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BUSINESS MEETING
BEFORE THE
CALIFORNIA ENERGY COMMISSION

In the Matter of: )
) 21-BUSMTG-01
Business Meeting )

REMOTE ACCESS ONLY

Public comment is accepted solely through the Zoom platform.

The California Energy Commission’s (CEC) September 8, 2021 Business Meeting will be held remotely, consistent with Executive Order N-08-21 to continue to help California respond to, recover from, and mitigate the impacts of the COVID-19 pandemic. The public may participate consistent with the direction in the Executive Order.

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.

WEDNESDAY, SEPTEMBER 8, 2021

10:00 A.M.

Reported by:
Peter Petty
APPEARANCES

Commissioners (Via Remote)

David Hochschild, Chair
Karen Douglas
Andrew McAllister
Patricia Monahan
Siva Gunda

Staff Present: (Via Remote)

Drew Bohan, Executive Director
Linda Barrera, Chief Counsel
Noemi Gallardo, Public Advisor
Dorothy Murimi, Public Advisor's Office

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3. Procter and Gamble Cogeneration Project (93-AFC-02C).

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b. Pursuant to Government Code, section 11126, subdivisions (a) and (e), the CEC may also discuss any judicial or administrative proceeding that was formally initiated after this agenda was published; or determine whether facts and circumstances exist that warrant the initiation of litigation, or constitute a significant exposure to litigation against the CEC, which might include personnel matters.

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MS. MURIMI: The California Energy Commission's Business Meeting will begin shortly. Thank you for your patience.

(Start of Introductory Video.)

Today's Business Meeting is being held remotely. Please note the public comment will now be conducted via Zoom. When the public comment period is announced press the raise-hand feature to indicate you would like to make a comment.

If you are participating by phone to indicate you'd like to make a comment please raise your hand by pressing *9 and then press *6 to unmute. Again, that is *9 to raise your hand and *6 to unmute.

For public comment please note that comments are limited to three minutes or less per person and one representative per organization. Depending on the number of commenters we may adjust the time for public comment to be fair to everyone who'd like to speak.

After you raise your hand the Public Advisor will announce you using the listed Zoom name or with the last three digits of the phone number used to call in to the meeting. The Public Advisor will then open your line.

Before making your comment state and spell your name and
indicate your affiliation, if any.

Finally, to help ensure you’re heard clearly
speak closely and clearly into the device, do not use the
speakerphone feature.

Welcome to the California Energy Commission
Business Meeting. The meeting will now begin.

(End of Introductory Video.)

CHAIR HOCHSCHILD: Well, good morning friends and
welcome to our September 8th Energy Commission Business
Meeting. Let's begin with Commission McAllister leading us
in the Pledge of Allegiance.

(Whereupon the Pledge of Allegiance was recited.)

CHAIR HOCHSCHILD: Thank you, Commissioner.

CHAIR HOCHSCHILD: Thank you Commissioner.

Before turning to our business items, I wanted to
acknowledge that we're still in the middle of the COVID-19
surge due to the Delta variant and we want to remind
everyone to continue to exercise caution, get vaccinated,
wear masks when indoors, and please continue to be
vigilant. I know it's been a long road here, but taking
these precautions really does make a difference.

I also want to address the current hot weather
we're having and encourage everyone again to sign up for
Flex Alert Notifications at flexalert.org to stay informed
and obtain energy conservation tips. Everybody has a role
to play in helping support grid reliability in California
and we all need to be good citizens of the grid.

So for instructions, today's Business Meeting is
being held remotely consistent with Executive Order N-08-21
to continue to help California respond to, recover from,
and mitigate the impacts of the COVID-19 pandemic. The
public can participate in the Business Meeting consistent
with the direction in this Executive Order.

Zoom is the platform we are using to conduct
business meetings. Instructions for remote participation
can be found in the notice for this meeting and as set
forth on the agenda posted to the Commission's website.

If Zoom were to shut down, we would switch to the
Verizon phone line at 888-823-5065, the pass code is
“Business Meeting.” Public comment would then be accepted
through Verizon.

And pursuant to California Code of Regulations
Title 20, section 1104(e) any person may make oral comments
on any agenda item. To ensure the orderly 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 agenda and have a total of three minutes or less to
state all remaining comments.

We are now solely using Zoom for public comment.

Once the public comment period begins if you would like to speak please raise your hand by clicking the hand icon at the bottom of your screen. If you're joining by phone press *9 to raise your hand and *6 to unmute.

After the Public Advisor calls on you to speak, remember to spell your name and state your affiliation, if any.

Before turning to the agenda items, I am happy to announce that during today's Business Meeting, the Commission will be seeking to approve over $12.5 million in investments. All of this contributes to California’s economic recovery.

So turning now to Item 1 the Consent Calendar, because there are multiple recusals that need to be made, we’ll vote on these items separately starting with Item 1a, the Center for Transportation and the Environment. We’ll turn to Commissioner Monahan.

COMMISSIONER MONAHAN: Thank you. On this Item 1a on the Consent Agenda I’m recusing myself from any discussion, consideration and vote on the proposed amendment to the grant award for the Center for Transportation and the Environment’s Agreement ARV-21-017. The Regents of UC Berkeley is a major sub-awardee under the
grant, which supports the expansion of zero emission trucks and related fueling infrastructure. I currently serve as a Member of the Board of Advisors for the UC Institute of Transportation Studies. In that role I do not make governance decisions on behalf of the Institute, but we exist to provide guidance and oversight to the UC ITS programs and its four branches, which includes UC Berkeley ITS.

Additionally I don't receive any compensation in any form, including reimbursements or per diem for expenses. So there is no financial interest in which there could be a conflict of interest under the Political Reform Act or Government Code section 1090.

However, in an abundance of caution I’m recusing myself to avoid any perception of a conflict of interest in this grant amendment that benefits UC Berkeley’s advanced transportation programs. I will mute, but I’m going to keep my video on while I leave the room and I will return after the Public Advisor instructs me to do so.

CHAIR HOCHSCHILD: Thank you, Commissioner.

Madam Public Advisor, is there any public comment on Item 1a?

MS. GALLARDO: This is Noemi, the Public Advisor. Just a quick reminder to the attendees to use the raise-hand feature. It's an icon that looks like a high-five if
you'd like to ask or make a comment, excuse me, and *9 if
you are on by phone. I do not see any hands, we may
proceed.

CHAIR HOCHSCHILD: Okay. Commissioner Gunda,
would you be willing to move Item 1a?

COMMISSIONER GUNDA: Yes, I move Item 1a.

CHAIR HOCHSCHILD: And Commission McAllister,
would you be willing to second?

COMMISSIONER MCALLISTER: I’ll second Item 1a.

CHAIR HOCHSCHILD: Okay. All in favor say aye,
Commissioner Gunda?

COMMISSIONER GUNDA: Aye.

CHAIR HOCHSCHILD: Commissioner McAllister?

COMMISSIONER MCALLISTER: Aye.

CHAIR HOCHSCHILD: Commissioner Douglas?

COMMISSIONER DOUGLAS: Aye.

CHAIR HOCHSCHILD: And I vote aye as well. That
item passes 4-0, with Commissioner Monahan abstaining.

Let's turn now to Items 1b, 1c and 1e as a group.
And let's go to Commissioner McAllister.

COMMISSIONER MCALLISTER: Great. Thank you,
Chair. So on these items I’ll just describe each of them
very briefly. So 1b is our membership, the Energy
Commission’s membership to the National Association of
State Energy Officials. I’m a past chair of NASEO and
currently on the Executive Committee. I do not get paid or receive reimbursement from NASEO. And this membership does -- well and I’ll recuse myself from that vote on 1b.

1c, the Alliance to Save Energy, I am on the Board Of the Alliance. It’s a national nonprofit voting on energy efficiency here working largely in the federal context on energy efficiency. And this is the CEC’s membership, so I will recuse myself from that. I neither there also do not receive any reimbursement for those activities. And our membership there allows staff to meet with key policy and decision makers largely in the federal context. And it works with over 100 organizations to advanced energy efficiency in federal legislation, very hot and heavy right now.

1e is the Western Interstate Energy Board. I serve as California’s Representative on that body, which works with other states across the Western Interconnect on various electricity planning and reliability issues.

So I will recuse myself from all three of those items, b, c, and e.

CHAIR HOCHSCHILD: Thank you, Commissioner.

COMMISSIONER MCALLISTER: So I’ll step away and come back after the vote.

CHAIR HOCHSCHILD: Thank you, Commissioner, appreciate that. Any public comments on Items 1b, c, and
MS. GALLARDO: This is Noemi, the Public Advisor.

Again, a reminder to attendees if you would like to make a public comment, please raise your hand using the high-five icon on the screen or pressing *9.

I do not see any hands raised. Chair, we may proceed.

CHAIR HOCHSCHILD: Thank you. Commissioner Monahan, would you be willing to move Items 1b, c, and e?

COMMISSIONER MONAHAN: I move Items 1b, c, and e.

CHAIR HOCHSCHILD: And Commissioner Douglas, would you be willing to second?

COMMISSIONER DOUGLAS: Second.

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

COMMISSIONER MONAHAN: Aye.

CHAIR HOCHSCHILD: Commissioner Douglas?

COMMISSIONER DOUGLAS: Aye.

Commissioner Gunda?

COMMISSIONER GUNDA: Aye.

CHAIR HOCHSCHILD: And I vote aye as well.

Those items pass 4-0, with Commissioner McAllister abstaining.

Let's turn now to Item 1d. Do we have any public comment on 1d?
MS. GALLARDO: This is Noemi, the Public Advisor.

A reminder to attendees to use the raise-hand feature or press *9 if you're on by phone.

I do not see any hands. Chair, we may proceed.

CHAIR HOCHSCHILD: Okay, Commissioner Douglas, would you be willing to move Item 1d?

COMMISSIONER DOUGLAS: Yes, I move Item 1d.

CHAIR HOCHSCHILD: Thank you. And Commissioner McAllister, would you be willing to second?

COMMISSIONER McALLISTER: Second Item 1d.

CHAIR HOCHSCHILD: Okay all in favor say aye, Commissioner Douglas?

COMMISSIONER DOUGLAS: Aye.

CHAIR HOCHSCHILD: Commissioner McAllister?

COMMISSIONER McALLISTER: Aye.

CHAIR HOCHSCHILD: Commissioner Monahan?

COMMISSIONER MONAHAH: Aye.

CHAIR HOCHSCHILD: And Commissioner Gunda?

COMMISSIONER GUNDA: Aye.

CHAIR HOCHSCHILD: And I vote aye as well. That item passes unanimously.

Let's move now to Item 2, Order on Process for Battery Storage Systems.

MR. PITTARD: Good morning, Chair and Commissioners. My name is Shawn Pittard. I am the Deputy
Director of the Siting, Transmission, and Environmental Protection Division. At the August 17th Business Meeting I presented, and this was approved, two orders establishing the processes for expediting two of three actions the CEC was directed to implement by Governor Newsom’s July 30, 2021, Emergency Proclamation. The prior orders established processes for expediting post-certification changes to existing CEC jurisdictional power plants and the licensing of new emergency and temporary power generators that could provide additional capacity to the grid by October 31, 2021.

I am here today to present an order to establish the process for expediting the third action, the licensing of battery energy storage projects. With me are the STEP managers who will implement the order, Eric Knight, Siting and Environmental Protection Office Manager and our lead for this effort, Jon Hilliard. Also with us are our partners from Chief Counsel’s Office, Lisa DeCarlo and Kerry Willis. Next slide, please. Thank you.

The benefits of this action for Californians is that it helps immediately address climate change impacts and increase grid resiliency and reliability to help us avoid outages that can adversely impact families and communities throughout the state. Next slide, please.

The Governor issued the Emergency Proclamation as
the result of sudden and severe energy shortages in California caused by extreme drought, wildfires, and record-breaking heat events throughout the Western United States. Due to this context of extreme weather events the Proclamation declares that California faces an energy supply shortfall of up to 3,500 megawatts in 2021 and up to 5,000 megawatts in summer 2022. Next slide, please.

This, the proclamation, authorizes the CEC to license new or expansions of existing battery storage systems of 20 megawatts or more that the CEC determines are capable of discharging for at least two hours and will deliver net peak energy by October 31, 2022. Next slide, please.

For CEC’s licensing of qualifying battery storage systems the Proclamation suspends the California Environmental Quality Act, CEQA, and the CEQA Guidelines and establishes that the CEC’s license is in lieu of any other permit that would normally be required by a local or state agency. The Order would establish the following to expedite the licensing within 10 days of the Order’s adoption the CEC’s Executive Director will publish a list of informational requirements for license applications.

Within 10 days of an application being filed the Executive Director will verify it is complete and that the project is capable of discharging for at least two hours
and will deliver peak energy, net peak energy by October 31, 2022.

Once an application is complete the Executive Director will conduct an analysis of the project’s potential impacts on the environment and public health and safety, as well as the project’s compliance with applicable laws, ordinances, regulations, and standards. Staff will meet and consult with local jurisdictions and state agencies to ensure all public health and safety concerns are addressed.

The Executive Director will impose conditions and verification and monitoring requirements on the license as appropriate to mitigate any potential impacts to the extent feasible.

The Executive Director will complete the analysis within 21 days and publish it for a 10-day comment period. Within 7 days after the close of the comment period, the Executive Director will file a decision on the application granting or denying the license. The decision of the Executive Director is final and not subject to further consideration or appeal. Next slide, please.

Thank you.

Staff recommends adoption of Order No. 21-0908-1.

This concludes my presentation. We are available to answer questions. Thank you.
CHAIR HOCHSCHILD: Thank you, Shawn, appreciate that.

Any public comment on Item 2?

MS. GALLARDO: This is Noemi, the Public Advisor. A reminder to attendees if you’d like to make a public comment please use the raise-hand icon on the screen or press *9 if you are on by phone. I do not see any hands raised. Chair, I think we can proceed.

CHAIR HOCHSCHILD: Thank you. Let’s begin, if we could, with Commissioner Douglas.

COMMISSIONER DOUGLAS: All right, thank you very much, Chair Hochschild. So I wanted to start by thanking Shawn Pittard and the STEP Division staff, Jon Hilliard, of course, who worked very hard to put this together in an expedited way. And the STEP Division’s also worked -- this is actually the third permitting process brought forward under from the Emergency Proclamation. I also very much want to thank Linda Barrera and Chief Counsel’s Office for their hard work on all of this. Like the two permitting processes that we approved last month, this process is designed to work in an expedited way. But also to emphasize the Energy Commission's commitment to safety and reliability.
In addition, we built in some additional public process requirements to ensure and maximize transparency in the permitting process. And those include a requirement that property owners within 1,000 feet of any proposed project be notified that local, regional, state, and federal agencies that either have jurisdiction or would have jurisdiction over the project through a different process be notified that tribes that are traditionally or culturally affiliated with the geographic area be notified. And this proposal also specifies clear expectations for communication and collaboration with local and state agencies. Those include attempts to resolve any potential noncompliance with applicable laws, ordinances, regulations, and standards. And requirements that CEC staff must meet with representatives of any local jurisdiction or state agency that has or would have jurisdiction over an aspect of the project, would have jurisdiction to ensure that we fully understand any issues presented by the project. And, in particular, to review the projects for compliance with public health and safety measures, including fire and hazardous materials to ensure that public health and safety concerns are addressed in the license.

So I think this proposed project, this proposed process absolutely follows the directive in the Emergency
Proclamation to ensure that the Energy Commission acts immediately to accelerate deployment of clean energy and storage projects that can come online by the deadline established for this process in the proclamation.

And I support approval of this item. And again commend STEP and the Legal Office for their work on this order and on establishing the expedited permitting process for these projects.

CHAIR HOCHSCHILD: Great. Thank you, Commissioner. Any other Commissioners wishing to make a comment or ask a question?

COMMISSIONER GUNDA: Yes.

CHAIR HOCHSCHILD: Yeah, please go ahead, Commissioner Gunda.

COMMISSIONER GUNDA: Yeah, Chair, thank you. I just I think wanted I guess more than anything to reiterate the thanks to the Siting team and the Legal team for their really incredible work in kind of taking these actions required in an extremely expert fashion, but also as thoughtfully as they're able to and collaboratively. So I want to thank definitely Shawn and Jon, as Commissioner Douglas mentioned. And from the legal team including Linda, all the good work that they are doing.

So I also want to just recognize Commissioner
Douglas’s leadership. This has been an incredible three to four months of work. I think I can pretty confidently say that without Commissioner Douglas’s expertise a lot of these things cannot happen (indiscernible) to crafting these important and delicate issues. So I want to thank Commissioner Douglas and her office, but also my advisors Liz and Le-Quyen for their ongoing support of this work.

So thanks to everybody. And it’s really great to move this forward and I’m looking forward to supporting it.

CHAIR HOCHSCHILD: Thank you. I hardly second those comments. And Commissioner Douglas, thank you from all of us for all your work on this. And Shawn as well, thank you and the team. This is a definite step forward.

So with that unless there’s other comments, Commissioner Douglas, would you be willing to move Item 2?

COMMISSIONER DOUGLAS: Absolutely. I move approval of Item 2.

CHAIR HOCHSCHILD: Okay. Commissioner Gunda, would you be willing to second?

COMMISSIONER GUNDA: Yes, second Item 2.

CHAIR HOCHSCHILD: Okay all in favor say aye, Commissioner Douglas?

COMMISSIONER DOUGLAS: Aye.

CHAIR HOCHSCHILD: Commissioner Gunda?

COMMISSIONER 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 2 passes unanimously.

Let's turn now to Item 3, Procter and Gamble Cogen Project.

MS. HUBER: Good morning, Chair and Commissioners. My name is Elizabeth Huber and I manage the Office of Compliance Monitoring & Enforcement of the Siting, Transmission, and Environmental Protection Division. With me today is the Lead Compliance Project Manager, Mary Dyas; Staff Counsel, Lisa DeCarlo; and from Energy Assessments Division, the Data Integration and Policy Office, Michael Nyberg.

Also on behalf of the project owner we have Ross Gould of Power Generation along with Senior Attorney Lourdes White, Environmental Compliance Supervisor Rene Toledo. And they are representing the Sacramento Municipal Utility District, also commonly known as SMUD.

We’re here to present on Procter and Gamble Cogeneration Project’s ownership and name change petition. Next slide, please.

The Procter and Gamble Cogeneration Project was
designed to be part of the SMUD’s response to the closing of the nuclear generating station at Rancho Seco more than 30 years ago. The Procter and Gamble Cogen Project has been owned by the Sacramento Cogeneration Authority, also known as SCA since it was permitted more than 27 years ago. SCA is a joint powers agency in which SMUD is the controlling member. Specifically, SCA is governed by a commission composed of seven members of the SMUD Board of Directors. The SCA Commission agreed to move ownership and operations of the Proctor and Gamble Cogeneration Project to SMUD’s Financing Authority and rename the facility Proctor and Gamble Power Plant.

Further at the SMUD Board of Directors meeting on August 28, 2021, the Board adopted their 2030 Zero Carbon Plan. A key portion of that plan is to retire all five of their natural gas-fired power plants by 2030. This ownership move supports operational efficiencies as they realize the retirement of these facilities. Next slide, please.

The Proctor and Gamble Cogeneration Project was licensed on November 16, 1994, and began commercial operation on March 1st, 1997. The facility is a 171-megawatt combined-cycle power plant producing electricity for the adjacent Procter and Gamble Company, which employees 206 Sacramentans in their manufacturing
operation. In addition to the two combined-cycle units the facility also includes a simple-cycle unit for peak power production.

On July 15, 2021, the SCA filed a petition to change the ownership of the facility to SMUD’s Financing Authority and to change the name to Proctor and Gamble Power Plant. SMUD’s Financing Authority is a joint powers authority formed by SMUD in the Modesto Irrigation District. The current operator of the facility, Ethos Energy Power Plant Services, remains under contract and will continue to be the operator.

On August 3rd, 2021, CEC staff filed a Statement of Staff Approval and posted for a 14-day public comment period. During this public comment period staff received an objection citing the purported failure of the plant to comply with Title 20, Section 1304, of the CEC’s regulations. This provision is in the Data Collection portion of our regulations and specifies that Quarterly Fuel and Energy Reports, power plant owners and operators must submit to the CEC. This database is commonly referred to as QFER.

Compliance with this provision is not a prerequisite for completing a change of ownership under section 1769 of our Power Plant Siting Regulations. Nevertheless, staff has confirmed that this project is up
to date on all required reporting. Next slide, please.

The petition submitted to the CEC affirms that
the SMUD Financing Authority understands and agrees to
comply with the Conditions of Certification for the plant
and that they are moving forward with this petition to
allow both SMUD and the SMUD Financing Authority to realize
greater operational efficiencies. Therefore, staff
recommends the CEC approve the proposed ownership and name
change. This concludes my presentation and we are
available to answer any questions. Thank you.

CHAIR HOCHSCHILD: Thank you, Elizabeth.

Let's turn now to public comment on Item 3.

MS. GALLARDO: This is Noemi, the Public Advisor.

A reminder to attendees if you would like to make a public
comment, please use the raise-hand feature that looks like
a high-five on the screen or press *9 if you are on by
phone.

All right I do see one hand raised, so this is a
phone number ending in 385. Your line is open, you may
begin. And a reminder to please state your name, spell it,
and indicate your affiliation if any. You may begin.

MR. UHLER: Good morning, Commission, this is
Steve Uhler, U-h-l-e-r. I made this objection as “for the
want of a nail the shoe was lost.” There’s a situation
where the prior name cannot be found in QFER in its full,
and more importantly, cannot be found in the EIA’s data, which the Energy Commission uses to administer some other regulations such as power source disclosure.

I’m struck by the situation of looking at the presentation and the time spent on this, the number of keystrokes in order to correct the issue and remove my objection, therefore removing these -- this and the next agenda item, updated agenda, doesn't seem to be a rational decision making.

You have 1770 of Title 20 that says that you shall make sure that people follow your rules, very important.

I see there are other agenda items on here today, something called the Stack Analysis. In my conversation with Angela Tanghetti, I find -- and in prior years where I’ve actually been able to take data out of QFER, hand it to her and have her thank me for notifying that she left off some renewable resources in something called the renewable net short planning, renewable net short. It's very important for everybody to know all the players. Hopefully you read my comment lock, stock and barrel.

Public wants to know everything about the systems, wants to be able to figure out how to avoid the use of fossil fuel. So I would wish that you would at least have folks bring these databases up to snuff. QFER
currently stands, with over 400 power plants, they don't
know the EIA data connection and this is very important.

And again back to this stack, which is a
simplistic look in this day and age, there should be no
need for any simplistic look at how we run the power
system. We've had long-time material resource planning
systems that if they have a complete lock, stock and barrel
product structure we could avoid or at least know what to
do in a crucial time nearing a power outage. If you'll
agree to that there is no need for the next agenda item.

This concludes my comment, thank you.

MS. GALLARDO: Thank you.

This is Noemi, the Public Advisor. I do not see
any other hands raised. Chair, we may proceed.

CHAIR HOCHSCHILD: Okay let's turn to
Commissioner discussion, starting with Commissioner
Douglas.

COMMISSIONER DOUGLAS: Great. Thank you. So I
think I wanted to start by saying that, and Elizabeth
explained this, requests for changes in ownership are
typically approved at the staff level after staff and CEC
attorneys perform the necessary work to ensure compliance
with the Commission's regulations.

However, when an objection is filed to the
staff’s determination that becomes something that goes to
the Commission then to evaluate whether the ownership change meets the legal requirements. So the docketed information and staff’s presentation just now reflect their determination that the Applicant’s request did contain the required information and that includes a discussion of any significant change in the operational relationship between the owner and operator, a statement identifying the party responsible for compliance with the Commission’s Conditions of Certification. And a statement verified by the new owner or operator in the manner described in section 1707 that the new owner or operator understands the Conditions of Certification and agrees to comply with them.

So and that has been demonstrated in this case. As I understand it, the objections to the staff’s recommendation of approval don’t really relate to changes in ownership and to the determination that we make to approve changes and ownership in this instance. So, for example, Commission Regulation section 1769 (a)(1)(E) applies. But the objection does not apply to the request in front of us. That provision that I just cited does not relate to changes in ownership.

The other objection that the Applicant failed to comply with Commission Regulation 1304 doesn’t relate either. That objection really applies to the QFER reporting. So we could ask, if there is interest, Michael
Nyberg to talk about QFER reporting. It's come up in
comments before, but it really doesn't relate to the
determinations that we need to make on changes in
ownership. So for those reasons I support staff’s
recommendation and would recommend that we approve the
change in ownership that's proposed here today.

I do appreciate Mr. Uhler’s participation and
sharing with us his concerns and, of course, public
questions and feedback on our programs. And the interest
he has in understanding energy information and being able
to find information is something that I think we all have
an interest in, in continuing to approve. But it's not a
reason to not approve this change in ownership.

So I think those are my comments for now. And
I'm prepared to make a motion on this.

CHAIR HOCHSCHILD: Yeah, unless there's other
Commissioners wishing to make a comment would you be
willing to move Item 3?

COMMISSIONER DOUGLAS: Yes, I move Item 3.

CHAIR HOCHSCHILD: Commissioner McAllister, would
you be willing to second?

COMMISSIONER MCALLISTER: I will second, yes
indeed.

CHAIR HOCHSCHILD: Thank you. All in favor on
Item 3 say aye, Commissioner Douglas?
COMMISSIONER DOUGLAS: Aye.
CHAIR HOCHSCHILD: Commissioner McAllister?
COMMISSIONER MCALLISTER: Aye.
CHAIR HOCHSCHILD: Commissioner Gunda?
COMMISSIONER GUNDA: Aye.
CHAIR HOCHSCHILD: Commissioner Monahan?
COMMISSIONER MONAHAN: Aye.

(Audio cuts out briefly.)

COMMISSIONER MCALLISTER: It looks like we may have lost the Chair.

CHAIR HOCHSCHILD: And I vote aye as well. That item passes on the Cogen Project.

Elizabeth, are you there?

MS. HUBER: I am.

CHAIR HOCHSCHILD: Go ahead, Item 4.

MS. HUBER: Okay, thank you. Hello again, Chair and Commissioners. My name is Elizabeth Huber. I manage the Office of Compliance Monitoring & Enforcement in the STEP Division. With me this morning is Lead Compliance Project Manager, Mary Dyas; Staff Counsel, Lisa DeCarlo; and from Energy Assessments, Michael Nyberg.

Also on behalf of the project owner we once again have Ross Gould; their Senior Attorney, Lourdes White; and Rene Toledo representing the Sacramento Municipal Utility District, also known as SMUD.
We’re here to present on Campbell Cogeneration Project’s submission of change of ownership and name. Next slide, please.

This petition is exactly like Item 3 that you just voted on. The Campbell Cogeneration Project was also part of the SMUD’s response to the closing of the Rancho Seco Nuclear Generating Station. The Campbell Cogen Project has been owned by the Sacramento Power Authority, known as SPA, since it was permitted about 24 years ago.

The SPA is also a joint powers agency in which SMUD is a controlling member. Specifically, SPA is governed by a commission composed of seven members of the SMUD Board of Directors. The SPA voted earlier this year to move ownership and operations of the Campbell Cogen Project to SMUD’s Financing Authority and rename the facility Campbell Power Plant. Under SMUD’s recently adopted 2030 Zero Carbon Plan the Campbell Cogen Project is the first of their five natural gas-fired power plants scheduled to retire, which is as early as 2025. And again, this ownership move supports their long-term objectives to realize these power plant retirements. Next slide please.

The Campbell Cogeneration Project was licensed on November 16th, 1994, and began commercial operation in October of ‘97. The facility is a 158-megawatt simple-cycle power plant that originally provided steam and
electricity to the nearby Campbell Soup food processing plant until its closure. And continues to provide electricity back to the SMUD grid.

On July 15th, 2021, SPA filed a petition to change the ownership of the project to SMUD’s Financing Authority and again, change the name to Campbell Power Plant. As stated in Item 3, SMUD’s Financing Authority is a joint powers authority formed by SMUD and the Modesto Irrigation District.

Further, the current operator of the facility, Ethos Energy Power Plant will remain under contract and will oversee the facility’s operation.

On August 3rd, 2021, staff filed their staff-approved project change and posted for the 14-day public comment period. Again, during this public comment period staff received one objection citing the purported failure of the plant to comply with Title 20, Section 1304, of the CEC’s regulations. This provision is again in the QFER database submission.

Finally, compliance with this provision is not a prerequisite for completing a change of ownership under 1769 of our Power Plant Siting Regulations. Nevertheless, staff has confirmed that this project is up-to-date on all required reporting. Next slide, please.

The petition submitted to the CEC affirms that
the SMUD Financing Authority understands and agrees to comply with the Conditions of Certification for the plant and that they are moving forward with this petition to allow both SMUD and the SMUD Financing Authority to realize greater operational efficiencies as this power plant transitions to retirement. Therefore, staff recommends the CEC approve the proposed ownership and name change. And, again, we are all here and available for any questions there may be. Thank you.

CHAIR HOCHSCHILD: Thank you, Elizabeth. Let's move on to public comment, do we have any? (No audible response.) Can you guys hear me? MS. HUBER: Yes, we can hear you Chair. CHAIR HOCHSCHILD: Yeah, Noemi, do we have any public comment on this? MS. MURIMI: Hello, this is Dorothy. We do have a raised hand.

CHAIR HOCHSCHILD: Okay.

MS. MURIMI: One moment. So Participant with a phone number ending in 385 you can now speak.

MR. UHLER: This is Steve Uhler again, U-h-l-e-r. I didn't hear any discussion to the requirement under post certification activity 1770 compliance verification where the Commission promises to the public, to the state of California, to monitor all conditions and including all
applicable laws and your own law and enactment, which is a
law in the state of 1304, has not been complied with.

And once again for the loss of a shoe the horse
was lost. I’m concerned that if we continue to allow a
database such as QFER to be out there with incorrect
information we are going to be headed for a situation where
planning capabilities are greatly reduced. They already
are, you knew last August. You couldn't plan, couldn't
even figure out that you were -- CAISO was exporting or
somebody was shutting down a power plant.

These are primary items and product structure
control that just about everybody else on the planet who's
helping us recover from COVID can ensure that we get things
like toilet paper or automobiles or semiconductors. At the
Commission they cannot put together a complete and accurate
list that staff will use. And this has shown that staff
doesn't use this, because they've decided to use EIA data
for power source disclosure, which at this point and time
is incorrect. You're in a process for power source
disclosure where for the first time we're going to see
greenhouse gases. And naming conventions are important.
You have a group that seems to only use the name, will not
apparently accept any IDs from any other agencies to
identify a power plant.

So you really need to consider 1770. You're
promising that you’ll make sure all these rules will be followed, so I’d like to hear that.

I would most like to hear whether or not QFER should be even thought of as a resource, because this is a real problem. I’ll dump trying to correct QFER. I’ve been trying to get some people there to correct IDs in there for quite a while. But I’d like to know whether or not QFER has any value. That's my whole reason for making this objection and raising a hand high enough for you folks to finally come and look at it.

I have no problem with them operating the plants, because they need to because, due to dropping a wrench in a control panel, we lost a nuclear power plant and was shut down on 6789. So we need to make sure that we don't lose the kingdom over this whole thing. That's the end of my comment. Thank you.

CHAIR HOCHSCHILD: Thank you.

Any other public comments on Item 4?

MS. MURIMI: Thank you, Chair. I’m going to just make a quick announcement. So people who are calling in on the phone press *9 to raise their hand and *6 to mute or unmute on your end. And anyone who is on Zoom you can use the raise-hand feature, it looks like a high-five.

So I’m going to take a quick look again for our participants. Seeing no more raised hands I’ll hand the
CHAIR HOCHSCHILD: Thank you. Let's turn to Commissioner Douglas.

COMMISSIONER DOUGLAS: All right. I'm trying to unfreeze my video there. Thank you. So let me just ask if Michael Nyberg would like to say anything about the QFER reporting and uses of it, which is -- Michael are you on?

MR. NYBERG: I am. Can you see me?

COMMISSIONER DOUGLAS: I can hear you.

MR. NYBERG: Oh okay, I did -- I think I started my video. But yes, we've received numerous requests and queries from Mr. Uhler and have tried our best to incorporate the suggestions that he asked when indeed we do find that there is an error or something is slightly askew. At the end of the day it does happen, there's full acknowledgment there.

However, as he suggests we do try our best to track all the power plants in California with a singular code. And where the issues arise I hate to get into the weeds but I'll just, since it's been brought up I'll just bring it up very quickly, is that different organizational entities track things differently and that's particularly true with regard to power plants. The ISO issues different IDs for their resources as they're known as. The EIA has reporting thresholds that while similar to ours they don't
report on them every year in, year out. They have a 999
code that rolls up a bunch of the smaller ones as part of
their survey, because they only survey a large sample of
the entire population of the U.S. of the power plants that
qualify to report.

And so California really does try to track down
every single power plant rated at 1 megawatt and larger
under official reporting. And in doing so we find that
where the ISO doesn't track such power plants, because
perhaps they're not within the ISO service area, if you
will, or within their grid -- they're in a different grid --
we've had to come up with a universal coding.

And I think this gets to the heart of the matter
of what Steve, Mr. Uhler is asking about, and so he's
right. I mean we do try to align these things where they
can be aligned, but often they can't because they're just
different where the ISO has one code for something we may
have that split because of how the power plant evolved, and
it is two separate entities. But maybe the electrical tie-in
that the power plants go to is a single ISO node. So
these are again, like I said, getting into the weeds of how
things are done.

With regard to the naming conventions, we do rely
almost predominantly on what the reporting entities tell us
on their forms. But at odd times we will add an extra word
or two to help with the general public to understand what
that power plant really is. So with regard to the Campbell
cogeneration, the word “soup” was added. Locally we kind
of knew that this is a Campbell Soup cogeneration facility.
And we knew that a lot of the thermal output from the plant
was going next door to the soup processing facility. So it
wasn't meant as obfuscation it was meant to basically
enable better clarification of what these things mean.

You know, SPA is how SMUD reports on one of their
power plants as the Sacramento Power Authority. It’s the
same with SCA, the Sacramento Cogen Authority. These
things aren't really known to the general public if we
strictly went by the book as to the exact name. So
internally we try to maintain aliases so that when staff
and other organizations are talking and discussing about
these power plants we don't force a code onto them, we kind
of look at what and how we're dealing with internally. And
then have all these sort of linkages to try to understand
what people are talking about in the larger context.

So that's really where the QFER database is
coming from. And bottom line we strive to improve,
absolutely. We will take these name changes and
incorporate them. Again, it's a process. And at any given
point in time things change. I hope I haven’t overstated
things, but that's my comment.
COMMISSIONER DOUGLAS: All right, thank you. That's incredibly helpful. And I know exactly what you mean in terms of the challenge between the ISO tracking one grid connection and us having plants, that it may have been brought to us in two separate proceedings, and just the real-world information being different depending on where it comes from. And then trying to organize that into a database.

I just wanted to ask Lisa DeCarlo if you wanted to speak any further on the Title 20 sections that were raised?

MS. DECARLO: Sure, thank you. And thank you, Michael, for that great explanation about the underlying concern that Mr. Uhler has raised.

I just wanted to emphasize a statement Elizabeth made in her presentation, and a statement Commissioner Douglas made in the previous item, which is that the issue before you is really an interpretation of 1769(b), which governs a change of ownership. And as Elizabeth mentioned previously, that determination does not require us to weigh in on whether this project is compliant with any of the sections Mr. Uhler has sited, 1770 or 1304. 1770 is a compliance verification provision that just establishes the Energy Commission's compliance program to ensure continued compliance with Conditions of Certification. And 1304, as
we have heard a copious discussion of, is the QFER reporting requirements.

So really what's before you Commissioners right now is an analysis of whether this project change satisfies the 1769 (b) requirements. And as Elizabeth stated, staff has found that it does and recommends approval along those lines.

COMMISSIONER DOUGLAS: Super. Thank you, I really appreciate that.

I think Chair Hochschild I’m prepared to make a motion if there are no more questions here.

CHAIR HOCHSCHILD: That'd be great. Could you please move Item 4?

COMMISSIONER DOUGLAS: Yes, I move Item 4.

CHAIR HOCHSCHILD: Commissioner Monahan, would you be willing to second?

COMMISSIONER MONAHAN: I second this item.

CHAIR HOCHSCHILD: All in favor say, Commissioner Douglas?

COMMISSIONER DOUGLAS: Aye.

CHAIR HOCHSCHILD: Commissioner Monahan?

COMMISSIONER MONAHAN: Aye.

CHAIR HOCHSCHILD: Commissioner McAllister?

COMMISSIONER MCALLISTER: Aye.

CHAIR HOCHSCHILD: Commissioner Gunda?
COMMISSIONER GUNDA: Aye.

CHAIR HOCHSCHILD: And I vote aye as well. Item 4 passes unanimously.

Let's turn now to Item 5, Lithium Valley. This presentation is going to be made by my Summer Fellow Lauren Illa, who's been a total gem. We were so lucky to have you this summer working on this issue. And so I want to say thank you too for your contributions in December. My regret is that this was not an in-person fellowship, so this is all virtual. And I am committed to taking out to lunch every Summer Fellow we have in our office. And I promise to do that when I come down to Stanford next or when you're able to come to Sacramento.

I do want to thank Stanford University for supporting the whole program, which began with the Energy Commission and kind of grew to include a number of other agencies, CARB and PUC and CAISO and a bunch of others. And it's really, I think, a tremendous opportunity for young people.

And of course it can be a life-changing career opportunity. I am so proud of my Senior Advisor Terra Weeks, who got her start at the Energy Commission in a summer in our office and then has been doing tremendous work on SB 100 and many other things, including Lithium Valley since then. So, Lauren, it's a pleasure to
introduce you. Thank you for all you did, and look forward
to your presentation.

MS. ILLA: Thank you so much for the wonderful
introduction. So good morning, Chair Hochschild and
Commissioners. My name is Lauren Illa. I am a sophomore
at Stanford University. And like Chair Hochschild said I
interned in his office over the summer. During my
internship I primarily worked on the team developing the
report for the Lithium Valley Commission. For my
informational item today I will talk a bit about the
research that I did on the potential for lithium recovery
in California. Next, please.

We have seen a real surge and a global demand for
lithium and this has mainly been due to transportation
electrification. EVs had a market growth of 1.7 million
vehicles in 2020. But that number is expected to swell to
60 million vehicles by 2040.

Additionally, California instituted policies to
get the state to 100 percent clean electricity. The Senate
Bill 100 Report that was released earlier this year found
that California will require significant increases in
battery storage to achieve this goal. And the increases in
battery storage are shown in dark purple. The accelerating
growth of EVs and California’s battery storage additions
will require an increased supply of lithium. Next, please.
Currently two forms of lithium extraction and recovery dominate the market. Next, please.

The first, accounting for about 54 percent of all lithium compounds produced, is hardrock mining, which occurs primarily in Australia. The largest operation in the world is at the Greenbushes open-pit mine in Western Australia. And that’s a picture of it there on the screen. Hardrock mining involves the mining of granite pegmatites containing lithium.

The granite pegmatites undergo several physical and chemical separation processes to result in a very concentrated lithium solution. This solution can then be refined into lithium hydroxide or lithium carbonate for use in batteries. However, this process can cause some severe ecological damage to the site and also to the surrounding land. Additionally, the separation processes are extremely energy intensive. Next, please.

Virtually all other lithium produced comes from large evaporation ponds in desert climates, particularly in Argentina, Bolivia, and Chile. This extraction process requires the drilling of wells into salar brine deposits in the earth’s crusts. These brine deposits are then pumped into evaporation ponds that can span thousands of acres and the brine is left there for months or for years until most of the water content has evaporated from the solution.
This solution then undergoes further treatment to produce the desired end-products of lithium hydroxide or lithium carbonate.

This process can be extremely water-intensive, at times requiring millions of liters of water per metric ton of lithium carbonate or lithium hydroxide produced in regions that already have limited water access, which can put a large strain on local farming communities. Next, please.

The lithium reserve in the Salton Sea region is very different. The main lithium reserves in the Salton Sea Known Geothermal Resource Area are where lithium is concentrated in geothermal brine reservoirs below the Salton Sea. Next, please.

Something interesting that I learned during my research was that the composition of the brine at the Salton Sea is unique to the region. It’s about 26 percent dissolved solids and has an average lithium concentration of 200 milligrams of the lithium per kilogram geothermal brine. And in some areas this concentration can be as high as 400 milligrams per kilogram making these, the geothermal brine reservoirs, with the highest concentration of lithium in the world. Next, please.

Due to these concentrations, the Salton Sea geothermal field, which includes the Known Geothermal
Resource Area has a potential inferred resource of 15 million metric tons of lithium. According to a March 2020 CEC report, the entire Salton Sea Geothermal Field can produce more than 600,000 tons of lithium carbonate per year once it’s fully developed. This is much greater than the amount of lithium carbonate that was produced globally in 2018, which exceeded 300,000 metric tons.

This really provides an ample opportunity for lithium recovery from geothermal fluid that would make the U.S. a significant producer of lithium and reduce reliance on imports from other countries. However, the methods that I’ve reviewed so far are not environmentally sustainable or suitable for the lithium resource in Imperial Valley, so researchers and companies have developed several techniques for directly extracting this lithium from geothermal brines that are already being used to produce electricity at geothermal power plants in the region. Next, please.

The first of these methods is adsorption. So adsorption is the process of physically adsorbing or attaching lithium chloride molecules that are present in brine onto a material called a sorbent. These lithium chloride molecules can then be recovered and the sorbent can be regenerated for repeated use.

This extraction process is actually not new. A lithium company called Livent has been using a direct
lithium extraction process to produce lithium carbonate at its facilities in Chile since 1996. Next, please.

Another method, ion exchange, is being tested at Salton Sea geothermal brines. So in ion exchange processes, lithium ions that are present in the geothermal brine are adsorbed into these ion exchange sites. And then these lithium ions are chemically swapped for another ion that is already present within the ion exchange. After the lithium ion is chemically adsorbed an acid solution is used to strip and recover this lithium.

A research group from SRI International, through a grant from the CEC’s EPIC program, developed this inorganic sorbent made of nanostructured hydrous manganese oxide. On the left is a picture of the sorbent without the lithium ions present and on the right is the sorbent after the lithium ions have been adsorbed and then entered the ion exchange sites. Next, please. One more click, please.

A review of these projects indicates that expected operating expenses are near about $4,000 per metric ton of lithium carbonate equivalent. This production cost is economically feasible with estimated lithium prices greater than or equal to about $11,000 per metric ton of lithium carbonate equivalent. Next, please.

In comparison, the production costs from the
evaporative brine processing averages about $5,500 per metric ton of lithium carbonate equivalent. And the production cost from the hardrock mining ranges from $4,500 to $5,000 per metric ton. This makes the production cost lithium products from geothermal brines at the Salton Sea comparable to or less expensive than other methods. Next, please.

The technology developed by SRI International will be tested at demonstration facilities in the Salton Sea region and several of these facilities have received CEC funding, including a demonstration project from Berkshire Hathaway Energy Renewables, which uses an ion exchange technology in addition to a molecular sieve. A pilot plant from Controlled Thermal Resources, which will demonstrate the management and precipitation of other compounds that are present in the Salton Sea geothermal brines that could potentially interfere with the ability of the company to extract lithium from these geothermal brines. And lastly, a pilot plant from Materials Research, which will also demonstrate the pilot-scale recovery of lithium from geothermal brines. Next, please.

Thank you for your time and providing me with the opportunity to speak about my work. I also wanted to thank my mentors over the course of my internship, Terra Weeks, Le-Quyen Nguyen, and Pam Doughman for providing me with so
much support and guidance as well as my faculty mentor from Stanford, Dr. Diana Gragg. That concludes my presentation. I will gladly answer any questions that you may have.

CHAIR HOCHSCHILD: Thank you so much, Lauren.

Before I ask a question are there any other Commissioners wishing to ask a question of Lauren?

COMMISSIONER DOUGLAS: Chair Hochschild --

CHAIR HOCHSCHILD: Go ahead.

COMMISSIONER DOUGLAS: -- this is Commissioner Douglas, not a question but I very much appreciate the presentation. And I'm looking forward to hearing your questions.

CHAIR HOCHSCHILD: Yeah, did I hear Commissioner McAllister and was that Commissioner Gunda?

COMMISSIONER MCALLISTER: Yeah, go ahead.

COMMISSIONER GUNDA: Yeah, I just wanted to say the same thing. I mean I’ve been trying to get kind of an overview of our work in the Lithium Valley, so this is great. Lauren, it's a bummer that we haven't got a chance to see you in-person, but it’s a great presentation. Thank you for walking us through the options. And I’m grateful for your service to the state. And I don't have any other questions. It was very informative. Thank you, Chair.

CHAIR HOCHSCHILD: Thank you, Commissioner Gunda.

Oh yeah, Commissioner Monahan go ahead.
COMMISSIONER MONAHAN: Also not a question, but a comment. I can't believe you're only a sophomore undergraduate. You did a tremendous job. I never would have been as brave at your age to be able to do that and that was a great presentation, so just thank you. It looks like you have a great career in front of you. And maybe one day you'll settle back at the Energy Commission for a bit.

CHAIR HOCHSCHILD: Yes, yes. I do have a -- oh, go ahead Commissioner McAllister, yeah.

COMMISSIONER MCALLISTER: Yeah, it's already been said but I wanted to pile on, I mean nice job. Just the confidence and just competence just comes right through. So no doubt you have a great, great future. Please stay in the energy business in one way or another. Clearly you're going to get well engaged with it, so thanks a lot.

And I just wanted to echo your comments, Chair, about the program itself, the partnership we have with Stanford to bring really excellent, quality fellows over to do important work for the state. Welcome to the team, thank you very much.

CHAIR HOCHSCHILD: So, Lauren, I did have a question for you. I mean, I do think lithium should be thought of as sort of the oil of the clean energy future.
And we're so geographically very fortunate to have this enormous resource here in a form that is by far the most benign in the world to recover in terms of its impacts and then also the cost as your outline there.

I am wondering just what you see in terms of our ability to scale this rapidly? What barriers are there and any particular areas of future R&D needs that you see?

MS. ILLA: Yeah in terms of ability to scale, so a lot of the companies that already operate geothermal plants in the region are planning these demonstration projects. And they're thinking the throughput will be about 20,000 tons per year of lithium. And that can be translated into maybe about 100,000 tons per year of lithium carbonate equivalent or other end products. And so the plan eventually is to scale this up to 600,000 tons per year of lithium carbonate equivalent.

But that’s dependent on further geothermal plants being built in the area. It's also dependent upon maybe the future prices of lithium in the future and how this will affect the demand and also competitiveness of extraction from geothermal brines, as well as whether the technology is suitable or ready for this kind of commercial scale-level development.

So I think once the demonstration projects show the potential for producing lithium at the current...
operating expense costs of about $4,000 per metric ton,
there is a good chance that we'll be able to be more
commercially viable and competitive with our new existing
methods.

CHAIR HOCHSCHILD: Uh-huh, yeah. Well, in
closing I thank you for that. I would just like to say I
think this Lithium Valley vision is one of the single most
important and exciting things that we're doing at the
Energy Commission. And there's a straight line from this
to manufacturing as well, because there are a lot of
battery companies that are going to be opening up shop. We
are seeing huge demand, both for electric vehicles and for
energy storage. And the vision of Lithium Valley, not just
to recover the raw material here in California, but to fill
in the rest of that value chain in California, cathode
manufacturing in particular, which we don't have much of.
But I think it's a huge opportunity to bring that here.
It'd be close to market and close to the electric vehicle
manufacturers that are here and are growing.

And this is just a really terrific piece of work,
Lauren, you've done to help set the table for all that. So
we'll be in touch, I promise to take you out to lunch when
I come to Stanford. And I look forward to being in touch
with you going forward, thanks again.

MS. ILLA: Thank you, Chair and Commissioners.
CHAIR HOCHSCHILD: All right, terrific. This was a non-voting item, so we will not take public comment on Item 5. And we can turn now to Item 6, Overview Of Market Informed Demand Automation Server, MIDAS.

MS. SHEPHERD: Okay. Good morning, Chair and Commissioners. My name is Morgan Shepherd and I am an Energy Analyst in the Efficiency Division, Data and Analytics Office. Today I am presenting on an informational item on the Market Informed Demand Automation Server system, otherwise known as MIDAS, a database that stores time-varying rates, greenhouse gas emissions, and California ISO Flex Alerts to support decarbonization and grid reliability efforts.

Before diving into MIDAS I would like to review the benefits MIDAS will provide to Californians and some background information on the project. Next slide.

Potential benefits to Californians as a result of the implementation of MIDAS include decreased emissions through load shifting, increased grid reliability through improved customer awareness of Flex Alerts, which then decreases strain on the grid during these events. And finally, the MIDAS system would contribute to customer savings through decreased energy usage during peak hours.

Next slide.

Currently there are periods of the day when...
carbon free renewables are unavailable for electricity generation, such as when the sun is not shining or the wind is not blowing. This results in steep evening ramping and the generation from fossil-fuel power plants to meet state energy demands. These hours are referred to as carbon-intensive hours, because they rely on the use of high-carbon peaking plants.

This graphic illustrates the 2021 Marginal Emissions Intensity for each hour down the left side, and month of the year across the top, with high-carbon hours shown in red and low-carbon hours shown in green.

Renewables alone are not enough. To minimize emissions more effectively California must shift electricity use from the carbon-intensive hours to low-carbon hours. This can be done with energy storage in the form of electrical generation in batteries, thermal energy in air and water heating and cooling, and potential energy in water pumping.

Through published price and emissions signals California can enable, facilitate, and incentivize industry, businesses and residents to shift their energy use to hours when carbon-free renewable resources are available. Next slide please.

To shift energy usage to low-carbon hours CEC staff have created the MIDAS platform, which supports the
entry and retrieval of electricity price schedules, Flex Alert signals, and greenhouse gas emissions. Each rate and value in the system will require a unique ID to identify and link customer devices to the correct electricity rate. This unique identifier, what we call the Rate Identification Number or RIN, is scalable to a national or even international level, allowing for other regions to use our design.

The database includes two primary tables: the RateInfo and Value Tables. The RateInfo Table includes all identifying information for each rate plan, specifically, the information that makes up the RIN associated with each rate.

The Value Table includes all information describing when each rate applies and how much it costs or as it applies to Flex Alerts and greenhouse gas emissions, the Value Table stores the values associated with those signals.

Under a proposal in the draft Load Management Standards staff report utilities and community choice aggregators would be responsible for uploading all of their time-varying electricity prices to populate the MIDAS database. Next slide.

The MIDAS teams have completed Alpha and Beta testing with over 20 outside stakeholders, including
utilities and automated service providers. Time of Use rates from five utilities have been uploaded and are available on the database. Real-time marginal greenhouse gas emission signals from California’s Self-Generation Incentive Program and Flex Alert signals from the Independent System Operator have both been incorporated into the MIDAS system.

And most recently we held a public workshop on August 27th to share, explain, and gather feedback from the public and stakeholders on the database. As part of the public workshop a limited-MIDAS system has been released and is available for public testing and evaluation. As this is a limited release we encourage input. Next slide, please.

Our next steps include reviewing comments and input on the limited-MIDAS system. The comment deadline is September 15th, 2021. Continuing to coordinate with other CEC staff on the Load Management Standards staff report and the related promulgation of Load Management Standards; flexible demand appliance standards and FlexHub research and pilots.

Next, continuing to gather locational hourly data to better represent the locational portion of the RIN. Analyzing public broadcast signal options to reach California’s not currently connected demand response
Finally, I would like to thank Karen Herter who has been a thought leader at the CEC for the past two years, helping shape the draft Load Management Standards staff report. And for designing the MIDAS system, paving the way for this load management project. That concludes my presentation. Thank you for your time. I will now take questions.

CHAIR HOCHSCHILD: Thank you. We’ll turn now to Commissioner discussion, but let me first say this is terrific. And I also appreciate the good acronym. We've had a lot of terrible acronyms for our programs in the past, so I’m always appreciative of the MIDAS. The MIDAS touch here is, again, a good one. And thank you for all your work.

Let's turn now if we could to Commissioner McAllister.

COMMISSIONER McALLISTER: Great. Thank you, Chair.

And thank you, Morgan, for that great overview. I want to second your thanks to Karen Herter who really has provided just the vision and also just the heavy lifting and coordination to get this moving in the context of the Load Management Standards. And this, I'm super-excited about this. It's been a little bit under the radar just
because we want to deliver the goods via the Load Management Standards proceeding.

But I think as it becomes more public and more used, and after developers figure out what a facilitated platform it is for enabling these business models, they're going to go out there and harness load flexibility based on all the signals that Morgan mentioned. So that's rates primarily, that's tariffs, right? Time-dependent tariffs, but it's also Flex Alerts which have a very firm time dependence. Because they are a time-dependent resource, by definition.

And carbon signals, which many Californians are interested in using to help influence their actions. They want to respond to the carbon intensity of the grid. And we know that through the self-gen program, but suspect it's probably a broader phenomenon.

And so I really want to thank you, Morgan and Karen, but also Gavin Situ, Gabe Taylor, Jen Nelson as well, and really the whole team in the Efficiency Division and the support they've gotten from across the Commission.

I wanted to frame for my colleagues a little bit Load Management Standards more broadly. The MIDAS tool is a platform for enabling Load Management Standards authority to be implemented a way that really does reduce transaction costs and focus on the right things as we transition our
grid to low carbon. But the broader Load Management Standards authority has existed since the beginning of the Energy Commission.

And really I think of it now as really one of the three standards-making processes that are authorities that the Commission has. And we know the big two up to now, which have been the Building Standards and the Appliance Efficiency Standards, but the Load Management Standards really deserve to be in that triumvirate. And they were so visionary when they were included in the Warren-Alquist Act back in the 70s originally.

But now we're in the digital age. We have automation, we have AI, we have all of these tools in our toolbox that we didn't have and really were just not even imagined 45 years ago. So it's exciting to be where we are now. We really can build low-cost tools to enable a nimble, flexible grid that primarily this tool and the Load Management Standards will preserve and what will serve to enhance reliability in the grid long-term as we move towards a zero-carbon grid. These will reduce costs, demand response, and really taking advantage of all the potential of load flexibility. It'll reduce costs and it'll enhance reliability. And so that, the long-term play is really that.

In the meantime, as we facilitate decarbonization
I think it also plays, as Morgan described a role there. So MIDAS is, I think a real transformational tool. We already know that app developers are looking at it and then putting it through its paces and the rollout of it gets done very well. So digitization of our energy grid is happening.

And those of us who've been involved in this business a long time have heard for decades that the marketplace needs automated access to rate information. And not just in the moment but ahead of time so that they can plan, so they can do pre-cooling of buildings, so that they can really get their resources and their resource stack in place for the following day, and the following periods of time that are relevant.

And so this tool is going to enable all that in a very low-cost, accessible sort of democratic way. And so that's why I'm so excited about it. And I think it just plugs into all of the different things that we're doing and load flexibility, there's a half dozen activities that all complement one another and this is a real enabler for all of that.

So I also wanted to call out our collaboration around these issues with the Public Utilities Commission and the CAISO, because the PUC is developing some really interesting and important initiatives around demand.
response and rate-making, which at the end of the day this
facilitates primarily time-dependent rates and their
application in a way that makes sense, with the
marketplace. And obviously the CAISO is really interested
in it for their Flex Alerts. And really we now with all of
our data activity will be in a position of quantifying the
impacts of all of these informational tools and how
consumers and loads of all sizes respond to them.

And so I think there's just so many reasons to
like this and just recognize that it's time has come. We
at the Energy Commission back for decades, there's been a
real interest in a center of excellence or a center of
intellectual leadership on the potential for rates-driven
behavior change and rates-driven impact, positive impacts
on loads and loads shaping. And in the analog era it was
just tougher and more costly to do that. And now that
we're in a different space it's time to modernize this long
long-standing monopoly kind of sector and really bring
these sort of creative tools to it in a way that responds
to the market needs and customer needs. And so we're just
in a great place right now.

And I wanted to just highlight finally, the
possibility, and I think Morgan sort of intimated this, but
we know that the ERDD, through the R&D activities will have
a lot to work with leveraging this, these new business
models, and figuring out how they can benefit ratepayers. And so I'm really interested in sort of all these parallel discussions and activities that we have the opportunity to really get deep into and produce results that optimize the grid for all Californians.

So anyway this is an enabling platform, a tool and I’m really thankful to Morgan and the team for presenting it today. And certainly looking forward to moving forward with our formal rulemaking on Load Management Standards and all the different parallel activities that we have going with both here at the Commission and across our sister agencies.

So I wanted to just set that that context and why I think it's important to have this informational item, to bring it to everyone's attention and kind of contextualize it because it is very, very important. So thank you, Morgan and the whole team.

CHAIR HOCHSCHILD: Thank you, Commissioner. And yeah, I really appreciate you bringing this as an informational item.

Morgan, was there anything else you wanted to add in response to what the Commissioner said?

MS. SHEPHERD: No, I think he hit all of the major points of the importance of this system and Load Management Standards in general. But yeah, thank you for
summarizing that and putting it into a different phrasing for everyone. It definitely has been flying under the radar and is a lot. Many of the stakeholders that we talked to during alpha and beta testing are very excited about this and testing it continually, and continue to stay excited about it, so it's very rewarding to see everyone (indiscernible).

CHAIR HOCHSCHILD: That's great to hear, that's great to hear. Unless there are other Commissioner comments --

COMMISSIONER McALLISTER: I left one person out actually, David Cuffee, I wanted to thank as well.

CHAIR HOCHSCHILD: Oh, yeah.

COMMISSIONER McALLISTER: And our team includes IT and a number of skill sets across the Commission. So Karen was very successful in marshaling all those skill sets and making sure that we were kind of on point with a really highly qualified team to do this, so thank you again, Morgan and everyone.

CHAIR HOCHSCHILD: Great. Commissioner Gunda.

COMMISSIONER GUNDA: Yeah, thank you, Chair. As always it's really hard to follow Commissioner McAllister. I think he really helped contextualize the piece.

I just want to extend my thanks to Morgan.

Morgan, that was an excellent presentation. Thank you for
keeping it clear and succinct for our broad audience here.
I also want to thank the Efficiency Division. I had the
chance to kind of get debriefed on this over the last
several months, so I kind of understand the broad vision.

I do want to flag kind of like two things that
are important from a resource planning perspective. As
we've all kind of seen the analysis from SB 100 the load
flexibility has an incredible opportunity in terms of
reducing the overall build on the resource side, on the
bulk side. So I think load flexibility and demand
flexibility, just generally play an extremely important
role in optimizing our ability to reduce the overall build
rate; I think that's one.

But also the other element of it, which we're
going to talk about today a little bit in our contingency
planning, is so much of the shocks from climate change, the
extreme situations that we might see really require a solid
demand response and solid ability to respond to demand in
real time. And I think a platform like this really allows
for realizing those opportunities, both on the resource
planning side as well as contingency planning side.

So I think I am personally excited from that
perspective of this becoming, as Commission McAllister put
it, an enabler for a broad suite of applications. But like
when we had the Apple iTunes right, I mean, you develop a
platform and the apps take over. You double up the data
and the apps take over. And I think the value stream and
the value proposition that we might realize here might not
even be completely visible at this point. So I’m just
incredibly grateful for this general direction.

And I would love to follow the comments. I think
as with any data project it's extremely important to enable
as many stakeholders as we can, so I look forward to
hearing the stakeholder comments and how we really develop
a robust process to support kind of the equity portion of
this transition as well. Thank you.

CHAIR HOCHSCHILD: Thank you, Commissioner Gunda.

Unless there are additional Commissioner
comments, Morgan, congrats to you and to Karen Herter and
the whole team on the progress here, really appreciate it.

And by the way, let me just say it's really nice
just to do these kind of informational updates like we just
did on Lithium Valley and on MIDAS. Even when there is not
a Commissioner vote that's required it's just helpful to
everybody to calibrate and have a little chance for some
dialogue. And for some congratulations, which are always
in order when we're making progress like this, so thank you
Morgan and team.

And with that now let's move on now to Item 7,

Public Domain Residential and Nonresidential Compliance
Software and the Residential and Nonresidential Alternative Calculation Method. That is a mouthful, okay.

MR. WICHERT: Yes, it’s a mouthful.

Good morning, Chair and Commissioners. My name is RJ Wichert and I’m a Mechanical Engineer in the Building Standards Office in the Efficiency Division.

I’m here to ask for your approval for updated 2019 public domain residential and nonresidential compliance software, CBECC-Com and CBECC-Res, version 2019 2.0, and the associated residential and nonresidential Alternative Calculation Method, or ACM, Reference Manuals.

Next slide, please.

If approved this CBECC update will benefit California by expanding the list of available efficiency measures in the software, giving the building industry more tools in the push for building decarbonization. This update also corrects inaccuracies contained in the currently approved software, which will better align simulated energy savings with real world buildings. Next slide, please.

For CBECC-Res and Com this update contains corrections to the baseline indoor air quality, or IAQ system, including revisions to the baseline fan efficacy, maximum airflow rate, and compliance credit installation criteria.
For CBECC-Com, this update also includes a revised baseline system for high-rise residential spaces, changing the baseline from a four-pipe fan coil to a single zone air conditioner.

Because of these major updates we’re asking that approval of previous versions of CBECC and third-party compliance software incorporating those versions be expired 90 days after the new software is available to the public.

In addition to the major updates this software also includes new demand responsive heat pump water heaters, an expansion of heat pump water heater options including Tier 4 and large commercial options, various bug fixes, and for CBECC-Com updating the simulation engine to EnergyPlus 9.4. Next slide, please.

Staff has thoroughly tested CBECC-Res and Com 2019 2.0, reviewed the associated ACM Reference Manuals, and is recommending approval of the resolutions on this item to ensure that the building industry has accurate and well-maintained compliance software. Thank you and I’m available to answer any questions you may have.

CHAIR HOCHSCHILD: Thank you so much.

Is there public comment on Item 7?

MS. GALLARDO: Hello, this is Noemi, the Public Advisor. Apologies, I had technical issues earlier, which is why I wasn't able to respond and I’m very grateful
Dorothy had stepped in.

So a reminder to attendees, if you would like to make a public comment please use the raise-hand feature to indicate that you are wanting to make comment, press *9 if you are on by phone. And I do see one hand raised, it looks like Sarmad Jabbar, (phonetic) apologies if I mispronounced that. Please restate your name, spell it, and indicate your affiliation for the record. Your line is open and you may begin. (No audible response.) Sarmad, your line is open. You may begin. And do not forget to unmute on your end.

Okay I’m not getting a response, Chair, so I -- oh, I see a second hand. So I’m going to move to the second person, which is a Luke Martin. Luke, a reminder to spell your name, indicate your affiliation if any. Your line is open and you may begin.

MR. MORTON: Hi, yeah my name is Luke Morton calling from CABEC, Luke L-u-k-e, Morton M-o-r-t-o-n. I’m calling on behalf of the California Association of Building Energy Consultants. I’m just calling to support this item. I very much -- I had a conversation or I commented on the draft changes and had follow-up from staff. And I was really impressed with the work they're doing, with the changes being proposed. And kind of there's a lot of work still ongoing, but I was really impressed with -- on behalf
of staff. And so just want to support all the work that's going on with these updates. That’s it.

MS. GALLARDO: Thank you.

All right, I do not see any other hands. Chair, we can proceed.

CHAIR HOCHSCHILD: Okay, thank you. Let's turn to Commissioner McAllister.

COMMISSIONER MCALLISTER: Great. Well, thank you very much. Thank you, RJ, I want to just call out you in particular, with the whole team behind this. There are lots of technical issues here and we have so much expertise across the Efficiency Division and the whole team on both CBECC-Com and Res that really do pitch in. It kind of takes a village to develop and maintain these tools.

And so just to be clear this is an update for the 2019 compliance software. And we're also pivoting as a team to begin to develop the modifications to reflect the 2022 update that we voted on last month. But these are changes that are significant enough that they are not just sort of minor changes that staff can just promulgate. We really need to take this and adopt it here. But yeah, lots of stakeholder engagement. And I think you heard the one commenter be appreciative of that process, so I think it certainly has my support.

I wanted to also thank Mazi Shirakh and Danny Tam
and Payam Bozorgchami for their leadership on this and just marshalling all the stakeholder engagement. And then Che Geiser as well and Will Vicent who oversees a lot of this activity as the lead of the Building Standards Office. And then Mike as well as the Lead of the Division. I know that the Building Standards is such a core part of what we do and we just have a dedicated, long-term staff here who has a depth of knowledge that is unparalleled. So I just want to acknowledge that, and thanks to you RJ and the whole team.

CHAIR HOCHSCHILD: Great. Thank you.
Well unless there are Commissioner comments, Commission McAllister, would you be willing to move the item?
COMMISSIONER McALLISTER: Yes, I move Item 7.
CHAIR HOCHSCHILD: Commissioner Gunda, would you be willing to second?
COMMISSIONER GUNDA: Second Item 7.
CHAIR HOCHSCHILD: Okay. All in favor say aye, Commissioner McAllister?
COMMISSIONER McALLISTER: Aye.
CHAIR HOCHSCHILD: Commissioner Gunda?
COMMISSIONER GUNDA: Aye.
CHAIR HOCHSCHILD: Commissioner Douglas?
COMMISSIONER DOUGLAS: Aye.
CHAIR HOCHSCHILD: And then Commissioner Monahan?

COMMISSIONER MONAHAN: Aye.

CHAIR HOCHSCHILD: And I vote aye as well. Item 7 passes unanimously.

Let’s turn now to Item 8, Revised Summer of 2022 Stack Analysis.

MS. TANGHETTI: Hello to our Chair, Commissioners and stakeholders. I am returning today to provide an update to the Draft 2022 Summer Stack Analysis based on updated assumptions and comments from stakeholders. The stack analysis is based on a spreadsheet tool that uses CEC hourly demand and supply projections during critical hours for the current or near-term year. The analysis presented here today provides insight into the quantity and duration of trigger contingencies that may be needed for summer of 2022 under extreme weather conditions. Next slide.

The benefit to California of the CEC Stack Analysis should be viewed as a point of reference for consideration in electricity grid reliability planning.

Oh, I think we skipped a slide. Can you go back a slide, please? Oh, I think we're missing a benefit slide. Apologies for that, but there is a benefit slide added to it. And we’ll provide that at a later time. So go ahead and go to that next slide there. Sorry about that.

First I'd like to briefly outline some analytics
products the CEC staff has recently developed to benefit
planning processes for various time horizons and
assumptions. Next.

On August 30th CEC staff presented the Midterm
Reliability Analysis, also referred to as the Loss of Load
Expectation, or MTR analysis. The LOLE analysis compiled
the results for thousands of combinations assumptions for
the years 2022 through 2026.

The stack analysis tool is designed to consider
an extreme weather event, such as events have served in the
summer of 2020, as well as the current drought. The stack
analysis tool is designed to understand an extreme weather
event and the potential impact on supply-and-demand for a
single or near-term year.

The LOLE analysis considers thousands of
combinations of historic supply and demand levels over
multiple years. These analyses should be viewed as
complements to each other and valuable points of reference
for energy reliability planning. Next.

Pacific Gas and Electric, Middle River Power and
Southern California Edison provided very thoughtful written
comments. The next two slides highlight a few of the
themes that carried through most of these written comments.
Commenters questioned the need for both a probability-based
LOLE analysis and an hourly stack analysis.
As noted on the last slide on August 30th, the CEC’s preliminary Midterm Reliability analysis was presented, and is provided as part of the IEPR record. Again, both the stack and midterm reliability LOLE analysis should be viewed as complementary to the other and considered as points of reference in electricity reliability planning. Next.

Commenters all agreed that the 2022 summer stack analysis is conservative in assumptions and there is agreement with these comments. When we say conservative we believe our extreme weather assumptions are trending towards pessimistic in terms of peak demand, supply, forced outages, and available imports.

Commenters noted the 1,500-megawatt projected hydro capacity derate is another conservative or pessimistic estimate included in the 2022 stack analysis. Again, staff agrees this is conservative but also a robust assumption for an extreme weather scenario.

The hydro capacity derate is corroborated by review of the California ISO recently released preliminary 2022 Net Qualifying Capacity List. The preliminary hydro capacity totals for summer of 2022 are in fact about 800 to 1,000 megawatts lower than those for summer of 2021. But recall the hydro capacity NQC values are based on an average of historic years, not an actual drought year. The
stack analysis tool is considering extreme weather
conditions persisting, while the NQC hydro capacity is an
average hydro capacity snapshot. The stack analysis tool
derate for hydro capacity considers a persisting drought.

Commenters noted the 7.5 percent forced outage
rate assumption is high; however, this assumption remains
unchanged in the 22.5 percent PRM demand curve calculation.
Extreme weather events not only impact demand projections
but also supply site forced outages. Climate change in the
form of extreme weather, fire and smoke can also adversely
affect the supply fleet.

And lastly, commenters requested access to the
stack analysis tool and all underlying details used in the
tool. The stack analysis tool in its current form is
intended only for internal use. The tool is spreadsheet-
based with about 30 interdependent tabs. Over the next few
months, time will be dedicated to making the tool,
including workpapers, publicly available. Until that time
when we can share the tool publicly, we are providing any
specific data upon request. Next slide.

Our colleagues at the CPUC provided procurement
updates that are now incorporated into the revised summer
of 2022 stack analysis tool. The CPUC summer project watch
list identified increases to capacity. This is expected
online by summer of 2022. Please note this is in addition
to the CPUC procurement that already came online this summer.

One commenter also noted the Redondo Beach retirement date is up for reconsideration at next month’s State Water Resources Control Board Meeting. If the Redondo Beach retirement date is extended this is simply a one-for-one decrease in all of the stack analysis shortfall metrics that will be shown on the following slides. It should be noted these additional megawatts would eliminate the amount and in some months lessen the duration of trigger contingencies.

Missing from the draft 2022 stack analysis tool were demand response and firm liquidated damage contracts for the publicly owned utilities in the California ISO footprint. The revised stack analysis now includes 4 to 500 megawatts for these previously unaccounted-for resources. Next slide.

As in the draft presentation I will first break down the July stack analysis figures that many of you have seen before. Next.

The left axis shown in terms of megawatts will display hourly supply bars and demand curve lines for a 15 percent and 22.5 percent planning reserve margin. Under these demand curve lines we will show the stack bars of available resources. Next.
The first bar in the stack is the existing generation supply. And this is adjusted by projected derates for the drought to persist through 2022. Next. Followed by the existing Demand Response bar. Next. Followed by the grey bar that identifies the CPUC new resources and expedited procurement. Next. The darkest blue bar displaying the solar supply. Next. And lastly, the green bar showing the projected imports. Next. The reddish lower line is a 15 percent average demand curve. Next. Followed by the 22.5 percent extreme weather demand curve. Next. And lastly, boxes showing the amount of trigger contingencies. Assuming a 15 percent average weather demand curve for July 2022 the analysis does not identify a need for trigger contingencies. And this is unchanged from the draft results. However, with the changes outlined in the previous slide trigger contingencies for the 22.5 percent extreme weather demand curve were reduced by about 885 megawatts and also eliminated the need for contingencies projected in the 6-7 p.m. hour from our draft analysis.
Next.

For August 2022 the stack analysis tool projects similar results as seen in the figure for July, no trigger contingencies projected for the 15 percent unreserved margins. And this is unchanged in the draft analysis.

Considering the 22.5 percent extreme weather demand curve, the revised analysis projects a reduction in the duration of trigger contingencies when compared to the draft results.

The updates eliminated any potential need for contingencies in the 6-7 p.m. hour under the 22.5 percent TRM demand curve. Overall, the updates reduced trigger contingencies by about 1,000 megawatts when compared to the draft results. Next.

For September of 2022 the revised stack analysis continues to identify trigger contingencies under both average and extreme weather demand curves. However, the updates did eliminate contingencies during the 8-9 p.m. hour, or the 15 percent from the reserve margins. So again, for September of 2022 the stack analysis tool projects trigger contingencies under both average and extreme weather demand curves, but lower than the draft analysis results. In hours when trigger contingencies persist they are reduced to about 924 megawatts when compared to the draft analysis. So under the 22.5 percent
extreme weather demand curve the analysis projects about
4350 megawatts of trigger contingencies maybe needed in the
7-8 p.m. hour. But this is reduced from the approximate
5,200 megawatts that were identified in the draft analysis.
Next slide.

Both this presentation and a revised staff paper
can be found at the CEC website under this docket or by
scanning the QR code. At this time staff recommends
adoption of Resolution 21-0908-8 adopting the 2022 Stack
Analysis. This concludes my presentation. I thank you for
your time. And now I’m joined by my colleague Lana Wong if
there are any questions.

CHAIR HOCHSCHILD: Thank you for that
presentation.

Let's go first to public comment.

MS. GALLARDO: This is Noemi the Public Advisor.
A reminder to attendees if you'd like to make a public
comment please use the raise-hand icon on the screen. If
you're on by phone press *9 to indicate if you'd like to
make a public comment. All right, I see a hand raised.
This is phone number ending in 385. A reminder, please
state your name, spell it and indicate your affiliation if
any. Your line is open and you may begin. And a reminder
to unmute on your end. Go ahead.

MR. UHLER: Can you hear me?
MS. GALLARDO: Yes, we can.

MR. UHLER: Okay, this is Steve Uhler calling. I have some points to make on the stack analysis. I conversed with Angela Tanghetti about whether or not the system uses things like minimum load or power factor in consideration of available supply.

And also this is part of the seed of my objection to the petitions for name changes and ownership changes is finding -- and now that Michael Nyberg has admitted that the QFER system cannot take into account the relationship between agencies of power plants, how are you sure you have everything and have taken everything into account? And he admitted referencing my main gripe, which is connection to the EIA database, which handily provides us with GIS information as well as minimum load and power factor.

And I'm trying to understand why there's any need for a simplistic system to look at this. I would think that your resource planner or material resource planner, commonly referred to as MRP, would supplant this entire operation. So hopefully you're getting my point. The Commission doesn't seem to know all the power plants. Even Ms. Tanghetti noted that they discovered other power plants that could help out, which is not unlike a number of years ago when I presented her with some power plants for net short.
So I really want you to pay attention, and pay attention to Michael Nyberg who admits his database system cannot connect all this stuff together. Somebody needs to connect it all together. I put together a site I called Gencard. Angela could give you a link to it, Nyberg could give you the link to it, to show you how all of this then can be connected together. And you can actually look at it, and when somebody puts a bar on the chart you can actually go visit the power plant courtesy of Google map and see who's nearby within about a 10-mile square.

These are all important things, because circuits, as you know in your house if you plug too many things into one circuit you pop a breaker. You need to break down to the level of circuits. This is all doable. It's all doable right now. It's all doable with software that's been around since the 40s that helped us win the war, build more ships faster than it could be sunk.

We need to start doing that, so I want you to consider the value of this as being nil until you have things like power factor and minimum load. That's the end of my comment. Thank you.

CHAIR HOCHSCHILD: Any other public comment on Item 8?

MS. GALLARDO: This is Noemi, the Public Advisor. I do not see any other hands raised for this item.
CHAIR HOCHSCHILD: Okay, let's turn to Commissioner discussion, starting with Commissioner Gunda.

COMMISSIONER GUNDA: Yes, thank you, Chair. I'm just going to begin by just thanking Angela and Lana and all the reliability analysis team for doing such an incredible amount of work over the last six to eight months to really try to kind of help us have some situational awareness on how to plan for contingencies.

So I do want to just kind of remind everybody, I mean I know all the Commissioners are very much aware of this, but it'll probably benefit some of the public that might not follow this in detail. So last year after the rolling outages that we had the joint agencies, so CAISO, CPUC and CEC collectively put out a root cause analysis. And a part of the recommendations from that report was for the CEC to develop and publish a multiyear statewide summer assessment to provide information to support reliability planning and maintain situational awareness on potential impacts of grid reliability under extreme conditions.

So that is really the inception of this work. So this work is trying to respond to that call for better situational awareness. And as number of the commentators, I mean number of stakeholders who provided powerful input: SCE, PG&E, and Midway, they kind of note the importance of doing this analysis more holistically including using lots
of lower expectation analysis,

And as Mr. Uhler just mentioned I totally agree that the need is to develop more and more sophisticated and robust analysis to really bookend the issues around reliability. But I just do want to also recognize that the staff had to very quickly put something to begin to think about this problem. So I think of the product in terms of the hourly stack analysis as an improvement on other stack analyses that do not look at the hourly profiles. And one of the advantages of this is to at least, even as you develop that extreme scenario in a (indiscernible) manner are you still have the opportunity to say, “Here is a bookend on how we want to think about it.” So it is a reliability check in the contingency timeframe. And I just want to mention that and clarify that for the broader attendees as well.

So we at CEC think of this, beginning to think of this, and then socialize the language as three distinct timeframes. You have the timeframe of the policy analysis, which is the 2045 timeframe where you're talking about developing resource plans as indicated. It provides some directional policy lens to the to the state agencies and the state and develop some ideas on what are some of the long lead term resources we should be investing in.

And it's important to consider some of
reliability analysis data as well as an indication to work out how do we include resources and transmission and such.

And the second timeframe is really where the procurement happens, which is in the 10-year timeframe. For example, the IRB process at CPUC does a very robust analysis to think through what additional procurement should be ordered to kind of meet the needs of the demand. Again, the overall demand uncertainties are still there, because you're talking about a decade. The climate crisis uncertainty is still there. But you're trying to look at a stochastic way of figuring out what are some of those resources required and then order some procurement. And then what we've seen from CPUC is the 11,500 gigawatts of NQC value that was ordered for procurement earlier this year.

So once you kind of do the procurement then comes the third phase, which is the contingency planning phase. We know we have the steel in the ground, and that we have. And then we are going into a particular summer -- or in this case a few months and prior to the summer -- there isn't a lot that is going to come through a procurement lens. But in that sense, in that case, you really want to understand given what steel in the ground we already have if something were to happen in terms of an extreme situation, what potential shortfall could we be seeing.
Again, in terms of how do you construct that extreme scenario there's a lot of different ways to do it. What we try to do is really think about the length of the PRM or the planning of zero margin, which breaks it down into three components. Take the demand, add to it some outages, and then add to that the NERC requirements. So the 6 percent NERC requirements is something we never change, but they have been a collective indication that we should think about higher outages during extreme conditions. And that's what Angela pointed out in terms of the reasonableness behind the 7.5 percent kind of assumption.

And then in terms of the demand, the deviation from the one-in-two, we really look to 2020. In 2020 the day-ahead forecast during the week of September -- it was August 14th to the 19th we were talking about 13 to 14 percent about the one-in-two forecast. But because of the actions that the Governor's Office shepherded in, and collectively the state agencies had taken the overarching, even the realized demand was about 9 percent off the one-in-two forecast. So that's a reasonableness check on that. So we're looking at constructing an extreme scenario, because we want to construct an extreme scenario. And then say under these extreme scenarios what could be a shortfall between what procurement has already occurred and...
what should we, how do we then cover that gap. And that's really what this analysis is being used for.

As Angela pointed out earlier, a couple of weeks ago the supply analysis team has also provided the stochastic analysis portion of this. And that's something we are going to continue to improve, both the hourly stack analysis as well as the stochastic analysis. But I just want to recognize for the stakeholders and everybody that this is a first-order treatment of extreme conditions as they emerge. And we need to continually improve them to think through what contingencies we should plan for.

So I just wanted to share that for the broader audience. I really want to thank the comments from SCE, PG&E and Midway. And I also want to thank particularly FCE in their collaboration on helping staff understand the loss of the expectations analysis and then giving the time to staff to develop that analysis as well, so I'm thankful to them.

And I also want to -- and I've been just waiting to the phone to Mr. Uhler. I really appreciate the importance in providing data discrepancies. And I think it's extremely important that we don't operate from faulty or flawed data, so I really am appreciative of Mr. Uhler’s raising the flags on this.

Again, I do want to complement that with the
incredible work our staff do. And the dedication they have in trying to make sure some of the data that we are using is as good as possible and is reasonable as possible. But having said that, I do want to recognize for Mr. Uhler that there is an interagency effort to make sure the data that we have using in stack analysis as well as the loss of load expectation analysis is going to be as good and as consistent as possible. That's some work that behind the scenes that staff are doing.

Thank you for flagging this and we will continue to improve our analysis and work, try to inform the reliability for State of California and all Californians. With that I would be extremely -- I would definitely support this, but I'll pass it back to you, Chair.

CHAIR HOCHSCHILD: Yes, thank you, Commissioner Gunda.

Any other comments from Commissioners at this point, Commissioner McAllister?

COMMISSIONER McALLISTER: Yeah just very briefly I just want to commend staff and Angela in particular, but the whole staff and the Assessments Division who worked on this. These products, our ability to really pivot and develop products and improve them constantly, just it always never ceases to amaze me just the depth of knowledge and skill across staff on this. And Angela you're just a
great resource for the Commission and also a great
spokesperson for these products that really are -- this is
an example of a product that is responding to an urgent,
real-time real-world need. And just your ability to kind
of get on top of it and do consistent improvement and
across the agencies collaborate on this to make sure it's a
great product is just tremendous, so thank you for that.

And then finally thanks to Commissioner Gunda for
your leadership. I mean without you're sort of roll up
your sleeves and helping staff get to get the resources and
just get the vision to do this work. And again, it's just
all the better for your leadership in the Division, so
thank you.

CHAIR HOCHSCHILD: Well, well said, Commissioner
McAllister.

And thank you Angela on behalf of all of us as
well and Commissioner Gunda for getting us here. With that
Commissioner Gunda, are you willing to move this item?

COMMISSIONER GUNDA: Yeah, Chair, I would move
this item.

CHAIR HOCHSCHILD: All right, Commissioner Gunda
has moved Item 8. Commissioner McAllister, would you be
willing to second?

COMMISSIONER MCALLISTER: Second Item 8.

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

COMMISSIONER GUNDA: Aye.

CHAIR HOCHSCHILD: Commissioner McAllister?

COMMISSIONER MCALLISTER: Aye.

CHAIR HOCHSCHILD: Commissioner Monahan?

COMMISSIONER MONAHAN: Aye.

CHAIR HOCHSCHILD: Commissioner Douglas?

COMMISSIONER DOUGLAS: Aye.

CHAIR HOCHSCHILD: And I vote aye as well. Item 8 passes unanimously.

We're just about at noon, so I think what let's do is break at this point and then reconvene at 1:00. Then we'll finish up the rest of the agenda if that's okay with everyone. Okay, see everybody at 1:00.

(Off the record at 11:56 a.m.)

(On the record at 1:03 p.m.)

CHAIR HOCHSCHILD: Thank you, everyone. Welcome back. We are now going to move on to Item 9, Association for Energy Affordability.

MS. JONES: Good afternoon, Chair and the Commissioners. My name is Myoung-Ae Jones. I am an Energy Specialist for the Building Initiative for Low-Emissions Development Program, which is commonly called by its acronym BUILD, in the Renewable Energy Division. Today, staff is recommending approval of an agreement with the
Association for Energy Affordability to provide technical assistance under the program.

BUILD is a new building decarbonization pilot program established by Senate Bill 1477 to incentivize the deployment of the near-zero emission technologies. This program is overseen by the CPUC, and the CEC is the administrator. Next slide, please.

The primary goal of BUILD is reducing greenhouse gas emissions in new residential building sector by incentivizing low-emissions technologies deployment in new construction. BUILD is specifically targeted to new low-income residential housing developments, with a focus on serving low-income and disadvantaged communities.

The program will incent all-electric energy-efficient housing that reduces greenhouse gas emissions, and has additional benefits of improved indoor air quality and access to clean energy for occupants. And it will support additional low-income housing development in a housing-scarce California. Next slide, please.

The initial budget for this agreement is $6 million for six years with the option to augment the budget up to $2 million. The purpose of this agreement is to absorb for developers the often-expensive soft cost of an all-electric building design and energy modeling. Many affordable housing developers are non-profit entities.
operating with a tight budget. And providing free
consulting services at the pivotal early stage will
courage program participation and also will maximize the
decarbonization potential of each project we assist.

Another main purpose of this agreement is to
provide knowledge transfer. Imparting technical knowledge
and field-level know-how of clean building design and
construction by refutable experts will accelerate the pace
of adoption of new building practices, away from mixed-fuel
usage and toward all-electric.

Finally, work from this agreement will advance
equity by increasing access to clean energy with a focus on
low-income housing projects and extensive outreach efforts
to disadvantaged and harder-to-reach communities, including
tribal areas. Next slide, please.

The tasks of this agreement will be performed by
a highly-competent contractor team comprised of experts in
building decarbonization, energy auditing and design,
engineering, construction management, and education and
outreach.

The prime contractor has nearly three decades of
experience in providing comprehensive and consulting
services to the multifamily building community. Their
strengths are reinforced by nine subcontractors with well-
established track records in specific technical areas under
this multidisciplinary agreement.

I’d like to quickly highlight how this agreement will also help the state advance equity and supplier diversity through the subcontractors.

California Housing Partnership is a nonprofit whose mission is to provide housing that is sustainable and affordable for working families, homeless, veterans, seniors and the disabled.

Highlands Diversified is certified as both a disabled veteran-owned and a minority-owned business. Next slide please.

Staff would like to thank staff from the Chief Counsel’s Office and the Contracts, Grants, and Loans Office that provided guidance in the development of this agreement.

Staff is recommending that the CEC approve the agreement with Association for Energy Affordability to provide technical assistance services under the BUILD Program. Staff is also recommending the CEC adopt the determination that approval of this agreement is exempt from CEQA.

This concludes staff’s presentation, and I am available to answer any questions you may have. We also have our Office Manager Deana Carrillo on the phone. Thank you.
CHAIR HOCHSCHILD: Thank you.
Let's turn to public comment on Item 9.

MS. GALLARDO: This is Noemi the Public Advisor. A reminder to attendees who would like to make a public comment, please use the raise-hand feature on the screen. If you're on by phone please press *9 to indicate you would like to make a comment.

All right Chair, I do not see any hands raised for Item Number 9. We may proceed.

CHAIR HOCHSCHILD: Okay, thank you. Let's turn to Commissioner McAllister to start.

COMMISSIONER MCALLISTER: Great. Well thank you Chair. And thank you, Myoung, for that presentation, really great stuff. I'm very excited to have BUILD nearing roll out and it's an extremely important program aimed at helping our low-income multifamily buildings be all they can be, be decarbonized and be largely electric. And so it's, I think, path breaking in that regard. And we're appreciative to be working closely with the Public Utilities Commission on this program. And the technical assistance will be key for this market transformation, that's why I'm really excited about this contract.

And I want to just acknowledge and thank Deana Carrillo and also Natalie Lee from the Renewables Division as well as Allan Ward and Matthew Pinkerton from Contracts,
Grants and Loans and also Mike Poe and Phil Dyer. All of you pitched in a lot and it's just incredibly valuable and appreciated. And the across the Efficiency Division lots of work in collaboration, and also with our colleagues at the Public Utilities Commission.

So this is, I think, a really necessary and highly valuable component of the program rollout and will help the marketplace participate and help this program really have the impact that we hope it will have and expect it will have. So we're very happy to support this item and welcome any other comments.

CHAIR HOCHSCHILD: Okay, thank you.

Colleagues, anyone else wishing to chime in on this topic? Okay.

Let me just add my thanks to that of Commissioner McAllister’s. This hits many, many of our core goals, certainly around an equity-first approach in lifting up climate solutions and electrification, the innovation there. And I think it's a great next step after our code was adopted a few weeks ago, so very pleased on the progress here. Thank you to the whole team.

Commissioner McAllister, would you be willing to move Item 9?

COMMISSIONER McALLISTER: I move Item 9, absolutely.
CHAIR HOCHSCHILD: Commissioner Douglas, would you be willing to second?

COMMISSIONER DOUGLAS: Second.

CHAIR HOCHSCHILD: All right, all in favor say aye, Commissioner McAllister?

COMMISSIONER MCALLISTER: Aye.

CHAIR HOCHSCHILD: Commissioner Douglas?

COMMISSIONER DOUGLAS: Aye.

CHAIR HOCHSCHILD: Commissioner Gunda?

COMMISSIONER GUNDA: Aye.

CHAIR HOCHSCHILD: Commissioner Monahan?

COMMISSIONER MONAHAN: Aye.

CHAIR HOCHSCHILD: And I vote aye as well. Item 9 passes unanimously. Let’s turn now to Item 10, California Department of Food And Agriculture.

MS. PUREWAL: Good afternoon, Chair and Commissioners. My name is Sharon Purewal and I am a staff member in the Fuels and Transportation Division’s Advanced Vehicle Infrastructure Office. Today staff is seeking approval of an interagency agreement with the California Department of Food and Agriculture to procure test standards to evaluate and verify commercial measuring devices that dispense hydrogen and electricity as zero-emission transportation fuels. Next slide, please.

The benefits to California are to standardize
zero-emission vehicle fueling infrastructure, which will minimize measurement error in commercial transactions and provide consumers a basis-of-value comparison to ensure that operating requirements are consistently applied in the exchange of goods and services.

Additionally, this action will support counties that lack necessary test standards to test and verify commercial zero-emission vehicle devices in their jurisdictions. To date, only three counties have purchased their own electric vehicle supply equipment test standards. And most of the hydrogen fueling stations in California rely on the California Department of Food and Agriculture to conduct testing; 10 of the 48 retail hydrogen stations are overdue for testing.

Adherence to measurement standards will provide both buyer and seller assurance of equity and confidence for fuel that is dispensed. Next slide, please.

In order to provide these benefits the California Department of Food and Agriculture will procure up to five electric vehicle supplied equipment, certified field standards, and to test and verify the energy measurement of commercial electric vehicle supply equipment, and one hydrogen fuel standard to test and verify commercial hydrogen fueling systems. Next slide, please.

Staff recommends approval of the proposed
interagency agreement with the California Department of Food and Agriculture, for just over $400,000 to provide the necessary field test standards to evaluate and verify commercial measuring devices that dispense hydrogen and electricity as a zero-emission transportation fuel. Staff also recommends adoption of the determination that this project is exempt from CEQA.

And with that, I would like to thank you for your time and consideration of this item. I am available for any questions you may have. And Kevin Schnepp from the California Department of Food and Agriculture is also available to provide supporting comments and answer any questions. Thank you.

CHAIR HOCHSCHILD: Okay. Thank you so much. Let's see if we have public comment on Item 10.

MS. GALLARDO: This is Noemi, the Public Advisor. So let me start with Kevin, would you like to make a public comment?

MR. SCHNEPP: Yes, Noemi, thank you. Hopefully you can hear me okay?

MS. GALLARDO: Yes, we hear you perfectly clear.

MR. SCHNEPP: Great. Thank you Chair and Commissioners. My name is Kevin Schnepp and I'm the Environmental Program Manager for the California Department of Food Ag Division of Measurement Standards. That's Kevin
The California Department of Food and Ag Division Measurement Standards has been actively engaged in the development, testing and buildout of zero emission vehicle infrastructure throughout the state. We've been in this space about a little over 10 years now, with development of a testing lab for hydrogen fuels that’s been activated in this space since about 13 or 14 years.

The initial program we started off with was designed to facilitate about 15 to 20 hydrogen fueling stations. We now have 50 open and operating in the state. Beginning January of 2021 specifications and tolerance and requirements for electric vehicle charging systems was adopted and the regulation, which makes those devices subject to testing and inspection to make sure they conform to all applicable tolerances.

That testing program now is already at a backlog. And the growth in ZEV infrastructure, particularly for electric vehicle charging equipment is accelerating at a rapid pace. Which is, I mean, in great part to the efforts of the Energy Commission, the Air Resources Boards and the Directors of the Governor's Office as well as support from the Legislature.

So with these goals in mind we request that you both consider and approve this request for additional
equipment. While this market is growing rapidly, it is still not yet ready for a fee-based assessment on the users and operations equipment to support the program needs. And I think this would be an important measure to help us facilitate that transition so that in the future when it becomes a full market, the market would be basically an independently viable marketplace without the need of state assistance. We’ll be ready to transition to a fee-based structure.

But at this time with the growth and the rapid expansion of electric vehicle charging stations as well as hydrogen fueling stations this equipment is desperately needed to support our efforts and the efforts of the county Ag Commissioners and sellers who are responsible for testing and inspection-installed devices within their jurisdiction.

Thank you for your attention. And I can address any questions, please, if you have any.

CHAIR HOCHSCHILD: Thank you.

Any additional public comment on Item 10?

MS. GALLARDO: This is Noemi, the Public Advisor. Audience, if you would like to make a public comment, please use the raise-hand icon on the screen, if you are on by phone press *9.

Chair, I do not see any hands raised, we may
proceed.

CHAIR HOCHSCHILD: Okay, thank you, Kevin, for those remarks. Let's turn now to Commissioner discussion started with Commissioner Monahan.

COMMISSIONER MONAHAN: Well, I think this this grant aligns really well with the leadership role that we have on building out ZEV infrastructure, but a recognition that we really need our partners like Kevin and the Department of Food and Agriculture to be able to make sure that this equipment is functioning well.

As Kevin said the market isn't ready yet for a fee approach. That's ultimately we need to get to a place where the market is self-sustaining. We don't need grants to build out this ZEV infrastructure. We don't need funding to support this if there's more of a business model case for this. But in these early days we need our partnership with the California Department of Food and Agriculture.

So I just want to thank Kevin, Sharon, Jennifer Allen who supervises the group, Mark Wenzel, just that we need these kinds of collaborations in our agency. And we want to be able to use our grant money to support this nascent market.

CHAIR HOCHSCHILD: Terrific.

Other Commissioners wishing to make a comment?
If not I’ll -- oh yeah, go ahead Commissioner Gunda.

COMMISSIONER GUNDA: Yeah and thank you, Chair.

I think I just wanted to at reiterate what Commissioner Monahan had just mentioned, I think we're seeing this over and over in the transportation sector of kind of a deep partnership between CEC, CARB, CPUC. We had a wonderful project with DMV and now this collaboration. I’m just really grateful that all the agencies are working together. And thanks to Commissioner Monahan's leadership and the staff for making this recommendation. Thank you.

CHAIR HOCHSCHILD: Thank you, Commissioner.

Unless there are other Commissioners wishing to make a comment I’d entertain a motion on Item 10 from Commissioner Monahan.

COMMISSIONER MONAHAN: I move Item 10.

CHAIR HOCHSCHILD: Okay, Commissioner Gunda, would you be willing to second?

COMMISSIONER GUNDA: Second Item 10.

CHAIR HOCHSCHILD: Okay. All in favor say aye, Commissioner Monahan?

COMMISSIONER MONAHAN: Aye.

CHAIR HOCHSCHILD: Commissioner Gunda?

COMMISSIONER GUNDA: Aye.

CHAIR HOCHSCHILD: Commissioner McAllister?

COMMISSIONER MCALLISTER: Aye.
CHAIR HOCHSCHILD: Commissioner Douglas?

COMMISSIONER DOUGLAS: Aye.

CHAIR HOCHSCHILD: And I vote aye as well. Thank you all, Item 10 passes unanimously.

Let’s turn now to Item 11, Blueprints for Medium and Heavy-Duty Zero-Emission Vehicle Infrastructure.

MS. REID: Good morning, Chair and Commissioners. My name is Kate Reid, Air Resources Engineer with the Fuels and Transportation Division’s Freight and Transit Unit. We’re seeking approval today for four agreements resulting from the “Blueprints for Medium and Heavy-Duty Zero-Emission Vehicle Infrastructure Solicitation”. This solicitation was released in July of 2020. $3 million was available to fund planning blueprints to identify actions and milestones needed for implementation of medium- and heavy-duty zero-emission vehicles and the related electric charging and/or hydrogen refueling infrastructure.

A minimum of $1 million of total funds was set-aside for public entities. Subsequently, the Energy Commission increased the total funding to approximately $5.6 million, which allowed all public entities with a passing score to be funded. Under this solicitation, 40 projects were proposed for award. Twenty of those projects were presented and awarded at the last two business meetings. Today I will be presenting four more of those
projects. The remaining projects will be presented at later business meetings. Next slide, please.

The proposed projects will create roadmaps for large-scale infrastructure projects, plan for resiliency, and provide best practices and key lessons learned for future replicability at other private and public agencies. These blueprints will also help other agencies and fleets understand which technology may work best for their applications, routes, and driving environments, which will ultimately accelerate meeting California’s goal of transitioning medium- and heavy-duty trucks and buses to zero-emission by 2045.

Finally, the majority of these projects once implemented will benefit low-income communities, disadvantaged communities, and/or tribal lands. Next slide, please.

Forty agreements have been selected for approval and award. The breakdown of vehicle sector is shown on this slide. The majority of projects will address fleets, goods movement, and transit. The remainder will seek to address smaller sectors such as school buses, port equipment, and other categories shown here which is comprised of airport ground support, ferries, and refuse collection. Next slide, please.

The first proposed agreement is with the
Sacramento Municipal Utility District or SMUD. This project is to develop a blueprint for medium- and heavy-duty electric charging and hydrogen refueling infrastructure for fleets and pass-through traffic moving through the SMUD service territory. Next slide, please.

The next proposed agreement is with the City of Culver City. This project is to develop a blueprint for installing depot charging infrastructure to support the city’s transition to full medium- and heavy-duty transit fleet electrification. Next slide, please.

The next proposed agreement is with CALSTART. For this project CALSTART and the City of Porterville will develop a blueprint for installation of electrical charging infrastructure for medium- and heavy-duty electric vehicles in and around Porterville, California. The project will develop strategies to allow private fleet use of public charging infrastructure, providing economic value to local private fleet operators and municipal departments. Next slide, please.

The final proposed agreement is with The Redwood Coast Energy Authority. This project is to develop a blueprint for installing electric charging and hydrogen refueling infrastructure for medium- and heavy-duty zero-emission vehicles in Humboldt County and surrounding areas. Next slide, please.
Staff recommends approval of these four grant awards and adoption of staff’s determination that the projects are exempt from CEQA. And that concludes my presentation. Thank you all for your time and consideration of these items.

CHAIR HOCHSCHILD: Thank you, Kate.

Let's move now to public comment on Item 11.

MS. GALLARDO: This is Noemi, the Public Advisor, a reminder to our attendees, if you would like to make a public comment please use the raise-hand icon on the screen. If you're on by phone press *9 to indicate you would like to make a public comment.

Chair I do not see any hands, we may proceed.

CHAIR HOCHSCHILD: Okay let's go to Commissioner discussion. Commissioner Monahan.

COMMISSIONER MONAHAN: Well, this is you guys are old hats on this. This is our third business meeting with these blueprints, but I’ll just be very brief. I love these blueprints and the medium and heavy-duty space. I think you'll see they really emphasize how a lot of these planning efforts involved both battery-electric and fuel-cell electric vehicle infrastructure. And I think that's particularly important in the medium- and heavy-duty space where the solution side just maybe isn't as clear or robust yet. And so there's a role for both zero-emission vehicle
technologies and we're seeing this play out time and again in the blueprints that are being developed.

So while we don't have very many fuel cell medium- and heavy-duty vehicles right now my hope is that these planning efforts, together with what we're seeing globally, will lead to deeper investments on the vehicle side.

I want to thank Kate, Michelle Vater and Elizabeth John for shepherding these, get used to more of them coming down at the business meeting, so I think I’ll just stop there.

CHAIR HOCHSCHILD: Could I ask a question? This may be for you or it may be for staff, but I’m just curious as these blueprints are being developed do they have an opportunity to exchange between each other? And is it valuable for them, for Sacramento to see what Culver City is doing and what Redwood -- I mean, how does that work?

MS. REID: I suppose that they could collaborate with each other based on just knowing who each other are from the NOPA, but there is no specific plan in place for them to collaborate with each other.

CHAIR HOCHSCHILD: Yeah, and it may not be that useful if there are very different circumstances. I’m just wondering if there's any value to that and whether that happens.
COMMISSIONER MONAHAN: I think, Chair, you raise an important point, which is probably worth deliberating on more. And I won’t deliberate here, but just a question out there is just what more can we do to support learning across the communities as we deploy ZEV infrastructure as we have these planning blueprints. And there's just so much learning that's happening right now at this early stage. And just like we have this EPIC symposium, should we think about having some kind of ZEV symposium in collaboration with CARB and GO-Biz, because it feels like there's room for that and something we should consider in a cross-agency way.

CHAIR HOCHSCHILD: Yeah, and then maybe at a minimum just organizing a Zoom with all the entities that are doing these blueprints together and giving them their contact info. And I don't know whether some might work together but just for some exchange, particularly ones that are kind of ahead of the curve and have done more, each one teach one model is a good one.

So great, any other questions or comments on Item 11 from my colleagues? Okay hearing none, Commissioner Monahan, would you be willing to move Item 11?

COMMISSIONER MONAHAN: I move Item 11.

CHAIR HOCHSCHILD: Commissioner Douglas, would you be willing to second?
COMMISSIONER DOUGLAS: Yes, second.

CHAIR HOCHSCHILD: All right, all in favor say aye, Commissioner Monahan?

COMMISSIONER MONAHAN: Aye.

CHAIR HOCHSCHILD: Commissioner Douglas?

COMMISSIONER DOUGLAS: Aye.

CHAIR HOCHSCHILD: Commissioner McAllister?

COMMISSIONER MCALLISTER: Aye.

CHAIR HOCHSCHILD: Commissioner Gunda?

COMMISSIONER GUNDA: Aye.

CHAIR HOCHSCHILD: And I vote aye as well. That item passes unanimously.

We’ll turn now to Item 12, WattEV Inc.

MR. KOZUCH: Good afternoon, Chair and Commissioners. My name is Matthew Kozuch, an Air Pollution Specialist with the Fuels and Transportation Division’s Freight & Transit Unit. We are seeking approval today for a $1 million agreement with WattEV, Inc. to install, commission, and operate a public charging facility in Bakersfield, California that will serve medium- and heavy-duty battery electric trucks and to adopt staff’s determination that this action is exempt from CEQA. Next slide, please.

The agreement will enable accessible public charging options for battery-electric trucks along a major
highway corridor in Kern County. Reliable public charging stations are crucial to allowing medium- and heavy-duty fleets, especially smaller independent owner-operators who may be unable to finance their own infrastructure to transition to electric vehicles in the future.

Furthermore, this truck stop will promote wider adoption of longer-range medium- and heavy-duty electric vehicle models by providing options for opportunity charging.

This project will additionally provide targeted emission reductions and health benefits to the Bakersfield area, which has been historically plagued by poor air quality, stemming largely from medium- and heavy-duty diesel pollution. Next slide, please.

Through this agreement, WattEV will design and develop a public charging facility for medium- and heavy-duty battery electric vehicles with an estimated eight 250-kilowatt chargers and four 350-kilowatt chargers. These 350-kilowatt chargers are capable of boosting the average Class 8 electric truck from empty to full charge in about an hour.

In addition, WattEV will operate the facility throughout the project term and will demonstrate a sustainable business model by the end of the project for continued commercial operation and project expansion.

Lastly, WattEV will increase utilization of the
facility through deploying at least ten electric trucks by 2024 through offtake agreements, which aim to make use of the facility, with an average annual energy consumption of three megawatt hours per day. Next slide please.

This agreement has some potential to impact the medium- and heavy-duty electric vehicle market in several ways. With more than 100 public-access diesel truck stops in California today, Watt EV’s business model can be transformative in increasing the number of statewide medium- and heavy-duty public electric charging stops.

WattEV is already in the planning stages for similar electric trucks off in San Bernardino and Gardena that will aim to serve nearby ports and warehouse areas. This agreement will additionally demonstrate several high-capacity chargers. And will even consider cutting-edge technology such as Megawatt Charging System equipment pending market readiness.

By pushing the markets for both medium- and heavy-duty public-charging options and the associated infrastructure, fleet owners will be more inclined to purchase battery-electric truck models in the future year. With currently about one million medium and heavy-duty diesel vehicles in California there will be a need for an estimated 180,000 medium- and heavy-duty electric trucks by 2030. WattEV’s own goal of deploying 12,000 heavy-duty
electric vehicles in California by 2030, along with their strong focus on public charging infrastructure, will help bring the state closer to this 2030 projection. Next slide please.

In summary, we would like to recommend approval of this $1 million agreement with WattEV, Inc.

In addition, we would like to recommend adoption of staff’s determination that this action is exempt from CEQA. We would like to thank you for your time and consideration of these items. And I’m available for any questions you may have. Thank you very much.

CHAIR HOCHSCHILD: Well thank you, Matt, for that terrific presentation. I'm also very impressed by your bow tie.

MR. KOZUCH: Thank you.

CHAIR HOCHSCHILD: I know you must be smart, because those things are difficult to tie. I've never been able to master that.

Let's turn now to public comment on Item 12. Do we have any people wishing to make a public comment?

MS. GALLARDO: This is Noemi, the Public Advisor. A reminder to attendees if you would like to make a comment please use the raise-hand icon and if you are on by phone press *9 to indicate you would like to make a comment.

Chair, I do not see any hands raised. We may
CHAIR HOCHSCHILD: Okay, let’s go to Commissioner discussion starting with Commissioner Monahan.

COMMISSIONER MONAHAN: Well, I feel like the two WattEV grants really have to be looked at together in concert. But I’ll just say a few words about the grant that Matt is shepherding so ably.

This is really -- when I heard about this project I’ve got to say I was immediately like well when are we going to be able to visit it, because this is the dream team. Which we'll talk about in a second, like solar, plus storage, plus second-use battery for addition for storage, plus charging for medium- and heavy-duty vehicles, which is the big pollution problem in California.

And so it really is like this is the ideal project when it comes to medium- and heavy-duty electrification. So I'm excited to see whether they can scale this model and use our initial seed funds to be able to expand outward. They have, as Matt told me, big plans for expansion. And so I just think this is the kind of project that is perfect for funding from both EPIC and the Fuels and Transportation Division.

I know the legal team had to do a lot of work to make sure that we were really careful about this, since we're giving two grants from two different projects to the
same grantee. And they've done their homework to make sure
that we have due diligence on that. So yeah I strongly
recommend passing, that we all approve this project.

CHAIR HOCHSCHILD: Thank you, Commissioner
Monahan.

Any other comments from Commissioners? Seeing
none, Commissioner Monahan, would you be willing to move
this item?

COMMISSIONER MONAHAN: I move Item 12.

CHAIR HOCHSCHILD: Thank you. And, Commissioner
Gunda, would you be willing to second?

COMMISSIONER GUNDA: Second.

CHAIR HOCHSCHILD: Okay, so all in favor say aye,
Commissioner Monahan?

COMMISSIONER MONAHAN: Aye.

CHAIR HOCHSCHILD: Commissioner Gunda?

COMMISSIONER GUNDA: Aye.

CHAIR HOCHSCHILD: Commissioner McAllister?

COMMISSIONER MCALLISTER: Aye.

CHAIR HOCHSCHILD: Commissioner Douglas?

COMMISSIONER DOUGLAS: Aye.

CHAIR HOCHSCHILD: And I vote aye as well.

Congrats Matt and team. And we’ll turn now to Item 13,
another WattEV proposal here.

MS. ERSOY: Good afternoon, Chair and
Commissioners, my name is Elise Ersoy. I am an Electric Generation System Program Specialist in the Energy Research and Development Division Renewable Integration Unit.

Today I’m presenting a recommended award from the EPIC solicitation that is at the same site as the project that Matt just presented on. So it is as Commissioner Monahan said, a standalone project. Next slide, please.

The proposed award will bring multiple benefits to Californians. The technologies developed through this award and others already awarded under this solicitation will facilitate charging of heavy-duty vehicles in ways that reduce stress on the electric grid, increase use of distributed energy resources, and reduce the cost of charging for fleets transitioning to electric vehicles.

These technologies can also provide resiliency benefits for sites and communities where they are deployed, while maximizing emission reductions from the electric and transportation sectors. Next slide.

The objective of this solicitation and of the project recommended today is to develop integrated distributed energy resource packages to help charge fleets of medium- and heavy-duty electric vehicles.

Transportation electrification, as you're well aware, is a key strategy for reaching the state's zero-emission transportation goals including the targets established by
Governor Newsom’s Executive Order N-79-20 of last year.

This project will focus on the costs case, reducing the cost of charging while demonstrating and collecting costs data. Next slide.

The WattEV project recommended for award today would be the first all-electric public access truck stop in California. If approved WattEV will deploy a scalable DER package comprised of 3.85 megawatts of solar PV, 4.5-megawatt hours of second-life battery storage to support a fleet of 10 Class 8. The project aims to provide reliable, low-cost charging for their private fleet, as well as to support broader public access to medium-duty and heavy-duty electric vehicle charging for fleets on Highway 99, a major trade corridor.

In terms of market potential, the California DOT lists 109 truck stops in California on their website. If we were to assume that the same amount of solar and stationary lithium-ion battery storage were deployed to each of these sites it would equal 419 megawatts of solar PV, which is the size of a utility-scale solar plant and 490-megawatt hours of second life-battery stationary storage. Next slide.

So in conclusion staff recommends approval of this grant award and adoption of staff’s determination that the project is exempt from CEQA. I’m available for any
questions as our representatives from WattEV. Thank you.

CHAIR HOCHSCHILD: Thank you.

Any public comment on Item 12?

MS. GALLARDO: This is Noemi, the Public Advisor. I do see a hand raised. It looks like the name is Salim, a reminder to please restate your name, spell it and indicate your affiliation if any. Your line is open and you may begin.

MR. YOUSSEFZADEH: Good afternoon guys, I'm Salim Youssefzadeh, S-a-l-i-m. I am the CEO of WattEV and I'm very grateful to be here today, so thank you very much. On behalf of WattEV I would like to thank the CEC for recommending awards for both BESTFIT and EPIC that Matt and Elise just presented.

WattEV's mission is to create a network of advanced high-power public charging infrastructure to support medium- and heavy-duty fleets. The advanced charging infrastructure and integrated DER system combines renewable solar generation with advanced storage systems to optimize energy management, lower costs, and reduce pressure on the grid. With support from the CEC WattEV is creating the nation's first all-electric truck stop to reduce barriers to EV adoption in order to accelerate fleet electrification.

The project site is located along key freight
corridors through California’s Central Valley and is in close proximity to expanding base of distribution warehouses, promoting access to critical zero-emission technology that supports California’s air quality goals and helps fleets comply with the evolving regulatory landscape. WattEV’s 21st century truck stop will provide significant economic and environmental benefits in one of California is most underserved, under-burdened communities, reducing diesel emissions in the critical non-attainment areas.

We envision this project will be the flagship location for an expanded high-powered charging network to support fast charging for all vehicle types. WattEV is grateful for the Energy Commission, for the opportunity to deploy innovative zero-emission technology. And we look forward to building this partnership, thank you.

CHAIR HOCHSCHILD: Thank you.

Any additional comment on Item 13?

MS. GALLARDO: Let me check. This is Noemi, the Public Advisor. If anyone would like to make a comment please use the raise-hand feature, if you’re on by phone press *9.

Chair, I do not see any other hands raised for this item.

CHAIR HOCHSCHILD: Okay, Commissioner Monahan.
COMMISSIONER MONAHAN: Well, I just want to thank first Elise Ersoy, Liet Le and Angie Gould for shepherding this project. I think I said a lot of nice things about it before, but a few comments based on what Salim was saying in terms of this being the first all-electric truck stop site. I mean, I think that's — and it’s also in terms of having this integration with solar and battery storage. When we think about the traditional gas station model, which seems so unimaginative compared to what we can do when it comes to fueling electric vehicles.

And this project is just really a manifestation of it. I'm sure that I am not the only Commissioner who would like to visit it once it's fully operational.

CHAIR HOCHSCHILD: I imagine you’ll want to do more than visit. I remember Commissioner Monahan going on a visit to, I guess it was Motiv, where they have these electric delivery trucks. And you took off driving that thing. I didn't know if we'd see you again.

COMMISSIONER MONAHAN: Well, then a girl can dream.

CHAIR HOCHSCHILD: Exactly.

Well let me add my thanks and congratulations to the team for putting this together. I think this is a wonderful amalgamation of all these different things we're doing.
Increasingly, the silos at the Energy Commission are all coming together. I love, especially, the use and deployment of second-life batteries. I think that’s a really promising, emerging new arena as you have a lot of batteries that still have a lot of useful life, although they may not be suitable for electric vehicles after some number of years. And to incorporate that into the design of something is brilliant and very strategic. So I love this whole thing, from start to finish.

Congratulations to WattEV and the whole team there. And with that, unless there’s other Commissioner comments I’d invite Commissioner Monahan to move this item.

COMMISSIONER MONAHAN: I move Item 13.

CHAIR HOCHSCHILD: Okay. Commissioner McAllister?

CHAIR HOCHSCHILD: Thank you. And Commissioner McAllister would you be willing to second?

COMMISSIONER MCALLISTER: I’ll second.

CHAIR HOCHSCHILD: All right, all in favor say, aye, Commissioner Monahan?

COMMISSIONER MONAHAN: Aye.

CHAIR HOCHSCHILD: Commissioner McAllister?

COMMISSIONER MCALLISTER: Aye.

CHAIR HOCHSCHILD: Commissioner Douglas?

COMMISSIONER DOUGLAS: Aye.
CHAIR HOCHSCHILD: Commissioner Gunda?

COMMISSIONER GUNDA: Aye.

CHAIR HOCHSCHILD: And I vote aye as well. That item passes unanimously.

Let's turn now to Item 14, Approval of the August 11th and August 17th Business Meeting Minutes. Is there any public comment on this item?

MS. GALLARDO: This is Noemi the Public Advisor.

A reminder to attendees, if you would like to make a comment please use the raise-hand feature on the screen. If you're on by phone press *9.

Chair I do not see any hands raised, we may proceed.

CHAIR HOCHSCHILD: Thank you. Commissioner Douglas, would you be willing to move Item 14?

COMMISSIONER DOUGLAS: Yes, I move Item 14.

CHAIR HOCHSCHILD: And Commissioner McAllister would you be willing to second?

COMMISSIONER MCALLISTER: Second.

CHAIR HOCHSCHILD: All in favor say aye,

Commissioner Douglas?

COMMISSIONER DOUGLAS: Aye.

CHAIR HOCHSCHILD: Commissioner McAllister?

COMMISSIONER MCALLISTER: Aye.

CHAIR HOCHSCHILD: Commissioner Monahan?
COMMISSIONER MONAHAN: Aye.

CHAIR HOCHSCHILD: Commissioner Gunda?

COMMISSIONER GUNDA: Aye.

CHAIR HOCHSCHILD: And I vote aye as well.

That item passes unanimously.

Moving on to Item 15, Lead Commissioner Reports, let's start with Commissioner Gunda.

COMMISSIONER GUNDA: Thank you, Chair, and there's kind of work happening that you could just bucket as like a couple of things at a high level. There's been a lot of focus on the liability issues and IEPR, so I just want to extend my thanks again to the team on Item 8 that we talked about today, on kind of developing the analysis. And there's a huge team, and I mean I can't -- I mean, I would like to name every single one of them, it will take a while.

But I really want to provide some high-level thanks to Mark Kootstra for the real analytical champion that he's becoming and kind of becoming a leader in the analysis on the supply side. Just a thanks to him, Chris McLean and Hannah, the three of them have been really focused on developing the loss load expectation analysis and such. And as we heard this morning, Alana and Angela have been focusing on the stack side. So just overall a big thanks to the team.
And as Commission McAllister noted in his words today, it is not easy to develop these products. To put yourself out there and kind of open yourself up to criticism. And there is none existing, so I'm extremely proud of our team for taking the chance and having the courage to develop these important products. And getting the necessary feedback and taking it in stride to continue to improve the product for the betterment of the state, so just thanks to the team.

We have been working on the reliability front on a couple items with Commissioner Douglas. Again, thanks to her leadership on the permitting issues as they relate to the emergency proclamation, but also her leadership and the Siting's leadership on working with DWR in terms of procuring some of the terminal generation. I will defer to her to kind of provide a little bit more if she would like to, but just big thanks to Siting on that as well.

And we did have a Senate Oversight Hearing on Reliability. I just want to note that generally it went really well. There is a continued ask from the Senate, as well as I think the broader audience, both on improving the data access as we study the liability. But also to really think about how do we maximize the opportunity for DR, so Commission McAllister, just flagging that for you as kind of like your leadership on those elements, it keeps coming
up as an important issue.

There is work that is being done on the reliability front, but kind of beginning to merge with SB 100 a little bit on the interconnection cue issues with CAISO. Again I want to thank Commissioner Douglas and the partnership with her on working with CAISO on those elements. And defer to her to provide a little bit more.

And then the final item on reliability, I had an opportunity to visit Russell City. An incredible thanks to the Mayor as well as the Fire Chief and the City Manager. It was a really great visit. I had an opportunity to visit there with President Batjer. And lucky for me, her car broke down that morning, so I had a chance to actually drive with her and spend five hours and talk about leadership. And I think that's what I want to pivot to an important point she made.

I was asking her what were her takeaways from her many, many years in leadership. And she just said kindness, and just be kind to each other and lead with kindness. And I kind of wanted to take that segue to just note this has been an incredibly difficult year for a number of us. And I think you know with the COVID, with the racial justice it has particularly hit home for me. Most of my family's in India and it's hard to visit them during this time, so I do depend on a lot of friendship and
kindness both on the dais, on your friendships and the staff friendships. So I just want to thank everybody for disagreeing with me vehemently when you need to on policy issues, but being a friend and kindness.

And many of you have shown simply a lot of good gestures over the last year, but I just want to embarrass Commissioner Monahan today a little bit. I don't get to do that as much. Out of a blue I get a card from Commissioner Monahan and it just asked me to take care of myself. So I'm just surrounded by just wonderful spirit and Commissioner Monahan, thank you so much for the love, with love that you approach all of this work. So I just thank you for your incredible friendship.

So with that I do want to move it to IEPR and thank Heather and her incredible team for just jamming through these IEPR workshops, one after the other. And getting them all done in such a professional thoughtful fashion. I know Commissioner McAllister is going to talk about building de-carb and all the work we're doing there. But I do want to flag just a couple things: the reliability workshop series, and the natural gas workshop series, again kudos to all the staff for their incredible work. And on the natural gas to Melissa, Jennifer Campagna in their work for moving the natural gas conversation steadily forward. And then developing the relationship with CPUC on tackling
this transition from the fossil gas that we have to discuss as we move forward here, so thanks to the entire team.

And I want to close in thanking Drew and Alicia from the management team (indiscernible). And I could not do any of my work without the wonderful Miina Holloway from our office, Liz Gill and her thoughtfulness and smartness and Le-Quyen. Thank you, Chair Hochschild, for sharing Le-Quyen. I know you're (indiscernible) but it's been great, so thank you and finally Sudhakar. So it's been a great six months for me in this role. And I'm just incredibly fortunate to have all of you in my life and then get to do this important work.

CHAIR HOCHSCHILD: Well, well said. Let's turn to Commissioner Monahan.

COMMISSIONER MONAHAN: I'm just dwelling on that lead with kindness, what a great way to -- what a great framing to start.

Well, I wanted to just share a few things about a meeting that I had with Amazon, just because as we think about how do we reach a zero-emission transportation future big companies like Amazon need to be focusing and investing in zero emission. And they are, so Amazon plans to have 10,000 electric vehicles in the next several years and 100,000 by 2030.

They are working with Christiana Figueres who you
may recall from the UN. She actually led a lot of the international negotiations I think until -- or a good chunk of the 2010s. She was the head and she started this company -- not a company -- an NGO called Global Optimists. They partnered with Amazon and now they took a Climate Pledge to be net zero 10 years ahead of Paris by 2040. They have over 100 other partners now signing on to that same pledge.

And they have a pledge to be shipment zero, so packages delivered to customers net zero in terms of carbon emissions for the delivery. And they want to be halfway there by 2030. So they've set these really ambitious goals. And we talked more about like well what can we do as the State of California to support Amazon as they do this, especially when they're delivering into communities disproportionately impacted by air pollution. And they're very receptive to this conversation, so we're continuing it.

I reached out to CARB and GO-Biz and Commissioner Rechtschaffen. And they're all interested in joining this conversation, so to me this is just a sign about how far we have come. We still have a long way to go, but we are seeing major companies investing in ZEVs, being willing to put themselves out there and get other companies to do it as well.
So I also wanted to let you guys know that the Clean Transportation Program Investment Plan. The second draft, draft number two, just dropped today. So it's not just our Business, Meeting day folks, it's also the next day for the investment plan. And it's not final. It's still just a draft. And our first one, the team published in April. And that was before this big infusion of 1.165 billion from the General Fund in ZEVs. Now the investment plan includes that 1.165 billion and how we're going to spend it to reach the goals.

The Legislature and the Governor have signed on to 1,000 transit buses, 1,000 school buses, 1,250 drayage trucks, as well as the build-out of light-duty ZEV infrastructure and ZEV infrastructure for other medium and heavy-duty purposes. So it's the biggest amount of money we've ever spent on ZEVs hands down. Nothing comes close. And but we're with -- Public Advisor Noemi Gallardo's help, we're reaching and doing a lot of outreach to get feedback on the plan.

We're having our advisory committee meeting next week. We also, Noemi is hosting a Transportation Electrification Roundtable with a lot of environmental justice groups, so we're going to be sharing it there.

We have a meeting next week with the EV Charging Infrastructure Strike Force, which is that collaboration
that I've been involved with, with NGOs, car companies, EVSE providers and other interests to accelerate the deployment of EV charging infrastructure.

So we're hopeful to bring this, the investment plan to you in November. And move forward swiftly with making these investments.

You may recall that we did not get reauthorization of the Clean Transportation Program this year. That's something that we, I think we'll be working with the Administration to make sure that we have funding going forward to continue these important investments.

One, let's see on the international front there's been a fair amount happening. Alana Sanchez has been really key in pulling a lot of these together. So Chair Randolph and I met with the New Zealand Council General to talk about zero emission vehicles. This week, we met with leaders of COP26 as well as the International Council on Clean Transportation, which is kind of I would say, supporting the COP25 on the analytical side.

I'm also a Board Member on the Advisory Board for the International Council of Clean Transportation. And I was joined with a number of folks in ours that have done the 2127 analysis. And what we really highlighted to the leaders of COP26 is that we need to be really attentive to building out ZEV infrastructure in a way that supports grid
resilience and our clean grid goals.

And one of the observations is that right now historically it's this Balkanization right, where transportation was done by folks like at EPA, Michael Regan, who are not really steeped on the power side. And our recommendation, and I think they heard it and agreed, is that we really need to bring the power side and the transportation side together as one. Because we can't look at this as just like oh just set these ZEV policies and then the infrastructure will just follow. That's just not the case. And so I think they're going back to the drawing board of thinking more well how do you integrate the power side into these COP26 discussions?

And I think that's it. Oh, I guess one last thing, we're having a retreat for the Fuels and Transportation Division. We're going to do it outside and be distance and really careful about COVID. But also look for this as an opportunity to really think through how do we make sure that we spend all this money that the Legislature has given us really wisely, and with an attentive -- really attentive to equity.

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

Let's go to Commissioner McAllister.

COMMISSIONER McALLISTER: Great well, thank you
Chair and everyone. This is really a great meeting, lots of different topics and Commissioner Monohan's integrating message I think and Commissioner Gunda's as well.

I mean I think that we're really living this transformational period and like we're asking electrons to do a lot of things and we need to get them connected, so that they have the opportunity to do all those things in a way that is kind of optimized. And then we have so much technology to enable that, it's very exciting.

I wanted it -- was not planning on commenting on this, but I wanted just to so Commissioner Monahan mentioned Christiana Figueres. And you all may not know, I was a Peace Corps volunteer in Costa Rica where she's from. And her father Pepe Figueres, is the revolutionary that overthrew a government that was trending towards dictatorship way back in the day, I think early 40s. And he was a true revolutionary. And her brother, Jose Maria, was President later on. Pepe was president I think three times during some really, really pivotal moments in Costa Rica's history. And disbanded the military and just made Costa Rica this really guiding light in democratic movements across the globe.

And Christiana is really carrying that forward. I mean you could also say revolutionary. And I think that meeting kind of is evolving -- that (indiscernible) is
evolving. But it would be a great -- I mean we can dream-- I think it'd be great to try to have her as a speaker at the Energy Commission. I mean she's just such a global figure. But I think there's so many dots that we are connecting here in California, in a way that could be instructive to many, many others. And we need that collaboration at the very highest levels.

So and I absolutely love the focus on optimism. So I think there's just yeah maybe it's time to begin to really up our game in terms of ahead of COP makes all the sense in the world to try to define an even more sort of relevant or resonating leadership position for California. I think we're in a position to do that given all the things we're accomplishing here. So anyways, just an idea.

COMMISSIONER MONAHAN: I would clap my hands, if we could do an emoji clap I'd be clapping.

COMMISSIONER MCALLISTER: Yeah, I was just a lowly Peace Corps volunteer in a very forgotten rural place in Northern Costa Rica during the late 90s, but I was inspired by the Figueres family and continue to be so. So anyway, I think we should think about that and then maybe she would actually agree to come and do that.

CHAIR HOCHSCHILD: That would be wonderful, if you could get her. Or we, I mean I think it was a great idea.
COMMISSIONER MCALLISTER: Yeah, I mean we are a global -- we are acknowledged as a global leader in this stuff. And so I think there's no reason why that wouldn't be in the realm of possibility. So yeah, let's figure out how we can get in touch and maybe make that happen.

So let's see just a rundown a few things. I wanted to also mention that, together with Commissioner Monahan, I visited Russell City and just really found it to be incredibly instructive just echoing what Commissioner Gunda said. I know I think all five of us had been down there now and really just echo all the gratitude to staff and the city officials, the Mayor and City Manager and the Fire Chief. And just a whole staff that's down there working very closely together to make sure that systems are in place. And that the rehabilitation goes well, and they are online now. And they have been contributing so I think it's very instructive. They were absolutely lucky that something worse -- that there was no loss of life. But I think that the lessons are actually being learned, which is very positive. And I think it's strengthening collaborations, so happy to see all that.

I mean and to actually hold the hunk of metal that actually came through the roof, I mean it really made it real. And seeing the impact on the pad of just the forces that were in play when that happened. That's the
impact on the physical infrastructure of that. But that breakdown was sobering.

A couple of weeks ago there was a hearing at the Assembly Utilities and Commerce Committee. Chair Holden convened it and it was on the building decarbonization efforts in the state. Kind of keying off of AB 3232 assessment that we adopted last month on the 11th. And it was really great actually.

I kicked it off just sort of on a very high-level summary of that work. And then there were a bunch of speakers echoing some of the themes there. And it was really notable that the leaders in the Assembly that were there present, including Chair Holden, just understand that electrification is the primary decarbonization pathway for our buildings. And they're not shying away from talking about the big numbers that are going to need to be brought to the existing buildings in our state in the many 10s of billions of dollars over time. But we need to get at that in earnest. And I think there's a growing acceptance that that is the case. And so it was interesting and heartening, I think, to see that (indiscernible) not shying away from the fact of what a huge challenge that is. But also we do big things in the state, and I think there's just a -- I think Commissioner Gunda, you mentioned the word "courage." And I think that really resonates with me.
I think, increasingly we're understanding and it's really inspiring a lot of people in the state.

I did want to just take thank also on the IEPR front, Heather and the whole team, just fast and furious, so many workshops. In particular, on building decarbonization we had a really fruitful day of workshop on energy efficiency in a low-carbon world. So trying to really understand how energy efficiency can help decarbonization exercise. And we can optimize our investments as we pivot towards clean electricity. We can also do that in the most efficient way possible. And that really is just the best of the Energy Commission and really playing to all of our strengths and our authorities.

We also had a half day on embodied carbon in our buildings. And then another half day on the refrigerant issue around getting a handle on the global warming potential of refrigerants as heat pumps proliferate throughout the economy. So both are growing, I think central issues in our overall decarbonization efforts.

I'm really happy to be collaborating with ARB and PUC on the refrigerant front and across the board on our decarbonization discussions. So that's really they've been participating, Commissioner Rechtschaffen in a particular, Commissioner Houk, have been participating in this IEPR cycle. And that's just fantastic. They add so much to the
discussion and really looking forward to keeping that coordination.

I wanted to thank Commissioners Gunda, Douglas, I'm not sure who was at the Renewable Natural Gas one as well. I know Commissioner Gunda and I think Commissioner Douglas were there, but I was not able to make that day unfortunately. There's so much going on in the IEPR that we just can't be in multiple places, but just so many good discussions going on that front. I want to express my thanks to the IEPR natural gas team as well, just echoing Commissioner Gunda's comments.

We heard about the MIDAS tool earlier and that informational item. And I just think that's emblematic of the increasing understanding and kind of centrality of this load flexibility as a core resource to enhance reliability, manage costs and make sure it does enhance equity in that way. That it does help manage costs. And also along the way it helps with our decarbonization journey, the time-based use of energy when it's clean.

And SB 100 has shown the value of load flexibility. It can actually keep rates down. It has it has a modest we think, but important effect on tariffs and so that absolutely is right front and center with equity. And I think we're learning how to value the reliability impact as well. And that's kind of one of these topics
that maybe goes in the bucket of new products and new analytical tools that is important for us to continue to get a handle on. Because I think we're going to be surprised at how valuable load flexibility ends up being in the context of reliability.

And some people are going to be surprised, but I think that's part of the socialization of this idea as the digitization and the modern electric grid in really making sure that as, Commissioner Monahan, you said sort of the -- I don't know exactly how you put it, but the gas station is sort of an ossified model. So I think we also can bring this creativity and we don't need to be limited by the status quo in terms of what we can do with our loads and integrating them into a nimble grid. And so that's both on the transportation side and the building side and really across our economy.

So I'm really excited about all these possibilities and we're doing many things on that front, the load management standards being one. But also the flexible demand of client standards, support in the building code for load flexibility, a lot of different ways that the state is supporting batteries and behind-the-meter resources. And distributed resources that enhance flexibility of the grid. And also our R&D indeed efforts, you know the CalFlexHub, so really lots of great things
going on in this space.

And then finally, I just wanted to -- you know, Lauren's presentation was great this morning. And I wanted to just call out my Fellow whose time is wrapping up as well, Ashin Kun Yee, (phonetic) who is a PhD student at Stanford. And has really been helping us on the data front, and there are a lot of moles of whack and kind of barriers to smooth out as we get data in-house. And her knowledge in that front and sort of vision for what we could be using, the integral meter data and other data has been really helpful for us on working with that team.

And then, finally, I wanted to thank Gaylene Cooper for stepping in to my Executive Assistant's Laura Castenda, who's out on maternity leave. Congratulations to Laura and she has a new baby girl who's beautiful. But Gaylene has stepped in and really is helping my office tremendously so thanks to Gaylene.

And then Bryan and Fritz and Bill have just been pulling double duty on a number of fronts, so thanks to my team there as well, so that's it for me. Thank you.

CHAIR HOCHSCHILD: Thank you.

Let's go now to Commissioner Douglas.

COMMISSIONER DOUGLAS: Great, well thank you.

And I wanted to report on just a couple things. One is that the first Energy Commission approvals for two
emergency in-temporary generators, the ones at Roseville
and Greenleaf, came out today. So I want to thank the
Executive Director Drew Bohan. And also just acknowledge
the tremendous inner-divisional team that did this work.
And particularly Shawn Pittard, Geoff Lesh, Eric Knight
from the STEP management side. Linda Barrera and Kerry
Willis from Chief Counsel's Office, but also the full team
that did this work and so just to go through the list for a
minute if you'll indulge me. Steven Kerr, Ashley
Gutierrez, Joseph Hughes, Carol Watson, Andrea Stroud,
Gabriel Roark, Lisa Worrall, Brett Fooks, Abdel-Karim
Abulaban, Shahab Khoshmashrab, Kenneth Salyphone, Laiping
Ng, and Anwar Ali. And then Chief Counsel's Office as
well: Jared Babula and Lisa DeCarlo.

And I bring up all of these folks, because when
the Energy Commission did the review of these two sites, I
just want to make sure it's clear, it wasn't just a quick
check the box exercise. We very much did have a self-
certification form. It did have specific components that
the Energy Commission under our rules is asking for in
every instance. But staff did a really thorough job of
just looking at each application, considering the
environmental setting, considering the context, asking good
questions about what issues might come up. And doing a
very reasonable level of analysis of issues, proposing and
working with the sites on specific steps that they might take to ensure that there weren't issues.

Staff went out and sent biologists to visit the Roseville site to check out put any potential biological issues. So there's a lot of work that goes into these and it's really important that we take the environmental review and analysis seriously. And the staff team really did that, even as they moved very quickly. So I just want to thank all of them for that work and acknowledge that as we also acted today on the process set out in the Emergency Proclamation for battery facilities, battery energy storage.

So I think we will see applications come into that process. I think we will see some potential amendments come in. I think all of these processes set out in the proclamation are likely to be used. And so I just want to thank the team very much from the Executive Director on through to everyone whose name I read. And also, of course, Commissioner Gunda and his advisors. And to all of you, my colleagues who are working, we're all working together to manage our short-term, midterm and long-term issues as we push towards a clean energy electricity system. And it's exciting to see what we're able to do here.

And so the couple of quick additional updates, so
are in terms of offshore wind. I wanted to say we did a
North Coast tribal visit that was coordinated by the Energy
Commission. And we also had participation from Natural
Resources Agency, Ocean Protection Council, and the Coastal
Commission. So the Chair and I went in addition to the
Public Advisor and one of our ERDD staff. And we also kept
the visits small, but it was a really great opportunity to
talk to a number of North Coast tribes about both some of
their energy achievements. And their energy interests and
goals, which are significant and also about offshore wind
and their engagement around offshore wind projects.

Tomorrow the Coastal Commission is having an
informational hearing on offshore wind for their
Commission. And so I will speak at that early on, just to
tee up the issue and to highlight the fact that we have
this very strong interagency joint relationship. And we're
working very closely with the Coastal Commission and
Department of Fish and Wildlife and Ocean Protection
Council and State Lands Commission and broadly with state
agencies at the Public Utilities Commission as part of
this. So really broadly we're working as the state to
understand and assess and move this issue forward.

The Coastal Commission is the first state agency
to have an official action related to offshore wind. And
the current timeframe is that they would be considering
potential consistency determinations for leasing in offshore wind areas in California in the March to June timeframe for the two different areas in California. And that timeframe would enable BOEM to move forward with leasing in the fall. So that's the current timeframe that we were looking at.

And obviously that just points out how there's going to be really intensive work on offshore wind, on both the North Coast and Central Coast, between now and really this time next year and beyond.

So I want to encourage anyone who's listening to this to attend the Coastal Commission workshop. Sign up and speak. Their process is that you have to go to their website and sign up and fill out a speaker form. It's great if you do that in advance, even a day in advance, because that's how you get the Zoom link to be able to go in and speak. I've had to do that too, so I have filled out my speaker form or specifically Ali has filled out my speaker form for me. Thank you, Ali.

So anyway, I want to encourage folks to do that. And I think the last thing I will say is that I want to acknowledge DWRs hard work on supporting the energy efforts here in California. I should have said that earlier. They've been tremendous partners. And I want to express appreciation for the amazing IEPR workshops. I have not
had to do much work to help create them. All I have to do
is say yes I'll be there and dial in. And I've learned a
lot and I really appreciate that, so that's my report.
Thank you.

CHAIR HOCHSCHILD: Thank you, Commissioner.
I am having a technical issue, so I'll be off
video, but I wanted to just begin by thanking you for all
the tribal work. I was so grateful to join you for a week
along with Naomi Gallardo and Katrina Leni-Konig and Tom
Gates and a few others for this visit with a bunch of the
tribes up in the North Coast was an amazing week. We were
able to visit a couple the micro grids, solar battery micro
grids that we funded up there.

And a particularly powerful visit with the Yurok
people who are doing this incredible restoration just to
share the story with everyone. The Yurok people believe
their purpose in this life is to restore balance with
nature. And so they are doing a whole bunch of things
including reintroducing Condor who went extinct in that
area by the Klamath River 100 years ago. And they're
reintroducing them starting next year, introducing six
Condors a year for the next 20 years. And they're working
very diligently and I think very effectively towards the
demolition of these four dams on the Klamath, which looks
to be on pace to happen in the next year-and-a-half or two
years. And to help restore the salmon runs. So we had
some terrific visits with them and they're very interested
in the kind of tribal micro grids that we have funded.
We've done now seven of those around the state, so it was a
super fruitful week. And we look forward to continuing the
partnership.

There are a group of tribes up there. There's
eight tribes in Humboldt County and they have this vision
to make that region the first carbon negative region in the
world. So this is a combination of electrification of
everything, efficiency, renewables and offshore wind,
combined with carbon friendly land management. So really
an inspiring visit learning all that and we'll be
continuing to engage.

But a special thanks to Jana Ganion at the Blue
Lake Rancheria ranch area who has really been a remarkable
leader and partner. And to Tom Gates for all the terrific
work over many, many years on our tribal program here at
the Energy Commission.

So I wanted to second as well what Commissioner
Gunda was saying, which was about gratitude for all the
support for each other. I thought 2020 was tough and 2021,
the number of things -- we got hurricanes and fires and
smoke and this COVID Delta surge and the crisis in
Afghanistan and so many other things. You know, in these
times we have to come together and really support each
other deeply and in a sustained way. And I really feel
that strongly at the Energy Commission.

I think the family that we have here at the
Energy Commission is extraordinary and I'm seeing just
incredible dedication and support and teamwork. And I just
want to lift that up. That's how we get through these
tough times, so thank you Commissioner Gunda for starting
us off that way.

A couple of things to share. I had three
international meetings, two with governors in Mexico last
week: the Governor of Nuevo Leon and the Governor of Baja,
both of whom are new and young. I think each were in their
ey early 30s and I don't know what I was doing my early 30s,
but it certainly wasn't being a governor. And I have to
say just enormously impressive and really focused on green
platform, so we had a great exchange with both of them
about electric vehicles and renewables and a bunch of other
stuff. Thank you to Alana Sanchez and Anna Ferrera for
facilitating all of that.

I also met yesterday with the Energy Minister of
New South Wales, Australia who is really leading
Australia's renewable energy efforts and we're going to
look at maybe signing an MOU with them.

I had as well, a visit with about 15 legislators
down at Tesla talking about Lithium Valley and the nexus with electric transportation. Tesla is booming. They have a backlog now, I think it's a six-months backlog to get a car, which is great to see the demand so high for electric vehicles and manufacturing continuing to thrive in California.

And I think I will stop there. I also met with Cecilia Aguiar-Curry who is going to be joining me for this trip, an offshore wind trip we're doing to Portugal with a bunch of folks next month.

But I think I will stop there, and why don't we continue with Item 16, Executive Director's Report?

MR. BOHAN: Thank you, Chair and Commissioners, Drew Bohan here. I've just got three quick items. First, Commissioner McAllister, thank you for the shout-out to Gaylene. She is indeed a gem, and you need to work with her as you've been doing regularly to really see the depth of her knowledge and commitment, so thanks for that.

And Commissioner Douglas, thank you for the acknowledgement of staff will save me going through, I will not name everyone as you did. But thank you for doing so for the package units at Roseville and Greenleaf. Everyone you mentioned played an important role. This is 120 megawatts of power at a critical time in California, so this was just great and it was moved very quickly. As you
noted staff visited Roseville. I drove up to Greenleaf last week and took a look as well. And as you noted, we went above and beyond the requirements of the Emergency Proclamation. We clearly met its requirements, but we looked at all the standard things we looked at. And I'm just really impressed with staff's ability to quickly jump on something like that and do such a good job.

And then finally our new building is open for business. We're still encouraging staff to take advantage of our very bullish approach to teleworking and to come to the office as needed and I think staff are taking us up on it. We're having 20 staff come in on a busy day and fewer than that on many days. I look forward to the day when we can all go back and earnest in big numbers, but for now I think it's wise and most staff are taking us up on our offer to telework and come in only when necessary. Thank you.

Thank you, let's go to Item 17, the Public Advisor's Report.

MS. GALLARDO: Hello there, Chair and Commissioners, this is Noemi. So I also have three quick items.

First, I wanted to let you know that for the Clean Energy Hall of Fame we have selected the winners. There was a selection committee formed of all external
stakeholders. They selected six excellent candidates and they will be -- we haven't announced them publicly yet, but I'm hoping to share those names with you in the next few weeks.

Second, we wanted to let you know that the Disadvantaged Communities Advisory Group, which is our key advisory group for the agency and also for the Public Utilities Commission is working on an annual report. And I'm hoping that they can share that with you during a business meeting in the next couple of months as well. So I just wanted to let you know they're working hard, continuing to provide us great advice. And hopefully, you can see them soon.

And then finally I wanted to let you know internally we're still moving along with the Inclusion, Diversity, Equity and Access Initiative, also known as IDEA. So my partner Carousel Gore, and I are working on that and wanted to let you know that the staff had made some excellent recommendations on improvements for our workplace and hopefully we'll be implementing those shortly as well, and can talk to you more about that. And we do have several employee resource groups that are also working hard to improve the workplace and make it an even more belonging place where we practice kindness, as was mentioned earlier.
So that's it for me. Thank you so much, it was
good to see you all.

CHAIR HOCHSCHILD: Thank you, do we have public
comment?

MS. GALLARDO: This is Noemi again. Let me give
the instructions for the public, this public comment
period.

So this is the period for any person wishing to
comment on information items or reports of the meeting
agenda or any other items. 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. Use the raise-
hand icon to indicate your interest in making public
comment. If you're on the phone press *9 to raise your
hand and *6 to unmute. After you are called on, please
restate and spell your first and last name, state your
affiliation if you're representing a tribe, agency,
organization or any other entity. And do not use the
speakerphone when talking, because we won't hear you
clearly.

So let me check to see if we have any hands. We
do have at least one hand, so it looks like this is Steve
Uhler. Steve, a reminder to spell your name, indicate your
affiliation if any. Your line is open and you may begin.
MR. UHLER: Thank you, Commission. This is Steve Uhler, U-h-l-e-r. I'd like to thank the Commission for acknowledging my comments today, particularly related to planning. I would like to bring you up to speed on some of my notions. I would like to be able to completely plan grid operations in Butte County. Butte's had a tough time. Oroville Dam Generation shut down. And I'd also like to do the same thing for Alameda County. They lost the Russell City Energy Center. I'm particularly interested if that carcass, whatever was launched is a capacitor carcass from a shunt capacitor bank.

So I've been in contact with Angela Tanghetti and pointing her in the direction of the additional data I need. But I hope to be able to display complete material resource planning for the grid.

And also to go along with that since just planning what you have as far as capacity is not enough I've had a long-time requests for data structures from smart meters, so that I can dig into smart meter data, process it and pull out things like instantaneous load and power factor. I'm not sure of the familiarity you folks have with apparent real and reactive power, but we want to drive reactive power out of the system. Because that's you may have capacity, but your generation and your prime movers have got to be able to supply the apparent power,
which can be much higher.

So those have to be considered in all planning for reliability. And things like knowing the status of a shunt capacitor bank on all power plants before we go into a tough situation, because these devices compensate for power factor to try to bring it to unity, so that the system is more efficient.

So I’m looking forward to hearing from Angela on the items that I’m looking for, as far as data. And I’d really like to find out about the structures of the smart meter data systems, so that I can be prepared to process all that data.

I’m looking to give you information on one-minute time slices instead of hours or for the whole western grid. And my experience says I’m totally capable with the hardware and hardware and systems you already have.

So once again I thank you for acknowledging my comments. This is the end of my comment. Thank you.

MS. GALLARDO: Thank you.

Chair, I do not see any others hands raised. You may proceed.

CHAIR HOCHSCHILD: Okay. Let's go to our final Item 19.

MS. BARRERA: Good afternoon, Commissioners. The Chief Counsel's Office does not have a report today.
CHAIR HOCHSCHILD: Okay. Thanks everyone, we're adjourned. Have a good day.

(The Business Meeting adjourned at 2:28 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 24th day of September, 2021.

[Signature]

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 24th day of September, 2021.

_________________
Myra Severtson
Certified Transcriber
AAERT No. CET**D-852