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BUSINESS MEETING  
BEFORE THE  
CALIFORNIA ENERGY COMMISSION

In the Matter of:                             )  
                                                          ) 18-BUSMTG-01  
      *Business Meeting*                             )  
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CALIFORNIA ENERGY COMMISSION  
THE WARREN-ALQUIST STATE ENERGY BUILDING  
ART ROSENFELD HEARING ROOM - FIRST FLOOR  
1516 NINTH STREET  
SACRAMENTO, CALIFORNIA 95814

WEDNESDAY, OCTOBER 3, 2018  
10:00 A.M.

Reported by:  
Peter Petty

APPEARANCES

Commissioners

Robert Weisenmiller, Chair  
Karen Douglas  
Janea Scott  
Andrew McAllister  
David Hochschild

Staff Present: (\* Via WebEx)

Drew Bohan, Executive Director  
Allan Ward, Assistant Chief Counsel  
Rosemary Avalos, Public Adviser's Office  
Cody Goldthrite, Secretariat  
Sylvia Bender, Energy Assessments Division

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P R O C E E D I N G S

OCTOBER 3, 2018

10:07 a.m.

CHAIRMAN WEISENMILLER: Let's start the Business Meeting with the Pledge of Allegiance.

(Whereupon the Pledge is recited)

CHAIRMAN WEISENMILLER: Thanks. So, we're going to start today with a resolution for one of our long-term stars who is moving into retirement. Obviously there are times for coming and going and certainly Sylvia Bender has more than 30 years, so all of us wish her well. I'm going to start reading a resolution. And then we'll talk about it.

"Whereas Sylvia Bender has spent more than 30 years in public service working for the State of California, and in that time has demonstrated a strong commitment to excellence and diligence on behalf of Californians.

"And whereas Sylvia began working with the state in November 1988 with the California Department of Conservation,

"And whereas on March 1995, Sylvia began her career with the California Energy Commission in the Energy Efficiency Division in the Efficiency Technology Office as an Associate Energy Specialist before becoming an Energy Efficiency Specialist in April 1998. She was promoted in

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July 2000, to an Energy Commission Supervisor I in the Forecasting Office and then an Energy Commission Supervisor II in September 2001.

"And whereas during the energy crisis of 2000-2001 the state took steps, including media campaigns, business involvement, efficiency programs and code changes to reduce peak demand by 5,000 megawatts for the summer of 2001 to avoid supply disruptions. Sylvia recognized that the crisis and its aftermath offered a unique opportunity to gather information about consumers and organization response to events and programs, and to analyze conservation decision making and the persistence of behavioral change. She initiated and guided research that provided valuable insights into strategies for future efforts to influence energy use and conservation.

"And whereas Sylvia started working in the Demand Assessment Office as a Supervisor in July 2005, beginning her illustrious work in the Electricity Supply Analysis Division.

"And whereas Sylvia became Manager of the Demand Analysis Office in the Energy Assessments Division in September 2005, then Deputy Director for 11 years starting in August of 2007, she was the only Deputy Director to lead the Energy Assessments Division, initially the Electricity Supply Analysis Division, since its creation in July 2008

by merging the Demand Analysis and Electricity Analysis Units of other divisions. Her Division's work includes conducting assessments of California's electricity and natural gas systems, providing end use demand forecasts and estimating conservation impacts and conducting objective technical analysis and modeling to understand the vulnerabilities and informed policy analysis.

"And whereas Sylvia as the Energy Commission's point person for the Joint Agency Steering Committee helped guide the integration alignment of the Energy Assessments Division's analytical work with that of the California Public Utilities Commission, California Air Resources Board and the California Independent System Operator to ensure a more efficient and affective resource planning process in California.

"And whereas Sylvia has a high level of integrity, her technical/untechnical expertise is unparalleled. She is able to grasp both the big picture and the details. She excels at making complicated work understandable to a wide audience.

"And whereas Sylvia's dedication to her staff is well known.

"Therefore, be it resolved that the California Energy Commission recognizes and thanks Sylvia Bender for her distinguished record and professional contributions to

the wellbeing of the citizens of California, and for her superb accomplishments throughout the many years of service she has given to the Energy Commission and to the people of the State of California.

"The Energy Commission congratulates Sylvia Bender on her retirement and wishes her good health and happiness and all the best in her future endeavors."

(Applause.)

Sylvia, do you want to come up and say a few words?

MS. BENDER: Yes.

CHAIRMAN WEISENMILLER: Please.

MS. BENDER: There, now we're on. I want to thank you all for having given me this opportunity back in whenever it was, 1995, to start a career that I had so many different kinds of challenges and so many different opportunities. And I think the most important thing about it was that it offered me something new to learn probably every single day that I was here. So to me that was one of the most important things was.

In fact, I remember when I first came here when I interviewed for the position, when they offered me a job preparing an evaluation plan for the Commission's efficiency programs the first thing I wanted to know is, "Is this really something you haven't done before? It's

not something where it's already all set out?" Because I said, "I don't want to just do something where the process is already set. I want to try something new and different." And that's really what the Commission has enabled me to have a chance to try.

And I certainly want to acknowledge the staff in the Energy Assessments Division. They are the ones that do the forecasts, collect the data, do the analysis that really enables us all to know where California is on its path toward decarbonization policies and where we're going to be in the future.

So, I thank you very much and I certainly acknowledge my staff as well for all their contributions to this. Thank you.

(Applause.)

CHAIRMAN WEISENMILLER: Sylvia, why don't you come up here and we'll come down and give you the resolution, have a photo opportunity. You may want to follow up with a photo opportunity outside with your staff.

(Off mic colloquy and photo opp.)

COMMISSIONER MCALLISTER: I have to say it's really hard for me to envision Sylvia as an entry level person. (Laughter.) But I also wanted to say, Sylvia, you know, the Energy Efficiency EM&V is the gift that keeps on giving, right? It's still doing that after all these

years.

MS. BENDER: (Off mic) Yes. Yes.

CHAIRMAN WEISENMILLER: So let's start with the Consent Calendar.

COMMISSIONER SCOTT: Move approval of Consent.

COMMISSIONER DOUGLAS: Second.

CHAIRMAN WEISENMILLER: Actually let's wait, do we have any comments on the Consent Calendar, either in the room or on the line?

(No audible response.)

CHAIRMAN WEISENMILLER: No. Okay. Now, let's go forward.

COMMISSIONER SCOTT: Move again? Move approval of Consent.

COMMISSIONER DOUGLAS: Second.

CHAIRMAN WEISENMILLER: All those in favor?

(Ayes.)

CHAIRMAN WEISENMILLER: Consent Calendar is approved 5-0. Thank you. Let's go on to Item 2.

MS. NEUMANN: All right. Good morning Chair Weisenmiller and Commissioners. My name is Ingrid Neumann and I'd like to present today on the 2019 Updates to Title 24, Part 11, the California Green Building Standards.

To put all of this into context I'm showing here all the parts of Title 24, which is the California Building

Standards Code. Our office is responsible for developing the mandatory Building Energy Efficiency Standards, which are found in Part 6 highlighted here in blue, as well as the voluntary portions of the Building Energy Efficiency Standards found in Part 11, which we will discuss today. The Part 6 Update for the 2019 Standards was adopted in May of this year.

This is the table of contents for the California Green Building Standards Code otherwise known as CALGreen. There are many pieces in here, which are mandatory, which our agency does not contribute to. We contribute the voluntary portions of the Building Energy Efficiency Standards found in Appendix 4 and 5, which are respectively the residential and nonresidential portions.

So as the name implies these are voluntary. They may be adopted by local jurisdictions seeking to reach beyond the mandatory standards found in Part 6 and that's done via the local ordinance approval process. Pieces that have to do with the Building Energy Efficiency Standards, if a local jurisdiction chooses to adopt those, those go to us for approval before going to CBSC.

So moving on into Appendix 4, these are the residential voluntary measures. You can see that we are using an EDR metric, that's the energy design rating metric, that we're using for the mandatory portions in Part

6 starting in the 2019 Standards. Those will come into effect January 1st of 2020. So we're using that same EDR metric for Part 11.

You can see on the bottom that the 2016 energy efficiency target, then you would go on to the more stringent 2019 energy efficiency target. And then there's a PV target on top of that. And then the voluntary portions here that we're discussing today, in Part 11, reach beyond those and they have two tiers just as the rest of CALGreen does for the voluntary portions. They have two tiers that local jurisdictions can reach towards.

So same type of structure as the rest of CALGreen, we have the requisites before meeting those tiers. We are retaining the quality insulation installation prerequisite and doing a pick one approach, like a menu of other prerequisite options that one can choose from, which include roof deck insulation or ducts in conditioned space, high performance walls, a HERS verified compact hot water distribution system, a HERS verified drain water heat recovery system.

Any EDR improvements obtained by choosing one or more of these prerequisites are counted towards the Tier 1 or Tier 2 targets. So the Tier 1 and Tier 2 targets are found in these tables. They are separated out by climate zone and depend on the fuel type of the residence.

You can see that we reached an EDR of zero for most climate zones in Tier 2. And then we chose to go half way between the mandatory EDR value required in Part 6 and the target EDR value in Tier 2 for Part 1 or sorry for Tier 1.

Lastly, we've struck the performance approach for additions.

Now, we're moving on to Appendix 5, which are the nonresidential voluntary measures. Again, we keep that menu approach for the prerequisites. We are asking to choose one for Tier 1 and two for Tier 2.

We are retaining the outdoor lighting with a slight modification as well as the service water heating in restaurants. And have added the following prerequisite options: warehouse dock seal doors, daylight design power adjustment factors, exhaust air heat recovery systems. And again, any improvements here from implementing one or more of those prerequisites would count towards the more efficient goal for the Tier 1 or Tier 2 targets.

So here we're retaining the percent better than mandatory language. So there's a compliance value. And then for Tier 1 and Tier 2 we are saying that you would be a certain percent better or more efficient than that compliance value. And that language is the same as in the 2016 Standards.



So the target percentages continue to vary depending whether lighting and/or mechanical systems are included for nonresidential building projects. So if one of the systems is included the Tier 1 target is 5 percent. But if both are, then it's 10 percent and the same for Tier 2 would be 10 and 15 percent, respectively.

We did make one change here. So for the high-rise residential and hotel/motel projects the indoor lighting standards for the 2019 Standards have become stringent and we recognize that there's very little improvement to be achieved there. So those projects essentially become mechanical improvements only, so that those Tier 1 and Tier 2 targets have been adjusted accordingly.

Thank you. This concludes my presentation of the 2019 Update to the voluntary Building Energy Efficiency Standards. And I'm happy to answer any questions that you may have at this time.

CHAIRMAN WEISENMILLER: Thank you.

Let's take public comments. Let's start with those in the room. Bob Raymer?

CHAIRMAN WEISENMILLER: Thank you. Let's start with those in the room. Bob Raymer?

MR. RAYMER: Thank you Mr. Chairman and Commissioners. I'm Bob Raymer, Senior Engineer with the

California Building Industry Association. And the short story is we support adoption of your Part 11 provisions today.

We worked a lot of with staff. A number changes were made at our request. In particular, the staff has added a paragraph requesting when you're adopting either Tier 1 or Tier 2 at the local level that you engage with the local utility. You're going to see an increase in the amount of solar going into the grid. We want to make sure that the grid infrastructure is set up for that, which most utilities are involved in these local adoptions.

There was also a request to split apart the HERS verified compact water distribution system from the drain waste heat recovery, so you have four prerequisites to choose from as opposed to just three. And staff did that.

And lastly in the nonresidential provisions the portion related to light pollution, we had a concern that there needed to be some exceptions allows. And indeed staff has put in a provision indicating that the exceptions that are currently allowed for outdoor lighting pollution in Part 6 of specifically Section 140.7(a) etcetera, are allowable.

We are requesting an editorial change. That provision I just spoke about it indicated in the form of a note. In Title 24, like in the Building Code we use notes

as informative in nature, educational. For example, in Part 11 HCD uses a note to indicate that you can go to the State Water Resources Control Board website to get more information on stormwater management. DSA references, in a note, the Department of Justice's disabled accessibility provisions for more information there.

In this extent, as far as the CEC's adoption in the nonresidential portion the note is actually an exception. And in the verbiage of the note it says the color temperature requirements is not applicable to the applications identified in exceptions too. And so what we would just simply request is that you change the word "note" to "exception," which we would view as editorial in nature.

Lastly, the BSC plans to do adoptions on December 4th and 5th. We'll be there to support adoption of both Part 6 and Part 11. So thank you and unless you've got any questions, that's my testimony.

CHAIRMAN WEISENMILLER: Yeah. Actually, let's go through all the comments then I'll ask staff to respond to the editorial comments.

MR. RAYMER: Thank you.

CHAIRMAN WEISENMILLER: Michael Stone, NEMA?

MR. STONE: Good morning, Commissioners. My name is Mike Stone. Excuse me, I have a terrible cold. I'm

representing NEMA and NEMA is speaking in opposition to one particular section. That's 85.203.1.1.1. And it's regarding the color temperature of outdoor lighting that Mr. Raymer just referred to, restricting it to 3,000K or less. And we submitted written comments on September 19th, and also back in February 21st we also submitted written comments that quoted a number of studies that have been done.

And so we had two concerns. Number one, we're concerned that there's not a technical substantiation for this provision and there's not an industry consensus. And you can clearly see that if you go online or if you take a look at those studies. That's number one.

And number two, this will effect pedestrian and vehicular safety, so we really feel that needs to be addressed more than it has been. So anyway, speaking opposition and thank you very much, brief comments. Thanks.

CHAIRMAN WEISENMILLER: Okay. Thank you.

Jack Sales?

MR. SALES: Good morning. My name is Jack Sales. I'm here to speak in support of 3,000 degree Kelvin or less. I wear many hats. I speak for many groups of California citizens. As a result of my outreach of the California chapter and International Dark-Sky Association I

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feel the pulse of these groups. I started this in 1993.

Citizens of California, members of neighborhood associations, environmentalist groups, astronomy clubs are asking what to do about the bad blue lighting, our LED lighting. It all started with federal funding at the end of the recession. It started with CREE in about 2006. And I think you have a letter from Jim Benya and he makes note of looking at the SPDs of those first LEDs. I think we saw the same chart, the great blue spike. And we were very concerned about it.

We have the same thing taking place in the LED age as the CFL age. People do not want the blue light. First CFLs with a high CCT were rejected. Cheap CFLs from China with high CCT flooded the market, the same with LEDs and LED fixtures.

People come to me often about, "The damn LED lights the city or PG&E just put in."

Recently, people from a neighborhood association in the City of Sacramento have come to me. Members of the Environmental Council of Sacramento have come to me. Everywhere I go in my outreach, and we are just preparing for another one this week, Earth Day, Astronomy Day, environmental events I get the same story. So why 3,000K, why not 2,700K, why not 2,300K?

CHAIRMAN WEISENMILLER: Yeah, you're going to

have to wrap it up in about 15 seconds.

MR. SALES: Oh. Okay. International Dark-Sky Association addressed this issue in October 2009. That's how long we've been working on it in a news release. It's a common issue with the environmental group.

CHAIRMAN WEISENMILLER: Okay. Well, thank you. You have to wrap it up now. Your time's up.

MR. SALES: This was just in the newspaper this week.

CHAIRMAN WEISENMILLER: Yeah, please wrap it up. Your time's up. Thank you.

Anyone else in the room? Come on and again if you have a comment, please come up. And you have to identify yourself for the court reporter.

MS. CLANTON: I'm Nancy Clanton, CEO of Clanton & Associates. I'm a Fellow of the Illuminating Engineering Society, Fellow of the International Association of Lighting Designers, Fellow of US Green Building Council LEED. And I would like to be in support of the 3,000 Kelvin Initiative. My comments are mostly geared around the NEMA reporting or the NEMA docket, because they quoted some of the research that I had done. And it was misapplied, so I want to address that.

The 2014 NEEA study, which was performed by our firm and Virginia Tech Transportation Institute quoted in

NEMA's docket number 222653, the first item is based on roadway visibility at speeds of 35 miles per hour when the object is 250 feet away from the driver. It is not based on hardscape lighting or what the CALGreen is about. It's for this high-speed visibility. Therefore, referencing this roadway visibility sections of the studies is not applicable to general hardscape areas.

The NEEA study also shows at a lower CCT preference in the subjective evaluations from pedestrians.

The study also summarized three other cities studied by Clanton and Associates and Virginia Tech Transportation Institute, including San Diego and San Jose.

In the San Diego study, the 3,500 Kelvin CCT significantly outperformed the higher CCT light sources. In both San Diego and San Jose subjective evaluations from pedestrian participants significantly preferred the lower color temperature.

The DOE study that the NEMA also referenced is also focused on street lighting and not general hardscape applications.

But I'm here mostly to talk about the new study by Virginia Tech Transportation Institute, which was funded by Southern California Edison and the Illuminating Engineering Society. They conducted a study about visibility in parking lots. This study is currently under

final peer review, but the researchers have presented their findings to the IES Roadway Lighting Committee 2018 spring and fall meetings and also at the 2018 IES Street and Area Lighting Conference.

CHAIRMAN WEISENMILLER: So you're going to have to wrap up too.

MS. CLANTON: You bet.

CHAIRMAN WEISENMILLER: Okay.

MS. CLANTON: So their findings basically say that there's no statistically relevant data that showed there were visible performance differences between 3,000 and 5,000K light sources in the parking lots. So thank you.

CHAIRMAN WEISENMILLER: Thank you.

Anyone else in the room?

MR. SIMINOVITCH: Michael Siminovitch.

CHAIRMAN WEISENMILLER: Yeah, I was going to say you didn't fill out a card, you know, but go ahead, Michael.

MR. SIMINOVITCH: Commissioners, thank you. My name is Michael Siminovitch, Professor at University of California at Davis. I'm the Rosenfeld Chair in Energy Efficiency and I'm Director of the California Lighting Technology Center. Thank you.

I'm in support here today of the 3,000 Kelvin



recommendation. Considerable scientific data currently exists indicating that light at night can be a significant issue in terms of circadian disruption, leading to poor health and wellness outcomes. I'm attaching a series of references to my package. In addition, both Nancy and Jim will provide further direct insights into this equation.

Two well-known recognized organizations, the International Dark-Sky Association and the American Medical Association have adopted recommendations for 3,000 Kelvin. After much criticism and discussion the AMA has just reaffirmed this position.

Today, I'd like to speak about the near-term practical experiences that we've had with this movement towards 3,000 Kelvin. Both Jim and I were heavily involved with the City of Davis by request a few years back on their street lighting initiative, moving from 4,000 Kelvin to 3,000 Kelvin light sources. The initial 4,000 Kelvin deployment there was a considerable level of community concern, glare, stray light and we were asked to look into this.

Our primary recommendation initially was to move to 2,700 Kelvin with more refined optics. We went ahead with a series of studies and evaluations and surveys. And overall, the community support was quite good to this movement. While not perfect, it was a positive move

forward. And some four years there haven't been any issues associated with safety, accidents, complaints, lack of visibility, with this movement.

In addition, we are very involved with the pathways and parkway lighting, which also navigated to 2,700 Kelvin. And again, good community level of engagement. And again, with no accidents or reported safety issues.

I really wanted to get to the heart of this, though, however. And the real issue today is with the proposed standard is really about attribution and cost. And moving from 4,000 to 3,000 Kelvin, in the past there were attribution and cost issues on this which limited savings. We've gone through a fairly detailed analysis of this. And on a very large retrofit project that we're involved with now there is approximately a 3 percent differential in efficacy, no cost difference. So this essentially negates the issues associated with attribution, preferentially driving higher color temperatures, which is really the heart of this.

For good public policy, just to finish up, is that the best step forward today is to be prudent and to be careful. And try to do no harm and do the very best that we can do today. And 3,000 Kelvin is an incremental good step to the future.

With attribution and cost largely being an issue of the past, we should really navigate to the 3,000 Kelvin. Thank you, Commissioners.

CHAIRMAN WEISENMILLER: Thank you.

I think we have one more person in the room? Please, come forward and identify yourself.

MR. BENYA: Good morning and thanks for the opportunity. My name is Jim Benya. I submitted prepared remarks that you can read at your leisure. I thought I had five minutes, only having three, I'm going to have abridge them.

I'm a registered professional electrical engineer in California directly responsible for the design and specification of over 100,000 LED streetlights in California, as consulting on over 500,000 nationwide. I rely heavily upon the publications of the IES, of which I am a Fellow and various articles and papers from reputable sources. We retain Dr. Alan Lewis for some of our projects. He is one of the principle researchers involved in the stuff that Nancy mentioned.

I served on the Board of Directors in the Technical Committee of the International Dark-Sky Association. And in 2009 I was among the people who first identified the extraordinary problems of LED lights and helped publish the paper in 2010 that Jack

talked about.

I believe in a number of key points that you can read about here, but probably the most important one of all is that I have been supporting the 3,000K limit. We have been using it in every project we have been designing for the last 10 years. And to support something Michael just said, there's no cost penalty. There's no performance penalty. There are not situations that we have found where there's any reason not to set the 3,000K limit with a couple of exceptions. One of those would be sports lighting where there's a particularly professional and collegiate level. Other than that, there may be a couple of others like outdoor retail, 3,000K works just great.

Remember, we've been living with high-pressure sodium for 50 years, at 2,200K and a color rendering index of 20. At 3,000K and a color rendering index of 70, we get better visual performance and visual acuity and probably like it a little bit better too in many applications. I happen to live in Davis, where the 2,700K street lights are just fine. It was a community choice. In fact, I helped design and build a test bed in Hemet, California where we have 150 different LED lights. The community and representatives of governments throughout the area toured the installation and gave us data, feedback, on what they liked. 3,000K and 2,700K were the winners.

So overall for most applications that I know of, as a professional engineer, 2,700K, 3,000K, and lower are just fine. And in some cases, lower, we're looking at 2,200K in historic neighborhoods to help recreate the sensation of the gas light that was there when they were originally built.

Thank you for your time.

CHAIRMAN WEISENMILLER: Thank you.

Anyone else in the room? Then let's go to on the line. Anyone please on the line, Mr. McGaraghan?

COMMISSIONER MCALLISTER: Is that Michael McGaraghan on the line? If you are, go ahead.

MR. MCGARAGHAN: Can you guys hear me?

COMMISSIONER MCALLISTER: Yeah. Go ahead

MR. MCGARAGHAN: Great. Thanks. This is Michael McGaraghan. I'm the Director of the Policy and Ratings Department at Energy Solutions. And I'm on the phone today on behalf of PG&E and the California Investor Owned Utility Codes and Standards Team. And I just wanted to support the Commission's effort to move forward with the 3,000 Kelvin limit and provide additional support for the comments that we that we just heard from Nancy and Michael and Jim. I don't have anything further to add. I just wanted to go on the record and say that we think the Commission's moving in the right direction with that proposal.

CHAIRMAN WEISENMILLER: Thank you.

Anyone else on the line?

(No audible response.)

CHAIRMAN WEISENMILLER: Okay. Then staff, will you please respond to the various comments that were made, at least the criticisms?

MS. NEUMANN: So staff had received the letters from NEMA and we did review the sources that they cited. And came to the same conclusions as the expert witnesses just came to, that other claims are not supported by scientific evidence in those sources, or elsewhere that we know of.

CHAIRMAN WEISENMILLER: Okay. In terms of Rob's various comments, a few comments, please respond on those specifics.

COMMISSIONER MCALLISTER: In particular on Mr. Raymer's comment on the editorial changes they're looking for.

MR. STRAIT: Actually, I can speak to that very briefly. We understand the not to be explaining what the language before it actually is stating, so we don't see that as being a substantive change if we were to use the word "exception" rather than the word "note." So I would actually ask our counsel, in order to accommodate that comment is that something we can do at the dais?

MR. CHALMERS: Technically that's a non-substantive change. We can do that at the dais.

MR. STRAIT: Then actually I would recommend that we make the change that Bob Raymer did request.

MR. WARD: So I would just suggest when you're ready to vote, to make sure that the vote reflects that you're voting upon the item with this proposed change, which was to change it from a note to an exception.

CHAIRMAN WEISENMILLER: Thank you.

So let's transition to the Commissioners. Commissioner McAllister?

COMMISSIONER MCALLISTER: So thanks. I've reviewed this in detail. I just want to set a tiny bit of context here. Part 11 is a mix of voluntary and mandatory. And we are only talking about the voluntary pieces that are under our purview here at the Energy Commission. So that being the case, really the dynamic here is the virtuous cycle that we often talk about with local governments where they can -- or a variety of local governments already do this, based on CALGreen or some other criterion. But CALGreen makes it relatively straightforward for local governments to say, "Okay. Well, we're going to go beyond the code in ways that make sense." And so we've kind of sussed that out what makes sense and what are the reasonable steps forward that they can make beyond code,

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according to their own context and their own stakeholders and their own analysis and climate etcetera.

And so when they do that, we learn about how it's gone and can actually benefit from that experience and build that into the next iterations of code, whatever it makes sense. So CALGreen, particularly now that we're focusing on decarbonization and really trying to push the envelope even further in this broad policy direction CALGreen becomes I think even more of an interesting tool to help that happen.

So a lot, the conversation here is mostly to do with the lighting requirement. And I absolutely -- I mean this is actually an improvement over 50 years of standard practice. So and LED is a fast moving marketplace, but I think we know a lot, we know enough about it to make this change. And that it's all a positive, so with that I support adoption of Item 2 with the proposed change from "note" to "exception."

COMMISSIONER DOUGLAS: Agreed, I second.

CHAIRMAN WEISENMILLER: Okay. All those in favor?

(Ayes.)

CHAIRMAN WEISENMILLER: This passes 5-0. Thank you.

Let's go on to Item 3.



MS. HUTCHISON: Good morning Chair Weisenmiller and Commissioners. My name is Elizabeth Hutchison. I'm representing the Office of Compliance Assistance and Enforcement where we offer compliance assistance services and investigate and enforce violations of our Appliance Energy Efficiency Standards.

Our legislative authority, Senate Bill 454 of 2011 provides for assessing monetary penalties for violations of our Appliance Energy Efficiency Regulations and also established the Appliance Efficiency Enforcement Subaccount to deposit these penalties, funding our program as well as this upcoming agreement.

Our regulations require the enforcement testing of appliances to ensure energy efficiency savings are achieved. We inspect and test these products offered to California consumers to determine compliance with applicable standards. This testing provides for the key compliance goals of ensuring that manufacturers are complying with Appliance Energy Efficiency Standards, investigating and following up on public and industry complaints and maintaining a level playing field by reducing unfair competition.

We currently hold an agreement with California State University, Sacramento's engineering lab, through University Enterprises Inc. to perform enforcement testing

of these appliances. To date, they have successfully tested 225 appliances of which 61 percent have failed. This testing has resulted in 99 closed enforcement actions totaling over \$5.6 million.

However, there are some appliances that they do not have the ability to test, such as wall and window air conditioners, because they require specialized environmental chambers for testing.

We have built a strong working relationship with Lawrence Berkeley National Laboratories, also known as LBNL. Their team has demonstrated the willingness and ability take on these tests, which will allow us to continue our enforcement efforts and insure compliance of these high energy-consuming appliances.

I'm here to ask for your support today to approve a three-year agreement with LBNL in the amount of \$225,000. This contract will run parallel to that of our already existing CSUS testing contract. Our experience managing that contract for the last five years will ensure this contract with LBNL will move forward efficiently and successfully. In addition, this contract will continue to continue to strengthen the relationships that we have built with our university partners.

Staff recommends approval of this agreement, allowing us to continue this productive relationship with

our neighboring universities in supporting the effective work that we have been doing. Thank you for your time and consideration. I'm available for any questions.

CHAIRMAN WEISENMILLER: Thank you.

Is there any comments from anyone in the room?  
Anyone on the line?

(No audible response.)

CHAIRMAN WEISENMILLER: Then let's transition to the Commissioners. I think let's start that transition with Commissioner McAllister.

You know, I was just going to say obviously enforcement is a key part of regulation. And it's sort of one thing to have adopted the regulations and really start changing things. But frankly unless we have enforcement it doesn't matter, so again very important work. We appreciate everyone's efforts there.

COMMISSIONER MCALLISTER: Yeah, so I just want to thank you and Paul and the team. I think this is really a success story. It took us a while to kind of get our heads around actually implementing this enforcement authority under 454. And with a couple of iterations and some ideation, lots of stakeholder involvement, and I think it's -- we've really landed in a place where it's very effective.

That 61 percent number, I just kind of want to

point out that that's not reflective, necessarily, of the whole marketplace at all. There are regulated devices, but we give a lot of tips. And there's sort of a competitive environment there, so we tend to kind of bounce from sector to sector as we identify problems. And really that's sort of a squeaky wheel number.

And I want to just give kudos again to the process and Kirk and the legal team on this that just do an amazing job getting to settlements and being reasonable. And I hear from entities that have actually been fined and paid a fine to the Energy Commission and they actually speak positively of the process, which is quite a testament.

And then also I just want to point out we have this authority in the appliance realm, in Title 20 Appliances Division's regulation, we don't have it in Title 24. And yet we are being asked to do sort of market improvement, to spearhead market improvement and enforcement particularly for existing buildings the retrofits and HVAC and things like that. So I'm hopeful that although it's a different realm, we'll be able to learn from this experience and inform the Legislature as they periodically consider extending our enforcement authority to the buildings themselves.

So not sort of projecting any particular path

there, but I think that as we really need those savings in existing building upgrades, we're going to have to think about how to have a little more teeth in the marketplace for that. So I think this success story really paves the way nicely, so thanks for that.

And obviously I support this contract with LBNL. Shall I move? Okay, so I'll move Item 3.

COMMISSIONER SCOTT: Second.

CHAIRMAN WEISENMILLER: All those in favor?

(Ayes.)

CHAIRMAN WEISENMILLER: This item passes 5-0.

Thank you.

MS. HUTCHISON: Thank you.

Let's go on to Item 4.

MR. YASNY: Good morning Commissioners, Ron Yasny of the Efficiency Division's Local Assistance and Financing Office. This item addresses ECCA Loan 002-18-ECD to the City of Hayward. Staff is seeking approval of a resolution approving this loan agreement and adopting the associated CEQA findings. This loan is funded through the Energy Conservation Assistance Act, ECAA, to the City of Hayward located in Alameda County to install a photovoltaic system at the city's water pollution control facility.

The project benefits include annual energy savings of over 1.4 million kilowatt hours, the reduction

of almost 500 tons of greenhouse gas emissions and estimated annual cost savings to the city of almost \$134,000 in electricity. Based on the loan amount of \$2,158,955 dollars at 1 percent interest and estimated annual energy cost savings the simple payback is a little over 16 years

Staff reviewed all CEQA documents prepared by the City of Hayward and determined that with the addition of mitigation measures to biological resources that CEQA requirements will be met.

That additional measure has been included in the loan agreement. Given that, staff has determined that this loan complies with ECAA program requirements. Staff counsel and Siting's environmental staff and I are here to answer any questions you may have submitted for your approval.

CHAIRMAN WEISENMILLER: Thank you.

Well, let's start with is there any comments from anyone in the room or on the line?

(No audible response.)

CHAIRMAN WEISENMILLER: No. Okay, so let's transition to the Commissioners. Commissioner McAllister?

COMMISSIONER MCALLISTER: So thanks for the presentation. I think knowing the staff that evaluates these projects I'm confident that they've done a second

job. And this program has a great track record and obviously the City of Hayward is a valuable participant in the program. So I'll support or I'll move Item 4.

COMMISSIONER SCOTT: Second.

CHAIRMAN WEISENMILLER: All those in favor?

(Ayes.)

CHAIRMAN WEISENMILLER: This also passes 5-0.

Thank you.

MR. YASNY: Thank you.

CHAIRMAN WEISENMILLER: Let's go on to Item 5.

MR. ALDAS: Okay. Good morning Chair and Commissioners. I am Rizaldo Aldas of the Energy Generation Resource Office, Energy Research and Development Division. And I am here to request adoption of CEQA findings and your approval of an EPIC ground project with ICF Incorporated, LLC for a project called Camptonville Biomass-to-Energy Project, also known as the Forest Biomass Business Center Bioenergy Facility.

This project is a technology demonstration project recommended for award under the EPIC Bioenergy Competitive Solicitation GFO-15-325.

Energy Commission staff has reviewed the lead agency, County of Yuba Planning Commission's initial study and Mitigated Negative Declaration and Conditional Use Permit 2017-00034 the Forest Biomass Business Center

Bioenergy Facility. And has determined that the proposed project presents no new significant or substantially more severe environmental impacts beyond those already considered and mitigated.

In this project the team of ICF Inc. along with Camptonville Community Partnership, Phoenix Energy and other partners will design, construct and demonstrate a 3 megawatt innovative biomass power plant in Camptonville, California.

The biomass power plant will use a robust biomass-to-electricity technology based on a standard boiler turbine system technology integrated with advanced emission control and a state-of-the art low-water use condenser.

The project proposal received support letters from five air quality management districts in the region. And the project will help address the goal of mitigating wildfire threat by consuming 30,000 bone dry tons of woody biomass annually. This biomass will be derived from dead and diseased trees and forest byproducts harvested in public and private lands in the forest biomass near Camptonville, California.

I request your approval and ready to answer any questions. Camptonville team is also here and on the line to answer any questions you may have. Thank you.



CHAIRMAN WEISENMILLER: Thank you.

Let's start with public comments from those in the room or on the phone. I think the first one I was going to say is Babcock Power.

MS. POULTER: Good morning. My name is Rhonda Poulter. I'm an Account Executive for Babcock Power, Incorporated. I'm here on behalf of our Babcock Power environmental organization to express our thanks and support to the Camptonville Community Partnership for the opportunity to deploy our multi-pollutant catalytic reactor technology, known as MPCR, on a community scale as part of the Camptonville Biomass-to-Energy Project.

Joining me via teleconference I have members of our Babcock Power Environmental Team that have been supporting the project the past two years, supporting Cathy Leblanc and Regina Miller. And if I can, pass that over them. I've got Kevin Toupin, who is our Director of Boiler Performance Engineering. I've got Jason Hutchins, who's the Manager of Process Engineering.

And I've got Suzette Puski who's our Principal Business Development Specialist. And I believe Suzette, if you can hear me, I'm going to pass this over to you. Thank you.

CHAIRMAN WEISENMILLER: Yeah, open it. We'll hit that and then we'll go back to folks in the room. Please.

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Please go, speak.

MS. PUSKI: All right. Thank you. This is Suzette Puski. We do believe this project is urgently needed to provide an economically viable means for the disposal of excess forest biomass to reduce the wildfire threats.

The technology we're offering, the multi-pollutant catalytic reactor will control NOx emissions as well as CO and DO emissions, reducing emissions by more than 70 percent compared to standard direct combustion system. And we do believe the technical risk for this type of project is less compared to alternative projects offered. And it's easier for the community to operate, compared to the gasification systems as well as more forgiving to the variables in feedstock that may be burned in the system.

We do believe the project will establish a replicable model for other biomass utilization plants throughout the state.

CHAIRMAN WEISENMILLER: Great. Thank you. Let's go to Camptonville Community Partnership.

MS. LEBLANC: Hi, my name is Cathy LeBlanc. I'm the Executive Director of Camptonville Community Partnership. On behalf of the community of Camptonville I would like to thank the CEC for considering us for this

award. Camptonville is a community of about 700 people, nestled in the Sierra Nevada foothills who may be economically distressed, but are mightily powerful in their ability to persevere. It is from small towns like this that amazing things happen.

We conceived the idea for this biomass-to-energy project in December of 2012 when Camptonville Community Partnership attended a Yuba Watershed Protection and Fire Safe Council meeting. The path from that simple beginning to now conceals countless enormous steps to get our project to this point where I'm standing before you.

The five goals of this community-driven initiative are to create local employment, reduce the risk of catastrophic wildfire, enhance forest health, reduce air emissions from open pile burning and produce renewable energy.

We have been extremely grateful and proud that our community of Camptonville received one of the two awards given in this category for 4.9 million. This grant award is a very significant achievement for the Camptonville project and supports adoption of similar technologies across the state, with the aim to improve forest health, reduce air emissions and reduce water consumption. It will also reduce the risk of catastrophic wildfire, by utilizing dead and diseased trees and forest

byproducts.

As Mr. Aldas has informed you, we were chosen for this EPIC grant in March of 2017, to fund the design and construction of an innovative 3 megawatt biomass power plant in Camptonville. Since then, we have met all the obligations put forth by the Commission and the project is poised to receive our PPA, and soon after we'll begin construction.

The project will be implemented by the Camptonville Community Partnership in collaboration with Phoenix Energy, ICF, Center for Sustainable Energy, University of California Davis, Babcock Power Environmental, Direct Contact, LLC and DE Solutions.

It is through the effort of numerous individuals and organizations working collaboratively, that will bring this project to fruition. It is with this funding and that collaboration that we can now begin in earnest to construct a 3 megawatt forest biomass-to-energy plant in the Yuba foothills, which will offer up to 25 sustainable, living wage jobs and potentially cut Camptonville's unemployment in half. Thank you.

CHAIRMAN WEISENMILLER: Thank you.

Let's go on to Phoenix Energy.

MR. STANGL: Good morning, Greg Stangl with Phoenix Energy, here in support of Camptonville. I want to

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talk to you just for a brief moment about your investment here. I've been in this business since 1999. We've worked on bioenergy projects on four continents. The first one we ever built start-to-finish was done in six months, in Poland. In California, our average length of a project takes six years. In order to withstand that, you have to have a team of fighters and what I want to tell you today is by backing Camptonville you are backing a team of fighters.

In this state we have really struggled. It's the best place in America to do this and the worst place in America to do this. You have a utility, which has almost with religious fervor opposed this program and delayed it for years and yet Camptonville keeps pushing and pushing and pushing and pushing. And I am just here to say how important that is in safeguarding your investment that you really picked a team of fighters.

And we have also made your staff fight. Rizaldo, Alisha, Laurie and Linda are probably really tired of taking our calls and we put them through their paces. And I'm here to tell you and to say thank you again for all that the Energy Commission does in this space. And particularly with this project and to assure you how strongly in this we are in support of this community and their ability to get this job done with your money. So

thank you very much.

CHAIRMAN WEISENMILLER: Thanks.

Anyone else in the room? Then let's go to the phone lines. Could you open the phone lines? I think we had three folks on the line. Let's start with the Board Member of the Camptonville Community Service District.

MR. DICKARD: Hello?

CHAIRMAN WEISENMILLER: Hello. Please identify yourself.

MR. DICKARD: Hello. My name is Richard Dickard. I am a Board Member of both the Camptonville Community Service District and the Camptonville Union Elementary School District. Did you get that?

COMMISSIONER MCALLISTER: Go ahead. Yeah, go ahead.

CHAIRMAN WEISENMILLER: Yes, we did. Please, just speak.

MR. DICKARD: Okay. I would like to encourage the proposed woody bio-mass-to-electric system project in our district, in Celestial Valley, California. It is noted, and I think this is an issue, Camptonville is a California state-designated severely disadvantaged community. So in support of the Camptonville Community Partnership I would concur that the biomass facility would create local sustainable jobs, which would be a great

benefit to our economically disadvantaged rural community. And note that over the last 20 years at our town hall meetings employment has been a major priority.

Secondarily, which has been pointed out, the facility would use the byproducts of the local sustainable forest management as feedstock. And our hope is it'll create a new market for the forest biomass and will also offer a possibility of creating other job opportunities from new industry using excess heat from, as I understand it, from the biomass facility.

Us folks here in Camptonville sort of hold our breath from easily May until October these days, in fear of wildfire. Catastrophic wildfire is a constant threat to our community and the local ecosystem. Fuels reduction will decrease that risk and it will increase the health of the forest and watershed.

And the Camptonville Service District contains watershed for Bullards Bar Reservoir, an important element in the California Water Plan. So improving the health of the watershed gives more water to the state. And, as pointed out already, the biomass plant will improve regional air quality by not only decreasing smoke from wildfires, but also by reducing the amount of forest residue that is currently disposed of through open pile burning. And I can tell you it's very notable, you have

ash dropping around you.

So thank you. And again, I hope you can be supportive of the Camptonville Community Partnership and its program.

CHAIRMAN WEISENMILLER: Okay. Thank you. Let's go to the Yuba Water Agency.

MR. WHITTLESEY: -- hydro generation facilities in the Yuba River Watershed, the primary watershed that will benefit from the proposed bioenergy facility. Yuba Water Agency fully supports the bioenergy facility. And I would like to point out some specific water-related benefits that will result from the implementation of the facility.

Forest management that would result from the biomass market created from the facility will provide water quantity increases by returning the forest to a more natural condition. This benefit would run through the Yuba Watershed to the Feather and Sacramento rivers and all the way to the Bay Delta. Healthy, well-managed forests are a part of the overall solution to California's water needs. The bioenergy facility will also ensure that water quality is maintained by decreasing the likelihood of major sediment and debris inputs to our reservoirs that would result after a major wildfire in the area. Thank you.

CHAIRMAN WEISENMILLER: Thank you.

And I think last we have a representative of the

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Soper-Wheeler Company.

MR. VIOLETT: Can you hear?

CHAIRMAN WEISENMILLER: Yes. Please, go forward.

MR. VIOLETT: Thank you. Good morning Commissioners and thank you for the opportunity to speak in support of the Camptonville Biomass-to-Energy Project. I'm Paul Violet. I'm Vice President and Timberlands Manager for Soper-Wheeler Company. We are 114-year old family-owned tree farm based in Yuba County. We manage approximately 40,000 acres of timberland that would be tributary to this facility.

I can say that in my 32 years of experience here at Soper-Wheeler, the greatest challenge we face is the safe disposal of forest debris from small tree thinnings and logging operations. Currently, we are shipping biomass all the way to Anderson, California. That's an eight-hour round trip by chip van. This facility will meet our needs for biomass disposal, protect the regional watersheds as noted already, and improve forest health in the region.

We are fully in support of it. And as a side, I am also a Camptonville resident and I'm particularly pleased with the design inclusion of advanced air pollution controls and the low-water consumption condenser design. So thank you again for the opportunity and to speak in support.

CHAIRMAN WEISENMILLER: Thank you.

Anyone else on the line?

MR. FLETCHER: Hello.

CHAIRMAN WEISENMILLER: Please, go forward.

Identify yourself.

MR. FLETCHER: Yes. Good morning. My name is Randy Fletcher. And I'm the County Supervisor for the foothills area of Yuba County and Vice Chairman of the Board of Directors for the Yuba Water Agency.

I'd like to overwhelmingly express my support and that of our Board for the Camptonville biomass facility. Last summer, the Cascade Fire burned nearly 10,000 acres, killing 4 people and destroying 265 structures in Yuba County. Based on what we saw in Santa Barbara and Sonoma counties it could have been much worse. There is no doubt that fire is incredibly destructive, not just to our homes and our forest, but to our watersheds as well impacting water quality, costing millions of dollars in debris and sediment removal. We believe the Camptonville biomass plant will create a regional market for all the forest waste material that would otherwise just be hazardous fuel.

And it sparks sustainable forest management practices to reduce our fuel load. The biomass plant is a tool that makes forest management work. The forest waste material can be brought to the plant and be used to

generate electricity. It encourages sustainable projects, creates jobs and improves the region's air quality.

This project ties in beautifully with our efforts that we have underway that can help us get a healthy watershed and a healthier forest. For those reasons and many more, we offer our support to the Camptonville biomass plant and encourage that you do the same. Thank you.

CHAIRMAN WEISENMILLER: Thank you.

Anyone else on the line?

(No audible response.)

CHAIRMAN WEISENMILLER: So let's transition to the Commissioners. I would say it's really heartening to see the broad support here. That this can be an opportunity to move forward and frankly back in '78, probably the first cogen projects, a lot of them were forest products. And they were certainly very strong projects. The industry went through tougher times and frankly the Spotted Owl in the '80s decimated a number of projects. I remember, I did due diligence for Chrysler Corp. on a number of projects they invested in. They're gone.

So, you know, again the bottom line is this is not easy, but it's really great to see the energy and willingness to go in and try to do it. Anyone else?

COMMISSIONER DOUGLAS: No, I just -- it's great

see the amount of support the project has. It's obviously very important and we hope it's extremely successful. So I'll go ahead and move approval of this item.

COMMISSIONER MCALLISTER: Second.

CHAIRMAN WEISENMILLER: All those in favor?

(Ayes.)

CHAIRMAN WEISENMILLER: This item passed 5-0.

Okay. Good luck. Go forth. Let's get it done.

Okay. Let's go to 6.

MS. BAHREINIAN: Good morning Commissioners and stakeholders. My name is Aniss Bahreinian and I'm with the Energy Assessment Division here to recommend awarding the California Vehicle Survey Project to the Resource Systems Group.

The Energy Commission periodically conducts a survey of California light-duty owners to assess shifts in consumer preferences for both conventional and alternative vehicle technologies. The survey is unique in a number of respects, including its coverage of both commercial and residential market segments and its integration of the reviewed and stated preference of surveys.

The survey collects data on both reviewed and the stated preferences of California consumers in six different regions of California, representing the entire state. The stated preference surveys are still relevant, because of

the evolving nature of the zero emission vehicle markets, which do not yet offer vehicles in all 15 classes of light-duty vehicles.

Energy Commission uses the survey data to build and update light-duty vehicle choice models that are used in forecasting demand for conventional as well as zero emission vehicles in California. The survey and the model contain analytical tools to conduct a range or policy analysis and assess the impact of different policy measures such as fee rates, rebates, tax credits, fuel tax and other incentives designed to move the state towards its goals.

The light-duty vehicle demand forecast can be used in assessment of fuel and infrastructure plans, fuel tax revenues and others. The plug-in electric vehicle forecast is also used to predict transportation electrification in California and assess progress towards state goals, as well as the impact of PEVs on California's electricity loads into the future to assist with infrastructure planning.

Previous survey reports have been shared with public on the Energy Assessment's web page and hundreds of entities in the state, in the nation and across the globe have in sectors like government, academia, utilities and automotive manufacturing have accessed the anonymized survey data to build their own models and conduct their own

analysis.

The Energy Commission, Caltrans and CARB staff have been collaborating in previous rounds of this survey, but for the first time CARB has also cosponsored the 2018-2019 survey project. The funding for this project is split between the California Energy Commission and California Air Resources Board. CARB plans to use the survey data in the 2020 Advanced Clean Car Program rulemaking process as well as the ZEV Regulation and ZEV Incentive redesign to make a more them effective in promoting the ZEV vehicles.

Resources Systems Group has been selected through a competitive solicitation process and we recommend awarding this contract to RSG. Thank you. Any questions?

(Presidential alert plays in background.)

COMMISSIONER MCALLISTER: Yeah, the President is trying to interrupt you apparently. (Laughter.)

CHAIRMAN WEISENMILLER: Yeah, that was scheduled for 11:18. And indeed it is 11:18. So anyway, let's first see is there any public comment?

MS. ZAUSCHER: Yes.

CHAIRMAN WEISENMILLER: Please.

MS. ZAUSCHER: Good morning, Commissioners. I'm Melanie Zauscher. I'm with the Research Division of the California Air Resources Board. I'm here to provide support for the California Vehicle Survey and to confirm

CARB's commitment to provide co-funding for this important effort.

The results of the survey as Aniss said will provide valuable and timely insights into the impacts of regulations and incentives in the vehicle market. And will inform CARB's future regulatory efforts to reduce vehicle emissions and the design of future clean vehicle incentive programs.

We also want to express our appreciation for all the staff working with us on this effort. Thank you.

CHAIRMAN WEISENMILLER: Thank you. Yes, so certainly the Air Board's support is very important for this project.

Anyone else in the room or on the phone?

(No audible response.)

Then let's transition to the Commissioners.  
Commissioner Scott?

COMMISSIONER SCOTT: Sure, I am in strong support of this project. I appreciate the California Air Resources Board for being here and also for co-funding this information. One of the things we've really needed to update in our survey is the look at the zero emission vehicles and the infrastructure and things that go along with that. And I'm really pleased that we are shifting this to have the robust level of data that we've had for

internal combustion engines also for the zero emission vehicles within this. So I am in strong support and will move approval of Item 6.

COMMISSIONER MCALLISTER: Second.

CHAIRMAN WEISENMILLER: All those in favor?

(Ayes.)

CHAIRMAN WEISENMILLER: Item 6 passes. Thank you. Let's go on to the minutes.

COMMISSIONER SCOTT: I need to abstain from the minutes, because I was not here on the 21st.

COMMISSIONER MCALLISTER: I'll move the minutes.

COMMISSIONER DOUGLAS: Second.

CHAIRMAN WEISENMILLER: All those in favor?

(Ayes.)

CHAIRMAN WEISENMILLER: So it's 4-1 with that 1 being an abstention.

Okay. Lead Commissioner Reports, Commissioner Scott?

COMMISSIONER SCOTT: So it hasn't actually been that long since we last met, but Commissioner Douglas and I have had a chance to travel the state. We went to see China Lake, visit the naval air weapons station there in China Lake and also to visit Point Mugu, Port Hueneme, and so that was really fantastic. It was a great chance to see what our partners at the Navy are working on, what's



important to them, learn about the missions at each of those bases.

So a couple of weeks ago on Thursday and Friday we were out in China Lake and had a chance to see the PV solar systems that they have there, which is really great. One of the things that they are looking to be able to do is add storage and really good battery management systems along with that. And they're also very interested in microgrids as well. This, of course, is for resiliency's sake, but these are things that we are more than happy to partner with when there are opportunities.

It was interesting as well, because in Point Mugu, Port Hueneme and San Nicolas Island they are also looking at, you know, San Nicolas Island's got the wind. They've got about seven windmills that are there. They are also very interested in storage and battery management systems to go along with that, so I think that was kind of a theme that we heard from both visits.

But one, as you know, China Lake is out in the middle of the desert, so kind of getting some information back from them about how solar panels do in weather in 120 degrees, no rain. Are they really resilient or what challenges do they have compared to the ones that are sitting right on the coast right, in Point Mugu and other areas. So I think there's a lot of great opportunities for

data exchange there as well.

And then in the Port Hueneme, Point Mugu, San Nic they are also doing some desalinization. And so being able to put that in at times when there is excess power is really interesting and something that I think they're interested in as well. We talked a little bit about electric vehicles, a little bit about offshore wind, but I'll let Commissioner Douglas fill in there. But I very much appreciate our partners at the Navy for warmly welcoming us and we had a really enlightening tour of both areas.

COMMISSIONER MCALLISTER: Yeah, so we met on September the 31st I think it was, sorry no 21st. So since then really I've just done one kind of major trip. I spent last week on the road, first in Detroit at the NASEO annual meeting. So as usual just a great event: lots of DOE people there, lots of program discussion, lots of just exchange between the states. And really that's, I say this over and over again, but when we join NASEO we really do get a lot for it, not just the D.C. kind of view of things and keeping up-to-date on legislation. There, but also we get to exchange basically with all the other states. And there are many, many interesting -- we are the center of the energy universe, obviously we all know that. Tongue in cheek, let the record show.

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But the other states at a smaller scale are doing wonderful things and so I really appreciate that forum to have sort of a peer-to-peer exchange about everything. And people's jaws drop, because there's an extra zero or two on everything we do in terms of funding levels. But they are innovating in their own ways: New York, Connecticut, Massachusetts. Some of the Midwestern states on weatherization are doing pretty amazing things and so Utah is doing a lot of good stuff.

So anyway, I spent the first half of the week there and then went to D.C. to participate in an Inter-American Development Bank kind of regulatory visioning process. And was the only U.S. representative there and they had flow in regulators from all over Latin America to talk about how to improve their regulatory environments.

And it's incredibly varied from Chile, which is pretty on top of things. Mexico is getting there with their reforms, which are very well done so far. But many countries that just really haven't begun the process of professionalizing to the extent they need to really open up their markets in a way that's well regulated. And so they very much appreciated our presence there and expertise on programs. And how to sort of march forward in a coherent way for the long term, to give it market certainty that when they do regulate that it's got some teeth and it's

actually going to be around for a while.

So I guess my point here is just that even across the hemisphere people are looking to California for experience. And that's why they invited us to that forum. And so anyway I thought that was very worthwhile, very helpful, and a few potential collaborations with other countries. I think we might see a couple of delegations out of that work.

And then finally, let's see, I went to the Alliance to Save Energy Stars of Efficiency Awards Ceremony. First time I've been able to go to that even though I've been on the Board for a while. And just very D.C. kind of insider baseball in a way, but also just it's really important to award the big investors in efficiency and in clean energy.

And Target got a big award. They had senators from the home states of the awardees stepping up. Senator Klobuchar who's been in the news lately and Senator Shaheen from New Hampshire who's been a leader in efficiency really rely on the alliance to keep engaged with what's happening in the energy efficiency world. And then they turn around and they are great supporters, and so I think that alliance at a high level is very useful for keeping track of what's sort of going on in Washington. But also really moving the needle and making sure there's a bipartisan stakeholder

process that helps navigate all of those turbulent waters at times.

So anyway that was my last week, thanks.

COMMISSIONER DOUGLAS: So I'll just briefly add on to Commissioner Scott's update, which is that the trips both to China Lake and to Point Mugu and Port Hueneme were really valuable. And we learned a lot and in particular for me it was really helpful. It was my first opportunity to go to Point Mugu and really get a better sense of what they do and the geography of the area and how that interacts with the whole conversation around offshore wind. Because Point Mugu is, given where offshore wind could occur on the Central Coast, among the military installations that could be impacted or more likely to be impacted. And so that conversation was really valuable and really all of them were, so I think that's my report.

COMMISSIONER HOCHSCHILD: Thank you, Mr. Chairman. Just with your permission I wanted to say a few words unrelated to the Energy Commission, which is last night I watched the President of the United States mimic, mock and ridicule a victim of sexual assault. And I find that unconscionable to the point where I can't let it go unnoticed or unchallenged. I just feel there's a line of egregiousness that gets crossed here. And while our mission at the Energy Commission is building a cleaner and

healthier and more sustainable energy future, we all have a role to play in building a more compassionate society.

And I just hope that we've now finally hit the bottom. That this kind of thing never happens again, because this woman that he attacked has had threats on her life, has had to leave out of her house, she's had to hire security. She was clearly terrified when she spoke before the Senate and I regret that it's a second assault to do that verbally. And it's just unacceptable to me and I went to bed angry, woke up angry. And I just feel a line has been crossed and I really think we all have a role to play in getting this country and our public discourse and our public behavior back to a better place.

So thank you for letting me get that off my chest. On a happier note, last night my Adviser, Terra, was able to join in an event congratulating Dian Grueneich on her long and storied career in public service. And we had a toast and gave her own toast in which we thanked her on behalf of all of us for a really inspiring next generation of young people to get into public service and try and make things better. And I hope many, many folks can follow in her footsteps.

And on a personal note, some happy news, I went to my cousin's wedding last week in New York City. He's an actor and I had been the ring bearer at his parents'

wedding 40-something years ago. I applied for the job again, urging that I had the requisite experience and record of success. And I felt that he actually owed everything to me, but he gave the job to someone younger and more beautiful and less experienced, my daughter Sonia. So I told him, "Now I know how it feels to be an actor in New York City." So that was a real highlight for our family.

But with respect to Energy Commission work, we are going to do everything we can to include storage in the eligible equipment list working with Drew and others on that now. And I'm sure you all saw the Governor signed SB 700, which adds another 800 million to the SGRP Program. And I think will highlight storage as an important technology going forward.

And then Commissioner McAllister and I both spoke, though at different times, at this new coalition. The Building Decarbonization Coalition founded by Energy Commission alumni Panama Bartholomy, which was a terrific consortium of folks in the building sector and energy efficiency community in Oakland. And I think they're going to do some great things as a group.

I'm going to be meeting with Admiral Lindsey as well, this week the Fleet Week is happening. And I really want to thank the Chair again, you know, during his whole

tenure the focus on building the relationship with the military has been so valuable. And I just am so proud that we've got that going to your leadership and Admiral Lindsey, I think is also really grateful. I've just built a rapport with them. I was down just on my personal time at the Miramar Air Show for my dad's birthday, so I talked to the folks there.

And then I'm speaking at a wind conference tomorrow and a storage conference Friday in San Francisco. And then I'll be going to France for an EPRI Electrification Conference just for a couple of days in November. And that's my update.

CHAIRMAN WEISENMILLER: Great. Thank you. Now, I think following up on your comments it's obviously really important to us that in terms of workplace values that it's pretty clear there are things we don't tolerate here in terms of discrimination and/or really looking for an environment where everyone can work together and prosper. You know, as a note to zero toleration for those types of things around here.

A couple of things, I mean one is on China Lake I was going to note the solar systems you saw, Jackie and I were there for the groundbreaking for those. So it certainly brings back memories.

Also on the microgrids, it turns out that was a



phenomenal debacle with Edison on the interconnection studies for the microgrid of China Lake that Kevin and I spent a couple of years trying to untangle. I think eventually China Lake just buried the idea, but it's a shame. It would certainly be good if there's a way to resurrect it, but again there's at least some issues on the interconnection side that shouldn't have been but are certainly whether things are better or worse now is hard to tell.

So a couple of things I was going to mention, one was I went last week to the NCPA 50th Anniversary Event. And you can imagine how jazzed they were. It was down in Monterey. I gave a talk that was more on fire issues and built more off of the Fourth Climate Change Assessment and what that means on the fire side. So hopefully it scared them to be thinking about adaptation at the local level.

And then I went to the IEP Fallen Leaf Lake event this week. Actually with Drew, actually Courtney and Kevin are still there. And again, it's a good opportunity, in some respects I probably would have liked to have spent more time there. But it wasn't going to work with me being here today, but I certainly would have liked to have heard Keith Martin on the tax (indiscernible), you know, a variety of things there. So that was certainly interesting.

Next week I'm going to Tokyo for a conference, speaking there. It's one of those short trips, but basically it should be useful.

And I was just going to follow up, last week we had the joy of handing out some money at CalSEED. And I think one of the things we talked about, we're really trying to tighten things up a little bit in the EPIC and to some extent the ARFVTP areas. One of the things that came out of working with RPE, particularly Cheryl Martin, was that eventually you really got into what was going on and past the hoopla or PR side of it.

And one of the real differences between RPE and the Energy Commission is they had a really corporate culture. They had probably more flexibility than anyone else is ever going to get to adjustments after awards have been given. But they also had a very conscious thing of saying, "Okay, this isn't working. We're just pulling the plug." You know, and we're always afraid here it's like, "Oh, we let the contract, maybe the contract manager doesn't want to tell people it's really not working." But we're trying to get much better of people saying, "Yeah, here's a yellow light. You know, that there are issues here with the contract." And at some point saying, "Well, okay. We just have to stop work." And/or cancel the contract, because it's pretty clear for whatever reason

it's just not going to provide value at the end.

And as I said it's a real cultural thing, I think for people to be prepared to say yeah, time to pull the plug.

I think the other areas where we're tightening up is often when people do proposals there will be a matching fund element, which can really determine who gets the money. And then at some point you get the question of okay, what's the match? You know, is it real or is it HOC? (phonetic) And if it's HOC you've got to pull the plug. It's all on you promised this much of a match. It's either got to be there or the contract's got to go.

And the final thing, and I was going to say certainly before I came to the Energy Commission I was with two startups. And the first one didn't make it and part of it was we had actually an attorney who was mathematically challenged. But anyway he did the bookkeeping and the accounting, so you never were sure whether you were at the cliff or you were doing phenomenally well. And so when we set up the other firm we had an outside accountant. And basically you were really sure at the end of the day where you were each quarter.

And what we're finding again, and I've seen some of these really large companies, is when you look at and say, "Well, what is your overhead rate? You know, can you

document?" And it's really different if you have an outside firm do your overhead rate or if you have a mathematically challenged attorney do it. And ultimately, it is our responsibility to say, "Okay. What is your overhead rate? What's your bill going rates? You know, how many hours did you work?" I mean, just basics.

And I think certainly to the extent a lot of these folks are really trying to get through the Valley of Death and get to a company, I can just tell you from my experience if you don't know those numbers well you are not going to make it. So that's one of the scales that we really have to be encouraging our incubators to really make sure people have and understand. They may not be accountants themselves, but they really have to get professional advice on that just as they do on IP issues.

So in many ways we're seeing more things where we're just looking at it and just going this isn't working. Or we're looking at stuff and go wait a minute, these numbers just don't add up. You know, we're not going to pay based upon phony numbers and so you'll hear a certain amount of anguish. But I think it's our responsibility to the citizens of California to make sure that the money is well spent and that they get their money's worth.

COMMISSIONER HOCHSCHILD: Before we move on, Mr. Chairman, would you mind just sharing a little bit of your

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thoughts on the fire issue going forward? Like looking ahead at the priorities similar to what you shared at the conference?

CHAIRMAN WEISENMILLER: Well, I think the thing that really came out from the Fourth Climate Change Assessment is that it's getting hotter, but we have a lot more extreme heat days. Sacramento, the analogy that some of our scientists have used is it's going to be like Phoenix. You know, we're going to go from four days over 105 to 20. And again there will be years where it'll be like 2 and then years that'll be 30, so. And the same and so I'm going to say drier although in the sense that the water is more variable I guess is a better way of putting it.

And really it's atmospheric rivers in Northern California that we had -- actually the videos are put out from the National Academy. But we had the Sonoma Water District give a presentation and he had a slide of Arroyo (phonetic) and here it was drought ridden, low water, you know, you could see. And an atmospheric river parks over it and suddenly you've got this flood. So in terms of looking at that and if you think about it that combination of heat and variability on the temperature, and plus with the higher temperatures obviously things like bark beetles survive.

That means there's a lot higher fire hazard. And so again, the studies we have done on fire hazard, and should be a footnote, is there's going to be a lot of really bad fires. I mean, ones that make 2017, just as we thought 2017 was the worst and then 2018 was worse, there's going to be a lot of worse fires than those going forward.

And then probably the scary part was when we did the Climate Change Assessment we based the study on 2000 to 2016 data. Well, it turns out 2017 had the same effect as cumulatively 2000 to 2016. So you have a feeling of maybe what was happening the ground was outrunning the science. So then you get to what does that mean in terms of forest management and how do you go through these prevention plans that you always have to come up with under the Dodd bill?

And one of the things I know President Picker is really struggling with is we've heard the people from Camptonville say well up in the Sierras we have a lot dead trees. And certainly if you think about what is it, 130 million dead trees? I mean, that can be catastrophic if and when they all go. Right now when you look back at these numbers, the greenhouse gas emissions and air pollutants that are coming out of the fires, swamp our savings.

But anyway as I was saying, when you talk to President Picker it's like well okay we had this urban

wildlife interface in fires there where people were dying. You know, fires the way up in the Sierras are really bad for a number of reasons, but probably historical policy was those fires happen and they just ran along and no one paid that much attention to them in a way. But if you're talking about Redding, and really it's a situation where it's a new normal in this area. A

And the prevention in talking to the utilities, you know, they are terrified in the sense that PG&E has suspended its dividend. It took a lot of activity not to have them go into bankruptcy so far. Edison has not suspended its dividend, but after the Legislature passed its legislation both Semptra and Edison were downgraded to PG&E status, which is just above junk.

And then you go out to NCPA and you go okay, here is Trinity or here you've got entities where you're going okay you are a lot more connected to the community, but what happened? You know, we're probably going to see staggering rate increases for hardening the grid and by the grid I mean a lot of it more distribution than transmission. So it's going to be a huge issue.

As you know it was probably the dominant issue in this year's Legislature. It's probably going to be the dominant issue at least next year if not the following year as people go through. And we're still waiting for the shoe

to drop from CAL FIRE on the Tubbs Fire liability. So it's definitely going through this we've spent a lot of time and effort. We've had a workshop, but trying to find out from basically the PUC Safety Division where they think we need more research.

And we've worked closely with Commissioner Randolph on this adaptation of resilience issue for the utilities. And they're starting out with the electric utilities, gas utilities, but eventually they've got to get the water utilities. And I'm pushing a lot to make sure that we're meeting a lot of local governments, because not only do you look at the impacts, which are one thing. But there are ways to mitigate this or adaptation and that's very much local land use issues.

And so but I mean again when you talk to people, just the magnitude of the issue, for example, insurance. Well, the utilities can't get insurance really. Or it's like Edison had a famous filing where they got \$350 million worth of insurance for roughly 250 million. So think about, but then you talk to individuals who are saying, "Yeah, I've checked 20 different companies to try to get insurance for my house."

Or the vegetation management, I mean from PG&E's perspective it's the guys in the davy trucks that are really doing the vegetation management. If they're not



matching the PUC decisions PG&E gets hammered, so they're trying to shift that to them. And they can't get insurance.

So it's something which will continue to be a crisis for a while. And I mean at this point obviously the utilities are trying to really get out in front on this issue and hoping they can make the changes they need to make fast. And not have the X fire just happened and Edison is now in PG&E's shoes or fill in the blank, Redding or something. So it's really going to be the dominant issue and everyone's really struggling to understand it going forward. But at least from the climate change assessment the story is it's not going to get any better, it's going to get a lot worse.

So it's very storied, but I mean I think again with the people the issue that certainly the PUC has raised is that we have more and more people living in these areas of high fire risk. And if you decide you're going to build a house in a high fire risk area then presumably PG&E has to provide service to you, it's at the same rate as providing it to anyone else. And then if because of that service something goes wrong, again who pays for that? Or how do you deal with that? And so at least Michael has at least thrown out the notion of should there be differential rates? And if you choose to locate in high fire-risk areas

should you be absorbing more of the cost of doing that, or the risk of doing that I guess is a better way of putting it.

So anyway, again it's sort of remarkable we've got as much progress as we did out of the Legislature and in an election year. But they all understood, I think, that they took what was the necessary steps, but realized it was such a complicated issue that it's really going to be dominating I'm going to say at least next year and/or the following year. So that's just one of the climate impacts.

Frankly, sea-level rise in terms of flooding erosion, it's huge. I mean, there's really we've used that slide and that quote that those folks of us who have been studying climate change are now living it and experiencing it. So anyway, it's going to be huge for California for a long time.

Chief Counsel's Report?

MR. WARD: No report, thank you.

CHAIRMAN WEISENMILLER: Executive Director's Report?

MR. BOHAN: No report, I just want to briefly say thank you for taking the time to acknowledge Sylvia Bender. She's one of these people who genuinely doesn't like to have the camera turned in her direction, but I think she

was really pleased. And it also sends a nice message to staff. You probably noticed that the room was pretty filled with a whole bunch of her folks who watched her lead that group for the last couple of decades, so thank you.

CHAIRMAN WEISENMILLER: Yeah. No, I've obviously been the Lead on the electricity and natural gas through my time here and so I've spent a lot of time with Sylvia. It's always been a joy.

Public Adviser Report?

MS. AVALOS: Hi. Good afternoon, I'm Rosemary Avalos and I'm presenting Alana Mathews, the Public Adviser, and I'm going to be providing the Public Adviser's Update.

The Public Adviser's Office continues to receive a wide variety of telephone and email inquiries. There has also been a number of staff workshops, both at the Energy Commission and offsite supported by our staff. And have continued to work on long-term outreach projects for Fuels and Transportation, Energy Research and Development, and the Renewal Energy Division.

And the special activities that Alana has attended are the Global Climate Action Summit in San Francisco in September of last month. And she started with the kickoff event cosponsored by Commissioner Hochschild, which featured a conversation with Al Gore.

Alana also attended many summit events and are here a few highlights: a session with Alec Baldwin, Dr. Jane Goodall and Paul Polman, CEO of Unilever. She attended an event featuring Dr. Mae Jemison, the first African-American female astronaut who reminded the attendees to look up and to be mindful of the connection between the cosmos and our climate.

Alana also says she's proud to have served as a delegate and she also asked me to show you this nice baseball cap that reads "Make the Earth Cool Again."  
(Laughter.)

And then with SB 350 Disadvantaged Communities Advisory Group the group met on September 28th, 2018 where they selected, developed and adopted an emergency equity framework, which is available on the Disadvantaged Communities Advisory Group web page. They also selected three key priorities to review and make recommendations on. One of the priorities is the Energy Commission's Energy Equity Indicator Tools. The other two include the CPUC's Environmental and Social Justice Action Plan and review of the current proceedings within each agency. And that a next meeting will be posted soon with more information.

And looking ahead, the Summer Institute of Energy Law and Policy Students will be special guests of the upcoming VERGE Conference. And we'll have opportunity to

participate in the VERGE microgrid tour that showcases the latest technologies in distributed energy generation, battery storage and smart energy systems and their ability to provide stand-alone reliable cost effective power generation and management. And the students will be able to have hands on activities working with the microgrid.

And that's it, thank you.

CHAIRMAN WEISENMILLER: Great. Thank you.

Any public comment?

(No audible response.)

CHAIRMAN WEISENMILLER: This meeting is adjourned.

(Adjourned the Business Meeting at 11:51 a.m.)

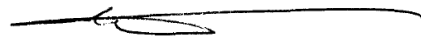
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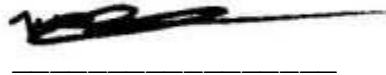
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