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BUSINESS MEETING

BEFORE THE

CALIFORNIA ENERGY COMMISSION

In the Matter of:)
)
Business Meeting)
_____)

CALIFORNIA ENERGY COMMISSION
CEC BUILDING
ART ROSENFELD HEARING ROOM (HEARING ROOM A)
1516 NINTH STREET
SACRAMENTO, CALIFORNIA

WEDNESDAY, JUNE 10, 2015
10:00 A.M.

Reported by:
Peter Petty

APPEARANCES

Commissioners Present

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

Staff Present:

Rob Oglesby, Executive Director
Kourtney Vaccaro, Chief Counsel
Alana Mathews, Public Advisor
Shawn Pittard, Public Advisor's Office

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Scott Wetch, IBEW, CCUE	5
Mike Stone, IAEIN	5
Brett Barrow, NECA	5
Valerie Winn, PG&E	5
Tom Enslow, IBEW	5
Craig Ochoa, Morro Meadows Corp.	5
Gene Thomas, Ecology Action	5
Mark Muzzo, Collins Electrical Co., Inc.	5
Bernie Kotlier, IBEW, NECA	5
*Leslie Kramer, Stanford University	5
*Bob Fritch, Stanford	5
Tamara Rasberry, SDG&E	5
*Elizabeth Russell, AMBAG	5
*David Jacot, LADWP	5
*Tanya Hernandez, Acuity Brands	5
*Michael Jouaha, Lutron	5
*Michael McMahon, TRC	5
*Matt Tracy, Enlight	5
*Brian Wilcox, Feit Electric	5
*Theron Makley, Once Innovations	5
*Jay Martin	5

Also Present

Interested Parties	Agenda Item
*Don Link, Controlled Energy	5
Tim Tutt, SMUD	6
*Philip Muller, Ormat Technologies	6
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P R O C E E D I N G S

JUNE 10, 2015 10:04 a.m.

CHAIRMAN WEISENMILLER: Okay, let's start the Business Meeting with the Pledge of Allegiance.

(Whereupon, the Pledge of Allegiance was recited in unison.)

CHAIRMAN WEISENMILLER: So in terms of today's Business Meeting, Item 2 and Item 11 are being held. In terms of people who want to comment on Item 5, the Building Standards, we're going to split the comments into comments on the Residential Standards, and then the Nonresidential Standards. So if you could see our Public Advisor and indicate whether you want to speak on Res, Nonres, or both, I think that will provide for a somewhat more coherent conversation. So she has all your blue cards, so if you could just flag, again, Res, Nonres, or both. So let's start with disclosures.

VICE CHAIR DOUGLAS: All right, so I've got disclosures and they're actually the same for Commissioner McAllister. I am an Adjunct Professor at King Hall at U.C. Davis, I teach a Renewable Energy Law class, which has now ended,

but in any case -- but not for long because I'd done it, this is the third year I've done it -- in any case, there are a couple items that I need to disclose. Item 1b, U.C. Davis, is a subcontractor under that contract; Item 8, U.C. Davis is the prime contractor; Item 9, U.C. Davis is the prime contractor; Item 14, U.C. Davis is a subcontractor; Item 16a, U.C. Davis is a subcontractor; Item 17d, U.C. is the prime contractor; Item 21f, U.C. Davis is a subcontractor. None of these contractors involve King Hall, which is the law school. Thank you.

COMMISSIONER MCALLISTER: So I'll just repeat those for good measure, but I'm disclosing the same items, 1b, 8, 9, 14, 16a, 17d, and 21f, and those are all because the U.C. system at U.C. Davis has a role in those contracts, and my wife is a Professor at the Law School, King Hall at U.C. Davis. So that's the disclosure. I also need to recuse myself from one item, and that's Item 19a. So I'll step out for that one.

CHAIRMAN WEISENMILLER: Yeah, we'll split 19's discussion into a, and a, b and c will be different.

Okay, so let's start with the Consent

Calendar.

VICE CHAIR DOUGLAS: Move Consent.

COMMISSIONER SCOTT: Second.

CHAIRMAN WEISENMILER: All those in favor?

(Ayes.)

CHAIRMAN WEISENMILLER: We're going to hold Items open until Commissioner Hochschild shows up shortly. So anyway, at this point the Consent is 4-0, but with holding it for Commissioner Hochschild.

So let's go on to Item 3. John Hilliard, please.

MR. HILLIARD: Okay. Good morning, Commissioners. My name is John Hilliard, I'm the Staff Division Project Manager for the Puente Power Project. To my right is Kerry Willis, she's the Staff Counsel for the project.

And this item entails two actions regarding the project, one is the potential approval of an Order that would accept the Executive Director's recommendation of data adequacy for the Application For Certification, or AFC, for the project. And then the second is the possible appointing of a Siting Committee for

the project.

The AFC itself seeks certification for a proposed 262 megawatt gas-fired simple cycle power facility that will be located on three acres of a larger 36-acre site that houses the Mandalay Generating Station. And this is located on Mandalay Beach in the City of Oxnard in Ventura County.

The Puente Power Project, which is also called P3 in the Applicant's AFC, would generate electricity that in part replaces 430 megawatts of power that's generated by Mandalay Units 1 and 2, which must be phased out from using ocean water for plant cooling in accordance with the State Water Resources Control Board's Resolution.

Now, the AFC was submitted April 15th of this year. Staff's initial review of the document found that the information provided by the Applicant, which is the initials NRG Energy, was not data adequate. In particular, there were gaps in the air quality analysis and, in particular, there was a Letter of Incompleteness that was issued by the local Air Pollution Control District, finding the Applicant's request for what's called a Determination of Compliance,

or DOC, incomplete.

In addition, there were deficiencies in the Public Health Assessment sections, as well as the Transmission System Design section. So on May 13th the Executive Director issued the first memorandum to the Commissioners, recommending that they find the AFC data inadequate.

Since that time, Energy has addressed the items that were identified in that May 13th memo. On May 28th, the Ventura County Air Pollution Control District issued a Letter of Completeness for the request for DOC, and then on June 1st, NRG submitted a composite package of information that adequately addressed all of the deficiencies that were noted in the first May 13th Memorandum. So in light of the June 1st submittal, the Executive Director has issued a second Memorandum that's dated June 2nd, and that recommendation is that the Commission find the AFC data adequate.

So should the Commission accept the Executive Director's recommendation as finding the application complete, and that's reflected in the attached Order in front of you, staff is also requesting that the Commission appoint a committee that would oversee the P3 proceeding.

So at this point, I will conclude. I'm here, staff counsel is here, obviously at the table there are representatives from the project team from NRG, and their consultant. I'll answer any questions.

CHAIRMAN WEISENMILLER: No, let's go on to the Applicant, please.

MS. GLEITER: Commissioners, thank you. Good morning. My name is Dawn Gleiter and I'm the Director of Sustainable Development for NRG, and I oversee new projects, as well as other things for NRG's Western Region.

I specialize in projects that are really needed today to make sure that we can realize that less impactful energy future, and we believe that Puente is a project of this nature.

So I'm pleased to be appearing before you today in hopes that you will approve the Puente Power Project's data adequacy finding before the Commission.

I'd like to thank John Hilliard and the other CEC staff for their diligence in completing the data adequacy, we really appreciated the open communication and your recommendations. NRG Center Oxnard, who is the legal entity applying

for the Puente Power Project license is dedicated to the process and will continue to do everything we can to assist staff and the Commission in the review of this project.

We look forward to working with you to complete the certification process as expeditiously as possible. And we thank you for your consideration.

MR. CARROLL: And just to introduce the remainder of the Project Team here, I'm Mike Carroll with Latham and Watkins, we're outside counsel to the project; to Ms. Gleiter's right is Anne Connell, Project Manager with AECOM Applicants Environmental Consulting firm; and on the telephone is George Piantka, Director of Environmental Regulatory Services for NRG. And we're all available for any questions that you may have. Thank you.

CHAIRMAN WEISENMILLER: Great. I have no blue cards for this. Is there anyone in the room or on the phone who wants to comment? Okay, then let's transition over to the Commission discussions.

VICE CHAIR DOUGLAS: Well, so, you know, obviously I'm pleased to hear that the staff is

recommending that we approve data adequacy, that would start the review process at the committee level. And I don't have any questions. So we need a motion to approve the finding of data adequacy first, I think, so I move that we approve the finding of data adequacy.

COMMISSIONER SCOTT: Second.

CHAIRMAN WEISENMILLER: Okay. All those in favor?

(Ayes.) So again, 4-0.

CHAIRMAN WEISENMILLER: I would open it potentially for Commissioner Hochschild.

MS. VACCARO: And then there's a second part of this, which was the request for designation of a committee, as well.

CHAIRMAN WEISENMILLER: That's correct. And on the Committee Commissioner Scott will be the Presiding Member and Commissioner Douglas will be the second member.

VICE CHAIR DOUGLAS: Move approval.

COMMISSIONER SCOTT: Second.

CHAIRMAN WEISENMILLER: All those in favor?

(Ayes.) Congratulations.

CHAIRMAN WEISENMILLER: Let's go on to

Item 4 --

COMMISSIONER MCALLISTER: Are you congratulating me or them? I'm not sure.

CHAIRMAN WEISENMILLER: Maybe both, officially. Let's go on to Item 4, which is the Argus Cogeneration Expansion, ACE. Dale, please.

MR. RUNDQUIST: Good morning, Commissioners. My name is Dale Rundquist and I am the Compliance Project Manager for the Argus Cogeneration Expansion Project, or ACE. With me this morning is Jeff Ogata, Senior Staff Counsel, and Energy Commission Technical Staff. Present in the room are representatives from ACE Cogeneration Company, LP, the owner of the ACE project. Representatives from the Searles Valley Mineral Facility are also present.

On November 25, 2014, ACE Cogeneration Company, LP filed a Petition with the California Energy Commission requesting to decommission the ACE Project. ACE ceased operations in October 2014 and has been placed in an outage condition. ACE was a coal-fired 100 megawatt cogeneration project that was certified by the Energy Commission on January 6, 1988. The ACE Project provided electricity to Southern California

Edison for sale, and steam to the Searles Valley facility for use in its industrial processes.

The plant consisted of a single coal-fired circulating fluidized bed boiler and a single stream turbine generator. It was also equipped for supplementary natural gas firing for startup.

The project is located in the northwest side of Searles Lake in the City of Trona, San Bernardino County, California.

Decommissioning of ACE involves selling easily removed tools and equipment of no interest to the new buyer of the site, Sabco, Incorporated, dismantling or demolishing the plant and other facilities not retained by Sabco, recycling components and materials to the extent possible, hauling off and disposing of the remaining waste, remediating portions of the site, if necessary, and cleaning up the site.

Following the decommissioning, any equipment and facilities shared with the Searles Valley Minerals Facility, and not to be used by Sabco, such as a coal unloading facility and storage barn, will be turned over to the Searles Valley Minerals Facility according to separate

agreements.

Energy Commission staff reviewed the Petition to determine whether the project decommissioning would comply with all applicable laws, ordinances, regulations, and standards, and would not result in any unmitigated environmental impacts. Staff determined that the five technical areas of Air Quality, Cultural Resources, Hazardous Materials Management, Worker Safety and Fire Protection, and Waste Management, required new or revised Conditions of Certification.

The proposed new and revised Conditions of Certification provided in these five areas will ensure compliance with the Energy Commission decision.

It is staff's opinion that, with the implementation of these new and revised conditions, in addition to the existing conditions, the ACE Project decommissioning would comply with all applicable laws, ordinances, regulations, and standards, and would not result in any significant adverse, direct, indirect, or cumulative impacts to the environment.

The demolition of the ACE Project is

scheduled to begin 30 days after approval is received from the Energy Commission, and will last approximately six months.

The Notice of Receipt was mailed to the Post-Certification Mailing List, docketed, and posted on the Energy Commission website on December 12, 2014.

The staff analysis was mailed, docketed, and posted to the Energy Commission website on April 8, 2015.

Before the 30-day comment period ended on May 8, 2015, the Searles Valley Minerals Facility sent a list of 26 comments to the Energy Commission pertaining to the ACE Decommissioning Petition. ACE Co-Generation Company, LP provided written responses to the comments on May 8, 2015. Energy Commission staff considered the Searles Valley Minerals comments and ACE Co-Generation Company, LP responses, and provided the written response to the Searles Valley Minerals comments on May 29, 2015.

Staff's response to the Searles Valley Minerals demonstrates that the staff analysis has addressed the potential for significant environmental impacts and has recommended the

appropriate conditions to ensure that the demolition activities will be conducted in compliance with applicable laws, ordinances, regulations, and standards. Staff acknowledges that there are legal issues between Searles Valley Minerals and ACE Co-Generation Company that are not addressed in the staff analysis, nor should they be.

Staff is recommending that the Energy Commission approve the Petition to decommission the ACE Project based upon staff's findings and subject to the new and revised Conditions of Certification. Staff and ACE Co-Generation Company, LP are available for any questions you might have. Thank you.

CHAIRMAN WEISENMILLER: Thank you. Applicant?

MR. CASANOVA: Good morning, Chairman Weisenmiller and Commissioners. My name is Glen Casanova, I'm General Manager of ACE Co-Generation Company. With me today, I have Chris Ellison and Bob Therklesen.

So ACE was permitted by the Energy Commission over 27 years ago. At that time, the Kerr-McGee Chemical Corporation owned what is now

called Argus Cogeneration Expansion, or ACE as we now call it, and what is now Searles Valley Minerals. ACE was initially permitted to demonstrate circulating fluidized bed technology. It also showed that solid fuel-fired power plants could meet California's stringent air quality emissions standards.

During and after the demonstration period, ACE reliably produced an estimated 20 million megawatt hours over its lifetime for Southern California Edison customers, along with steam for the adjacent Searles Valley Minerals.

Although ACE's power contract did not originally expire until December of this year, ACE and Southern California Edison agreed to terminate the Power Purchase Agreement effective November of 2014. This was in response to greenhouse gas regulations. The early termination provided significant ratepayer savings to Southern California Edison customers and it also provided a material reduction in statewide greenhouse gas emissions.

As a result of this termination, ACE accelerated discussions with Commission staff to develop a Decommissioning Plan for the project,

and this is the plan we have before you for your approval today.

We worked closely with Commission staff and other state and local agencies to ensure that ACE is decommissioned in the manner that is safe, results in no material environmental impacts, and conforms to all laws, ordinances, regulations and standards.

We'd like to thank Roger Johnson, Dale Rundquist, and the rest of the CEC staff for their guidance efforts and thorough analysis. We have reviewed the staff's report and are in full agreement with all of the staff's conclusions, recommendations, and actions. And these are incorporated in the plan you have before you today. We are also in full agreement with staff's written response to SVM's comments, and we'd be happy to answer any questions you might have about our project or about the plan. Thank you.

CHAIRMAN WEISENMILLER: Thank you. I think we have one public comment and I believe Ross May is in the room? Please step forward.

MR. MAY: Thank you for this opportunity to address the Commission concerning ACE's

Decommissioning Plan. I am Ross May, Searles Valley Minerals Director of Environmental and Safety. SVM acts as the host for ACE's Co-Generation Plant and is the owner of that site. SVM continues to support its prior written comments submitted to Commission staff.

I would like to focus on the scope of the proposed demolition, if only some of the buildings, and the retention of other buildings and infrastructure for use by a new party.

SVM is very concerned that the plan does not require removal of all infrastructure. Section 1.1 of the plan states that ACE reached an agreement on November 24, 2014, to transfer its lease and sell some of its equipment and structures to Sabco, Incorporated. Sections 1.2 and 4.1 of the plan list the buildings and equipment that are to be retained for use by Sabco, including tanks, cooling tower, petroleum coke equipment, handling equipment, and concrete foundations of demolished buildings.

ACE agrees that SVM's prior written consent is required for any lease assignment. The site, absent SVM's prior written consent, must only be used for operating a steam and

electricity generating plant. No consents have been given by SVM.

ACE has not provided any information about Sabco and ACE admits that it does not know Sabco's intended use of the site.

The plan, if approved, would allow ACE to preserve some buildings and the foundations of demolished buildings for an unknown purpose at some undefined future use, future time, all on SVM's property. Why will Sabco need the foundations of demolished buildings or, for example, a petroleum coke handling facility? If the site is only partly demolished and the foundations and piping are left in the ground, it will decrease the possibility that the site will be useful for future industrial uses without additional significant expense by SVM or a new tenant.

Public policy in California should encourage the total cleanup of old industrial sites so they may be used for new purposes creating new jobs.

SVM requests that the Commission order ACE to completely demolish the entire plant or, in the alternative, to fully remove the

foundations of buildings, structures, and piping that ACE is demolishing or abandoning. Thank you. And thank you to Dale for working with me on this.

CHAIRMAN WEISENMILLER: Okay. Now, do we have anyone else in the room or online who wants to discuss this? Let's turn to first the staff and then Applicant to respond to Mr. May's comments.

MR. OGATA: Good morning, Chair Weisenmiller. This is Jeff Ogata, Assistant Chief Counsel. I think with your permission we would ask that ACE address those comments first, and then we'll weigh in. I would like them to actually address the factual issues that are raised by the comments.

CHAIRMAN WEISENMILLER: Sure. Go ahead.

MR. ELLISON: Thank you, Chairman Weisenmiller, Commissioners. Chris Ellison, Ellison, Schneider and Harris on behalf of the Applicant.

I would just make two points and then we're available to answer any specific questions that you might have.

The first point is this. The staff has

thoroughly reviewed the proposal, including those provisions that SVM has spoken to that relate to leaving certain equipment on the site for the use of Sabco. And staff has determined that that proposal complies with all ordinances, laws, standards, and has no environmental impacts as mitigated by the staff's proposed conditions. That is the Energy Commission's role in this process.

Separate from that are the private agreements, the lease, the steam sales agreement that my client has with SVM. Those are not enforceable here, those are enforceable in the courts, and I think the Commission fully understands that. So to the extent that the concern raised relates to the staff's analysis and failure to comply with an ordinance, or a standard, or an environmental impact, we think the staff has looked at that, we concur with the staff that those comments have no merit. To the extent that the comments, for example, the consent comment that relate to enforcement of the lease, I'm not going to get into the legal arguments on both sides of that, I'll simply say that that's an issue to be resolved hopefully

between the parties by negotiation, but if that fails, other Government agencies and specifically the courts.

CHAIRMAN WEISENMILLER: Now are you familiar with the Colmac precedent at the PUC? Could you discuss that?

MR. ELLISON: Actually, I'm not, Commissioner.

CHAIRMAN WEISENMILLER: Okay, well, so Colmac was a dispute between parties involving contract issues and the PUC ultimately concluded that a better venue for contract dispute resolution was courts of law.

MR. ELLISON: That's correct.

CHAIRMAN WEISENMILLER: Okay, staff?

MR. OGATA: Thank you, this is Jeff Ogata. We agree with Mr. Ellison's comments, that's exactly how staff has viewed this matter, that the issue of whether or not that structure should remain or not remain is a matter to be worked out between the parties. As a policy matter, it may be a good idea that the Commission would require that sites that we have jurisdiction over be returned to its natural state, but as a legal matter there is nothing in

our statute that requires that. And therefore we typically analyze all these types of proposals according to what the Applicant has proposed to us. In this case, they have proposed to us that certain things remain and they've stated that it's a function of their lease agreement going forward and, so, as Mr. Ellison has pointed out, our staff has analyzed the proposal, come to the conclusion that there are no environmental impacts with leaving these things in the ground, along with mitigation measures that we're requiring. And as long as this project remains under our jurisdiction, then that's what staff's recommendation will be.

If going forward in the future there is some other change to what the Applicant would like to do and, in fact, comes back and says "we are going to take these things out of the ground," they would have to come back and amend their decommissioning plan and staff would analyze that, again, assuming that this project is still within our jurisdiction. Obviously we have jurisdiction over power plants; this is no longer a power plant, this is the end of the power plant life. So any number of things could

happen at this point. After ACE concludes the decommissioning pursuant to the plan that we've approved, if something happens and the Commission decides, or they make a motion to terminate the Commission's jurisdiction over this power plant, then we would no longer have any authority going forward from that point in time. Then again it would revert back to a contractual matter between the parties.

CHAIRMAN WEISENMILLER: Okay, Mr. May, do you want to respond?

MR. MAY: Just to reiterate our key point one more time. Again, I understand the issues on the legalities, whether or not there's actually a legal requirement for ACE to remove the foundations, but our concern is that here will be an industrial site that is not fully demolished, and if it is not fully demolished, it actually very clearly limits the use of that ground going forward in the future, whether it's building a new power plant, a new industrial operation, an extension of our facility. So we urge the Commission to look at that big picture, too, going forward to make sure that that ground is clear so it can be used for future purposes.

Again, as I mentioned, as far as we know, we don't know what Sabco is going to do at that property, ACE has said they don't know what they're going to do with that property, and it's fairly clear that Sabco does not intend to put in another cogeneration plant. And so, again, based on the legal requirements between the two facilities, we cannot give consent for Sabco to take over that location.

So again, primarily we would like to go to bare ground so that that facility, that location can be used for future purposes.

CHAIRMAN WEISENMILLER: Okay, thank you. Let's transition to the Commissioners' conversation on this.

VICE CHAIR DOUGLAS: Well, you know, I've reviewed this in some detail because the question, including the policy question of what level of removal of structures should be required by the Commission for cases is a pretty interesting one, and not always a straightforward one. I think the straightforward way to look at this issue is to say, first of all, we don't enforce leases or contracts, it is not our jurisdiction or expertise to know whether or not

consent is required for subleasing, and what conditions if any a lease imposes on it, and that is just not what we do, not our venue, not our expertise.

So we really -- I agree with the approach staff took to not get into that issue and to analyze the proposal that was brought to them.

The policy question of what level of returning a site to its natural condition should be required, as I said before, is an interesting one and there are different contexts. We have required restoration bonds in certain instances, for example, and those are typically based on specific concerns or specific circumstances that causes that kind of requirement to come up. More recently with the move to renewable energy projects and undisturbed land, for example, that's something that, where we do tend to impose that kind of requirement because it's a very different context than a case where somebody comes in to build a power plant in an area that's already a brownfield, and they're already having to demolish something there and do some level of cleanup, and then build what they want to build.

So there's an interesting policy

discussion here. In the instance before us, however, the simpler way to look at it is that whatever the merits of those types of requirements, they do not appear in the license that's granted to this facility and what this facility is required to do is provide a decommissioning plan, which they have done, and staff is proposing that we approve the plan.

I think that from what I've seen, that's what we should do is to approve the plan and hope that the parties are able to work out their differences through discussion; but if they can't, we are not the place they should go. So that's what I would say about this. I don't know if there are any other comments or questions? Okay, so I will move approval of this item.

COMMISSIONER MCALLISTER: I'll second.

CHAIRMAN WEISENMILLER: Okay. All those in favor?

(Ayes.) So this passes 4-0.

CHAIRMAN WEISENMILLER: Let's go on to Item 5, which is the 2016 Building Energy Efficiency Standards. Mazi. And again, I believe we have a presentation that covers everything, we will then take comments on

Residential, followed by comments on Nonresidential.

MR. SHIRAKH: Good morning, Commissioners. I'm Mazi Shirakh, the Project Manager for the 2016 Building Energy Efficiency Standards. I have at the table with me Peter Strait and Payam Bozorgchami, and we're going to present this information as a team today. I also wanted to recognize the significant contribution of Bill Pennington to many of these measures, and Eurlyne Geisler for overall guidance throughout this whole process, keeping us on track.

Going to the first slide, a little bit of background about the authority that's given to us to update, adopt and update Building Standards, it's part of the Public Resources Code, the Warren Alquist Act which was signed into law in 1974 by then Governor Reagan, and then was later on launched a few months later by Governor Brown when he was a lot younger. Next slide, please.

CHAIRMAN WEISENMILLER: He was our youngest Governor, too.

MR. SHIARAKH: Yes.

COMMISSIONER MCALLISTER: All of us were younger then, right?

MR. SHIRAKH: And the various policy drivers for Building Standards includes the Governor's Clean Energy Jobs Plan, and also the Governor Brown's ZNE Goals of 2020 for Residential Buildings and 2030 for Nonresidential Buildings. We basically have three cycles to get to ZNE by 2020, we're done with 2013, we're in the later stages of 2016, and we have one more cycle to go.

There's also various policy drivers from the California Air Resources Board and California's Long Term Energy Efficiency Strategic Plan. Next slide, please.

This slide describes or illustrates the impact of energy standards on Residential Buildings. And starting at the left of the graph, back in mid-'70s before we had standards, the units are KBTU per square foot, per year, which is a source energy, which is something we don't use anymore, but it's still relevant for illustration here.

We started out with buildings using about 110 KBTU per square foot of energy. And since then we've been on a downward track. Today, with the 2013 standards which are currently in effect,

we are at about 20; with the adoption of the 2016 Standards, we'll probably be down to around 16 or so KBTU per square foot.

And this has been largely achieved through improvements to the building envelope of the building and mechanical equipment, lighting, and other systems. Next slide, please.

When we adopt standards, we consider every single measure, whether it is cost-effective or not. And we perform a very robust lifecycle cost analysis that's essentially a net present value analysis where we consider the life of the measure and the building, and the energy savings and maintenance savings or costs, and we bring them all to the present value. And if the benefits are greater than cost, we consider that measure to be cost-effective.

For the unit of energy, we used TDV, or Time Dependent Valuation which essentially is a metric that values each unit of energy differently for different hours of the year. In general, it favors measures that save energy on peak during hot summer days. Next slide, please.

We develop our standards considering California climate zones, big state, lots of

climate zones, 16 of them. We can roughly put them in five different categories, the Coastal, Inland, Central Valley where we are, we are in Climate Zone 12, and Desert which is Climate Zones 14 and 15, and Mountain, which is 16. We try to develop the prescriptive measures for each climate zone and then we try to combine and have uniform requirements across climate zones to the extent possible for ease of enforcement and compliance. Next slide, please.

The 2016 Standards energy impact, the 2016 is a significant improvement over 2013, which in itself was a very significant improvement; 28 percent savings for residential single-family homes by basically improving heating and cooling and envelope, and lighting system of the home. Overall savings standards for all buildings including Res and Nonres and newly constructed buildings and alterations, we can after 30 years of savings we can displace about 12 large 500 megawatt combined cycle power plants. Next slide, please.

This slide demonstrates the energy impact in numbers. The gigawatt hour savings for the first year is 537; demand reduction 195 million

watts; gas savings in million terms is 30; again, 28 percent savings for Residential; and five percent savings for Nonres.

I should probably note that for this cycle of standards, we focused mostly on Residential units because the 2020 goal is more imminent, for Nonres the goal is 2030, so we focused mostly on Res. For Nonres, we essentially tried to keep up with national standards so we don't fall behind.

The graph below is another way of presenting the benefits of the 2016 Standards, the impact is by considering the design rating of the home. This is based on the 2006 IECC baseline. The results here are different than HERS 2 with the whole house rating that we're accustomed to. We're trying to align with RESNET here, so that's why we're switching to IECC in this slide. And essentially what it means, that the 2013 Standard had a design rating of 72; with the improvements in the 2016, we're reducing that to around 60. And the result is about a 17 percent reduction. Another way of looking at it is that the solar array that you need to get to ZNE will be 17 percent smaller because of these

improvements. Next slide, please.

Some other highlights. Again, three updates to get to ZNE, we're in the second update with 2019 upcoming. We're focused on getting home loads down to a level where the rest of the load can be met with the renewables, the PVs in this case. For Nonres, newly constructed buildings keep current with national standards so we don't fall behind, and we also make significant cleanup changes to many of the sections of the standards, we have a slide on that, we received hundreds of comments from stakeholders about basically the 2013 language and the comments and the intent, and we used that opportunity to go back over the past several months and a lot of red ink there, we didn't change the intent of the standard, but we tried to make it more understandable. Next slide, please.

Benefits to California, improved productivity, lower energy use per GDP, reduced need for power plants, improved energy system reliability, and also creating green jobs in the state. And I can attest to that, that middle slide is my own PV and a whole bunch of people

worked on that, so that's created jobs. Next slide, please.

Another way of describing the energy benefits of the standards is, after 30 years of construction and energy savings there will be enough savings to displace about three million EVs if they're driven on the average about 40 miles each day. They can displace those savings about 2.2 million homes built to the 2013 Standards, or 12 power plants, as we earlier described. Next slide, please.

Statewide cost for the prototype, and these are the costs that we jointly worked out with CBIA, so I don't think there's any dispute on this. It's about $2,700. The benefits over the life of the building is about $7,400, so it's a very significant benefit to cost ratio, about 2.5:1.0. Net savings of about $4,700. Now, turning that into monthly payments, it would be an increase of about $11.00 in the mortgage payment and a reduction in utility cost of about $31.00, with a net benefit to the homeowner of about $20.00 a month. Other benefits to the consumer, reduced energy bills which is obvious, comfort, indoor air quality, you know, the home

is going to be less drafty, the temperature swings are going to be much more modest because of the good envelope and windows and so forth, reduced construction defects, and probably an increase in property values. Next slide, please.

So this is the schedule for the 2016 Update. It started back in April of 2004 with a new event that we never contemplated before, or did, and this was a joint forum with CBIA over at SMUD Building, where we communicated our visions and goals to the industry, which including CBIA suppliers, manufacturers, and so forth. I'll talk about that a little bit later.

And then after that event, the pre-rulemaking got started by the IOUs, the Investor Owned Utilities holding Case Holder Meetings throughout the State, presenting the measures that are required for ZNE to the stakeholders, and they presented those measures, they sought comments, incorporated them, and then they turned them over to the staff and then we presented those measures here in this hearing room from April to August of 2014. We sought comment from the public and the result was the draft standards that was presented in November of 2014, and the

pre-rulemaking was capped with a second CBIA forum at the SMUD Building.

The rulemaking phase started in January of 2015 when we released the 45-day language. The hearing for 45-day language was in March of 2015. The 15-day language was released in May and the proposed adoption is today, and the effective date will be January 1, 2017. Next please.

Again, pre-rulemaking with the IOUs holding their meetings to present the measures, and followed by staff workshop. We invited a very diverse, both the stakeholder meetings and staff workshops, we tried to involve a very diverse group of stakeholders, as much as possible, and get as many comments as we could and address those. Next, please.

And their rulemaking is basically, I think we talked about this and today is the adoption. Next, please.

So to get to ZNE, we needed a new approach and because ZNE requires measures that would require a significant change to the building construction practice. You know, gone are the days when we would basically improve the

U-Factor of a window or improve the SEER of an air-conditioning. Basically from here on out we have to do the things that would impact how the building is constructed, designed, and built. So examples are high performance attics and high performance walls.

And so this necessitated a close collaboration between staff, CBIA, and the Manufacturers to basically work together to come up with solutions that would get us closer to the ZNE goals. Next slide, please.

So the result of this was, rather than defining specific measures, we defined the performance levels for high performance walls and attics that was needed to get us to the ZNE goals. And one metric that you can use for performance-level is a U-Factor. Then, once we developed these performance levels we communicated that to the industry at the forums and in the staff workshop, and then we invited builders and manufacturers and suppliers to partner with us to come up with solutions. Again, CBIA hosted these forums in April and November to communicate the ZNE vision and to engage industry in creating new solutions and

allowing the free market to settle on promising solutions, rather than the Energy Commission determining what they should be.

We also worked very closely with the CPUC and the IOUs to come up with a package of financial incentives to help transition high performance attics and walls into the market before the effective date, and also come up with training programs for the trade folks. And I'll talk about that a little bit later on.

So now we're getting to specific measures and Payam is going to present this.

MR. BOZORGCHAMI: Hello, my name is Payam Bozorgchami and I'm with the Building Standards Office, and I'm going to present the new prescriptive requirement known as the High Performance Attics.

The High Performance Attic, Prescriptive, is based on a ventilated attic with R-38 insulation at the ceiling and R-13 insulation below the roof deck. Types of insulation that can be applied below the roof deck to meet that R13 is bad insulation, blown-in cellulose, or spray foam.

Another prescriptive option, or an

alternative that we have in the High Performance Attics is having an R-6 continuous insulation above the roof rafters. That insulation includes a radiant barrier below the roof deck, so you could have that insulation above the deck or below the deck, as long as it's continuous.

Types of insulation that could do that would be rigid board, your structural inside panels, vented nail board systems, and your insulated encapsulated tile-type systems. The third option that you can do for High Performance Attic is to have all your ducts and your mechanical system removed out of the attic and placed in a conditioned space. And with that, you would only need to meet the prescriptive requirements of ceiling insulation.

The industry is already looking into other innovative options to meet the High Performance Attic criteria that we propose today. Next slide, please.

Here are some examples of meeting the High Performance Attics that is currently being used in the building market. Next slide, please.

And one of our other high performance systems that we're proposing for the Prescriptive

Requirement is a High Performance Wall, which has an R-19 cavity insulation and a 2 X 6 16-inch on center with an R-5 continuous insulation, and that would give you a U-Factor of a .051.

As you can see on this slide, there are multiple ways of meeting that criteria of a .051.

MR. SHIRAKH: Next slide, please. So as part of the 2016 Standards, we're also proposing a series of compliance options. One of them is a limited flexible PV compliance option. Proportional 2 HPA and HPW basically means that the amount of that compliance option is capped at what is required to trade away high performance attics and walls. So it is a limited credit, but it is flexible, which means you can actually use it to trade away other things, other than High Performance Attics and Walls, but in reality because it's a limited credit, you know, you will not be able if you do not do High Performance Attics and Walls and use that credit, you will still end up with a building that's better than 2013 Standards.

Other compliance options include, among other things, are High Performance Windows and High ER Air-Conditioning. This slide here is for

information purposes only because the compliance options are not part of these proceedings, they are part of the ACM Reference Manual process which will be probably approved by the Commission later this year, and we're going to be having workshops this summer, so, again, this is for just informational reasons only. Next slide. Peter Strait is going to present the next two topics.

MR. STRAIT: Thank you. Two of the measures that we looked at on the Residential side for reducing energy were water heating and lighting. For water heating, we made a pretty significant improvement in that we have moved the baseline from storage water heaters to instantaneous water heaters, which is to say the baseline for a long time has been at about a .6 energy factor where some of those rest, and by using this approach we're able to move that bar to a .8 or .82. We've done this by streamlining and consolidating the prescriptive options that we allow for water heating. We now have a prescriptive option for an instantaneous gas water heater, or for a storage gas water heater installed with short distribution runs and QII,

or a storage water heater above 55 gallons that has either the short distribution runs or insulated piping. We make that distinction because federal law does have a higher efficiency requirement for water heaters of that size.

I'd also like to say that this came about due to the hard work of our staff subject matter expert, our Staff Engineer, Danny Tam, along with the invaluable advice and guidance and analysis of Bill Pennington. Next slide, please.

For lighting, this is another place we've made. In this case, we've made the next logical step in that before we had certain areas of the home that required a certain percentage of high efficacy lighting and what we've done here is moved to having high efficacy lighting being the case throughout the home. The benefits here are very significant. There's a lot of energy savings to be had, but it also provides uniformity for the builder, it provides clear regulations and guidance for enforcing agencies. And in doing so, we've had to make a couple of other shifts in the way that we look at lighting in the home.

One thing that we've done is, because

we're now looking at every fixture that might be installed, previously the only lighting that would count as high efficacy would be permanently installed lighting, not anything that's removable, not anything that's in, for example, a screw-based socket where you can take the light out. Now we've shifted to say we will actually look at, if you've got a removable socket, we'll look at what you've put in there. So if you've got a screw-in LED or a screw-in fluorescent that's meeting everything that we need, we'll consider that to be a path for complying with Title 24.

The other thing that's taken place, though, because we're now looking at every fixture in the home, we want to make sure that we're pursuing efficiency, not conservation. Incandescent lighting has a lot of very good advantages, it provides a full spectrum, it dims, it doesn't flicker, it doesn't produce noise, and it comes on right away. All of these, we want to make sure that the lighting installed in the home meets those same targets and we know it's feasible and cost-effective for the lighting to get there. That way, we're not requiring people

to give up any of the benefits that they enjoy. Efficiency is about enjoying the same benefits of energy use at a lower energy cost.

So in Referenced Joint Appendix 8, we've now brought in the scope of that so any lighting technology can flow through that process and provided it hits those targets and shows that it's efficient and suitable for use in a residential home, it can be used to comply with these lighting requirements. This case about in large part due to the very hard work and dedication shown by our Staff Engineer, Simon Lee, so credit where credit is due there, as well.

MR. SHIRAKH: Next slide, please. Again, as I mentioned earlier, to get to ZNE, we have to create market conditions that would allow a transformation of high performance attics and walls. And so part of that was a collaboration among the Energy Commission, CPUC, the Utilities, and the CBIA, to come up with a package of incentives and educational programs for builder support, design assistance, in-field training of the trades, and also targeted incentives for specific measures such as High Performance

Attics. And all of these are designed to basically create a more regulated market before the effective date for these measures. Next slide, please.

We also are receiving support from the Commission's own EPIC Program and this is on job training for construction of high performance attics and walls for new homes constructed in a manner consistent with the proposal for the 2016 Standards and to complement design assistance and training programs provided by the IOUs.

What the EPIC Program does, it basically takes measures that are demonstrated in the arrows below and applied research and development to technology demonstration and market facilitation, and we think the same approach would help us with market transformation of High Performance Attics and Walls. Next slide, please.

For switching to Non-Res, again as we mentioned, our focus basically was to keep up with national standards so we don't fall behind while we're working on Residential ZNE, equipment efficiencies, envelope U-Factors, indoor lighting and outdoor lighting. Items 5 and 6 are actually

new to Title 24, they were part of ASHRAE, but they were not part of Title 24, that's Elevator and Escalator efficiency measures, and windows and doors, HVAC, lock-out sensors. Next slide.

We also have spent significant time on simplification of lighting alterations in existing buildings. We heard comments that the 2013 standards language was difficult to understand and confusing. We think we've made improvement to that and we also provided for small projects relief from the more complex control requirements in exchange for more power reductions. And I think we'll be talking about this a little bit later on today.

The result, we think, is a set of Standards that is balanced, it saves actually more energy than the 2013 Standards, and we're prepared to demonstrate that today. And it does simplify the requirements and it does provide relief for small businesses and small projects from certain control requirements.

The other kind of a visionary, or probably the only visionary measure we have for 2016 Nonres Building is the proposed modeling rules for thermally driven chillers, and this is

basically there to pave the way to 2030 ZNE Goal, by taking advance of the heat of the sun, or waste heat in the building and other sources of heat to cool the building. And so if you look at the problems with ZNE for Nonres buildings, you know, the building envelope and lighting are pretty good, the problem we have is mechanical, so this is a step in the right direction. Again, this is not, this is just for information here, it's not part of the rulemaking, it is part of the ACM Reference Manual. But it's important to highlight it and we probably have to do the same thing we did for High Performance Attics and Walls to make this a reality. Next slide will be presented by Peter.

MR. STRAIT: Thank you. We've also as a team made a very thorough pass through all of our regulations to look for opportunities to simplify and clarify the language.

I'm going to run through these very quickly. We've looked at the signature authority, we aligned it better with the California Building Professions Code. The Acceptance Technician Certification Provider, we simplified some of that language, made it more

readable, and also provided a needed ability to amend a submitted application.

For Energy Management Control Systems, we provided some clarification about when they might operate as thermostats or lighting controls, or perform those functions. For Nonresidential insulation, we tried to consolidate what had been spread over several sections into one section for consistency. For commissioning, we streamlined that language, made it more readable and more clearly defined when it was applicable.

Nonresidential lighting controls and 130.1, we made a pass-through there to make them more readable. Nonresidential electrical power distribution systems, similarly.

Computer rooms and data centers, we addressed an odd question about the interaction of those two definitions, so managed to straighten those out. Residential HVAC requirements, we looked very closely at, for example, the refrigerant charge verification protocol and streamlined that language, made it more understandable, and more clear in its application.

We updated the references to ASTM Tests

that we rely on to reference current versions. We updated the U-Factor Tables that we rely upon. We've looked at some of the language for Occupancy Control Smart Thermostats and made some necessary adjustments to allow for networked systems to fulfill that role and be recognized as fulfilling that role.

And for the Alternate Calculation Method Approval Manual, we took what was formerly two manuals, combined them into one because a lot of the language was overlapping, and provided a clear separation between what obligations are the Energy Commission's, what obligations are placed on folks that have software products they want to bring in for approval, and what the sets of requirements were.

In addition, we've made numerous small edits all throughout the document to enhance clarity, improve consistency, improve readability, and hopefully thereby improve compliance and enforcement. Next slide, please.

MR. SHIRAKH: So as far as the tools for 2016 Standards, they will be ready on time, you know, the tools are already under development. For 2013 Standards, we had two kind of

groundbreaking major issues, tools that we had to completely develop, and one was revisions to the Residential and Nonresidential Computer Simulation Tools, and the second one was the expansion of the data registries for Residential Compliance documents, aka Forms.

So the heavy lifting was done as part of the 2013 Standards. For 2016, the updates are relatively minor, you know, the tools are developed, we're just basically updating them for any new information or measure that we're considering for 2016. And again, staff is already updating the software tool, there's versions of 2016 Standards version already available. And we're working on the Compliance Manual language already, even before data option. And these tools will be available by January 2016, a year ahead of time to give the industry, HERS Providers, and builders and everyone to get ready for the effective date. And this hopefully will go very smoothly. Next slide, please.

We did option these measures in 2016 Standards, we're getting very close to the requirements that are needed to achieve ZNE. Next slide.

But we're not done yet. We still have one more cycle to go and much work remains to get to the ZNE and here is probably a partial list considering a few additional measures such as QII, Quality Insulation Installation, and others that are cost-effective and we would probably consider those as part of the Prescriptive packages. There are some Climate Zones like 15 and probably 11 and 13, extreme cooling Climate Zones. We still need to improve the performance of the home, otherwise we'll end up with a very large PV system to get to ZNE, so we have work to do in a couple or three Climate Zones, and perhaps others.

Evaluate options for homes that are not able to reach ZNE. There may be some homes that they just can't have PV system on them because of obstructions, adjacent homes, and so forth. We need to deal with that and also the considerations of community solar and other offsite issues.

Probably number four bullet is the most significant one, it's a whole host of regulatory issues that we need to address to get to ZNE harmonizing renewables such as PV with grid,

addressing potential for Smart Inverters and Batteries, and incorporating upcoming CPUC Decisions into the Grid impacts. So those will be the type of things we'll be considering as part of the IEPR and 2019 Standards. Next please.

Again, I just wanted to pause for another moment and acknowledge the effort of the team, both staff and our consultants and IOUs and their consultants have been very invaluable in supporting the Standards.

MR. STRAIT: I'd actually like to quickly add to that, it's not just an effort by our team, our entire Division, our Office Manager, all of our Units, people were pitching in on this, people were contributing. We had excellent support from the Dockets Unit, for example, in trying to get some of the last minute comments looked at and docketed so that we could review them. It's been a whole building effort, so it's really, you know, it makes me proud to work here.

MR. SHIRAKH: One slide before that, please. We're not going to Yosemite just yet. So with that, staff requests Commission approval of the Negative Declaration of the 2016 Update to

the Building Energy Efficiency Standards and the Proposed 2016 Update to the Building Energy Efficiency Standards in California Code of Regulations Title 24, Part 6, Associated Administrative Regulations in Part 1, the Reference Appendices, and the Alternative Calculation Method Approval Manual. So with that, I'll be happy to take any questions.

MR. BREHLER: Excuse me, Mazi, this is Pippin Brehler with the Chief Counsel's Office. I understand that you also circulated an Errata document, so you want to specifically ask for that.

MR. STRAIT: Yes. We have circulated a revised version of the Resolution Adopting the Negative Declaration and the Proposed Standards. This merely adds to the Appendix that has Errata in it, a handful of items that were discovered between when the Resolution was originally published and today.

CHAIRMAN WEISENMILLER: Okay, so we're ready to start taking public comment. Again, these are Res, we have some commenters that have comments on both, so I will call them first on Res, and then I'll call them again on Nonres. So

let's start with Bob Raymer.

MR. RAYMER: Well, thank you Mr. Chairman and Commissioners. I'm Bob Raymer with the California Building Industry Association, Statewide Trade Association with 3,000 member companies involved in residential and light commercial.

CBIA supports the adoption of the proposed changes to Part 1 and Part 6 today. I've also been asked by the California Business Properties Association to indicate their support on the Nonresidential provisions, which I'll do later on today.

Both CBIA and CBPA would like to recognize the efforts, in particular of Mazi Shirakh, Bill Pennington, Eurlyne Geisler, Dave Ashukian, Patrick Saxton, and especially Commissioner Andrew McAllister. It is largely due to their efforts that this package includes a historically large increase in energy savings while also providing an impressive level in design flexibility, and still maintaining a sensitivity to increased cost, that's kind of a hard nut to crack, but we spend a lot of work on that.

Of particular note, as Mazi has already mentioned, were the two full day forums that CBIA hosted with the CEC out at SMUD Headquarters, these were standing room only, well over 100 participants in each one of them, effectively representing industry, building officials, CEC staff, government, local government, and manufacturers from all over the country.

These provided a very productive setting where the stakeholders were able to think out loud, basically the CEC staff provided their goals and there was a lot of feedback on every one of them on problems we could run into, potential solutions to those problems. Everybody came away from it learning a lot from these, and we'll be hosting these in the future. And given how successful they were, you might ask why didn't we think of this earlier; you're never too old to learn, so I figure after 30 years, maybe get something right. So here we go.

Anyway, CBIA and our consultants also worked extensively with CEC staff as we always did on developing cost of compliance data with each of the four main proposals here. We completed this cooperative effort in late January

with the CEC estimating a total cost of around $2,600 to $2,700 which is right where we're at with about $2,700. And given where we were back in the '80s and '90s, to be that close is remarkable. So while this is a significant amount, there's no question that the CEC staff made every effort to keep the overall cost in mind by still working hard to meet Zero Energy goals.

Returning to the issue of design flexibility, industry looks forward to working with the insulation manufacturers, the Public Utilities Commission, and the Energy Commission in addressing the two biggest changes with this set of Regulations, that being the Advanced Wall Systems and the High Performance Attics. While both of these measures were found to be cost-effective in most Climate Zones, they also represent a significant departure in longstanding construction practice. This is especially evident with the proposed changes in wall design. Why both of these changes are achievable, they will not happen overnight. Considering all the engineers, designers, builders, contractors, site superintendents, plan checkers, and building

inspectors, there are literally thousands of individuals throughout the state that are going to need to get up to speed on these changes in coming years.

To that end, the PUC and the CEC are already working with the production housing industry and manufacturers in an effort to promote high quality compliance well in advance of 2017. The information obtained from these early efforts, as Mazi made mention to, will in turn be used to assist other builders with these measures going forward. Looking beyond today's anticipated adoption, CBIA is looking forward to working with CEC staff and the California Building Officials in efforts to simplify compliance documentation and inspection.

In addition, we look forward to working with CEC staff and other interested parties in updating the ACM Reference Manual over the next six months. Of particular interest, industry, as Mazi already mentioned, is the proposed compliance credit for PV systems. CBIA strongly supports this increasing amount of the existing compliance credit that can be gained from the use of rooftop solar PV for several important

reasons.

First off, as we all know, California has established a very aggressive goal of getting to Zero Net Energy by 2020 for Residential dwellings. This is the last update we're going to have before the series finale come 2020. And the fact of the matter is, while we have several large production builders who have been putting solar on as a standard feature, resulting in thousands of these systems installed, there are still hundreds of residential construction companies with little or no familiarity with solar. That has to change quickly and it needs to change in a quality way. And the CEC has used this approach for decades, basically putting something as a compliance option, moving it over to the prescriptive budget package, and then ultimately a mandatory measure. And so this is just simply enhancing on what we've already got.

And in addition, this is going to help support the PV market at a time when incentive dollars, particularly at the State level, are beginning to sort of end their availability.

And lastly, local REACH Codes, the fact of the matter is we're going to have a great many

jurisdictions that are going to go with either Tier 1 or Tier 2, and perhaps even the new ZNE tier package. And so with that, we're going to need as many compliance options as possible to meet this; obviously, solar is a part of that, so once again we look forward to working with the insulation manufacturers and the CEC staff in the development of the ACM. We strongly support adoption today. Thank you.

CHAIRMAN WEISENMILLER: Thank you. Let's go to Meg Waltner.

VICE CHAIR DOUGLAS: Actually, while she's walking up, I just wanted to pipe up here and express my appreciation to Bob Raymer and his team because, you know, I certainly -- we had a lot of conversations in the 2013 Standards that culminated in a very strong and nice package in 2013, but also a lot of work that needed to be done on some of the very same measures that are really the foundation and the core of the package this year. So I really appreciate the creativity and the problem solving that you and others brought to the table for this package.

MS. WALTNER: Meg Waltner with the Natural Resources Defense Council. Good morning,

Commissioners, and thank you for the opportunity to speak today. I want to start off by thanking the Commissioners and the staff of the CEC for the hard work in the 2016 Standards. You know, I think there's been a lot of work over the last year and a half and it really shows in the 15-day language how much work has gone into this.

I'm here today to voice NRDC's support for the Standards and the 15-day language and respectfully ask the Commission to adopt them today. Today's Standards will add to the long history of energy savings from Title 24, which has saved Californians over $30 billion since the '70s.

As the presentation mentioned, the Proposed Standards will reduce regulated energy use in homes by almost 30 percent, which is an important step towards the 2020 ZNE Goal, also large electricity and therm savings and reducing the associated pollution with those.

While today's standards make a big step forward, there's still a long way to go for 2020 and we encourage the CEC to start thinking about the 2019 Code soon. You know, there are issues that NRDC commented on previously in this

rulemaking that I'm not going to outline here, that haven't been addressed today and we're looking forward to continuing to work with you on those going into 2019.

As has been noted, there's one important issue for 2016 that isn't addressed in the 15-day language, and that's the PV Credit. NRDC has supported the concept of a limited PV credit, but believe the details on this are really important and so we'd like to see this developed in an open and transparent process and specifically would like 45-day language on the PV Credit. That concludes my comments. Thank you again for the hard work on the Standards and for the opportunity to speak, and we urge you to adopt the Standards. Thank you.

CHAIRMAN WEISENMILLER: Thank you. Manuel Alvarez.

MR. ALVAREZ: Good morning, Commissioners. Manual Alvarez, Southern California Edison. I'm actually here to support the Standards and ask for your positive vote. I think Mazi this morning talked about his discussion as collaborative, and I think he underestimated the amount of work that it took

place to get where we are today, so I think you need to recognize that effort, it was a yeoman's job to get there.

As we take this first step on the 2016 Standards and move to 2019, and ultimately to the Net Zero Energy Homes, I think we still have got some heavy lifting to do, and we look forward to working continuously in the collaborative process with everybody here at the Commission, and I think you should be proud of these efforts and the work that you've undertaken. So with that, I ask your support.

COMMISSIONER MCALLISTER: Thanks, Manny.

CHAIRMAN WEISENMILLER: Thank you. Let's go on to Lindsay Stovall, American Chemistry Council.

MS. STOVALL: Good morning, Commissioners. My name is Lindsay Stovall and I am making my comments today on behalf of the American Chemistry Council. We applaud the Commission for its leadership role in promoting building energy efficiency and these new Standards. ACC represents the raw materials suppliers and manufacturers of products like building insulation that are used by the

construction industry to meet today's energy efficient standards. Title 24 Energy Efficiency Standards have set a high water mark for building energy efficiency in California and have been used as guideposts for energy efficiency requirements in other jurisdictions. ACC has been involved in the development process for the 2016 Title 24 Energy Efficiency Standards and is generally supportive of the 15-day language for the Standards.

The Proposed Standards continue to recognize the benefits of energy efficiency by including requirements for High Performance Attics and Walls; however, we share concerns with others in the Building Energy Efficiency community regarding a proposed compliance credit tradeoff between PV systems and building thermal envelope requirements.

Based on recent conversations with the CEC, we understand that the credit is being proposed as a stepping stone to introduce new requirements and design concepts for building thermal envelopes. The foundation of a Zero Net Energy home is thermally efficient building envelope. The requirements for building thermal

envelopes included in the 15-day language are key to achieving the State's goal of Zero Net Energy for all new residential construction by 2020.

Design concepts like unvented attics are already saving energy in California homes and we look forward to working with the broader building industry to make these savings commonplace in all homes. We also recognize the challenges that lie ahead for both the CEC and the building and construction industries in moving to Zero Net Energy.

As manufacturers of high performance building products, we look forward to working with all stakeholders to ensure that technologies, knowledge and skill necessary to achieve this goal are readily available. We would like to thank the CEC for taking time over the last week to discuss our concerns with the compliance credit. We look forward to continuing this discussion with the Commission on the credit and possible alternatives during future meetings, as well as at the workshops that are planned for this summer. Thank you for this opportunity to comment.

CHAIRMAN WEISENMILLER: Thank you. Let's

go to Curt Rich.

MR. RICH: Good morning. My name is Curt Rich. I lead the North American Insulation Manufacturers Association, the trade association for the Fiberglass Manufacturing Industry. Many of our members, including Owens Corning, Knauf, and Johns Manville have manufacturing facilities in the State, and all of our members sell product into the building industry in the state.

First I want to thank the Commission and Commission staff for their work on update of Title 24 as expressed in both the 45-day language and the 15-day language here, it's a great step forward.

But I want to focus my comments today on the changes to the 2016 Title 24 Energy Efficiency Standards that are not explicitly detailed in the documents that you are considering today. I'm referencing the Draft PVCC outline that was first presented to the public at a meeting on March 2nd. This compliance credit allows a builder to avoid complying with the new high performance attic and wall insulation requirements when a rooftop PV system is installed. NAIMA is concerned with the

lack of public transparency behind this proposal, particularly when it's inconsistent with California's longstanding energy policy of the past decade.

We're also concerned with the proposed outline of PVCC on substantive grounds. On process, there's been a lack of opportunity for public review and engaged comment prior to the adoption of a policy which allows power generation to be substituted for improved energy efficiency. A clear reversal of the preferred ordering for energy resources is articulated in California's loading order. To our knowledge, there have been no workshops held in the past two years specifically dedicated to discussing this change in State Energy Policy. Language specific to the PVCC has not been presented, and the credit is not being subjected to 45 or even 15-day language.

Our reasons for concern of this PVCC are many, but I'd like to focus on two. First, the proposal undercuts California policy prioritizing energy efficiency over power generation for projects funding and policy. Building Energy Codes are the vehicle to identify and establish

all cost-effective measures that can be incorporated into a home to maximize its efficiency over its life. Lifetime envelope efficiency should never be traded for distributed residential power generation, including PV, particularly when these are likely to be owned by third parties and influenced by a separate set of policies and incentive programs.

Second, while the credits being proposed is outside the mandatory Code requirements and therefore does not require a cost benefit analysis, our independent analysis of the proposal shows it to be significantly less cost-effective in most climate zones than the new envelope efficiency requirements that it will be traded against in the vast majority of these climate zones.

Finally, some might say that this proposal simply builds on the rooftop solar credits established in 2013. That measure allowed a modest credit for installed rooftop solar if the builder used the more efficient HVAC system than was required by Federal Law. In contrast, this proposal allows for a significantly larger credit and allows for the

construction of a less efficient home so long as the roof is made available for power production. That's a policy that deeply troubles us and we believe the Commission should give great pause before moving down this path.

In closing, NAIMA fully supports the Governor's greenhouse gas reduction goals and the renewable electricity generation goals embedded in them. We also support California's efforts to transition to an electric system to one that is more reliant on distributed generation and takes full advantage of residential power generation technologies, including PV.

But to move away from the benefit of energy efficiency and renewable energy measures complementing one another is not the way to achieve these goals.

I conclude my remarks by asking the Commission to proactively and publicly ensure that the proposed PVCC does not proceed without establishing a clear, open and deliberative process for its full evaluation.

And I would just close by saying --

CHAIRMAN WEISENMILLER: Thank you, but you've gone well over, so I want to remind

everyone three minutes. But again, I'm sure it's important so will certainly let you go further, but the third stop is enough. Rick Miller, please. I believe you want to talk on the Residential lighting controls.

MR. MILLER: Hello, I'm Rick Miller with RNM Engineering, an electrical engineering consulting firm in California.

I've been reviewing the Code and the proposed language and I particularly comment this morning about the Residential lighting section, 150.0k. Several administrative items, the word "Residential" should be inserted in several places in the subparagraphs. The question about the blank electrical box, I think, needs a definition, whether a studio or efficiency apartment, since it per se has no bedrooms, would it be allowed to have a blank electrical box?

Night lights, is there a limit to the quantity of night lights that are allowed in a room and what rooms are allowed to have night lights, I think needs clarification.

There was a new item regarding under cabinet lighting shall be switched separately from other lighting systems. The question is

whether that under cabinet light, if it were controlled by a separate channel of a EMCS, whether that would be compliant.

Regarding residential outdoor lighting, there's a paragraph construction. It consists of mandatory item and then an "and" and then an "or" and then an "or or or" I think all the three or four "or" items should be consolidated as one group of "ors."

It appears that the residential outdoor lighting for larger projects would be governed under the nonresidential if that was the intent.

Parking garages, there was a reference early in the document regarding residential parking garage of less than seven cars. There's no paragraph covering parking garage for less than seven cars, so that needs to be added.

And then the last comment is regarding controls in corridors and stairwells, it talks about a 50 percent reduction and coming on at pass of egress, but the subject does not cover when the light goes to 50 percent reduction or when the light is returned to 100 percent. So those items need to be addressed. That's it. Thank you.

CHAIRMAN WEISENMILLER: Thank you. I believe we have no one else in the room who wants to speak on Residential, so let's go to the phones. First we have two people from TRC, please do one presentation. Go ahead. Is anyone -- okay, so let's go on to the next speaker, I think it's Mr. Roy from Goodman?

MR. ROY: Yes, hello. Thank you for the opportunity to comment on this. I would like to thank the CEC for --

COMMISSIONER MCALLISTER: Is there anybody -- can we control individual callers?

CHAIRMAN WEISENMILLER: Yeah, mute the first and let us go on to the second, please. Okay. Got it? Let's try Mr. Roy ahead.

MR. ROY: Hello?

CHAIRMAN WEISENMILLER: Yes.

MR. ROY: Can you hear me?

CHAIRMAN WEISENMILLER: Yes, we can.

MR. ROY: Okay. So I was saying that while the intent was to clarify certain provisions in the Title 24 language, I think there are some sections that get adversely impacted; for example, Section 150.1c7, the weigh-in charging procedure at an outdoor

temperature of less than 55 degrees Fahrenheit can place an adverse effect on the compressor, and I think that's something that needs to be evaluated further. I believe that the Air-Conditioning, Heating and Refrigeration Institute had provided some technical basis for why the 55 degree Fahrenheit temperature would cause compressor issues in the past. I think those comments were submitted in 2011 and the staff should take a look at that in more detail. And I think this change from 70 degree Fahrenheit to 55 degree Fahrenheit occurred sometime between the 45-day to 15-day period. I didn't hear any, I guess, explanation for why that occurred at this hearing, so if Mazi or another staff member could clarify that, it would be great as to why that change occurred.

The second comment I have is the 350 CFM per ton requirement. Although it has been in place for some time now, there have been changes that have been made to the AHI Directory to reflect air flow performance and those numbers are on there, as well as the fact that needs to be considered is that Manufacturers rate their performance and certify to DOE and requiring a

certain air flow, you know, which is beyond the Federal or EER requirement in the case of California, would most likely compromise the efficiency in the equipment. So we'd like the CEC to take a more detailed look of the 350 CFM per ton requirement. I know that it was put into place because there was no public data on air flow, but that is in place now, so maybe it needs to be revisited.

The third comment I have is Section 150.1c9 addresses ducts and air handlers in conditioned spaces, but does not specify a maximum external static pressure. Not specifying such a value would continue to ignore the potential issues that could arise due to poor duct work practices. And there are specific references in the U.S. HUD Standards, although it's for manufactured homes, but that might be something to take a look at and maybe specify the static pressure within this section to add further clarity.

The last comment I have is regarding the ACM Reference Manual since it was mentioned in the presentation slides. There was a provision that was added in 2014 for mini-splits and it

says until there is an approved compliance option for ductless heat pumps, they are assimilated as a split system equivalent to standard design with default duct conditions. I would recommend the CEC to revisit that and reconsider the fact that there is an active project that is being sponsored by PG&E on California Central Valley research homes to look into ductless heat pumps further, and the consultants that developed the study which led to this conclusion in the ACM are essentially working on that PG&E study, as well. And the industry in parallel has also taken some efforts to develop a checklist, a HERS Inspector Checklist for such products and share that with CEC staff. So I would recommend that until those findings are determined, because these products are highly efficient, that this ACM sentence be removed until the findings of that study are determined. With that, I'm finished with my comments.

CHAIRMAN WEISENMILLER: Okay and, again, I need to keep reminding people three minutes. Let's go to George Nesbitt.

MR. NESBITT: Can you hear me?

CHAIRMAN WEISENMILLER: Yes.

MR. NESBITT: First a clarifying question on the Part 11 CALGreen portion. That does not appear to be part of today. It is scheduled for the future?

COMMISSIONER MCALLISTER: That's correct, it's not today.

MR. NESBITT: Okay. I would like to say that -- George Nesbitt, I'm a HERS Rater -- the Energy Code is not too stringent, the problem is it's too complex and too complicated. The 2013 Code and all the various manuals, appendices and whatnot are 3,500 pages long. All of the Title 24 Building Codes, Mechanical Codes, CALGreen in total are 6,000 pages. So we have a real problem with over-complication. And this affects compliance. And, you know, the Code is not complied well with, we're seeing both positive and negative compliance issues with the 2013 Code. We also see horrendous fraud in energy modeling out there, and these are all things we need to work on.

In the 2013 Code Update, I called staff on an issue of the Code that was written one way, but was completely presented another way and I asked, how do we fix problems? Well, they said

once every three years. So I really think when we have an issue with how something is written in the Code, if there is a problem, we really need to go back and correct it rather than sort of sweeping it under the rug, and so when you publish Errata you really need to republish manuals with the corrections so it's there for people to find. Anyway, I guess that's it for now. I mean, I think there are positive and negative changes, there's a lot of proposals that have been made to make things better that have not been acted on, there are times that things that have been acted on and problems have been made worse. I think the ductless mini-splits is a great example of that. You know, we are moving generally in the right direction, but we need to do a better job to simplify things, make the process easier, because the process is too complex and that's part of why we don't have compliance. Thank you.

CHAIRMAN WEISENMILLER: Okay, thank you. So I'm going to go back to the basic question. I think we've covered everyone except the TRC people who want to speak on residential on the phone. So if there's anyone else who wants to

speak on Residential on the phone, please do that now, and then I'm going to turn to the staff to respond, particularly to the more technical questions. And then we'll go to the dais and talk about the Residential part of the Code. So is there anyone else on the line? On Residential. Okay, unless you have someone, let's go to Mazi to start responding.

MR. SHIRAKH: Thank you. On the Residential Lighting issues, I think we can address most of those questions in our Compliance Manuals. I don't think there's anything we need to do in the Regs. And they asked for definitions and clarifications, you know, we can do that as we're developing the Compliance Manuals.

On the AHRI comments, some of these comments are basically on 2013 Standards comments, not in the Updates, because we didn't propose changes to the 350 CFM or the static pressure.

There was a question about a change in something from the 45-day to the 15-day language --

MR. STRAIT: For weigh-in. The

clarifications in the streamlining that we add to the language relating to charge verification.

MR. SHIRAKH: Right. So, Mark, do you know anything about that?

MR. ALATORRE: Mark Alatorre, Engineer with the Building Standards Office. We didn't change the outside temperature from 55 to 70, I'm not sure what Mr. Roy was referencing there. We checked our hard copies of the 15-day language and it wasn't in there. As far as the 350 CFM and his comment about using air flows that are published with AHRI, not all air-conditioner manufacturers are part of that organization, so we'd have to look into that issue going forward for maybe 2019.

MR. SHIRAKH: Thank you.

MR. PENNINGTON: So I'd just like to comment on the mini-split points that were made. The research that the gentleman was referring to was initiated by the Energy Commission and we have been sponsoring it through the PIER Program first, and it's continuing. PG&E has stepped up to continue it, but the Energy Commission is actively involved in it. There are certainly performance issues and potentially comfort issues

with mini-splits and we want to make sure we get it right before we provide a substantial credit for those systems. So we're working very collaboratively with the industry to look into these issues, and that's a very successful activity. We're not there yet.

COMMISSIONER MCALLISTER: Thanks, Bill.

CHAIRMAN WEISENMILLER: Thanks, Bill.

MR. SHIRAKH: Do you want me to respond to the PV comment, as well?

CHAIRMAN WEISENMILLER: Sure.

MR. SHIRAKH: So just very briefly, the PV credit, as I mentioned, is a limited credit designed to replace or displace high performance attics and walls. In a sense, if a builder takes full advantage of that credit and displaces or replaces high performance attics and walls, you still end up with a building that's better than 2013 standards with all the wall insulation and the ceiling insulation --

MR. STRAIT: Better insulated, you mean, specifically.

MR. SHIRAKH: Better insulated. And you're still going to have a better water heater and better lighting system, and probably as much,

if not more, insulation than a 2013 building which in itself was a very good building. So I wanted to make that clarification.

And also the process with this credit has been discussed in our staff workshops, we readily made it available, and we discussed it. It's something that the CBIA was interested in from the get go, so this was also brought up at both the forums, which were attended by many of the insulation manufacturers that were just mentioned. They were invited to attend, I don't know if they did. Again, the process for it, there's no 45-day or 15-day language, this is as part of the ACM Reference Manual, it will probably be approved by this Commission later this fall. We are going to be having workshops this summer, we'll be inviting all the stakeholders in there. The other important fact to remember is that it is a transitional credit for this round. You have to look at our ZNE approach in its entirety, which included high performance attics and walls, the incentives by the Utilities, the educational and training, and also the high performance, these are all designed to basically pave the path for high performance

attics and walls. And these are all kind of important pillars of this approach. You remove one of them, you know, the stool is going to collapse. So it is transitional credits and designed to assist builders to smooth into this process, that process will be publicly discussed, the measure, this summer in the coming months, and it is an important component of this approach. Thank you.

CHAIRMAN WEISENMILLER: Thank you. I believe we now have a gentleman from TRC on the line ready to speak. Please go ahead.

COMMISSIONER MCALLISTER: Is Mr. Pande on the line? Or is it David Douglas?

MR. PANDE: Hi. This is Abhijeet Pande from TRC and I'm calling in to support Mazi's statement and I'm here to answer any other questions you may have around the High Performance Attics topic.

COMMISSIONER MCALLISTER: Which statement are you talking about?

MR. PANDE: The comment Mazi just made about the High Performance Attics and High Performance Walls.

CHAIRMAN WEISENMILLER: Okay. Well,

thank you. Let's transition now, I think we've had all the public comment, to a conversation among the Commissioners on the Residential Standard.

COMMISSIONER MCALLISTER: So I'll lead off here. I want to just, by way of a preamble, I want to thank staff tremendously on this, you are part of an Augustus history of developing building standards, Building Energy Efficiency Standards, and I think if we take the long view, it's pretty incredible what the Commission has done to improve the building stock. I mean, now the first buildings that were covered, I owned one of them, maybe many of you do, that were built subject to earlier versions of the Building Efficiency Standards. And they have improved the quality of our housing stock now over the last 40 years tremendously. I think there's just really no doubt about that -- for all the reasons that Mazi and others have mentioned, not just energy savings and performance, but just quality of life, living indoor spaces.

It's also driven a lot of technology development and I think if we continue to do that, we've seen in Payam's presentation earlier,

we've seen that if we put up a challenge how to build something better, on a performance basis in this case, which I think is a really great approach, it has even more promise than we've really used it for, the industry will respond. And I think that's really -- we've seen a lot of positive signals in that direction.

So I wanted to just put it in a little bit of context that this has I think spurred a lot of innovation over time, and I fully expect that as we move towards ZNE and the Residential sector, it will continue to do so and, as we get closer to 2020, this interplay between self-generation and energy efficiency is something that is really critical to get right. I think buildings are packages, they're integrated packages for technology, and how we approach that really matters. You know, if we silo one or the other, we end up possibly creating problems. And so in that context, I want to just make a few comments. First, to thank some more folks.

Mazi certainly really leading the charge here, I really appreciate all your effort and your demeanor and your willingness to interact with everybody and bring a thoughtful approach, I

very much appreciate that. Eurlyne, leading the team, I see her back there with a modest smile. Payam, Peter, Mark Simon, Bill Pennington, certainly, all of you in your areas have really done a great job and I've appreciated all the interaction that I've had, and I've been pretty involved in this, as I'm want to do on these issues. Dave Ashuckian and Christine Collopy, the leaders of the Division, very much have encouraged that process. Also, Pat Saxton, my Advisor on Efficiency and particularly the standards, he is just a really great resource for my office and the Commissioner generally, and is a great figurative ping pong player with all the issues that come up, and we've been really lobbing a lot of issues around and trying to figure out the best approach, and I really appreciate his positive and constructive contribution at every turn.

Also, Legal, Pippin, I want to thank you for all the work you've done, I think it's been really great to have that support and counsel. So, really, the whole Building Standards Development Team, so thank you.

CBIA, Bob and your crew, really it's been

great to build that trust and constructive relationship, you know, these are difficult issues and this is not easy. The marketplace is a complex thing and it is really necessary for us to all kind of roll up our sleeves and approach this with good faith, in a way that acknowledges the fact that these goals are challenging, but they're doable. And I think we've made a really nice step forward with that kind of collaboration and going forward to 2019 and 2020, I think it's even more critical that we continue that kind of constructive relationship. So thank you very much for your contributions.

The suppliers and manufacturers and building consultants who have been involved in this process, thank you, I think it's been really great to have all of you chiming in, varying opinions, quite a diversity of this whole building community, and everyone seems to have approached this with good faith and really with the best interests of the state in mind for the most part, and I really appreciate that.

SMUD provided some facilitation support and a place to have some meetings that I think have been very productive, so worked through some

of these issues with the various industry players, and I appreciate that, you know, without really just facilitating, helping us facilitate the discussion.

To the case teams for providing the early input, you know, we didn't take everything they did, but we built on much of it and we're in I think a better place for that. So I feel over the last 18 months or so I've met with most of the stakeholders and early on actually went down to the CBIA annual meeting and made the pitch down there and committed to flexibility, as long as we got the performance. And I think we see that in the walls and attics and some other places in the standards where we've been pretty tough on performance. We need to see the buildings perform, but there are many ways of doing things and the builders know how to build buildings and they know what their particular situation is, and their particular client, and we need to give them where possible, not compromising performance, we need to give them some various pathways. And so I think we've tried to do that and I believe we've been successful.

So let's see, you know, the substantive result here, and I'm talking now about residential, is incredibly positive. I mean, we really can't think about this cycle, as Mazi said, without thinking about the long term. We have goals, policy goals here, for ZNE, new construction by 2020. And this is a tremendous step forward towards that. You know, I think if we really push the envelope on efficiency, we will end up with more flexibility, with more head room, more space, to consider options in the self-generation arena. And for 2019, we have some sticky issues to work through. We need that head room, we need to be able to work on, you know, I didn't see the natural gas issue there, but that's another issue we need to work through, you know, what does that look like for ZNE. The onsite versus offsite issues, there are many issues in terms of how we treat self-generation for purposes of ZNE. And so clearing the path to be able to have those discussions productively with what's going to turn out to be I think quite a different set of stakeholders, or a bigger set of stakeholders, is really important and I think we've done a lot of that here. We've generally

paved a pathway where we can have those discussions as we try to get to the finish line on ZNE.

So I think, doing so, we're creating the best possible chance to get to the finish line with the Standards and we know it's technically possible. There are people building ZNE buildings out there, we're gathering a lot of experience professionally speaking, and in sort of the community of builders and support systems, support folks, consultants, and designers and architects, etc., and we're going to see the costs come down, that's the way innovation happens. We know that. And the question is how do we keep this process -- we need to really focus on keeping the process informed by the actualities of the marketplace, and there are many of you who represent sectors of that marketplace, we really need you to participate in this, whether it's on the self-gen, whether it's on insulation, you know, building trades, etc., really we need to inform those decisions and come down the right place based on what's actually out there in the world and where we think it's going. So this is not just sort of developing

regulations and chucking them over the firewall into the world and seeing what happens, this is really calibrating them to where things are at in the marketplace. And so that's been my direction all along, consistently, and I think staff has really responded very well to that.

So finally, you know, the compliance tools, I want to just reiterate the last point that Mazi made, it's really important. We pushed the ball forward tremendously in 2013 and now we have a solid foundation to keep implementing and improving on that, and it's really important for a smooth roll-out to get those tools done in a timely fashion. I know everyone sees the priority of that and we don't want to repeat some of the pain that we went through in 2013 to get there. And I don't think we will, I think we've got a great foundation to move forward for 2016.

And finally, on the PV credit, I just want to say this integrated approach is really necessary. Having said that, I believe and commit to having a process that allows all the stakeholders to put their information, their view, and their data into the process so that we come down at a place that makes sense, taking

into account that long view. So not that I'm promising to make everyone happy, but I'm making a commitment to a process. So with that, I'll pass it to any other one on the dais, any other Commissioner who wants to comment. I'll call out Commissioner Douglas, actually, too because I think you're still sort of in the after burner phase of 2013 --

COMMISSIONER DOUGLAS: I am, I was --

COMMISSIONER MCALLISTER: -- and we've built on a lot of what you did and I know you've been paying attention to this, but want to just thank you again for all the leadership leading up to this cycle, it's been a big help.

VICE CHAIR DOUGLAS: Well, thank you, and thanks for so adeptly grabbing the football and carrying it into the end zone here with the staff team and all the stakeholders. I got a briefing from staff on this some time ago and it was really helpful and both that briefing and today's presentation and comments by stakeholders definitely gave me a lot of flashbacks to 2013, to that set of Standards. And on the other hand it was really nice to hear, not only to see that a lot of the ideas that the staff advanced and

that we moved pretty far with in 2013, but in some cases made a very conscious choice not to enact in that set of Standards have been realized and not only realized but actually realized in a more flexible and more cost-effective way that is likely to be easier for the builders to adopt and ramp up and adopt quickly. And so I really again just want to emphasize my appreciation and the fact that I'm both appreciative and impressed at the nature and extent of that collaboration in this process, so definitely want to thank you and congratulate you for that, and many others.

So, you know, I do not have a lot of substantive questions. I appreciate the staff's note that some of the clarifications and issues that were raised in public comment can be addressed in the Compliance side, and so we'll definitely look for that. I also know that if we open the door and start talking about any small corner of these standards, we could talk about it for a very long time because buildings are complex and these systems are very complex, and so that's another reason why having a collaborative and open approach where we're really focused on creative problem solving and

bringing expertise to bear, to figure out how to do these things we want to do is so important. So those are my comments. I'll see what other comments Commissioners have.

COMMISSIONER MCALLISTER: One thing I wanted to just reiterate, you know, Mazi pointed out that just to highlight the level of collaboration here again, Mazi pointed out that as we move towards High Performance Walls and Attics, I think we listen to industry, realizing that it's a change in construction practice, and really staff just bent over backwards and I was very supportive of, okay, well how are we going to sort or provide some level of support and comfort that this is doable and that we're not going to just pull the rug out? Well, you know, we went to the PUC and they were open, and we got some ratepayer funds put on to incentives through the Cap Program, we talked to the R&D Division and sort of worked through, well, what's the need of the marketplace? And so there's an RFP for facilitation efforts and workforce training there, the IOUs are also doing some workforce training, so I think the idea that we're helping this market transition, you know, this

transformation process over time in a very forward thinking way is an example I think we're going to learn a lot from. And again, it represents a lot of collaboration. So another example of sort of like, "Okay, well, if we're really going to make this work in the marketplace, what do we have to do?" And so I'm grateful to staff for keeping at it.

COMMISSIONER SCOTT: I was just going to weigh in as the Public Member and kind of riff off of what you were just saying here, I mean, the innovative ways that you put together to engage with the building industry and with the other stakeholders and the staff and the PUC and everyone together, it's just great to see this type of really good robust public process and to have kind of a new process, a great way for getting public input on something as important as our 2016 Building Standards.

And I wanted to say also a thanks to Mazi and Peter and the team for giving me such a terrific and in-depth briefing, robust briefing on all of this, and to thank you, Commissioner McAllister, for your leadership on this and your very solutions oriented approach, as you would

say. I appreciate knowing that you've been doing the care and feeding of the 2016 Building Standards as we went along. So thank you very much for your leadership here.

COMMISSIONER HOCHSCHILD: I would echo those comments, Commissioner, and this is actually one of the things I'm most excited about for the legacy we can leave, is getting these Standards right.

So I spent five years of my career in the manufacturing sector and in manufacturing, you know, you design products not just for what you like, but for manufacturability, right? And in many ways I think with the Building Codes when you move to that you design for enforceability and, you know, there's only so much blood you can squeeze from a rock at a certain point, when we get these things down so tight I think the future arc that I see for these Codes is really going to be on enforcement strategy and pragmatism and really making sure -- we have a significant issue with existing buildings being below Code, and that's obviously a top priority for the Governor. And so I think our team is really thinking about it a lot and in the right way, and I am eager to

help in any way I can support your efforts as we move forward in this.

CHAIRMAN WEISENMILLER: I would anticipate once we get to Zero Net Energy that subsequent Code cycles would focus much more on simplification. I mean, we obviously can't go much below Zero Net Energy, so that would be the next logical step.

So just to make sure everyone is clear process-wise, so we're at this point, it's about noon and we have about 30 more speakers on Nonres, so we're going to consider the adoption of the Residential Standards and then we're going to ask the people who want to speak on both to speak, and then we'll take a break. Okay, so do we have a motion?

COMMISSIONER MCALLISTER: I guess I just wanted to say one more thing, I mean, to provide the long term vision here. You know, this isn't just about the Energy Commission, this is about local building departments, it's about if we want to start thinking about what this looks like in the real world, well the folks that are going to actually apply and enforce are not necessarily at the state level, they're at the local level. So

that applies to new and existing. Certainly with existing, lots of other issues. And I think the Code applies to both, and so here we're talking about the Code, we tend to think about it as a new construction effort, you know, many of those in the room are trades working on new construction and other trade allies in that context. So I have to finish up by just giving a plug to the activities that we're doing under AB 758 because those actually happen in a different part of the Division, it's a separate statute, not directly linked necessarily to the Code, per se, but since Code applies to existing buildings, another challenge we have, other than ZNE for new construction, is making the Code more relevant and applicable to existing buildings. And so in their kind of complexity and the cost structure of existing building upgrades, it isn't necessarily -- is even probably less of our friend than it is in new construction. So in terms of our long term vision, these are really two parallel tracks, one is how we get there with new construction, the other is how we really encourage and facilitate and verify upgrades to our existing building stock which, you know, is

Governor Brown's goal.

Number 3, which we lovingly refer to it as, it's of huge importance to the State to apply Code effectively to existing buildings. And again, all the stakeholders in the room, you know, any ideas you have on that and the right forum and 758 are in the IEPR where we're talking a lot about this, very very welcome.

So with that, so here I'm making a simple move, simple motion to move the –

CHAIRMAN WEISENMILLER: I've been advised, just to be safe, let's deal with both – we'll vote on both after we conclude the Nonres. But at this point we've wrapped up the conversation on the Res, and on the Nonres, again, we're obviously not going to get through the 30 cards, but I think it would make sense, though, for the three individuals who wanted to speak on both topics to give them the opportunity now to supplement their comments. So Bob Raymer, do you want to go first? This is on Nonres.

MR. RAYMER: Thank you, Mr. Chairman and Commissioners. Bob Raymer with the California Building Industry Association, and I would like to send apologies for Matthew Hargrove, he's over

at the Capitol attending a couple of hearings today. He represents the California Business Properties Association and the Building Owners and Managers Association. And he would just simply say that they're in support of the Standards, that they would like to thank staff as we named earlier today in the Residential portion, he would like to name the same people for appreciation, who did a yeoman's job.

Lastly, although I don't personally have that much familiarity with the Nonres Standards and the lighting measures, I have been told on numerous occasions that the provisions that were implemented as part of the 2013 Regs caught many of those in industry, in the commercial industry, off guard. And to be fair to CEC staff, the industry was coming off a very trying time economically speaking, and so their ability to participate and provide staff with the information that they needed going forward was somewhat difficult. And so there's probably issues on both sides of that where hopefully as we move forward there will be a lot more robust discussion on these things, but once again I'd just like to indicate on behalf of Matthew

Hargrove of CBPA that they support your Nonres adoption today. Thank you.

CHAIRMAN WEISENMILLER: Great. Thank you. Meg Waltner, please. Okay, she may have gone. Manual Alvarez.

MR. ALVAREZ: I'll be brief, Commissioners. Manual Alvarez, Southern California Edison. I'll just ask you to support. We support these Standards as you're having proposed, so we ask you to move forward. Thank you.

CHAIRMAN WEISENMILLER: Thank you. So we're going to take a break until 1:15, be back promptly and we will then turn to Nonresidential and then walk through the rest of the agenda. So thanks.

(Recess at 12:12 p.m.)

(Reconvene at 1:18 p.m.)

CHAIRMAN WEISENMILLER: Let's start with the first speaker, Scott Wetch.

MR. WETCH: Mr. Chairman and Members, thank you very much. Scott Wetch on behalf of the State Association of Electrical Workers and the California Coalition of Utility Employees. Some colleagues of mine that share a similar

position are going to get into more of the technical issues. We're here in opposition to the Nonresidential package principally on the new exemptions being included for advanced lighting control systems.

Staff earlier today represented to the Commission that those particular items were being specifically targeted to small business. Nothing could be further from the truth. The fact, unless it can be pointed out to me, is there's no restrictions on size on those two, the modification and alteration exemption for Advanced Lighting Controls. So those exemptions would be able to apply to buildings as large as you can imagine. That gives us and my members great great concern and pause.

In addition, Mr. Chairman, we have some deep-seated concerns about the process. There are items relative to those exemptions, specifically to alterations, as well as to some of the acceptance testing exemptions, they were added to the 15-day language that we do not believe rise to the level of issues that had been considered or even alluded to in the previous workshops and public processes. So there lies a

great concern. I think some of those issues could be resolved with a little more interaction and time between some of the stakeholders and staff, but because they were put into the 15-day language and we're now here on the precipice of adopting the entire package -- and parenthetically, my clients care deeply about Title 24, we have participated for decades, we want to see it updated, we want to see it updated expeditiously, and we would hate to see any delays occur because of a particular couple sections that we think have problems and difficulties. So we stand ready to meet with whatever action the Commission takes today to meet with the Commission and with staff before the package is presented to the Building Standards Commission to try to work through some of these issues. But I do need to just let the Commission know that my coalition for clients are going to take advantage of every opportunity and every venue to adamantly defend their position on this issue. It's that big of an issue for us and one that has wide sweeping implications, and so we would hope that the Commission would think deeply about those particular items and hopefully

engage with us going forward. Thank you.

CHAIRMAN WEISENMILLER: Thank you. Let's go to Mike Stone. How about Brett Barrow? Oh, okay.

MR. STONE: Thank you. Good afternoon, Commissioners. My name is Mike Stone. I am the Secretary of the International Association of Electrical Inspectors, Northern California Chapter. And I'll be speaking on behalf of the chapter. I'm also the West Coast field representative for NEMA, National Electrical Manufacturers Association, so I'll be making some comments on NEMA's behalf, as well. And this is on the same section the gentleman before me was speaking on, it's 141.0 regarding Existing Lighting Retrofits. I'm speaking in opposition to that section. Speaking for the IAEI, I have 25 years of electrical inspection experience with the Cities of Salinas, Monterey, and Watsonville. And I understand also the City of San Francisco submitted a letter for this section, and I submitted a letter on Monday, I don't know if you have it in your packet there, or not.

This would allow lighting controls to be eliminated on retrofit applications where the new

luminaires would meet at least 30 percent more efficient than the existing, and that would really be an impossible section for inspection authorities to enforce. There's on way to verify what the baseline of that existing is, so it would really be a useless figure. And the first inspection, when an Inspector goes out, all the demolition is complete and all the existing luminaires are gone, they're gone to the dump so there's no way to really verify that.

Advanced Lighting Controls are the key to reducing energy consumption in buildings, including existing buildings. And when alteration occurs, that's the best time to ensure that that energy efficiency infrastructure is installed and it's going to be there for the life of the building. So we're talking about existing buildings here, which is low hanging fruit for energy conservation.

And on the same section, speaking on NEMA's behalf, California really drives the Advanced Lighting Control market in the nation. We're at the forefront of that and this market, were it to somehow decline, the manufacturers would be likely to cut back on their R&D

development for the future. And as we were discussing this morning, we have this ZNE Goal for 2030 for Nonresidential, so we want to make sure we stay on top of the innovation as far as that goes. I believe that goes along with Commissioner McAllister's comments about the Codes driving technology, that's very important.

And NEMA pointed out there's also wireless control options if existing walls or the construction is hard to get to, there are wireless options that can be more cost-effective.

So in conclusion, I would respectfully urge the Commission to continue to promote energy conservation and not approve that proposed language.

CHAIRMAN WEISENMILLER: Okay, thank you. So Brett Barrow now.

MR. BARROW: Mr. Chairman and members, my name is Brett Barrow with the National Electrical Contractors Association. We are also here today in opposition of the Nonresidential package for the reasons stated by the previous two speakers.

I'd like to reinforce what they have said and not repeat what they have said, but we do believe these are substantial changes that have

shown up in somewhat the last minute in the 15-day language and we do not feel that those have been properly vetted for such a big issue as this.

We see these changes as resulting in a substantial loss in possible energy savings going forward and possibly making the 2013 Standards more stringent and applicable than possibly the 2016 Standards. I think this runs a little contrary to the Governor's inaugural address when he said that he would like to see existing buildings reach double their energy efficiency in the next 15 years. Advanced Lighting Controls and certainly the Acceptance Testing that goes along to make sure those very properly are a large part of that, and we feel that the lighting controls could double energy efficiency over just replacing a luminary by itself. So with those comments, I'd just like to say that we are opposed at this time and appreciate you letting me take the time to make these comments. Thank you.

CHAIRMAN WEISENMILLER: Sure. Thank you. Valerie Winn.

MS. WINN: Good afternoon, Chair

Weisenmiller and Commissioners. Valerie Winn with Pacific Gas & Electric Company. And today I'm here to offer our support for adoption of both the Residential and Nonresidential Building Code Standards. And in offering our support, I really also wanted to thank the members of the Commission staff for all of the hard work they've done on this, and really recognize how they have balanced feedback from a number of different parties on these somewhat controversial issues. And I'll offer two examples of how they've done that.

The first, well, this morning there was some talk about the PV Compliance Credit. PG&E shares some of those concerns on energy efficiency being first in the loading order and we share some of those concerns about the inclusion of PV as a compliance measure; but in the effort to move things forward, we feel that there's an appropriate balance there and that, while there may be some energy savings that are not captured because PV is a compliance option, we don't feel that those lost savings are such a huge issue that can't be overcome, that the balance that's struck is a reasonable balance

there.

In the same way, as we talk about lighting alterations, the language that was originally proposed in this section in the 45-day language was actually language that would have resulted in increased energy savings over the existing Code. And so I think the balance that's been struck in the 15-day language would actually be what we would expect, and that there will be energy savings that result from the move in this direction.

So from that perspective, the balance that is struck, what do they say, good public policy makes everyone a little unhappy? We think that there's a fair balance here, and so as a result, you know, we feel that we want to support the adoption of these Standards as they've been proposed. And we look forward to working with staff on the 2019 Codes and Standards. Thank you.

CHAIRMAN WEISENMILLER: Okay, thank you. Tom Enslow.

MR. ENSLOW: Good afternoon, Commissioners. I'm Tom Enslow on behalf of the California IBEW and NECA Labor Management

Coalition. We oppose the adoption of the proposed amendments to Section 141 related to the Advanced Lighting Control requirements. In particular, we want to emphasize that, you know, this isn't a minor exemption, this is a big deal. Currently all lighting modifications and luminaire modifications and lighting alterations have to comply with Advanced Lighting Control requirements. PG&E's own study showed that these have been effective and have resulted in significant savings over 2013 and the 2013 Code. We're now looking to go backwards. This is the opposite of what the Governor is telling us to do with existing buildings. We're going backwards to just shallow retrofits, changeouts of lamps and non-advanced simple controls.

And this is going to result in less savings when you look at what's required under the 2013 Code and if someone complies with that, and someone complies with what's being proposed, there's going to be less energy savings, there's no question about that.

And the supplies to not just small buildings, there's no limit on how this applies. For example, for modifications they got rid of

all requirements for any daylighting on multi-lighting controls completely. You know, it's not limited to any particular project. For Alterations, they provided a pathway where you don't have to do most advanced controls if you do a change-out through a more efficient LED lamp. And again, there's no limitations on the number of alterations you can make. You can alter all the lamps in an entire 100-story building, you would still have this exemption. So this is not a small matter.

And there just hasn't been enough time, this hasn't been vetted through the normal process. These things weren't raised during the pre-rulemaking, there's never been any case support or published analysis to support the findings, or look at the energy losses, and most of these proposals, including the exemptions to lighting alterations were proposed for the first time in 15-day language a couple weeks ago, and so there hasn't been the vetting and there hasn't been the compliance with APA necessary, particularly with something that could move us back in the findings.

And just quickly, we had an engineering

forum take its own preliminary look at these findings and they found that there would be substantial losses and that the findings made by staff's preliminary analysis, which again hasn't been fully published, was based on really optimistic assumptions and didn't look at all potential energy losses, and even with those optimistic assumptions, they just found that this would just be about equivalent to the 2013 Codes. Well, if their optimistic assumptions are at all wrong, we're going to lose a lot of energy from this change. This needs to go through a true stakeholder review process. It's been pushed forward too fast and it's just not ready to go forward. We urge you to delete this from the package and keep the original 2013 Requirements. Thank you.

CHAIRMAN WEISENMILLER: Thank you. Frank Schetter from Schetter Electric. Not here, okay. Let's go on to Craig Ochoa, please. Sorry for your name pronunciation.

MR. OCHOA: Actually, you did better than most.

CHAIRMAN WEISENMILLER: Okay.

MR. OCHOA: My name is Craig Ochoa. I'm

here representing Morrow Meadows Corporation. We're electrical contractors and engineers, and we do thousands of lighting installations, lighting controls platforms annually throughout our great State of California. I'd like to thank the Commission for this opportunity to speak to a specific point. Other commenters have brought up these points, so I'm not going to go into them in laborious detail in order to save time. However, Morrow Meadows opposes the adoption of the proposed amendments to Section 141 and their pertinent subdivisions.

The proposed exemptions will result not just in a substantial loss of savings which is kind of difficult to quantify, it's a little slippery, but if we think about it in terms of halves, if we're leaving half of the energy savings on the table, meeting that with controls, we can double the savings. And we memorialize that over time, bearing in mind that most of our customers only retrofit every 15 years or so. So if we miss this opportunity now, we basically encased in Amethyst or stone, really, all of these deficits and savings we could have been having all along.

The rollback of retrofits standards is also, as others have spoken more eloquently than I, contrary to the spirit of the title we feel, we're big proponents of Title 24 and energy efficiency and the Governor's goals, the Governor was very clear about his efficiency goals, and this is going backward, and it's hard to see how it meets it.

The complaints that the standard has somehow reduced or would reduce retrofit demand we don't believe is accurate. We look at hundreds of sets of documents that include these controls and these measures all the time. Daily we have bids going out, jobs that we're working on, that all contain these solution sets that together support the statute and the efficiency that we're all looking for.

I'd like to close by thanking the Commission again and strongly urging rejection of this Statute as amended. Thank you very much.

CHAIRMAN WEISENMILLER: Great. Thank you. Gene Thomas.

MR. THOMAS: Gene Thomas, Ecology Action. We'd like just to start by saying we support the 15-day language. It's somewhat reluctant

support, we and many fellow implementers would much rather see Version 9, as opposed to Version 30X, but we think it does strike a balance and, most importantly, it will allow the industry to regain life and move forward and stop the job loss and lost energy savings that's happening right now.

But the main reason for my getting up is I wanted to address the comments, the flurry of form letters that the Commission received from Union Electricians and from Unions themselves opposing, and the reason for our concern is that a number of real key allegations that were sited in these letters are either misleading or factually incorrect. And I just wanted to address some of the most egregious ones of those.

So one allegation was the effects of the 2013 Code on cost and on retrofit work is overstated based on anecdotal evidence. We've supplied the Commission with detailed, hard factual numbers and percentages from implementers that irrefutably document the effects that this has had on the retrofit industry. In contrast, the opposing letters provide little if any real documentary supporting evidence. One that just

came up several times today, lighting projects with controls save twice the energy of a retrofit without controls. That's highly misleading if not actually incorrect. We looked at a variety of common retrofits and could find no instance where the control savings equaled the pre/post fixture wattage savings, and we attached in our earlier comments to the Commission some evidence to that effect. Actual wattage savings from controls typically averages 15 to 25 percent. The only way you could get double the savings from controls is if you started with a retrofit that had very little savings. And those just don't get performed in the real world because the people that do them couldn't earn a living doing that.

Another allegation, the Acceptance Testing final report showed that occupancy sensors failed in two out of three tests. So Acceptance Testing for small projects is needed, or savings is jeopardized. That's misleading again; for occupancy sensors, the actual reference study examined only a single building and one test was performed one time for occupancy sensors. So a statistical sample size of one by

any rational criteria is an insufficient basis to draw reasonable conclusions from.

I do want to say that we don't question the need for Acceptance Testing for truly advanced controls like daylighting, demand response, maybe even dimming; but simply occupancy sensors, time clocks, photo cells, are not advanced controls and Acceptance Testing shouldn't be required for small projects affecting 20 luminaires or less. I'd also point out that the savings from occupancy sensors equals the savings from multi-level controls.

Let's see, another is that feedback -- oh, yeah, most commenters, they said, are Lighting Technicians, not licensed to install controls, therefore they're motivated to not install projects that have controls. So we looked at all of our contractors that install under our programs, every one of them is a C10 Electrician qualified to install controls. Then we looked at all of the contractors that were in favor of the proposed language, and all of them were C10 Electricians, so it's just a false allegation.

And feedback that NECA and IBEW are

getting from their contractors --

CHAIRMAN WEISENMILLER: Could you move to wrap it up?

MR. THOMAS: -- okay, just we would urge the Commission to adopt the proposed language, it strikes an adequate balance and will allow the industry to regain its feet. Thanks.

CHAIRMAN WEISENMILLER: Okay, thank you. Marc Muzzo.

MR. MUZZO: Good afternoon. My name is Marc Muzzo and I represent Collins Electrical which was found in 1928 and has five offices in the Central Valley. Collins is very active in the California lighting business, installing thousands of projects per year. Our company appreciates this chance to express our position today.

To be clear right away, we oppose amendments to Sections 141(B)(ii)(jj)(kk) and (ll). What is more important is why. From some of the letters posted on the CEC website, it appears that the proposed 2016 language is responding to assertions that the 2013 Code is somehow reducing lighting energy savings. As a contractor who is doing this work every day, we

are confident that this is not correct for a number of reasons, 1) the 2013 Code is actually driving down the cost of controls. The volume demand created by the California Title 24 market is driving lighting control innovation up and prices down; 2) multi-step and daylighting controls in the 2013 Code save approximately twice as much energy as efficient lamps and occupancy sensors alone. So 2013 Code jobs will save about two times the energy compared to what's proposed for '16, and they will continue to get that double-efficiency for 10 to 15 years; 3) The 2013 Code was implemented, our company is doing more high efficiency retrofits than ever before. In talking to other contractors around the state, we know that we are not alone; 4) most convincing is the PG&E report which said that these savings data do not include any reductions, starting from the third quarter of 2015. Instead, it even shows obvious increase compared to the same period in 2013.

With all due respect to the Commission, we must tell you why the proposed amendments would be a serious setback to California energy policy. The biggest issue is the proposed option

of 30 percent more efficient lamps or luminaires without the need for multi-step or daylighting controls. What this would do is, first, take us backwards to primarily swapping out lamps and luminaires; that was fine for the '90s, but not for now. Second, it will send the wrong signal to lighting control manufacturers and stunt progress toward even better technology and lower cost devices. Third, it will cause property owners to perform shallow retrofits that will exist for 10 to 15 years. Fourth, it will create an unenforceable regulation that invites abuse based on the option to do half a job without advanced controls, which will cost less. That will put economic pressure on property owners and retrofitters to claim that the project meets the 30 percent threshold. Who will be able to check the actual baseline? Building Inspectors inspect after installation, not before. Fifth, this means the state won't even save the calculated 30 percent. Sixth, as a state we will fail to meet the Governor's energy goals and those of AB 32. I wish there was a more polite way to say that the proposed amendments would be a huge mistake for California. Clearly, these counterproductive

proposals haven't been given adequate in-depth consideration. It seems like the 15-day language was a rush job.

Collins Electrical strongly urges the Commission to do the right thing for our state and reject these proposals for the 2016 Code. Thank you.

CHAIRMAN WEISENMILLER: Okay, thank you. Bernie Kotlier, IEBW. Could you not be cumulative?

MR. KOTLIER: Hi.

CHAIRMAN WEISENMILLER: Hi.

MR. KOTLIER: good afternoon, Commissioners and staff. My name is Bernie Kotlier and I represent the IBEW and I also represent the National Electrical Contractors Association through the Labor Management Cooperation Committee.

Our members appreciate this forum and the opportunity to express our opposition to adoption of the proposed Lighting Efficiency Amendments to Section 141.0. I think you know the specifics, so…. First, we'd like to talk about big screen TVs and laptop computers. And, no, I'm not confused about the Agenda item. The reason is

they have a lot to do with lighting controls. The burgeoning demand for both of those items, as examples, big screen TVs and laptop computers, has fueled great technological process and rapidly falling prices. Both product categories are much more efficient now than they were just a number of years ago.

The 2013 Code has put lighting controls on the same path to better, less expensive, and even more energy efficient devices. Thanks to this Energy Commission, and I want to congratulate all of you on the Commission for this, California is a world renowned leader in energy efficiency regulations and the big volume driver of energy efficiency advanced control devices.

Numerous lighting control companies are now investing heavily in advanced lighting control technology and gaining significant economies of scale. Unfortunately, the proposed 2016 Amendments would pull the rug out from under this progress. If this proposal is adopted as is, that progress towards better and lower cost lighting controls that the state very much wants and needs for the future of energy efficiency and

to meet Zero Net Energy Goals, will be undermined. We can't underestimate the power of California's volume in this progress.

The second subject is one that has received very little attention. Automated Demand Response, or ADR. While Advanced Lighting Controls roughly double energy efficiency, they also enable facilities to participate in important utility ADR programs, which enable statewide load reduction to protect the grid. The 2016 lighting proposal with its 30 percent more efficient lamp, luminaire opt out amendments will knock out advanced ADR capable controls for much of the retrofit market. This will severely handicap utility efforts to expand this valuable program and will increase grid vulnerability.

Third point has received some attention, but maybe not enough. Apparently, some at the Energy Commission feel that somehow the 2013 Code is reducing energy efficiency. The Commission has put forth a proposal for retrofits that would sideline the most energy efficient lighting technology, advanced controls. There's also a feeling that lighting efficiency retrofit work has declined. Reality is quite a different

story. As I said earlier, I represent thousands of contractors and most of them are doing lighting efficiency work, a couple of them have made comments today. I've polled the contractors statewide and what they say is that they're doing much more lighting efficiency work, especially since the 2013 Code was implemented. But you don't have to believe us. Our poll results mirror PG&E's study finding which says, "These savings data do not indicate any reduction starting from the third quarter of 2015. Instead, it even shows obvious increase compared to the same period in 2013, therefore there is no negative impact by the 2013 Title 24 on Nonresidential Lighting Alteration Program savings." That's a direct quote from PG&E.

So in summary, I want to say that we have many many good reasons, and I think the Commission has many good reasons to oppose these amendments. They're not going to get us where the Governor and the Legislature want us to go in Energy Efficiency, they're a step backwards, and I urge the Commission to reject them. Thank you.

CHAIRMAN WEISENMILLER: Thank you. Rick Miller again, please.

MR. MILLER: Thank you. Rick Miller with RNM Engineering. I've submitted a -- I'm going to say boatload -- of comments to the Commission and a lot of them were editorial in nature, spelling corrections, punctuations corrections, capitalization, lack of footers, and I assume maybe those can be done, be picked up. But one item I'd like to add is to increase the scope of the Lighting Controls Acceptance Tester. There's one paragraph in the Code that relates to power adjustment factors, and there's no testing of it. I think there's a big omission there, so I would recommend that the Acceptance Tester include testing of the power adjustment factors.

CHAIRMAN WEISENMILLER: Thank you. I believe there's no one else in the room that has comments, so we're going to switch to the phone. Okay, so let's start out with – I'm not sure if she's still there -- Kathleen Bryan from the San Francisco Department of Environment and Energy. She's been disconnected. So let's go to Stanford, we have either Leslie Kramer or Bob Fritch. Please go forward.

MS. KRAMER: This is Leslie speaking, I'm not sure if Bob is still on the line, as well,

but Bob, if you're on the line, I'll go first and if you want to jump in afterwards, would that be acceptable? Okay.

So I'm representing Stanford University and we are calling in support of the proposed language, the 15-day language that's been presented. And I guess I bring the perspective of a building owner who is responsible for making decisions about investments in energy efficiency upgrades. And so our view is that so long as the State is relying on building owners to make the investments in energy efficiency lighting upgrades, the measures have to be practical and cost-effective to the owners, or they won't happen, and we would opt for the do nothing option, which is I don't think what the state is looking for.

In the case of new construction or major renovations, meeting Code is not really optional, but meeting with the Lighting Retrofit is optional, it's an optional investment. And what we believe is that the language in Title 24's 2013 Code became very restrictive, and we found that to meet all of the controls requirements added an incremental cost in many situations that

didn't meet our payback, the overall cost would not meet our payback criteria for making the investment. And also, due to all the additional administrative steps that have to be undertaken, it actually truthfully stalled or halted a lot of our potential projects that we had planned this year, where we were going to be getting about 400,000 kilowatt hours of savings that we kind of put on pause because of the complexity of complying with these requirements and the additional costs in complying with the program.

So there's two parts of this that make sense to me, the exceptions for group re-ballasting projects, that Stanford takes advantage of to save both energy and maintenance costs, and also I agree that if the reductions in wattage are greater than 30 percent, that gives us more flexibility. We can get a good under five-year payback and a reasonable amount of savings with that kind of reduction alone, and we will put in occupancy sensors in additional controls where it's cost-effective to us to do, which is what we always do, we do an analysis and if it's cost-effective to add controls to the project, we of course do. And I'm sure that's

the case for most owners, they'll keep pushing it as far as they can up to their payback cutoff. So I guess that's just trying to bring one owner's perspective as to why we are supporting this new language. I think what we're really concerned about is the optional retrofit projects, not the new construction or renovation or major alterations where it's not a choice, we're going to go forward anyway, but this is something where my building managers and zone engineers will just not do it if the cost gets too high relative to the payback. So I don't know if Bob Fritch is still on the line, if he wanted to add anything.

MR. FRITCH: I am and time is up, I see, but again Stanford University does support the 15-day language for Nonresidential 141. I am responsible for the re-lamping and re-ballasting of the millions of square feet here on the University. As Leslie said, we have put all of our projects on hold resulting in a lot of lost energy, as well as increased maintenance. And also, as we looked at these control options, it did not fit into our payback model of five years, so we would not be able to move forward with

those projects and we would continue to work strictly on maintenance, again driving our maintenance cost up, as well as wasted energy. So thank you.

CHAIRMAN WEISENMILLER: Thank you. Actually, one more in the room. Tamara?

MS. RASBERRY: Thank you, Mr. Chair. Tamara Rasberry on behalf of San Diego Gas & Electric and the Southern California Gas Company. I just want to thank staff for the time that they committed to the Sempra Utility Companies as we worked to close the gap on the Title 24 Regs. I know we were in discussions, I think the first one was in August and the last one was just I think three weeks ago, last month. So I just want to thank the staff for the time and making themselves available for the transparency that we've seen, and we've come a long way. So thank you for that. I just wanted to make sure that's on the record.

CHAIRMAN WEISENMILLER: Well, thank you. Thanks for getting on the record. Association of Monterey Bay Governments, Elizabeth Russell

MS. RUSSELL: Good afternoon. Thank you for the opportunity to comment. The Association

of Monterey Bay Area Governments requests that the Commission adopt the proposed 15-day language. AMBAG Energy Watch is the Regional Energy Efficiency Program that has been comprehensively serving the businesses, school districts, special districts, residents, and the 21 local governments since 2006.

Our region is rural and we serve small to medium hard to reach customers. The current Title 24 Part 6 Code has effectively stopped almost all interior Lighting Retrofits in our region. For small to medium nonresidential customers, the labor to install the wiring to add the controls, plus the controls, plus the permit fees, actually increased the project cost more than 200 percent. And I do have case data on these projects.

For a quick example, I'll refer to one of our small schools working with Prop. 39 funding. They could install energy efficiency lighting for $41,000 and save 26,430 kilowatts. If they put the controls with their ceiling issues on that, it would cost them $101,273 primarily for the labor related to the controls, and it would only save 27,841 KWH. It's an increase only of 1,411

KWH annually, with an increase in cost of $60,000.

What is developing in our region is that customers are choosing to leave the old lighting in place and opting to install solar systems that will power this older lighting technology because this is their perceived best use of their resources. Of course, this does not adhere to the preferred loading order of the California Energy Commission. These customers have indicated to AMBAG Energy Watch staff that if the proposed 2016 15-day language is adopted, they will move forward with interior lighting efficiency retrofits because it would be an efficient use of their resources under the scenario. However, I believe it will effectively freeze lighting technology in the T8 generation in existing businesses in our region if we do not adopt the proposed 2016 15-day language. Thank you to all the staff and their work on this proposed 15-day language, thank you, Commissioners for your consideration. That concludes my comments on behalf of the AMBAG Energy Watch.

CHAIRMAN WEISENMILLER: Okay, thank you.

LADWP, David Jacot.

MR. JACOT: Hello, good afternoon, Chairman Weisenmiller and Commissioners. This is David Jacot, the Director of Efficiency Solutions for the Los Angeles Department of Water and Power, which I'll refer to as LADWP from here on.

First off, LADWP absolutely applauds the CEC Commissioners and staff for the tremendous amount of effort that's gone into preparing the Title 24 Standards language. We understand it's a year's long process, we've been involved throughout it at various points, and we fully respect and acknowledge the amount of work that goes into it. We do, however concerns specifically about Section 141 of the Nonresidential Standards have on Lighting Advance Controls.

The 2013 Building Standards that just went into effect last year for the first time included requirements upon retrofit for Advanced Lighting Controls when certain thresholds were met. These enhanced requirements were put in place to push the Lighting Retrofit industry towards deeper, more comprehensive energy efficiency savings, recognizing that new

construction opportunities are a miniscule portion of the overall lighting market. And LADWP did at that time and continues to strongly support this direction for California to have robust and mandatory advanced controls requirements on retrofit.

However, these requirements have had unintended effects on utility administered small business direct install programs in California which use ratepayer funds to provide audits, materials, labor and installation completely free of charge to eligible customers paid for 100 percent by the utility ratepayers.

The Advanced Lighting Controls requirements introduced in those Standards could not a year ago, and still cannot currently be met in a cost-effective manner for utility ratepayers under this model. And this is an important point, that this cost-effectiveness standard for utility ratepayers to do this is different than a payback requirement on the part of a customer. Payback is payback, if a payback requirement is not being met the customer has the discretion to revise their payback criteria for a project. But because it's a different cost-effectiveness

metric for utility ratepayer customers given the rate of return they achieve off these projects, we have thus, and we hear anecdotally, but speaking only for LADWP, we have been truncating our small business direct install projects at a level below the threshold for triggering the Advanced Controls, which is an unintended effect, I don't think anybody, you know, we didn't foresee it and nobody wants it because what we're doing is leaving traditional retrofit savings opportunity on the table. Currently we're losing about 17 percent of the potential identified energy efficiency savings by not retrofitting all lamps necessarily on a customer site. But we're only going up to 30 KW customers in size, and it's traditional with utility programs in California generally for direct install to serve small businesses up to 100 KW or more, and those programs are most likely experiencing higher levels of savings losses.

We've been very proactively involved with staff and the various stakeholders, as well as the utilities that are involved in the Codes and Standards effort, and so stakeholders in the process have voiced concerns about the Advanced

Controls requirements and their effect on the larger Lighting Retrofit in California. We understand their concerns and agree that elements of the 2013 Standards pertaining to the Advanced Controls Requirements are ambiguous or unclear, and will most certainly benefit from clarification in what's ultimately adopted as the 2016 language. To that end, we've been closely following the language development, participating in the discussions in both the 45-day and the 15-day language currently under consideration for adoption. But we've become increasingly concerned that the original --

CHAIRMAN WEISENMILLER: Could you wrap things up?

MR. JACOT: I'll wrap up very quickly. We are concerned that 15-day language as it currently sits has been rushed. I think the fact that we've seen 30 versions, we're on Version 30X of 15-day language, has really limited the opportunity for us to quantify the potential benefits or impacts, and we're hearing that discussion from the other speakers. So we are concerned that it could undermine Title 24's intent to transform the lighting industry and we

don't feel that it currently addresses the loss of energy savings that are being incurred by utility direct install programs, specifically ours. So we therefore respectfully request the Commission put off the adoption of Section 141 of the 2016 Standards, perhaps revert it to 45-day status so the stakeholders can have the opportunity to work through those issues in more detail that lead to a better solution. Thank you.

CHAIRMAN WEISENMILLER: Okay, thank you. Tanya Hernandez.

MS. HERNANDEZ: We don't have any comments at this time.

CHAIRMAN WEISENMILLER: Thank you. Michael from Lutron.

MR. JOUANA: Yeah. Hi, this is Michael Jouana with Lutron. We are the world leader in lighting controls. I thank you for the opportunity to speak. I actually wanted to speak about residential, but wasn't able to do so before, so this will be brief. But I urge the Commission to postpone the adoption of the Joint Appendices until we can resolve some key issues with JA 8.

The 15-day language out of the clarification to the scope to now include LED drivers, even if the driver is not integral to the lamp or lightbulb, this scope shift calls into question some technical issues that Smart LED drivers will not be able to comply with, namely the start time thresholds. This will eliminate key customer desired features for lighting such as fade-to-off.

The EPA's Energy Star lamp specification has recognized this issue and has made appropriate changes to the start time metric to allow for this advance technology. We strongly suggest that the standard harmonize with Energy Star start time threshold and the Commission publish an interpretation of the start time test method to allow for the use of Smart LED drivers and give customers the aesthetically pleasing lighting effects such as fade-to-off. Thus we strongly encourage the Commission hold off on adoption of JA 8 until this issue can be resolved. Please see our docketed comments on the 15-day language which provides more details. Thank you.

CHAIRMAN WEISENMILLER: Okay, thank you.

TRC Energy.

MR. MUTANSKY: Hi. Can you hear me?

CHAIRMAN WEISENMILLER: Yes.

MR. MCMAHON: Hi, it's Michael McMahon with TRC. We are the case authors on Nonresidential LPD that Mazi talked about earlier and we're just here to support Mazi's efforts. We have no comments at this time.

CHAIRMAN WEISENMILLER: Okay, great. Thanks. Matt Tracey.

MR. TRACY: -- Enlight, energy efficient lighting in Pleasanton. I wanted to comment in support of immediate adoption of the 15-day language for Nonresidential Lighting as it's written. As Leslie and Stanford said before, a key problem for the Energy Efficiency Retrofit Industry is that there's no reason for an existing building owner to do an energy savings project unless there's a clear economic incentive to do so. It isn't like new construction where if a building needs to be built and a couple extra dollars won't kill a project; if a Lighting Retrofit project is too expensive, it just won't happen, the building owner is going to go along with business as usual and the energy savings

won't be realized.

As a community, Lighting Retrofit contractors along with ESCOs, third party administrators working with lighting contractors, were easily meeting the 2013 Title 24 requirements for lighting power density, for simple sensors. Where we run into a big problem is with the costs associated with meeting some of the multiple switching requirements in areas where there aren't existing multiple level switches, the cost of mandated sensors where it doesn't make financial sense, the cost of permit and Acceptance Testing requirements, and this is all especially when we're trying to build small or medium-sized projects.

I wanted to kind of go back to what some of the other people have said about Advanced Lighting Controls saving such large amounts of energy over just simple lighting controls. If Advanced Lighting Controls made large incremental increases in energy savings, they would be cost-effective. And we're just not seeing that. Cost-effectiveness is what drives our Lighting Retrofit industry.

Also, I've been watching and

participating in the modification of the language since early this year. Since the first time I saw the language, it's gotten tougher and tougher on the Lighting Retrofit community. If there were one-sided panel or if there were a lack of opportunity for input, we would still have the original language seen back at the beginning of the year because that was really in essence better for everybody in the Lighting Retrofit community.

We'd be happier with the old language, but we feel like the 15-day language as it's written, it addresses most of the barriers that we've seen in the 2013 language to our industry, it allows us to work within I think what is a unique environment for us of having to sell a project based almost solely on payback. I think if we get the proposed language, our industry, the Lighting Retrofit Industry, will be able to continue to profitably save energy in existing buildings. I'm in support of it. Thank you.

CHAIRMAN WEISENMILLER: Thank you. Brian Wilcox.

MR. WILCOX: Hello?

CHAIRMAN WEISENMILLER: Yes, go ahead.

MR. WILCOX: Great, thank you. My name is Brian Wilcox, I represent Feit Electric Co., Inc., California. Since 1978, Feit Electric has been serving North America as a leader in lighting products. We understand the intent of the program is to drive efficiency and positive adoption while decreasing reliance on inefficient and short-life products. We have some concerns.

The program goal is to prepare and submit proposals that will result in cost-effective enhancements to energy efficiency in buildings. Feit Electric struggles to understand how, for example, only CCT and DUV CRI and start time enhance efficiency. In fact, increasing the CRI requirement only, namely the red content associated with the R-9 value, specifically decreases efficiency in direct opposition to the program goal.

Additionally, flicker as measured by this proposal excludes many existing and promising driver solutions that are AC in nature.

The proposal also likely excludes many other traditional driver solutions, at least without adding additional cost and compliance that compromise long term performance. This

proposal is not rooted in science, human impact, or customer acceptance. Excluding existing and viable topologies, again, specifically related to what may commonly be deemed AC driver options, addresses a problem that does not exist. In fact, adoption of AC-based solid state lighting solutions in both lamps and luminaires that do not meet the proposed standard is well established. This adoption has taken place without customer resistance, and without negative comments related to health, safety, visible or nonvisible flicker concerns.

Further, in addition to excluding cost-effective and viable driver solutions alone, the NEMA SSL7A proposal will have a similar impact on further excluding these same driver solutions and more that are still undefined. Feit Electric urges the Committee and participants to reevaluate the current JA 8 proposals and limit the adoption to those rooted in science and empirical data that are supported not by perceived potential impacts, rather to only those that support sustainable high-efficiency products. The market, along with guidance from this body will evaluate and decide the viability

of products and the need for high CRI, high R-9, DUV changes, flicker, and dimmer interoperability. To make measurable energy efficient impacts, the program could focus on increasing the high efficiency luminaire requirements to be high efficiency, above the current 45 lumens per watt benchmark. Thank you.

CHAIRMAN WEISENMILLER: Thank you. The spokesperson for Once Innovation?

MR. RAIT: Oh, as a quick point of clarification, that was a comment on JA 8, is a Residential comment.

CHAIRMAN WEISENMILLER: Yeah, we've had a couple on Residential, I'll cycle back to those, but --

MR. RAIT: Yeah, I'm just going to note them for the record.

CHAIRMAN WEISENMILLER: No, that's good. Okay, Once Innovation? Theron Makley maybe?

MR. MAKLEY: Yes, can you hear me?

CHAIRMAN WEISENMILLER: Yes.

MR. MAKLEY: I'm commenting on JA 8, as well. We didn't get an opportunity earlier to comment.

CHAIRMAN WEISENMILLER: Okay, well please

go ahead.

MR. MAKLEY: I speak on behalf of Once Innovation. We're a small company based out of Minnesota that sells LED lighting into the State of California. We also license our patented AC-based LED technology for both residential and commercial lighting in the State of California.

Our comments are a reference to specifically Joint Appendix 8 regarding the qualification of high efficacy LED light sources. Some of the new specifications claim to be protecting the quality of the light and hence consumer acceptance, but they've gone far beyond what a normal consumer would consider acceptable and are bordering on favoring high end and high cost lighting solutions and favoring a subset of suppliers. This subjects the consumer to added cost under the guise of higher efficacy.

Specifically, there are three areas we'd like to point out: 1) JA 8.4.4 Color Characteristics, we suggest that CCTs of 5,000 and 5,500 be included so as to give the consumer a preference for a higher efficacy lamp and lamp colors that more closely resemble daylight. Consumers are more educated today about CCT and

can make this choice on their own without it being specified for them; 2) JA 8.4.4, Color Characteristics Section C. The additional requirement of 90 CRI will add unnecessary costs and actually reduce energy efficiency. 90 CRI products are more costly to provide and actually decrease efficiency of the LED. We suggest keeping the CRI at 80 and letting the consumer decide if he needs CRI of 90, especially for the applications at hand.

In addition, in that same section regarding the R-9 value greater than 50, this is another requirement that's gotten out of hand. An R-9 greater than zero or greater than 10 is more than sufficient; higher values could be specified and chosen by consumers, but should not be required by this specification.

And three, JA 8.4.6 Dimming Reduce Flickering Operation, the 200Hz operation requirement has no basis in science, nor in real life application and subjects a targeted supplier base, mainly direct AC drive suppliers like my company, to an unnecessary burden to reduce flicker or modulation in a region 100 to 200Hz where no known issues have been documented. We

believe this is based on an IAAA PAR 1789 group who was putting out specifications not fully released yet, and these changes were based on that document that's not fully released and hasn't seen public comment. We suggest this requirement be reduced to 100Hz to allow increased competition and lower pricing which will increase adoption and accelerate energy savings.

Also, that AC market we estimate exists about 20 percent of the offered product in the LED market right now, so you'd be holding out 20 percent of that market. This could result in antitrust litigation. We suggest you consult with Energy Star and their previous experience in these areas. They've been through all these before.

To conclude, we strongly suggest the Board reconsider these sections and eliminate specifications that limit competition and subject consumers to premium prices for features that are unnecessary to achieve high efficiency acceptable quality levels. Thank you for your time.

CHAIRMAN WEISENMILLER: Thank you. You probably should do some research on State Action

Immunity Doctrine, but let's go on to Eliot Crowe. Then let's go to Jay Martin.

MR. MARTIN: Hello, I'm Jay Martin speaking for myself, not for a company or organization. I want to request two things. Based on my experience as a Project Manager and as a Technical Editor, first as Project Manager I want to request a change to a specific section about lighting controls, Section 130.1(C)(7), which is about areas where partial off occupant sensing controls are required, those areas are hotel corridors, parking garages, areas where lighting should be dimmed a bit before someone enters the area. It's an excellent requirement, however, people have understood the Code to mean that complete shutoff is never allowed in those areas, they can only dim. And I saw the interpretation and every summary of the 2013 Code when I was helping a parking garage and saw LED lighting. I was trying to follow an ASHRAE Standard, 90.1, which says the parking garages should have both partial off control and automatic shutoff. And this particular garage closed in the evening, it stayed closed over the weekend, and in this garage two hours of light on

weekday evenings would have been enough, but I followed the Code; now the lights are on all night, all week, and in a hotel the equivalent would be lights that are on when the hotel is closed during the off-season, that sort of thing.

So I request that a sentence be added to Section 130.1(C)(7) before the Code is final, saying that shutoff is not precluded. You could add a sentence like this: "During periods when a space is scheduled to be unoccupied, the occupant sensing controls may, while no occupant is sensed, turn the lighting fully off or reduce the lighting level to the minimum required by a health or life safety statute, ordinance, or regulation." Something like that, it could be simpler, it could just say, "Section 130.1(C)(7) does not require lighting while the building is unused."

I should add that in this instance in this garage, the cost of the project would have been unaffected by this change, it was only a question of the settings.

My second request, as a Technical Editor, is that in looking at the 15-day language as a document, I would request for the sake of your

editors and for everyone reading the Code that your editors get to make some more edits. I noticed a few things, for example, on some pages your editors deleted 2010 from the cross-reference to the California Mechanical Code. But in some places, it still refers specifically to 2010 Code in the 15-day language. Also, Table 100.0-A, Application of Standards, it needs a cross reference to Section 110.1 about Mandatory Requirements for Appliances. People read that table first, so that table needs to be careful and complete. So a couple of examples like those, to me it indicates the 15-day language could be improved by another edit before it is final. Thank you.

CHAIRMAN WEISENMILLER: Thank you. So Don Link.

MR. LINK: Yes, this is Don Link with Controlled Energy. I'm a Union Contractor in the Lighting Retrofit business and also Signatory with the IBEW. And I want to speak to some of the opposition that we've heard from NECA and IBEW, I work with both.

Their opposition to the changes is really an attempt to increase market share at the

expense of the Lighting Retrofit Industry. The IBEW, NECA, Labor Management Cooperation Committee sent out a solicitation letter to a number of contractors, I believe 50, and it stated (quote), "The CEC is trying to roll back the Standards which will return market share to our retrofitters and unskilled competitors."

The CEC should reject the IBEW and NECA efforts to block the 15-day language because that would effectively eliminate energy conservation projects for the small and medium business sector in the state. Union Electrical Contractors do not do that type of work. I know that first hand. And in fact, they do very little lighting retrofit work at all. When my local IBEW Union Hall wanted an energy upgrade for their lighting, my compact was asked to do the work, controls and all. The fact that the locals did not call on one of its own inside wireman contractors to do this work is telling. Those contractors are not trained or expert in the energy efficiency field; mine is.

We've put in thousands of occupancy sensors, photo controls, and Smart switching devices. The retrofits we have performed over

the last 30 years have been comprehensive and state-of-the-art. Ask my Local Union Hall about the retrofit we did there.

Restoring 2013 Title 24 Standards will strand a major sector of the marketplace, the small and medium-sized businesses in the state. NECA contractors do not serve that market in energy efficiency; Lighting Retrofit contractors do. This sector has largely been unserved since the 2013 Standards took effect in mid-2014. I know, I'm a contractor that deals with that sector, and 80 percent of my workforce has been laid off because there has been basically no work in that field. I strongly urge the CEC to approve the 15-day language. It doesn't go far enough, but it will help revive energy efficiency for this sector. Thank you.

CHAIRMAN WEISENMILLER: Thank you. Do we have anyone else on the line? Okay, so at this point we're going to transition first to the staff, we had some comments, technical in nature, on the Residential, three commenters. Do you want to respond to those?

MR. SHIRAKH: Yeah. We will. I think Peter is going to respond to these questions and

then I have one comment.

MR. STRAIT: Sure. I'd like to first respond to the comment raised by Lutron regarding start time. We are working on what we can do in this area that would not require a Code change. We have some ideas we're discussing internally. We do want to be able to align with the Energy Star and believe in the one second start time. And we think we have some ways to get there that would not require changing the Code that's been proposed in front of you. I can go into greater detail if the Commissioners want me to.

Regarding the suggestions for JA 8, there was a suggestion to increase the lumen per watt requirement for lighting. The 45 lumen per watt requirement actually comes from Federal law that is a "Universal Lamp Standard" that will be going into effect in 2020 nationwide, and in 2018 here in California. In order to keep the playing field level and fair for all folks that are participating in lighting manufacture and sales, we are applying that standard to all lighting, instead of trying to carve up a standard for preempted lighting that would be that 45 lumens per watt and a higher standard for other

lighting, and trying to police where the dividing line would be between a preempted product and a non-preempted product.

Regarding 90 CRI, the current 2013 Regulations actually already establish a 90 CRI requirement, so we did not choose to revisit that in this rulemaking.

The R-9 value that we have added to that requirement is there to prevent gaming and close a hole where a person could have a lamp that meets the CRI requirement, but actually does not emit any red light at all.

In the reason established at 50, there was a number of reasons behind that, but primarily that's about the lowest value we would anticipate for something that was considered among all of the other swatches that go into making up a CRI requirement. To explain, CRI is a measurement that is an average of numbers taken from several different color swatches that are ranked from zero to 100, based on how much of that color is being emitted and reflected. Given that it's an average, you could see how you might have a 70 for one value, but 100 in three of them, averaging out to somewhere in the 80's or

90's range. Therefore, an R-9 all the way to zero compared to these other swatches would be very unlikely. You would have to have 100 on literally every other swatch in order to hit a zero or a 10. So a 50 is what we would say is the low end of what would be expectable if it was included in that averaging.

Regarding flicker, the Energy Commission is establishing a flicker test. We are looking at what specific values would be necessary and what guidance we can provide in order to meet that test. One thing that I would put out is that, in terms of human perceptibility, the physical barrier between what someone can perceive is above 120Hz. There are some products on the market, in fact, that are designed to operate at 140 to 150Hz in order to provide a benefit to consumers, and some consumers do prefer those products.

You know, we feel we've arrived at a good place here. The main thing that our flicker test does is it closes some of the potential for gaming of some of the simpler tests that are out there in the marketplace to provide a rigorous demonstration that there will not be flicker that

will be perceivable or bothersome to an occupant. And this is not solely based on whether or not there would be a negative health effect, this is also based on whether the person would simply find that light suitable; to the extent that a light might be flickering and they don't like that flicker, they would replace it with a less efficient technology that doesn't flicker. And that's part of our concern.

Regarding the lighting controls, to switch to the comment that was received on the parking garages and being left on due to the language that we have in Section 130, I would have liked to have asked the person, we do have manual controls that are typically required, and whether they could have manually shut the lighting off, rather than leave it on an automatic control to turn that lighting off for those periods when the building was known to be not in use. But we can consider possibly through guidance materials some clarification as to what the Regulations expect the behavior of those controls to be.

CHAIRMAN WEISENMILLER: Okay, thank you. So let's transition now to the Commissioners.

COMMISSIONER MCALLISTER: Okay, well, thanks. Thanks a lot. Thanks for the responses, Peter, and I want to thank everybody both here in the room and on the phone for your comments.

I think it's clear -- I'm sorry, did you want --

MR. PENNINGTON: Yeah, I'm curious, so we responded to the JA 8 comments only, we did not respond to all of the comments related to lighting alterations, and so I don't know if you're going to a Commission discussion of lighting alterations and JA 8? It seems like we should respond to the lighting alterations.

COMMISSIONER MCALLISTER: I guess I was going to sort of set that up. Yeah, thanks, Bill. That's a good reminder.

So I think we do need to talk about sort of what is the fact pattern on Nonresidential Lighting Alterations. It really seems that there are two categories, in general, of things that have been brought up today, one is a variety of substantive issues that kind of boil down to what the realities of the marketplace are, and there seem to be -- we've had a lot of back and forth about this from the first moment the 45-day

language hit the street, all the way 'til today, right now, and it seems there are about as many opinions as there are stakeholders. I would really like to base all our decisions on the facts of the matter, and I want to thank those stakeholders who have really brought market information, project cost and penetration information, that sort of thing, to this discussion.

Well, the other category has to do with process. And so I think we should talk about both of those things, but I want to give staff the opportunity to talk about the alterations and substance, to work through those issues first, and then we can talk about process perhaps.

MR. SHIRAKH: Shall I proceed?

COMMISSIONER MCALLISTER: Yeah, go ahead Mazi. Thanks very much.

MR. SHIRAKH: Thank you. So we've heard both sides of the argument here and so the question basically boils down to whether the proposed 2016 Code language will meet the energy parity with 2013 and beyond, as staff thinks we do. So I thought I'd start by actually describing what the language does because I've

heard several versions of this language that was unfamiliar to me. So to set the record straight, let's just look at one example here, there are several pages here, but we don't need to go through all of them, but I think the one example will suffice.

Under Entire Luminaire Alterations, there are two choices: under (I) is basically the 2013 Standards requirement, is for alterations that either adds a luminaire or removes or reinstalls a luminaire, or reflects luminaires, and more importantly under (C), adding, removing and replacing walls or ceilings, so this would be major gut rehab, tenant improvement-type projects. They are required to meet the lighting power densities, 146, and all the control requirements which includes daylighting and multi-level controls and everything. So again, if you're in a gut rehab and major tenant improvements, you have to meet all these requirements as it was under 2013 Standards.

Under double ii, this is what was being referred to several times today as an exception or an exemption, it's really not an exemption, it's an alternative path to compliance. For some

of these projects they're replacing new luminaires. We have provided relief from several lighting control requirements which has been noted, which will be daylighting and multi-level controls in exchange for luminaires that reduce the luminaire power by 30 percent.

Several times it was mentioned that, you know, when people take this off ramp there are no control requirements, that is not factually true, there are all these control requirements here, the automatic shutoff controls, it includes occupant sensors, and many other types, even for parking garages it requires multi-level controls.

So the question basically comes down to does reducing the power by 30 percent save enough energy to achieve parity with 2013 by basically displacing some of the perceived energy losses from daylighting controls or multi-level controls? What is interesting about multi-level controls is that, even though they're nice, they work really good for new construction and daylighting and other applications, in most retrofit applications the same amount of energy savings can be achieved with just a regular on/off occupant sensor.

So the savings are going to be there, it may not be as aesthetically pleasing and all, but you could even argue that an on/off occupant sensor could save more energy than a partial off occupant sensor.

Related to daylighting, recall that most of the buildings that are going through these lighting retrofit alterations, they're 10 to 15 years old, and there's probably limited daylighting opportunities in them anyways, because for daylighting to work, you already have to have either top lighting, skylighting, or side lighting, it's generally not cost-effective to adding new daylighting sources. And if those are not there, it's generally not cost-effective.

Where daylighting is most cost-effective are probably in office occupancies and places like airport concourses, and so forth where there is plenty of opportunity for daylighting. In many others like retail, there's probably generally limited daylighting opportunities in existing buildings including retail. So again, does 30 percent save enough energy to achieve parity and does it save enough energy to displace some of these lighting losses from advanced

controls?

MR. BREHLER: And, Mazi, this is Pippin Brehler again from the Chief Counsel's Office. For the folks in the room and the record, what you were just showing was a clean version of the 15-day language in Section 141.0(E)(2)(i). Correct?

MR. SHIRAKH: Correct.

CHAIRMAN WEISENMILLER: Thanks.

MR. SHIRAKH: I'm trying to open this document and nothing is happening. There. So in an attempt to show whether the 30 percent actually saves enough energy to achieve parity, what we did was we went back, it's one of the advantages of being around for so long is that you actually remember all the revisions to the Standards from way back. So starting with 2001 -- and before 2001, we actually have the 1998 Standards, and the Lighting Standards between '98 and 2001 didn't change, so I didn't include it. So what we have here under each cycle of Standards, the LPDs that were assigned to the functioning areas that you see on the left column. So these are the LPDs and --

COMMISSIONER MCALLISTER: LPD is Lighting

Power Densities.

MR. SHIRAKH: Lighting Power Densities, sorry. And so the LPDs were extracted from those Standards, they're listed in these columns, and what you see below is the average of LPDs for all these function areas, and then what the percentages here show is that for the average of all these lighting power densities in 2001, it was about 20 percent higher than 2016. So these go back compared to the 2016.

And then note what happens from 2001 to 2005, a huge drop. We did a major lighting improvement in the 2005 Standards. So whereas 2016 is about 20 percent better than 2001, it's only 10 percent better than 2005. And from there, there's been incremental changes ever since. So one way of looking at this would be to say, well, even looking at the comments from both the Acceptance Testers and the Retrofitters, the average life of the lighting system that gets subjected to retrofits is about 10 to 15 years. So it puts us someplace in between 2005 and 2001 Standards, assuming that the Standards will go into effect in 2017, then the 2005 Standards will be about 12-years-old, so you know, we're looking

at that.

So even if all the lights were built under 2001, it's only 20 percent better than the 2016 LPDs. Our language allows a second option that says the lighting reduction should be 30 percent, so that's already 10 percent better than this. So that's where the savings are coming in.

Now, one would say that, you know, this right here is just an arithmetic average of all the LPDs, they're not corrected by the square footage, which is probably true, you know, we treat warehouses and offices under this approach the same as restrooms and corridors. So what we did was we went back and looked at our impact analysis and the various square footages assigned to these function areas, and we corrected them. And the ones you see in red are the function areas, the measured function areas that we had data for, and the rest of them were all captured under miscellaneous. So we equally divided like 1.5 percent of the rest of them.

And then we ran the weighted calculation which is represented in this table here, and what you see in this column here is basically the weighted average LPD for each cycle. Once you do

the weighted average, you know, you see the numbers kind of moved somewhat, so this 19 percent becomes 27 percent. So what this means is that under the '21 Standards, under this weighted average approach, the LPDs of 2016 are about 27 percent better than 2001. And then subsequently that number drops to 17 percent and 11 percent and three percent as we move that closer to the present time.

So again, looking at 2005 and 2001, that's where most of the lighting retrofits would be. Once we average those two, the savings would be about 22 percent for the average of these two cycles. Our 30 percent power reduction is actually at 36 percent better, lower LPDs even comparing it with 2001 and 2005.

What's interesting to note here is, as we move into the cycle, the first year and the second year, the window starts shifting towards the right of this column, so this number gets larger, like in a few years when the 15-year window covers the entirely 2005 and beyond, the savings reduction go up significantly to 88 percent. And then they will approach 90 and 100 percent as we get closer to the present time.

So the bottom line is that the 30 percent savings reductions will save energy. They save energy more than the LPDs in almost all cases, and the savings are significant enough to more than compensate for the loss of some of the lighting controls that are proposed.

The language that we have proposed in my opinion strikes the correct balance between LPDs and controls, it does provide relief from some Advanced Lighting Controls. One of the things that I probably need to note here is this Exception 4, Acceptance Testing Requirements of Section 134 are not required for alterations or lighting controls, are added to 20 or fewer luminaires. This was mentioned several times in both Tom Enslow's letter and some of the testimony today. This is a very small project. In this room we have more than 20 luminaires, and if you have an automatic shutoff control in the closet here, that we do, that basically is going to exceed this requirement. So the rest of the Acceptance Testing will kick in. So this is truly a small number.

Each luminaire covers roughly about 100 square feet, so 20 luminaires is about a 2,000

square foot space, the size of a typical home. So it is an exception for very small projects.

And the other thing that was mentioned several times was the PG&E study and tool that pointed out the deficiencies of the 45-day language, it is correct, that there was a big deficiency as a result of the 45-day language, both PG&E and Tom Enslow's group correctly pointed out to us those deficiencies, that about 250 gigawatt hours hole would be created had we gone with Version 9 of the Standards.

So that very same tool was used by the same people who developed them. As we moved more and more towards controls, you know, we kept updating the tool with the new information related to energy savings and controls. So the same tool that pointed out these deficiencies is also the same one that's now pointing out that not only have we reached parity, we've actually exceeded it by 38 gigawatt hours per year. If there are any questions about the details of that tool, I have it here on this computer and there are contractors here to provide any additional support or answer any questions. So with that, I can take any questions.

COMMISSIONER MCALLISTER: Thanks a lot, Mazi. I guess that tool has been docketed and is available, is that correct?

MR. SHIRAKH: The tool has been docketed and it has actually been shared with Tom Enslow's group, they asked some questions, we provided some clarifications. And all of these documents are in the docket.

COMMISSIONER MCALLISTER: Okay, great. So I'm going to just move forward with some brief comments and, Peter, did you want to say something very brief?

MR. STRAIT: Actually I just had two things I wanted to add to Mazi's discussion.

COMMISSIONER MCALLISTER: Quickly.

MR. STRAIT: Very quickly. First, the Governor does, we are absolutely sensitive to the Governor's direction. The Governor has directed all State agencies to be sensitive to the needs of small business and this was started by contacts by small businesses to us, that's one of the things that got this ball rolling. These changes do follow the pattern established in the 2013 Regs where explicitly that allows for reducing the requirements for daylighting and

multi-level controls when more efficient lighting is installed, so this is falling in the same line with that.

Third, I just want to acknowledge a technical aspect. There is ultimately an antagonistic relationship between savings of high efficiency lighting and the controls for that lighting in that. If you have a 100 watt incandescent lightbulb and you knock that down to 70 percent of its power, or automatically shut it off, you're saving 30 to 100 watts. But when you replace that with an 18 watt LED, then putting at a partial on state where it's only bringing 12 watts, you're saving much less energy and that's where some of the cost-effectiveness discussions are taking place. So fundamentally when you solve extremely efficient lighting, that's where we have to be very sensitive about whether controls also pay for themselves when you've got that high efficiency lighting paired with them.

COMMISSIONER MCALLISTER: Okay, thanks.

MR. SHIRAKH: If I may add one more point, the savings that we're projecting is based on first year savings. As we move in the future, these 30 percent savings becomes much more

significant.

COMMISSIONER MCALLISTER: Right, so --

MR. SHIRAKH: So the LPDs don't save much after that.

COMMISSIONER MCALLISTER: So I think everybody here who is in attendance and who reads this later is going to be, I think, very clear that the Commission has had a huge amount of interaction on this over quite a sustained period with a wide wide variety of stakeholders, and I think as we've just heard, the variety of comments show that kind of where you stand on this issue has a lot to do with where you sit in the marketplace. And there's been a lot of technical backup on this and I'm confident that staff has followed quite a robust process to get to this point.

You know, I think we heard over and over again, ever since 2013 was put to bed, that it was confusing people and it had some issues, and originally the idea here was just to kind of clean it up and get clarified, right? As we did that, I think the staff ended up kind of thinking rigorously about paying attention to the marketplace, thinking rigorously about each

detail as the language was tightened up, and that ended up bleeding over into some substantive conversations about, okay, well, what is the best option for the 2016 Code. We had a couple workshops about this, one in particular just lots and lots of detail with very much engagement from a wide variety of stakeholders and post that workshop, some of them brought actual market data to us and that is vital, I think, for this process. Costs of projects, size of projects, types of pressure that actual building owners are under, what the criteria for adoption actually is. So understanding that we need to respect sort of the private sector situation and the retrofit market, generally, it's clearly very fragmented, a lot of different kinds of projects, we wanted to make sure that sort of the level of requirements on a given project was commensurate with what's doable in the marketplace as it is, even if we push it a little bit.

So we went through quite a process here. And my direction has been to move forward on a path to absolutely meet the State's goals, be aggressive about the Governor's goals on energy efficiency, and get to an end point that does all

those things. You know, what are the impediments in the marketplace, you know, permitting a project and executing it to Code, trying to thread that needle to make sure that projects aren't driven underground or don't happen altogether. We hear over and over again that that happens, and we heard it some today, as well. So you don't get any energy savings at all if you don't do a project. And so enabling Code to work with the marketplace is critical.

Okay, so having said all that, I think I don't actually want to talk further about the substance of the Regs as proposed today, I really want to talk about process. So I think one thing we've heard and probably the most concerning thing to me is that there are stakeholders who don't feel that the process met their needs, and that would be a reason to convene further discussions about this particular part of the Code. And I wanted to have a conversation perhaps at the dais or talk to staff about what that might look like, ask Pippin or Courtney what the options there might be.

MR. BREHLER: Certainly, Commissioner. This is Pippin Brehler in the Chief Counsel's

Office. If I can glean your meaning, what you're wondering is whether these lighting retrofit provisions could undergo some further process, and if that's the case, then the answer is yes, that the balance of the Standards could be considered for adoption today, and these provisions could be held for further public comment, further consideration within this rulemaking, within the ambit of the Notice of Proposed Action that was issued earlier. The only challenge would be ensuring that anything that is considered is wrapped up within the year of the notice and also gets to the Building Standards Commission in time for incorporation into the next cycle of the Building Code --

COMMISSIONER MCALLISTER: Okay, so this would not need a new rulemaking, it could be within the existing rulemaking, and sort of when would the process need to be wrapped up and folded back in to be submitted to the Building Standards?

MR. BREHLER: The Building Standards Commission has told us that they would like our rulemaking package by around the beginning of October to give them time to review it and put it

on the agenda, to have the month of October to review it, and have it available at the beginning of November to put on one of their Business Meetings. And they're anticipating approving the entire Building Code in the December/January timeframe.

COMMISSIONER MCALLISTER: Okay, great. So thanks. I think that kind of lays out the real issue here, which is, you know, while certainly on substance, I think we could talk some details and I personally feel that we're in a good place and there's quite a bit of backup to where we ended up. If the process sort of hasn't allowed everyone to feel comfortable with that, or at least to have their say in the meantime, I think we need to try to remedy that.

CHAIRMAN WEISENMILLER: Yeah, I think staff has certainly had a good opportunity to lay out their work on this and it makes a lot of sense. Obviously at this point, given the time, I typically would ask other parties to then respond; but I think given the nature of where we are procedurally, it makes sense to move forward on adopting the Building Standards, except for this piece, to hold this piece, certainly

encourage more communication and making sure that we nail things down.

COMMISSIONER MCALLISTER: And I guess one more question for Pippin. I would assume you would recommend sort of a fixed comment period by which this additional conversation was closed out, you know, whether it's 15, 30 days, or whatever.

MR. BREHLER: That's right. Yeah, certainly it would still be subject to the comment period requirements of the Administrative Procedure Act and the Building Standards Law and perhaps some other provisions, as well. But we would just make sure that we have the comment period that is required, minimally, and then any additional -- you're always free to expand the comment period and have additional opportunities to engage stakeholders.

COMMISSIONER MCALLISTER: Okay, great. So I don't know if anybody else has comments? No? Okay. Okay, thank you. So we actually have two items here, one is a Negative Declaration and the next is the Update itself, so I'm going to read a point about each as part of a proposed motion.

MR. BREHLER: Excuse me, Commissioner, before you do that, we also have, as Mr. Strait mentioned earlier, staff had a revised proposed resolution, there is a Proposed Resolution here in anticipation of this, that I should now give you and make available in the room.

COMMISSIONER MCALLISTER: Okay, yeah, absolutely. Thanks.

MR. BREHLER: And for the record, what this Resolution shows is what you're asking for in tracked changes, that way the folks in the room can see what the differences are.

COMMISSIONER MCALLISTER: Sorry, I was distracted. Could you repeat that?

MR. BREHLER: Sure. So the Resolution that's being passed out now has what we anticipated you doing now with the changes shown in tracked changes mode just for ease of identification. And those tracked changes are as compared to what staff distributed this morning.

COMMISSIONER MCALLISTER: This morning, okay. Great. So now I'm referring to the redlined document that was just handed out and will be docketed as soon as possible, correct?

MS. VACCARO: Well, if in fact the

pleasure of the Commission is to adopt it, then yes. What we wanted to do in anticipation of any possibility of how this might play out today is to have this available. And what you're see is you've got a Proposed Resolution that mirrors what Mr. Strait submitted this morning, although the difference is there's a redline strikeout to enable individuals to see exactly what we're excising and what it would be are the very sections that we were talking about earlier today. And so if you want to, Pippin, I think it would probably be good because folks who are participating via WebEx don't have the benefit of seeing this document, the changes are not many, I think it would probably be good for Pippin to just be able to walk those briefly through on the record.

CHAIRMAN WEISENMILLER: Please.

MR. BREHLER: Certainly. I don't know if there's an interest, I could bring a copy down on a thumb drive in a moment for the electronic broadcast, but in the absence of that, so the controversial provisions for the Nonresidential Lighting Provisions, for the Additions and Alterations, those changes are in Sections

141.0(B)(2)(i)-(l), and then there were changes to Tables 141.0(E) and (F). And so the Resolution on page 2 describes adoption of the Negative Declaration for the Standards with the exception of that, and it refers to as described below. The Resolution would adopt the provisions of the Negative Declaration pertaining to the proposed additions and amendments to the Building Energy Efficiency Standards as described below.

There is a change on page 3 that quotes from the Notice of Proposed Action that initiated the rulemaking, letting the public know of changes like that in the 15-day language that relate to the same issues and subject of the Regulations at issue. There's additional similar language on page 5 where the discussion wraps up about the Negative Declaration adopting the Standards as adopted today, what you're about to move, and would adopt the provisions of the Negative Declaration as those provisions pertain to the proposed additions and amendments to the Building Energy Efficiency Standards as described below here. There are a few minor edits that approximate the savings and benefits in light of not adopting these provisions at this time, a

similar edit on page 9, and then a similar edit on page 17, and then the heart of the matter on page 19, basically the conclusion of the Resolution that the California Energy Commission would adopt a Negative Declaration for the provisions of the Building Energy Efficiency Standards described in the next paragraph of the Resolution, and based on the content of the initial study as it pertains to the provisions being adopted today, and based on the full record including the comments today. And then the next paragraph describes the 15-day language with the Errata that staff circulated with the exception of the following proposed changes: And the current language of the following provisions would remain in effect until such further action as the Commission were to take on this for the California Code of Regulations, Part 6, Sections 141.0(B)(2)(i)(j)(k) and (l), and Tables 141.0(E) and (F), and describing them this way comports with the ability to sever out these provisions and continue to consider them, and ultimately make any decision that you feel is appropriate. And then directing staff and the Executive Director to take all the steps that are necessary

to get the rulemaking package to the Building Standards Commission, including here the additional text which would be the published corrected versions of the 2016 Standards that reflect the Errata that staff has brought forward and at the moment retained in the existing provisions of 141.0(B)(2)(i)-(l) and Tables 141.0(E) and (F) and any other necessary non-substantial changes to ensure that the Regulations are internally consistent with each other, in light of carving this piece out for the moment.

COMMISSIONER MCALLISTER: Okay. So I'm going to move the adoption first of the provisions of the Negative Declaration pertaining to the Proposed 2016 Additions and Amendments to the Building Energy Efficiency Standards as I'm about to describe, and mirroring what Pippin stated just now.

Second, the 15-day language for the 2016 Update to the Building Energy Efficiency Standards with the exception of the proposed changes to Sections 141.0(B)(2)(i)(j)(k) and (l), and Tables 141.0-(E) and (F) of the Standards, and staff's non-substantial changes in its

Errata.

And third, the corresponding proposed Resolution with the attached Errata of non-substantial changes, which has been modified to reflect our decision today, and that has been made available to the Commissioners and the interested public at today's Business Meeting.

CHAIRMAN WEISENMILLER: Okay, so we have at least two items, we have a Negative Dec and we have the Update, and I need a second.

VICE CHAIR DOUGLAS: Second.

CHAIRMAN WEISENMILLER: For both?

VICE CHAIR DOUGLAS: For both.

CHAIRMAN WEISENMILLER: Okay, good.

MS. VACCARO: Yeah, and it also includes the adoption of the Resolution, so that's why the motion was packaged as essentially approving each of the three of those things.

CHAIRMAN WEISENMILLER: Great. Okay. We have a motion, we have a second for all three.

COMMISSIONER MCALLISTER: Okay, go for it. It's been moved, so call for the votes here.

CHAIRMAN WEISENMILLER: All those in favor?

(Ayes.) All those opposed? So it's

basically 5-0.

COMMISSIONER MCALLISTER: I'm looking forward to the process to bring this to closure and really again want to encourage and exhort all the stakeholders who have information that can inform this discussion to bring it to the table so that we can make a fully informed decision based on the needs and realities of the marketplace, so that we can massively scale-up efficient lighting in our built environment in California. So thank you very much for bearing with us throughout this discussion.

CHAIRMAN WEISENMILLER: Thanks for everyone's participation today and great progress so far, but a lot of work to do on this issue in a timely fashion.

So let's go on to Item 6.

COMMISSIONER MCALLISTER: So before everybody heads out, let's just circle back, actually. I want to -- I want to highlight the importance of this moment to everybody. You know, I don't want people to forget, right, we've had a little bit of a contentious discussion about one slice of the Title 24 Update, but this is huge for California and we talked about it

with respect to Residential, but I don't want to lose sight of the non-residential, as well. This is huge for California. We're going to get to the end point on the Nonresidential Alterations, but new construction is done in both Nonres and Res, and we're going to end up here presently, starting next year we're going to end up with a new construction, with a new building fleet that increasingly looks extremely high performing and comfortable and very low impact on our environment, and this is exactly where California needs to be heading, it's where our Governor wants to go, and we're all in with that broad goal. And so I just wanted, with the last bit of discussion I wanted to make sure we did not lose sight of that. This is a very very big deal and I want to just congratulate staff and all the stakeholders for participating in the rulemaking and, you know, let's move ahead with the builders and contractors and make it happen.

CHAIRMAN WEISENMILLER: Yeah, and certainly the rest of us salute you for your leadership in this area. But with that said, Item 6.

(Applause)

MS. GREEN: Good afternoon, Chair Weisenmiller and Commissioners. I'm Lynette Green, Project Manager for the Renewables Portfolio Standard Eligibility Guidebook. And to my right is Gabe Herrera, Legal Counsel.

Staff is requesting approval of revisions to the RPS Eligibility Guidebook. These proposed revisions are set forth in the Eighth Edition of the RPS Guidebook.

The RPS Guidebook describes the eligibility requirements and process for certifying renewable energy resources as eligible for California's RPS and describes how the Energy Commission verifies compliance with the RPS. Staff is proposing revisions to this Guidebook to implement changes in the law as a result of AB 1478, incorporate requirements previously adopted by the Energy Commission in 2014, and the several Resolutions, clarify various requirements and processes related to RPS certification and verification, and improve the clarity and organization of the Guidebook.

These latter changes resulted in a number of non-substantive changes and edits to the text in various sections of the Guidebook. Before I

discuss the proposed changes in more detail, let me provide a brief overview of the process to develop the proposed changes to the Guidebook. Staff held two workshops to determine the scope of potential changes that would be considered to the Guidebook, one in September 2013 on the treatment of station service for the RPS and one in January 2014 on items described as outstanding issues in the Guidebook, and new items that had been brought to the staff's attention.

Staff considered all oral and written comments received at those workshops and worked closely with Commissioner Hochschild, the Renewable Lead Commissioner, to prepare and propose revisions to the Guidebook as needed and appropriate.

Additionally, three Resolutions related to the requirements and procedures for the RPS were separately approved and adopted by the Energy Commission during 2014. The first Resolution, No. 14-0422-11, was adopted on April 22nd and established a process that allows the Executive Director to extend and waive the application deadlines for RPS certification based on certain criteria.

The second resolution, No. 14-1007-10, was adopted on October 7th, and established a process to allow creation of retroactive renewable energy certificates. And a third Resolution, No. 14-1117-14, was adopted on November 17th to establish a process to implement AB 1478, which amends and clarifies RPS Eligibility requirements for hydrogenating units up to 40 megawatts in capacity that are operated as part of water supplier conveyance system. Staff has incorporated provisions from these three Resolutions into the proposed Guidebook revisions being considered today.

The provisions from these Resolutions are being incorporated into the Guidebook so all certification and verification requirements and procedures for the RPS are compiled in one document.

Staff released a staff draft RPS Eligibility Guidebook, 8th Edition, on January 16, 2015, with written comments due February 17th. After considering all the comments and discussing them with the Renewables Lead Commissioner, it was recommended that the proposed Guidebook Revisions by limited to those

topics previously identified in the scoping workshop, and that any new topics be addressed in the next round of Guidebook revisions.

It is anticipated that a scoping workshop to discuss future Guidebook revisions will occur in early 2016. With the Renewables Lead Commissioner's direction and approval, staff released a staff final RPS Eligibility Guidebook 8th Edition on June 1st, 2015, with written comments due June 5th.

I will now briefly discuss the proposed revisions to the Guidebook which can be found under the Section "What's New in this Guidebook." In summary, the proposed Guidebook revisions will do the following: Implement changes in law under Assembly Bill 1478, which revise the requirements for Hydroelectric Generation Units with a capacity of not exceeding 40 megawatts that are operated as part of a water supplier conveyance system.

Although the Commission adopted the Resolution No. 14-1117-14 in November of 2014 to implement AB 1478, Guidebook Revisions are proposed to both incorporate the provision of this resolution into the Guidebook and to clarify

these provisions, revise and clarify the requirements for RPS certified multi-fuel facilities related to their use of nonrenewable energy resource consistent with prior changes in law under Assembly Bill 1954. This legislation limits a facility's use of non-renewable energy resources for RPS purposes. Prior to Assembly Bill 1954, facilities were allowed to use higher amounts of non-renewable energy resources and still claim 100 percent of their generation as being RPS eligible.

This was reflected in prior versions of the RPS Guidebook, which grandfathered some facilities that were certified at the inception of the RPS Program and allow them to use up to 25 percent nonrenewable energy resources, and still consider 100 percent of the generation to be RPS eligible.

These grandfathering provisions are now being phased out consistent with Assembly Bill 1954. For facilities that were eligible under the existing Renewable Facilities Program, the allowance ends upon expiration of the facility contract that was in place as of December 31, 2011.

If a facility was certified as a renewable qualifying small power production facility, the allowance ends upon expiration of the facility contract that was in place on the day this 8th Edition of the Guidebook is adopted.

Revised and clarify the Guidebook definitions of dedicated pipeline to include a functionally dedicated pipeline with no reporting requirements for biomethane. The proposed revisions were made to address concerns raised by SMUD. The current definition characterized as private carrier pipelines serving more than one end-user as a common carrier pipeline, which must meet delivery requirements and dedicated pipelines. The revised definition allows a functionally dedicated pipeline to be considered dedicated in situations where the operation of that pipeline prohibits the use of the gas at any other facility in all controllable circumstances. Applicants must provide documentation of the pipeline operational plans and actual execution when applying to be considered a functionally dedicated pipeline.

Revise and clarify the Guidebook definition of Station Service so it better aligns

with operating rules of the Western Renewable Energy Generation Information System, or REGIS. Under the current Guidebook, electricity used to meet a generating facility's station service load, or parasitic load, is not eligible for the RPS. This prohibition is not changed by the proposed revisions. The proposed revisions are intended to clarify station service to prevent power that is used to produce electricity, but which is not delivered to the end use customer from counting toward the RPS.

Revise and clarify the Guidebook definition of Prime Generating Equipment for repowered facilities so the equipment used for different renewable resources is treated consistently. The proposed revisions were made to address concerns raised by the Bioenergy Association of California regarding the equitable treatment of all technologies.

Revise and clarify the definitions of various Guidebook terms to reflect updates and non-substantive changes and edits to the Guidebook text.

Revise and clarify the method for determining the amount of incremental generation

from hydroelectric generation facilities that may be used for the RPS. The revisions were proposed to address a proposal by PG&E to allow incremental generation to be determined based on a pro rata approach using the rated improvements of the facility as approved by the Federal Energy Regulatory Commission and documented by the Applicant.

The revisions provide an alternative method for determining the amount of incremental generation associated with eligible efficiency improvements that may quality for RPS.

The Guidebook also includes a number of revisions related to the documents of deadlines and format, RPS Eligibility dates, and reporting requirements. These include allowing electronic submittal in PDF and Microsoft Excel, allowing earlier RPS Eligibility dates if facilities meet certain conditions, allowing POUs to claim electricity generation from POU-owned aggregated units, beginning January 1, 2011, or when the generation was first available in REGIS, whichever is later, if the aggregated units meet certain criteria.

Adding a section for the annual reporting

of information on biomethane facilities using a functionally dedicated pipeline. Adding a section explaining reporting requirements for existing hydroelectric facilities operated as water supply or conveyance systems.

Extending the records retention period from three to five years to account for the three and four-year RPS compliance periods.

Adding a section to implement the provisions of the Commission's adopted Resolution that allows Executive Director to extend and waive RPS certification application deadlines if certain criteria are met.

Clarifies that biomass facility applicants must provide documentation to confirm their proposed fuel use meets the definition and requirements of biomass conversion, as defined in statute.

Clarifies that a from is not required to submit for simple amendments related to biomethane facilities that have changes only to their contract and four facilities that have changes to the authorized individuals, officer/agent, provided they are a representative of the facility holding the original

certification.

Also, we updated the forms as needed to reflect changes made in the Guidebook, as well as a glossary of terms.

As of June 8th, we received three sets of written comments which were also docketed and posted online from PacifiCorp, Pacific Gas & Electric Company, and San Francisco Public Utilities Commission. In PacifiCorp's written comments, they thank Energy Commission staff for making additional RPS Guidebook changes to clarify several topics, including changes related to offline station service, and the reporting of renewable energy credits to other agencies. PacifiCorp also recognized that the proposed RPS Guidebook changes identify energy imbalance market as an outstanding issue to be addressed in the future. PacifiCorp recommends adoption of the Staff Final Eighth Edition of the RPS Guidebook.

PG&E stated that the staff Final RPS Guidebook incorporated most of their earlier comments, except in one area dealing with energy storage. To give you a little background, an energy storage may be considered an addition or

enhancement to an RPS Eligible Renewable Generating facility if that device is either integrated into a generating facility, or directly connected to a generating facility. PG&E's comments relate to an energy storage device directly connected to a facility such that electricity that is delivered from the renewable generator to the energy storage device behind a meter, used for RPS purposes, and any electricity from a source other than the renewable generator is included as an energy input at the facility. PG&E is requesting staff to modify the language to include a reference to multi-fuel requirements as specified elsewhere in the Guidebook, as this scenario may include charging from the grid.

Staff does not think that a Guidebook change is warranted because, as specified in the proposed RPS Guidebook, any electricity from a source other than the renewable generator is included as an energy input to the facility, which would include multi-fuel sources.

In addition, PG&E wanted Energy Commission staff to be aware of a potential counting issue associated with the Net Energy Metered (NEM) renewable generators paired with

storage. PG&E is concerned about the difference in the NEM credit counting between the Energy Commission's calendar year, netting interval, and the real time basis of NEM credit eligibility. PG&E intends to clarify this issue in the CPUC's rulemaking on Net Energy Metering. Staff recommends that we defer to the CPUC rulemaking and wait for the outcome to determine if a Guidebook change is needed in the future.

Lastly, the San Francisco Public Utilities Commission submitted comments on the topic of incremental generation. The proposed RPS Guidebook identified three methodologies for determining incremental generation, Direct Measurement, Calculated Measurement, and Rated Facility Improvement for hydroelectric facilities only.

The San Francisco PUC expressed a concern with language for the calculated measurement method. This is the same language that was carried over from the seventh edition of the RPS Guidebook. Staff does not see a need to change this language since it currently adequately describes how incremental generation is calculated by considering a facility's baseline

renewable and nonrenewable generation components.

Staff requests that the Commission approve the Resolution adopting the proposed revisions to the RPS Eligibility Guidebook. This concludes my presentation. We're happy to answer any questions.

CHAIRMAN WEISENMILLER: Thank you.

MS. GREEN: Thank you.

CHAIRMAN WEISENMILLER: We have three public comments, so let's take those and then we'll turn to questions. Tim Tutt.

MR. TUTT: Good afternoon, Commissioner. Tim Tutt from Sacramento Municipal Utility District. I must admit, I thought this was going to be a good morning before the whole Building Standards stuff; I'm still pleased to be here.

We support the adoption of the Eighth Edition of the Guidebook. We think it's been substantially slimmed and we applauded staff for that in our comments back in February, taking a lot of the material out of it that is no longer necessary. We very much appreciate the addition of a functionally dedicated pipeline structure, a definition that I think SMUD can live with, with our pipeline that we use to serve our power

plants and that has some biomethane going through it. And we appreciate the incorporation of the Resolutions that you adopted.

I guess there's two things that I'd like to ask about or talk about. One is that there's still a provision in the Guidebook that prohibits the switching of a biomethane contract from one designated facility to another. You must understand that the designation of a facility is not part of the biomethane contract for these existing contracts, it's something that happens after the fact, and so is not at all prescribed or prohibited by anything in AB 2196 to switch from one facility to another.

SMUD has about 20 percent of our RPS procurement in terms of biomethane going to our Cosumnes Power Plant. And we're concerned that should something God forbid happen to that power plant, should it have a major problem or issue, that in effect that 20 percent of our RPS procurement would essentially be deemed no longer compliant, no longer part of the renewable procurement we have. That would be a violation of our contracts and we don't feel like that's a reasonable position to put us in, and there's

nothing we can see in AB 2196 that suggests that that should happen.

And second, we appreciate the special case that was included for POU ownership of Behind-the-meter systems back to January 1, 2011, but SMUD continues to maintain that all of our Behind-the-meter solar that we have procured the RECs for, that we have reported to the CEC, that we're tracking in REGIS, that we've used the ITS Tracking System for before we got them in REGIS, all of that should be eligible back to January 1, 2011 when SBX12's first compliance period started. SBX12 started -- allowed these unbundled RECs or these distributed generation systems to be included. We started procuring them early, but we certainly, from January 1st on, it doesn't make sense to not allow that procurement in our minds. We need something more than just that limited exemption that's in the current Guidebook. We'll work with staff to help resolve some of these issues and appreciate your time today. Thank you.

CHAIRMAN WEISENMILLER: Thank you. Valerie Winn.

MS. WINN: Good afternoon, Commissioners.

Valerie Winn with Pacific Gas and Electric Company. I too also wanted to add my thanks for the work of the staff on updating this Eighth Guidebook. As has already been noted, many of our suggestions were reflected in the Updates and we were very pleased with that.

We did have one area that, as noted, we continue to focus on and this was really in the area of energy storage and where there's storage attached to a renewable device, and that storage could be either charged from an onsite renewable generator, or it could be charged from the Grid. And our concerns are really aimed at adding clarifying language that would really say, if you're charging from two different sources, the max that you could ever say is going to be renewable is based on the size of that renewable facility you have. And that's really aimed at maintaining the integrity of the RPS portfolio and how things get counted there.

So we'll continue to work with staff on that issue and I understand they think it's appropriately addressed by the language that's there, and we'll just work through that side by side, and if we feel that this language is still

needed, we'll bring it up again for the Ninth Guidebook.

CHAIRMAN WEISENMILLER: Great. Thank you.

MS. WINN: Thank you very much.

CHAIRMAN WEISENMILLER: Stay tuned, huh. Ormat Technologies, I believe, is on the line.

MR. MULLER: This is Phillip Muller speaking on behalf of Ormat Technologies. Ormat operates over 200 megawatts of geothermal capacity in California for a total of 400 megawatts in WECC. I apologize for not being there in person this morning, but I still have this water falling from the sky and I didn't know what to do, so I decided to stay in the office.

Ormat's primary concern is with the description of station service specified in the Guidebook draft. Specifically, the examples of station service discussed in Note 22 on page 29 of the draft, that does not apply to station service directly consistently, and instead unfairly discriminates against geothermal resources.

According to that note, all of the energy required to transport geothermal brine from the

well site, the point of production, to the generation facility is considered station service. Alternatively, for biomass facilities energy to transport and process fuel is excluded from the definition of station service. For biomethane facilities only the incremental energy required to move the fuel from the purchase point to the combustor is considered station service.

Thus it appears that only for geothermal resources is the energy required to move the fuel from the production location to the generating facility considered a station service.

Now, to achieve consistency among resource types, Ormat recommends that the Commission revise the Guidebooks to specify that for all technologies, energy required to transport fuel from the production point to the generation facility should not be considered a station power. And that is our concern.

CHAIRMAN WEISENMILLER: Thank you. Steven Kelly.

MR. KELLY: Good afternoon, Commissioners. I'm Steven Kelly, the Policy Director for the Independent Energy Producers Association. And I just wanted to focus my

comments, I wasn't planning on speaking today because we're generally supportive of the Eighth, the draft that was circulated on June 1, didn't comment on it officially.

But I just wanted to bring to your attention, following up on some of the comments that have already been made today by my colleague Tim Tutt and others, this issue about behind-the-meter RECs and the treatment of that is very substantive, complex, and controversial. And to the extent there's any consideration for integrating new language into this version, the eighth version of the RPS Guidebook, dealing with that issue I would hope that you would allow parties additional time to review, comment and consider that. If we're taking it up in the Ninth version, that's fine, we'll deal with it then, but I do have some concerns about any modifications that haven't been released in the June 1st draft because they will likely be, like I said, very substantive, very controversial, and need consideration. So I'm supportive of moving forward on the Eighth version that was released on June 1st, I think that's fine; if additional substantive things are added to that version,

then I would hope that you would give us an opportunity to review that language because it's critical that we have an opportunity to review that. Thank you.

CHAIRMAN WEISENMILLER: Thank you. Okay, so anyone else either in the room or on the phone? Okay, so let's turn to the Commissioners.

COMMISSIONER HOCHSCHILD: Let me first thank Lynette and Gabe for your steady hand at the wheel. I know the previous item took five hours, I was hoping you'd be okay if we just did four and a half on this one? I'm kidding.

CHAIRMAN WEISENMILLER: Sleeping bags.

COMMISSIONER HOCHSCHILD: Yeah, exactly. No, I do hear all the comments from the stakeholders. I'm comfortable with where we are with the Regs as they've been drafted today and unless there's further discussion, I would move this item.

COMMISSIONER MCALLISTER: I'll second.

CHAIRMAN WEISENMILLER: All those in favor?

(Ayes.) This also passes 5-0.

CHAIRMAN WEISENMILLER: Let's go on to Item 7. City of Davis.

MS. VACCARO: Chair Weisenmiller, before we move on, if we might be able to clarify for folks who perhaps are a bit confused about some of the communications earlier this morning.

There were votes taken on Items 1, 3 and 4 by the four Commissioners before Commissioner Hochschild came, and there was the possibility that those votes would be reopened in order to allow him to vote, as well, but that did not happen, those votes did take place, they're on the record, those items moved forward with 4-0 votes. And it's my understanding that we are not going to be moving forward to reopen those votes. Is that --?

CHAIRMAN WEISENMILLER: That's correct. Thanks for getting that on the record to make sure there's no confusion. Let's go to Davis.

MR. MCLEOD: Can I have three minutes on my clock, please?

Good afternoon. I'm Barry McLeod with the Energy Efficiency Division's Local Assistance and Finance Office. I am here today seeking approval for Agreement 00514ECD in Energy Conservation Assistance Act one percent loan to the City of Davis in the amount of $3 million.

The City of Davis has requested this loan to help fund an energy efficient retrofit lighting project throughout the City. The project will retrofit 4,486 street, bike path, and pedestrian pathway lights with various types of LED fixtures.

The total project cost is $3,595,537 and the City will be receiving rebates totaling $269,415 from PG&E, and they'll be covering the rest of the project themselves. The project will save an estimated 1,124,592 kilowatt hours per year, resulting in utility cost savings of $220,065 per year. When completed, greenhouse gas emissions will be reduced by approximately 388 tons per year. Based on the amount of the loan, the simple payback period is 13.6 years. Staff has determined that this loan request complies with all program requirements, and I'm here to seek your approval. Thank you.

CHAIRMAN WEISENMILLER: Thank you. First, does anyone either in the room or on the phone have comments? Then, Commissioners? Any questions?

COMMISSIONER MCALLISTER: We don't have to disclose -- we disclosed on the U.C. Davis

connection here, Commissioner Douglas and I, but --

CHAIRMAN WEISENMILLER: Disclosing once was enough, although --

COMMISSIONER MCALLISTER: We're not disclosing that we're residents of Davis, right?

MR. MCLEOD: City of Davis.

COMMISSIONER MCALLISTER: City of Davis.

CHAIRMAN WEISENMILLER: Is that your block? Is that what you're telling us?

COMMISSIONER MCALLISTER: I don't know, I have no conflicts. Anyway, hopefully.

CHAIRMAN WEISENMILLER: Hopefully. Okay.

COMMISSIONER MCALLISTER: I'll go ahead and move Item 7.

COMMISSIONER HOCHSCHILD: Second.

CHAIRMAN WEISENMILLER: All those in favor?

(Ayes.) Thank you.

MR. MCLEOD: Thank you.

CHAIRMAN WEISENMILLER: Now for Items 8 and 9, we're going to have a joint presentation of both, but we will have separate votes. So, Paula David, please.

MS. DAVID: Good afternoon, Chair

Weisenmiller and Commissioners. My name is Paula David and I am the Education and Outreach Lead in the Standards Implementation Office.

Today staff is asking for the Commission's consideration of two Interagency Agreements and their Resolutions. Although I am presenting Items 8 and 9 together, they will require separate action.

Agenda Item 8 is a contract with the U.C. Davis-based Western Cooling Efficiency Center for $355,000, funded by the Energy Resources Program Account. Agenda Item 9 is a contract with the U.C. Davis-based California Lighting Technology Center for $645,000, also funded by the Energy Resources Program account.

If these contracts are approved, staff will utilize the experience and expertise of the Western Cooling Efficiency Center and the California Lighting Technology Center to produce video-based learning modules and other educational content for a new online resource center that will be located on the Energy Commission website.

Code compliance is crucial to achieving the Energy Standards goals and most of the

questions our Title 24 hotline receives are about lighting and mechanical projects.

The Standards Implementation Office produced online training videos for the 2008 Energy Standards and received a significant amount of positive feedback from stakeholders who appreciated the user-friendly compliance resources.

We would like to update and expand the website content to address many of the compliance-related questions and comments that staff has received from stakeholders. The online resource center has three primary goals, to raise awareness of the benefits of each energy standard cycle, to increase knowledge of energy efficient best practices for Residential and Nonresidential Buildings, and to address technical barriers to Code compliance.

The online resource center will be a 24-hours a day, seven days a week one-stop-shop. It will offer free help for anyone, and especially for enforcement agencies, builders, energy consultants, and building designers. It will provide technical assistance for the current Energy Standards, and also for the 2016 Energy

Standards, well before the January 2017 effective date.

In addition to learning modules and compliance resources for the online resource center, the contract with the California Lighting Technology Center also includes technical support services for the Appliances and Existing Buildings Office and the Buildings Standards Development Office.

The Standards Implementation Office is already hard at work preparing to implement the 2016 Building Energy Efficiency Standards. Constructing the online resource center is a major component of our outreach and education efforts. If these contracts are approved, work will begin next month, developing helpful new compliance tools, training and information about the lighting and mechanical requirements in the Energy Standards.

Representatives from both Centers Outreach Programs are here today and they would like to make brief comments. And as I mentioned earlier, each Interagency Agreement is a separate agenda item, requiring separate action. Thank you for your consideration.

CHAIRMAN WEISENMILLER: Thank you. So let's start with the comments from the Western Cooling Center.

MR. FORTUNATO: Hello. My name is Paul Fortunato and I'm the Outreach Coordinator at the Cooling Center. I just wanted to thank the Commission for allowing us to have this opportunity and we look forward to working with you in the future on this.

CHAIRMAN WEISENMILLER: Great, thank you. Please, come on up for Item 9.

MS. CUNNINGHAM: Kelly Cunningham, Outreach Director at the California Lighting Technology Center. And on behalf of the California Lighting Technology Center, U.C. Davis, I offer comments that we are thankful for the opportunity to continue our mutual mission of reducing unnecessary lighting energy use across California and collaborating in pursuit of State Energy Efficiency Goals. Increasing awareness of the Standards through education and outreach will assist in dispelling misinformation and garnering support for compliance. Supporting the evolution of the Standards as evidenced today is also a critical part of this process. We look forward

to working with you and your staff on the goals outlined in the agreement and addressing both of these needs. Thank you.

CHAIRMAN WEISENMILLER: Thank you. So let's first deal with Item -- I believe there's no other comments either in the room or on the line, so let's go to Item 8.

COMMISSIONER MCALLISTER: Great, so I just wanted to comment that I think really for the benefit, I'm not sure how much the other Commissioners get in their briefings, but for everyone's benefit I don't know that most people understand what a "nerve center" this place is for inquiries about Title 24. We get huge numbers of inquiries. And Joan, and Chris, and Paula and the rest of the team really do a terrific job of fielding all those calls. And they've got a whole phalanx of students that they're all trained up and get just dozens, hundreds, thousands of inquiries. And so I think having a structured -- they've been doing lots of outreach across the state, talking to stakeholders, you know, figuring out what categories are the ones we really need to hit and developing modules to help educate the public

about that, and the stakeholders across the state, traveling around lately to really get that done effectively and in person.

So this is one step in complementing that kind of personalized outreach with kind of a more efficient approach, which is putting it online and referring people to that, and building that kind of knowledge base. And it's great because this is a terrific opportunity because we can improve it iteratively, it's not a new inquiry every time, we can say, okay, well, this page gets better and better and reflects the actual current state of Title 24, and there's no doubt about that. So, really, resolving any confusion and being very effective and efficient with our staff resources is fundamentally what this is about and I think it's just terrific.

So I will move Item 8.

COMMISSIONER SCOTT: Second.

CHAIRMAN WEISENMILLER: All those in favor?

(Ayes.) This item passes 5-0.

Let's go on to Item 9.

COMMISSIONER MCALLISTER: I'll move Item 9.

COMMISSIONER SCOTT: Second.

CHAIRMAN WEISENMILLER: All those in favor?

(Ayes.) Item 9 also passes 5-0. Thank you.

CHAIRMAN WEISENMILLER: Let's go on to Item 10, University of California at Berkeley. Maunee.

MS. BERENSTEIN: Good afternoon, Chair and Commissioners. My name is Maunee Berenstein from the Appliances and Existing Buildings Office in the Efficiency Division. The Energy Commission periodically adopts Appliance Efficiency Standards to reduce the wasteful energy or water consumption of appliances in the state. These Standards result in statewide energy savings exceeding $50 million per year when fully implemented.

Senate Bill 617 requires State agencies to perform a Standardized Regulatory Impact Assessment, or SRIA, for all new regulations that have a potential statewide impact of $50 million or more.

The SRIA requires a complex macroeconomic analysis of the proposed Regulations statewide

impact on jobs, businesses, competitive advantages and disadvantages of doing business in the state, investments in the state, incentives for innovation, and the benefits of the Regulation.

We request approval of Item 10, an Interagency Agreement with U.C. Berkeley for $300,000 to perform these complex macroeconomic analyses for new Appliance Efficiency Regulations and to provide additional economic analysis services as required by the Efficiency Division.

CHAIRMAN WEISENMILLER: Great, thank you. Any comments, either the public, the phone, or in the room? Then otherwise, Commissioners?

COMMISSIONER MCALLISTER: So I'm fully in support of this. You know, the paradigm sort of shifted on how we authorize and get this kind of analysis and I think we've tried to evolve into a more kind of situation where we're figuring out well beforehand what it is that we need, and then going out and contracting for that, and so rather than sort of in the moment going through those discussions. And I think this is a much more kind of rigorous and transparent way to do it. So this is a contract along those lines, to get

the kind of technical assistance that we need. So I'll move Item 10.

COMMISSIONER HOCHSCHILD: Second.

CHAIRMAN WEISENMILLER: All those in favor?

(Ayes.) This passes 5-0. Thank you.

CHAIRMAN WEISNMILLER: Let's go on to Resource Systems Group. Aniss, please.

MS. BAHREINIAN: Good afternoon, Commissioners. My name is Aniss Bahreinian and I'm in the Energy Assessment Division and I'm here to seek approval of our contract with RSG, Inc. Periodically the Energy Commission conducts a vehicle survey of both California households and commercial sector owners of light-duty vehicle fleets to assess consumer demand for light-duty vehicles. Unlike many other vehicle surveys, Commission surveys differentiates between Residential and Commercial market segments.

The light-duty vehicles in the survey include both the vehicles that are commercially available in the market today and those that are anticipated to be commercially available in the next few years.

The marketplace is indeed complex, as Commissioner McAllister has repeated a number of times today, and they are indeed dynamic. The changing market conditions and fuel infrastructure, as well as fuel and vehicle technologies, affect consumers' awareness and knowledge of the new fuel and vehicle technologies and fuel availability. And as such, they influence their preferences for the new and conventional vehicle technologies. These changes in consumer awareness and behavior require repeating the survey to capture the shifts in consumer preferences.

The Energy Commission has been at the forefront of exploring consumer preferences for new vehicle technologies. We incorporate these emerging technologies into our survey. In the 2011 survey, we added hydrogen vehicles, and in the 2015 survey round, we plan to add Self-Driving Vehicles, also known as Autonomous Vehicles, or also Department of Energy knowns them as Connected and Automated Vehicles, or CAV. We are adding Self-Driving Vehicles to the list of vehicle technologies for which we assess consumer preferences. These vehicles have the

potential to better serve a growing segment of California population, and they can also alter the vehicle ownership model in California.

Additionally, the growing number of PEV owners in California has allowed us to add a target sample of PEV owners with more experience in utilizing the PEVs in their household fleet of vehicles.

In this survey round, we also have added a new region, based on Cal EPA designation of disadvantaged communities, to specify a new survey region for better understanding of Central Valley residents' preferences for different new and conventional vehicle technologies, and the factors that influence their choices.

In the 2011 Survey, we worked closely with ARB and Caltrans, who were both involved from the very beginning of the survey. In 2011, ARB made significant contribution to the survey design process and Caltrans had a major role and contribution in the execution of our household survey.

For this survey, we have been working with ARB and Caltrans starting from the formation of scope of work to the scoring of the proposal

and selection of the contractor. This collaboration will continue into the survey design as it did in the 2011 survey. We held a well-attended conference to facilitate the competitive process and received three proposals, all bidders were qualified to undertake the project, and the contract was awarded to RSG at $995,525, well below the $1.159 million that was the maximum funding.

I'm here to seek your approval of our contract with RSG through the proposed Resolution. And I'm here to answer any questions that you have.

CHAIRMAN WEISENMILLER: Thank you. Any comments from anyone either in the room or on the phone? Okay, so Commissioners?

COMMISSIONER SCOTT: I move approval of Item 12.

COMMISSIONER HOCHSCHILD: Second.

CHAIRMAN WEISENMILLER: All those in favor?

(Ayes.) Item 12 passes 5-0. Thank you.

MS. BAHREINIAN: Thank you very much.

CHAIRMAN WEISENMILLER: Let's go on to Item 13, Aspen Environmental Group. Reta.

MS. ORTIZ: Good afternoon, Commissioners. My name is Reta Ortiz and I work in the Research and Development Division. I'm here today to request approval of a contract for $3 million with Aspen Environmental Group to provide technical assistance to the Research and Development Division's EPIC Program.

The proposed contract was a result of a competitive solicitation. This will provide as-needed support services to the program staff primarily to help evaluate applications and proposals received for EPIC Program funding opportunities. Additionally, this contract will provide technical review assistance for technology, transfer plans, and production readiness plans. Finally, it will provide assistance in preparing feasibility studies and technical and outreach materials. I'd be happy to answer any questions.

CHAIRMAN WEISENMILLER: Thank you. Commissioners, this is, as we look through the whole aspect of getting projects out, with EPIC now we're looking at more CEQA-type of issues, and so this is really a critical element moving forward of having tech support particularly with

expertise in that area.

VICE CHAIR DOUGLAS: I'll just note that I've been pretty impressed with the way that the EPIC group has been thinking about siting and environmental issues as they relate to energy research, so I definitely strongly support this, as well. I'll move approval of Item 13.

COMMISSIONER MCALLISTER: I'll second.

CHAIRMAN WEISENMILLER: All those in favor?

(Ayes.) This passes 5-0.

CHAIRMAN WEISENMILLER: Let's go on to Item 14. University of California San Diego. Susan Wilhelm, please.

MS. WILHELM: Good afternoon, Commissioners. I'm Susan Wilhelm of the Energy Generation Research Office. Today I'm requesting approval for funding an Interagency Agreement entitled "Weather-Related Scenarios for the Natural Gas System: California's Fourth Climate Change Assessment."

The project will leverage a new statistical downscaling technique known as Localized Constructed Analogs, or LOCA, for producing high resolution climate change

scenarios from the course resolution output of global climate models. This new technique is a substantial advance from prior downscaling methods; for example, it is better at simulating temperature extremes and it more realistically represents geographical distribution of precipitation. However, LOCA does not simulate some meteorological factors, including solar radiation and cooling degree days that are important to estimate natural gas demand and potential impacts of climate change to the natural gas system.

Additionally, coastal natural gas facilities are exposed to storms and other extreme events that will increase in frequency with climate change. The impact of coastal storms will depend in large part on the magnitude and timing of sea level rise. New projections are needed to help decision makers cope with the wide range of possible sea level rise scenarios and to support probabilistic risk assessments for California's coastal natural gas infrastructure.

Finally, seismic risks in the Sacramento San Joaquin Delta may be higher than expected and more detailed measurements of the movement of the

levees is required to produce a more accurate estimation of risks. Several important natural gas facilities, as you know, are located in the Delta.

Specific goals of this project are to develop climate projections and scenarios for the natural gas system. Results will contribute to and be used as a basis for vulnerability and adaptation studies associated with California's Fourth Climate Change Assessment.

Staff recommends approval of this proposed project. I'm happy to address any questions you may have. Thanks.

CHAIRMAN WEISENMILLER: Thanks. Thanks for that presentation. Yeah, obviously the Fourth Climate Assessment is very important and this is a key part of that.

VICE CHAIR DOUGLAS: Yeah, absolutely. So I'll move approval of this item.

COMMISSIONER SCOTT: Second.

CHAIRMAN WEISENMILLER: All those in favor?

(Ayes.) This passes 5-0. Thank you.

CHAIRMAN WEISENMILLER: Let's go on to Item 15, Demonstrating Secure Reliable Microgrids

and Grid-Linked Electric Vehicles to Build Resilient Low Carbon Facilities in Communities. Eli.

MR. HARLAND: Good afternoon, Commissioners. My name is Eli Harland and I work in the Energy Systems Research Office. And in March 2015 we issued the Notice of Proposed Awards for Program Opportunity Notice 14301. This solicitation sought proposals for research demonstration projects that demonstrated advanced Microgrids and grid-linked Electric Vehicles to build resilient low carbon facilities in communications.

The solicitation had three project groups: group one was demonstration of low carbon-based Microgrids for critical facilities; group two is demonstration of high penetration renewable base Microgrids; and group three was demonstration of advanced Smart and bidirectional vehicle charging.

Seven agreements from this solicitation were already approved at the April 8th Business Meeting. Today staff is asking for your approval of two additional agreements that applied under Group One and will demonstrate low carbon

Microgrids for critical facilities. These two projects will demonstrate the value of Microgrids to customers and utilities and will help facilitate commercialization of these advanced energy systems.

The first agreement is with Charge Bliss, Inc. to develop a $4.7 million Microgrid at the John Muir Medical Center. This Microgrid will provide economic and power quality benefits using 250 kilowatts of photovoltaics, and a one megawatt hour battery system. The project team will be working closely with the Office of Statewide Health Planning and Development, the agency with jurisdictional oversight for the hospital Microgrid elements. Involving them early in the design and implementation will help the office refine Codes and requirements for hospital Microgrids to facilitate commercialization of Microgrids at hospitals throughout California.

The second agreement is with the Humboldt State University Sponsored Programs Foundation, Schatz Energy Research Center, to develop a $5 million Microgrid at the Blue Lake Rancheria. The Blue Lake Rancheria is a designated American

Red Cross Disaster Center for communities in Humboldt County and this grant will demonstrate a Microgrid that can operate indefinitely in the event of a grid outage. Both the County of Humboldt and the City of Blue Lake include the Rancheria in their local energy assurance plans. And the Rancheria has a successful track record of demonstrating its ability to operate in emergency situations by serving its evacuation site and operation center.

I'm also asking the Energy Commission to adopt staff's proposed Negative Declaration for purposes of the California Environmental Quality Act (CEQA) for the Blue Lake Rancheria Microgrid. Blue Lake Rancheria is a Federally recognized Native American Tribe, and the Microgrid project will be constructed on land that is self-governed by the Rancheria. The Rancheria conducted an environmental review according to their environmental policy ordinance which requires a detailed report on the environmental impacts of the proposed action that is of substantial compliance with the requirements set out in the National Environmental Policy Act.

On March 31, 2015, the Rancheria approved

their environmental assessment of the proposed project and made a finding of no significant impact. Because the Energy Commission proposes to fund the Microgrid project, an activity that may cause a direct or indirect physical change in the environment, the Energy Commission must comply with CEQA.

The Negative Declaration includes staff's initial study, the potential effects to the environment located outside of the tribal land, as well as the tribe's environmental assessment and finding of no significant impact.

As described in the initial study, Energy Commission staff determined that the proposed project cannot have a significant effect on the environment.

Therefore, staff has prepared and recommends that the Energy Commission adopt the Negative Declaration for this project. The public comment period for staff's draft Negative Declaration ended on June 8, 2015, and staff did not receive any comments on the Draft Negative Declaration.

I respectfully request your approval of the agreement with Charge Bliss and your approval

of the Agreement with Humboldt State University sponsored Programs Foundation, including your adoption of the Negative Declaration. I believe that we have Jana Ganion from the Rancheria and Dr. Peter Lehman from Humboldt State on the phone, and they would like to make brief comments.

CHAIRMAN WEISENMILLER: That would be great. Please, go ahead.

DR. LEHMAN: -- Energy Research Center at Humboldt State University, and I'm the principal investigator for this project. And on behalf of our Center, I'd like to thank the Commissioners for considering our project.

As Eli described, we're proposing to install a Microgrid at the Blue Lake Rancheria in rural Northern Humboldt County. It will incorporate an existing 175 kilowatt Gasifier Fuel Cell Power System and will add a new 400 kilowatt PV array and 800 kilowatt hours of battery storage, all to be managed by a sophisticated Microgrid Controller.

Again, as Eli described, this is an exciting project, it has important benefits for California. The Rancheria is a nationally

recognized Red Cross Disaster Center, and this Microgrid will provide continuous renewable power to the Rancheria in the event of a natural disaster or other emergency. This will improve the Rancheria's abilities to serve as an emergency shelter and evacuation site for our region. And now I'll turn it over to my colleague, Jana.

MS. GANION: Hello, this is Jana Ganion, Energy Director for the Blue Lake Rancheria Tribe. I will just briefly echo Peter's comments and add to them in that we also want to thank the Commission and the Commission staff for its hard work on and support of energy projects on Tribal lands. In our experience, working with the Commission and its staff has been extremely productive and together we are creating new and exciting opportunities for State Tribal partnerships to achieve California's energy goals. And now Peter will briefly describe the partnership team.

DR. LEHMAN: Thanks, Jana. So we have a crack team assembled to undertake this project. In addition to the Schatz Center and the Blue Lake Rancheria Tribe, our partners include

Pacific Gas & Electric Company, Siemens, the Idaho National Laboratory, Tesla, and REC Solar. PG&E was exceptionally helpful in compiling our proposal and their participation is key to the viability of this project. PG&E is going to sell the Tribe a portion of their distribution line and will work with us to design and install the interconnection.

Siemens will provide the Microgrid Controller. Idaho Lab will provide Microgrid simulation and testing. Tesla will provide the storage battery. And REC Solar will provide the PV array.

We're grateful to the Commissioners' support to date, and we thank you for considering approval of our project today. Thanks.

CHAIRMAN WEISENMILLER: Thank you. Thanks for calling in. Any other comments, Commissioners?

VICE CHAIR DOUGLAS: I'll make a few comments. I had a chance to get a briefing from Eli, which I appreciated. I was interested in this project really for a couple of reasons, one is that Humboldt County is an area that can benefit really greatly from some investments in

energy resiliency. It's fairly constrained in terms of natural gas supply and energy supply, generally, and in terms of the Humboldt region, really organized and participated in the Cal League Program which was a program a couple years ago funded by ARRA dollars that supported local governments in doing energy resiliency planning and this is one of the facilities that was identified as a priority in that process, and the Rancheria has been a really great partner and I really look forward to, you know, I appreciate them stepping up with this project and look forward to what they will be able to do with the help of the grant because the Microgrid proposal is pretty exciting. And I didn't mean to focus only on this proposal because the Item 15a, the Charge Bliss, I did not get a briefing on, but I've looked at that, as well, and these Microgrid proposals have generally been pretty creative and pretty interesting.

So I'll move approval of Item 15a and b, including the Negative Declaration for Item 15b.

COMMISSIONER HOCHSCHILD: Second.

CHAIRMAN WEISENMILLER: All those in favor?

(Ayes.) This passes 5-0. Thank you.

CHAIRMAN WEISENMILLER: Let's go on to Item 16, Bringing Energy Efficiency Solutions to California's Industrial, Agricultural, and Water Sectors. Please.

MS. MOHNEY: Good afternoon, Commissioners. My name is Leah Mohney and I'm from the Energy Efficiency Research Office with the Research and Development Division.

I'm requesting approval of the last two grants recommended for funding under this competitive solicitation. We received 13 proposals and eight were recommended for funding for a total of $27,050,066. We are seeking approval of the following grants:

16a, Powwow Energy, Inc. Irrigation optimization and well pump monitoring to reduce energy and water consumption. It is estimated that California growers extracted an additional five million acre feet of groundwater from aquifers last year to compensate for the lack of surface water and rain. And that resulted in an additional $454 million of energy costs for pumping water. The use of groundwater is not sustainable and prompted the Governor to sign

Senate Bill 1168 that requires growers to monitor groundwater extraction at their farms.

Powwow Energy has developed data analytic software that uses energy data from smart meters that have been installed at farms to calculate water extraction and application volumes for irrigation pumps.

As a software-based solution, this technology allows growers to automate water measurements and recordkeeping at their farms without increased labor costs, upfront capital investment, and without requiring additional equipment installations such as welding flow mirrors to pipes. This technology directly addresses the energy water nexus in agriculture by increasing the efficiency of water and energy use for irrigation.

The water measurement feature will incorporate a new software as a service product that integrates additional local and cloud-based data, infrared and thermal imagery, and irrigation models such as evapotranspiration, soil moisture monitoring, and regulated deficit irrigation. The system sends simple text messages directly to the growers and it contains

information about the status of their fields and makes recommendations for optimizing irrigation efficiency. This enables growers to implement strategies for reducing water use while having the safety net of knowing that their crops are not impacted.

This software as a service product will reduce energy and water use by 20 percent over current irrigation practices while maintaining or improving crop yields for almonds, pistachios, tomato and alfalfa. The reduction in water pumping costs will directly result in lower energy costs for agriculture ratepayers, and the reduction of canal water usage will reduce in further energy savings at the State level. This agreement can also reduce peak load during the summer.

This project term is 30 months, it will be deployed at five commercial farm sites, and match funding is $535,568.

16b, ASETEC USA, Incorporated. Demonstration of low cost data center liquid cooling. This project will demonstrate the performance reliability and cost savings of liquid cooling technology that could cut Data

Center energy and be easily retrofitted with minimal operational disruptions during installation. Data Centers consume 2.2 percent of all electricity nationally and cooling accounts for about 40 percent of the Data Center electricity use.

ASETEK has developed a Data Center efficiency technology that bypasses chiller-based air-conditioning by bringing high performance liquid cooling to the hottest parts of the server, and then it dissipates that heat with a simple passive dry cooler. This technology will cut Data Center cooling energy by 60 to 80 percent, cut server energy by five to 10 percent, and total Data Center peak load by 20 to 30 percent.

The return on investment for this project is 12 months or less. Cutting statewide Data Center energy consumption by up to 30 percent would result in a total electricity savings of 2,400 gigawatts annually and a greenhouse gas reduction of 700,000 tons a year. This project is 46 months and there are two demonstration sites. The match funding is $1,519,738. We recommend approval of these grants and staff are

available if you have questions.

CHAIRMAN WEISENMILLER: Thank you. I was going to say one of the key parts to the Governor's Executive Order on water for the drought was the WET Program, and he has said that one of the reasons he did the Executive Order was this program, made him feel comfortable with reductions. And so we were sort of selected as the ones to do it and this is an example of some foreshadowing of the types of research we're trying to do with the WET Program, or actually not research, but commercialization we're trying to do. So anyway, it's always great to sort of see some foreshadowing of that program at this stage. So I think it's a great effort.

VICE CHAIR DOUGLAS: I agree, it's a pretty exciting project. So I'll move approval of Item 16.

COMMISSIONER MCALLISTER: I wanted just to chime in on (b) actually because that's an energy efficiency project on Data Centers, and we have a history of pushing the envelope on that technology in Data Centers because it is a heavy use, heavy part of our electricity load. I guess I did have one question here. You said that it

would cut server energy consumption by five to 10 percent?

MS. MOHNEY: That's correct.

COMMISSIONER MCALLISTER: And was it Data Center electricity consumption by 20 to 30 percent? Or was that peak load?

MS. MOHNEY: Peak load.

COMMISSIONER MCALLISTER: Peak load, okay, because those numbers were confusing to me, so I thought I would ask. Okay, so that's huge, peak reduction of that amount.

So I will second Item 16.

CHAIRMAN WEISENMILLER: All those in favor?

(Ayes.) So Item 16 passes 5-0. Thank you.

CHAIRMAN WEISENMILLER: Let's go on to Item 17, Demonstrating Clean Energy Solutions that support California Industries, the Environment, and Electrical Grid. Mark?

MS. VACCARO: Before we move forward with this, Chair, this is one, actually my mistake, I was thinking it was 19.

CHAIRMAN WEISENMILLER: Thanks for looking out, but, no, this one we're okay on.

Okay, go Mark.

MR. KOOSTRA: Good afternoon, Commissioners. My name is Mark Koostra, I'm with the Energy Research and Development Division. Staff requests the approval of Grant Agreements recommended for funding under EPIC solicitation, PON-14-307, Demonstrating Clean Energy Solutions that support California's Industries, the Environment, and the Electrical Grid.

This solicitation addresses the 2012-2014 Triennial EPIC Investment Plan Strategic Objection, S13, demonstrate and evaluates emerging clean energy generation technologies and deployment strategies.

This solicitation received 22 applications for demonstration and deployment projects, a pre-commercial community-scale electricity generation and innovative energy management strategies to minimize integration issues associated with local renewable integration and reduction in peak demands.

Funding was provided for two project groups, Group 1, demonstration sites located in disadvantaged communities by CalEnviroScreen 2.0. We received five proposals. In group 2,

Demonstration sites not wholly located in disadvantaged communities, we received 17 proposals. Out of these 22 proposals, six received a passing score. Today we are recommending funding of four of those projects for a total award amount of nearly $10 million and total match funding of approximately $8.5 million.

The first project is Sierra Institute for Community and the Environment, which plans to construct biomass-fired CHP plant for district heating at Plumas County's Health and Human Services facility, and the neighboring Feather River College Dormitories. The CHP system will be fueled by sustainably harvested forest biomass, delivered by an average of two to three trucks a week. The alternative disposal method for this fuel is often open pile burning. This system will provide 65 kilowatts of electrical output and 800 kilowatts of thermal output to provide heating to six different buildings during the local heating season, which is approximately eight months of the year.

This system will reduce peak electrical demand by approximately 300 kilowatts through

electricity generation and reduction in electric heating. And it will also reduce propane consumption by approximately 17,000 gallons each year.

The Northern Sierra Air Quality Management District expects this project to help reduce fine particulate matter emissions in Plumas County and help prevent the Quincy Area from being classified as a Federal Non-Containment Area for PM2.5.

As stated in their Letter of Support for the project, which is available at the entry table and in your packets, the project team is providing $652,000 in match funding towards this project.

The second project, Prospect Silicon Valley with the Bay Area Climate Collaborative, will demonstrate a completely integrated solar PV storage and power electronics module, along with Community Grid Control Services using a novel and iterative energy approach. The integrated modules rated at one kilowatt of storage for each kilowatt of generation capacity, will provide an estimated 13 percent greater yield, minimize power variability, reduce conversion losses, and

reduce costs by an estimated 10 percent compared to conventional PV systems, with external battery storage.

The integrated DC generation and Energy Storage Modules will allow the system to capture a greater portion of the solar energy reaching the panels that would otherwise be lost due to minimum and maximum power requirements of typical inverters.

In addition to these modules, the project will demonstrate the internet of energy which will optimize and coordinate the onsite generation storage, energy efficiency measures and loads, to increase the value to the college and to the electricity grid. The project team plans to provide over $2.3 million in match funding for this project.

ABEC #4 plans to develop a CHP system located in Bakersfield, California on a dairy to demonstrate a biogas-fueled combined heat and power generator using biogas from a covered lagoon digester. The one megawatt CHP system will generate enough heat to drive an absorption chiller for onsite milk cooling. Using onsite biogas storage, the CHP system will be able to

operate primarily during peak times and remain idle at night when the community demands are less.

This will be the first renewable CHP absorption chiller system to operate at a dairy and will represent a significant advance in dairy energy management. The project team is contributing nearly $5 million in match funding for this project, sixty percent more than the amount of the grant.

The University of California at Davis, for the fourth project, will demonstrate the use of highly efficient solar modules using low cost materials, second life electric vehicle batteries, and a Microgrid controller system at an existing building in the Robert Mondavi Institute.

The proposed electrical energy storage system will provide a cost-effective and efficient energy storage solution for a community with multiple renewable generators. And the value proposition is further increased by the use of second life lithium ion electric vehicle batteries. Additionally, the Microgrid controller will control and optimize the local

resources to benefit the host site and electricity grid through frequency and voltage control, power balance and integrated energy management.

The project team plans to provide $658,000 in match funding for this project.

I'd also like to note that the grant total in the agenda is incorrect; the total is actually $1,238,491.00.

Each of these projects promises to address the issue with integrating increasing levels of community-scale distributed generation resources and innovative energy management strategies, and hopes to deliver an optimal pathway to help California achieve its renewable energy and greenhouse gas reduction goals, while also providing benefits to California Investor-Owned utility ratepayers consistent with EPIC guiding principles.

Staff recommends approval of each of these proposed projects in concurrence with staff's CEQA recommendations. I will be happy to address any questions you have and there are also some project representatives available on the line to answer questions, specifically the folks

from ABEC #4, they wished to be here in person to thank you for the awards, but had to leave given the timing. Please let me know if you have any questions. Thank you.

CHAIRMAN WEISENMILLER: Okay, thank you. Let's go to public comment. I think we have a number of comments on a, and we have more. So let's start with the Public Advisor.

MS. MATHEWS: Alana Mathews on behalf of Mark Mihevc, M-i-h-e-v-c. "The Plumas Board of Supervisors voted to file a Notice of Exemption according to the provisions of California Code of Regulations Section 15062. The Notice was filed out and recorded with the County Clerk; however, the Plumas Board of Supervisors has not voted to approve the project. This violates Section 15062, Part B, and therefore their Notice of Exemption is invalid. Your Business staff's own CEQA determination cites Exemption Sections 15302 and 15303. Section 15302, 'Replacement or Reconstruction requires the replacement or reconstruction of existing structures.' This biomass project is all new construction and no existing structures containing any type of energy system will be replaced or reconstructed. The

building site actually contains two antiquated morgues that will be demolished. Section 15302 therefore is not applicable in this case. Section 15303, 'New Construction or Conversion of Small Structures,' suggests small structures. The biomass plant will be a 41-foot X 56-foot two-story structure containing a boiler, electric generator, and room for two eight ton bins of woodchips. Using these two exemptions, the Commission would also have to exempt a small coal or nuclear plant. Finally, Sierra Institute has not provided any pollution or emissions specifications from the boiler manufacturer. Isn't it the responsibility of the Energy Commission and CEQA to ensure this biomass boiler will not harm people and the environment? This boiler will be burning 3.2 to 6.4 tons of woodchips per day in direct vicinity of school children, college students, Plumas County workers, and residents. I respectfully suggest that this project be postponed until a full Environmental Impact Report be generated and provided. Thank you, Mr. Chairman. Mr. Mark Mihevc."

CHAIRMAN WEISENMILLER: Okay, thank you.

Let's take other public comments and then I'll ask the staff to respond. I have, I think, four parties on the line, so let's start with Sam Lundsmeier? Okay, so all the four servers, etc., are all on that one call? Okay, so yeah, why don't we do that. Let's go on to 18. David? Yes, standby while they go forward.

MR. STOMS: Good afternoon. My name is David Stoms from the Energy Generation Research Office. This is the final Grant Agreement recommended for funding under EPIC solicitation, titled "Reduce the Environmental and Public Health Impacts of Electricity Generation." The other eight agreements were approved at the May Business Meeting.

The direct and indirect effects of renewable energy on wildlife and uncertainty about those effects can create obstacles for California to reach its statutory energy goals. The number of solar and wind energy projects in the state has reached a level where we can now begin to draw meaningful conclusions from this collective experience about the actual impacts and the success of ongoing mitigation efforts as part of an adaptive management process.

Under this proposed 44-month agreement, the U.S. Geological Survey would conduct a comprehensive review of past Environmental Impact Reports and mitigation plans for California Renewable Energy projects and compare the predicted with the actual results as a foundation for improving predictive accuracy.

Another pressing question is not just how many birds may be killed at an energy facility, but also what is the ecological significance of those fatalities to the stability of their populations. The project will use an innovative method to identify the source of dead birds for a few high profile species so that researchers can model the significance of these facilities. Researchers will use the results to produce a set of advanced decision support tools for renewable energy developers and regulatory agencies in California to reduce environmental barriers associated with permitting development and operation of renewable energy facilities.

The project contributes about $1.6 million in match funding and the American Wind Wildlife Institute, a partnership of leaders in the wind industry, wildlife management agencies,

and science and environmental organizations, will be one of the subcontractors as both the source and repository of the monitoring data from energy facilities for the project.

Staff recommends approval of the proposed agreement and I'd be happy to answer any questions.

CHAIRMAN WEISENMILLER: Thank you.

VICE CHAIR DOUGLAS: I'll just say I did get a briefing on this and a number of other unrelated EPIC projects, and I'm definitely supportive of this, so I will move approval of this item.

COMMISSIONER MCALLISTER: Second.

CHAIRMAN WEISENMILLER: All those in favor?

(Ayes.) This passes 5-0. Thank you, David.

CHAIRMAN WEISENMILLER: Any luck on the phone? Otherwise we're going to 19. Okay, so let's go to 19, Commissioner McAllister, yeah, we're going to carve out (a) and then we'll call you back for (b) and (c).

MS. VACCARO: I'm not certain that the disclosure was made on this, I think at the very

beginning of the meeting and you stated your relationship with the --

CHAIRMAN WEISENMILLER: Yeah.

MS. VACCARO: -- yeah, that's the part I didn't think was stated on the record, so that needs to be -- we only did it as to the U.C. Davis, not the issue with respect to 19(a).

COMMISSIONER MCALLISTER: I did recuse myself, but it's because the prime on this is my former employer immediately before I came to the Commission, so I'm conflicted out and I will step out.

CHAIRMAN WEISENMILLER: Thank you. Hi, so we'll start on 19(a).

MR. GONZALEZ: Good afternoon, Commissioners. My name is Rey Gonzalez. I'm the Staff Technical Lead for Transportation Research in the Energy Generation Research Office of the Research and Development Division.

Staff is seeking approval of three projects elected from a competitive solicitation, Program Opportunity Notice 14310 was released December 18, 2014 for the purpose of funding Applied Research and Development projects that will advance technologies and develop strategies

for Smart and efficient Plug-In Electric Vehicle Charging, and Vehicle to Grid Communication Technologies to provide maximum benefits to the Electricity Grid and the Plug-In Electric Vehicle market.

As the California Electric Vehicle market continues to grow, unmanaged charging to these vehicles could lead to an increase in electrical peak demand. Technologies and strategies are therefore needed to encourage Plug-In Electric Vehicle drivers to charge during off-peak, particularly when Grid demand is low, or when renewable resources are abundant.

The solicitation sought projects that investigate and pilot strategies that better utilize Smart Charging, incorporating factors such as time of use rates, and demand side management beyond the current state of technology.

The research focus of the solicitation is consistent with strategic objective S9 in the first EPIC Investment Plan, which calls for advancing technologies and strategies that optimize benefits for Plug-In Electric Vehicles, and the Electricity Grid.

Submitted proposals were scored individually and ranked based on the scoring criteria listed in the solicitation. Of the 25 proposals received, 20 proposals received a passing score. The three projects for consideration today total approximately $4.5 million and approximately $1 million in match funding, and these projects were included in a Notice of Proposed Award posted on March 16, 2015.

Item (a) is an Agreement with the Center for Sustainable Energy, who proposes to develop a Standards-based Scalable Solution for Smart Charging in California, incorporating an internationally recognized standard. The project will develop a demand clearing house or a central server concept that can translate common utility Smart grid protocols into tariff tables that compatible Plug-In Electric Vehicles can respond to. Benefits of this research include greater electricity reliability and lower cost by using an open protocol, and better managing of the Plug-In Electric Vehicle electric loads.

The Center for Sustainable Energy has partnered with KN Grid, U.C. San Diego, with

support from San Diego Gas and Electric, Siemens, and the California Independent System Operator. Staff is seeking approval of this item and I can answer questions at this time.

CHAIRMAN WEISENMILLER: Thank you. So Commissioners, let's address Item (a). Any questions or comments?

VICE CHAIR DOUGLAS: No, I'll move approval of Item (a).

COMMISSIONER SCOTT: Second.

CHAIRMAN WEISENMILLER: All those in favor?

(Ayes.) This passes 4-0. I'm waiting for Commissioner McAllister to come back.

Okay, Ray, do you want to start on (b) and (c)?

MR. GONZALEZ: Okay, for consideration, Item 19(b) is an Agreement with ChargePoint, Inc. who proposes to develop a technology that combines Advanced Smart Charging technology with Cloud-based communication to enhance communication between Electric Vehicles, the Electricity Grid, and residential charging stations. While charging scenarios estimate residential charging to account for as much as 80

percent of all charging, there is significant opportunity to transform residential charging from a static or unmanaged load, to a dynamic management tool that can enhance the distribution grid while meeting PV or Plug-In Electric Vehicle driver needs.

This project will develop a grid vehicle charging station connectivity methodology that assesses the real time potential for residential Smart Chargers to respond to utility signaling for Grid stabilization. ChargePoint is partnered with Lawrence Berkeley National Lab, BMW, and San Diego Gas & Electric.

Also for consideration is Item 19(c), an agreement with Electric Power Research Institute who proposes to develop a Vehicle2Grid (V2G) communication system that will demonstrate grid awareness, self-regulation, and interoperability. There is a great potential for Plug-In Electric Vehicles to not only improve the environmental impacts of transportation mobility, but to help reduce Grid stress and improve reliability. But for Plug-In Electric Vehicles to participate as distributed energy resources, data communication represents a significant barrier to Vehicle2Grid

inclusion into distribution and Independent System Operator Grid Services. This project responds to the need for communication technology and interfaces to support Vehicle2Grid information processing to better leverage Plug-In Electric Vehicles and improve renewable generation penetration. Electric Power Research Institute is partnered with Clean Fuel Connections, AeroVironment, and Grid2Home, Inc.

Staff recommends approval of these two items and I can answer questions at this time.

CHAIRMAN WEISENMILLER: Great. Thank you. I would note that one of the feedback items Commissioner Scott and I both heard yesterday was, as you're trying to make sure people actually are connecting and monitoring and basically the sort of saga of getting a note saying you can go charge here and discover you go there it's broken, you go on to the next one and it's broken, so as we're trying to deal with sort of the whiz bang connecting to the Grid, ancillary services markets, and everything else, we also have to make sure that the stupid things are working and the feedback is in that loop. Right?

COMMISSIONER MCALLISTER: Yeah, I mean, both of these, but particularly (b), I think, is super important. We really need to know how far we can push the Vehicle2Grid stuff, to know what else we have to do to kind of shore that up, is it going to be a big piece of the solution? Or a small piece of the solution? And I like the fact that, you know, it's asking the right questions, you know, how is this going to work in practice? And how much people want it and sort of tracking how much it actually happens and what the potential of it is. I think that's super important. If it's a big deal, then it's good to know that; if it's not, then we need to know that, too, so we can go figure out what else to do in terms of getting those Grid reliability resources on line and where that boundary lays is important. So I'm very supportive of this project, both of these projects.

I've move 19(b) and (c).

COMMISSIONER SCOTT: Second.

CHAIRMAN WEISENMILLER: All those in favor?

(Ayes.) This passes 5-0.

CHAIRMAN WEISENMILLER: I'm assuming

we're going to go straight to 20 now while we work on the telephone issues.

MR. SETHI: Good afternoon, Commissioners. My name is Prab Sethi and I am a Senior Mechanical Engineer in the Energy Generation Research Office. The Electric Power Research Institute Project was selected for an award of $1,705,478 under competitive solicitation, PON-14-303 for the project group Advanced Inverters. This project will evaluate Advanced Inverter functions with the specific goal of higher penetration of PV on the Grid. The Smart Inverters will be tested in the lab and subsequently in the field to analyze the functions identified in California Public Utilities Commission's Rule 21 for Interconnections.

The valuation will include resolution of local PV system limitations such as old voltage, voltage variability, and overloading of transformers that occur when multiple PV systems are installed on the same residential transformer.

The project will involve multiple small inverters and other residential distributed

energy resources, for example, Smart thermostats, water heaters, pool pumps, and Smart Electric Vehicle chargers, and will consist of six to 10 homes sharing the same distribution transformer. This project will result in increasing the hosted kilowatt hour production of residential systems by 15 percent.

I request approval of this Agreement.

CHAIRMAN WEISENMILLER: Thank you. Commissioners, any questions or comments?

VICE CHAIR DOUGLAS: No, I move approval.

COMMISSIONER HOCHSCHILD: Second.

CHAIRMAN WEISENMILLER: All those in favor?

(Ayes.) Thank you. This passes 5-0.

CHAIRMAN WEISENMILLER: Let's go on to Item 21.

MR. UY: Good afternoon, Commissioners. My name is Kevin Uy from the Energy Generation Research Office in the Research and Development Division. Staff is seeking approval of seven projects from the Competitive Solicitation Program Opportunity Notice 14505, Advancing Clean Energy from Biogas, Biomethane, and Natural Gas.

This solicitation sought proposals to

fund research development and demonstration projects that address the barriers to increased market penetration of renewable energy, particularly biogas, renewable natural gas, and natural gas fuel distributed generation, and combined heat and power systems.

Seven projects are recommended for funding, of which four take place in Southern California.

The first project is with the Gas Technology Institute, who will develop and demonstrate a 25 kilowatt Low-Emission Reciprocating Engine-Based Combined Cooling Heat and Power System. This system will first be tested in a laboratory to verify compliance to California Air Resource Board Standards. The system will then be demonstrated at the SoCal Gas Energy Resource Center in Downey, California, which is an Advanced Energy Technology Showcase Center open to the public. Once the combined cooling heat and power system is installed and operating, a kiosk and interactive web page will be available where plots of the system's operation can be observed.

The second project is also with the Gas

Technology Institute, who will develop and demonstrate a Novel Biogas Cleanup Technology for Converting Biogas into Renewable Natural Gas. The system will first be tested in a laboratory where various solvents will be evaluated for their effectiveness in removing contaminants from biogas. The system will then be demonstrated at the Otay Landfill in Chula Vista, California, where landfilled gas will be converted into renewable natural gas and fed into an existing onsite generator.

The third project is with the Las Gallinas Valley Sanitary District, who will Install and Operate a Biogas Energy Recovery System at their Wastewater Treatment Plant in San Rafael, California. The system will utilize digester biogas to produce power heat and vehicle fuel for onsite use, and will consist of a biogas cleanup and conditioning system, micro turbines, and a renewable natural gas refueling station. In addition, all fleet vehicles at the waste water treatment plant will be converted from diesel to natural gas.

The fourth project is with Mosaic Materials who will Develop and Demonstrate New

Sorbent Materials for Upgrading Biogas into Renewable Natural Gas. The materials will first be tested in a laboratory where various solid state amine appended metal organic frameworks will be synthesized and characterized, and their ability to remove carbon dioxide from biogas will be assessed. The most promising material will be selected for a prototype unit to be demonstrated at the Inland Empire's Utility Agency Regional Wastewater Recycling Plant in Ontario, California, where digester gas will be conditioned, then fed to an existing onsite generator.

The fifth project is with Biogas Energy who will Research and Develop a Best Practices Manual for Operating Food Waste Anaerobic Digesters to maximize biogas yield by performing feedstock analysis, nutrient analysis, and micronutrient analysis. Testing will first be performed on a pilot scale biodigester located at the California State University Chico campus in Chico, California.

The lessons learned will then be applied to a commercial-scale food waste digester at North State Rendering in Oroville, California,

and a Best Practices Manual will be produced which other food waste digester operators can use. In addition, a feasibility study will be performed, including financial modeling for upgrading digester biogas into renewable natural gas, and injecting into the natural gas pipeline.

The sixth project is with the University of California San Diego who will develop and demonstrate conversion of woody biomass into renewable natural gas. The demonstration will take place at the Woodland Biomass Resource Center in Woodland, California, where woody biomass will be converted via an existing fluidized bed Gasifier into producer gas. New methods for cleaning this producer gas will be tested and the new fluidized bed Methanation reactor will be built and tested for cleaning the producer gas into renewable natural gas.

In addition, economic and feasibility analysis will be performed for a full scale woody biomass to renewable natural gas pipeline injection facility using the test results obtained.

The final project is with the Electric Power Research Institute who will install and

operate an organic rankine cycle based distributed generator at the American Apparel Textile Dying plant in Hawthorne, California. The system will utilize waste heat from industrial driers to produce electricity for onsite use. Staff recommends funding of these agreements and are available if you have any questions. And in addition, a representative from the Las Gallinas Valley Sanitary District is here to speak on behalf of the project.

CHAIRMAN WEISENMILLER: Please. Come to the dais. This is Mr. Mark Williams?

MR. WILLIAMS: Yes.

CHAIRMAN WEISENMILLER: Please.

MR. WILLIAMS: I am the General Manager with Las Gallinas Valley Sanitary District. And on behalf of the Las Gallinas Valley Sanitary District, 30,000 ratepayers, our Board, and staff, we would like to thank the Commission for considering the District for a grant. Our biogas project will replace an existing 50 KW generator that can no longer be operated after 2016. It also will use technology, micro turbines, which will burn cleaner than the existing generator we have. We will be initially converting two of our

large fleet vehicles to biogas and the system will complement our 850 kilowatt per year photovoltaic system. It will reduce or eliminate the current practice of burning excess biogas, provides a future pathway to increased biogas usage for our other vehicles, will increase our future power generation ability, and provides an example for other small agencies to utilize biogas that is typically wasted. I think this is a large unharnessed energy source that is just being ignored. As you go through Marin, most of the wastewater agencies just burn their gas, and even the Redwood Landfill burns its gas. So this is a resource that really should be taken advantage of. Thank you.

CHAIRMAN WEISENMILLER: No, thank you. I mean, one of the things we have to start dealing with is methane emissions, you know, in terms of looking at the overall greenhouse gas issues, the very potent greenhouse gas. And we look a lot at natural gas system, but at the same time when you look at Ag, landfills, I mean, it could well be much larger than the natural gas system, so trying to convert that to a fuel is really critical moving forward. So certainly these are

exciting projects and we appreciate you being here.

MR. WILLIAMS: The other component is that the wastewater industry does have capacity in their digesters, and so putting food to waste projects in place really is the future, I believe.

CHAIRMAN WEISENMILLER: Well, great. Thanks a lot for coming here.

COMMISSIONER SCOTT: Can I also just say thank you so much for joining us, and I was interested to see that this project will take the biogas and put it into your transportation fleet, which I think is very exciting. And I was happy to hear you mention that you want to make that an example for other wastewater treatment folks, and so I hope that you guys will be also putting together some materials or briefings or be willing to talk to the other districts to share what you've learned.

MR. WILLIAMS: Definitely, we will be doing that.

CHAIRMAN WEISENMILLER: A motion?

COMMISSIONER SCOTT: I will move approval of Item 21.

COMMISSIONER MCALLISTER: Second.

CHAIRMAN WEISENMILLER: All in favor?

(Ayes.) Item 21 passes 4-0.

CHAIRMAN WEISENMILLER: So in terms of what we're doing at this stage, I'd like to cover 22, 23, 17, and Public Comment, which is 29, and then we'll go all to the event and come back. But at least we'll allow the public members who are here for the hearing to go through stuff.

So it looks like we're on CalSTART, Item 22.

MS. CHEUNG-SUTTON: Good afternoon. My name is Elyse Cheung-Sutton from the Fuels and Transportation Division, Emerging Fuels and Technologies Office. I'm presented Agreement ARV-14-061 for the possible approval for CALSTART, Inc. to launch, manage, and sustain the San Joaquin Valley Clean Transportation Center. This grant is for $1,194,659 and will be matched with $200,000.

Under this agreement, CALSTART will create two physical center locations in Fresno and in Parlier and one virtual location. CALSTART will also hire a Center Director, convene an Advisory Committee, conduct outreach

and educational activities, provide fleet analyses, coordinate workforce development, and work to secure additional funding for alternative fuel infrastructure and vehicles in the San Joaquin Valley.

The goal of the Centers will be to increase the acceptance and deployment of Alternative Fuel Vehicles and Technologies and to address barriers that hinder uptick such as lack of resources and misconceptions regarding cost and efficiency.

The Center will serve as a central location for engaging collaborations between OEMs, technology partners, project developers, and state and county agencies, and for developing public and private investment in the deployment of advanced vehicles and fuel technologies. This effort is in support of California's commitment to 1.5 ZEVs on the road by 2025, and the reduction of greenhouse gas emissions to 1990 levels by 2020. Furthermore, both physical locations will be created in existing facilities in disadvantaged communities in the San Joaquin Valley, which will provide both economic and environmental benefits. The Director of the San

Joaquin Valley Clean Transportation Center will be located in the San Joaquin Valley, and project activities will utilize local companies and workers as much as possible. The focus of this project is to increase the uptick of high efficiency, low emission fuel and vehicle technologies in the San Joaquin Valley, which experiences some of the worst air pollution in the country.

Any progress made through the San Joaquin Valley Clean Transportation Center will contribute to the region and the State's air quality improvement goals. Thank you for your consideration of this item and I and John Boesel, who should be on the phone, are available for questions. Thank you.

CHAIRMAN WEISENMILLER: Great. John, do you want to say anything? Commissioners, any questions or comments?

COMMISSIONER SCOTT: Just a comment, which is the staff worked really hard to do some good geographical diversity with the Centers, we did one in Northern California and one in Southern California, and one in the Central Valley, and so I just wanted to point that out.

We worked really hard to make sure that we could get a center in the Central Valley, so I'm excited to recommend this for your approval today. If there's no other, I'll move Item 22.

VICE CHAIR DOUGLAS: Second.

CHAIRMAN WEISENMILLER: All those in favor?

(Ayes.) This passes 4-0.

CHAIRMAN WEISNMILLER: Let's go on to Item 23.

MR. TANIMOTO: Good afternoon, Chair and Commissioners. My name is Lindsee Tanimoto and I'm with the Emerging Fuels and Technology Office in the Fuels and Transportation Division. Staff is seeking the approval of three projects today from the Notice of Proposed awards published on May 1st, 2015. These Regional and Local Planning grants will address Plug-In Electric Vehicles. The three recipients are located throughout California. And the total amount of proposed funding is $353,005.

The City of Oakland will address permitting and the inspections of Electric Vehicle Charging Stations for their disadvantaged communities, as well as for the City of Tiburon.

The City of Palm Springs will promote the deployment of PEVs by installing directional and informational science, along with informational kiosks that will be located in tourist sites.

And finally, the Southern California Association of Governments will implement best practice strategies for their Electric Vehicle Charging Stations located at multi-unit dwellings in the Cities located in West Los Angeles.

Staff is seeking your approval for the resolutions listed as Items 23a through c. Thank you for your consideration on these plans. I am available to answer any questions you may have.

CHAIRMAN WEISENMILLER: Great. Thank you. Any –

COMMISSIONER SCOTT: I'll move approval of Item 23.

VICE CHAIR DOUGLAS: Second.

CHAIRMAN WEISENMILLER: All those in favor?

(Ayes.) So Item 23 is approved 5-0.

CHAIRMAN WEISENMILLER: First public comment. Any public comment?

So let's go to Item 17. On Item 17(a), we're still having some technical issues, so

we're going to deal with (b), (c) and (d) now, and we'll hold 17(a) open while the technical issues are dealt with. And then we'll come back and deal with (a) and the others. So 17(b)(c) and (d)? Any questions or comments?

VICE CHAIR DOUGLAS: I'll just make a brief comment, which is that I do know that Item 17(a) has a lot of support in the Sierra Nevada Region, and I think that had the phone lines been working, we would have heard from some number of -- and hopefully we'll hear from them, okay, good.

CHAIRMAN WEISENMILLER: And we had lost -- we now have them all on one conference call, but we can't feed it into this room. So that's what we're now trying to resolve. Otherwise we might get emails comments from them that will be read into the record.

So anyway, so (a), let's hold the comments on (a) until we get back. But any comments on (b), (c) and (d)? Or a motion?

VICE CHAIR DOUGLAS: Move approval of Item 17 (b), (c) and (d).

COMMISSIONER MCALLISTER: I'll second those three.

CHAIRMAN WEISENMILLER: Okay, all those in favor?

(Ayes.) So this passes 4-0. We're going to recess. Certainly those of you in here are welcome to stay in here, we're going to have the ceremony in here in a couple minutes, but then we're going to come back and deal with 17(a), hopefully, and 24, 25, 26, 27 and 28. Okay? Thanks.

(Recess at 4:41 p.m.)

(Reconvene at 5:23 p.m)

CHAIRMAN WEISENMILLER: Let's first address 17(a) and then we'll deal with the rest of the agenda. So are we in communication now --?

MS. MATTHEWS: I understand that we -- I'm Alana Matthews, Public Advisor -- I understand that we had some communication, not everyone was on the line, but they were comfortable with me reading the comments that they have submitted, so that's what I'm prepared to do right now.

CHAIRMAN WEISENMILLER: Thank you.

MS. MATTHEWS: On behalf of Jonathan Kusel, K-u-s-e-l, "Our project has enjoyed widespread support. That is why representatives

from the U.S. Forest Service, a member of the Plumas County Board of Supervisors, Lori Simpson, two representatives from the Northern Sierra Air Quality Management District, which also provided formal public comment, Plumas County Building Department, have been on for hours to support and comment on this project. There has been one individual who has objected to this project from the start, and that has not changed."

And on behalf of the Northern Sierra Air Quality Management District, this is submitted by Gretchen Bennitt, B-e-n-n-i-t-t, "The Northern Sierra Air Quality Management District supports the proposed biomass combined heat and power CHP and District Energy Facility proposed for the Plumas County Health and Human Services Facility. This CHP facility will offer a critical solution to reducing smoke emissions from forest biomass that would otherwise be burned in an uncontrolled manner in Plumas County.

The District has begun working with the Sierra Institute concerning permitting requirements for this proposed facility and the District will continue to work with the Sierra Institute to ensure that all air quality

requirements are met. Based upon the District's preliminary analysis, the anticipated long term emissions from the biomass boiler are 930.5 pounds of particulate matter per year. This is equivalent to 6.4 non-catalytic wood stoves based on the 1988 to 2015 EPA Wood Stove Certification Standards. Nitrogen Oxides are the pollutant emitted in the greatest concentration estimated at around 1.4 tons per year. This is well below the approximately 25 ton per year of significant impact threshold listed in the District's Land Use Guidelines. Emissions of air toxics are projected to be well below levels of concern. The District supports this facility and concepts as it plans to utilize biomass as a fuel in a controlled combustion process, reducing emissions of particulate matter, and other pollutants up to 98 percent, as compared to open pile burning biomass. Fine particulate matter, PM2.5, is the main pollutant of concern in Plumas County since two locations in the County, Portola and Quincy, have historically exceeded the National Ambient Air Quality Standard for PM2.5. The greater Portola area has been designated as a Federal PM2.5 Non-Attainment Area, and the EPA has

recently informed the District that the Portola Area is one of the top five most polluted areas in the nation relative to annual average PM2.5 Standards. The Quincy area, the area in which the boiler is proposed, has air quality monitors which have demonstrated increasing amounts of ambient PM2.5 in the past three years. The Air District is concerned that the Quincy area could also be designated a Federal Nonattainment Area for PM2.5 if emission reductions are not implemented. The three major sources contributing to the PM2.5 emissions in Plumas County are wood stoves, open pile burning of residential yard waste, and prescribed burning of forest biomass. The Air District is especially enthusiastic about the Sierra Institute's plans to collect biomass from the Plumas County Fire Safe Council and other local entities to use its fuel in the boiler. Increased biomass utilization is critical to the attainment of the Federal Air Quality Standard in Plumas County. The proposed CHP in Quincy has a potential to be a prototype for demonstrating a viable alternative for burning yard waste and porous biomass and can play a crucial role in reducing

the PM2.5 emissions from open burning in Plumas County. Sincerely, Gretchen Bennitt, Executive Director, Northern Sierra Air Quality Management District."

CHAIRMAN WEISENMILLER: Thank you. There were specific issues raised by the one member of the public in terms of the adequacy of our CEQA review. Well, let me ask a general question. Does staff have responses to that, to the issues he raised, including the CEQA issues?

MR. KOOSTRA: Yeah, I would like to defer to Samantha Arens, our legal counsel, on those items.

MS. ARENS: This is Samantha Arens with the Chief Counsel's Office. Regarding the first issue that Mr. Mihevc raised, the timing of Plumas County's filing of a Notice of Exemption, the Energy Commission performs an independent CEQA analysis and considers a project for approval, and that analysis and consideration is distinct from the County's process.

Regarding the applicability of California Code of Regulations, Title 14, Sections 15302 and 15303, staff has provided an explanation of the applicability of the exemptions and that can be

found in the backup materials for this agenda item in the CEQA Compliance Section of the Grant Request Form.

Specifically, Section 15302 involves the replacement of existing structures. Staff has determined that the proposed project will replace an existing heat generation and distribution system with a new heat generation and distribution system. Staff's analysis explains that there are existing heat pumps and electric boiler and propane fired wall heaters that will be replaced with a new biomass fired boiler paired with a commercial generator and new heat pumps.

Additionally, staff's analysis has determined that the replacement system will result in negligible or no expansion of heating capacity. So for those reasons, as set forth in the grant request form, the proposed project fits squarely within the categorical exemption specified in 14 CCR 15302(c). As to 15303, that section involves the new construction of small structures. Based on staff's analysis, the proposed project does fit squarely within the examples given in this section; for example,

15303(c) states that stores, motels and restaurants not involving the use of significant amounts of hazardous substances and not exceeding 2,500 square feet are exempt. Other examples given in that section of exempt small structures include multi-family residential structures and staff has explained, as they detail in the grant request form, that the proposed project will be a maximum of 2,400 square feet, and does not involve the use of any hazardous substances. This is well within the size of structures and the definitions of examples of projects that are exempt under 15302.

Regarding what Mr. Mihevc claims are antiquated morgues that will be demolished, the application to our solicitation did not describe demolition of existing structures, nor does the proposed grant that is now before the Commission cover demolition of existing structures, and that will not be a part of this project.

Lastly, regarding the comment on pollution and emissions, I think the comment that the Public Advisor just read into the record, as well as the June 6th letter from the Northern Sierra Air Quality Management District which

covers Plumas County, addresses those concerns. In summary, that letter states that smoke emissions will be reduced. The proposed project could play a crucial role in reducing PM2.5, help reach attainment of Federal Air Quality Standards, NOx or Nitrogen Oxide will be well below the significant impact threshold, and that air toxics are projected to be well below levels of concern. Thank you.

CHAIRMAN WEISENMILLER: Thank you. Commissioners, any questions or comments?

VICE CHAIR DOUGLAS: I started to say earlier and I'll just repeat very briefly now, I have looked a bit at this project and I've observed that it has very strong support, people are pretty excited about it as I think the comments the Public Advisor read indicated, and so I definitely look forward to supporting it. Are there other comments?

I'll move approval of this item.

COMMISSIONER MCALLISTER: I'll second.

CHAIRMAN WEISENMILLER: All those in favor?

(Ayes.) This passes 5-0. Thank you.

CHAIRMAN WEISENMILLER: Let's go on to

the Minutes, Item 24. These are May 13th. For the record, that was just 17(a), we've already voted on (b), (c) and (d), right? So Minutes?

COMMISSIONER SCOTT: I'll move approval of the Minutes.

COMMISSIONER MCALLISTER: Second.

CHAIRMAN WEISENMILLER: All in favor?

(Ayes.) The Minutes pass 5-0.

CHAIRMAN WEISENMILLER: Lead Commissioner and Presiding Member Reports. Commissioner Scott.

COMMISSIONER SCOTT: Great. I just have two quick things. I'll try to take less than two minutes. One is that yesterday the State Treasurer and I announced the Loan Loss Reserve Program that we put in place for the Electric Vehicle Charging. We voted on that a couple Business Meetings ago, it had to go through their process, as well, and now it's ready to go, it's up and running. And it's exciting because it's under AB 8 and AB 118, the Energy Commission is able to use additional funding mechanisms beyond grants. And this is one of the first times that we've looked at one of those other funding mechanisms, and it will also potentially bring in

a set of small businesses and other folks who might not necessarily apply under one of our Program Opportunity Notices to do a whole bunch of chargers, but they might want to just, when they're doing business improvements include a charger, and then this program gives them an opportunity to do that. So I'm excited that that's across the finish line announced yesterday.

And I will also just remind you all that my new Advisor, Courtney Smith, is here, she started on Monday, and I just wanted to warmly welcome her to the Energy Commission.

COMMISSIONER MCALLISTER: Nice, that program, I remember the Business Meeting we voted it and there was just so much enthusiasm about it, so hopefully it hits the ground running.

I'm going to be brief, as well. I've been traveling a little bit and, in particular, last week gave a talk down at the Association of Energy Engineers, West Coast Energy Congress, and that's an organization that sort of -- they're not all PEs, but many of them are Professional Engineers and they run a series of programs to provide the CEM, Certified Energy Manager

credential among a bunch of other credentials, so it's quite a good attendance of a relevant population and I got good feedback and hopefully we'll get many of their members engaged in our processes and that will be very positive.

And I wanted also to mention a couple of new staff that I have in my office. I don't think I did this last meeting, but Charles Smith, who was at Fuels and Transportation Division, is working with me on the IEPR, which is really tremendously helpful, so welcome to him, and Christian Morevia, who is an intern in my office, is almost finished with his PhD in Electrical Engineering at U.C. Davis. He is also with me at least for the summer, we're not quite sure. It's great to have him and his public service inclinations are terrific.

And then finally, I just wanted to, you know, we have a little bit of historical reminiscing going on today and I think it's really fabulous to just think about the impact that we've had and how we can expand it going forward and keep that momentum going, and just really keep the Commission current and realizing the vision that Warren Alquist had back in the

day. And my family and I actually went to New York City the week before last and went to Ellis Island and the Statue of Liberty and a bunch of places of historical significance, and I think even that history, you know, hundreds of years ago, and it closed down in the '50s, Ellis Island did, but many of the folks who went through there stayed in New York, but many of them ended up in other places, including California, and our Democracy, I think, is just so much stronger because of that experience and hopefully we can keep that in mind, as well. We're really representing, we're kind of the face of that constituent driven process that is our State and Federal Government. And I think that responsibility is something I know I take very seriously, and I know my colleagues here on the dais do, too. And the Commission is just a terrific perch from which to exercise our authority, but also our good judgment. So thank you very much and I'll pass it on to the Chair.

CHAIRMAN WEISENMILLER: Yeah, I'll be brief also. I just really was going to mention, I went to the Sixth Clean Energy Ministerial in Mexico and they asked the Governor, and they got

me. But anyway, it's a three-day event. The day I was there, there are 350 people, there were days on either side which were really just energy ministers, and it's a pretty impressive event. You know, obviously a lot of world think tanks, or D.C. think tanks were there. Coming out of it, you know, I guess the basic messaging was that the tremendous drop in renewable cost really gives a lot of options around the world for countries to shift to cleaner energy systems, and that is a way that it makes it easier for them to step forward on climate commitments.

Secretary Moniz did three initiatives coming out of that on, again, sort of an international level, but trying to figure out how we can be supportive. One is lighting, LED, again, that's sort of a real game changer, clearly. Another one very focused on renewable integration issues, you know, that as the costs come down obviously trying to make sure that those issues are dealt with, and then finally sort of a clean technology transfer program that will deal with technical issues, financial advice. Again, my understanding, I've given people copies of what it is, but it's not like

for an 800 number for residential customers to call in around the globe, as much as if different countries are setting up programs, they can call to this group and reach out for assistance. So anyway, it was pretty -- I was in two panels, one was on Energy Efficiency and then other panel on R&D, and I would note we talked about climate, we had the new pending head of IPCC there. But anyway, people did remark that I had the most urgency of anyone in terms of trying to deal with the climate issues, certainly instilled more urgency to the scientists than they came into. So that was good.

VICE CHAIR DOUGLAS: So very briefly, a couple weeks ago I had the opportunity to go to Washington, D.C., Secretary Laird was there on a number of water visits and also visits that Jim Kenna, the State Director of Bureau of Land Management and I and Secretary Laird had on the Desert Renewable Energy Conservation Plan. So that was both in terms of some of the meetings within the Department of Interior and in terms of some of the Congressional meetings, a really good opportunity to exchange information and so on. So I think in the interest of time, I'll stop

with that report.

COMMISSIONER HOCHSCHILD: I'll be mercifully brief, as well. Just two points. One highlight, I went actually to visit the prison system last week, Solano State Prison, to look at how they're doing with renewables, because they've actually done an extraordinary job of deploying renewables, and I learned that just in the last few years the renewables that have been deployed on State Prisons are projected to save $75 million of taxpayer money from the savings over 20 years, so that was exciting and there's more to come.

Then, you know, next week I'm convening a number of the leading renewable companies in San Francisco to meet with Peter Davidson who runs the U.S. Department of Energy Loan Guaranty Program, one of President Obama's top priorities is to get this remaining $4 billion out the door for renewable loan guarantees, and so they asked me to help them do that, so we're having a gathering on Thursday to do that for California companies.

CHAIRMAN WEISENMILLER: He just announced this morning that he's going to be -

COMMISSIONER HOCHSCHILD: He's stepping down in July and he's got a very good successor, so this is his kind of last hurrah doing this.

CHAIRMAN WEISENMILLER: Let's go on to Chief Counsel's Report.

MS. VACCARO: I don't have a report, but I do have a request of each of you. It seems as though each of your offices has some sort of new staffing, whether it's just for the summer or permanent, and we are continuing to do the Advisor briefings, and we have one tomorrow.

I think most of your staff, you know, the new folks are planning on coming, but again, it's a way to ensure that they understand what Bagley-Keene requires, that they understand the Ethics rules, as well, all of the things to kind of facilitate the work of your offices, so if you can smile at them and ask them to participate if not tomorrow, then we can make time one on one with them, as well, but I think it would be good for all of these new folks to do this Advisor training.

CHAIRMAN WEISENMILLER: Thanks for organizing that. This will be helpful to all of us.

COMMISSIONER SCOTT: What time is it tomorrow? 3:30, okay, thank you.

CHAIRMAN WEISENMILLER: Okay, Executive Director's Report.

MR. OGLESBY: Just an announcement. We had our lunch director was excellent poached by the Senate, and so I wanted to announce publicly at the meeting that we've also poached from the Senate and that we've acquired Barry Steinhart from Senator Leno's Office, who has agreed to join us and is already doing a great job.

COMMISSIONER MCALLISTER: Okay. I will second that. He's already shown that he knows pretty much everybody in the building, as far as I can tell, and is very helpful and insightful.

CHAIRMAN WEISENMILLER: Public Advisor Report.

MS. MATHEWS: Two things, briefly. I'm excited that next week we will kick off our Summer Institute in Energy in Law and Policy for 10 high school students from various high schools around Sacramento. And secondly, I'm happy that with the Cal Cap EVCS Financing Program, they reached out to me, I met with them yesterday, so I will be helping them with Outreach to ensure

that we can make sure these programs benefitted in a lot of the disadvantaged communities.

CHAIRMAN WEISENMILLER: Thank you. We've already had Public Comment, so this meeting is adjourned.

(Whereupon, at 5:42 p.m., the Business Meeting was adjourned.)

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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.

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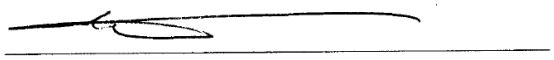

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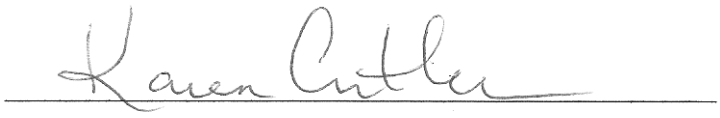

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