochschild on what he said earlier, when he said this is the great implementation. But this is not only the great implementation for California, but for the world. One of the commissioners, Commissioner Gunda, mentioned the effects of what California is doing is affecting the whole of the world. Where you are trying to keep the lights on we are trying in South Africa, just to keep our grid from collapsing.

Commissioner Hochschild, I want to tell you that you mentioned that some people hope for you to fail. But I want to say that for every one person that hopes for you to fail, we are tens and tens and thousands around the world that are supporting you. And we will always support you. We want to say on these big (indiscernible) all hands will be on deck. And we will be fully supportive of Indian Energy and yourself.

MS. MURIMI: Thank you for your comment.

Next we have Sam Garry.

CHAIR HOCHSCHILD: If I could I'd just like to respond to that last comment. Thank you so much, sir, for calling in all the way from South Africa. And that's a very special call to get. I used to live in South Africa in the late '90s, two-and-a-half years after Mandela was elected President. And I have to say, it's just wonderful to hear those comments. And we take that to heart, so thank you so much for calling in.

MR. GARRY: Awesome, Sam Garry. It's S-A-M, last name G-A-R-R-Y. I partner with the Uneva Energy Group. And thank you, first of all Commission, for taking the time today. I know it's been a long day, so I will try to keep my comments very brief as I am not the speaker that some of those that have already spoken on this matter are. But would just like to express my wholehearted support for the project. We are a consultant, a financial consultant for micro grid developers and independent power producers in California and across the nation. So we've seen many projects like this.

And we've been brought on to help Indian Energy with their tax equity investments on this project. So very familiar with both the project and Indian Energy. Just throughout the process we have been extremely impressed

with Indian Energy, their level of professionalism, their technical know-how, and their ability to execute on every commitment that they make.

Additionally, we're really excited for this particular project. Its ability to bring to market some really new technologies that are really exciting, I think will play a very important part in California's future and the future of the nation as well as a transformative project for the Viejas tribe. So very excited to offer our support for the project and the grant as well. Thank you.

MS. MURIMI: Thank you.

Next we have Micah Sussman, please state and spell your name, give your affiliation. You may begin your comment.

MR. SUSSMAN: Micah, M-I-C-A-H, Sussman, S-U-S-S-M-A-N. I'm Micah Sussman. I'm the Vice President of Development for Fellowship Energy. Fellowship Energy is a renewable energy developer, financier and asset owner with a nationwide development portfolio in solar plus storage and standalone storage projects.

First and foremost, I want to voice my wholehearted support for the approval of this grant on behalf of Indian Energy and the Viejas band of Kumeyaay Indians. I don't think there's anything I can actually say that would sound anywhere near as good as what Erik said

about this project and the benefits it will have for this for this specific tribe and region. But rather, I'd like to focus my comments on our relationship and interaction with Indian Energy and this project.

When you first interact with Indian Energy, every single member of that organization is very humble about what they're capable of and what they've done. But it belies a technical know-how that that rivals many of the largest developers I've ever interacted with. This group is a powerhouse of expertise. But what makes them much more valuable as a developer is that they understand where their expertise ends and where someone else's begins. And they have brought partnerships to this project that have launched it into a different location.

And getting to the stage where financing is happening, projects are moving forward, this is a fully-baked project is something that takes a level of know-how and intellect that is world class.

And so you know this project has implications well beyond just the Viejas. I know that it's been said before, but this is -- with this grant it is set to be a project that can be repeated over and over again as a springboard for other projects with other tribes that are similar.

And so again, I want to just put our support

behind this. And voice that we do think that they should get approved for Indian Energy and the Viejas.

MS. MURIMI: Thank you.

Next we have "Call-in User 2." Please state, spell your name, give your affiliation. You begin your comment.

MR. UHLER: Hello, Commissioners, this is Steve Uhler. I fully support this type of a project. I'm hoping that I'll find out more about whether or not they'll use DC directly. Something that Edison long ago saw as a solution, particularly in a situation that we've learned a whole lot about chemistries. Chemistries these batteries. Chemistries of solid state devices to make light. Situations where you don't have to have electricity that as some people call doesn't sit still, alternating current. Be there, be ready, and be safely used in a facility like this. Whether or not any of these batteries have a connector on the end that happens to plug into a car, or any other type of device that could accept a charge such as these portable power stations, any which way to show that these systems can be used and are highly effective.

So thank you for this opportunity to comment. Bye.

MS. MURIMI: Thank you.

And with that, Chair, there are -- oh, we have

one more commenter, apologies. S. Butta, B-U-T-T-A. Please state and spell your name, give your affiliation. You may begin.

MR. PUTTA: Yes. Hi, everyone. My name is Sampath Putta. So I have a couple of questions to the Viejas presentation, the Indian Energy. And I have not seen any slides about the efficiency comparison and the number of cycles that can be charged and discharged for these standalone systems. Could somebody please clarify?

The reason I asked this question is because most of the ion energy systems in comparison with other kinds of energy storage systems like battery, lithium ion batteries, they have a fixed lifecycle of charging and discharging. And they have a bottleneck of the charging percentage to which a system can be fully utilized. So if you can clarify on those details, that would be very helpful.

Thank you again, for the great presentation. And I look forward for the team, the Commissioners' team to approve it, because I fully support the idea behind alternative storage systems. So thanks and looking forward to an explanation about the efficiency and the cycle times. Thank you.

MS. MURIMI: Thank you.

Chair, with that there are no more comments. Back to you.

CHAIR HOCHSCHILD: Well, thank you so much. I really want to thank all the stakeholders for sharing your comments and thoughts. And I want to begin by just acknowledging the Viejas and the Kumeyaay Indians. And I just want to say, you know, the relationship that the tribes have had to government over the last several 100 years, the United States has been, you know defined by genocide at first. Then I think defined by fighting dislocation from land. And then in many cases fighting terrible projects being put on tribal lands and to be able to be here today. Forwarding a project that's positive, that represents clean energy that's a model for the state and the country with an innovative new technology is really exciting. It's a big milestone. And I want to thank all of you for being a part of that.

I do believe in my heart that the problems our world faces today are principally from the departure that humanity is made. From that basic Native American wisdom of always asking what every decision you make will impact seven generations from now. We have to get back to that. And I think part of the way we do that is more engagement with tribes like we're doing today.

This kind of stuff is personal for me. It's important. It's a priority for me. It’s a priority for all of us on the Commission. It's a priority for the

Governor. So I do want to thank all of you.

I want to recognize our amazing Travel Advisor, Katrina Leni-Konig. And we are pushing forward to elevate this type of activity with tribes even more. We funded seven tribal micro grids around the state. As you all know, we have 150 Native American tribes in California, more than any other state in the country. And we want to support tribal energy sovereignty. That's a goal we have in every way, not just for energy storage, but through micro grids. Through like the electric vehicle chargers, through energy efficiency, and really help deliver more progress like we're doing today.

I want to also recognize in particular, Mike Gravely, my advisor who has worked incredibly hard on this for many, many years. This is a culmination really of his career at the Energy Commission. And taking some of the learnings we've had from many, many other chemistries that we've invested in, and really now taking the next step to bring this technology category, long-duration storage, into the mainstream, into the market, it is time. And so I fully endorse this strategy. I think this is the gateway for how we build a whole new industry.

I do want to say again it's an incredible achievement to have increased by 15 fold energy storage on the grid from 2019. It was 200 megawatts where to today

where it's 3,600 megawatts. That's entirely four-hour lithium ion capacity, okay? And I think there are risks and being entirely in one chemistry. This de-risks that. This has some different attributes that are good for the state, and are going to help make us a success.

Electricity service should be understood to be like water. It's a utility you require, people require it for medical devices, for refrigeration, we have to have it be completely reliable. And that's something we absolutely can do. I do not believe these, you know, cynics and naysayers who are saying the grid cannot be reliable. This is a solvable problem. And today's project is yet another important milestone in helping shore up that reliability and helping us decarbonize the grid.

And what we're trying to do here, ultimately as we get to 100 percent clean energy, is electrify almost everything. And we're, as I mentioned, adding almost 1,000 electric vehicles a day. We're electrifying the building sector, rail, and so many other sectors of our society and bringing that clean electricity to places it's never been. And that's really exciting. We are on the cutting edge of that in California.

You are all a part of this movement. And it requires all of us in government and stakeholders and tribes, and private industry, innovators, academic

institutions coming together. But I think this is a turning point year in this effort. We're putting more resources now into these solutions than we've ever done, than any state has ever done.

And again, I want to highlight when we do this stuff there are people who dismiss it as mythology, okay. And just remember, we have heard that before, all right? This is what they said about solar. I came up with the solar industry, all right? People thought that was a niche tech, that's now the lowest cost source of electricity on the market and the fastest growing energy industry in the world. Wind is right there as well. All right, and we're now going -- we have 21 states with mandates for 100 percent clean electricity. President Biden set that as the goal for the country. I absolutely believe we're going to get there, but energy storage and long-duration energy storage has a really important role in that. So remember this day, this is a big one. This is a big step.

Mike, I want to thank you for all your work. You have put your heart and soul in this work, nights and weekends. And you know this, but you've been -- this particular program, you know, we wanted to give this money a year-and-a-half ago, and finally got it out the door in July.

And I do want to say I understand there's some

resistance some of these early projects being funded at this level. I fully support this. I think it's the right strategy. There is a whole 'nother wave of funding coming including, I believe about 30 million, in December. There'll be competitive solicitation. Another round in July and more as well. And we're going to get this done this. This is a top priority for us at the Energy Commission to support this. It is for the Governor, the Governor's Office as well, and all of our sister agencies.

So a really exciting moment. And I would welcome any Commissioner comments. Yeah, Vice Chair Gunda, please.

VICE CHAIR GUNDA: And thank you, Chair. I just wanted to lay out a couple of things here. First I want to start by thanking Mike, thanks for your work on this. And Erik, thank you for the briefings and kind of going through the discussions and with the comments we've received and how best to navigate the process. So I really commend your work. It's a lot of work to be done, and you keep showing up and make it happen. So just thank you for that. And also doing it thoughtfully and respectfully, which is a humongous ask on top of that.

And I really look to the commenters today. And congratulations to the Indian Energy for this proposal. I look forward to supporting it.

And I just wanted to make a couple of comments on

the importance of the long-duration storage, specifically as a technology. Thanks Chair, for putting together the workshop in April. Just kind of thinking through that some of the early results show that we might need long-duration storage as early as 2024. And we really don't have a lot of chemistries to help scale that.

And for those of you who are tracking we have about gigawatt that CPUC authorized. It's actually two, but about a gigawatt that would be used for potentially long-duration storage, and that they're expecting to come on line by 2026. So this technology has to scale, and we have to do everything we can to scale this technology. So thank you for all your work. And thank you for you know -- I can't reframe what the Chair said in terms of the energy solidarity and just making sure the tribes are able to get the necessary support from the state. It's a priority for the state, a priority for the Commission. And it's wonderful to see projects like this and I look forward to supporting it. Thank you.

CHAIR HOCHSCHILD: Commissioner Monahan?

COMMISSIONER MONAHAN: Well, I want to thank the tribal members who have journeyed here and spent the entire day paying attention to this what can be a very long set of business meeting items.

And I had the pleasure of visiting the tribe.

Katrina Leni-Konig organized together with our then Public Advisor Noemi Gallardo, a trip. And I was blown away with what I heard, the vision. I mean, I've got to say Erik, I don't think I've ever heard of a CEO who spoke so cogently and passionately about clean energy, and how important that is to the bottom line. And how electricity prices are rising and electricity is not reliable. And you need to, to both for the sake of the casino and the community around the casino, to really make sure that you have a resilient energy system. And you're doing this with thoughtfulness about the community, and really trying to make sure you're doing all you can to support your community.

And it was just really powerful to be there. I would recommend all the Commissioners go. It's just, I was like I've never been so inspired in a visit.

So and I think as the Chair said, the US government has a long history of doing nefarious things to tribal members. And to be able to support a tribe who's really looking forward to the future, and trying to do the best things for your community maybe is a divergence from what the US government has done, and the California State Government has done in the past. But our Governor is committed to this. We're committed to this. And it's just a very exciting program. And the fact that we'll actually be able to see results in a year is also amazing.

CHAIR HOCHSCHILD: Thank you, Commissioner Vaccaro?

COMMISSIONER VACCARO: Yes, thank you. I just wanted to recognize the words that you use, Chair. I think it's really important, two important things you made clear. That we all, each of us as Commissioners care about this. We care about these types of projects. And that doing our part for tribal energy sovereignty is critical. And it's really a top priority. You mentioned that and I just wanted to underscore. I want people to hear it from each of the each of the five of us. This is something that we are very much committed to and really pleased for the work that you've done, Mike, and for this project that is before us. I definitely support it and look forward to the vote.

CHAIR HOCHSCHILD: Commissioner McAllister?

COMMISSIONER MCALLISTER: Yeah, I just couldn't agree more with the comments about the history and the historical context. And sort of the really the ethical and moral component of this, which is very strong and needed. And we definitely should not ignore.

And, you know, I would love to see -- so this is a demonstrative project that I think will -- the dynamic often is, you know, local entities specific projects, really show us what's possible. And we and others can build on that going forward. And I think you're absolutely

doing that in myriad ways, so including this project.

And the vision long term, is that we have this reliable grid where we've optimized investments. And we sort of at all scales, and that we do the right thing to enhance reliability, but without gold plating the system. And we have a huge diverse state geographically and culturally. And I think this is just, again a very demonstrative example of where we're going as a state. And we need that subtlety, but also that scale. And so this project is just important, and will blaze a trail that many, many others will follow across the state and beyond.

I did appreciate that presentation. And, Mike, thanks a lot for while I was far afield helping me get an iterative briefing on this. And, you know, acknowledging sort of the process going forward, and really looking to both highlight innovative projects and scale those up. But at the same time we look for competitive opportunities as well. I think the balance is really good.

So just process wise I think the vision going forward is correct. So I want to bring up those issues. But thanks a lot.

VICE CHAIR GUNDA: Chair, can I?

CHAIR HOCHSCHILD: Yes, go ahead.

VICE CHAIR GUNDA: As a part of I think the opportunity here to just remind, especially I think CESA

mentioned the opportunities for other technologies, and also Indian Energy today here, and others listening. We do have a large amount of money in the distributed assets side, which could be used for some of these projects, micro grids that could support reliability and resiliency. So I just wanted to put that out there as further opportunities for expanding our investments. Thank you.

CHAIR HOCHSCHILD: Great. With that is there a motion on Item 13, Vice Chair?

VICE CHAIR GUNDA: Yeah, move Item 13.

CHAIR HOCHSCHILD: Commissioner Vaccaro, would you be willing to second?

COMMISSIONER VACCARO: Second.

CHAIR HOCHSCHILD: All right, all in favor say aye.

Vice Chair Gunda?

VICE CHAIR GUNDA: Aye.

CHAIR HOCHSCHILD: Commissioner Vaccaro?

COMMISSIONER VACCARO: (No audible response.)

CHAIR HOCHSCHILD: Commissioner McAllister?

COMMISSIONER MCALLISTER: Aye.

CHAIR HOCHSCHILD: Commissioner Monahan?

COMMISSIONER MONAHAN: Aye.

CHAIR HOCHSCHILD: And I vote aye as well, Item 13 passes unanimously, congratulations.

MR. GRAVELY: (Indiscernible.)

CHAIR HOCHSCHILD: Please.

MR. GRAVELY: I would like to just close by saying that this was a real team effort: the Chief Counsel's Office, the Executive Office, the Siting Division, the R&D Division, Accounting, I mean, the Grants Office. I know you thanked me, but it was a team effort. And all of us were running at a high pace. So just thank you very much. But I just wanted to recognize the fact that this was an example of all of us working together and getting it done in a timely manner. Thank you, sir.

CHAIR HOCHSCHILD: Yeah, if we can have a round of applause for all the staff who worked on it. Thank you. Thank you all, and thanks to our amazing Chief Counsel.

And with that we'll turn out Item 14, the Latino Equity Advocacy and Policy Institute, LEAP Institute. Go ahead.

MR. GRAVELY: Okay. Going on, Chair and Commissioners. I'm Mike Gravely again from the R&D Division.

I just want to point out that the EPIC program released a solicitation about a year-and-a-half ago called the Mobile Renewable Backup Generation System, MORBUGs. And the goal was to find ways to replace diesel and gas generators, in particular on a smaller scale, with clean

energy solutions. We selected seven grants, six of those grants have already been before this Commission and been approved. This is the last, this is the seventh grant from that area. And I just want to go through briefly the value of that. Next chart.

And everybody knows how difficult it is for us. Indeed, again the use of diesel generators or expansion of diesel generators with some of the current issues we've been having, these MORBUG systems provided reliability or resiliency that we're looking for. They provide safety, because they're now operating in a clean environment and they don't have the pollution. They don't have the fire impacts that you would have with some of these systems in the field. And so they're reducing emissions.

And also this one we'll show, has an equity investment, because we are doing this and not only testing it in a disadvantaged community, but disadvantaged community is a major part of this project. Next chart.

So the LEAP project was developed here to put together a simple, easy to deploy easy to manage, and easy to deploy system. This one is a solar with storage. The panels are set up, it's a 12 kilowatt system. So it's basically replacing a small transportable diesel or gas generator, that you would bring with a whole bunch of diesel and gas. This system can run for 12 to 14 hours a

day. It provides service to emergency first responders whether they are fire department, nursing, police department coordination, medical. And so the system is designed to do that. And again, it is designed to be easy to deploy, easy to manage and easy to return.

I do think it's important to mention that we're going to be testing this in different climate zones. And one of the things we're trying to do with all these MORBUGs is we're working with the State's Office of Emergency Service and the utilities to try and integrate some of these into projects, demonstrations that they're doing, evaluations they're doing to show how we can replace some of these diesel systems with clean alternatives.

It is also important to mention here that the system will be managed by a disadvantaged community based organization. And that the system will be assembled, tested, deployed and managed by the residents of that disadvantaged community. And with the next chart.

With that, we're asking for approval for this grant and the adoption of staff's determination that the project is exempt from CEQA. And I believe (indiscernible) but I believe we have potentially a speaker from the LEAP Institute online that would like to make a few comments.

CHAIR HOCHSCHILD: Thank you. We'll go to public comment on Item 14.

MS. MURIMI: Thank you, Chair.

For individuals that are in the room, go ahead and use the QR codes located in the back of the room. And for individuals on Zoom, use the raise-hand feature. And for individuals that are calling in, please press * 9 to indicate that you'd like to make a comment.

We'll start with individuals on Zoom, seeing none in the room. Rey Leon, please state and spell your name, you may begin your comment.

MR. LEON: Hello, good afternoon. My name is Rey Leon, Executive Director, and Founder of the LEAP Institute. Greetings to all of yours out there in Sacramento. I'm here in the heart of the valley here out on in California. And looking forward, moving this project forward. We've been I guess, just holding on and waiting for this opportune moment.

To get it going, we're coupling this with another program that we got with a Workforce Development Board. And so essentially what we're doing is bringing innovation and equity together in one of the poorest cities in the State of California. Here out in California, it's just so happens that four of those poor cities are in Fresno County, which has one of the highest ag revenue counties in the State of California.

So because of the fact that the drought hitting

as hard as it is, and no longer can we look forward to the 8,000 migrant farmworkers every lettuce season, our economy has really been pretty bad. And so our intent is to build up the skills and so that we could develop the environment to build up an industry that is renewable. Because if we're not going to be able to grow the crops that we've grown, and empower the local economy in that fashion, you know, it's going to be difficult.

And thousands of acres in our area are also going either to solar or to almond orchards. And then at the end of the day, they're not as labor intensive. After you build the Solar Park, the labor intensity is down. The almond orchards and pistachio orchards are have always been low intensity due to the technology used. And all the other crops, technology as you may imagine, is it's coming up and taking out jobs. And so we are hoping that with this project, we're not only able to build skills to employ people to build them, hopefully we could commercialize them. And keep on building them for entities throughout the state and beyond.

And to maintain those jobs grow more jobs, but also grow the interests in innovative technologies and clean energy with the youth, because the Ag jobs are no longer going to be around. It's going to be up to us to build and make sure that young people have access,

equitable access to quality education.

And I know I'm going off on a tangent. It's just the picture that I got in my head is more than one program. You know what I mean? But this is definitely one of those pillars to help my city and the surrounding communities on the west side, and around the most part for farmworker family oriented to bridge over to the future that is about technology. That is about climate resiliency. And just figuring out how to keep on just employing and empowering with equity in mind.

And of course in getting rid of the carbon footprint that has not been positive, because also it's pollution spewing right. And the Silicon Valley is still one of the most contaminated air bases in the nation. So, so yeah, we're just trying to dot a lot of "I"s and cross a lot of "T"s out here.

CHAIR HOCHSCHILD: Thank you so much, Rey, and congratulations on your clean power Champion Award. It's nice to have a celebrity like you call in and grace us with your presence.

Is there any other public comments on this item?

MS. MURIMI: Yes, Chair. We have "Call-in User 2." Please state and spell your name, give your affiliation, you may begin your comment.

MR. UHLER: Hello, Commissioners. This is Steve

Uhler. I have an interest in this type of product, but I'm having a hard time ascertaining where the money goes on this. This is a fairly common product that can be bought on Amazon out of the box. There's a lot of them made. I in fact (indiscernible) my lunch on a system that's very much similar to this. It's smaller. I also take that camping. I no longer use fossil fuels camping. But could somebody clarify how many of these will be built for this grant? I would like to make further comment after knowing what that number is?

MR. GRAVELY: (Indiscernible.)

MS. MURIMI: Apologies. Could you state that again, closer to the mic?

MR. GRAVELY: That's how my speakers are. So I'm sorry, yeah. So there will be four systems built, and they will be tested in four different locations. And as part of exercises we mentioned before, so these are -- all of the MORBUGs systems were designed to do three different climate zones in four different systems. Okay.

MS. MURIMI: And with that, Chair, there are no more comments in the room.

CHAIR HOCHSCHILD: Okay. Well, I'm in full support of this. Thank you so much for all the work. Unless there are other Commissioner comments, I'd -- Yes. Go ahead, Commissioner Monahan?

COMMISSIONER MONAHAN: I just want to build on what you said share about Rey Leon being a real leader in this space, just always kind of pushing the edges of what's possible. He's already done with electric vehicles and just the expansive vision of really trying to help a city like Huron make money, clean the air, and be part of this clean energy revolution.

CHAIR HOCHSCHILD: Well said, would you be willing to move Item 14?

COMMISSIONER MONAHAN: I move Item 14.

CHAIR HOCHSCHILD: Commissioner McAllister, would you be willing to second?

COMMISSIONER MCALLISTER: Second.

CHAIR HOCHSCHILD: All in favor say aye.

Commissioner Monahan?

COMMISSIONER MONAHAN: Aye.

CHAIR HOCHSCHILD: Commissioner McAllister?

COMMISSIONER MCALLISTER: Aye.

CHAIR HOCHSCHILD: Vice Chair Gunda?

VICE CHAIR GUNDA: Aye.

CHAIR HOCHSCHILD: Commissioner Vaccaro?

COMMISSIONER VACCARO: Aye.

CHAIR HOCHSCHILD: And I vote aye as well. Item 14 passes unanimously.

We'll turn now to Item 15, Zero-Emission Drayage

Truck and Infrastructure Pilot Project.

MR. PERRY: Good afternoon. How's it coming from the mic? Sounds good, okay.

Good afternoon, Chair and Commissioners. My name is Marc Perry, and I am an Energy Commission Specialist in the Medium- and Heavy-Duty Zero-Emission Technologies Branch of the Fuels and Transportation Division. Today, we are seeking approval for two agreements with San Joaquin Valley Air Pollution Control District, resulting from the solicitation "Zero-Emission Drayage Truck and Infrastructure Pilot Project."

In November of 2020, the California Energy Commission and the California Air Resources Board, CEC and CARB, respectively, released their first-ever collaborative grant funding opportunity to support large scale projects where CARB will provide funding for zero-emission, on-road, class 8 trucks. And the CEC will provide funding for the infrastructure necessary to support the deployed trucks, in addition to workforce training and development.

Two of those agreements from this GFO have already been approved at a previous business meeting and are underway. And one remaining agreement will be presented at a future business meeting. Next slide, please.

Class 8 drayage and regional haul trucks make up

only a small percentage of total vehicles on the road, but they have a huge air quality impact on communities living and working near heavily trafficked roadways.

The infrastructure that will be deployed as a result of these two awards is expected to support 100 new, zero-emission, Class-8, regional haul trucks in Northern and Central San Joaquin Valley. The projects' benefits will include reduced emissions that will result in increased public health and safety, even to those communities beyond the immediate project sites, most of which are located in SB 535 disadvantaged communities and AB 1550 low-income areas.

Additionally, the projects will increase economic development outcomes throughout the San Joaquin Valley through the creation of construction jobs that will be paying prevailing wages as required by state law. Both projects will conduct regional workforce training and development for both truck and infrastructure repair and maintenance.

Furthermore, these projects will show the feasibility of large-scale infrastructure projects that will be able to provide best practices and key lessons learned for resiliency and future replicability. The proposed projects will help other freight transportation fleets understand which technology may work best for their

particular duty cycles and driving environments. Which will ultimately accelerate meeting Governor Newsom's Executive Order to transition California's entire drayage and regional haul fleets to zero-emission by 2035. Next slide, please.

Item 15a. The first proposed grant is for $10,348,873 for agreement ZVI-22-014. The goal of this agreement is to design, construct, and deploy at least 25 direct current fast chargers, a photovoltaic distributed energy resources system, and a battery energy storage system to support 50 Volvo VNR electric trucks at a major grocery store distribution center in Tracy. Next slide, please.

Item 15b. The second proposed grant is $4,550,710 for agreement ZVI-22-015. The goal of this agreement is to design, construct, and deploy at least eight direct current fast chargers and a battery energy storage system to support 50 Tesla Semi electric trucks at major soft drink distribution center in Fresno. Next slide, please.

Staff recommends approval of these two grant agreements, and also recommends adoption of staff's determination that these two actions are exempt from CEQA.

Thank you all for your time and consideration of these items. That concludes my presentation. I am

available to answer any questions. Jason Crow, Manager at CARB, and Michael Ippolito from Volvo Trucks North America are available on Zoom to answer any questions, as well as representatives from San Joaquin Valley Air Pollution Control District and Tesla.

CHAIR HOCHSCHILD: Thank you so much, Marc.

We'll now to public comment on Item 15.

MS. MURIMI: Thank you, Chair. Again, for individuals that are in the room, utilize the QR codes in the back of the room. For individuals on Zoom go ahead and use the raise-hand feature. It looks like an open palm at the bottom of your screen. And for folks calling in, go ahead and press * 9 to indicate that you'd like to make a comment.

We'll start with Jason Crow. Please state and spell your name, give your affiliation. You may begin your comment.

MR. CROW: Good afternoon. I'm Jason Crow. That's J-A-S-O-N, last name C-R-O-W. And I'm with the California Air Resources Board. And I just like to say a few words today about the close collaboration between CARB and the California Energy Commission on what has been our very first joint solicitation.

This has truly been a first of its kind partnership between our agencies, and has resulted in the

selection of five projects in total with over $63 million in funding from CARB and just over $44 million from the Energy Commission. Also leveraging an additional $138 million in total match. $24 million of CARB's funding comes from the California Climate Investments with an additional $40 million appropriated by the Legislature in fiscal year 2021-'22.

And as mentioned, funding supports both the South Central Fresno Pepsi Delivery Truck Electrification Project and the Grocery Operations For Carbon Emission Reductions or GROCER Project. Both projects now have CARB grant agreements in place and we're excited to see this project come before the Commission today.

Full deployment of all 50 trucks for the Pepsi project is expected by June of 2023. And for the GROCER project, full deployment of the 50 trucks is expected by June of 2024.

Large scale pilot projects like these helped to set the stage for even bigger benefits over the coming years, as commercialization of the next generation of zero emission technologies, supports the larger transformation away from fossil fuels. And toward a zero emission future in California.

These investments help support Executive Order N-79-20, providing more commercial options to meet the goals

of transitioning all trucks and drayage service to zero emission by 2035. And the broader on-road commercial trucks transitioning to zero emission by 2045.

California continues to lead the way in funding advanced technology, resulting in direct greenhouse gas emission reductions. We will keep working closely with our partners to expedite deployment of zero emission technologies through innovative incentives and regulations. And we look forward to continuing to build on the successful partnership. Thank you.

MS. MURIMI: Thank you.

Next we have Brian Dodds. Please state and spell your name, give your affiliation. You may begin your comment.

MR. DODDS: All right, thank you. My name is Brian Dodds, B-R-I-A-N D-O-D-D-S. I'm a Program Manager in the Grants and Incentives Department at the San Joaquin Valley Air Pollution Control District. I'd like to take just a brief moment to thank the CEC for their consideration of these awards. And thank Mr. Marc Perry, and Katherine Reed, who we've worked with primarily, but recognize that there's a lot of effort that goes into these awards. We appreciate the collaboration with CARB, with our District and our project partners. And we really look forward to implementing these projects here in the Valley

where this type of activity and work and support is very much needed.

Again, we appreciate it. And we can't wait to get these projects going. Thank you.

MS. MURIMI: Thank you for your comment.

Next we have Emily Conway. Please state and spell your name, give your affiliation. You may begin.

MS. CONWAY: Hello, this is Emily Conway, E-M-I-L-Y C-O-N-W-A-Y. I'm the Senior Fleet Sustainability Manager for Pepsi. We will be completing the South Central Fresno Pepsi Delivery Truck Electrification Project in partnership with San Joaquin. Our project to electrify 50 Local Pepsi delivery tractors will reduce tailpipe emissions in the AB 617 South Fresno community. Thank you so much for your consideration. And we're here to answer any questions that you may have.

MS. MURIMI: Thank you.

And with that, Chair, there are no more commenters and -- Oh, one more commenter, apologies. S. Butta, please state and spell your name. Give your affiliation. You may begin your comment.

MR. PUTTA: Hi, everyone. My name is Sampath Putta. I would like to know a few things about this proposal. First one, is may I know what is the company that is making these trucks? Are you converting the

existing fuel-based, gasoline-based trucks into electric trucks or you are purchasing all them together and then building charging systems for that (indiscernible)?

MS. MURIMI: Thank you.

MR. PERRY: The trucks are not re-powers. They are all fleet lines. They are the Volvo VNR electric and the other one is the Tesla Semi.

MS. MURIMI: And with that, Chair, there are no more comments. I hand the mic back to you.

CHAIR HOCHSCHILD: Thank you. Let's go to Commissioner discussion starting with Commissioner Monahan.

COMMISSIONER MONAHAN: Well, I just want to congratulate both the CEC and the CARB teams. And that's Marc and Jason Crow as well as the Chief Counsel's Office in both organizations. I mean, this -- I know it's hard to relay. The fact that this is the first ever solicitation that we've done jointly with CARB just says a lot about how hard it is to go through all these barriers to make collaboration happen. And how much it takes a commitment from both organizations to try to make it as easy as possible for the outside world to get grants for both vehicles and infrastructure simultaneously and to be come at it from a whole of government approach. So I just want to emphasize that this was a lot of work behind the scenes, and I'm so happy that the teams were able to do this.

So and especially in this particular sector, where we know it has tremendous impacts for air quality and for local communities. And so just this is a great collaboration. And I want to thank everybody for their hard work in making this happen.

CHAIR HOCHSCHILD: Thank you. Unless there's other Commissioner comments would you be willing to move the item?

COMMISSIONER MONAHAN: I move Item 15.

CHAIR HOCHSCHILD: Commissioner McAllister, would you be willing to second?

COMMISSIONER MCALLISTER: Second.

CHAIR HOCHSCHILD: All in favor say aye.

Commissioner Monahan?

COMMISSIONER MONAHAN: Aye.

CHAIR HOCHSCHILD: Commissioner McAllister?

COMMISSIONER MCALLISTER: Aye.

CHAIR HOCHSCHILD: Vice Chair Gunda?

VICE CHAIR GUNDA: Aye.

CHAIR HOCHSCHILD: Commissioner Vaccaro?

COMMISSIONER VACCARO: Aye.

CHAIR HOCHSCHILD: And I vote aye as well. Item 15 passes unanimously.

We'll turn now to Item 16, minutes of the June 8 And September 14 business meetings. Do we have any public

comment on this?

MS. MURIMI: Thank you. Thank you, Chair.

So once again, for individuals that are in the room go ahead and use the QR codes located in the back of the room. And for individuals on Zoom go ahead and use the raised-hand feature.

We have one commenter, S. Putta, P-U-T-T-A. You may begin your comment.

MR. PUTTA: Actually I had a comment about the previous one that just passed. The conversation went abrupt, so I didn't finish my question. Can I continue on that or --

CHAIR HOCHSCHILD: No sorry, unless it's germane to this item I'd ask you to patch back in at the public comment at the end. Thank you.

MR. PUTTA: Okay.

CHAIR HOCHSCHILD: Anyone else, Dorothy?

MS. MURIMI: No more comments for this item.

CHAIR HOCHSCHILD: Okay. Can we actually take these up and vote once together, for both items?

COMMISSIONER MONAHAN: I have to recuse myself because some people were missing for some of these.

CHAIR HOCHSCHILD: Yeah. Okay, sorry. That's why we're doing it separately. Thank you.

Unless there's other Commissioner discussion do

we have a motion on the -- you need to recuse on which one?

MS. MURIMI: Or abstain.

CHAIR HOCHSCHILD: June 8th or both?

COMMISSIONER MONAHAN: June, yes.

CHAIR HOCHSCHILD: June 8th. Okay, so --

COMMISSIONER MONAHAN: It might be easiest to go by individual.

CHAIR HOCHSCHILD: Let's do the June 8th.

Commissioner McAllister, will you make a motion for that?

COMMISSIONER MCALLISTER: I'll move the June 8th business meeting item on Number 16.

CHAIR HOCHSCHILD: Is there a second from Commissioner Vaccaro?

COMMISSIONER VACCARO: Second.

CHAIR HOCHSCHILD: All in favor say aye.

Commissioner McAllister?

COMMISSIONER MCALLISTER: Aye.

CHAIR HOCHSCHILD: Commissioner Vaccaro?

COMMISSIONER VACCARO: Aye.

I vote aye as well. That item passes 3-0.

CHAIR HOCHSCHILD: And then on September 14th, who is -- (Inaudible.) Okay, so is there a motion for the September 14th business meeting minutes from Commissioner Monahan?

COMMISSIONER MONAHAN: I am recusing myself, because I was sick for that. I think that's right.

CHAIR HOCHSCHILD: Uh no, the 14th I think you were --

COMMISSIONER MONAHAN: September 14th?

CHAIR HOCHSCHILD: September 14th.

UNIDENTIFIED SPEAKER: She wasn't here.

COMMISSIONER MONAHAN: Hang on one second, let me check my calendar. I think there's something wrong about the recusals.

CHAIR HOCHSCHILD: Who was it?

MS. BARRERA: Commissioner Monahan was sick that day.

CHAIR HOCHSCHILD: So she was sick.

MS. BARRERA: And Commissioner McAllister was traveling.

CHAIR HOCHSCHILD: You were out, I apologize.

Okay, so is there a motion on that from Vice Chair Gunda?

VICE CHAIR GUNDA: I'll move September 14th business meeting minutes.

CHAIR HOCHSCHILD: Okay. And a second from Commissioner Vaccaro?

COMMISSIONER VACCARO: Second.

CHAIR HOCHSCHILD: All in favor say aye.

Vice Chair Gunda?

VICE CHAIR GUNDA: Aye.

CHAIR HOCHSCHILD: Commissioner Vaccaro?

COMMISSIONER VACCARO: Aye.

CHAIR HOCHSCHILD: And I vote aye as well. That item passes 3-0.

Let's turn now to Item 17. What I'd like to do actually, I have scheduled a second October business meeting on the 24th. We are late. We have a closed session. If there's anything that can't -- absolutely is burning that can't wait until a week-and-a-half from now, I would just leave it open otherwise.

Okay, what is that?

COMMISSIONER MCALLISTER: So just on the Load Management Standards, lots of people to thank. I left out actually two key people. And I wanted to thank my Advisor, Bryan Early, my Chief of Staff. He has been instrumental in just herding a lot of cats and just connecting dots throughout this process for years now, so I acknowledge him.

And I also wanted to acknowledge my previous advisor, Martha Brook for actually giving a lot of creative thinking to this, to that topic. And to just helping sort of begin the process to help it take shape. So anyway, those were omissions I wanted to correct.

CHAIR HOCHSCHILD: Thank you.

And Vice Chair, you had a quick thing as well?

VICE CHAIR GUNDA: Thank you, Chair. I'm going to hold the rest of the comments for the next business meeting, but I do want to just acknowledge another tragic loss to the California Energy Commission family into the world of the passing of Ted Dang, who passed away at an early age of 54 a week-and-a-half ago.

Ted joined the CEC family back in May of 2006 and spent 15 years working with us in both the Efficiency Division and the Energy Assessments Division, most recently focused on data collection, analysis and integration. Many of the people that knew him well and worked with him would not only talk about him as a wonderful colleague. But also remark about Ted being such a smart, generous and emphatic person and someone with a contagious smile, which I can attest to, and positive outlook on life.

He will be missed by us here at the Energy Commission as well as his family and loved ones. A funeral service will be held this Friday in Fair Oaks.

In the meantime, I would like to at least ask us to take a moment of silence to just to honor his memory.

(A Moment of Silence Was Observed.)

VICE CHAIR GUNDA: Thank you Chair for the opportunity.

CHAIR HOCHSCHILD: Thank you. Our condolences to his family.

We'll turn now to item 18, Executive Director's Report.

MR. BOHAN: Thank you, Commissioners. I'll be very brief. I want to just thank you for all of the acknowledgments you made of all the staff's hard work today, did a lot of big things at this meeting.

And I just want to call out and possibly embarrass one other person you didn't call out and that is Noemi. Because I'm so proud of the presentations that our staff give here, but they are as good as they are in no small measure due to Noemi. She works closely with each person. Some don't need much work, but some needs some who haven't had an opportunity to present very much. And I just wanted to acknowledge the in addition to Chief of Staff, in addition to the Public Advisor, she performs this role. So thank you.

CHAIR HOCHSCHILD: She is amazing. Her boss is a piece of work, though. (Laughs.) Thank you, Noemi.

The Public Advisor's Report, Item 18.

MS. GALLARDO: Thank you. I appreciate that, it's very kind.

So quickly, as one of I think might be my last, or final Public Advisor Reports, is I wanted to give you

all a heads-up and also maybe a request. So we've done a fantastic job as an agency trying to figure out how to engage more of the public communities, local government leaders, all kinds of people that we want to participate in our proceedings. We've gotten so good that it's going to become a problem, actually. We're starting to hear that we might be overwhelming, inundating, burdening people with so much outreach and are asked for them to engage.

So I think we don't stop that, right? We try to come up with a creative solution. So I wanted to inform you because I think a lot of the teams that work for you all and in the divisions are seeking to do roundtables, listening sessions, more workshops, etcetera. And I think we can resolve that feeling of the public if we can think of some creative solutions.

So one of them that I wanted to propose to all of you together, is potentially having an informational symposium where we have a public workshop-type of convening. And inform the public about all the various types of efforts that we have going on. So it's an idea that I have. I haven't planned or thought through details, but wanted to propose it to you.

And then there may be other ways that we can also alleviate the public and our allies and our partners on our efforts. We do want them to be engaged, but we don't want

them to feel overburdened. So I wanted to put that out there. And no need to respond now, I just wanted to let you know. Thank you so much.

CHAIR HOCHSCHILD: Thank you so much for all you do.

I neglected to make one announcement, which is important. So I'd like to read a statement regarding the gasoline price issue. Following a month of rising prices at the pump the last several weeks have set new records with price spikes amounting to the highest California has ever seen over the last 25 years. These sudden increases in prices at the pump are unacceptable and place an undue burden on California families and businesses.

This happened as crude prices remain stable and even slightly decreased and refinery costs and profits nearly tripled since the end of August. We know maintenance and operations are affecting these costs as well. But there's a lot more Californians deserve to know, and I sent a letter to the industry nearly two weeks ago asking for such. The explanations in the responses vary and the solutions are sparse, not an acceptable outcome for consumers.

That's why I'm asking our staff to organize a workshop, which we've tentatively scheduled for November 29th to have public dialogue as a step in better

understanding the issues. It's critical we move towards tangible solutions around additional safeguards and transparency measures that could be put in place to ensure these dramatic price spikes don't happen again. I expect industry participation and we plan to invite outside experts to weigh in on options in the lead up to the Governor's Special Session in December. More to follow. Thank you for that.

With that. Let's go to Item 20, Public Comment.

MS. MURIMI: Thank you, Chair.

This is for the period for a person, any person wishing to comment on information items or reports of the meeting agenda, or any other item. Each person has up to three minutes to comment and comments are limited to one representative per organization. We may reduce the comment time depending on the number of commenters.

After you are called on please restate and spell your first and last names. state your affiliation if any. Attendees, for those in the room use the QR codes located in the back of the room to indicate that you'd like to make a comment. For those joining via Zoom use the raise-hand icon to indicate your interest in making a comment. And for those calling in press *9 to raise your hand and *6 to unmute on your end. Do not use the speakerphone feature, because it will make it hard for us to hear you.

I'll begin with those in the room. Seeing none, I'll move on to Zoom. We have Call-in User 2.. Please state and spell your name and give your affiliation. You may begin your comment.

MR. UHLER: Well, Commissioners, this Steve Uhler. There's a number of things I noticed that this meeting. The Chair has yet to answer my question about items that have not been filed for the proceeding being acted upon. Because all documents submitted in any proceeding, whether by party, Commission, the Committee, Commission or any individual, shall file with the Docket Unit.

Now I wasn't able to ascertain a piece of information I had asked a question. I wasn't allowed to continue with my comment, because I now have to look over two places to find this. It seems like a simple thing. You should put everything in the docket.

Another area, where are the '17 through '20 RPS reports? I ascertained from staff that that's not done yet, yet you've had a docket open for over a year. And that still only has one item in it, the opening of the docket. I want to know what's happening with RPS.

None of the -- a lot of people there sound like they'd be happy to go through terabytes worth of data, but I think you should focus on core. You don't even have a

complete list of power plants, yet you're making decisions about building more.

You have an Energy Almanac, based on some sort of GIS system. It says -- one friend would call it "whipped cream on horse pucky." There's a lot of bad data in it.

You're building something called Solar Screen. (phonetic). Again, a lot of bad data. You know where the substation sits in one place, but you don't know that there's a -- that the reason why it sits there is related to a solar power system.

So and also, it takes quite a long time. I had a request in for 1353 data. That's your so-called disaggregated data. It's been in for since 2018. I really want to know the schemas. And also I can see that you weren't able -- your staff was unable to answer a question about behind-the-meter. And that's what 1353 data will have.

It's a shame. I went to a workshop. I'm thinking "I brought my computer. I'm going to grab some data. I'm going to show them some techniques that that help industry build stuff very fast and know what's going on." No data. So please see that I get this smart meter data or at least the schema, so that I can complete my work on this. It's taking way too long. Your -- even your load management won't be able to really do anything until half

this decade is over.

And also, it appears that you know somebody might figure that the public will have to waive a law for their protection in order to be in these load management programs that you -- nobody's answered the question on the Business and Professional Code.

MS. MURIMI: Thank you, your time is concluded.

MR. UHLER: With that, all right in closing --

MS. MURIMI: Thank you. Apologies. Thank you, your time has concluded.

MR. UHLER: Okay, just get my --

MS. MURIMI: We have one more commenter, S. Putta, P-U-T-T-A. Please state and spell your name, give your affiliation, and give your comment.

MR. PUTTA: Yes. Good evening, Commissioners team. I have a couple of questions about today's presentations. One of them is about Item Number 15. Is there somebody to clarify about Item Number 15 or they have already left? I would like to know first before I ask that question.

MS. MURIMI: We can connect you -- oh (indiscernible.)

VICE CHAIR GUNDA: Mr. Sampath, I think you should -- we'll provide you the Public Advisor's email address. We'll follow up with staff. Thank you.

MR. PUTTA: Okay. And then I have another question related to Item Number 13, about the efficiency. I did raise that question, but nobody has answered and it moved on. So I would like to know if somebody can help answer.

CHAIR HOCHSCHILD: Sir, can I suggest -- these are specific questions -- many of those staff are no longer in the room -- that we just do that by email through the Public Advisor? If someone could contact this gentleman and get his questions, we'll get answers.

Are there any other public comments, Dorothy?

MS. MURIMI: Chair, no more public comment. Back to you.

CHAIR HOCHSCHILD: Okay, thanks.

We'll turn now to Item 21, Chief Counsel's Report.

MS. BARRERA: Thank you, Chair and Commissioners. I'm here to propose that the Commission go into a closed session, as specified in the agenda on Item 21a. and b. The agenda provides notice that the Commission may adjourn to closed session with its legal counsel pursuant to Government Code section 11126(e)(1) to discuss the litigation to which the Energy Commission is a party.

In particular, in this closed session we propose to discuss *Okemiri vs the California Energy Commission*.

Separately, the agenda also provides notice that the Commission may adjourn to closed session with its Legal Counsel pursuant to Government Code section 11126(e)(2) to discuss facts and circumstances in the following matters that may warrant the initiation of litigation.

In particular, the matters we would like to discuss is the *CEC grant agreement with Colony Energy Partners, LLC.* The grant agreement is ARV-14-029.

And the second matter is *CEC grant agreement with Vehicle Grid Integration Alliance*. And the grant agreement number is ARV-14-057.

And I promise we'll keep this less than an hour.

CHAIR HOCHSCHILD: Thank you. Okay, we're adjourned for closed session, and then we'll come back.

(Off the Record at 4:48 p.m.)

(On the Record at 5:59 p.m.)

VICE CHAIR GUNDA: We returned from a closed session and we have a quorum with Commissioner McAllister, Commissioner Vaccaro, and myself here. So with that, the meeting is adjourned. Thank you.

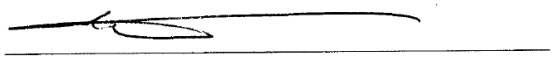
(The Business Meeting adjourned at 5:58 p.m.)

REPORTER'S CERTIFICATE

I do hereby certify that the testimony in the foregoing hearing was taken at the time and place therein stated; that the testimony of said witnesses were reported by me, a certified electronic court reporter and a disinterested person, and was under my supervision thereafter transcribed into typewriting.

And I further certify that I am not of counsel or attorney for either or any of the parties to said hearing nor in any way interested in the outcome of the cause named in said caption.

IN WITNESS WHEREOF, I have hereunto set my hand this 26th day of October, 2022.



PETER PETTY
CER**D-493
Notary Public

TRANSCRIBER'S CERTIFICATE

I do hereby certify that the testimony in the foregoing hearing was taken at the time and place therein stated; that the testimony of said witnesses were transcribed by me, a certified transcriber and a disinterested person, and was under my supervision thereafter transcribed into typewriting.

And I further certify that I am not of counsel or attorney for either or any of the parties to said hearing nor in any way interested in the outcome of the cause named in said caption.

IN WITNESS WHEREOF, I have hereunto set my hand this 26th day of October, 2022.

_____

Myra Severtson
Certified Transcriber
AAERT No. CET**D-852