DOCKETED

Docket Number:	16-BUSMTG-01
Project Title:	2016 Business Meeting Transcripts
TN #:	211489
Document Title:	Corrected Transcript of 04/13/16 Business Meeting
Description:	*** This Document Supersedes TN 211189 ***
Filer:	Cody Goldthrite
Organization:	California Energy Commission
Submitter Role:	Commission Staff
Submission Date:	5/16/2016 10:28:57 AM
Docketed Date:	5/16/2016

BUSINESS MEETING

BEFORE THE

CALIFORNIA ENERGY COMMISSION

In the Matter of:	)	**Docket No:**
	)	**16-BUSMTG-01**
Business Meeting	)	
_____	)	

CALIFORNIA ENERGY COMMISSION

THE WARREN-ALQUIST STATE ENERGY BUILDING

ART ROSENFELD HEARING ROOM - FIRST FLOOR

1516 NINTH STREET

SACRAMENTO, CALIFORNIA 95814

WEDNESDAY, April 13, 2016

10:00 A.M.

Reported by:
Susan Palmer

APPEARANCES

Commissioners

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

Staff Present:

Rob Oglesby, Executive Director
Kourtney Vaccaro, Chief Counsel
Alana Mathews, Public Adviser
Cody Goldthrite, Secretariat
Linda Barrera, Lead Counsel
Lisa DeCarlo, Staff Counsel

	Agenda Item
Lon (Leonidas) Payne	2
Heather Raitt	3
Rodolfo Orozco Beas	4
Peter Strait, Linda Barrera	5
Rhetta deMesa	6
Jacob Orenberg	7
Andre Freeman	8
Thanh Lopez	9
Akasha Khalsa	10
Elizabeth Hutchison	11
Erik Stokes	12
Erik Stokes	13
Diana Gonzalez	14
Bradley Meister	15
Sonya Ziaja	16
Felix Villanueva	17
Nicholas Blair	18
Joshua Croft	19

Others Present ((inaudible) Via WebEx)

Interested Parties

Thomas E. Enslow, Esq., California IBEW/NECA LMCC 5a, 5b
Aaron Klemm, CSU Chancellor's Office (letter) 5a
Tom James, Intelligent Efficiency (letter) 5a
Gene Thomas, Ecology Action 5a, 5b
(inaudible)Mostafa Kashe, L.A. County Dept. of Public Works
5a
Don Link, Controlled Energy 5a, 5b
(inaudible)Rick Brown, TerraVerde Renewable Partner
5a
(inaudible)Scott Randolph, Contractor
5a
(inaudible)Don Link, Controlled Energy
5a
Greg Mahoney, City of Davis 5a
(inaudible)Mike Stone, NEMA
5a, 5b
(inaudible)Leslie Kramer, Stanford University
5a, 5b
(inaudible)Matt Tracy, Enlight Inc.
5b
(inaudible)Leslie Kramer, Stanford University
5a, 5b
Peter Christensen, ARB 7
Sekita Grant, Greenlining 7
Bonnie Holmes-Gen, ALA California 7
Eileen Wenger Tutt, CalETC 7
Tim Carmichael, SoCalGas 7
(inaudible)Sekita Grant, Greenlining Institute
7
(inaudible)Matt McClory, Toyota
7
Dedrick Roper, ChargePoint EVSE 9
(inaudible)Marcelo Poiriar, CPUC
9
Representative, Recargo - PlugShare 9
(inaudible)Erik Yan, EV Connect
9
(inaudible)David Zoldoske, Fresno State
14
Jason Anderson, Cleantech San Diego 14
Andrew Coleman, Electric Power Research Institute 17

I N D E X

I N D E X (Cont.)

I N D E X (Cont.)

I N D E X (Cont.)

P R O C E E D I N G S

MARCH 9, 2016 10:05 a.m.

CHAIRMAN WEISENMILLER: Good morning. Let's start the meeting with the Pledge of Allegiance.

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

CHAIR WEISENMILLER: So in terms of today's agenda, 15b has been pulled for now. We'll deal with it later and the rest of it is as written.

So let's start with the Consent Calendar.

COMMISSIONER SCOTT: Move consent.

COMMISSIONER MCALLISTER: I'll second.

CHAIR WEISENMILLER: All those in favor?

IN UNISON: Aye

CHAIR WEISENMILLER: Aye, so the consent passes five to zero.

Let's go on to Item 2, Energy Commission Appointments.

Kevin, please go ahead. Staff? Let's get to the staff presentation on the Pomona Repower Project.

MR. PAYNE: Good morning Chair, Commissioners. My name is Lon Payne. I am a Project Manager with the Siting Unit. With me is Staff Attorney Lisa DeCarlo.

We're here today to present a proposed order appointing a Siting Committee for the Pomona Repower Project's application for a Small Power Plant Exemption or an SPPE, for short.

Pomona Repower is a 100 megawatt peaking facility that will replace the existing 44.5 megawatt San Gabriel Cogeneration Facility. The project would occupy two acres in an industrial area located at 1507 Mount Vernon Avenue in the City of Pomona, Los Angeles County, California.

On March 21st, 2016 AltaGas Pomona Energy, Inc. filed an application for an SPPE seeking an exemption from the California Commission's licensing requirements. The Pomona Repower Project will be powered by one General Electric LMS100 gas turbine. The LMS100 will use the existing 66 kilovolt Simpson transmission line to connect to the Grid.

The project would use existing supply and discharge lines including natural gas, potable recycled water supply, processed wastewater and sanitary wastewater. The project plans to use recycled water from the Pomona

Water Reclamation Plant for cooling and processed water uses. The project will also include the removal of the existing LM5000 gas turbine currently in operation.

If interested, I would be happy to provide you with a brief summary of the SPPE process if you'd like a refresher. Thank you. And we'd be happy to answer any questions you may have.

CHAIR WEISENMILLER: Thank you.

Let me start with a question. Do any of the Commissioners want to hear the SPPE 101 discussion?

UNIDENTIFIED SPEAKER: (inaudible)

CHAIRMAN WEISENMILLER: I think any -- oh no, well we could. Actually, I've done a couple and I think Commissioner Douglas has done a couple, but anyway --

COMMISSIONER MCALLISTER: You said an LMS100?

MR. PAYNE: LMS100.

COMMISSIONER MCALLISTER: 100.

CHAIR WEISENMILLER: Yeah, it sounds like we're good.

Okay, so we would need to appoint a Committee. I think Commissioner Scott should be the lead member on this and Commissioner Douglas should be the second member. Commissioner Douglas did with the IBM -- or the Data Center SPPEs, so you've got some experience. Obviously, you don't in this area, but these are nominally simpler cases.

COMMISSIONER SCOTT: I'll likely get the refresher offline.

CHAIRMAN WEISENMILLER: Right.

COMMISSIONER DOUGLAS: I move approval of the proposed Committee.

COMMISSIONER MCALLISTER: Second.

CHAIR WEISENMILLER: All those in favor?

IN UNISON: Aye.

CHAIR WEISENMILLER: Thank you.

Let's go on to Item Number 3, which is Order Instituting Investigation. Heather Raitt, please?

MS. RAITT: Good morning, I'm Heather Raitt, Program Manager for the Integrated Energy Policy Report. Today I'm asking for the Commission's approval of an order instituting informational proceeding to gather and assess information needed to prepare the 2016 IEPR Update.

The Commission is required under Public Resources Code 25302 to prepare an IEPR every two years with an update in the intervening year that assesses California's electricity, natural gas and transportation fuel sectors.

Commissioner Douglas is the Lead Commissioner for the 2016 IEPR Update. On March 28th, 2016 she issued a Scoping Order that identifies the topics and general schedule for the proceeding. The topics include natural gas, an Aliso Canyon storage facility gas leak response,

environmental performance of the electricity generation system, climate adaptation and resiliency, electricity forecast and reliability updates, and nuclear energy.

The adoption of this order will ensure that the Lead Commissioner has access to a full range of options for collecting information related to the topics in the Scoping Order.

So in closing I request that the Commission approve this order instituting informational proceeding for the 2016 IEPR Update. Thank you.

CHAIR WEISENMILLER: Thank you.

Any comment, Commissioner Douglas?

COMMISSIONER DOUGLAS: Well, just briefly that obviously we've begun some work and some workshops, both in terms of reviewing the comments on the Scoping Order, moving forward to finalize the scope for this IEPR. And we already held a workshop, which I think you'll probably speak to in the Commissioner Reports later in Porter Ranch looking at some of the reliability issues potentially arising from the Aliso Canyon issues.

So the work on the IEPR is underway. It's a strong team. It's a set of really important and topical subjects. And so I'm definitely looking forward to working on it and working with our IEPR team, working with the number of divisions that are pitching in some significant

support to this year's IEPR Update and to my colleagues and working with my colleagues on this as well.

CHAIRMAN WEISENMILLER: Yeah, go ahead.

COMMISSIONER MCALLISTER: No, sorry. I want to just -- I'm looking forward to it, but I think we all issues that we're interested in on the IEPR Update in 2016. I want to just thank Commissioner Douglas for taking the lead on it and I think the Scoping Order is terrific.

And also just highlighting the fact that 2016 really is a time for us to identify the ducks and start to get them in a row in terms of 350 and sort of the other newish things. That we need to organize and get our information bases in place, so that in 2017, 2019 we can really move forward and create that sort of foundation for the new future, which is when we're really going to put the pedal to the metal on the clean energy front. And really localize and get more detailed in the way the forecast and other resources we can develop goes.

So anyway, I took that was really, really key moment to kind of pause, take some deep breaths, and really get it right. And I really appreciate your leading that effort.

COMMISSIONER DOUGLAS: Thank you.

COMMISSIONER MCALLISTER: Do we need to vote on this or no?

COMMISSIONER SCOTT: Are you going to move?

I move approval. Oh, yeah, right. This is an informational -- no, that's right.

COMMISSIONER MCALLISTER: Oh, no, no. This is an order. Yeah, sorry.

COMMISSIONER SCOTT: Yes, I move approval of Item 3.

CHAIR WEISENMILLER: Yes, all those in favor?

IN UNISON: Aye.

CHAIR WEISENMILLER: This item passes five to zero. Thank you, Heather.

So let's go on to the Clean Energy Jobs Presentation.

MR. BEAS: Hello and good morning, Commissioners, Chair Weisenmiller, my name is Rodolfo Orozco Beas and I am the Legal Fellow for the Office of Commissioner David Hochschild. I want to first of all thank everyone for being here as well as thank you all for giving me this opportunity to present to you the data I was able to find regarding clean energy jobs.

Now before I turn to what I found regarding clean energy jobs in California I thought I would start by focusing on trends and clean energy on the national level. Now, in conducting my research though I quickly realized that the data on employment regarding clean energy sectors

was not going to be easily obtainable. For example, recent trends in sectors such as biogas, biomass, geothermal and energy efficiency with SCRS (phonetic) and enough solid data was not available to properly outline any employment trends in those industries at the state or national level.

And while this is not ideal, I think this exercise shows the importance of not only keeping a fluid database for these sectors, but it also shows that having such data can help outline successes and trends properly in order to get an idea of not only where we are as a state, but where we are going as an economy. But where appropriate I will outline any data for these industries.

Now, in my research I focused on sectors where employment data for recent years was available -- the sectors that have accessible data included solar and wind. As you can see on the national level the solar industry has seen significant growth since 2010. According to the Solar Foundation employment in the solar industry on the national level has grown 123 percent since 2010. By the end of 2015 the solar industry employed about 209,000 workers.

Now the jobs we are talking about here include jobs in insulation firms, manufacturing, sales, distribution and project development.

As for the wind industry, you will see that after experiencing a slight downturn in 2013, wind jobs grew

sharply in 2014. According to the American Wind Energy Association as of February of this year, the U.S. wind energy industry supported around 73,000 full-time jobs directly associated with wind energy project planning, siting, development, construction, manufacturing and supply chain, and operations.

As for other clean energy industries, according to the International Renewable Energy Agency the geothermal industry employed around 35,000 workers in the United States as of the end of 2014. While the biomass industry supported around 152 direct and indirect jobs. In a 2014 Report the American Council on Renewable Energy found the hydropower industry employees between 200,000 and 300,000 workers in the United States.

Now the job data for these industries is positive and shows how clean energy is adding a significant amount of jobs to our economy. While this diversification has helped several energy industries benefit it has been detrimental to others.

For example the coal industry, which provided 52 percent of the nation's electricity in 2011 has lost more than 40,000 jobs since 2008 according to the National Mining Association. Furthermore, the market cap value of the top four U.S. coal companies has declined 99 percent since January of 2011.

Now turning your attention to what is going on in California. As we can see the trends in solar and wind are similar to the trends nationally. You will notice that when jobs have remained somewhat consistent since 2010, that solar job growth has increased significantly. Here you can see that wind energy or the wind industry has employed between 2,000 and 8,0000 each for the past five years. The state solar workforce has expanded 110 percent since 2010 and employs around 75,600 employees here in the State of California.

Now to put that into context you can see here that solar employs more people in the State of California than all of the utilities combined, with a projected 14,000 more jobs to be added by the end of this year according to the Solar Foundation. Now in terms of the California economy it is impressive that between 2014 and 2015 the state solar workforce has expanded 38 percent. You will see that in that same time the California job growth rate and the U.S. job growth rate expanded 2.9 percent and 1.9 percent respectively.

Now turning now to clean transportation, currently the largest manufacturing plant in California produces electric vehicles. Now while there is no solid data on the industry as a whole, as to how many jobs are directly supported by the manufacturing and maintenance of

electric vehicles, there are some examples of the positive effect that clean transportation is having in California. Some examples include companies that have received grants from the California Energy Commission.

Protera, who has designed and developed new zero emission battery electric buses as well as Tesla, which currently employs over 12,000 people in the state. And with the increased demand for electric vehicles in the street of California and beyond, as well as the increased demand for electric bus fleets by several cities companies like Tesla and Protera will continue to grow and expand, which means that they will likely need more California workers to meet their demand.

Furthermore, the California High-Speed Rail Authority announced in June of last year that construction on high-speed rail, which will be 100 percent powered by renewable energy are estimated to create 20,000 jobs annually for five years. Furthermore, connecting Los Angeles and San Francisco will generate 66,000 jobs annually for 15 years. Moreover, the Phase 1 Blended System will generate 2,900 permanent operation jobs.

Now, I wanted to end my presentation by speaking briefly about how the data I was able to find does suggest that our economy has not only taken a step towards becoming greener, but that in doing so, is increasing not only job

growth in the state, but job growth on the national level.

Now California has been a leader in this regard and is an example of how a state can thrive with a vision of a clean energy economy. While solar and wind do help with the narrative other clean energy industries should be applauded as well for their efforts.

Now the writing on the wall is pretty clear for the near future. Clean energy industries in the state should continue to flourish and expand. With the extension of the Federal Production Tax Credit and the Investment Tax Credit through 2020 and 2022 respectively, as well as California's move to go to 50 percent renewables by 2030, there is opportunity in the state for clean energy industries to grow and in essence for our state to continue to generate jobs and opportunities for Californians.

And with that I want to thank you all for allowing me this opportunity to speak in front of you here today. Thank you.

CHAIR WEISENMILLER: Thank you.

I was going to note that obviously BYD is also another company that does electric buses. It actually manufacture -- well, it's located in Lancaster. And certainly again it's gotten Energy Commission grants, (inaudible) based upon the Governor's trade mission to China. So anyway...

COMMISSIONER HOCHSCHILD: I really want to thank you, by the way, for doing this. And just to be clear I think it's important to identify where we don't feel we don't have good data just going forward, because I think tracking the progress across all technologies is really important.

What I heard you say is basically biomass and geothermal were harder to get than to some extent hydro or at least small hydro; I'm not sure?

MR. BEAS: Yeah. Yeah, essentially that's what I was getting at, that there is definitely a need for a more concise and accessible database for those industry areas.

COMMISSIONER HOCHSCHILD: Okay. Was there anything else in clean transportation or elsewhere that you just looked and it was hard to find or jobs, tracking jobs?

MR BEAS: Yeah, well energy efficiency and transportation are kind of in the same boat here where there is some numbers regarding how many jobs they create on certain aspects of manufacturing, for example, batteries. But as a whole it is a little harder to determine where some of these kind of greener industries fall in terms of employment -- at least in the past five years, which is where I was focusing my research on.

COMMISSIONER MCALLISTER: Thank you.

Just on that point I mean I think efficiency is

kind of unique in that you could argue that any construction job is an energy efficiency job pretty much, because we have standards that really do force the issue.

And we also have a lot of more service-oriented companies in the state that provide energy management services. And that's kind of built now into the system in a lot of ways, particularly non-residential but increasingly residential as well. And I think there are technology companies and analytical firms and just a lot of sort of value add going on that may not be manufacturing of widgets, but it really is energy management.

And so those numbers are very large, but I think you can say, "Well, it's 10 percent of this person and 20 percent of that person and 5 percent of the other person." So it sort of is a cross-cutting effort that I think we're in general, since it's so in the ether and in the water -- and we're all drinking the Kool-Aid maybe -- that we're all familiar with, so that it maybe doesn't emerge as an obvious sort of clean energy thing that you can tag, but it certainly is there.

CHAIR WEISENMILLER: Well, certainly some of the debate on the national solar numbers that he used I think maybe there's a lot of (inaudible) some of it includes energy efficiency. You know, again on these projects you can do both.

You know, obviously Rossi is the one on point in the administration. He's skeptical of the industry job numbers put out by the industry per se, but they are impressive. Although again I think, going forward, it's very good to keep tracking these, which obviously other parts of the state government are responsible for.

And also just to put out the diversity part and the union labor part, how many of these are good jobs and how are below prevailing wages? But again it's good to keep track of those questions.

And certainly thank you for your activity and certainly for your public service being here as an intern.

COMMISSIONER HOCHSCHILD: And by the way let me just say Rudy comes to us out of UC Davis, as does Emilio, and it's just a great example of I think the kind of trajectory we want from our top tier public universities into the Commission. And that's been a real pleasure. We're not letting him go, by the way. This summer he is going to go work for Kourtney in the Legal Office and he may never leave.

But actually just one bit of good news I did learn recently is that the affordable renewables, now from here going forward, the Department of Energy is actually going to take over from the Solar Foundation and actually detail the same methodology, which is a census-based

approach doing surveys. And then we'll be getting national renewables data, pan renewables data from DOE on jobs starting this year going forward. So I think that will be helpful.

CHAIR WEISENMILLER: That's good.

COMMISSIONER MCALLISTER: I think on efficiency we are actually facing these issues. The Prop 39 is the Clean Energy Jobs Act, right? So one of the core goals is to move energy efficiency and clean energy generally in the schools. In efficiency traditionally it's been sort of, "Well okay we invest x amount of dollars in the sector." And there's a multiplier that DOE uses to figure out well how many jobs were created by that investment. And so I think there is a need to update. You know, whether that multiplier where it fits, where it doesn't fit, kind of update it in a way and understand the industry better.

We do have some resources in the state though, the Don Vial Center and others that do work on energy efficiency and the jobs implications, the economy implications for labor markets and all that, so that's very helpful. So we do have resources in the state on the efficiency side. And there have been some good reports that have come out on efficiency jobs.

COMMISSIONER HOCHSCHILD: Yes.

COMMISSIONER MCALLISTER: So you might look for

that and incorporate it when you have a chance.

CHAIR WEISENMILLER: No, I was going to point to that. I mean certainly Don was in the first Brown Administration and then sort of a PUC Commissioner and always had a very strong labor focus among other things.

So anyway, but thanks again. We're glad to hear you're staying and certainly encourage you to encourage the best and brightest from Davis, particularly diversity candidates to come.

So with that let's go over to 5, 2016 Nonresidential Compliance Manual Update. Let's start with Part a.

Peter Strait, please?

MR. STRAIT: Thank you Commissioners.

As noted this item is in two parts, so we'll start with Part 5a. This is for the Compliance Manual, Section 25402.1(e) of the Public Resources Code requires that the Commission, "Certify not later than 180 days after approval of the Standards by the State Building Standards Commission an Energy Conservation Manual for use by designers, builders, and contractors of residential and nonresidential buildings."

I'm here today to ask the Commission to approve and certify the compliance manuals for the recently approved 2016 version of the Building Energy Efficiency

Standards consistent with the statutory requirement.

For those who may not be familiar with them the compliance manuals are a plain-language recipe book for complying with the Building Energy Efficiency Standards. They describe the steps that builders, designers and similar parties can take to ensure their projects meet efficiency requirements. It is not itself a regulatory document. Rather, it describes the regulations in order to assist designers and builders and provides forms to be used to document and demonstrate compliance for California's building officials.

Also, for those who may not have participated in the rulemaking for the 2016 Standards, amendments to a portion of these Standards relating to nonresidential lighting alterations were adopted at a later date than the majority of the regulations. Because of this, the associated sections of the compliance manuals were similarly offset in their production.

Following a workshop and a public comment period our office has now finalized changes to the 2016 Nonresidential Compliance Manual chapters and forms for non-residential lighting alterations. In addition, staff have identified incorrect and minor errata occurring in a handful of additional compliance forms. We are here today to bring a complete compliance manual that includes these

sections before the Commission for approval.

The draft changes to the chapters and forms were made available for public comment from March 1st to March 15th. Staff received very few comments on the specific content of the chapters and forms. Of the comment letters received only one made specific reference to the language in the Draft Compliance Manual and requested that the proposed language be changed. Staff made changes to the final language to be responsive to this commenter's comment.

The majority of comments received by staff instead discussed restricting the completion of a new Certificate of Compliance Form to certified acceptance test technicians. This is not currently a requirement in the 2016 Building Standards and would require a rulemaking action to amend Title 24. I mention this as I believe some of the commenters here today will be making this comment and this request.

The current action before the Commission is the approval of the Compliance Manual for the currently approved Standards, which is required by statute as mentioned before to be done within 180 days of their approval by the Building Standards Commission. As we are required to approve a current Compliance Manual for the current standards we therefore recommend approval even if

future changes to the Standards are contemplated.

I'm happy to answer any questions that the Commission may have.

CHAIR WEISENMILLER: Okay, thank you.

Let's go through public comment. And again this is on a.

Tom Enslow, first.

MR. ENSLOW: Good morning Chair, Commissioners, Tom Enslow on behalf of the California State Labor Management Cooperation Committee for the International Brotherhood of Electrical Workers, and the National Electrical Contractors Association.

The organizations that I represent have serious concerns over the proposed Compliance Manual provisions related to the new 35-to-50 percent power reduction compliance pathway for lighting alterations. The LMCC feels that the enforcement concerns that have been raised previously on those alterations have not been addressed.

Now this was a compliance pathway that was highly controversial when it was adopted, in large part due to concerns over its enforcement. And at the time the Commission committed that they were going to address enforcement issues as they moved forward.

Enforcement is a huge issue in building codes as you know, particularly with Energy Code. Studies have

shown that without reliable verification compliance with Energy Codes is -- approximately 65 percent of projects fail to comply with Energy Code requirements. So the 35-to-50 percent power reduction compliance pathway heightens this enforcement concerns, because it's enforcement relies on the comparison of the performance of the preexisting lighting system with the new altered lighting system.

And this is problematic. And we refer this again and again from enforcement officials, because enforcement officials verify the final product of the code. They don't look at -- they don't go in and inspect a building beforehand. And to suddenly adopt Building Standards based on a comparison of preexisting conditions with new conditions creates an enforcement gap that's ripe for fraud.

And so as I said the Commission's response was to commit to addressing enforcement issues, so staff held a workshop on enforcement in February. And at that workshop numerous inspectors and other stakeholders testified that merely requiring a contractor to sign a document verifying compliance would not be sufficient since there is no way to verify if someone is lying once the original lighting alterations and original lighting fixtures have been removed. And so it creates this new incentive for fraud, because there's almost no way to get caught once you've

done the work.

So numerous stakeholders recommended using acceptance tests just to conduct this pre-installation, visual inspection, and a report was prepared by the University of California Davis Lighting Technology Center, finding that use of acceptance testing would be cost effective. And we have supported acceptance testing, because that's what building officials thought would relieve them from the responsibility of having to go in beforehand, which they felt they didn't have the resources to do.

But despite the commitment to address the enforcement the current Compliance Manual only requires a simple verification by the contractors, no verification of existing conditions is required that's meaningful in any way. Our clients feel that this is a violation of the commitment that was made to address these concerns that we had raised. And we urge the Commission to expect staff to continue looking at this issue and amend their Compliance Manual as we go forward before the effective date of these provisions.

Thank you.

CHAIR WEISENMILLER: Thank you.

Aaron Klemm from the CSU's Chancellor's Office.

MS. MATHEWS: Mr. Klemm can't be here, so I will

be reading them on his behalf.

(Reads letter from Aaron Klemm)

"Honorable Commissioners my name is Aaron Klemm and I am the Chief of Energy and Sustainability for the California State University CSU system.

"CSU is a leader in high quality, accessible and student-focus higher education with 23 campuses, 460,000 students and 47,000 faculty and staff.

"The trustees of the CSU have maintained and expanded CSU's long-standing energy management program with aggressive goals for energy efficiency and carbon emissions reductions in CSU's buildings. CSU's built environment totals over 85 million square feet with over 40 percent of the space being built before 1980.

"Consequently, cost-effective lighting alterations to existing buildings are essential for CSU to meet the trustees energy and climate goals, given the multiple demands for limited funding and financing capacity. CSU strongly supports the staff recommendation to approve Item 5 without any amendments, which will provide an additional, more cost-effective compliance option for lighting alteration projects in the 2013 Building Energy Efficiency Standards.

"Thank you for considering this comment."

And I have another request if I can just read

that while I'm here now? It's a comment on behalf of Tom James.

CHAIR WEISENMILLER: Sure.

Again, I encourage people when they send in comments in writing to assume we will read them as we are all literate as opposed to having them read to us. Thanks.

MS. MATHEWS: (Reads letter from Tom James.)

"My name is Tom James and I am a long time lighting efficiency pioneer here in California. Almost 30 years ago I helped create one of the first compact fluorescent lighting fixture manufacturers in the country.

Over the years I've had the great privilege of working with utilities, lighting retrofit companies, contractors, distributors and end users around the country to help them with their lighting efficiency programs and projects. Historically I have been supportive of lighting controls and was one of the very first to be certified as a CALCTP acceptance test technician in 2014.

Given the much higher efficacy SSL lighting is now the norm in terms of our retrofit and renovation projects. I firmly believe that our lighting control systems need to be simpler to deploy and much more cost effective if they are ever to make compelling economic sense for the commercial marketplace. Moreover, I see no good reason to require ATTs to verify existing fixture

wattages as that basic function has been easily handled by the lighting contractors and utility companies who have built the lighting retrofit industry that exists today.

I strongly support the CEC staff recommendation to approve Item Number 5 without any amendments, which I trust will provide an additional and more cost effective compliance option for lighting alteration projects in the 2013 Building Efficiency Standards.

Thank you for your consideration and your good work.

CHAIR WEISENMILLER: Thank you.

Tom James? Oh, Tom -- Mr. James -- okay.

Let's go to Gene Thomas.

CHAIR WEISENMILLER: Let's go to Gene Thomas.

MR. THOMAS: Hi. I'm Gene Thomas, Ecology Action. I've got just some quick bullet points to go over regarding the percentage reduction compliance option and then the verification of existing fixtures.

Just to reiterate that lighting retrofit market continues to suffer under the current 2013 Code, it needs attention now. Major energy savings is being stranded because code-triggering retrofit projects are not selling.

Lighting retrofits that do proceed are much less comprehensive than before consisting mainly of screw-in LEDs and other non-code triggering lamp replacements. CEC

developed the 2016 Percentage Reduction Compliance Path with extensive stakeholder input, specifically to address these unforeseen, negative market effects with the 2013 Code.

And CEC analysis proves that allowing this compliance option now will save more energy now and will do so at reduced cost to rate pairs.

And we, College Action, urges the Commission to approve the staff proposal as written to allow the Percentage Reduction Compliance Path as an option under the 2013 Code.

Regarding verification of existing fixtures there is no needed for the added expense and hassle of having ATTs verify existing fixture wattages, because contractors are already accurately performing that function of the people that install the retrofits. And it's important to know that lighting contractors are incentivized on multiple levels to be accurate. When contractors sign the acceptance form attesting to those fixtures they do so under penalty of law.

Overstating projected savings has far more potential downside for contractors than potential upside. There is no credible study data showing that licensed lighting contractors do not accurately characterize existing fixture pipes and wattages.

Furthermore there is no credible study data proving that ATTs do provide greater accuracy in verifying control settings than the contractors who installed them. Lighting contractors are far more qualified than ATTs on the subject of correctly identifying existing fixture types and wattages.

In contrast CALCTP's ATT training curriculum does not include instruction on how to identify incumbent lighting technologies and properly assign system wattages. That whole training curriculum would have to be developed from scratch and disseminated to all the current ATTs. Adding ATT verification requirement would substantially disrupt project work flow and layer on additional costs with no greater likelihood of accuracy than the current approach.

Building inspectors already rely mainly on what the responsible designer, the lighting contractor, has attested to in the compliance forms under penalty of law. Jurisdiction to wish to review existing fixtures lamps can do if they wish by examining photos of existing fixtures that were removed. Also, potentially the building owner or decision maker could sign an affidavit attesting to the accuracy of the existing fixtures that were removed.

The 11th hour is not an appropriate time to push through a radical, untested scheme that goes far beyond

current enforcement practices and is not called for in adopted regulations. Ecology Action strongly urges the Commission to reject the Special Interest proposal to require ATT verification of existing and new fixtures.

I'm available for any questions if you like.

CHAIR WEISENMILLER: Okay, thank you.

Is there anyone else in the room who wants to speak on this issue? Let me go to the people who called in. We may have questions for folks afterwards, but let's get their other public comment in.

Let's start with L.A. County.

MR. KASHE: -- L.A. County area as well 16 contract cities I fear by having the 5b -- to try to change 4 to 5b I won't be able to do that. I get contractors and designers on a daily basis coming to my counter and they're doing everything possible not to comply with the code. And they're writing anything possible on the plans to get a permit. There is no way of me being able to verify or my staff to able to verify any of the existing lighting circuits or the wattage or deficiencies, so I really feel this should be a third-party doing this for us. And we should get this to be documented and recorded to the state level. At the same time, who better than the acceptance technicians, who are already contractors to begin with? Most of them understand (inaudible) acceptance technicians

are contractors. And yes, they could be trained. There's still time for us to be able train them from now until January 1st. Thank you.

CHAIR WEISENMILLER: Thank you.

Let's go to Matt Tracy.

MR. TRACY: -- what I wanted to say, but I just wanted to put my last two cents on that in that anything that simplifies the process makes it so that there is fewer costs, which make lighting retrofits more valuable for the building owner. Anything that adds paperwork, anything that adds extra people in the middle of the process adds costs, which makes the payback worse in the lighting retrofit.

So I am definitely in approval of the early adoption of the 35-50 percent compliance option. And I'm definitely in opposition of the fixture verification by acceptance test technicians. Thank you.

CHAIR WEISENMILLER: Thank you.

Rick Brown. Rick Brown?

MR. GOLDTHRITE: Sorry.

MR. BROWN: I'm also a member of the Executive Committee of the School Energy Coalition and have been asked by our Executive Director, Anna Ferrara, to speak on her behalf. And basically we are in support of the staff recommendation in both items. We are School Energy

Coalition, it's an organization made up of K12 schools, community colleges. School construction and energy consultants focus on energy, water efficiency, and renewable energy generation projects for California students. And we support, again, the staff proposal.

In 2012 California voters approved funding from public energy projects through Prop 39, which then focused on K14 districts per the Governor and the Legislature. And since the implementation rules were established schools have been gathering the required baseline data and benchmarking analysis for funding approval in their Energy Expenditure Plan. The resulting utility bill savings that have come from these projects are already stretching taxpayer dollars as they are used for other school priorities, such as teachers' books or technology that assist students statewide to a better academic achievement.

And so that's why we're in strong support of these measures, which as I testified and Anna testified last fall, are really necessary to get these projects freed up. And in terms of my company we're already having projects go forward using the new Option 3. And in the case of public schools around the verification issue we already, as part of Prop 39, have to do extensive pre-installation verification processes. That's a requirement of Prop 39.

And we have to do post-implementation verification. Not just of the installations, but of the actual energy saving. So a) we don't think this is necessary anyways, but it particularly is not necessary for schools. We also have requirements for an inspector of record, a third party, to verify implementation to the code. So we think this would not be applicable in any case in the public school sector.

So I'm glad to answer any questions. Thank you for your time.

CHAIR WEISENMILLER: Thank you.

Scott Randolph, City of San Jose.

MR. RANDOLPH: Yes, I'm an inspector on a contract for the City of San Jose.

I'd like to speak first as the school just spoke. They are a very limited group in that they don't represent the vast majority of the work in the State of California. And as such, I don't believe that their input has much value when we look at the whole state as it sits.

As a building inspector there is absolutely no way that enforcement has every worked with self-certification. We don't allow self-certification in any aspect of the building departments. And why would we start doing that now? I have absolutely no concept. It doesn't work, people don't tell the truth, people are not honest.

And when it comes to money they will do everything possible, as the City of L.A. said, to avoid extra costs and extra interference or extra, even verification by an outside official.

Number two the early adoption, I think, is a completely bad idea. Many of the jurisdictions in the Bay Area -- there is 109 different jurisdictions -- many of the jurisdictions are just now even after 18 months really getting a handle on the Title 24 requirements and what's required and what isn't. And now to say that we're going to step up an early adoption of one singular program that is very controversial anyway, I think that will harm rather than help in the jurisdictional and the inspection system.

The whole concept is that the city is there to verify how everything is going to work and it takes time for a city of over a million plus people, their inspection department, it involves in getting their head around what's happening. And to do an early adoption well before any of the rest of the requirements are coming into effect I think is a very bad idea. Thank you.

COMMISSIONER MCALLISTER: Just to be clear, so Mr. Randolph, I've got you as City of San Jose. Are you actually employed with the City of San Jose?

MR. RANDOLPH: I'm a contractor that works for the City of San Jose.

CHAIR WEISENMILLER: So you're not representing the City's view on this?

MR. RANDOLPH: Not totally, no. I worked for the city for almost three years and then left and went out. And I was requested to come back and work as a contractor, so I don't speak for the City of San Jose.

COMMISSIONER MCALLISTER: Great, thank you.

CHAIR WEISENMILLER: Okay, Don Link?

MR. LINK: Hello?

CHAIR WEISENMILLER: Please go ahead.

MR. LINK: Okay. Let me turn the speaker off, please. Yeah, my name is Don Link. My company is Controlled Energy, a lighting retrofit company that's been in this industry since 1986. We've retrofitted hundreds of thousands if not billions of light fixtures, installed thousands of occupancy centers and daylight harvesting controls when they were appropriate.

We install controls when they are cost effective and not in a "one size fits all," prescriptive manner. I urge the Commission to approve Item 5a and b, as they are, because they provide a third path for the lighting retrofit industry.

Those prescriptions in 2013 Title 24 are not appropriate for the lighting retrofit industry, but more for the inside wiremen-type companies that do new

construction. My company has seen its business and staff shrink 80 percent since the 2013 regulations took effect. Commission staff has shown that the new 50-35 percent compliance path will increase energy savings by 33 percent more than the 2013 Regulations.

My industry needs the flexibility of 2016 Regulations to be able to do its work of reducing kW demand in kilowatt hours of consumption, something we've been doing effectively for 30 years. We know how to do it, we know how sell it to our customers. We cannot sell the 2013 requirements, because of their cost and complexity. Cost-effective energy efficiency drives our sales and our industry.

I also think the 2016 Regulation should be implemented immediately and not wait until 2017 to go into effect. Many companies like mine are hanging by a thread and need to get back to work saving energy. Please do the right thing for my industry for its customer base, which is really not served very well by 2013 Standards. And also do the right thing for the State of California.

The idea of the acceptance testing technician verifying is redundant in my work, because that kind of verification is already being done by the utilities and third-party rebate organizations. They require a pre-inspection and verification, because they're giving out

public funds. So that would be redundant, it would be another layer, it would time consuming and quite expensive. The ATT can charge anything he wants for this kind of work.

So please do the right thing, approve 5a and b as they are. Thank you much.

CHAIR WEISENMILLER: Is there anyone else on the line who wants to speak about 5a?

MR. GOLDTHRITE: (inaudible)

CHAIR WEISENMILLER: I don't have cards for them. Ask them to introduce themselves and then to speak. Actually, Tom we have on for 5b. And now we're just dealing with 5a, but if he wants to speak on a, that's fine. Okay, fine.

So let's transition now from public comment to discussion on the dais. Commissioner McAllister, you want to lead us?

COMMISSIONER MCALLISTER: Sure.

So thanks, everybody, for coming on this.

Obviously a lot of diversity of opinion, I guess first of all I don't know if staff, Peter, you've been taking any notes on any particular issues you want to respond or develop those themes a little further? And we heard a few themes that have different opinions across them.

MR. STRAIT: Sure.

We know that enforcement of this is a somewhat new field in nonresidential projects, so we do have a sensitivity to the comments that were raised regarding enforcement.

For a building inspector walking into a project that has taken this approach and looking at the installed lighting that building inspector is still able to make a call whether this project looks to be one that's met the goals of Title 24 or met its requirements or hasn't.

These 35 and 50-percent numbers are not arbitrary. They were set to provide the same or superior results to the existing approach of calculating based on the square footage. So a building inspector can make the same assessment of the space and if they find that it hasn't met that they can red tag the controls, similar to a project using the existing options and say, "These need to be updated, because the space doesn't meet what would be required to have a reduced controls option."

We looked at whether there would be value in having an ATT perform these functions. The primary thing that we found is this would require a change to the regulations, so in terms of this action before us of approving the current compliance manuals based on current code it really would be a separate action that would subsequent.

However, we did find that an ATT is not necessarily in a more independent role than a contractor, an engineer or an architect. An AC can also be a licensed contractor, engineer or architect. It can be the lead contractor on a lighting alteration project, its primary designer or the lighting systems installer. In these cases we didn't find that an ATT would be less subject to pressure to overstate installed lighting wattages than a contractor, engineer or architect.

We also found that would mean it would not be a new set of eyes on the project and that the people possessing an ATT certification would be able to self-certify.

We did find that there was an increase in project costs and that there would be an increase in logistical difficulties to have an ATT participate where they're not normally required to do so.

We did find that contractors, engineers and architects have strong disincentives and deterrents for submitting falsified information.

We also found that the most common type of noncompliance in a case like this wouldn't be that they falsified a document, but that they simply do not pull a permit at all. I received a call just this morning from a retrofitter that was seeking information. And their

commentary was that they had a lot of competition from shops that would sell themselves as, "We'll take of all the permitting, we'll do everything for you" and then behind the scenes they simply do not do so. So adding an ATT would only apply additional compliance to projects that have pulled a permit, not to those that are completely underground.

There is an additional auditing that ATTs receive. ATTs are overseen by ATT employers and ATT certification providers, so there is a layer of auditing of their work that isn't applicable necessarily to contractors, engineers or architects. Although one could think of the building official inspecting the property as an auditing of that builder's work.

And lastly, there was a legal issue with prohibiting a licensed contractor, engineer or architect from making statements about the installation and the wattage of an existing lighting system. This is something that Code expects these parties to do when they're designing a new building, but to say that they are not qualified to do so in an existing building would create an odd conflict between our Code and the Building Professions Code.

For those reasons we took a very close look at this option and it wasn't something that we would recommend

to the Commission at this time.

COMMISSIONER MCALLISTER: Yes. I want to dig in a little bit to the -- at least one commenter, I think a couple of commenters said -- I believe it's most of these projects, but many at least of these projects participate in programs, the incentive programs, that are ratepayer funded that do require establishment of this baseline.

Now maybe you can give us some insight on that and how that information is used and where it goes?

MR. STRAIT: Certainly. So many of these projects, the reason that -- or let me go back a little bit. One of the things that help us engage in so many of these projects in the State of California is this ratepayer funded assistance that's provided by our utility companies. And as a part of that they require documentation of the existing and the proposed lighting systems; it's fairly extensive.

Anytime we talk about cutting a check to someone for having performed an action we want to have a strong guarantee that that exists. So while this is not a regulatory proceeding it is still a very strong incentive and very difficult to thwart program that is applicable to most of the lighting retrofit projects that occur within the state. And we know have significant uptake.

In fact, some information submitted to us during

the 2016 Rulemaking proceeding showed that as the economy recovered these projects are even under the somewhat onerous requirements in 2013, as some commenters have framed that, increasing and quite drastically. So participation in these programs is very strong and it does provide that additional layer of certainty that folks that are engaging in these retrofit projects are reaching the same endpoint that we care about of an efficient building.

It's worth noting that the only difference that we're focused on for this is option is whether or not a bilevel switch or a bilevel control is installed for that space. All the control requirements related to area controls and related to automatic shutoff controls are still required for these projects.

These projects are not required to install daylighting controls or demand-response controls. However, those are also not required if you install an efficient lighting system under the current options -- that's when you're 85 percent or less of your installed lighting power allowance.

And with LEDs it's practically guaranteed that if you're installing LEDs you're going to reach that point.

COMMISSIONER MCALLISTER: So thanks. I guess, so in terms of there's a diversity of projects. There are existing buildings that have a particular context. And I

guess what's your sense of the role of the building departments and the building inspectors in coming in and sort of signing off on a project?

You know, that 35 and 50 is a firm requirement.

MR. STRAIT: Right.

COMMISSIONER MCALLISTER: So it's a global sort of sense of, "Oh, this looks like a good project" doesn't necessarily guarantee that you are getting that percentage. And so I guess I wonder how you can comment on them walking into a building after it's done. And what that looks like for them.

MR. STRAIT: Sure.

Actually, one comment that we received from several building officials is that they were frustrated that we had requirements that weren't just asking that LEDs be installed and that be sufficient to show that you've reached an efficient building.

We know that for many building officials their job is very difficult, there is a lot they've got to inspect and that their top priorities are to make sure that no one gets hurt and that no one gets killed. That is, they are first looking at the building to make sure it's not going to fall down or catch fire or otherwise imperil someone that's an occupant or resident in that building.

Third on the list is efficiency, because while

this has a profound impact on the quality of life of the occupant and their economic status in the state -- and has a universal impact on, for example, climate change and all of the state's goals -- it doesn't have an immediate threat. If somebody has less efficient lighting there is not an immediate threat posed to that occupant.

When they get to this point they want these processes to be as simple and as easy as possible. Part of the reason that we have the HERS Program in Residential and the ATT program in Nonresidential is to offload some of the detailed inspection work and some of the more complicated questions to a trained third party who can competently attest that if the building official were to look and inspect at that level themselves they would find a compliant system.

COMMISSIONER MCALLISTER: Although in this case the ATT is not necessarily an independent third-party, because they are not required to be a true third-party. Right, they could be the contractor in and of itself.

MR. STRAIT: Correct, correct.

The goal in an ATT program is not so much to provide an independent third party, but mainly to provide someone with the explicit training necessary to put the lighting controls, these complex control systems and complex mechanical control systems, through a series of

tests that show that it's actually going to live up to its end of the bargain.

This is necessary because these are somewhat complicated and difficult to install and configure correctly, so even someone that's trying their best to do the right thing, have they missed even one thing that's going to cause this to not function in an automated sense as it properly should?

In this case we don't have quite the same situation where we're asking someone to count a number of fixtures and determine their wattage. It's not something that requires a detailed test procedure to accomplish.

COMMISSIONER MCALLISTER: So what portion -- so there are three options. The third option, some of those will actually require an ATT because they will involve lighting controls as well, right?

MR. STRAIT: Yes.

COMMISSIONER MCALLISTER: So I think having the ATTs -- I mean that's why we have ATTs to make sure that those systems function well.

I guess any idea of sort of any anticipation or sort of anticipated idea of what portion of the Option 3 projects might be touched by an ATT?

Actually, before you answer that I want to just back up on something there. The two other options require

-- I mean, we're talking about this Option 3, but I think we have a long record that shows that parts of the lighting market have suffered because of complexity. And so the goal of this update that staff has been managing is to simplify where that's going to create more project flowing.

And fundamentally if we want to reach our SB 350 goals we need more projects and they really need to be done today; they need to be done soon, now. And somebody has to be able to sell it. If they can't sell it it's not going to happen. So I think we have to find that balance of expecting responsible actors in the marketplace to do the right thing and to comply with code, but also not impose too many transaction costs on it.

And that's a fine balance. And we do disagree about sort exactly where it sits, but I think we're all really headed in the same direction. And to the extent that new construction and major TI and significant projects that have a relatively high capital cost are happening. Those won't be able to take Option 3. And so we're talking about some subset of the marketplace. And we want them to both get a permit, not go underground, and save a lot of energy.

So I think we all agree that we need to look at ways to help that happen. So anyway I guess any idea of what percentage of Option 3 might be touched by an ATT at

the end of the project?

MR. STRAIT: I'd say most. Not quite all of them, only because some projects will have existing controls that meet all the requirements in the current code. But projects using this option still are required to install automatic shutoff controls that are required to have an ATT.

It's worth noting that ATTs, even under the current options they don't conduct verification of the lighting power allowance calculated under the square foot approach either. So they are not coming in and verifying or double-checking that a contractor correctly reported the square footage of the space or the occupancy that the space is expected to have.

COMMISSIONER MCALLISTER: So there in the Options 1 and 2, in their case are they actually playing that kind of an enforcement role or they are really just doing the technical assessment; is that right?

MR. STRAIT: What's required in Code is that they perform a technical evaluation. They perform a series of acceptance tests on the lighting controls. And some of that determines if the daylighting control is required is what's installed a daylighting control that's actually is living up to that name.

I do believe they provide as just an additional

service an advice to the contractor to say, "You know, I've looked at this and it looks like you need updated controls here, because these don't seem to make sense." But it's not something that the Code requires or expects them to do.

COMMISSIONER MCALLISTER: Okay. Are there any other -- I kind of want to invite some of the different parties to reply on some of these issues.

Well, what seems to be the issue somewhat is the role of the Building Department and the inspector and the responsibility of the contractor. We've heard, "Oh, contractors do the right thing and they have an incentive to do the right thing." But then others say, "Contractors lie all the time." And so that seems to be a difference in worldview more than anything else, but it's hard to tell right, sitting where I sit.

So I guess if anybody has additional comments they want to make them on that. And we can take a minute each, if anybody wants to?

Sure. Gene raised his hand or Gene and then Tom.

MR. THOMAS: I would just say that at the time of permit application any building jurisdiction that wanted to, if they looked at what the form said were the existing fixtures and it looked fishy to them, "Gee, this building is five years old and it says on the form that they have T12s with magnetic ballasts," they could ask for additional

verification at that time. Or they could request a field visit.

Even after the fact they could verify by doing a lighting power allowance calculation that -- I think this is what you alluded to -- that would demonstrate that it was below the 85 percent. And then that would virtually make it certain that the fixtures that were attested to as preexisting were what they say they were.

But in terms of the, "You can't trust contractors, you can trust contractors" issue? As Peter touched on there is an extensive third-party verification system in place for any projects that get a rebate.

So as a program implementer, I mean just our recent contract with City of San Francisco -- it's a $55 million contract. A lot of the savings to be delivered is going to come from lighting, so we would like to see that contract renewed when the time comes. And if their own verification processes, because they go out and look at our installations every day, if they see those as being problematic we don't get renewed. And then we lose that potential revenue.

And so the contractors that we supply these projects to, they have to do what we tell them to do and we inspect 100 percent of those projects. And we pre-inspect a significant percent of those projects. So if our

lighting specialist does the initial audit and says, "Here's what's on site. Here's what we're recommending," then we also have a management audit of a percentage of those to make sure that he's characterizing accurately what's there and specifying correctly what makes sense to install.

So there are multiple levels of these.

COMMISSIONER MCALLISTER: And if the 50 percent-35 percent option turns out not to be the best, then you would go with Options 1 or 2 or --

MR. THOMAS: That's what I mean with -- I would suspect that unless somebody is requesting a really cutting edge, "I want a demand-responsive daylighting and sky-lit retrofit," which would be highly uncommon -- the large majority of the time that's probably the option that we would go with, because it's most cost-effective and it makes the most sense. But what it allows is instead of avoiding code-triggering jobs like we're virtually forced to do now we can start doing them again.

And as Peter kind of touched on it's hard to not achieve that level of savings. And our recent comments provided some examples of pretty efficient existing lighting that we were able to upgrade and get well over 50 percent savings on. So there's no motivation for us to fudge things or for the contractors that we employ to fudge

things.

I mean, most of their revenue comes from these projects that we give to them, so they would lose most of their revenue and possibly their licensing if they were found to be doing fraudulent projects.

MR. MCALLISTER: Okay, thanks a lot.

Mr. Enslow?

MR. ENSLOW: First of all I just got a text that said that some inspectors had trouble calling in and they're on their phone now and wanted to talk about this (inaudible) --

CHAIR WEISENMILLER: Well, we've transitioned over.

MR. ENSLOW: Okay.

CHAIRMAN WEISENMILLER: So certainly (inaudible) --

MR. ENSLOW: (inaudible) No, thanks.

For as far as enforcement goes our contractors deal every day bidding against projects in which the bids that they're losing to, there is no way they could ever comply with the Code and actually even cover their material costs. I mean, they see this fraud on a day-to-day basis. And study after study shows that this widespread noncompliance. The idea that just simply having people sign a paper will ensure compliance, you know, it's never

been proven to work. And in fact there's study after study it doesn't.

What I find interesting though is that why we're here today, is that the utility incentive programs do require pre-inspection -- exactly what we're saying is necessary here. And that it's been successful and it hasn't hurt the program. And we're asking that that needs to happen for all installations, not just for the utility incentive programs. We're not asking to double up on enforcement. If there is an equivalent utility inspection, maybe that takes the place of acceptance testing. But this pre-inspection -- it's important to the utilities -- it should be important to the Commission. The idea that you can just go into a building and just know by your hunch whether or not they complied is ridiculous.

I mean, first of all I think one of the fundamental issues here is this idea that was stated by a staff that just putting in LEDs will get us the level of energy efficiency that we're looking for. That is not true. Putting in an LED will not give you necessarily a 50-percent or even 35-percent reduction in most cases.

One of the issues we had with the Compliance Manual is originally it had a statement saying that if you replace HID lamps with LED lamps you will get a 50-percent reduction in power consumption. Well the manufacturers'

own HID studies show that in almost no case would you get 50 percent just by replacing HID lamps with LED lamps. You'd also have to further degrade and alter the lighting. Just doing these replacements does not give you equivalent to what the other pathways give.

And that's our concern, is that these installers are going to say, "Hey, we put in LED. Of course we met this." And inspectors will go, "Okay." And that's sort of what we're hearing from inspectors, that's what we're hearing from staff, and it's just simply not true. And so this is why a pre-inspection is needed. It's required by the utilities it should be required by the Energy Commission.

COMMISSIONER MCALLISTER: So I want to just state for the record that absolutely we have a stake in compliance and we want this to work. So at the same time we also want projects to not have undue transaction costs imposed upon them that create a disincentive to even get a permit or do the project at all.

So again, this is a balance.

All the people in the room are involved in this industry on a daily basis. And I think, actually, there isn't a lot of evidence about -- from the lighting sector. You've quoted a lot of evidence in your various filings on different sectors, HVAC and other sectors, that show

noncompliance and additional savings when third parties inspect, etcetera. I don't think we really understand that fully for lighting.

We do know from the retrofits that that section of the marketplace, that sector, has declined a lot and is actually -- sort of needs pathways that work more for it. So but it's a big marketplace.

And I'm actually proud of the fact that we have -- we're pushing a lot of advanced controls into the marketplace. We're getting the field kind of prepared for having truly markets for demand response that actually do have cash flow associated with them. And that's happening alongside all of this discussion we're having, which is one option -- the discussion we're having right now.

So all of you who came today I really want to just say thank you for all your input. It's really, really good. So I guess my point is that we -- number one, in order to require ATTS in this -- not commenting on the details of what enforcement ought to look like in sort of making a definitive normative statement about that -- I think we do have enough people in the room that can pay attention to this marketplace going forward and get a sense for whether this fraud is taking place. And sort of roll with the punches going forward according to what the actual project environment looks like and how it evolves.

In order to require ATTs in this, though, it would require -- I mean, we've all had this discussion now multiple occasions about the regs themselves and now the compliance manuals. In order to actually require that we'd have to change the regs and that would require an emergency rulemaking. And I certainly don't have an appetite for that. And I think the resources we would have to dedicate to that in the timeframe we have is very difficult to justify.

But if there are specific issues we can pay attention to, work on and continue this discussion about, "Okay, what is actually happening out there in terms of enforcement with this option for projects that are taking it," then certainly we need to keep doing that. I mean, I think we all have an interest in compliance.

And I agree it's not a matter of, "Oh, that project looks like a good project. We're not going to ask the question whether it got to 35 or the 50 percent." That's not acceptable, because that wouldn't comply with this option. But I think we need to make an educated decision about that before we impose sort of and layer on additional requirements for a given project. Because we can know where that goes and that's where we are today.

So in any case, I want to open it up to the dais if there are any comments on it. This gets complicated

really fast. Like most things energy efficiency there's forest, but there are also a lot of weeds down in that forest.

CHAIR WEISENMILLER: Well again I appreciate people stepping forward, but part of the reality is we had public comment. We were trying to transition out of the dais, so we have (inaudible)--

MR. MAHONEY: (inaudible)

CHAIRMAN WEISENMILLER: So let's -- Andrew?

COMMISSIONER MCALLISTER: Yeah, so I guess -- I mean, identify yourself.

MR. MAHONEY: Okay. My name is Greg Mahoney. I'm the Chief Building Official for the City of Davis. And I'm the Chair of the CALBO Energy Commission Advisory Committee.

And I just wanted to comment on the inspectors comment that we have never allowed them self-certification. And I don't believe that's true. In fact, the insulation certificates that we require on projects that demonstrate energy compliance are in fact self-certification forms. And we develop those and require those to be completed for CALGreen measures. And so those are widely used and accepted.

I'm not really going to speak to what's the main topics here, but just to kind of give my opinion really

quickly. I think that rather than focus on starting points and then have to deal with the consequences associated with those we should look more at outcomes and determine where we're trying to get irregardless of where we are now. And just say, "If this an acceptable outcome then we should allow it to be done without the additional controls that may be required on the options."

So I think if we focused on outcomes a lot of this controversy would go away. I know it's late in the game to bring that up, but that's my opinion.

COMMISSIONER MCALLISTER: Thanks again.

CHAIRMAN WEISENMILLER: Next up, please?

So we've had two parties pop up on the phone. And again we're trying to transition. And certainly we'll let both speak, but I mean part of the messaging is that Andrew raised a very broad question about compliance. Well, in fact that's going to be a big focus on the Demand Forecasting staff over time. So please data there are great, but at least at this point let's try to move on, on this specific topic. We've got a pretty long day.

But anyway, so I will ask Mike Stone from NEMA on the line -- are you still there?

MR. STONE: So I'm speaking regarding self-certification in the use of acceptance testers. On allowing self-certification like this is really

unprecedented and it might be simpler, but I would assert that it's bad enforcement policy. There's a significant financial incentive to not comply with these rules, but say that you did. And this would create an unlevel playing field for those who do play by rules in lighting retrofits.

Some lighting retrofits spoke. That's only a small part of the types of projects that are covered by 141.0. It also includes tenant improvements and lots of other types of remodel projects, so this doesn't only apply to retrofit contractors who are with the utility or a public university. And also public universities and schools and hospitals are not inspected by local building departments, so they might have some different types of controls in the projects that are going on there as opposed to the private sector and the vast number of buildings that fall under these regulations.

And if you look at Chapter 17 of the Building Code that requires third-party or special inspection for a number of different items that the building official is not able to inspect. So this should really be treated the same for lighting baselines -- to verify them it really should be treated the same. So I'm asking you to support the use of acceptance testers as third-party verifiers. Thank you.

And by the way, I represent NEMA, the National Electrical Manufactures Association. Thanks.

CHAIR WEISENMILLER: Thank you.

And Leslie Kramer, Stanford?

MS. KRAMER: I'm with the Energy Retrofit Programs at Stanford. And I'm basically calling just to show my support for the adoption of Items 5a and 5b. And I agree with all the preceding comments that were made in favor of it.

And am particularly concerned about the early adoption of the 2016 Standards, move that forward. As I've said before when I commented earlier we claimed there were about 400,000 kilowatt hours per year in energy savings that we weren't able to obtain, because of all the delays and stalling related to the complexity of the 2013 Standards. I think that number is close to a million kilowatt hours now. And as people have said earlier, customers have the option of just not proceeding with these projects and just doing a re-ballasting as things fail as they used to do. And so there won't be any projects to certify if the vendors can't make a case for it economically.

And so we are looking for keeping things as simple and efficient as possible, so that these retrofit projects -- and I'm not talking about new construction and TI work, but these unique subset of retrofit projects that are driven by the benefits of the retrofit -- can proceed a

little bit less impeded. So we're just supporting 5a and 5b. Thank you.

CHAIR WEISENMILLER: Okay, thank you.

Commissioner, that's it?

COMMISSIONER MCALLISTER: Any additional comments to put in from staff?

MR. STRAIT: The only comment I would make is in regards to self-certification the current form for reporting the lighting power allowance, which looks at the square footage and the occupancy type, is self-certified.

COMMISSIONER MCALLISTER: Okay, thanks.

I'll move to the dais. Anybody to make comments? No?

Okay. So we're on 5a, so I'm going to move Item 5a.

COMMISSIONER HOCHSCHILD: I second.

CHAIR WEISENMILLER: All those in favor?

IN UNISON: Aye.

COMMISSIONER WEISENMILLER: 5a passes five to zero. Thank you.

Let's go on to 5b.

MR. STRAIT: All right.

CHAIR WEISENMILLER: Please.

MR. STRAIT: Thank you, Commissioners.

The second part of this item is a compliance

option for the 2013 Standards. Fundamentally, buildings can comply with our Standards in one of two ways: By following the prescriptive compliance options in the Standards or by following a performance-based approach to compliance.

The specifications in Section 141.0(b)2 of the 2013 Building Standards, including those that specify that the lighting controls required for alterations, are prescriptive requirements. Meaning that builders can either implement these requirements as written and comply prescriptively, or can implement measures that create an equivalently efficient building, and comply using the performance approach.

In the Rulemaking for the 2016 Standards staff developed a new compliance path for lighting alterations based on achieving a percent reduction lighting power. In doing so extensive work was done to determine percent reduction targets that were equivalent in performance to the existing options of installing up to a certain percent of an area-based lighting power allowance calculation.

The percent reduction targets of 35 percent and 50 percent were shown to result in buildings with a performance equal to or better than buildings following the prescriptive path to compliance common to both the 2013 and 2016 Standards. This is even accounting for the impact of

not installing bilevel lighting in buildings that achieve these targets.

Because hitting these targets results in a building whose performance meets or exceeds that of the standard design building that follows the prescriptive approach, that building would comply with the 2013 Standards under the performance approach to compliance. In recognition of this, and to be responsive to the numerous requests staff received during the 2016 Rulemaking to provide the same relief as the new percent reduction option as quickly as possible, staff prepared a compliance option for the 2013 Standards that would allow compliance based on documenting the percent reduction in lighting power within the space. And that includes relief from the bilevel lighting requirement that applies prescriptively to projects installing 85 percent or less of their allowed lighting power.

This option does not implement the specific language of the 2016 Standards, but borrows two of its core concepts and makes use of the compliance form developed for 2016. Completing the form is an alternate method of showing that the proposed building's performance will meet or exceed the standard design building. And is therefore an alternative method of demonstrating compliance with the 2013 Standards using the performance approach to

compliance.

Staff therefore requests the Commission's approval of this alternative -- or rather I should say the Commission's authorization of this alternative procedure for demonstrating compliance with the 2013 Standards.

I'm happy to answer any questions that you may have.

CHAIR WEISENMILLER: Okay. Thank you.

So again, we have a number of comments. Some people talked about a and b both, so I'll sort of run through the list.

Tom Enslow, certainly can go first.

MR. ENSLOW: Good morning, Chair and Commissioners, Tom Enslow on behalf of the California IBEW NECA Labor Management Cooperation Committee, which represents over 1,000 contractors and 30,000 electricians in the state.

The Labor Management Cooperation Committee opposes the proposal before you, because 2016 Lighting Alterations Standards proposed for early adoption fail to meet the standards for adoption as an additional compliance path.

First the proposal would not be legally approved today, because it was not properly noticed for public comment. Adoption of an additional compliance path

requires a notice of public comment period in compliance with Commission approval, requirements of Section 10-110. The proposal before you however, is substantially different than the proposal that went out for public comment.

First, the proposal that went out for public comment only proposed adoption (inaudible) compliance path for lighting alterations. The notice did not mention or include applying this path to lighting modifications, and the proposal before you also includes lighting modifications.

Second, the notice that went out for public comment proposed adoption of the entire 2016 Lighting Alteration Standards as an alternative compliance path. And the proposal before you carves out just a portion of that proposal and the public hasn't had an opportunity to review and comment on the implications of just adopting that portion.

In addition, the proposal violates a prohibition in adopting an additional compliance path that deletes or alters existing requirements or that it would reduce energy efficiency in any particular installation in which it was applied.

Here the 35-to-50 percent compliance pathway that's proposed for early adoption does not require installation of two-step lighting controls, multi-level

controls, doesn't require compliance with maximum lighting power density and lounge requirements. And doesn't require certain shutoff controls for hallways, stairwells, hotel rooms, display cases, etcetera; all of which are required under any of the pathways under 2.13. And thus in those specific areas of a building they would not be efficient as under the current code.

We also oppose early adoption on the grounds that it deprives local agencies sufficient time to address how they will enforce and understand these new requirements. California Building Standards law provides that subsets of Building Standards don't become effective until 180 days after publication. And the whole point is to provide both the installers and local building officials time to be ready to successfully implement these standards.

And the 180-day waiting period is particularly important in this case, because of adoption and enforcement of this 35-to-50 percent power reduction threshold has been highly controversial due to the creation of its unique enforcement and verification concerns. By proposing immediate adoption, the Commission is depriving jurisdictions from the statutorily mandated time to learn the new code requirements and determine how the locality will inspect and enforce these requirements. They are the ones that have to put the names in the paper saying that

they have approved this installation.

January 1st will come soon enough; don't exasperate this controversy. Give building departments the time they need to review and assess these new requirements. Thank you.

CHAIR WEISENMILLER: So I'm going to ask staff and Chief Counsel's response on that, but at this point I want to go through and see is there anyone else in the room who wants to comment on this issue?

Please.

MR. THOMAS: Gene Thomas, Ecology Action.

I just remind the Commissioners that staff has already pointed out the statutory authority under which you can approve an alternate compliance path. This is not something that saves less energy, it's something that saves more energy than the current regulations. It is not official, early adoption of the 2016 Standards, only an alternative compliance path. And it will simplify things for the jurisdictions.

You've just heard comment that they're only just now getting up to speed on the 2013 Code in large part due to its complexity. This simplifies things for that. Any of them that feel uncomfortable with this alternative compliance approach could opt in to insisting on one of the approaches if they felt that was necessary. Or again, at

the time of permit application if they don't like the look of what is attested to on existing fixtures, they could do a lighting power density calculation and demonstrate that the retrofit will exceed 2013 Code.

I also would like to speak on what Tom Enslow said a couple of minutes ago, that it's very difficult for the LEDs to meet that 35 percent and 50-percent threshold.

In our recent comments to the Commission I provided some examples of actual projects, common T8 to LED retrofit examples, that meet the 35-50 percent wattage savings threshold. And some of these are third-generation T8 existing high bays that go to LED retrofit strip and 66 percent savings; another T8 starting system to LED, 59 percent; another T8 to LED, 66 percent; another T8 to LED 69 percent.

These are pretty efficient systems to begin with and they can meet that threshold. So it's not rocket science. The people that are taking down the existing fixtures from the ceiling or retrofitting them, and physically looking at the lamps and ballasts and noting the wattages down, are perfectly capable of doing it accurately and reliably. And they would not want to jeopardize their revenue stream by committing fraud and then being barred from participating in utility programs.

And in terms of the union contractors having

difficulty competing with nonunion lighting contractors that's not hard to understand when they are charging $120 plus an hour union scale for retrofit work that shouldn't require that level of cost. So I know it would be nice if they felt that they were able to better compete with their higher price scale, but that shouldn't be a concern of the Commission. Thank you.

CHAIR WEISENMILLER: Okay, thank you.

Okay. I'm going to move through the folks; anyone else in the room?

(No audible response.)

Okay. So now I'll move through folks on the line and give them the opportunity to comment on 5b.

Let's start with L.A. County.

MR. KASHE: Yes, again this is Mostafa Kashe with L.A. County. As far as the early enforcement I've got over 100 combination inspectors, and when it comes to electrical and enforcing the electrical portion of the Code that's the weakest link. I need time to be able to go out there and train my inspectors.

So I would encourage the Commission to (inaudible) the 2017, if there's anything for us to be able to enforce that portion. Thank you.

CHAIR WEISENMILLER: Thank you. Actually it is in 2017, so you need to start training.

Tom James, and then again if you have nothing to contribute on this issue, that's fine. Go ahead.

MR. JAMES: I would just like to echo what Aaron Klemm at the CSU, and Leslie Kramer from Stanford, and the energy managers here at UC San Diego and San Diego State have communicated, which is that they need this cost-effective lighting alteration path. They have been paralyzed in numerous ways by the undue transaction costs associated with the 2013 Lighting Control Code requirements.

And we all need to see a simpler, more cost-effective method, especially if we want to look at the big picture and recognize that the more budget that needs to be allowed for lighting, is that much less budget that can go to HVAC and other deferred maintenance issues that need the state's attention.

And we need better outcomes if we're going to have half a chance to meet our SB 350 goals.

CHAIR WEISENMILLER: Okay, thank you.

Matt Tracy?

Mr. TRACY: No, thank you.

CHAIRMAN WEISENMILLER: No?

Okay, followed by Rick Brown. Yeah, well Matt Tracy, sir go ahead and speak.

MR. TRACY: Oh, I was passing.

CHAIRMAN WEISENMILLER: Okay, fine.

MR. TRACY: This is Matt Tracy. I don't think I have anything to add to it right now.

CHAIRMAN WEISENMILLER: Okay. Thank you.

Rick Brown?

MR. STRAIT: Just to jump in really quick, the phone has a delay.

CHAIRMAN WEISENMILLER: Right, yeah.

MR. BROWN: Can you hear me now?

CHAIRMAN WEISENMILLER: (inaudible)

MR. BROWN: This is Rick Brown on behalf of the School Energy Coalition. Again, we support the staff recommendation of 5b.

I would make one comment in addition to what we said earlier. A comment that schools are inconsequential in the scale of things, I think that reflects an ignorance about the scale of what's going on in schools today. In Prop 39 alone, which is just one funding source, 47 percent of the funding is being used for lighting retrofit.

Those projects were stalled before this compliance option, this new Option 3, was put on the table. Well, those projects are now moving ahead. And if that 47 percent number continues for all of the allocation of Prop 39 you're talking about $700 million just for Prop 39.

Next fall there's a measure on the ballot, a

school bond facilities measure, for $9 billion. The polls are saying it's going to pass. I guarantee you a huge portion of that $9 billion is going to be for lighting (inaudible) and these are prevailing wage and mostly union jobs.

So people who think that the schools are an inconsequential part of this don't know what they're talking about. Thank you.

CHAIRMAN WEISENMILLER: Thank you.

Don Link?

(No audible response.)

Okay, Mike Stone?

MR. STONE: I would like to begin with the early adoption of Standards. And I really don't have much else to add besides what the other folks that agree with me said. Mustafa from L.A. County, I think I'm right on board with exactly what he said. So anyway, I'm against the early adoption. Thanks.

CHAIRMAN WEISENMILLER: Okay. Thank you.

Leslie Kramer?

(Conversation in background on phone line.)

COMMISSIONER MCALLISTER: Leslie, are you there. Leslie Kramer?

MS. KRAMER: Hi. I'm still here, yes. I think I provided my comments earlier in relation to 5a, just in

support of both a and b. So I have no further comments.

CHAIRMAN WEISENMILLER: Okay. Thank you.

Anyone else on the line to comment on 5b?

MR. GOLDTHRITE: Scott Randolph, (inaudible).

CHAIRMAN WEISENMILLER: He wasn't on b, but I always want to make sure.

Okay. I think we've gotten everyone on the line, checking.

Okay. So now let's go to staff and Chief Counsel on the legal question.

COMMISSIONER HOCHSCHILD: I'm sorry, if I could just ask a clarifying question? Because I'm sort of ignorant that we're all meeting on the minutia here -- that first speaker mentioned the difference between modifications and alterations. If you could also address what that difference is?

MR. STRAIT: Actually as to the 2013 Code, luminaire modifications in place are a subset of lighting alterations, so they're both considered lighting alterations.

So first, and Counsel will speak if we need to have more detailed explanation that we would need to make, but the Draft Staff Report was made available to interested parties. And 60 days were provided to submit comments, which was consistent with Section 10-110(a).

We did receive comments that indicated ways in which the Staff Report was unclear and we addressed those in revising the draft into the final version. It's worth noting however, that neither the compliance option itself, staff's analysis of the compliance option, or staff's recommendation are changed between the draft report and the final. We feel this stems from a fundamental misunderstanding that the commenter had, related to the proposed compliance option.

The Staff Report begins by saying this is not an adoption of the 2016 Code. It is not a change to the 2013 Code. Fundamentally, we've made that more clear. And that's why the final report goes into a little bit more -- spends a little bit more language saying we're taking a concept out of that. We are not causing language to be adopted early.

From a strict perspective we're not engaging an underground regulation nor are we engaging in some process that would cause a regulatory change to happen without a rulemaking process. So the compliance option does not implement the 2016 language. It does not include exceptions or differences in applications specific to the 2016 Standards. The comment letter identifies differences between the 2013 and the 2016 language, but erroneously states that the compliance option makes these differences

effective, which it does not.

The 2013 Standards permit performance based-compliance. The lighting power allowance determined by the percent reduction approach will be below the maximum determined by the square foot calculation. So these lighting power allowances still are applicable and these projects will come in below those. That's why these 35 and 50-percent thresholds exist. And that's how they were determined under the 2016 cycle. And in fact, they meet those thresholds under an assumption of the 2016 lighting power allowance values where the 2013 lighting power allowance values are actually somewhat higher, meaning it's easier to come in under those thresholds

I mean again, the record shows that buildings using this option will consume less energy than buildings complying prescriptively with what's in Section 141.0(b)2(I), noting that this is -- again, it's not allowing buildings to ignore full suite multilevel controls, daylighting controls, or demand-response controls. Rather the current 2013 language does not require those controls when you have efficient lighting systems installed that are below 85 percent of your lighting power allowance. That's the comparison.

Something that was up to 100 percent of the lighting power allowance would be required do those

controls, but something at 85 percent or lower is not. And these projects will similarly come in below that lower threshold. Buildings with newer and more efficient lighting systems, that would be more challenged in a percent reduction environment, are likely to already have these kinds of controls installed to begin with.

I mean, if there's anything specifically that we need to speak to I'm happy to do so, but fundamentally our legal staff has advised us that there's not a legal or procedural reason that we could not do this. Nor is there a legal or procedural error that we've engaged in, in bringing this to you.

COMMISSIONER MCALLISTER: Chief Counsel, do you have anything to add?

MS. VACCARO: I don't have anything to add. The lead attorney from Chief Counsel's Office, Linda Barrera, is to my right. And she can answer, I think, any specific questions on this matter.

COMMISSIONER SCOTT: So I just want to confirm, because we did hear -- and I heard you say it I think -- that there was a question on whether or not it was properly noticed and there was a question about whether or not the public had a chance to review and comment. And I think we heard you say at the beginning that there was a 60-day comment period and at the very end, you closed by saying

there was no procedural reason to not go forward.

I just wanted to confirm that.

MR. STRAIT: Yes. I will confirm that.

I would note also that I believe the only substantive comment that we had was we only received one comment letter specific to this topic. Many of the comments received on Item 5a were generic and referring to both, but they also were not referring to specific language. We only received one comment letter that had a detailed look at the staff analysis and made detailed commentary on that. And we again, in editing from the draft to the final, we took those comments into account.

COMMISSIONER MCALLISTER: So Lead Counsel, do you have anything to add to that?

MS. BARRERA: No, not at this time.

COMMISSIONER MCALLISTER: Okay.

MR. STRAIT: No.

COMMISSIONER MCALLISTER: So move the dice?

Okay, so I guess the issue that you didn't address just now, Peter, was as to sort of the ability of the local building departments to kind of adjust now versus later. And I guess maybe you could speak to that?

MR. STRAIT: Certainly.

The way that we've -- the path we charted for compliance on this, is basically to duplicate an existing

form. So under the 2013 Code when you're calculating the lighting power allowance for the space there are two forms that you're filling out. There's an LTI-01 and an LTI-03. The LTI-03 is something like a tax worksheet that gives you a number that then goes on the LTI-01 and becomes your lighting power allowance. We've developed a form, LTI-06, that allows you to make the calculation of that number following a different recipe. But that number in the LTI-01, that the building inspector reviews, is otherwise unchanged.

The building inspector won't be doing anything differently under this approach. The way that that number was determined is different, but not what the building inspector has to check that's on the form. The LTI-06 form actually copies directly, the same lighting schedule that's on the LTI-01 form that describes the new lighting. So the same description that building inspectors are used to seeing right now for lighting that is on the LTI-01 that describes the new equipment being installed is on the LTI-06 equipment, purposed toward describing the existing equipment that's being removed. So all of this information is already familiar to building officials; they won't be looking at anything that's unusual.

We do recognize that there is always a challenge with training to a new set of codes or a new set of

requirements. And that's why we kept this as close to status quo as possible and as parallel to existing forms and materials as possible. So we don't see that there's an enormous hurdle in this case. This isn't a brand-new way of doing things from the building inspector's perspective. They're going to have a form that still has a lighting power allowance number. They're going to be looking to see if that lighting power allowance was achieved.

And again, the only difference is whether or not bilevel switches are required for that space, which if a building inspector does have a concern they could red tag those controls and say, "I'm not confident that this was met. Please put in the bilevel switching that's required."

COMMISSIONER MCALLISTER: Okay, so in terms of on Item a, on your comment about how "Look, we really do -- " I mean we do want enforcement. We do want compliance. And we need to really keep our ear to the ground and eyes on the marketplace to see what happens. And I guess with early application -- so I would like to see that kind of vigilance in monitoring the marketplace certainly as 2016 goes into effect in January 1.

And now if we approve the early application of these provisions in the compliance manuals that really applies doubly. I mean we really need to see how things play out in the marketplace, understand it and then be

willing to come back to the table if there are issues we need to address. And so I'm vehement about that. So I think some good points that were raised on all sides.

And so I want to move forward. I want to enable the marketplace to get these projects. I do want to solve the issues that really came up in the 2013 Code, but with a little bit of a caveat that it's not just clear sailing from here on out. There's a complex marketplace that's got -- you know, marketplaces are always a little chaotic. So and that's not necessarily a bad thing, but we really have to pay attention. And I think that's really on us here and our stakeholders out there in the marketplace to tell us what they see in the real terms, bring us the actual information about actual projects, good and bad.

So, okay anybody else on the dais?

Okay. So I'm going to move for Item 5b.

COMMISSIONER DOUGLAS: Second.

CHAIRMAN WEISENMILLER: All those in favor?

IN UNISON: Aye.

CHAIRMAN WEISENMILLER: 5b passes five to zero. Thank you, very much.

MR. STRAIT: Thank you.

CHAIRMAN WEISENMILLER: I'm going to flip 6 and 7 in the interest of caution. I'd like to get both done before lunch. But at a minimum I want to make sure we get

7 done, so that we have a number of parties in the audience. We can cover that and let them go.

So let's start with 7 and again, Rhetta, hopefully you'll get your short presentation in afterwards.

Staff, Jacob?

MR. ORENBERG: Good morning, Chair and Commissioners. My name is Jacob Orenberg. I'm the Project Manager for the 2016-2017 Investment Plan Update for the Alternative Renewable Fuel and Vehicle Technology Program, or ARFVTP.

Today staff are seeking your approval of this Investment Plan Update. If approved, the current Lead Commissioner Report version will be reissued as an official Commission Report. And this will serve as a guide for our finance solicitations and awards in the coming fiscal year.

Also, as part of this agenda item we're including revisions pages 32 and 44 of the Investment Plan Update, which will be added to Commission Report version of this document.

These revisions are shown in the back of documentation for this agenda item and have been included at the request of the California Public Utilities Commission. The changes clarify and update language, which did not accurately reflect CPUC activities. They're being made at this time because Energy Commission staff was not

informed of the need for changes until after the publication of the Lead Commissioner Report.

The purpose of the ARFVTP is to provide funding support for projects that reduce greenhouse gas emissions within the transportation sector, which is responsible for about 37 percent of statewide emissions. The projects we fund also contribute to other state goals including improved air quality, increased alternative fuel use, reduced petroleum dependence and the promotion of economic development.

To date, our program has awarded more than 606 million in funding to more than 545 projects. Our statutes call on us to develop a diverse portfolio of alternative fuels without adopting any one preferred option. Accordingly, we have funded a broad range of project types, including alternative fuel production, alternative fuel infrastructure, alternative vehicle demonstrations and related needs. The projects funded by the ARFVTP are expected to accrue significant benefits for the state.

In 2015, the National Renewable Energy Laboratory prepared an updated Benefit Report, which sampled 262 of these projects and projected direct reductions of over 2.4 million metric tons of CO2-equivalent greenhouse gases and over 313 million gallons of petroleum fuel from the sample by the year 2025.

This chart provides a visualization of ARFVTP projects to date, with each column representing a component of the transportation sector funded through our program. The fuel production category represents about $135 million divided between ethanol, biodiesel, renewable diesel and biomethane. The infrastructure investment consists largely of hydrogen refueling stations in blue and electric vehicle charging stations in green. This category also includes natural gas, E-85 and biodiesel fuel infrastructure. The funding for vehicles primarily consists of vehicle deployment incentives for natural gas trucks, in purple, and advanced technology hybrid, plug-in hybrid and electric truck demonstration projects in green.

We've also supported in-state manufacturing facilities plus other awards such as workforce training, regional readiness planning and fueling standards development.

For the 2016-2017 Investment Plan Update we issued the initial Staff Report in October, which was followed by the first Advisory Committee meeting held here in Sacramento, in November. Based on the feedback received we released a revised Staff Report in January and held a second Advisory Committee meeting in Long Beach for additional public input. Last month, we released the proposed Lead Commission Report, which is what we're

seeking approval for today.

As mentioned, we hosted two Advisory Committee meetings in order to hear from member organizations and state agencies. There are 25 other groups and individuals who also participated in those meetings. We received and considered 27 comments via our Public Docket and participate in ongoing meetings with stakeholders.

This slide lists all of the Advisory Committee members for the 2016-2017 Update, who we thank for their contribution to and dedication to our program. This list includes representatives of fuel and technology groups, environmental and public health groups, academic institutions and partnering state agencies.

I'll now give a brief summary of this Investment Plan's proposed funding allocations starting with biofuel production and supply.

To date the program has funded 50 projects to expand the in-state production of capacity of ethanol, biomethane and diesel substitutes for transportation fuel with a cumulative production capacity of 135 million gallons of fuel per year from these projects.

Similar to prior investment plans, this allocation is open to all project stages and a variety of biofuel types. Future grant solicitations may place a higher emphasis on project cost effectiveness, both in

regards to petroleum displacement and greenhouse gas emission reductions per ARFVTP dollars spent, as well as on conversion efficiency. The allocation will also continue efforts to support innovative and transformative biofuel technologies. For this category, we're proposing a $20 million allocation for fiscal year 2016-2017.

For electric charging infrastructure, the priorities for the upcoming fiscal year include DC fast charger deployment, workplace charging, chargers at multi-unit dwelling residences and underserved areas throughout the state. There may also be a focus on residential charging infrastructure for freight and fleet vehicles, which often have different requirements than conventional charger types.

Going forward, we'll continue to monitor the deployment effort by investor-owned utilities, charging station networks, and auto makers to avoid duplication of efforts. Based on the anticipated need for funding, we propose a $17 million allocation for this category.

For hydrogen fueling infrastructure, Assembly Bill 8 of 2012 sets a maximum of $20 million allocation for the expansion of California's growing hydrogen refueling network. One of the goals guiding the hydrogen refueling infrastructure allocation is to have a network of 100 stations throughout the state. California is making

progress toward this goal and we estimate that 53 stations will be operational by end of 2016.

That said, the Air Resources Board recently predicted that there may be a statewide capacity short-falls for hydrogen refueling as soon as 2021. This will reinforces the need to continue the maximum allocation of $20 million for hydrogen refueling infrastructure, which should be able to provide for about seven new stations as well as funding for operations and maintenance necessary to support the initial stations.

To complete the infrastructure investments we are proposing funding for our natural gas fueling stations to provide an opportunity to increase the use of this proven, readily available alternative fuel. The focus of this allocation is on communities and organizations without access to private capital, which could not otherwise proceed without this funding. We expect this category to emphasize projects in school districts in order to achieve maximum health benefits among vulnerable populations by displacing older diesel buses. For this, we are proposing a $2.5 million allocation.

Moving from infrastructure to vehicles, we're also proposing funding for natural gas vehicle deployment incentives. These vehicles offer opportunities for achieving immediate greenhouse gas emission reductions and

petroleum use reduction. In addition a new generation of low NOx natural gas engines are expected to be released this year, which reduce nitrogen oxide emissions by 90 percent, compared to the current diesel emission standard. For the coming year, we may place an emphasis on the deployment of these engines.

In the prior funding cycle, we saw a strong demand for natural gas vehicle incentives with the most recent incentive round fully reserved in less than one week. Going forward, we will utilize our contract with UC Irvine to determine the need for state incentives in the sector and the levels at which incentives should be set. For natural gas vehicle incentives we're proposing a $10 million allocation for the coming fiscal year.

In this Investment Plan Update we've expanded the scope of the medium and heavy-duty vehicle technology demonstration and skill category to meet the goals of the ARFVTP and the state. As in previous years, this funding was open to a broad range of vehicle technologies and vehicle application types. However, the focus for the coming fiscal year is expected to be on sustainable freight and goods movement projects.

We may also consider providing funding to enabling of non-propulsion projects such as intelligent transportation systems as well as the fueling

infrastructure specifically for the vehicles under this allocation.

We're also continuing to scale up a portion of this category to enable a smoother transition from (inaudible) to vehicle commercialization and early deployment. We're proposing a $23 million allocation for this category to support the expanded scope.

In addition to funding for alternative fuel and vehicle projects, our program also funds related activities that contribute to their market success. In this Investment Plan we are proposing $3 million for the emerging opportunities category, which has traditionally been reserved for federal cost sharing opportunities or projects that weren't anticipated during the Investment Plan development.

We're also proposing a $2.5 million allocation for Workforce Training and Development based on estimated funding needs from our partnering state agencies.

And finally, we are reserving $2 million for regional readiness plans and implementation. Previous awards in this category have helped local governments identify regional activities for encouraging zero emission vehicles, streamlined their infrastructure permitting process, and conducted local outreach and awareness activities.

This final slide summarizes all of the proposed funding allocations for the 2016-2017 Investment Plan Update. At this point I'd be happy to answer any questions you may have. Thank you.

CHAIRMAN WEISENMILLER: Thank you. First let's do public comment and then we'll see what comments the Commissioners have.

Peter Christensen, ARB, thank you.

MR. CHRISTENSEN: Well, looking at the clock on the way up I can still say good morning.

Thank you for the opportunity to address you today. I'm happy to be here on behalf of ARB and encourage your support of the plan that's before you.

You know, as you know ARB and the Energy Commission have a very strong history of working together and making coordinated investments in this area. We think that the plan that's before you today includes an excellent mix of the advanced technology fuel and vehicle projects that are going to help significantly in moving forward to achieve our air quality goals under the federal Clean Air Act as well as our long-term climate change goals here in California.

I think one of the things that comes through in the plan is that you have investments that are being made in commercially available technologies, commercially

available fuel and vehicle technologies. They're helping to not just make small improvements, but really transformative improvements in the California fleet. And you're also balancing that with investments in pre-commercial demonstration technologies.

We think that's particularly important to help bring technologies that are not available yet, today, but to help them advance to help us bring more commercial technologies. That's especially true in the heavy-duty area as we look at the freight sector and trucking in California. So we support the investments that you're making today.

I would also just, of course, recognize that your staff -- ARB participates on the Advisory Committee and your staff are very helpful as we go through our funding plan process as well. So I want to thank Commissioner Scott for your leadership in this area, Jacob, and all of the staff in the ARFVTP Program. We look forward to the coming year, thank you.

CHAIRMAN WEISENMILLER: Great, thank you.

Bonnie Holmes-Gen?

MS. HOLMES-GEN: Good morning, Chairman and Members, Bonnie Holmes-Gen with the American Lung Association in California. And I'm pleased to be here today in support of this plan. And I want to thank

Jason (sic) Orenberg for all the hard work that was put in and the great job that he and the staff did. I appreciate also Commissioner Scott's work. And I thank all of you for the opportunity to be a member of the Advisory Committee. It's always really wonderful to participate and see money going out to put real clean air projects on the ground and in our communities and I love being a part of that.

And we do support the allocations as a balanced portfolio. And this is always the rub here, to develop the portfolio of projects with limited funds that advances the long-term wrap-up that we need toward clean advanced technology and fuels, but still keep those near-term solutions that improve local air quality and health at hand. And this allocation does that and I would note that the pace of the wrap-up that we need is very dramatic to meet our 2030 and 2050 goals, so I'm trying to make sure that we're keeping focused on that long-term goal. It's incredibly important, as you know.

I appreciate the increase in the medium heavy-duty demonstration category. I think that's really important, especially for our communities living near diesel hot-spots. And we'd, of course, like to see more funding in that and several categories that advance, especially those that advance zero emission vehicle and infrastructure. But we will be advocating for the GTRF

funding allocations of course in the Legislature that will compliment this plan and expand the alternative fuel and vehicle options.

I just want to underscore the health benefits. This is why, of course, we're involved in this effort. And the Whitehouse just released last week, a report that underscores the serious public health impacts of climate change. Another report that reminds us of the urgency of transforming away from fossil fuels and moving toward these clean technologies and, of course, this is a critical tool.

We'll be releasing our State of the Air Report next week, talking about air quality throughout the state and focusing on these important tools.

And I guess, I just have two requests, I'm sure there's many but two. One is that we want to help you get the word out. We want to continue to focus legislators, media and the public on these investments. And you have some great tools on your website, but we need to do more to package and feed this information out and generate public excitement.

And part of that, I just would ask if we could think about changing the name. We would talk about that, it's time.

CHAIRMAN WEISENMILLER: Yeah. I know.

MS. HOLMES-GEN: I can try and brainstorm. I

don't have a glib little snippet for you, but something that talks about investments, clean transportation and fuels investments for California -- something that communicates more clearly to the public what this program is. Although, I have to say Commissioner Scott just rolls this off her tongue, this whole acronym, which I'm not very good at.

So thank you again. And I'm really happy to be on the Advisory Committee and help support this.

CHAIRMAN WEISENMILLER: Well, thank you for your contribution.

ChargePoint, please?

MR. ROPER: I'm going to speak about Item 9.

(Off mic colloquy)

Okay, great.

CHAIRMAN WEISENMILLER: Let's go on to Eileen Tutt.

MS. TUTT: Thank you, Chairman Weisenmiller and Members of the Energy Commission. My name is Eileen Tutt, I'm with the California Electric Transportation Coalition. I also want to thank Commissioner Scott for your leadership on this Committee and the staff has been truly amazing, so you guys have a great team here. And I want to give a shout out to all of them.

I truly believe that without this really

important funding we would not be where we are in the state today progressing the growth in the market for zero emission vehicles. I think this Commission and your staff play a key role. This money is very important.

I'm very honored to be a member of the Advisory Committee and I want to second Bonnie's name change proposal. I'm happy to get together with you and talk to you about options, because I can never get the acronym right. It would be great. It's almost as bad as KFSA. (phonetic) There is one worse than you, just so you know.

COMMISSIONER MCALLISTER: Congratulations on saying KFSA actually instead of KFTA, (phonetic) so way to go.

MS. TUTT: That one I got down, but I still can't remember the order of letters.

So anyway I think we know based on the NREL Study that you guys so effectively that we need a lot more plug-in electric vehicle charging infrastructure -- very happy to see the Investment Plan looking at the needs in the medium and heavy-duty sectors.

I also just want to give a quick shout-out to the importance of these regional readiness efforts. A lot of this action and a lot of getting this infrastructure in place is going to rely on local governments. And with regional readiness money has really helped to inspire a lot

of those local communities get in this game and help us move to a cleaner zero emission future.

So I also want to give a little shout out to the workforce training element of the plan. I think this just reflects the balance of the plan and I very much look forward to continuing to work with you. And I hope that you will approve this plan today. Thank you.

CHAIRMAN WEISENMILLER: Thank you.

Tim Carmichael?

MR. CARMICHAEL: Hello, Commissioners. Tim Carmichael with Southern California Gas Company here in support. I've been a member of the Advisory Committee for a number of years and it was a pleasure to work on this update as well.

So first on the Natural Gas section I appreciate the framing and the wording. One detail I want to make the Commissioners aware, Commissioner Scott I'm sure is already aware, that the near zero NOx emission engines are just coming available this month. They're currently only available -- they will only be available in the 9 liter size, which is applicable to refuse trucks, transit buses etc. but not all of the heavy-duty trucks that we think of, and see on the road. That next larger size engine is anticipated for the end of 2017.

It's just a detail that is important if the

agency is going to prioritize low NOx engines and renewables, which we support. But we need to keep in mind that today given what's available, it's a limited applicability.

I want to mention that there's still room for improvement with the use of metrics in evaluating how we divvy up this pie and what we prioritize for funding projects. We've made progress in the time that this program's been in place, no doubt. But as we've talked about at various Advisory Committee meetings, there's still room for improvement there.

And finally, I am pleased to announce that the Trade Association has hired a new president. He'll start in a couple of weeks. His name is Thomas Lawson and I'll be introducing him to Commissioner Scott and hoping that there's a seat on the Advisory Committee for him going forward. Thank you very much.

CHAIRMAN WEISENMILLER: Thank you.

Anyone else in the room?

(No audible response.)

Let's go to the telephone line, Sekita Grant?

MS. GRANT: At this point, Chair and Commissioners, thank you for giving me a few moments to speak. My name is Sekita Grant, Legal Counsel with the Greenlining Institute. And we really focus on supporting

strategies that prioritize equity and accelerate the growth of these clean energy, and particularly here, clean transportation technologies and jobs in low-income communities and disadvantaged communities.

Thank you for inviting us to participate on the Advisory Committee. This is our first year and we greatly appreciate the opportunity to share our perspective in this space. I just wanted to quickly express support for the 2016-2017 ARFVTP Investment Plan. We're really excited to see the final product. It provides -- as usual I've seen this through lots of the years -- but really provides an excellent technical analysis of the various fuels and technologies supported by this program. And also which we're really excited about it, it elevates the importance of diversity in providing meaningful benefits to disadvantaged communities. And we're very excited to see our piece and we look forward to helping to flesh that out in the implementation and in future plans.

So just thank you too, Commissioner Scott, for your leadership in this space and helping to keep this state on an aggressive path towards a clean transportation future. And definitely thanks to staff, I know that there's a lot of work that went into this. And a special thank you to Jacob for putting a lot of time and resources into this and really for providing us with another high-

quality Investment Plan.

So we look forward to seeing and working on its successful implementation and on future plans as well. So thank you for the opportunity to speak.

CHAIRMAN WEISENMILLER: Thank you.

Do we have any others?

MR. MCCLORY: Hello, can you hear me?

CHAIRMAN WEISENMILLER: Yes, we can.

MR. MCCLORY: Okay. Hi, this is Matt McClory. I'm a Group Manager at Toyota Center and I'm also speaking on behalf of Justin Ward. And we're in support of this Investment Plan Update.

First off, I'd like to thank Chairman Weisenmiller and the Members of the Commissioner for this opportunity to comment. And also I'd like to say thank you to Commissioner Scott for this program and a special thanks to Jacob Orenberg for his effort to prepare this update.

Last year Toyota recently announced a target to reduce power plant emissions of all new vehicles by 90 percent in 2050. In order to meet this aggressive goal we are planning for a significant increase in hybrid vehicles, plug-in hybrid vehicles, fuel cell vehicles, and battery-operated vehicles. Moreover we feel that in 2015 we expect that these technologies will dominate our portfolio also to (inaudible) engines.

However, in order to support the vision of pollution and carbon reduction the energy feedstock for these technologies should also target an alternate goal of being renewable on zero carbon. We support the Investment Plan Update in that it continues to provide continuous support for near-term projects on the pathway to this vision. And we look forward to working together to accelerate and expand this effort towards the future.

And with that I'll stop there.

CHAIRMAN WEISENMILLER: Thank you.

Anyone else on the line?

(No audible response.)

Okay. Let's transition to the Commissioners, Commissioner Scott?

COMMISSIONER SCOTT: Great, well I'm really excited to have this Plan here before all of you on our Alternative and Renewable Fuel and Vehicle Technology Program. As you all know, and I won't underscore it more than just to say that transforming the transportation sector really is a critical component to the state meeting both its federal clean air standards, and for us meeting our climate change goals, energy security goals. And you heard many of the commenters kind of underscoring and highlight that for you.

So what I will just do is spend a minute saying

thank you so very much to Jacob. He's done a fantastic job. This is actually his first year shepherding the Investment Plan from start to finish and so thank you, Jacob, for your terrific work there.

We did, I think he mentioned this is his presentation, it was a great public process. We did a meeting here in Sacramento, but we also did one in Southern California in Long Beach. We have been trying to make sure that we get our second meeting in other areas of the state to ensure that we have an additional set of folks who can potentially participate in our meetings if they can't make it to Sacramento.

And I want to say thank you very much to our Advisory Committee members for the thoughtful information and advice that they provide to us, the time and effort that they spend on helping the Energy Commission really make sure that this program is the best that it can be, and so I appreciate all of the work that you do and the time that you spend helping us out with that.

I wanted to say also thanks to all of our interested stakeholders and commenters who weigh in and also help us to shape the Plan. And to all of the authors who are listed on the inside cover of the report and helped Jacob to put this together.

And then let me just -- I wanted just to

acknowledge Tim Carmichael, because he has done fantastic work on our Advisory Committee and we'll miss having you there. But I look forward to meeting -- I think his name is Thomas Larson -- I look forward to meeting the new president of the Natural Gas Coalition.

And we have out front for folks to take a look at -- actually we have a ride and drive for the Toyota Mirai, so if you're excited about a fuel cell electric vehicle just like I am, please take the time to take a look at it. Go for a ride in it, drive it. Thank you so much to Toyota for bringing that for us today. We've got a BMW out front as well, the i3. These are exciting.

The Energy Commission's portion of the funds tends to help support the infrastructure that enables these vehicle and consumers to be able to make the choice of purchasing these vehicles or helping to build the infrastructure.

And then we also have a motor, it has an electric delivery truck outside. And it's a fantastic story that Rhetta will tell when she gets a chance to make her presentation about where those trucks are deployed. So I hope that all of you will take some time to go and take a look at those.

And let me just say thanks to the Air Resources Board for your partnership. You are always awesome to work

with and we enjoy the partnership that we have on our Investment Plans. And to Bonnie, to Eileen, to Tim, to Sekita, and that for making the time to call in, in support of the Plan.

So with that unless you all have questions, I heartily recommend your approval.

COMMISSIONER HOCHSCHILD: I just want to say real quick, I want to thank you. I know how hard you have worked on this, and your staff. But also just to reiterate the point that Bonnie made about the names.

It's true, not just of the ARFVTP Program, of other programs we operate here. I do think there's a lot of value to helping communicate to the public what we're doing. You know, whether it's the Clean Air Transportation Program or whatever if you would consider this an appropriate name. But this is a challenge for a number of other programs we operate. I think we focus on so much on implementing the programs successfully that we don't spend enough attention just on the communication side and I think a name is really important.

So I do appreciate you raising that, and that applies I think more broadly to state government in general. But as we're doing this just be mindful to the communications.

And I just want to say I'm in full support of the

Plan. I think it's terrific.

CHAIRMAN WEISENMILLER: Well, I was going to say actually for a trivia question, the Energy Commission the first time I was here was not really referred to as the Energy Commission but it was the full -- I'm not sure I could even get it right now -- but Energy and Resource Conservation Development Commission. And so the Commission did a resolution to rename itself, so there's at least some precedence.

COMMISSIONER MCALLISTER: Although it still is on the website, when you scroll down to all agencies it appears actually. It's not in that alphabetic order where you would expect it, right? It's in --

CHAIRMAN WEISENMILLER: Yeah. Well, I don't know how we got it past the Chief Counsel's Office, but anyways.

COMMISSIONER MCALLISTER: So I'll second.

CHAIRMAN WEISENMILLER: All those in favor?

IN UNISON: Aye.

CHAIRMAN WEISENMILLER: All right, five-zero, thank you.

Okay. So at this point we're going to have Rhetta give a brief presentation. Those of you who want to see more of the (inaudible) program. And as Janea said there's also some vehicles outside, so you have your choice but I certainly encourage people to do both.

Please.

MS. VACCARO: I'm sorry, I just have a quick question. I may have for some reason missed this. I know, Commissioner Scott, you heartily recommended approval. I heard a second. But I don't know if there was actually a motion?

CHAIRMAN WEISENMILLER: Make the motion then.

COMMISSIONER SCOTT: I will move approval of the Investment Plan.

COMMISSIONER MCALLISTER: I'll second.

CHAIRMAN WEISENMILLER: All those in favor?

IN UNISON: Aye.

MS. VACCARO: Thank you.

CHAIRMAN WEISENMILLER: Thank you.

MS. DEMESA: Good morning, thank you Chair and Commissioners. I recognize that we're pushing into the lunch hour, so I will be brief. My name is Rhetta DeMesa and I am with Commissioner Scott's Office.

I just wanted to take a couple of minutes this morning to provide a brief update to the Alternative and Renewable Fuel and Vehicle Technology Program's Clean Transportation to our website.

As we just heard from Jacob and some of the other speakers, the Energy Commission's Alternative and Renewable Fuel and Vehicle Technology Program provides annual funding

to develop and deploy innovative technologies that transform California's transportation fleet to help meet the state's ambitious climate and clean air goals.

Each year dozens of projects funded through this program are successfully completed and are bringing additional clean transportation options to California's transportation market. To showcase the diversity of successful projects this program supports, each year we select a handful of the successful projects to feature on a section of the Commission's website called "The Driving to Clean Transportation Tour."

We've recently gone through the process of adding a couple of successful projects that I thought I'd briefly highlight here today starting with Motiv. Motive Power Systems received $1.6 million in ARFVTP funding to partner with AmeriPride who are the largest textile rental and supply companies in North America, to retrofit ten of AmeriPride's package delivery vans located at their Vernon, California facility, with all electric drive train systems.

This project directly supports 42 jobs, is reducing greenhouse gas emissions each day, and is reducing local pollution in and around the facility location, which is located in a disadvantaged community.

AltAir Fuels retrofitted what was once an active refinery in Paramount, California to a refinery that now

produces renewable diesel, a drop-in fuel that can be stored, transported and used without infrastructure or engine modification. Through the ARFVTP the Energy Commission provided a $5 million grant to AltAir to support the second phase of an expansion project that increased the facility's renewable diesel production capacity by 10 million gallons per year, bringing the facility's total production capacity to 40 million gallons annually.

In addition to the environmental benefits resulting from the increased renewable fuel that will displace conventional diesel, the project is projected to have created over 200 direct and indirect jobs in an area with a 13 percent unemployment rate. This is an exciting project, because the fuel is being produced and used in transportation applications today. In fact, the Department of the Navy has contracted with AltAir to provide a blend of their renewable diesel for use in operations including their Great Green Fleet Initiative.

Tim Carmichael alluded to this project a little bit in his comments, but for the next project in partnership with South Coast AQMD and SoCalGas, the Energy Commission's PIER Natural Gas and ARFVTP programs provided funding to Cummins Westport, Inc. to help support the development and on-road demonstration of a new near-zero NOx natural gas engine for use in the medium and heavy-duty

truck market.

In October of 2015 this engine became the first mid-range engine in North America to receive emission certifications from both the USEPA and the California Air Resources Board that meets the .02 grams per brake horsepower hour options near-zero NOx emission standard. This technology is important for the state's climate and air goals, because it is a near-zero emission technology that offers a real near-term option for the heavy-duty sector to become cleaner and more sustainable.

Finally, the California Energy Commission awarded Ontario CNG, Inc. just over $2.1 million to install a hydrogen fueling station in Ontario, California which is anticipated to be operational in the second quarter of this year.

This station is not only part of the initial hydrogen station network the Energy Commission is rolling out across the state, it's also the first fueling station in Southern California to offer all of the major alternative fuels including hydrogen, biofuel, compressed natural gas and EV charging. What's even more cutting edge about this station is that the hydrogen that will be for sale will be 100 percent renewable.

As I mentioned earlier these are just a handful of the many successful ARFVTP projects to date. Across the

board we have projects that are motivating fleets to expedite their transition to lower carbon fuel options, providing zero emission technologies in areas hardest hit with pollution. And are overall helping to achieve California's climate and clean air goals.

To learn more about these projects, as well as other projects funded through the program, we invite you and the public to visit "The Driving to Clean Transportation Tour" on the Energy Commission's website, which we have the link right up there. And with that, I would like to thank you for your time and would welcome any comments or questions.

CHAIRMAN WEISENMILLER: Thank you. Thanks for your work on this.

COMMISSIONER SCOTT: Great. Yeah, let me just say thank you so very much to Rhetta and Kourtney and O'Shea (phonetic) on my team for pulling together this information. And then our web team for getting it posted for us.

Some of the folks had mentioned that it'd be great to have ways to highlight some of the projects that we have, this is one way. And so we're trying to work on that. It's always nice, I think, to have a flavor of the type of projects that are being funded with those investments. So I am glad to have that there and the Motiv

truck that Rhetta highlighted is outside for us to view.

So thank you, Rhetta.

CHAIRMAN WEISENMILLER: Okay. So we're going to take a break until 1:05. There are some logistical issues on the dais, but be prompt, be back and please take the Alternative Vehicle Tour.

(Off the record at 12:21 p.m.)

(On the record at 1:04 p.m.)

CHAIR WEISENMILLER: Back in session. Let's go on to Number 8, the University of California, Irvine.

MR. FREEMAN: Good afternoon, Commissioners. My name is Andre Freeman from the Fuels and Transportation Division.

Just wanted to refresh your memory back to last year in October of 2015 the Energy Commission in collaboration with the University of California Irvine released the Natural Gas Vehicle Incentive Project.

The project received approximately $11 million of Energy Commission funding to incentive natural gas vehicle purchases.

Today I'm seeking approval of this contract amendment that will provide additional funding to the project from the Energy Commission's Alternative

and Renewable Fuel and Vehicle Technology Program. This funding will be utilized to address the current $9 million incentive wait list and also fund research that will analyze the environmental impacts that these vehicles have on California and identify ways in which renewable natural gas can factor into California sustainable freight initiatives.

Previously, the Energy Commission has run solicitations that provided natural gas vehicle purchase incentives through auto manufacturers and vehicle dealerships. Based on lessons learned from these solicitations and information gathered from other successful vehicle incentive programs, the incentives funded by this contract will be provided directly to vehicle purchasers. This new method will help streamline the processing of requests and reduce the amount of time for purchasers to receive reimbursement.

These natural gas vehicles can help fleets replace aging gasoline and diesel fleets with cleaner alternatives.

Additional benefits from the promotion of natural gas vehicle sector can be achieved with the further development of low NOx engines, natural gas electric hybrids, and biomethane production

facilities that are also being funded by the Commission.

In addition to implementing this incentive project, the university will collect and analyze information on the usage of vehicles and the resulting environmental impacts. The university will collect information directly from all vehicle purchasers through surveys and will also get data from electronic monitoring systems that will be attached to a portion of the deployed vehicles. The resulting data analysis will help fill a major information gap regarding the real world duty cycles and emissions of these vehicles.

The analysis summarizing this information will be available to inform future Energy Commission investments, technical reports, and advise policy decisions on how to meet California's climate change and petroleum reduction goals.

The Energy Commission staff are also working actively with staff from the Air Resources Board's Air Quality Improvement Program and Low Carbon Transportation Funding programs which also have funding identified for natural gas vehicle purchase incentives which will be used to maximize and encourage the near term adoption of low NOx

engines and renewable natural gas usage.

With that, I'd like to thank you for your attention and am available for any questions you may have.

CHAIR WEISENMILLER: Thank you. Any comments from anyone in the room or on the phone?

Let's go to Commissioner Scott.

COMMISSIONER SCOTT: I don't have any questions or comments on this one. If there are no others, I'll move approval of Item 8.

COMMISSIONER DOUGLAS: Second.

CHAIR WEISENMILLER: All those in favor?

IN UNISON: Aye.

CHAIR WEISENMILLER: This passes five to zero. Thank you.

Let's go on to Item Number 9, DC fast charging infrastructure for California's north-south corridors.

MS. LOPEZ: Good afternoon, Chairman and Commissioners. My name is Thanh Lopez, staff in the Zero Emission Vehicle and Infrastructure Office of the Fuels and Transportation Division.

Staff is seeking approval of nine proposed awards totaling over $8.875 million for electric vehicle charging infrastructure projects that are

funded through the Alternative and Renewable Fuel and Vehicle Technology Program, or ARFVTP.

The Energy Commission's ARFVT Program has funded nearly $40.7 million for 7,490 chargers as of December 2015. These include Level 1, Level 2, and DC fast chargers at destination, residential, workplace, and commercial sites across California. Of these 7,490 chargers, 120 were DC fast chargers that have been funded to date.

The nine projects proposed today would add an additional 61 DC fast chargers to California's fast charging network, bringing the total to 181 DC fast chargers funded by the ARFVT Program.

This slide shows the breakdown of DC fast chargers funded by previous ARFVTP solicitations. Highlighted are the DC fast chargers proposed for funding today from Grant Funding Opportunity 15-601. For Program Opportunity Notice, or PON 11-602, some of the fast charger locations include grocery stores along major corridors, college and universities, and retail locations statewide.

For PON 13-606, some of the fast charger locations included airports, hotels, grocery stores, parks, and libraries statewide.

One of the goals of the Energy Commission's

plug-in electric vehicle infrastructure strategy is to support the Governor's goal of reaching 1.5 million zero emission vehicles, or ZEVs, on California roadways by 2025. There are several ZEV action plan goals that are related to our ZEV infrastructure and planning that include having sufficient infrastructure available to support 1 million zero emission vehicles by 2020, 1.5 million zero emission vehicles on California roadways by 2025, and Californians should have easy access to zero emission vehicle infrastructure as current conventional vehicles have access to gasoline service stations.

The 2013 ZEV Action Plan also required that a PAC be identified to complete the West Coast Green Highway, which is intended to stretch from British Columbia to the Mexican border in a manner that aligns with California's statement infrastructure plan and the state's regional planning.

In October 2013, the governments of California, Washington, Oregon, and British Columbia signed an agreement called the Pacific Coast Action Plan on Climate and Energy, which includes the commitment to transition the west coast to clean modes of transportation and support the states of

Washington and Oregon as well as the Pacific northwest portion of the West Coast Electric Highway, currently a network of electric vehicle DC fast charging stations located every 25 to 50 miles along Interstate 5 and other major roadways in the Pacific northwest.

California is in the process of completing DC fast charging on highway corridors through the central California region to the Mexican border, including the Bay Area and Los Angeles regions. The map shown here are all of the existing DC fast charging station locations in California as of April 2016.

According to the U.S. Department of Energy's Alternative Fuels Data Center, there are 362 DC fast charging station locations in California.

The proposed agreements from the latest grant solicitation will help close the gaps between fast chargers in the Central Valley, extend the fast charging system to the California borders, and provide a secure network of interregional fast charging on our north/south corridors.

The proposed projects presented for your consideration provide funding to four organizations

to install electric vehicle charging infrastructure along Interstate 5, Highway 99, and U.S. 101.

Three proposed agreements with ChargePoint will install 17 DC fast chargers and 16 level 2 chargers along Interstate 5 from the Oregon border to Red Bluff and from Sacramento to Santa Clarita.

Three proposed agreements with EV Connect will install one DC fast charger and two level 2 chargers in San Clemente along Interstate 5, and 20 DC fast chargers and 10 level 2 chargers along Highway 99 from Sacramento to Wheeler Ridge.

Two proposed agreements with NRG EV Services will install ten DC fast chargers and five level 2's on Interstate 5 and two DC fast chargers and one level 2 charger along Highway 99 from Red Bluff to Sacramento.

Finally, one agreement with Recargo to install 11 DC fast chargers and 8 level 2 chargers along U.S. 101 between San Jose and Buellton.

The proposed nine agreements will install a total of 61 DC fast chargers and 42 level 2 chargers at 41 sites along Interstate 5, Highway 99, and U.S. 101, as shown on the red markers on the map.

The purple markers show existing DC fast chargers along the corridors that were identified in

the grant solicitation.

This DC fast charging network will support alternative transportation fuel and vehicle technology goals of the State of California such as the zero emission vehicle goals of having sufficient ZEV infrastructure that is able to support up to one million vehicles by 2020.

Corridor charging gives existing and prospective electric vehicle owners the assurance that they can recharge when driving long distances along a freeway or highway.

The deployment of a DC fast charging network will also enable interregional and interstate travel by electric vehicles, and in some cases support the needs of electric vehicle owners.

Staff is requesting the Commission support an approval of the proposed resolutions approving these nine agreements.

Thank you for your consideration on this item, and I am available to answer any questions.

CHAIR WEISENMILLER: Thank you. Let's take public comment. We'll start with ChargePoint in the room.

MR. ROPER: Chairman and Commissioners, thank you for the opportunity to speak today.

ChargePoint, along with our installation partner, Black and Veatch, are grateful for the opportunity to support the completion of the West Coast Electric Highway. This initiative will enable EV travel to many parts of the state currently unreachable by EV, subsequently supporting a reduction in range anxiety and promoting achievement of the state's EV adoption goals.

The Commission's investment is paramount to initiating E vehicle systems in rural areas throughout the state where it may take a private company years to recuperate their investment in absence of Commission funding.

These highly visible corridor charging sites will serve both as vital infrastructure for EVs and promote awareness for the general public.

Resource commitments from local governments, site hosts, equipment, and installation providers will ensure that the environmental and economic impacts of the Commission's investment are maximized.

This initiative will directly create and support jobs in the state. Regional installation contractors will perform installations and our small but mighty corridor deployment team will drive this

project for the next two years.

We appreciate the flexibility to customize the business model. In ChargePoint's model the site hosts will own and operate the charging equipment. Equipment and installation will be provided free of charge to the hosts and will be backed an industry leading parts and labor warranty that guarantees 97 percent up time.

Our model will allow site hosts to provide EV charging services and an amenity to attract EV drivers to their business without worrying about recuperating capital costs. Many of our hosts have committed to providing subsidized or even free charging.

Furthermore, allowing the hosts to own and operate the charging stations brings them closer to realizing the benefits of EV charging provisions. In our experience, hosts that own equipment and operate charging equipment are quicker to report an issue, promoting station up-times, and are likely to invest in future infrastructure.

We also appreciate the Energy Commission's vision to future proof these locations. The 125 kilowatt stub-out requirement lays the foundation for the expansion of chargers in the future while

minimizing costs, and demonstrates vision to be prepared for tomorrow's vehicles with larger batteries and faster charging speeds.

We support the requirement for open point of sale and networking protocols as a way to mitigate stranded assets. Our equipment supports open charge point protocol and is portable to future versions of OCPP as it becomes a standard.

To further the open payment protocol effort, ChargePoint cofounded the Roaming for EV Association, or ROVE, a consortium of charging station providers and auto OEMs developing a single payment mechanism that will enable drivers to charge on multiple networks.

Coordination with the regional EV coordinating councils was also extremely valuable for this initiative. By leveraging the PEV readiness plans and local knowledge provided by the councils, we were able to optimize site selection, providing maximum benefits to the drivers.

These initial discussions have also led to collaborations outside of corridor deployment efforts. Since submitting our proposal we have been in constant contact with the coordinating councils, air pollution control districts, and local

governments. These partnerships have proven fruitful in supporting siting efforts, smoothing permitting issues, and utility coordination on other projects.

Again, we're grateful to be a part of this historic opportunity. We've already begun coordination with our hosts and partners, and are committed to completing the corridors ahead of schedule and on budget.

Thank you.

CHAIR WEISENMILLER: Thank you. Anyone else in the room? Let's go to the telephone line and start with PUC.

MS. POIRIAR: We have no comment.

CHAIR WEISENMILLER: Okay. Then let’s go to EV Connect. Oh, please, come on up.

UNIDENTIFIED SPEAKER: Hello Commissioners and Commissioner Scott, thank you especially for this funding. And I'm just going to make it brief because I know we're a little bit over already.

I'm with Recargo-PlugShare, otherwise known as the app that most of you are familiar with that's finding charging stations, and I just want to thank you for the opportunity that you've potentially given to us to deploy the chargers along 101.

I come from Oregon where I did the West

Coast Electric Highway in Oregon, so I'm especially appreciative of this to be able to carry on that corridor development in California.

And we believe that fast charging is the number one barrier to continuing EV options so supporting funding like this is very important, especially continuing to support that type of funding if we're going to see the 200 mile range EVs succeed, they're going to need the charging infrastructure and we strongly believe that fast charging is our primary focus right now.

And not just any fast charging but reliable chargers that EV drivers can expect to come, be able to charge, leave with a charge and not have to wait for somebody else. So we do appreciate the innovation that you guys have included in this funding to allow us to participate. Thank you.

CHAIR WEISENMILLER: Thank you. So EV Connect?

MR. YAN: We just wanted to say thank you for allowing us to be part of this opportunity. We support the importance of this project.

We believe that our software and station management systems will be an important component to the success of our corridors.

CHAIR WEISENMILLER: Thank you. Anyone else either in the room or on the line?

Okay, then let's turn to Commissioner Scott.

COMMISSIONER SCOTT: Great. I'll just kind of underscore some of the excitement you heard both from Thanh about the project and from Ashley and Dedrick and Erik about filling in the West Coast Electric Highway, so this will enable folks, as Thanh mentioned in her presentation, if they would so choose to drive from British Columbia to Mexico.

And it's great, I think, for the Energy Commission to have been able to provide support to the chargers that will help with that network.

I think you probably noticed also on Thanh's map that we're also funding chargers not just on I-5, which I think is what people think of when you think Washington through California, but 99, which is what a lot of state folks use when they're traveling around the state, and 101 as well. So I'm excited that we're being able to hit all three of those corridors.

And just say thanks again to Ashley and Dedrick and Erik for being here and speaking in support or being on the phone and speaking in

support, and to their teams for their good work on this one.

So if there aren't questions, I will move approval of Item 9.

COMMISSIONER HOCHSCHILD: Just one quick comment. I'm glad to see we're building chargers and not building walls.

I do have a question. Just with fast charging today, the technology for the electric vehicles on the market, how quickly can you get recharged 50 miles or 100 miles? What is the time and do you expect that improve over time?

MS. LOPEZ: Yes, currently with the fast charger technology you can get about 60 miles of range for every 20 minutes of charging. We anticipate that that will improve as technology gets better in the future.

COMMISSIONER HOCHSCHILD: Great, thank you.

COMMISSIONER MCALLISTER: You moved it, right?

COMMISSIONER SCOTT: Yes. Do you want me to move it again? I move approval of Item 9.

COMMISSIONER MCALLISTER: I'll second.

CHAIR WEISENMILLER: Okay, all those in favor?

IN UNISON: Aye.

CHAIR WEISENMILLER: This passes five to zero.

Great, let's go on to Item 10, Quantitative Biosciences, Inc. Thank you.

MS. KHALSA: Good afternoon, Commissioners. My name is Akasha Khalsa.

Today the Alternative and Renewable Fuel and Vehicle Technology Program staff propose Grant Agreement ARV-15-067 with Quantitative Biosciences, Incorporated, for a $2 million grant titled Compressed biomethane vehicle fuel and algae feed production via sustainable anaerobic digester biogas purification project.

Anaerobic digester feed stock is 20 percent food waste and 80 percent dairy manure. Quantitative Biosciences will design, construct, and operate a pilot membrane gas purification system to produce at least 100,000 diesel gallon equivalents per year of biomethane transportation fuel at Fiscalini Dairy Farm in Modesto.

This farm is in a disadvantaged community that according to the CalEnviroScreen has the most impaired water quality in the state. The water from flushing the dairy will be treated sufficiently for

reuse on agricultural crops by the design, construction, and operation of a high rate algae pond which consumes wastewater nutrients.

Quantitative Biosciences proposed several scientific improvements to enhance the utility of this project with an impressive carbon intensity of negative -2.4.

The carbon dioxide from this anaerobic digester will feed the algae during photosynthesis rather than be released into the air.

Often coproducts are the economic boost that lets an alternative fuel succeed. The algae biomass as a nutrient rich animal feed has already been widely researched but not yet accepted by dairymen. This grant will add algae to the cow's diet to complete the sustainable carbon cycle.

Quantitative Biosciences will write up the technical and economic benefits of the project. This is a hundred percent renewable fuel that will be compressed into a tube trailer and sold offsite for trucks and buses that use compressed natural gas, replacing 100,000 gallons of diesel fuel per year.

CHAIR WEISENMILLER: Thank you. So do we have any public comment either in the room or on the line on this? Okay, then Commissioner Scott, again.

COMMISSIONER SCOTT: Yes. No comments. Looks like a fantastic project. I'm interested to see how it turns out. So if there's no questions for Akasha, I will move approval of Item 10.

COMMISSIONER DOUGLAS: Second.

CHAIR WEISENMILLER: All those in favor?

IN UNISON: Aye.

CHAIR WEISENMILLER: This passes five to zero. Thank you.

Let's go on to Item 11, Itron, which I guess will do business in California as IBS.

MS. HUTCHISON: Good afternoon, Chairman and Commissioners. I'm Elizabeth Hutchison, Renewable Energy Division. Sitting beside me is Jim Goldman.

Energy Commission staff is seeking approval of a two-year contract with Itron, Incorporated, for $419,930. Through this contract Itron will audit and evaluate the operational performance of solar energy systems that have received incentives through the Energy Commission's New Solar Homes Partnership Program.

NSHP provides incentives for solar energy systems installed on newly constructed residential buildings located in the investor owned utility

territories.

Senate Bill 1 requires the Energy Commission to annually conduct random audits of solar energy systems to evaluate their operational performance. It is proposed in this contract that Itron conduct these audits in consultation with Energy Commission staff.

Itron will compare the actual performance of NSHP installations relative to their expected performance and come up with a performance ratio for each installed system.

This contract also allows physical audits to be conducted for up to 500 systems. Itron will then estimate what percent of systems are performing within an acceptable range of this average performance ratio.

This contract will not include safety audits as the statute does not direct the Energy Commission to do so.

Approval of this contract with Itron will assist the Energy Commission in meeting the audit requirements called for in SB1. Itron was selected through a competitive bid process and has demonstrated it is qualified to provide the necessary technical assistance to the Energy

Commission.

Under this agreement Itron will submit a final report that identifies the average performance ratio of NSHP installations and provides an estimate of the percentage of NSHP systems that are performing within an acceptable range of that ratio.

In conclusion, this contract will allow the Energy Commission to fulfill its SB1 mandate to conduct random audits of solar energy systems, and I ask for your approval of this item.

Thank you for your time and consideration and I am available to answer any questions.

CHAIR WEISENMILLER: Thank you. Any comments on this contract either in the room or on the phone?

Let's transition to Commissioners.

COMMISSIONER HOCHSCHILD: No comments. I welcome this and look forward to the results. If no other comments I'd move this item.

COMMISSIONER MCALLISTER: I'll second after one comment. So Itron will do the full CSI, right, so I think that obviously builds on that and there's a lot of institutional knowledge there related to that.

Supplemental metering, do you have -- is

there a plan for where to get data from and making sure that there's a good broad based sampling going on and the data is coming from all the places it needs to, which has been a long-term, I won't say problem but it's been a challenge to get the right data from the right folks.

MS. HUTCHISON: Yeah, we're trying to make sure that we are getting data across all 16 climate zones in California, and also that will cover both occupancy types, multi-family and single family, and also all the project types such as custom homes, affordable housing, large buildings.

COMMISSIONER MCALLISTER: Yeah, that’s just good management practice, so I'll second.

CHAIR WEISENMILLER: All those in favor?

IN UNISON: Aye.

CHAIR WEISENMILLER: This passes five to zero. Thank you.

Let's go on to Public Interest Energy Research 2015 Annual Report. Erik.

MR. STOKES: So good afternoon, Commissioners. My name is Erik Stokes with the Energy Research and Development Division. I'm requesting Commission approval today for the 2015 PIER Electric Annual Report.

Just a quick bit of background.

The final PIER Electric funds were encumbered in June 2013. Energy Commission staff continues to manage the remaining projects as the PIER Electric Program winds down.

Eighty-one projects funded through the PIER Electric Program were either completed or remained active in 2015. This report includes summaries for all eighty-one projects including a description of their anticipated benefits to electric rate payers.

This report also highlights some of the successes of the PIER Program including synchro phasers which save an estimated $210- to $360 million annually.

And automated demand response, which saved rate payers over $12 million in 2012 alone, and we expect those numbers to increase in the coming years as demand response is seen as a key strategy for integrating renewables.

This report also includes a brief description of some of the lessons we learned from our administration of the PIER Electric Program and how we've applied those toward our administration of the EPIC Program.

This will be the last annual report for the

PIER Electric Program. We do plan to release a comprehensive final report for the PIER Electric Program that details the program's benefits over its lifetime.

Thank you for your consideration, and I'm happy to answer any questions.

CHAIR WEISENMILLER: Thank you. Any comments either from the audience or on the phone?

I'm the lead on the research area. Obviously this is a good opportunity for us to wrap up to some extent as we transition our accomplishments in this area. I think Erik identified at least some of those.

And again, I appreciate staff pushing this along.

COMMISSIONER DOUGLAS: Yeah, absolutely. Appreciate those comments and I'll move approval of this item.

COMMISSIONER SCOTT: Can I ask one quick question? So I reviewed through the executive summaries and the reports for both of these, and I wondered, there were some neat statistics, Erik, that you mentioned in your presentation that aren't in the executive summary, and I wonder if we're planning to do like a one-pager or something neat so

that people, if they don't have time to read the whole report can grab those really cool highlights and just know what the PIER Program has done.

MR. STOKES: Yeah, I think that's something we can do, definitely.

COMMISSIONER SCOTT: I think that would be great. I will second.

CHAIR WEISENMILLER: All those in favor?

IN UNISON: Aye.

CHAIR WEISENMILLER: This passes five to zero. Thank you.

Let's go on to Number 13.

MR. STOKES: This is Erik Stokes again. I'm requesting Commission approval today for the 2015 EPIC Annual report.

This report complies with all CPUC EPIC decisions as well as Senate Bill 96, which was signed into law in 2013. In particular, SB96 requires the Energy Commission to prepare and submit to the Legislature an annual report that includes a brief description of each project awarded or completed in the previous calendar year as well as an update for each project underway.

The report also provides an overview of the Energy Commission's administration of the EPIC

Program in 2015. I'll take the next couple minutes just to provide some highlights of those efforts.

In 2015 the Energy Commission released 17 competitive solicitations totaling just under $230 million in EPIC funding. Topics covered in these solicitations included micro grids, energy storage, bio energy, and technologies that improve both water and energy efficiency.

Eighty-one projects totaling over $170 million were approved at Energy Commission business meetings in 2015. All eighty-one projects were awarded through a competitive solicitation process.

Also in 2015 the Energy Commission continued to conduct outreach efforts to increase the participation of underrepresented groups in the EPIC Program. As of December 31st, 2015, 18 awards included a project site located in a disadvantaged community, 20 awards included disabled veteran, minority, women, or LGBT owned business, and 37 awards included a certified small business.

Also in 2015 the Energy Commission held the first EPIC annual symposium. Over 250 people participated and over 40 projects were showcased.

Since all the EPIC projects just began in the last year, we don't have many results to present

yet but we look forward to sharing the results of these exciting projects in future EPIC annual reports as well as public workshops and the next EPIC annual symposium.

Thank you for your consideration and I'm happy to answer any questions.

CHAIR WEISENMILLER: Thank you. Are there any comments from anyone in the room or on the phone?

Then again, I think this is a very good summary of the program. We're going to get into a range of things this afternoon that have been issued, but this is a pretty good wrap-up in the annual report.

I certainly thank staff for their activities to pull this together. Anyone else have any questions or comments?

COMMISSIONER SCOTT: Same comment as before.

MR. STOKES: We are working on a highlights, Commissioner Scott, for this program.

COMMISSIONER SCOTT: Awesome, thank you for doing that.

COMMISSIONER MCALLISTER: If you could provide that to the Commissioners we'd like to see

that. So I'll move this Item 13.

COMMISSIONER SCOTT: Second.

CHAIR WEISENMILLER: Okay. All those in favor?

IN UNISON: Aye.

CHAIR WEISENMILLER: This item passes five to zero. Great, thank you.

Let's go on now to Item 14, Regional Energy Innovation Clusters. We're going to have a summary and then we're going to cover Items b and c, and then we're either going to take off Item a or Commissioner McAllister is going to recuse himself.

MS. VACARRO: So I think first if we could have the disclosures as to, I think you have two items where you have disclosures, one with a recusal, and then go ahead and move forward.

COMMISSIONER MCALLISTER: Okay. So I want to disclose on Items a and c. On Item a I will recuse, since my former employer, the Center for Sustainable Energy is a sub on Item a.

Item c I'm just disclosing UC Davis is a sub on that one and my wife is a professor at King Hall Law School at UC Davis, but there is no conflict here.

COMMISSIONER DOUGLAS: And on Item c I'm

just disclosing that while this year I'm not teaching any courses at UC Davis Law School, I am talking to them about teaching a course next year and I have taught in previous years, so I just want to make that disclosure.

CHAIR WEISENMILLER: Thank you. Staff, go ahead.

MS. GONZALEZ: Good afternoon, Chair Weisenmiller and Commissioners. My name is Diana Gonzalez with the Energy Deployment and Market Facilitation Office. I am seeking Commission approval today for three projects selected from the Regional Energy Innovation Clusters competitive solicitation.

This solicitation was released September 2nd, 2015, for the purpose of supporting the development and commercialization of promising new energy innovations to benefit electric rate payers in Pacific Gas & Electric, Southern California Edison, and San Diego Gas & Electric service territories.

As new energy policies are adopted, entrepreneurs must conceptualize and develop innovative new solutions for a cleaner, safer, more affordable, more reliable, and more resilient

electric grid.

However, many entrepreneurs lack viable market strategies, access to laboratory facilities, business expertise, or merely an understanding of the needs of potential customers, making commercialization difficult.

This grant addresses a critical gap in the path to market for energy innovations by providing key services, resources, and infrastructure to energy entrepreneurs in each region.

There were a total of 12 proposals received, and 3 will be considered for funding today, for a total of approximately $15 million.

I would like to add that we do recognize there was not a passing proposal for the Los Angeles region, but we have rereleased the solicitation and are scheduled to have the prebid workshop next Tuesday, April 19th.

CHAIR WEISENMILLER: Thank you.

MS. GONZALEZ: So I'll start with Item b.

CHAIR WEISENMILLER: Great, let's do it.

MS. GONZALEZ: Okay. Item b is an agreement with Physical Science Innovations, who proposes to accept 12 entrepreneurs annually into the Bay Area Regional Energy Innovation Cluster. These

entrepreneurs will benefit from the services provided from the cluster, including technical and business development support, access to national laboratory facilities, and early stage commercialization support.

Additionally, entrepreneurs will use the resources to further develop their technologies that will enable a shift to a low carbon economy.

Also for consideration is Item c, an agreement with the California State University Fresno Foundation, who proposes to primarily focus on incubation services for entrepreneurs developing energy technologies for the water and agricultural sectors and connecting them with business and economic development organizations in the Central Valley and north state.

In an effort to provide these services to over 100 startup companies, the California State University Fresno Foundation plans to leverage existing partner facilities including five California State University campuses at Bakersfield, Chico, Humboldt, Monterey Bay, and Sacramento, and the Sierra Business Council's Small Business Development Center.

In addition, the California State

University Fresno Foundation will produce outreach events and conferences to publicize energy and water entrepreneurs and innovations including outreach to disadvantaged communities throughout the Central Valley region.

Staff is seeking approval for these two items, and I can answer any questions at this time. We do have a representative from the California State University Fresno Foundation here that will provide some comments on behalf of their project.

DR. ZOLDOSKE: Is that my cue?

CHAIR WEISENMILLER: Yes, that's your cue. Please come up, thank you.

DR. ZOLDOSKE: Good afternoon. Dave Zoldoske, Fresno State. And I just want to first thank you for recognizing the Central Valley and the North Coast and our unique challenges there. And we do have lots of DACs as you probably know and we've been engaged with them for many years. Also groundwater pumping and water quality are very energy consumptive, and so appreciate the opportunity to address those particularly in our region as well as food production.

So my comments are just to say thank you and to recognize our region and provide support to

address those issues, so thank you again.

CHAIR WEISENMILLER: Thanks for being here.

I think, Commissioners, as you know, part of the transition that we have in EPIC as opposed to PIER is more of a focus on market facilitation, and so this is part of that focus and builds off the prior contract we had on the (inaudible).

So again, I think we're trying to put together an ecosystem to really encourage innovation in clean tech and I think these are key parts of it.

COMMISSIONER MCALLISTER: Totally agree, so I'll move items b and c.

COMMISSIONER HOCHSCHILD: Second.

CHAIR WEISENMILLER: All those in favor?

IN UNISON: Aye.

CHAIR WEISENMILLER: b and c pass five to zero.

We'll take a minute while Commissioner McAllister leaves the room.

Okay, let's talk about Item a now.

MS. GONZALEZ: Okay. Item a is an agreement with Cleantech San Diego, who proposes to provide services for 20 to 25 entrepreneurs annually. This project will provide customized entrepreneurial services including education training, business

development, testing facilities, and advisory support to the San Diego region.

Cleantech San Diego will work with businesses, local jurisdictions, and other organizations in the region to connect emerging technologies to region specific needs.

Staff is seeking approval of this item and I can answer any questions at this time, and we also do have a representative from the Cleantech San Diego that would like to provide some comments on behalf of this project.

CHAIR WEISENMILLER: Okay. Please come forward.

MR. ANDERSON: Good afternoon. My name is Jason Anderson, President and CEO of Cleantech San Diego. Thank you for allowing me to speak today and for considering adoption of the resolution approving Agreement EPC-15-030 with Cleantech San Diego.

We are a nonprofit trade association that positions the greater San Diego region as a global leader in the clean tech economy. We achieved this by fostering collaborations across the public, private, and academic landscape, leading advocacy efforts to promote clean tech priorities, and encouraging investment in the San Diego region, and

we've been doing this for about nine years.

As proposed, the San Diego Regional Energy Innovation Cluster brings together nine globally recognized business organizations and academic institutions to connect entrepreneurs to facilities, training, and resources that will accelerate their energy innovations to market and transform our region's energy system.

The partnership is made up of Cleantech San Diego, Connect, San Diego Venture Group, Imperial Valley EDC, Inland Empire Economic Partnership, the Center for Sustainable Energy, San Diego State University, UC San Diego, and the University of San Diego.

This is actually the first time all of these organizations have come together to work under one directive, thereby increasing our collective ability to support energy innovation within our region, help California meet its statutory energy goals, and promote economic development.

We're extremely grateful for this opportunity and are excited to support the continued growth of the energy sector in the San Diego region. And I'd like to thank Diana and Erik, all of their staff for all of their support in getting this to

this point today. Thank you.

CHAIR WEISENMILLER: Thank you. Thanks for being here.

Any other comments on this item either in the room or on the phone? Let's transition to the dais.

I think I hit it pretty much in the initial part. This is obviously very important and will get broad coverage throughout the state, and this is another piece of that. Certainly San Diego is a very interesting environment. This type of work plays a key part.

COMMISSIONER HOCHSCHILD: I would agree, and I would just note that they were the first city in the United States to mandate a hundred percent renewables by 2035 with the support of their mayor, and I think it's added to the momentum there, so I'm really encouraged to see this. Do you need a motion?

CHAIR WEISENMILLER: Yeah.

COMMISSIONER HOCHSCHILD: I move the item.

COMMISSIONER DOUGLAS: Second.

CHAIR WEISENMILLER: All those in favor?

IN UNISON: Aye.

CHAIR WEISENMILLER: This passes four to zero with Commissioner McAllister recusing himself.

MS. GONZALEZ: Thank you.

CHAIR WEISENMILLER: Thank you.

Going on to Item 15, Reducing costs for communities and businesses through integrated demand-side management and zero net energy demonstrations. Staff, go ahead.

MR. MEISTER: Good afternoon, Mr. Chairman and Commissioners. You know, Item 15b is going to moved to the next business meeting, I just recently found that out.

I have an item to present from competitive solicitation PON-15-308, reducing costs for communities and businesses through integrated demand-side management and zero net energy demonstrations.

I'm seeking approval of a $2,999,591 grant with Prospect Silicon Valley to fund the demonstration of large scale cost effective pathways to achieving maximum energy efficiency in a grocery store.

The project, located in San Francisco at Whole Foods Market, will provide $650,000 to match and has a goal of saving 40 to 60 percent of existing energy.

Supermarkets and grocery stores have among

the highest energy use of commercial building types, and therefore, are among the most challenging cases to achieve zero net energy among commercial buildings.

The solution is to identify a cost effective energy upgrade package for retrofit applications that utilizes innovative strategies and precommercial technologies including HVAC and advanced refrigerants, phase change materials, improved kitchen equipment, occupancy sensing measures, improved lining and advanced controls for plug loads, which are growing very rapidly.

The project will demonstrate lower costs and greater reliability. Dissemination of the findings to the wider market will also result in additional benefits as more markets throughout the state adopt these types of technologies.

The project has several partners to include Lawrence Berkeley National Lab, ARUP, San Francisco Department of the Environment, and the Whole Foods Market where the demonstration will occur.

I ask for your approval and I'm happy to answer any questions.

CHAIR WEISENMILLER: Great, thank you. Is there any comment on this from anyone in the room or

on the phone? Let's transition to the dais.

This is certainly again one of the research projects that I've been directing. I think everyone knows the importance of zero net energy over the longer term, and particularly this type of retrofit of commercial buildings. So again, I think it's a good project.

Other comments?

COMMISSIONER MCALLISTER: Yes. Totally agree, great project. We've got to get this started. I mean, our nominal goal for commercial is 2030, so we have a little bit more time than we do for residential but you can't start too soon, and an integrated approach that looks in all the corners for opportunities and really hopes to orchestrate operations of a building and really eventually the vision is to get it behind the scenes automated in a way that it just happens like all the best apps on the iPhone that many of us use. So there's so much potential here and we're just beginning to unlock it, and this is the kind of project that will really make that happen.

So I'll move item 15a.

COMMISSIONER SCOTT: Second.

CHAIR WEISENMILLER: All those in favor?

IN UNISON: Aye.

CHAIR WEISENMILLER: 15a passes five to zero. Thanks.

Let's go on now to Item 16, which is reducing the environmental and public health impacts of electricity generation and make the electricity system less vulnerable to climate impacts.

MS. VACARRO: Before we move on, I believe there's a disclosure from the dais.

COMMISSIONER MCALLISTER: Yes. Again I have a disclosure and not a recusal. Item 16c has UC Davis as a sub. So again, my wife is a professor at King Hall, which is not involved in this project.

COMMISSIONER DOUGLAS: And I have the same disclosure, just that I'm talking to King Hall about potentially teaching a law course next year.

MS. ZIAJA: Thank you. Good morning -- good afternoon at this point, Commissioners and Chair. My name is Sonya Ziaja from the Research and Development Division. I will be presenting nine proposed grant agreements from an EPIC solicitation released last October.

The solicitation addresses several research areas covering indoor air quality, public health, terrestrial and aquatic habitats, climate impacts

and the water energy nexus, all as relates to California's electricity system.

The projects I will be covering today amount to $6,273,837 with a geographic scope that covers the entire state. Staff recommends funding all eight projects. I will discuss each of these briefly.

The first proposed study is by the Electric Power Research Institute for $799,444. The purpose of this research is to improve understanding of the costs and benefits of electrification, especially as they relate to environmental justice.

All of the energy scenarios estimating the evolution of the energy system with deep GHG reductions by 2050 suggest that electrification of energy services as in space heating, heat pumps, electric cars, processed heat in industrial plants from electricity is a very attractive option, however, these studies use very crude assumptions about electrification. The goal of this proposed study is to develop more realistic assessments.

Black & Veatch Corporation will develop a prototype interactive mapping tool for California localities that will make environmental, engineering, and electrical distribution grid

information available in a single easily accessible online location on the database and web platform.

The tool will demonstrate the potential for adapting information for local distributed generation planning for solar PV to reduce environmental permitting and risk, and therefore costs.

This tool will integrate aspects of CBI's landscape scale of renewable energy planning models developed for the DRACP, the San Joaquin Valley Solar and Redi 2.0 (phonetic).

The research team will also provide guidance to groups that may wish to emulate the process in their own local areas.

To assist with improving indoor air quality, a proposed study by UC Davis for $1.5 million will develop and demonstrate approaches to synergistically improve ventilation from indoor air quality during HVAC and whole building energy efficiency retrofits in California schools, with ultimate targets of identifying and demonstrating approaches and technologies needed for ZNE schools.

Also relevant to environmental justice, Public Health Institute will develop in conjunction with emerging energy technology experts a workshop

to elicit public input to create a public health research roadmap to proactively identify possible risks to human health associated with California's rapid energy transition.

This project would be for $151,000. The goal would be to produce guidance for future research and to anticipating and preventing potential unintended health impacts of emerging energy systems.

Another proposed research area by Lawrence Berkeley National Lab for a proposed $625,000 will make improvements in methodologies and provide better estimates of the electricity used for pumping groundwater. The lab will develop a model based on empirical research as well as fieldwork. Additionally, the project will use qualitative methodologies to elicit information about the actual use and adoption of energy efficient pumping technologies.

The research and fieldwork will provide the data necessary to improve reliability of California's electric and water systems in responding to drought occurrences, electricity demand increase, and variable electricity supply.

Eagle Rock Analytics for a proposed

$400,000 would provide seasonal and decadal climate probabilistic forecasts tailored for the management and planning of the electricity system.

This project is crucial to the energy side of California's fourth climate assessment. The research for the assessment will depend on shared seasonal and decadal forecasts in order to ensure consistency and intercomparability.

A proposed study by Lawrence Berkeley National Lab for $1.5 million would develop smart ventilation systems that are suitable for new and existing advanced and ZNE homes.

Smart ventilation systems use information about current thermal occupancy system and air quality conditions to optimize performance for ventilation related equipment.

This work will build on efforts of the past decade that have facilitated dynamic ventilation approaches and will be able to inform future enhancements to Title 24 and related regulations.

The University of California Berkeley has proposed research for approximately $500,000 to determine the effect of utility scale solar installations on soil carbon cycle in deserts and arid landscapes.

A prior study indicated that large solar farms disturbing soils in the desert can release substantial quantities of soil carbon. Soils in the desert can contain large quantities of carbon but in relatively fragile conditions. However, the nature and magnitude of this potential problem is not known and there is considerable scientific debate about this issue.

The researchers will measure the amount of soil carbon in undisturbed and disturbed soils in typical areas that could be used for future solar energy farms.

Finally, a project with UC California Los Angeles for a proposed approximately $600,000 would focus mitigation of bird fatalities and renewable energy facilities by improving knowledge of migratory routes and timing of specific breeding populations.

This would extend prior peer reviewed research using gnomes and mapping tools to identify migration routes for future vulnerable and endangered species and assist in determining which breeding populations are at greatest risk.

The project will also identify promising sites for future renewable energy facilities that

avoid conflicts with migratory birds.

The project has also attracted over $800,000 in matched funding.

Staff recommends funding all of these projects and I'm happy to answer any questions. Thank you.

CHAIR WEISENMILLER: Thank you. I think most people are aware of the three climate assessments we have had, which have been 30-some studies each.

And so now we're in the middle of launching the fourth climate assessment, these are sort of packages of studies that are covering very important areas.

One of things I would just highlight for people to keep in mind is that, although we're a very great state, very prosperous, that there are about 100,000 people in the Central Valley that have no heating. They're not served by natural gas so they have propane or other wood or you name it.

And so again, just trying to figure out how to target them, particularly some of the electrification strategies, even though some of the trade-offs are in costs and other stuff, but again, it's one of those things that we've really been

trying to build into the research activities things to reach out to this the disadvantaged and make sure we're covering the whole state, or all citizens with our research.

COMMISSIONER DOUGLAS: I just wanted to comment that I think this is a really strong list of projects and I appreciate, staff gave me a briefing on this and I just appreciate the work and thought that went into it because it's a really good and important set of projects.

COMMISSIONER MCALLISTER: One of my frustrations has been -- not frustrations really, but challenge. But when we're talking about really pushing the envelope, again, we also have real world market and cost effectiveness issues and we really have to work hard to check all the boxes, not just the whiz-bang technology boxes, which are kind of sexy in a lot of ways and easy to get people excited about.

I think the optimization, just duke it out in the marketplace. Figure out what works, going back, the learning that we do to get really get ready for prime time in all ways is really critical, and that's what enables all our systems to participate.

And market evolution takes all sorts of different forms, but I see in this group of projects a real commitment to seeing what works, developing technologies that really work for all Californians, and that are applicable on a mass scale, and that's really what we need to get where we need to go.

It's not about photo ops, it's about really getting to everybody, and this is really great projects that demonstrates that fact that we're trying and will produce a bunch of really valuable results, so I'm very excited to support them.

So I'll move Item 16.

COMMISSIONER SCOTT: Second.

CHAIR WEISENMILLER: All those in favor?

IN UNISON: Aye.

CHAIR WEISENMILLER: Item 16 passes five to zero. Thank you.

Let's go on to Item 17, developing a portfolio of advanced efficiency solutions Phase II: Plug load technologies and approaches for buildings.

Staff, please.

MR. VILLANUEVA: Good afternoon, Chair and Commissioners. My name is Felix Villanueva with the Energy Efficiency Research Office.

Today staff is recommending approval of two

agreements totaling more than $1.9 million in EPIC funding. These are the two remaining agreements under solicitation JFO-15-310, developing a portfolio of advanced efficiency solutions Phase II: Plug load technologies and approaches for buildings.

The projects I am presenting today are a result of a competitive solicitation.

As we know, plug load equipment includes every electrical device that plugs into a power outlet in buildings. As California is approaching zero net energy, plug loads are becoming the fastest growing unregulated end uses in energy for not only residential buildings but for commercial buildings as well.

The projects I am presenting today focus on such devices in commercial buildings throughout California. Research is needed to not only increase energy efficiency in these devices, but to understand the relationship between the devices and its users.

Today's projects fall within one of the two following funding groups.

Funding Group A is develop next generation plug load devices and technologies, and Funding Group B is develop integrated plug load strategies.

Staff proposes funding for the following projects.

From Funding Group A we have electric plug load savings potential of commercial food service equipment through Fisher-Nickel for $937,469.

The recipient will evaluate the energy load and energy reduction potential of unventilated commercial plug load food service equipment; for example, toasters, food warmers, and coffee burners.

Food service facilities are one of the largest energy users in the commercial building sector, consuming as much as five times more energy per square foot than any other type of commercial building in California.

There are estimates of over 93,000 commercial food service sites within California that use one or more plug load appliance. These appliances contain simple on and off controls; however, most operators have adopted a standard practice of letting these appliances run continuously throughout the day and are often left on overnight.

So the team will monitor appliances at five different commercial kitchens in northern California and demonstrate reduced energy consumption through

the use of pre-commercial appliance designs and control technologies.

If 15 percent of the 93,000 commercial food service sites across California were to adopt high efficiency equipment and routinely implement standby controls, an estimated 362.3 gigawatt hours in energy could be saved annually. This equates to annual reductions of $54.4 million in operating costs and reduction of 118,000 tons of Co2 emissions.

Over $202,000 in matched funding will be provided. Project partners are Davis Energy Group, Fisher Consulting, Opinion Dynamics Corporation, NAFEM, and PG&E.

Now, from Funding Group B we have flexible control strategies for plug loads with context aware smart power outlets to mitigate electricity waste and support demand response with the Electric Power Research Institute for $1,050,022.

The recipient will develop control integration and displays in order to integrate plug load systems and other energy consuming systems in commercial buildings that will lead to actual and sustainable reductions in energy use.

As I mentioned earlier, plug loads today

are predominantly under a manual on and off control with many plug loads left running always on, resulting in wasted energy.

A key innovation of this project is the addition and integration of the user presence information for predicting and detecting wasted electricity usage.

Presence detection is enabled through micro locating technology, for example, Bluetooth technology, within smart power receptacle outlets. With mobile devices and micro location services, user customized preferences gain mobility in that personalized preferences can follow the user as he or she moves across the building.

Another innovation is the development of plug load control contexts that provide a classification for determining appropriate control strategies that may be applied based on the type of building, the space assignment, and the plug load in question.

Energy savings estimated at 2,293 gigawatt hours per year. There is also potential of demand reductions of 10 percent.

$335,120 will be provided in matched funding. Project partners are Metric Systems, Ibis

Networks, Skycentrics, Southern California Edison, and the San Diego Gas & Electric Company.

Staff recommends approval of these projects and I'll be happy to answer any questions. Thank you.

CHAIR WEISENMILLER: Thank you. Any comments on this from anyone in the room or on the phone? Let's transition to the Commissioners.

MS. MATTHEWS: We have one comment.

CHAIR WEISENMILLER: Please.

DR. COLEMAN: This is Andrew Coleman. Thank you Chairman and Commissioners. This also includes NASA Ames as part of the project and appreciate the opportunity. And it also will be beneficial to plug loads in laboratories, so it should have wide applications. That's just what I wanted to add. Thanks very much.

CHAIR WEISENMILLER: Thanks for being here.

I wanted to say I think when we look at energy use, oftentimes we think of lighting in the commercial sector. With LEDs I think we're making significant progress there.

But really the other big picture is plug load, which are growing and growing and many areas were sort of preempted from plug load. So this is

very important area of research and I think these are pretty good projects going forward will make some progress there.

Commissioner.

COMMISSIONER MCALLISTER: Yeah, I couldn't agree more. I want to thank really the whole EPIC team and the Chair for his leadership on this.

The plug loads are really a unique set of challenges, as the Chair said. And there's a lot going on. This is not the only place where the EPIC program is addressing this. There's some really promising things going on.

Back in the day on the food service, we worked with a large chain based down in San Diego to try to figure out, okay, they have these big standalone buildings that are incredibly energy intensive, but they also have a lot of constraints regarding their business. Food service, food preparation, hygiene, air ventilation. And the customer, they have to take care of the customer and make sure they want to actually come in the building and buy the product.

So their business imperatives don't always align in their view at least with efficiency and optimization, so hopefully this work here on that

front can help evolve things toward a new best practice that does really target these issues and incorporate them.

So there's a huge amount of energy to be saved potentially, so I'm glad to see a good team assembled. So I think we're really moving in the right direction. And obviously a big economy like California we can make a huge impact if we can take advantage of all the opportunities we've already got scaled.

Anybody else?

COMMISSIONER SCOTT: Yeah, I'll just say that it's really exciting to see the innovation in this space. I got a series of excellent briefings from the EPIC staff on a lot of the projects that we're going through right now. What they all mentioned was how they connect with one another. So the energy efficiency moves that we're trying to make, the move to zero net energy and all those things that are driving energy down but plug loads are driving energy up, and so we really need to hit all of those components to make sure that we get where they're going and they all highlighted that in their briefings to me and I wanted to highlight that too to kind of tie it together how it all fits

together. So I thought it was great and I'm excited to see these projects coming through.

COMMISSIONER MCALLISTER: The modern aspect of the second one as well. We're always talking about data, I'm certainly always talking about data, but the amount of interactivity and data flow just even within a given project onsite to incorporate behavior and actual occupancy in the operation of the building, that's a new frontier and it's complicated, so these projects really are necessary to move that all forward.

COMMISSIONER HOCHSCHILD: I agree. I just want to also acknowledge Ken Rider. I know he's worked closely with your team, Laurie, thanks, for all your work on this, I'm in full support.

COMMISSIONER MCALLISTER: So I'll move Item 17.

COMMISSIONER HOCHSCHILD: Second.

CHAIR WEISENMILLER: Okay. All those in favor?

IN UNISON: Aye.

CHAIR WEISENMILLER: Item 17 passes five to zero.

Let's go to 18, Navigant Consulting.

MR. BLAIR: Good after Chairman and

Commissioners. My name is Nick Blair with the Energy Research and Development Division. I'm seeking Commission approval today for resolution to Agreement 300-15-009 for a $6,937,889 contract with Navigant Consulting, Incorporated, to conduct market analyses designed to increase the commercial impact of energy technologies funded through the EPIC Program.

This contract was the result of competitive solicitation that received four proposals. Today we are recommending funding for the top ranked proposal team.

The overall goal of this contract is to provide immediate access to highly specialized knowledge and technical expertise that are outside the Energy Commission's current capabilities on market analysis and trends and path to market strategies for current and future EPIC technologies.

Over the term of the this six-year contract Navigant will provide key insights into how the EPIC Program has mobilized the commercialization of clean energy technologies and how future funding decisions can continue this trend.

Work from this contract will provide support to the Energy Commission and EPIC awardees

by assessing and identifying costly customer problems, primarily for businesses that require energy solutions that can be provided by EPIC technologies and research, by developing go to market strategies for select EPIC projects that define market value potential, identify primary target markets, review existing market channels, and create a detailed approach to achieving success in the marketplace by estimating market opportunities for specific EPIC recipients in critical market segments, and by tracking past and current awarded EPIC technology solutions to monitor successes and more accurately consider future EPIC funding opportunities.

This work will provide invaluable information to the Energy Commission and various past, present, and future EPIC awardees that will help move technologies from the research and development phase into full commercialization.

I respectfully request approval of this resolution, and I'm happy to answer all questions.

CHAIR WEISENMILLER: Thank you. Any comments from anyone in the audience or on the phone? Commissioners.

I was just going to say, again, this fits

in with the others, as Commissioner Scott indicated, a lot of these tie in together, so this fits well with the innovation clusters and with the seed activity, so all three fit together and this will build off of that. So I think it's a good project and I encourage people's support for it,

COMMISSIONER SCOTT: Move approval of this item.

COMMISSIONER MCALLISTER: Second.

CHAIR WEISENMILLER: Okay. All those in favor?

IN UNISON: Aye.

CHAIR WEISENMILLER: Item 18 passes four to zero.

MR. BLAIR: Thank you very much.

CHAIR WEISENMILLER: Okay. Let's go on to Item 19, Itron, which again is IBS in California.

MR. CROFT: Good afternoon, Chair Weisenmiller and Commissioners. My name is Josh Croft with the Energy Deployment and Market Facilitation Office. I'm seeking Commission approval today for a $999,884 contract with Itron.

Itron will work with Energy Commission staff and in consultation with stakeholders and subject matter experts to develop a technical

assessment of key needs and gaps within ZNE building research, development, demonstration, and deployment.

This contract was the result of a competitive solicitation that received six applications. Today we are recommending funding for the top ranked proposal team.

Itron will leverage the proposal team's deep experience and expertise with ZNE while utilizing the existing body of ZNE work through secondary data literature reviews, interviews, and other forms of stakeholder input, such as workshops and a web portal.

The contract's intent is to identify and analyze the challenges and gaps and research needed to achieve ZNE as a standard and sustainable building industry practice. The team will solicit stakeholder input throughout the formation of this gaps analysis which will be performed over the course of two years.

This contract's goals and objectives are to synthesize the input of stakeholders and experts to analyze performance and cost targets for promising ZNE technologies, provide a detailed description of barriers that hinder the adoption of ZNE building

technology in the marketplace, analyze stakeholder recommendations on research most needed to achieve cost effective ZNE buildings, and to develop critical indicators of success for ZNE building adoption.

Itron's team includes the following subcontractors: New Buildings Institute, EPRI, Davis Energy Group, Integral Group, UC Davis Energy Efficiency Center, and Amerit Consulting.

This team includes experts in residential and commercial ZNE construction, experts in behavioral research as it relates to zero net energy, and experts in the latest commercial zero net energy building technologies.

This wide range of expertise enables the team to produce a quality gaps analysis that encompasses the goals and objectives that were mentioned earlier.

Staff respectfully requests approval of this resolution and I'm happy to answer any questions.

CHAIR WEISENMILLER: Thank you. Any comments from anyone either in the audience or on the phone? So hearing none let's go to Commissioner discussion.

Like I said with plug loads, obviously the other sort of key emphasis is on zero net energy, which obviously is not going to be easy, and so trying to fill in some of the gaps.

When I was in China at Tsinghua University, we basically got beat up on the concept of zero net energy. And we often think of suburban tract houses. Chinese housing were 20-story high-rises, so they were doing the math and ensuring me this would never work there. I said, yeah, I know.

But anyway, but certainly the notion of combining renewables and energy efficiency into one project is incredibly important, so again I would urge people to support it.

COMMISSIONER MCALLISTER: So I agree with all that. And actually on the consent calendar we did approve a pretty aggressive solar requirement for the City of Santa Monica, who pushed that forward so we didn't talk about it because it was on consent, but requirements for how much PV you put per square foot of floor space in a building. Well, it's not trivial, it really matters in terms of a ZNE building.

I guess I just wanted to note -- thanks for your presentation, Josh. I wanted to note that there

has been a lot of work, as you mentioned, on ZNE. Our goal is looming for a single family.

And actually I would say to a large extent many of the technologies exist already for a single family that we need to implement now in the Building Code, so obviously technology development is important, but still going forward after that as we seek more coverage and cost effectiveness.

But I think commercialization and getting costs down there are really the priorities for single family. So I'd kind of like to see, make sure that we press on the contractor to focus on some of the issues that are really truly market relevant in the near term for that, because we do have urgent goals. So maybe that suggests more of a commercial focus or at least a different kind of focus on single family versus commercial.

And certainly we worked relatively recently, within the last few years, with the PUC to produce the ZNE roadmap, which is pretty high level, pretty general in coverage, but it does have a lot of the issues that the contractor here is going to need to look at, so hopefully we'll be working in close coordination with them.

More of a voluntary market approach, that's

their shake at the PUC because they're pushing markets. We need more code relevance, but I think it's really important to keep close coordination with them on the research agenda. Obviously EPIC does that since the funding comes from rate payers.

The cost targets and being very clear about the metrics, those are all the suggestions that I would have at a high level, but certainly it's a good project. There's a lot at stake. We need to be very clear about ZNE and how we approach it.

So I'll move Item 19.

COMMISSIONER DOUGLAS: Second.

CHAIR WEISENMILLER: Okay. All those in favor?

IN UNISON: Aye.

CHAIR WEISENMILLER: Item 19 passes four to zero. Thank you.

Let's go on to Item 20, which is the minutes for March 9th.

COMMISSIONER DOUGLAS: Move the minutes.

COMMISSIONER SCOTT: Second.

CHAIR WEISENMILLER: Okay. All those in favor?

IN UNISON: Aye.

CHAIR WEISENMILLER: Minutes are approved

four to zero.

Lead Commissioner and Presiding Member reports. Commissioner Scott?

COMMISSIONER SCOTT: Sure, I have a couple highlights for you all today, and actually I'm going to look to Alana for just a second to see. Are you going to highlight the diversity career fair in your report? Okay. I might want to add on whatever else she would like, but I just wanted to make sure.

I know that you all know that we are having a diversity career fair here at the Energy Commission on Friday, April 29th. It starts at 10:00 a.m. I have done my best to email the flyer out to folks that I know and ask them to spread the word. I hope that I can encourage my fellow Commissioners and other folks around the room to take a look at that and spread the word to folks that they know so we have a really great turnout for our first diversity career fair.

I will highlight for you, a few Fridays ago -- I think I may have mentioned this already, but a few Fridays ago I did get to attend United Airlines first commercial flight that was using renewable diesel, which was really awesome. It was at LAX and it was flying from there to San Francisco Airport.

With the amount of fuel that they were contracted to purchase, which is about 15 million gallons, they can do about 12,500 flights between LAX and San Francisco.

And what's really exciting about it as well, although the Commission didn't fund this portion because it's jet fuel, but it's that same facility, the Altair facility that Rhetta had mentioned in her presentation that has been able to scale up enough that not only can they do renewable diesel for the on-road sector but they can do it for higher fuels and for the Green Fleet for the Navy as well.

So I was pretty jazzed, that was very exciting. There were eight speakers and they held us strictly to our time limit because we spoke before the flight left, and of course they don't want the story of the first flight of commercial biofuel to be late because of all the speeches. It was not late and I believe it landed on time.

I wanted to just mention last week I was at the Department of Energy's hydrogen and fuel cell technology advisory committee. Katherine Dunwoody from Air Resources Board and I represent the state of California on that committee.

This is fantastic because a lot of what DOE does is in the research space and a lot of the research is early research, and California is in the pre-commercial and standing of the industry space, and so to really be able to talk with each other, understand what's going on both in DOE and what they're looking at, what their priorities are, what the State of California is looking at, what our priorities are, and the good partnership that we have together to complement one another to bring hydrogen to the commercial space has been great.

I wanted to note that in the 2005 Energy Policy Act that was where this advisory committee was formed and they said in 2015 what we'd like to do is enable the ability to make a commitment to commercialization by 2020.

The committee had a little bit of a discussion about where are we on that, because in California we're quite a bit ahead of the rest of the nation, and so does that count as, oh, we're in the space we need to be to say we've met that goal.

And we all recognize that there's quite a bit more that needs to be done even here in California, of course, to continue the commercialization, but that was a fun spirited

discussion around the table of the advisory committee members.

I also wanted to highlight because Jean Barones from our transportation team attended the meeting. She gave a fantastic presentation, just knocked it out of the park. And the depth of knowledge and expertise that she brought to her presentation, her enthusiasm in the space.

And it was a little bit funny because when she finished, you know you have the thing where you set your card on the side and that's how the chair knows to acknowledge you to make comments. They were cutting each other off to be able to tell Jean how fantastic they thought she had done, and that they felt like with someone like her and other folks like her around the table in California they felt sure that we could get where we were trying to go. And it was just a really nice compliment and I thought she did a great job, so I wanted to highlight that here for you all.

And then my last note is I just want to say thank you so much to Courtney Smith who served as my adviser. She was diligent and smart, terrific, fantastic to work with. I'm completely heartbroken to be losing her from my team, but so wonderfully

excited for the Commission that we get to retain her talent.

And I want to say congratulations to her as well. I know she's not here today but I'll be sure to pass it along, as she takes on the Renewables Division, so I'm really excited for her and wanted to make sure to thank her for her great work.

COMMISSIONER MCALLISTER: And I think Suzanne will be around long enough to have a transition, right, because she also has just done an incredible job.

COMMISSIONER SCOTT: As well for sure.

COMMISSIONER MCALLISTER: She's a star as well.

So I was actually gone for much of the month, but since the last business meeting, I actually got on a plane to New Zealand so I shall be brief.

New Zealand actually, from an energy perspective it was super interesting, but I won't get into that. There actually are some people that studied at UC that actually work there and are pushing the energy envelope there too, so we have a major impact globally, not just nationally.

But really just a couple of things.

Codes and standards work is just moving forward on a bunch of different fronts and I just want to congratulate the team for getting a lot of throughput and really getting things done. There's a lot of good stuff on the table and lots of stakeholder interaction and it's all, I think, very positive and can help save a lot of energy for the state.

Let's see. Just a couple things really.

On the 31st a delegation of Mexican officials were here and at UC Davis for the most part, but I was able to interact with them on R&D and the energy efficiency realm, and I thank Laurie and Virginia for supporting that presentation. It really went well.

There's a lot of opportunity to do R&D transfer, not necessarily tech transfer but R&D transfer and then manufacturing promotion really about Mexico and its reforms and its energy efficiency efforts. And I think particularly in the lighting sector there's just so much opportunity there. And they have a manufacturing environment that can really enable them to scale quickly, so I'm pretty excited about keeping engaged on that front, and hopefully there's some industry partners that

can be brought to that and help it happen down actually in Mexico and that'll help all of us really.

And then finally, and I'm sure Chair Weisenmiller will talk about this, but the OSO hearing down there. It was an exciting time and I'll let you cover the topics, but it certainly highlighted to me how important and how it put a broad set of faces on that issue. I mean, we know how important it was for the state but I think it's going to be engaging for a long while and I really appreciate your leadership on that as we move into summer and as we move beyond that into winter and we have to deal with the gas supply issues that are definitely going to be with us for awhile.

So big deal but solutions are there and we're going to have to go for them and grab them by the ears and make them happen, particularly on efficiency.

I'm actually kind of excited that it's creating such a stir in the efficiency realm and I think there's some creative thought that's resulting from that which can help us much beyond.

So that's it.

COMMISSIONER DOUGLAS: You know, I also

took a little time off over the past couple of weeks. There was Spring Break and there was a family visit as well, so I don't have any reports right now and look forward to hearing the Chair's report.

CHAIR WEISENMILLER: I'll cover three things, which I've done since the last. I'll sort of do them chronological.

So in early March I went back to DC to testify before the NRC. They had a meeting, I guess, to be precise on the terminology, with the Commissioners to discuss decommissioning.

And basically, decommissioning, the NRC has never had a very coherent policy there. And what it does is when a plant stops operating, like San Onofre, it's obviously no longer an operating power plant, so they look at the permit requirements for an operating a power plant and they decide, well, we could release the applicant from many of those conditions.

And applicants have 60 years to decommission a site, and they have standards for that. But again, so they started before, this was before 9/11 to have a more coherent process to say as a regulator what should you really be looking at when decommissioning. And they stopped with 9/11 and

so but now have picked it up again. And a lot of their focus has shifted from permitting new plants to decommissioning existing plants, so it's certainly timely in a number of states.

The industry was there and obviously kept emphasizing that efficiency was important, and I was one of the state representatives saying, actually, in the whole context ideally talking about trying to move more to a consent based approach on long term storage of waste, that they should really be thinking about a much more consensual process on decommissioning that really brings in state and locals and decision makers, and certainly the community.

I mean, SMUD -- in the case of San Onofre there's a community engagement panel, which is a voluntary ad hoc thing that Edison has done.

So one of the things we were recommending, or I was recommending, was that that be more formalized and that they have much more of an outreach to various entities on the state and local level to get their participation.

And something that came up is, again, they just stopped operating so you could stop monitoring emissions from the plant. The applicant, I don't

know if they just turn off any radiation detection equipment.

And so certainly New Jersey made this point, well, actually, just leave it operating. At least we know if something happens.

But that goes away, emergency planning goes away.

We also ran into this at (inaudible) and San Onofre which got rejected by them, was that instead of just saying the plant is either operating or not, that an issue is have you put the spent fuel into casks. That has a big impact as the radiation decays and then finally move it into casks or maybe even eventually move it offsite, you would think the regulatory conditions and the monitoring, etcetera, emergency planning would continue through that spectrum.

Certainly that will be interesting to see what they do. This was sort of advanced rulemaking, they're starting a rulemaking proceeding to deal more formally with it next year. So that's the positions we're taking.

Then I went to Berlin.

COMMISSIONER SCOTT: Can I ask one quick question before you transition?

CHAIR WEISENMILLER: Sure.

COMMISSIONER SCOTT: When you were making those recommendations did you feel like the NRC was interested in those and going to take them under consideration, or what was the response to the recommendations that you were making?

CHAIR WEISENMILLER: It was mixed, it was mixed. I mean, there was one Commissioner who was clearly trying to get the point out that nothing has gone really that long yet in decommissioning. And with keeping costs down and efficiency.

And others seemed to be more at least thinking about it. But again -- and as we were walking in we're all looking around and, as I said, just at the mixture of folks seeing that obviously some people had already seen.

There were very strong comments from a number of people but there were very strong anti-comments from industry and the staff was certainly not seeming to be that helpful to our side, at least it was certainly more toward the industry side than the innovator side.

COMMISSIONER MCALLISTER: So the industry is perfectly fine with keeping casks onsite in perpetuity?

CHAIR WEISENMILLER: Well, that's why they sued the federal government, but there's a logical inconsistency where on the one hand they are moving stuff in pools into the casks.

On the other hand they say, well, there's no real safety difference between the two of them, which just makes no sense whatsoever. Why do you spend the money if there's no -- anyway.

I think the industry did come at the end, like it or not. They've always had a myopia on the back end of the fuel cycle. Historically they just assume magically it was going to go away, and then magically they could just keep stuffing it in the existing spent fuel pools. I applauded the fact the NRC was now at least thinking about the back end.

So I went from there to Berlin. Basically, this was the German fall of Paris. They did a really nice job of having a very broad international contingent that talked about not only the German success on renewables but what was going on globally.

It was a good time for the German -- it was the energy ministers but actually it was the economy and energy who really looked back at their accomplishments over time in the last few years in

Germany and look at some of the next steps for them. But again to look more broadly.

Security was pretty intense, obviously, at this time. A lot of side events.

I went up to 50 Hearst, their version of an RTO that does that part of Germany.

And then had some meetings with actually some academics and some regulators on market structure questions. Fun conversations there. How you monitor how ISOs are operating, things like that.

COMMISSIONER MCALLISTER: So what's the thinking about where generation mix is going?

CHAIR WEISENMILLER: Well, the Germans are still struggling. I mean, the thing that they've struggled with a lot in the past year, and in fact last year, you know, historically the Germans have had this situation where they are definitely phasing out nuclear. They are definitely growing renewables.

And at the same time they've built a lot of coal plants. And so their greenhouse gas emissions -- last year may have been the first time German greenhouse gas emission actually went down in the power sector, but historically they've been increasing. So they've had increasing costs.

They had decreasing marginal costs, which means that a lot of their power flows out to the border areas either advertently or inadvertently. And obviously it's not good strategy to buy high and sell low, you know. Bankruptcy illustrates the folly of that notion. So they're struggling on that count.

They tried to put in place basically things that knock out coal generation got slapped back politically, so they're now putting instead of their capacity market they're putting capacity reserve market where they will pay to keep some of the coal plants operating.

At a place where once you have marginal costs of zero and even on peak they can't even keep pond storage projects alive, and so the notion somehow you can keep coal plants alive as a backup.

COMMISSIONER MCALLISTER: They have a regional transmission like the coal power figured out?

CHAIR WEISENMILLER: Well, we have our regional issues in the west. Now you can imagine you're in the EU and you have combinations of countries, some of which the Germans have enormous amounts of loot flow through.

So I did go into one of our meetings was

with the EU on these issues. And again, you can imagine walking into a room with 30 people and listening to conversations it's very clear that they are at least slow and methodical in trying to reach decisions. I don't know if they reach them or not, but again just trying to deal with market structure questions.

COMMISSIONER MCALLISTER: Because they were having issues just with a lot of wind up north and other things down south.

CHAIR WEISENMILLER: Yeah, they have lots of issues, I guess is the bottom line. But one of the issues is, yeah, wind is in the north, the load is in the south.

They have a single price throughout Germany and Austria, one price, which means the pricing signals are located anywhere you want even though the load is in the south, and they're having lots of trouble getting high voltage lines built across Bavaria. And if they don't succeed, they will probably have to go to normal pricing. But again, that's probably the next energy minister's problem instead of this one.

But yeah, they're having a lot of trouble building lines. Lots of problems on the operational

systems.

Again, the sort of question I kept asking and no one would ever answer was just how much manual redispatch they have. The answer is lots and increasing. So it's interesting to compare their issues to ours.

But it's a good time to celebrate and it was a good chance to see how they handle the multi-lingual multi-government.

They have a lot of focus on Twitter, so they had one screen for the Twitter stuff.

They had one panel on renewables and how we love renewables, which of course had a Saudi in the middle of the group, and so he was talking and of course you look at the Twitter feeds and it's just sort of beating the guy into the ground, right.

Anyway, so that was interesting.

Aliso was interesting. Part of the question -- and again, we had a workshop in southern California. It's always interesting in terms of what people take away or don't take away.

The good news was that we put in place an administration wide program to respond to Aliso, respond to the Governor's letter of January 6th, you know, his order.

And on the reliability side it's been the Energy Commission, ISO, PUC, and LAWP doing the analysis, which certainly deepens relationships among us. And we looked at near term; i.e., this summer.

Ultimately we have to look at long term; i.e., next winter, and then take longer term views. And when we did, A, we're surprised that this summer is a problem. We always thought next winter would be a problem, you know, particularly coal.

Anyway, the storage system is designed generally to help core/residential customers deal with winter heating lows, which you can have very high lows there if it’s very cold.

1948 was like three standard deviations away in terms of cold, so it's like a 1 in 35 target for per peak month for core, because if you drop core load you have to go out and you light pilot lights.

And the main statistic was after the Northridge earthquake they lost 200,000 homes that they had to relight, and it took -- I'm trying to remember -- it took months, bottom line. So you go out and you bang on peoples' doors, they're not in, you come back, you know. Anyway, it was designed in

that fashion.

And the summer issue, which again, most people didn't get although I thought the presentations were good, they were in English, the basic criteria.

But the problem is when we went in we thought the problem would be rapid ramps. Turns out the problem is misforecasting between day ahead and day of.

If you look at how the gas system operates and the power system operates, they don't operate in sync. And gas molecules move very slow, 30 miles per hour in the high pressure lines, 20, low pressure. And you basically use your power plan you say this is how much gas I need tomorrow. It's all marching along, the molecules do, and then the next day you discover, oh, we just lost a transmission line or the cloud cover is going out in Los Angeles and your forecast is wrong, and you could either have too much gas or you could have too little gas.

And if you have too little gas in the day of, without a storage field to deal with the hour by hour variation, there's no way to respond. It's the gas moves very slowly, there's not storage fields of sufficient size in the basin to respond. So it

doesn't take much to misforecast.

We were finding pressure problems on the SoCal gas system, 150 million cubic feet a day, which about a 2, 3 percent. Again, it's not a particularly big number, ten percent. Anyway, and suddenly you're worrying about having to drop load, drop power plant service, which then drops electric load unless you can move power in from someplace else to keep the lights on.

And then if you combine it with outages and different things, you could be off by as much as several hundred cubic feet a day.

Again, just looking if you go back over recent history, just resimulate the operation system over the last several years, which were sort of average years for the summer. They weren't particularly hot. The outages, the reasons, again I'm not sure I'd say they were routine.

So then you go to through and you say what can you do. Well, if you don't have enough you can try to do demand response, right.

And again, next winter probably a supply question, but this summer it's really under or over.

So having said that, of course everyone has potential projs, some of which are pretty

interesting to say I've got the solution, you need to tell me what the problem is. And so trying to at least understand the problem; i.e., misforecasting as opposed to saying, oh, I can help you with additional supply.

Well, there are times we may have too much supply, so it's not like that's the magic bullet there.

So I think again a lot of getting the message out. We're going to really need people in the basin to really help us with energy efficiency, demand response when we need it this summer, so it's going to be -- depending on whether it's hot, cold, the averages, it could either be very stressful or less stressful.

But we're talking 14 days. This is not easy. And we reduced it somewhat by the ISO can obviously move stuff into the basin, again, with enough notice, or LAWP can with enough notice.

Criticisms so far have been things like you can build a gas system without storage. Well, you can, but we did build it with storage, and the problem now is we had a system that was very dependent on Aliso Canyon. It broke, so again, right. And now you have to figure out, and then you

discover there's a large reliance on what turns out to be a broken piece of equipment, and so you're trying to figure out how to work your way around.

Anyway, you could, but the next month or two it's not like you can rebuild all the pipe coming into L.A. I'm not even sure why you'd want to rebuilt all the pipe to make it twice as big going forward, so that's one issue.

There's also been this confusion of LAWP has some gas fields in Wyoming and they've never been able to get that. They sell the gas as a financial hitch, so they've never been able to really get it into Los Angeles.

There are people saying, well, you have that. It's like, yeah. It's like if you drove your car to Wyoming and said, well, I have a gasoline container in my garage in Sacramento so I don't have worry about gasoline here.

Unless you've got the Star Trek's teleprompter, shipping stuff is not going to help you to have the gasoline there.

So once you get interaction of gas and power both, it makes everything at least twice as complicated.

COMMISSIONER MCALLISTER: I'm still

interested. I thought that market reform aspect of this is pretty interesting, because as it turns out we have also the loosest balancing rules of pretty much anybody in the U.S.

CHAIR WEISENMILLER: Oh, yeah.

COMMISSIONER MCALLISTER: Tightening those up could actually help us if we had more balancing.

CHAIR WEISENMILLER: We need that. I mean, basically you balance over the course of a month, so you can have like a ten percent. They don't have necessarily float gas that day. You can just deal with it later.

And as Andrew said, there are places that are hourly balancing, not just monthly balancing. So we're trying to get at the daily and having said.

But certainly the response of all the non-core customers is, well, that's not how they did their contracts. So being said, unless you forecast correctly now, you have large financial penalties, and what are the tools, how do we deal with that.

So it's been incredibly controversial. You may be approached by utilities, refineries, by large industrial, anyone who buys their own gas is suddenly going, oh my god, daily balancing is really hard.

So again, it's not like there are a lot of easy answers here.

COMMISSIONER MCALLISTER: It's also not rocket science, though. I mean, everybody else does it so how hard can it be if we need to migrate our contracts. That's really the kind of conversation I'm interested in seeing now coming up is sort of, it's not seatbelts, it's not going to put them out of business, but maybe it is seatbelts but it won't be that hard.

CHAIR WEISENMILLER: Right. No, the PUC is dealing with that. There's a bunch of questions. It's like we have 15 BCF now, which certainly if we run a history will get us through without any outages this summer.

On the other hand, we don't know if and when we will ever start reinjection, so it might be that suddenly all we have next winter is 15 BCF, which is pretty miserable going into the winter with that.

But anyhow, the big question of how much you use now versus later. It's not a pretty situation. So certainly it's a time for concern, it's a time for people to pull together, particularly on load dropping.

And as Andrew said, it's certainly a good time, there's no reason not to do energy efficiency now, particularly if you're looking out over the trend between here and next winter and start putting it in place.

COMMISSIONER MCALLISTER: Yeah, if you take into account some of the avoided costs of potential blackouts or whatever, you're sort of economically and financially looking a lot better with some of the gasoline measures, so you can build a case from that perspective, maybe it's easier to justify projects.

CHAIR WEISENMILLER: Oh, yeah. Although again, it's just the notion of how much can you really do between now and the summer?

We're trying to encourage sort of a competition between LAWP and Edison where they were saying they were hoping to get another 20 megawatts of demand response, which is like, well, you know.

But having said that, can Edison 30, can we get actually get some (inaudible) here.

So Chief Counsel's Report.

MS. VACARRO: So I have two information items.

The first will bring you to the December

meeting when the Commission tasked the chief counsel's office to take all appropriate steps to address concerns that we had with Bendota Bio Energy and the grant agreement.

And today I'd like to let you know that we did file a complaint last Friday. The Attorney General's Office filed it on behalf of the Commission in Sacramento Superior Court. There are a number of causes of action.

And this isn't the forum today to have any discussion about the lawsuit, it's more informational. Certainly don't want you reading it in the press or otherwise hearing about it, but we're happy to give you individual briefings, if you'd like that, to get a better sense of the scope of the complaint and where things will go moving forward.

And the other item -- I feel like proud parent. I have two new hires. I feel like every now and again at a meeting I'm able to say this, but these are particularly great hires for a couple of reasons.

We talked about the diversity fair that's coming up, and that's great for getting people in the door.

What's equally important is having people come back when they get the credentials or otherwise are qualified, and so one of our hires, Angela Worth, is going to be in the house unit.

Angela had worked as an intern in the Chief Counsel's Office quite awhile ago. Did a multi-year fellowship with the federal government. Moved across country to join us again, and I think that's pretty tremendous. It speaks well of the Commission and her commitment to environmental law and energy law.

We also benefit from Corey Irish, who is in Contracts, Grants, and Loans, who earned his law degree while working here by day and is now a new attorney in our Transactions Unit.

And I just think this is sort of the good news story, I think, for Chief Counsel's Office but also for the Energy Commission, so I'm just really pleased to be able to introduce them to you today.

CHAIR WEISENMILLER: Great. Thanks.

Executive Director Report.

MR. OGLESBY: Just two quick things.

One on workload for the agency as a whole, following on the Aliso Canyon discussion.

This is an effort similar to the kind of ongoing effort coordinating with multiple agencies

like the Drought Taskforce. So it will be something that continues on as we go through the spring and summer, fall, in all probability, for some time.

And also going into the IEPR process as we do some of our follow-on assignments that we're required by the Governor to explore and analyze on natural gas.

So it'll be something that we have to accommodate in our work schedules and absorb the workload, and we're also seeking some augmentation through our resources to help with the immediate challenges and some of the long term that we haven't done yet.

Secondly, just a heads up warning that we are coming toward the end of the fiscal year. Most of our transaction work is required to be completed by the end of the fiscal year, and so plan your days accordingly as we go into May and June business meetings, because the agendas are going to be rather extended with all the transactional types of things, so just a heads up on that.

That's all I have.

CHAIR WEISENMILLER: Thanks.

Public Adviser.

MS. MATTHEWS: Thank you. I just want to

thank Commissioner Scott for mentioning the career diversity fair that we're going to have on April 29, so certainly all of our Commissioners who have relationships with higher institutions, pass that along.

And then the second thing I wanted to highlight is that on March 30th, this would be under AB865 to increase the diversity of participants in our funding programs.

We attended the CPUC had a small business expo. Unfortunately I had a family emergency so I was not able to attend, but thankfully Lorraine did attend on the Energy Commission's behalf, and we were able to reach about 200 diverse businesses, small and diverse businesses, to let them know about our funding programs.

So we will certainly continue that relationship with the CPUC's Supplier Diversity Program to do more outreach to reach the AB865 objectives.

CHAIR WEISENMILLER: Great, thank you.

Public Comment?

The meeting is adjourned.

(Adjourned at 2:51 p.m.)

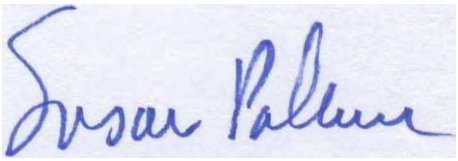
--o0o--

REPORTER'S CERTIFICATE

I do hereby certify that the testimony in the foregoing hearing was taken at the time and place therein stated; that the testimony of said witnesses were reported by me, a certified electronic court reporter and a disinterested person, and was under my supervision thereafter transcribed into typewriting.

And I further certify that I am not of counsel or attorney for either or any of the parties to said hearing nor in any way interested in the outcome of the cause named in said caption.

IN WITNESS WHEREOF, I have hereunto set my hand this 22nd day of April, 2016.



Susan Palmer
Certified Reporter
CERT 00124

TRANSCRIBER'S CERTIFICATE

I do hereby certify that the testimony in the foregoing hearing was taken at the time and place therein stated; that the testimony of said witnesses were transcribed by me, a certified transcriber and a disinterested person, and was under my supervision thereafter transcribed into typewriting.

And I further certify that I am not of counsel or attorney for either or any of the parties to said hearing nor in any way interested in the outcome of the cause named in said caption.

IN WITNESS WHEREOF, I have hereunto set my hand this 22nd day of April, 2016.

Terri Harper

_____

Terri Harper
Certified Transcriber
AAERT No. CET**D-709