DOCKETED

Docket Number:	16-BUSMTG-01
Project Title:	2016 Business Meeting Transcripts
TN #:	211696
Document Title:	Transcript of 05/17/16 Business Meeting
Description:	N/A
Filer:	Cody Goldthrite
Organization:	California Energy Commission
Submitter Role:	Commission Staff
Submission Date:	6/1/2016 4:12:52 PM
Docketed Date:	6/1/2016

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

TUESDAY, MAY 17, 2016

10:00 A.M.

Reported by:
Peter Petty

APPEARANCES

Commissioners

Robert Weisenmiller, Chair
Karen Douglas
Andrew McAllister
Janea Scott

Staff Present:

Rob Oglesby, Executive Director
Kourtney Vaccaro, Chief Counsel
Alana Matthews, Public Adviser
Cody Goldthrite, Secretariat
Mark Hutchison, Honoree

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Interested Parties

Public Comment

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P R O C E E D I N G S

MAY 17, 2016 10:06 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 let's start the business meeting. I was going to note that the High Desert item is being held. And let's start out with an event.

Mark, why don't you come on in?

We want to recognize one of our valuable employees who's actually retiring now. And so again, I have a resolution, which I will read into the record. And then have Mark come up and have some photographs taken and give him the plaque.

Okay. So,

"Whereas Mark Hutchison began working for the State of California on September 16th, 1985 as an Auditor with the Department of Finance, and began at the California Energy Commission as a Budget Analyst in May of 1988.

"Whereas Mark Hutchison left the Energy Commission for the first time in July 1990 for a promotion as staff services manager at the Governor's Office of Criminal Justice Planning only to transfer back to the

Energy Commission when he came to his senses in 1992."

(Laughter.)

MR. HUTCHISON: That's a very true statement.

CHAIRMAN WEISENMILLER: "Then served as Budget Officer and Financial Services Branch Manager."

"Whereas Mark again left the Energy Commission for a promotion as child protection services in 2005, but again quickly realized he wanted to come home to the Energy Commission.

"Whereas he returned and worked as assistant deputy director for the efficiency Division, Renewable Office Manager, and an Administrator of the American Recovery and Reinvestment Act, ARRA Program."

"Whereas Mark served as Deputy Director for the Administrative Services Division from 2010 through 2016 providing service and contributions to every program and office of the organization demonstrating the importance of the often unappreciated Admin Unit to an organization's success."

"Whereas Mark not only had to respond to the needs of an entire Energy Commission, but also the Natural Resources Agency, Department of Finance,

and Legislative Analyst Office developing long-term strong relationships on every front. And those relationships were key to successfully navigating the Annual Budget Cycle and securing the ongoing funding and resources for many important energy programs.

"Whereas Mark Hutchison demonstrated exceptional work habits, a pleasant demeanor and displayed a positive attitude towards his job and others,

"Whereas as Mark Hutchison has been a fit, and well-dressed staffer, but also the only Energy Commission CFO to testify at the Legislature wearing one brown shoe and one black shoe."

(Laughter.)

MR. HUTCHISON: That is a true story. It was a long time ago though.

CHAIRMAN WEISENMILLER: And,

"Whereas Mark Hutchison will be missed on the soccer field, the golf course, and as barbecue master at the Energy Commission's annual picnic, now therefore be it resolved that the management and staff of the California Energy Commission recognize and commend Mark Hutchison for his leadership, dedication and significant contributions to all

areas of the California Energy Commission."

Again, thanks for your public service.

(Applause.)

MR. HUTCHISON: Thank you very much.

I think Drew did some serious digging there. I can't believe you came up with the brown shoe-black shoe.

I did want to say a few things. Thank you so much for the recognition and kind words.

As a Deputy I'm only as effective as the staff that work for me, so I must give due credit to the hardworking, dedicated and caring staff in Administrative Services. I think a couple of them are here in the audience.

It is the people in this organization that I'll miss the most and have made my retirement decision, so difficult. But I do have some comfort in my pending retirement knowing that I'm leaving the organization on a positive note.

The CEC is recognized to as a go-to organization with an excellent reputation for getting things done. This has been exemplified by our success story in our budget hearings and solid working relationships with legislative staff, control agencies, and Administration. And really,

during my time here it hasn't always been this way. And I give a lot of credit to the Commission, our executive leadership, and the dedicated and passionate staff.

Thank you, again.

(Whereupon Photographs are taken)

CHAIRMAN WEISENMILLER: Okay. Again, I'll remind everyone that Item 6 is postponed, the High Desert, and let's go to the Consent Calendar.

COMMISSIONER DOUGLAS: Move the Consent Calendar.

COMMISSIONER SCOTT: Second

CHAIRMAN WEISENMILLER: All those in favor?

(Ayes.)

CHAIRMAN WEISENMILLER: The Consent Calendar passes 4-0.

Let's go on to Item 3.

MS. VACCARO: Chair Weisenmiller, just for the record it passed 4-0, because we have an absent Commissioner. So I just want the record to reflect that Commissioner Hochschild is not present at today's meeting.

CHAIRMAN WEISENMILLER: That's good. And that will be the case as we go through every other item.

MS. VACCARO: Correct.

CHAIRMAN WEISENMILLER: Okay. So anyway, in Item 2 we have no item, so let's go on to 3. Mission Rock Energy Center Project, staff?

MR. MONASMITH: Good morning Chair, Commissioners. My name is Mike Monasmith, Project Manager for the Energy Commission's review of the Mission Rock Energy Center Application for Certification or AFC.

On December 30, 2015, Mission Rock Energy Center, LLC, filed an Application for Certification to construct and operate an electrical generating facility in Ventura County, California, approximately 2 miles west of Santa Paula, near State Highway 126.

The Mission Rock Energy Center, or Mission Rock, would be a natural gas-fired, nominal 255-megawatt electrical generating facility. It would also provide 100 MWhr of battery storage and synchronous condenser clutch technology to provide ancillary and grid reliability services.

Energy Commission staff completed its initial data adequacy review of the AFC in accordance with the California Code of Regulations Title 20, Section 1704, and Division 2, Chapter 5,

Appendix B for the 12-month permitting process.

On January 29th, 2016 the Energy Commission adopted the Executive Director's recommendation that the information contained in the AFC was deficient in 11 areas: namely air quality, biological resources, cultural resources, project review, reliability, soils, traffic and transportation, transmission design, visual resources, waste management and water resources.

On April 29, 2016 the Applicant submitted supplemental information reviewed by staff. And the Executive Director provided a revised recommendation that the AFC, with the supplement, now contains all the information required by California Code of Regulations Title 20, Section 1704, including Appendix B for the 12-month AFC process.

Therefore staff proposes that you accept the Executive Director's recommendation, finding the application with supplemental information complete or data adequate and name a committee to oversee this Mission Rock proceeding.

Thank you.

CHAIRMAN WEISENMILLER: Thank you.

Applicant?

MR. WHEATLAND: Good morning, I'm Gregg

Wheatland. And with me this morning is Mitch Weinberg.

MR. WEINBERG: Good morning.

MR. WHEATLAND: We'd like to thank the staff for its recommendation. We're here to answer any questions that you may have.

Mitch, do you want to?

MR. WEINBERG: No, not at this time. Any questions we'd be happy to answer.

CHAIRMAN WEISENMILLER: Great. Thanks.

Okay. Any public comment either in the room or on the phone?

(No audible response.)

Okay. Then let's transition to Commissioner discussion. Actually, at this point let me say that as we move forward in terms of let's first deal with the staff possible approval.

Commissioner Douglas?

COMMISSIONER DOUGLAS: So I'll move to find the project data adequate.

COMMISSIONER SCOTT: Second.

CHAIRMAN WEISENMILLER: All those in favor?

(Ayes.)

Again, that passed 4-0.

Then let's go on to possible approval of a

proposed order appointing a Siting Committee. Commissioner Douglas will be the lead on this and Commissioner Scott will be the second member.

COMMISSIONER MCALLISTER: I'll move that item, move Item 3b, yeah before anybody has second thoughts.

COMMISSIONER SCOTT: Second.

CHAIRMAN WEISENMILLER: All those in favor?

(Ayes.)

CHAIRMAN WEISENMILLER: That also passes 4-0.

So let's go on to Item 4 -- thank you.

MR. WEINBERG: Thank you very much.

CHAIRMAN WEISENMILLER: Let's go on to Item 4, Sonoran Energy Project. Staff?

MS. DYAS: Good morning, Commissioners. My name is Mary Dyas and I'm the Compliance Project Manager for the Sonoran Energy Project, licensed as the Blythe Energy Project Phase II.

With me this morning is Elena Miller, Senior Staff Attorney.

The proposed Sonoran Energy Project was originally licensed in 2005 as a 520 megawatt (MW) combined-cycle facility to be located within the City of Blythe.

On February 4, 2016 AltaGas filed a petition requesting an extension of the start of construction deadline for 18 months, from December 14, 2016 to June 14, 2018 for the proposed Sonoran Energy Project. The Petitioner seeks to ensure adequate time for staff's review of the August 2015 Sonoran Energy Project Petition to Amend and the Energy Commission's consideration of the proposed modifications and name changed as well as time for Altagas to secure an engineering, procurement and construction contract, and subsequently comply with pre-construction conditions of certification.

It should be noted at this time, that this is the fourth request to extend the start of construction deadline for this project, but the first under the current owner.

Staff reviewed the petition to extend and concludes that good cause exists to extend the start of construction deadline for the Sonoran Energy Project an additional 18 months. In staff's view, the three factors previously articulated by the Energy Commission as important to determining whether good cause exists have been met.

These factors are: Has the project owner been diligent in seeking to begin construction, and

seeking the extension; two, whether factors beyond the project owner's control had prevented success; and three, a comparison of the amount of time and resources that would have been spent in processing any amendments to the license if the extension is granted versus the amount of time and resources that would be spent in processing a new Application for Certification if the extension were denied.

On February 17th, 2016 a Notice of Receipt for the petition to extend the start of construction was mailed to the post-certification mail list, docketed and posted to the Web.

On March 22nd, 2016 staff's analysis and recommendation to approve the petition was mailed to the post-certification mail list, docketed and posted to the Web. No comments have been received to date.

At this time staff recommends approval of the February 2016 petition to extend the start of construction deadline for 18 months, from December 14th, 2016 to June 14th, 2018.

Thank you.

CHAIRMAN WEISENMILLER: Applicant?

MS. CASTANOS: Good morning, Kristen Castanos, I'm Counsel for the Applicant.

I just want to thank staff for the recommendation and the Commission for their time today. And we look forward to working with staff on our pending PTA.

CHAIRMAN WEISENMILLER: Great.

Any public comment from anyone in the room?

(No audible response.)

Any public comment from anyone on the phone?

(No audible response.)

Okay. Then let's transition the conversation to the Commissioners.

Commissioner Douglas?

COMMISSIONER DOUGLAS: So briefly, Commissioners, as Mary has said there's an existing license for this power plant that is set to expire. There's a pending proceeding where a Committee is reviewing a proposed amendment to this project, and the work on the review of the amendment will not be completed before the expiration of this license. So by taking this action today the Commission would be extending the life of the license to provide time for the work on the amendment proceeding to be completed.

I obviously strongly recommend this and

I'll move approval of this item.

COMMISSIONER MCALLISTER: I'll second.

CHAIRMAN WEISENMILLER: Okay. All those in favor?

(Ayes.)

CHAIRMAN WEISENMILLER: This item also passes 4-0. Thank you.

Let's go on to Item Number 5, which is Russell City Energy Center.

MR. FONG: Good morning, Mr. Chairman and Commissioners, my name is Jonathan Fong, Compliance Project Manager on behalf of the Energy Commission for the Russell City Energy Center.

Russell city is a 600 megawatt natural gas-fired, combined cycle facility that has been in commercial operation since August 8th, 2013. The facility is located in the City of Hayward in Alameda County, California.

Today I am presenting a Petition to Amend submitted by Calpine Corporation to amend the final decision modifying Visual Resources Condition of Certification VIS-10, which requires the project owner to implement an offsite Visual Enhancement Plan.

Joining me today from the Energy Commission

is Staff Attorney Kevin Bell; Eric Knight, Office Manager of the Community Resources Unit as well.

Representing the Applicant today is Barbara McBride, Calpine Director of Environmental Services; Jill Van Dalen, Calpine Senior Counsel and Gregg Wheatland, outside counsel representing Calpine.

Condition of Certification VIS-10 was originally required as a means to compensate for Russell City's impact in the surrounding visual landscape, by reducing the visibility of its existing high color-contrasting offsite buildings that line the edge of the Hayward Regional Shoreline in proximity to the project.

Specifically, VIS-10 required a planting of a row of evergreen trees along the west edge of an Industrial Corridor, starting at a warehouse complex to the west of Russell City, and continuing south along the parking lot of an adjacent business park.

The requested modifications would amend the Visual Enhancement Plan due to individual landowner restrictions and property constraints, which has prevented the Project Owner from completing the required landscaping.

The petition proposes another option to reduce the contrast of the exterior walls. Rather

than planting trees to screen the exterior view, the Project Owner has proposed painting selected exterior walls in muted colors, and a planting of a row of trees in an alternate location on a City of Hayward-owned parcel.

In the summer of 2014, Energy Commission Visual Resources staff approved a color palette for the offsite building paintings. The Project Owner was able to obtain consent from the property owners and approved the landscape and approved the painting.

The City of Hayward approved the Landscaping Plan in October of 2014 and the project installed the landscaping in early 2015.

Energy Commission staff has conducted field observations of the painting and landscaping, and determined that the implemented offsite visual mitigation has been successfully implemented, and is consistent with the intent of VIS-10.

Therefore, Energy Commission staff finds that the petition is consistent with Title 20 1769(a) of the California Code of Regulations. And recommends approval of the Revised Condition of Certification VIS-10 based upon staff's findings and subject to the Revised Condition of Certification.

Thank you, and staff is available to answer any questions.

CHAIRMAN WEISENMILLER: Great, thank you.

Applicant?

MR. WHEATLAND: Good morning again, Gregg Wheatland and with me is Barbara McBride. We thank the staff for its recommendation and we're available to answer any questions.

CHAIRMAN WEISENMILLER: Great. Is there anyone who wants to comment on this item in the room, or on the line?

(No audible response.)

Then let's transition over to the Commissioner. Commissioner Douglas?

COMMISSIONER DOUGLAS: Briefly, Commissioners.

As was noted in the presentation I think the mitigation in question here, particularly painting the buildings definitely made sense. And so I recommend this item to approval. I'll move approval of this item.

COMMISSIONER SCOTT: Second.

CHAIRMAN WEISENMILLER: All those in favor?

(Ayes.)

CHAIRMAN WEISENMILLER: This item also

passes 4-0. Thank you.

Let's go on to Number 7, Power Source Disclosure Program Implementation Rulemaking. Staff?

MR. CHOU: Good morning, Commissioners. I'm Kevin Chou from the Renewable Energy Division and I'm joined by Staff Attorney Lisa DeCarlo.

We're here today to ask for your approval for the proposed express terms for the proposed express terms for the Power Source Disclosure Program.

These regulations are being modified primarily, so they are in line with significant statutory changes brought by Assembly Bill 162, and a minor change brought about by Assembly Bill 2227. To an extent these changes are already being practice voluntarily by retail suppliers.

We proposed a few other light, but substantive changes, based on stakeholder comments and clarifications identified by staff.

We will start with a brief background of the power source regulations. Senate Bill 1305 required all electricity providers to disclose quarterly an annual fuel mix information to retail customers in the form of a Power Content Label. The

Power Content Label identifies the fuel mix and technology type of a retail supplier's source of power and including net system power as representation of California's power mix.

Assembly Bill 162 was signed into law in October of 2009. It removed the Net System Power Disclosure requirement and replaced it with Total California System Electricity. It added the definition of "unspecified sources of power," therefore requiring retail suppliers to disclose all fuel mixes leading the creation of this category to facilitate that.

Reporting requirements were changed from a quarter to annual basis. It also called for the alignment of renewable energy definitions with those identified by California's Renewables Portfolio Standard Program.

Lastly, in 2012 Assembly Bill 2227 removed a statutory reporting due date requirement thus giving the Energy Commission discretion of setting a reporting due date.

This rulemaking formally began on December 18th, 2015 with the publication of the Notice of Proposed Action or NOPA in OAL's Notice Register. That same date, the Energy Commission posted the

NOPA, as well as the Express Terms in the Regulations and the Initial Statement of Reasons.

This began the 45-day comment period on the proposed Express Terms to the Regulations.

The Commission has one year from the date of the NOPA Publication, so until December of this year, to complete the Regulations and submit the final rulemaking package to the Office of Administrative Law for approval.

The NOPA included the notice for the staff workshop and the adoption hearing, which is today's hearing, how to submit comments and where to find comments related to the rulemaking. The NOPA also outlines the scope of the proposed Express Terms, the Initial Statement of Reasons laid out the rationale for the proposed changes to Regulations.

After posting the proposed language for comment, we held staff workshop on January 6th and received ten sets of written comments by the end of the 45-day comment period, and in addition to oral comments made at the workshop.

Staff revised language of the Express Terms in response to comments and released that version for a 15-day comment period on March 29th. We received an additional four sets of comments from

that revised language.

In the interest of time, rather than calling out each and every specific change made to the Regulations we've summarized all of the proposed major substantive changes to the Regulations. These proposals are based on stakeholder input from 45 and 15-day comments along with clarifications made by staff.

First, an annual Consumer Power Content Label that identifies the actual power mix of a load serving entity in California, as a whole for the previous calendar year, denominated as specific purchases or unspecified purchases as required by Assembly Bill 162.

Second, the mandatory reporting and disclosure of a power mix for all load-serving entities as required by AB 162.

Third, the alignment of Renewable Energy definitions with California's RPS definitions as required by AB 162.

Fourth, the elimination of requirements to make quarterly disclosures and fuel mix projections as required by AB 162.

Fifth, the due date for annual reports will be moved from March 1st to June 1st as provided by

AB 2227.

Sixth, the inclusion of new guidance pertaining to the reporting of pump storage hydroelectricity. This guidance was proposed to help prevent the distortion of reported hydroelectric purchases.

Seventh, the substitution of extensive written guidance for the formatting of a Power Content Label with a mandatory template. The use of a mandatory template for Power Content Labels was proposed to mitigate the variances of labels that are produced by utilities.

Eighth, the extension of Public LSE's exemptions from auditing requirements for LSEs, which offer multiple electric service products. This proposal would allow public utilities to sell the test to one electric service product and provide audits for additional products. This would address concerns that the current existing audit exemption has been restrictive and would prevent some public agencies with limited resources from offering customers optional electric service products.

Ninth, the elimination of the requirement for the reporting of Energy Commission certificates. This is a defunct program and with the current

WREGIS tracking and verification system in place it would serve no additional purpose.

And tenth finally, non-substantive, terminological, grammatical, and clarifying changes.

Lastly, with respect to outstanding issues staff is aware of issues related to the reporting of renewable energy credits. We want to make clear that the determination was made to keep the scope of this rulemaking on codifying AB 162.

As noted in our January workshop staff will initiate a new pre-rulemaking proceeding shortly after this current rulemaking concludes. We expect to address the issues of unbundled RECs, the retirement of RECs, and potentially the reporting of greenhouse gas emissions from pending legislation.

With that being said this concludes my presentation. We're open to questions.

CHAIRMAN WEISENMILLER: Great, let's take public comment. PG&E?

MR. BENGTSSON: Apologies, when you sit in the back it's a long walk to the front.

Good morning, Commissioners. Thanks very much for the opportunity to speak. As you know, PG&E previously comments on the revisions to Power Source Disclosure Program Regulations to express

concern that the critical issue of how unbundled RECs should or should not be treated with regard to the Power Content Label was not addressed.

But as you've heard, staff had some justification for doing that and they have a plan for addressing this issue with another proceeding later this year. We strongly support that plan. We look forward to participating in that proceeding and we congratulate them on getting the other work done that they needed to get done.

So we'll be back to talk about this some more. And we thank staff for their recognition that this issue is one that needs to be addressed.

CHAIRMAN WEISENMILLER: Great, thank you.

Anyone else either in the room or on the line with public comments?

(No audible response.)

Okay. Then let's transition to the dais. We've already noted Commissioner Hochschild is actually on duty in Mexico today, so I think in terms of looking at this, I think it makes sense to move forward on implementing the statute. And so do you folks have any questions or comments?

COMMISSIONER DOUGLAS: No. I'll move this item.

COMMISSIONER MCALLISTER: I'll second.

CHAIRMAN WEISENMILLER: All those in favor?

(Ayes.)

CHAIRMAN WEISENMILLER: This passes 4-0. Thank you.

Let's go on to Item 8, ConSol Home Energy Efficiency Rating Services, Inc. Staff?

MS. CHAN: Good morning Chair and Commissioners. I'm Suzie Chan of the Assistant Building and Compliance Office in the Efficiency Division.

I'm here to recommend that the Energy Commission approve ConSol Home Energy Efficiency Rating Services or CHEERS as a Home Energy Rating System or HERS provider for field verification and diagnostic testing for residential prescriptive Heating, Ventilation and Air Conditioning or HVAC alterations in compliance with the 2013 Building Energy Efficiency Standards.

Applicants seeking approval to be a HERS Provider must demonstrate the ability to create and maintain a registry and database, train and certify HERS Raters, create a Quality Assurance Program and be able to conduct quality assurance checks on HERS Raters work.

Staff has reviewed CHEERS HERS Provider Application, their training materials, and tested the functional and technical elements of the CHEERS HERS Data Registry and determined that all components of the application meets the requirements of the 2013 Standards in the HERS Regulations.

Based on this information, staff requests the Energy Commission confirms the Executive Director's finding and accept his recommendations to certify CHEERS as a HERS Provider for Field Verification and Diagnostic Testing for residential prescriptive HVAC alterations and a CHEERS HERS Data Registry as a residential data registry, as required by the 2013 Standards.

Thank you. I'm available for any questions and staff with CHEERS is also available to answer any questions.

CHAIRMAN WEISENMILLER: Okay. I was going to say CHEERS, do you want to come up? Please.

MR. LENZMEIER: Good morning, Commissioners. My name is Jay Lenzmeier and I am the Executive Director for CHEERS.

First, I would like to thank you for today's consideration for the CHEERS approval as a HERS Provider for alterations to existing buildings

under the 2013 Standards. As a HERS Provider CHEERS understands it's important role and will work very closely with the California Energy Commission to ensure that the goals to the 2013 Standards are met.

Secondly, I would also like to inform the Commissioner that CHEERS has recently submitted its application to become a provider for NSHP. We are anticipating an approval in a short period of time. Once that approval is obtained CHEERS will then be operating as full service provider for the 2013 Standards.

In addition, CHEERS has already begun work to update its registry to accommodate the 2016 Code.

Lastly, I just want to extend my sincere thanks to the CEC staff for the hard work and patience we have received in getting to this point. I believe we have developed a very good working relationship with them and I look forward to working with them in the near future as we begin operations as a full service provider.

That's all I have. Thank you very much.

CHAIRMAN WEISENMILLER: Thank you.

Any other comments in the room or on the phone?

(No audible response.)

Then let's transition to the Commission, Commissioners?

Mr. McAllister?

COMMISSIONER MCALLISTER: Yeah, so very supportive of this. As we heard, this step is a relatively limited step for HVAC change outs for 2013 Standards, which obviously 2016's effective date is now here on January of 2017.

This is a great step for CHEERS. I want to sort of thank CHEERS itself and staff Suzie, Rashid, and the rest of the staff who worked really hard to make this happen and get this on this business meeting.

And hopeful, happy to hear that this is one step, and you've got everything in the pipeline to sort of continue on and get full coverage, which is great. You know, we need that coverage in the marketplace to ensure quality, both for existing and new. And I'm really happy to see this on the agenda and in strong support.

So I'll move Item 8.

COMMISSIONER DOUGLAS: Second.

CHAIRMAN WEISENMILLER: All those in favor?

(Ayes.)

CHAIRMAN WEISENMILLER: This item also

passes 4-0.

Let's go on to Item Number 9, California Employment Training Panel. Staff?

MR. NICHOLS: I must have hit it, I apologize.

Good morning, Commissioners. I'm David Nichols with the Zero Emissions Vehicle Infrastructure Office. I am here today seeking your approval for the proposed resolution for Agreement 600-15-012 with the California Employment Training Panel for a new interagency agreement for $2 million.

This new agreement continues our ongoing alternative renewable fuels and vehicle technology program funding in workforce development.

Staff is pleased to report that the Employment Training Panel has worked with the Energy Commission since June of 2010 to help organizations deliver on training in alternative fuels and advanced transportation technologies throughout our state. To date, they have delivered training to over 15,100 participants, serving over 60 companies in 10 municipalities.

The Employment Training Panel has

established training mechanisms with organizations on the leading edge of California's clean fuels industry. Along with multiple clean fuel companies they work with the California community colleges, multiple public transit agencies delivering funding for training to our current and future workforce, and statewide efforts in first responder training.

I trust you will approve this resolution and I am happy to answer any questions you may have today. Thank you.

CHAIRMAN WEISENMILLER: Thank you.

Any comments from anyone in the room or on the phone?

(No audible response.)

Okay. Then again, let's transition over to the Commissioners.

MR. DAVIS: (Indiscernible)

CHAIRMAN WEISENMILLER: Go ahead, come on up please. Identify yourself.

MR. DAVIS: Good morning. My name is Peter Davis. I'm the Statewide Director for Advanced Transportation and Renewable Energy for the California Community College Sector.

Hello again. I just want to tell you that this is a really effective program. We've been able

to reach out and help industry make that transition and maintain their effort. Thank you very much, I really support it.

CHAIRMAN WEISENMILLER: Thank you. Any other questions or comments?

(No audible response.)

Okay, then Commissioner Scott?

COMMISSIONER SCOTT: Right. Well, I want to underscore how much I appreciate the good partnership that the Energy Commission has with the California Employment Training Panel.

This is an important program, so I strongly recommend your support. It's terrific that we have a little bit of funding dollars that we can lend towards to really helping people to jump into the alternative and renewable fuel and vehicle worlds, so that the technologies that we help support, people know how to work on those and how to get involved in that part of the market in the industry.

So if you all don't have questions I will move approval of Item 9.

COMMISSIONER DOUGLAS: I'll just briefly say I'm also strongly supportive of this partnership. And, you know, it's been years really that we've now been working the Employment Training

Panel and we've seen great results.

We all know that part of scale up and part of really getting to scale in our -- whether it's clean fuels and renewable energy technologies -- is ensuring that there is the well-trained workforce that's there and ready to step in. And back in the early days of even administering Recovery Act money, began to develop the partnerships with some workforce training agencies and partners. And it's really great to see that it has been sustained and really strengthened over time.

I appreciate, Commissioner Scott, your leadership in ensuring that this partnership continues. And with that, it was a long second.

CHAIRMAN WEISENMILLER: Fine. Okay. All those in favor?

(Ayes.)

CHAIRMAN WEISENMILLER: This passes 4-0.

MR. DAVIS: Thank you

CHAIRMAN WEISENMILLER: Thank you.

Let's go on to Item Number 10, Benicia Unified School District. Staff?

MR. MCLEOD: Good morning, Commissioners. I'm Barry McLeod with the Energy Efficiency Division's Local Assistance in Financing Office.

I am here today seeking approval for Agreement 007-15-ECG, an Energy Conservation Assistance Act education subaccount zero percent loan to the Benicia Unified School District in the amount of $3 million.

The Benicia Unified School District has requested this loan to help fund a photovoltaic parking canopy mounted system at the Benicia High School.

The Project cost is $3,070,246. The District will be financing the balance of the project with their existing funds.

The 721.35 DC kW system is expected to reduce the annual purchased electricity by 1,009,210 kWh, thus saving the District approximately $200,630 in the first year. When completed, the greenhouse gas emissions will be reduced by approximately 348 tons per year.

Based on the loan amount the simple payback period is 14.95 years. Staff has determined that this loan request complies with all program requirements and I'm here to seek your approval.

If you have any questions I'll be happy to answer them. Thank you.

CHAIRMAN WEISENMILLER: And thank you.

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

(No audible response.)

Then let's go to Commissioner discussion; Commissioner McAllister?

COMMISSIONER MCALLISTER: Yeah, it's great to see Benicia taking advantage of this. And the price of this system, they just keep getting lower, 3 bucks a watt, a little more than 3 bucks a watt is quite good.

And again, this is a Prop 39 funds going to ECCA-Ed, so this is exactly what is supposed to be happening with Prop 39 funds, saving schools money and lowering the carbon content of our energy.

So I'm in strong support and I'll go ahead and move Item 10.

COMMISSIONER SCOTT: Second.

CHAIRMAN WEISENMILLER: All those in favor?

(Ayes.)

CHAIRMAN WEISENMILLER: This passes 4-0 again. Thank you.

MR. MCLEOD: Thank you.

CHAIRMAN WEISENMILLER: Let's go on to Number 11, which is City of Baldwin Park. Staff?

MR. EHYAI: Thank you, Chairman. Good

morning, Commissioners. My name is Amir Ehyai with the Efficiency Division.

The City of Baldwin Park is requesting an ECCA loan in the amount of $2,988,974 to fund a comprehensive set of energy efficiency measures and install solar PV panels at city-owned facilities.

The efficiency measures include lighting system upgrades across several facilities, replacement of aging HVAC equipment at the community center, upgrades to the building automation control system at the City Hall, installation of high-efficiency distribution transformers at three sites, and a variable frequency drive for the swimming pool, circulation pump motor at the community center.

The city will also us the funding to install solar PV panels with a total CEC rating of 517 kW AC. The PV panels will be installed on rooftops and atop carport structures at three sites.

These measures are estimated to reduce AL (phonetic) energy use by approximately 1.7 million kWh of electricity and 7,800 therms of natural gas saving the city $175,822 in utility costs.

I'm happy to answer any questions.

CHAIRMAN WEISENMILLER: Thank you.

Is there any comments by anyone in the room or on the phone?

(No audible response.)

Okay. Then let's transition to the Commissioners. Commissioner McAllister?

COMMISSIONER MCALLISTER: I always like to see the combination of energy efficiency and renewables. Sort of that shows some integrated planning on behalf of the school, on the part of the school.

You know, again this ECCA Project, I won't go into how wonderful the program is, because I do that every time. I think we're all clear on how great it is for the recipients and just good public policy, so very happy to support this project.

So I'll move Item 11.

COMMISSIONER SCOTT: Second.

CHAIRMAN WEISENMILLER: All those in favor?

(Ayes.)

CHAIRMAN WEISENMILLER: This item passes 4-0. Thank you.

MR. EHYAI: Thank you.

CHAIRMAN WEISENMILLER: Let's go on to the last ECCA item, which Oxnard Harbor District.

MS. FISHER: Good morning, Commissioners.

My name is Anne Fisher with the Local Assistance and Financing Office.

The Oxnard Harbor District has applied for an ECCA loan to retrofit high mast lighting at the Port of Hueneme. The Port of Hueneme is a member of the Ports Energy Collaborative, which was initiated by the Energy Commission to engage with various ports throughout California.

The Ports Energy Collaborative coordinates on the development and implementation of on-the-ground projects that will contribute towards achieving both the State's and Ports' energy policies. The loan-funded project will help the Port of Hueneme meet its energy efficiency goals.

The District plans to retrofit 205 high mast fixtures currently with 1,000 watt high pressure sodium lamps to 283 watt LED lamps. The lamps targeted in the project are located in hardscape areas and are used when cargo is being moved into or out of an operating area. Select lights are also used for security in the evening.

The project is estimated to save 162,060 kWh of electricity and $41,723 in energy costs annually. The total project cost is $501,724, and will be fully funded by the Energy Commission loan

at 1 percent interest rate.

The simple payback on the loan amount is 12 years. The loan is funded by the State Energy Conservation Assistance Account. Thank you.

CHAIRMAN WEISENMILLER: Thank you.

Is there any comments from anyone in the room or on the line on this item?

(No audible response.)

Okay. Then again let's transition to the Commissioners. Commissioner McAllister?

COMMISSIONER MCALLISTER: Yeah, absolutely. So again, a ECCA project. You know, each project's a little bit different, but the criterion show that they're really great. I appreciate staff's work to add all these projects, and make sure that what comes to the Commission is solid.

And just in this case, there's a lot of synergy with the various other efforts that are going on at the ports. And I know the other Commissioners have been involved with the ports, specifically particularly Commissioner Scott.

So I want to just point out that it's great when we see integrated planning and bringing different resources to bear on efforts globally at a particular site, because it really does make it more

cost effective. And just a better project overall, so in strong support.

CHAIRMAN WEISENMILLER: Janea, anything you want to say?

COMMISSIONER SCOTT: Yes, I also just wanted to note the synergy used between the programs. No, no, it's perfect. I think as Anne mentioned in her presentation, the Energy Commission has been working with the Ports Energy Collaborative for about a year now. We modeled after our successful work with the Department of Defense where we really just want to work closely with key partners around the state to identify energy-related projects that we can work on together that are of mutual interest.

And since I had that chance I wanted to let you guys know that there's five ports that we're working with right now starting down south, the Port of San Diego, Port of Long Beach, Port of L.A., delighted to have this project today with the Port of Hueneme and the Port of Oakland. And also the Port of Stockton has recently started participating as well, so we're really excited about that.

We have also looked at transportation-related projects. We are looking at the lighting like this project

today. And we're looking at resiliency with micro-grids and with renewable energy generation, so I just wanted to also kind of highlight how excited I am about the partnership that we have with our ports.

COMMISSIONER MCALLISTER: Was that a second?

COMMISSIONER SCOTT: That was -- did you move it?

COMMISSIONER MCALLISTER: I moved it.

COMMISSIONER SCOTT: Yep, okay. Second.

CHAIRMAN WEISENMILLER: All those in favor?

(Ayes.)

CHAIRMAN WEISENMILLER: This item passes 4-0. Thank you.

Let's go on. We're now going to transition more to EPIC funding projects. Let's go on to Number 13, ADM Associates, Inc. Staff?

MR. THAMILSERAN: Good morning, Commissioners. My name is Sabaratnam Thamilseran, in short Seran. I am representing the Demand Analysis Office in the Energy Assessment Division. And I am here to request your approval of our Agreement 300-15-011 with ADM Associates, Inc. through the proposed resolution.

The contract is for just under $13 million

to conduct a survey of the energy-using characteristics of buildings in the commercial sector. These buildings include offices, hospitals, schools, grocery stores, to name a few.

California Code of Regulations Title 20 (indiscernible) to complete a survey of this sector. Furthermore, a recommendation in the 2015 Integrated Energy Policy Report calls for further disaggregation of the Demand Forecast to be more useful to resource planners.

This Commercial End-Use Survey, known as CEUS, will focus on collecting and developing various commercial building end-use consumption characteristics to address forecasting needs at disaggregation levels.

Consequently, goals set for the survey include: help target technological advancement and breakthroughs that help lead California to meet its energy goals and system reliability needs; significantly increase the sample size for onsite surveys to support disaggregation of energy demand forecasts. This is achieved by collecting, developing and calculating the following characteristics within each building type and forecasting zones in California.

Percentage of fuel -- electricity versus natural gas used within specific end uses; these percentages are considered as fuel saturations. Commercial floor space estimates, annual whole-building energy use estimates, profiles of how energy is used in the building on an hourly basis, estimates of the most recent building population possibly by oversampling more recent building stock.

Of this total contract budget just under $8 million is funded by Electric Program Investment Program Charge funds to survey commercial building electricity use in Investor Owned Utility territories.

It is anticipated that the Energy Resource Program Account will find commercial building surveys in the natural gas utility and large Public Owned Utility service territories.

I am here to seek approval of our contract with ADM Associates and to answer any questions that you may have.

CHAIRMAN WEISENMILLER: Thank you.

First, is there any comment from anyone in the room or online on this item?

(No audible response.)

Okay. So again let's transition over to

the Commissioner discussion.

First, I was going to say this is really a key contract. Back when I first came in the '70s we basically had a process where the utilities were doing census for us in building and residential space. And if you think about our commercial building model it goes through and says well how many warehouses are there, how many hospitals? The energy use is quite different between the two. And the location, San Francisco versus say Sacramento again makes a big difference.

And whether it was the 1975 or a 2015 building again makes a huge difference. And so it's been a number of years since we've updated this census of building types, characteristics, you know are they using what type of lighting -- anyways.

So it's just sort of scary that we're cranking out the forecast saying, "Well, okay. How much of the underlying data are real?" And so this is an effort that I know Commissioner McAllister and I have both been sort of sweating to get out the door. You know, get the data back in and feed that into the modeling and it's really going to help, particularly, as we go to more and more disaggregated.

And ultimately I guess the punch line is at some point we have to do a similar exercise on residential. And if you think through the various variations, in some respects it's not necessarily as scary as hospitals or warehouses or whatever. But still the fleet of buildings in residential has a lot of characteristics that we really need to go back and go to this touchstone to make sure that underlying data for our forecast is solid.

COMMISSIONER MCALLISTER: I completely 100 percent agree with that. And also just more broadly even than just the forecast, I mean SB 350 says we have to double energy efficiency in our existing buildings. We really need to know what our existing building stock looks like. And as the Chair said, the data that we have from the previous CEUS is now quite dated. And so we need to know what our baseline is.

And really, I think I'm very optimistic. This is a foundational piece of work that justifies this kind of investment, absolutely. But also we're in a very different situation technologically than we were when the last CEUS was done. So we have smart meters, I mean smart meters have all been installed since then, and a whole bevy of other

technologies that we can bring to bear to compliment and augment the kind of data that we'll receive here from this effort.

And so I'm very optimistic that we're going to be able to kind of quarterback all of these things with the end goals in mind. This is a big important piece of it, but there are a number of other pieces. And we'll have data coming in from the schools. We'll have data coming in from benchmarking from commercial buildings. We'll have data that's much more broadly generated than even this large effort.

So I'm very optimistic that we'll be able not only to make better policy decisions and understand the marketplace that we're dealing with through policy, but also make sure that the marketplace can utilize this data and other as appropriate. So that they can make better decisions out there in the world: building owners, cities, and anybody else working on buildings.

So this is a really great effort that I'm obviously in very strong support of, so I'll move Item 13.

COMMISSIONER DOUGLAS: Second.

CHAIRMAN WEISENMILLER: All those in favor?

(Ayes.)

CHAIRMAN WEISENMILLER: So this passes 4-0.

COMMISSIONER MCALLISTER: Actually, can I make one other comment?

So the one other comment I guess I'm hopeful that the POUs will also be able to avail themselves of this effort at some point. I mean, we do need to get -- I think this funding comes from the IOUs for the most part, I think entirely. And so it's important to cover the whole state. And that gets us three-quarters of the way there, but we really need to -- hopefully we can leverage this effort to get statewide coverage, because that would be very important from a policy perspective, and also just from a completeness perspective.

CHAIRMAN WEISENMILLER: Yeah, so we should tee that up pretty quickly, because it's going to be better if it's the same survey instruments. Everything is sort of consistent as opposed to we do this, SMUD does something totally different, LADWP does something even more different.

COMMISSIONER MCALLISTER: So yeah, I think we kind of need to help stimulate those conversations with the POUs, because there need to be contributions to get that to happen. So anyway,

we probably should tee that up sooner rather than later as you said.

CHAIRMAN WEISENMILLER: Exactly, yeah. I was going to say before Tim leaves today, grab him.

COMMISSIONER MCALLISTER: And that's all I'm -- there he is.

CHAIRMAN WEISENMILLER: Yeah, there he is. Okay.

COMMISSIONER MCALLISTER: Anybody from DWP, we'll just get it done, huh?

CHAIRMAN WEISENMILLER: Yeah, in the abundance of caution let's do a redo Item 12, which you were moving clearly. It was a little bit ambiguous I guess on whether or not it was properly moved, so just if you could -- 12, yeah.

COMMISSIONER MCALLISTER: Oh, okay. So I'll move Item 12.

COMMISSIONER SCOTT: And I'll second Item 12.

CHAIRMAN WEISENMILLER: All those in favor?

(Ayes.)

CHAIRMAN WEISENMILLER: So Item 12, I think we were clean, but now we're certainly clean.

COMMISSIONER MCALLISTER: Yeah, okay. Great.

CHAIRMAN WEISENMILLER: Okay. Now we're coming up to 14 and Commissioner McAllister, do you want to do your disclosures at this stage?

COMMISSIONER MCALLISTER: Yeah, why don't I just take advantage to do them all at once? It's the next few items, between 14 and 20, there are a few so I'll just read them out.

So I'm disclosing that my wife is a professor at UC Davis King Hall School of Law there. King Hall is not involved in any of these that I will list, so I'm just disclosing my affiliation through my wife with UC Davis.

Item 14, Item 15a.ii, Item 15b, Item 16c, Item 16e, Item 16g, and Item 20a. And UC Davis is involved in one or another capacity as a prime or a sub on all of those that I just listed.

CHAIRMAN WEISENMILLER: Okay. So, let's go on to Item 14. Staff, please?

MS. O'HAGAN: Good morning Chair Weisenmiller and Commissioners. My name is Molly O'Hagan, I'm with the Energy Deployment Market Facilitation Office. I'm seeking Commission approval today for a $648,716 contract with Energetics, Incorporated.

Energetics, Incorporated will work with

Energy Commission staff, and in consultation with stakeholders and subject matter experts, to develop a technical assessment of the key needs and gaps within the industrial, agricultural and water or IAW sector, within bioenergy research, deployment, demonstration and development.

This contract was the result of a competitive solicitation that received four applications. Today we're recommending funding for the top-ranked proposal team.

The contract's intent is to identify and analyze the challenges and gaps in research needed to achieve the critical needs and expectations California's utilities, ratepayers, and customers in the IAW in the bioenergy sectors.

The team will solicit stakeholder input throughout the formation of this gaps analysis, which will be performed over the course of two years and will draw upon the team's expertise in bioenergy, biomass, agricultural engineering, building energy efficiency and micro-grids.

Energetic, Incorporated will level the proposal team's expertise while using the existing body of IAW and bioenergy work through literature reviews, interviews, and other forms of stakeholder

input including workshops.

This contract's goals and objectives are to synthesize the input of stakeholders and experts to analyze performance and update perspectives on the emerging technologies, path to market strategies, innovative financing mechanisms, customer requirements for electricity and water, and other factors relevant to the development and adoption of efficient technologies in the IAW and bioenergy sectors.

Energetics, Incorporated subcontractors include the University of California Davis Center for Water Energy Efficiency, and the University of California, California Institute for Food and Agriculture Research.

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

CHAIRMAN WEISENMILLER: Okay. Thank you.

Obviously all these EPIC items went through the Committee as the lead on the research side, so these have all been -- there's a lot of them -- but all pretty thoroughly vetted. They certainly fit into the overall Investment Plan and also have gone through a pretty stringent competitive process.

So anyway, I think this one -- again these are areas where we need to have pretty focused research, so again that gaps analysis, I think, will help us make sure that the programs are on track.

COMMISSIONER MCALLISTER: I would just point out that these sectors that we're talking about: ag, industrial, water, are places where typically there haven't been -- you know, industrial we haven't really had an all-hands-on deck kind of approach. Water we're getting into more and more with the extension of the drought. And ag, obviously a big effort that everybody's talking about that we need to get our heads around better. So this is definitely, as you say, gap filling.

So I'll move Item 14.

COMMISSIONER DOUGLAS: Second.

CHAIRMAN WEISENMILLER: All those in favor?

(Ayes.)

CHAIRMAN WEISENMILLER: This passes 4-0. Thank you.

Let's go on to Item 15, Reducing Costs for Communities and Businesses Through Integrated Demand-Side Management and Zero Net Energy Demonstrations. Staff?

MR. DAVIS: Good morning, Commissioners.

I'm Dustin Davis with the Energy Efficiency Research Office.

So the next three research projects resulted from a competitive solicitation titled "Reducing Costs for Communities and Businesses Through Integrated Demand-Side Management and Zero Net Energy Demonstrations."

This solicitation sought proposals to fund integrated technologies, strategies, and demonstrations that emphasize innovative energy efficiency packages to achieve whole building performance improvements that help overcome technical and economic market barriers that prevent achievement of state policy goals.

The first item I'm requesting approval for includes the CEQA findings for the proposed project with the California Home Building Foundation for nearly $4.82 million.

Based on lead agency City of Chino's Final Environmental Impact Report, and supporting documentation, the work under the proposed project presents no new significant or substantially more severe environmental impacts beyond those already considered.

This project will demonstrate large-scale

community deployment of new Zero Net Energy single-family homes in Chino, California -- up to 50 homes. The homes will be constructed with various emerging energy saving features addressing HVAC, water heating, lighting, and plug loads with the goal of developing the most cost-effective approach. The energy measures proposed are anticipated to exceed 2016 Title 24 Energy Efficiency Standards by 40 percent.

It'll serve as a proof of concept and provide important analysis on energy efficiency, appliances, indoor air quality, interactions between occupants and technologies, and behavior and control strategies to the home building industry. The project will also provide a better understanding of consumer and home builder costs related to various packages of efficiency features. And ultimately provide a roadmap for constructing Zero Net Energy homes.

The project includes match funding of about $2.6 million and has several partners including KB Homes, ConSol, and has the support of Southern California Edison.

The second project I'm requesting approval for is with the Electric Power Research Institute

for almost $3.9 million. This project will develop and demonstrate an innovative approach to scale multifamily energy efficiency retrofits for disadvantaged communities.

Disadvantaged low-income multifamily communities are one of the most important retrofit targets that on a need basis yet are underserved when it comes to providing them cost-effective pathways to Zero Net Energy. This project will look to provide a cost-effective pathway for the sector to help ensure all ratepayers are able to achieve California's energy goals.

The project will use a combination of customer education and recruitment to create voluntary pools of engaged customers for energy efficiency retrofits. The project work includes developing and installing packages of emerging energy efficiency measures addressing building envelope, HVAC, water heating, lighting and plug loads. These retrofit packages are anticipated to reduce energy use by 30 to 40 percent.

The project will validate the performance of these systems at two demo sites in Fresno and in Ontario, California, which includes unique integration issues at each site utilizing varied

packages of technologies and approaches.

The project includes about $800,000 in match funds. Project partners are BIRAenergy, UC Davis, ITron, LINC Housing, and Southern California Edison.

The third project I'm requesting approval for is with Prospect Silicon Valley for almost $3 million. This project will demonstrate a Zero Net Energy retrofit in a low-income multiunit mixed-use building located in San Francisco using energy efficiency upgrade packages that can be replicable under the challenging conditions typical of small, medium and commercial and residential building sectors, which includes lack of capital, and split incentives.

The project will identify cost-effective window, lighting, HVAC and plug load management systems that can be rapidly deployed, provide high-performance at accessible costs, and require minimal adjustment for occupants or facility managers. The energy measures proposed are anticipated to reduce energy use by 50 percent.

Identifying the most cost-effective and validating their performance, of these integrated approaches, will allow California to build more

efficient, healthier buildings and significantly improve our existing building stock cutting energy costs, energy bills for consumers and businesses.

The project includes $800,000 in match funds and project partners are National Renewable Energy Laboratory, Chinatown Community Development Center and has the support of Pacific Gas & Electric.

With that I'll conclude and gladly answer any questions. Thanks for your consideration.

CHAIRMAN WEISENMILLER: Thank you.

Are there any comments from anyone in the room or on the line?

(No audible response.)

Okay. And again, let's just sort of transition to the Commissioners.

Obviously, the Governor's had a goal of Zero Net Energy. We're sort of marching towards that goal. One of the things that certainly EPIC or an earlier PIER have always done is provide a basis through research, to allow us to develop strong and affective Building and Appliance Standards. And so this is starting to lay the groundwork for that action on Zero Net Energy.

It also has some great features in terms of

trying to -- because again we're trying to make sure the research will benefit all Californians. And so to have an element that really focuses on disadvantaged communities, so again they can be part of the transition to this new technology.

Obviously as you go from residential to multifamily the issues become more complicated just in terms of building size, roof, etcetera. So anyway and particularly retrofit is a really, really tough area that is going to be very important to do research in this area.

So again this is a very good project. I think it is going to provide some information that's going to be very valuable to the Commission in the long term.

Commissioner McAllister?

COMMISSIONER MCALLISTER: Yeah. Great, I just can't be too effusive about this project. I want to congratulate really the EPIC staff. Let's see, the behavioral stuff, I'm a big fan, so I see David Hungerford there. And I feel just this package of three really represents sort of the best of what we're doing here at the Commission.

You know we have, as the Chair said, goals for new construction that are really upon us in the

single-family space. And part of an intentional policy regime like the one we have in California that's relatively well funded. I mean I work with a lot of other states. And they're just incredibly -- they're astonished at what we have, our pipeline, and what we do and the level of resources that we dedicate to these necessary things. And I wish they had that. They learn a lot from us too.

But the R&D on the front end of sort of developing what's possible, developing a vision of what's possible is just critical for them going out in the marketplace and making it happen. And we have a great set of partners across the board on these three projects. They're really wonderful from National Labs to our POU utilities. And lots of really great technical partners that can really make things happen, so I'm very happy about that.

New and existing both: the doubling of efficiency, the retrofit environment, obviously very challenging, but it's doable. We have all these technologies. And like these projects show, the second one in particular, the integrating different measures into a package and getting that done efficiently and effectively and financially viably, is really that's the path that we have to develop to

make it happen.

So really, just I want to commend the applicants themselves and also the staff for really shepherding this thing and getting a really nice set of projects and a package for us to consider today. The small commercial, the disadvantaged communities, the single-family residential, the multifamily and the small commercial, those are all areas of our economy that we just -- of our build environment that we have to focus on. And this is a great step in that direction. So thanks everybody for that.

And so I'll move Item 15.

COMMISSIONER SCOTT: Second.

CHAIRMAN WEISENMILLER: Okay, all those in favor?

(Ayes.)

CHAIRMAN WEISENMILLER: So Item 15 passes 4-0. Great, thank you.

MR. DAVIS: Thank you.

CHAIRMAN WEISENMILLER: Let's go on Item 16, Reduce the Environmental and Public Health Impacts of Electricity Generation and Make the Electricity System Less Vulnerable to Climate Impacts, Phase II. Please.

MS. ZIAJA: Thank you, Chair and good

morning, Commissioners. My name is Sonya Zaija, from the Research and Development Division.

I'll be presenting 11 proposed grant agreements from an EPIC solicitation released last October. The solicitation addressed several areas covering indoor air quality, public health, terrestrial and aquatic habitats, climate impacts and the water-energy nexus. All this relates to California's electricity system.

The proposed studies I will be presenting today amount to approximately $3 million with a geographic scope covering the entire state. Staff recommends funding all 11 projects. And I will discuss each of these briefly.

The first of these is a study to protect burrowing owls. There's significant uncertainty around the effectiveness of ways to mitigate impacts from renewable energy projects on the species.

Using satellite tracking equipment, the Zoological Society of San Diego aims to give permitting agencies a scientific basis for prescribing mitigation actions, and could help reduce obstacles to permitting renewable energy generation in California.

The project brings over $600,000 in matched

funding from the grantee and wildlife agency collaborators.

The second study is a feasibility assessment of combined groundwater storage and pumped hydropower. Antelope Valley Water Storage, LLC, operating at an existing groundwater bank in Southern California, would determine the value of energy storage and optimize associated Grid support benefits from peak-hour pumped storage and aquifer-pumped hydro applications.

The study will also identify other water banking sites in the State, where application of these technologies are likely to be successful.

Next is a foundational study to support effective mitigation strategies for habitat management at solar power sites. Photovoltaic panels and heliostats affect the temperature and moisture beneath them, which is likely to affect the growth and survival of plants and insects at solar energy facilities.

The University of California Davis, working with UC Santa Cruz, will examine these effects on rare plants, invasive species, and species interactions involving monarch butterflies.

To improve indoor air quality, the

University of California at Irvine will evaluate the utility of advanced low-cost solid state sensors for monitoring real time NOx exhaust emissions. The sensor connects to the engine control system that adjusts the engine's operation to optimize reduction in emissions.

This work will reduce engine emissions from small distributed generation systems that operate micro turbines or reciprocating engines. Future applications include emissions reductions from cars and trucks, electricity production, agriculture and other sources that utilize internal combustion engines.

A study to facilitate renewable development, taking climate change effects into account, will combine fuel data with high resolution global climate model simulations over the next 10-to-20 years to help identify, which regions in California exhibit vulnerability or new opportunity for wind energy development.

The results from this study by Laurence Berkley National Laboratory can reduce investment risk and improve system reliability for both new wind development and repowering decisions.

Another climate-related study, by

Altostratus, Inc., will focus on California summer conditions in urban areas where intra-urban climate variability is significant. These include the San Francisco Bay Area, Los Angeles Basin, San Diego Region and Fresno Bakersfield. The study would develop fine resolution characterization of intra-urban climate variability and transfer functions to enhance the probabilistic and short-term climate forecast for the electricity system.

A study with the University of California Davis campus will utilize computational chemistry to optimize a naturally occurring organic molecule that could capture carbon dioxide from power plant stacks and other large emitters. This research initiative is unique, because for the first time it will be using computational chemistry as an exploratory tool for designing and characterizing chemical carbon capturing compounds rather than as an experimental approach.

The University of California Berkeley will provide a systematic approach to assess and optimize climate change adaptation strategies for California's electricity system. The study will use robust special science methodologies to provide critical data on how adaptation is operationalized.

It will also quantify risk minimization practices and evaluate resilience of energy in electricity sector against extreme events.

Another study on overcoming barriers to adaptation will take a regional approach in California. The Thalossa Research and Consulting, LLC will develop and implement the framework for assessing the long-distance climate change impacts and cross-sector linkages that can disrupt electricity services and cause cascading affect on critical infrastructure in the Los Angeles region. The results will be integrated into local climate vulnerability assessments and adaptation planning.

Ghoulem Research proposes to help California attain its energy goals by analyzing histories of selected energy technology changes with respect to their implications for future transitions towards a low-carbon electricity sector.

Insights from the historical analysis will be used to develop a flexible household-level air conditioning demand simulation model that aluminates behavioral factors in the context of electricity sector transitions.

And finally, University of California at Merced has proposed research to build, design and

optimize a non-thermal plasma reactor that will convert biogas to synthesis gas, a mixture of carbon monoxide and hydrogen. The power-to-gas research offers reduction in greenhouse gas emissions and is a method of energy storage in the form of hydrogen gas.

I'm happy to answer any questions you might have. Thank you.

CHAIRMAN WEISENMILLER: Thank you.

First, is there anyone in the room or on the line who has comments on any of these contracts?

(No audible response.)

All right, let's transition over to the Commissioners.

Again, I've sort of gone through these generally. I think all of us understand how important adaptation is in sort of trying to understand -- I mean I think the truism, certainly Andrew and I both remember from Holdren, is all energy production results in environmental consequences. And the question is how do you mitigate that? Particularly given climate change issues now and that gets you into adaptation, so this is a pretty broad spectrum, covers a lot of ground.

And I think this will also be useful for us as we develop scenarios and do planning. And hopefully, will tie back to the adaptation studies we're doing. So again, I think these are pretty good projects.

COMMISSIONER DOUGLAS: And I'm also very excited about this work and really pleased to see the leadership and initiative in climate adaptation in particular.

So I'll move approval of this item.

COMMISSIONER MCALLISTER: I'll second.

CHAIRMAN WEISENMILLER: Everyone in favor?

(Ayes.)

CHAIRMAN WEISENMILLER: This passes 4-0. Thank you.

COMMISSIONER MCALLISTER: I need recuse on the basis (indiscernible)

CHAIRMAN WEISENMILLER: So we are now going to Item 17, Advancing Solutions that Allow Customers to Manage their Energy Demand with Dave Hungerford. And I think what we're going to do is let's --

COMMISSIONER MCALLISTER: (Indiscernible)

CHAIRMAN WEISENMILLER: Okay, fine. So let's deal with d and g first.

MS. VACCARO: I think Chair Weisenmiller --

CHAIRMAN WEISENMILLER: Why don't we do everything but d and g?

COMMISSIONER MCALLISTER: But d and g?

CHAIRMAN WEISENMILLER: Yeah. And then you stepped out, okay?

COMMISSIONER MCALLISTER: Okay, great. That's good.

MS. VACCARO: So I think first, just for the record, we need the disclosure. We don't have any disclosure on this item at all and we're going to have a recusal as well, with respect to this.

COMMISSIONER MCALLISTER: Yeah, so on Item 17 I am going to recuse myself from 17d and g. The Center for Sustainable Energy is a sub on d and a prime on g. And they are my former employer from when I was appointed to the Commission, so I'm going to recues from those two items.

CHAIRMAN WEISENMILLER: So staff cover everything, but those two items. We'll vote on those and then we'll cover those two items.

MR. HUNGERFORD: Okay.

Good morning Commissioners. My name is David Hungerford of the Energy Efficiency Research Office in the Energy Research and Development Division.

I'm here to request your approval for funding 10 projects selected under Grant Funding Opportunity 15-311, "Advancing Solutions That Allow Customers To Manage Their Energy Demand." The total amount requested is $30,144,179.

The purpose of the solicitation is to conduct research that can help overcome barriers to expanding the opportunities for customers to manage their loads and distributed energy resources, including distributed generation and energy storage, in ways that align cost incentives with system operational needs, facilitate integration of high renewable generation resource penetration and minimize greenhouse gas emissions.

Grant awards are proposed in four areas: supply-side resources, demand-side resources, development of a communications signal structure that reflects system conditions, and evaluation of the value proposition for nonresidential building lighting retrofit controls.

The fist project for your consideration is with Universal Devices, Incorporated for about $3.2 million to develop and pilot test a system for allowing large numbers of small loads to participate in existing California ISO markets for supply

resources and ancillary services.

The second project is with the Electric Power Research Institute, for just under $4 million to develop demand response strategies in new homes equipped with solar PV and onsite storage, as well as communicating thermostats and other individually controllable devices. And with that project, we have just under $1.3 million in match.

The next grant is with BMW of North America, LLC for just under $4 million to utilize real-time vehicle information, predictive travel behavior, Grid location data, and energy market price data to manage a vehicle's charging, which would allow them to provideGgrid services while meeting the customer's range and cost requirements. BMW will be recruiting between 250 and 500 BMW electric vehicle owners to participate.

We'll skip d.

We also ask your approval of a grant to the University of California Berkeley, on behalf of the California Institute for Energy and the Environment, for a $4 million grant to improve small and large commercial customer participation and demand response.

This project would develop an energy

management system that communicates with, and manages, hardware and service offerings from a wide range of different manufacturers and providers, overcoming the proprietary communications system problem that currently exists in demand response.

Item f, with your approval the next grant with the University of California Los Angeles for just over $2 million, will assess and demonstrate alternative demand response strategies to measure and compare how different incentives, timing and messaging approaches affect participation rates and response levels among different subgroups of residential customers.

Item h, we also ask your approval for a grant with Ohmconnect, Incorporated for $4 million to develop and conduct experiments evaluating methods of encouraging consumer participation in demand response programs.

The project will develop, test and refine information, communication and automation techniques that maximize customer engagement in demand response events. And low-cost telemetry solutions that will facilitate participation in California independent system operator markets.

The next project is with the Electric Power

Research Institute for just under $500,000 to design, develop, test and implement a system to create and communicate transactive signals that can be used to facilitate demand response provided by California utility customers and other recipients.

The other applicants funded under this solicitation will use this signal as one of the demand response scenarios they evaluate the developing optimization strategies. And they will spend the first year of their project helping EPRI develop this signal to meet all of their needs and communications requirements.

The final project for which we are requesting approval today is with Laurence Berkeley National Laboratory, for $500,000 to identify, quantify, and evaluate the incremental costs and benefits of implementing demand response lighting control systems in existing nonresidential buildings.

We respectfully request your approval of the projects. And I will be happy to answer any questions you may have.

CHAIRMAN WEISENMILLER: Thank you, thank you. So first, is there anyone with comments on these contracts, either in the room or on the line?

(No audible response.)

Okay. So let's transition over to the Commissioners.

You know, again I think as we're now dealing with variable or intermittent supply sources, wind and solar, obviously one of the things that would help is if we had some degree of demand responsiveness on the demand side.

And having said that, you know one of the things that was pretty clear a couple of years ago when we had a combined ISO/PUC event was that when say PJM came in, and you went, "Oh my God, they have lots of demand response that's really tied into the market and we have like nothing going," you know it's sort of whatever. And so we've been trying to really move forward in that area.

I remember again, the Commissioners of the PUC were shocked when there was a settlement trying move forward. And it would take longer than World War II to get any substantial progress there. So again, trying to convert megawards (phonetic) to megawatts, in this area is sort of a challenge. So again I think that what we're trying to do here is develop more of a framework, try different things, and again move forward.

Certainly I think those of you who were on the dais with me at Aliso Canyon, when LADWP announced they were going to really ramp maybe at another 30 megawatts of demand response for this summer -- and we're talking about we need thousands of megawatts for this summer, so 30 was not awe inspiring. And then Edison wasn't quite prepared to match that challenge. So anyway, it's definitely time to move forward in this space.

COMMISSIONER MCALLISTER: Yeah, so I totally agree. There's so much potential. We love the loading order. Demand response is right there at the top of loading order. And yeah, things are getting a little more complicated with all the diversity technologies that we have on the supply side and the demand side. And they all have to work together now in a way that I really think we didn't appreciate decades ago.

But the last two full IEPRs, in 2013 and 2015, particularly 2013, actually I've really focused on demand response. And I think the 2013 IEPR I think produced some good direction and sort of lit a fire under the various stakeholders on demand response, to kind of get this conversation going.

The ISO and the PUC have been doing a lot on this front, trying to get all the details worked out in their respective contexts. And there's been a lot of progress.

There is so much potential for demand response to integrate with traditional supply and new renewable supply. And we just have to be able to harvest it. So we're making progress, I would say, on slowly but surely on the market front both at the retail level and at the wholesale level.

But we have to have low cost -- there's a lot of talk here about transactive processes and tariffs and that's great. There is some incredible innovation happening in the marketplace and we want to support that. And again, this goes back to what I said on a previous side. It's great to see a nice package that looks at the various sides of this and puts some resources on it this so we can figure it out for the California context and make it happen.

And this R&D is just so, so important for making that happen. And I'm a big believer in demand response and sort of allowing consumers to make the choices, customers to make the choices that they want, but it's got to be performance-based. It's got to have real results. It can't just be

"Okay, we're going to pay just in case." We're going to actually get some results here, some capacity and some energy savings.

And so this suite, barring the two that we're not talking about now, is really a nice package. So I'm in very strong support.

So and thanks to the Chair for your leadership on all this, because it's truly important.

COMMISSIONER SCOTT: I'd just like to add that, that I also really appreciate the cross-cutting nature of these projects. And I'm especially excited to see the BMW of North America, because as we get additional plug-in electric vehicles on California's roads, we will certainly want to know how they fit into the demand-response as well. And so to have that, be thinking about that, now have that as a component I think is really exciting.

When David was briefing me on this I really just was like, "I want to know what the results are right now." So they're good projects.

I will move item -- Do you want me to list them all out, the ones that we did?

COMMISSIONER MCALLISTER: Yeah, probably

so.

COMMISSIONER SCOTT: Items 17a, b, c, e, f, h, i, j, for approval.

COMMISSIONER MCALLISTER: I'll second.

CHAIRMAN WEISENMILLER: All those in favor?

(Ayes.)

CHAIRMAN WEISENMILLER: So this item passes 4-0. Thank you.

Now, hold on a second and we will transition over to d and g.

(Commissioner McAllister recused himself.)

CHAIRMAN WEISENMILLER: Okay. Go ahead

MR. HUNGERFORD: All right, Item d. This grant is with Alternative Energy Systems Consulting, Incorporated for just under $4 million to install and test an innovative software solution in 100 residences located in San Diego Gas & Electric service area.

This software will communicate with a variety of building systems such as energy storage, pool pumps, thermostats, EV chargers and solar PV systems to optimize performance while meeting customer needs.

The intent of the project is to model and measure the potential costs and benefits to both the

customer and the Grid, the managing loads, and behind the meter generation resources.

Item g is with the Center for Sustainable Energy for just under $4 million to develop co-optimization strategies for customers with distributed energy resources, to consider customers while system needs under existing and future retail and wholesale tariff structures, and under transitive energy pricing signals as well.

And there's just under $2 million in match on that, on Item g as well.

CHAIRMAN WEISENMILLER: Okay. Thank you.

Does anyone in the room or on the line have comments on these two items?

(No audible response.)

Okay, so again transition over to the Commissioners. I would note that in terms of progresses, as Commissioner McAllister indicated is a real focus of this major IEPR. We came out of that with sort of a joint work plan with the PUC and Cal ISO and us.

And one of the things obviously is the PUC is in the process of rolling out power use rates. And so our hope is that we have more pricing signals, differentiation of pricing signals across

the day, that that will certainly affect people's responsiveness in this area.

COMMISSIONER DOUGLAS: So I'll move approval.

COMMISSIONER SCOTT: Second.

CHAIRMAN WEISENMILLER: Okay, all those in favor?

(Ayes.)

CHAIRMAN WEISENMILLER: So this has 3-0, with one Commissioner recusing himself and one Commissioner absent today. So thank you.

So let's go on to 18 as Commissioner McAllister comes back.

(Commissioner McAllister returns from recusal of Item 17d and g.)

The EPIC Challenge: Accelerating the Deployment of Advanced Energy Communities. Staff, please?

MS. VACCARO: We have another disclosure and recusal with respect to 18.

COMMISSIONER MCALLISTER: Oh, yes. Right, okay so I'll do the recusal actually.

So on 18f, with the City of Berkeley, the Center for Sustainable Energy is a sub on that contract, so I'm recusing myself from that vote,

they're my former employer just prior to coming to the Commission. So I'll recuse from 18f.

CHAIRMAN WEISENMILLER: And so staff cover everything but f. We'll vote on that and then go to f.

MR. NG: Okay, very well. Good morning Chair Weisenmiller and Commissioners. My name is Anthony Ng, with the Energy Deployment and Market Fuels Station Office.

Today, I'm seeking Commission approval for 12 projects selected from solicitation GFO-15-312, titled "The EPIC Challenge: Accelerating Deployment of Advanced Energy Communities."

This solicitation was released on November 24th, 2015 for the purpose of challenging project teams to develop innovative and replicable approaches for accelerating deployment of advanced energy communities.

Projects were required to incorporate three main objectives into their proposals. The first was a regulatory analysis working with a local government partner to examine and streamline the planning and permitting requirements related to these developments.

The second was a real world conceptual

design of an advanced energy community necessary to bring the plan to a shovel-ready state.

And the third was an examination of financial and business models to make these developments more competitive from both the developer side and the consumer side.

Funding for this solicitation was divided into four groups. Groups one and two, were for projects located in Northern and Southern California respectively. Groups three and four, were also for projects divided between Northern and Southern California, but located in a disadvantaged community, as defined by the CalEnviroScreen.

There were 28 proposals received for this solicitation, 12 of which are being considered today, for a total for approximately $17.3 million.

I also like to note that funding for this solicitation is divided between two phases. All the agreements under consideration today are part of Phase I, which focuses on the planning and design of an advanced energy community. Phase II, which staff expects to start in 2018, will provide funding on the build-out of an advanced energy community, where only recipients of Phase I funding will be allowed to compete for Phase II funding.

So starting with Item a, Item a is with ZipPower, LLC for just under $1.5 million. This project will work with the City of San Leandro to develop and pilot a platform the optimizes distributed energy resources planning by integrating and automating data required to target optimal sites across city areas, and streamline preapproval of the permitting and interconnection at those sites.

Item b is with Charge Bliss, Inc. for $1.5 million. This project will work with the City of Carson to design a replicable advanced energy community that aims to integrate over three megawatts of photovoltaic generation with an electric vehicle charging network of at least 100 charging stations and stationary battery storage.

Item c is with Clean Coalition for $1.3 million. This project will work with multiple cities within San Mateo County to incentivize and accelerate the planning, approval, and deployment of an advanced energy community including the planning and designing of at least one solar emergency micro-grid that will supply power to a critical facility in case of a Grid outage.

This project seeks to leverage the deployment of an advanced energy community to reduce

25 megawatts of peak energy usage throughout San Mateo County, which will strengthen the Grid and minimize a need for a new energy infrastructure.

Item d is with the University of California Berkley for $1.5 million. This project will work with the City of Oakland to develop and design a block scale retrofit design to combine deep energy efficiency retrofit strategies, integrated distributed energy generation and storage systems, with water conservation and capture systems.

The development of this plan will also inform innovative ways to further plan permit and advance similar advanced energy community developments.

Item e is with the University of California Los Angeles for just under $1.5 million. This project will work with the City of Claremont to fund the creation of an advanced energy community designed by leveraging meter-level energy demand data to conduct analysis on the effectiveness of energy efficiency programs and provide recommendations to guide local strategies.

This project will also establish a community infrastructure to facilitate community engagement to reach homeowners and renters in

disadvantaged communities, supporting the accelerated adoption of advanced energy communities.

Item g is with Groundwork San Diego-Chollas Creak for $1.5 million. This project will work with the City of San Diego to fund a plan to transform the disadvantaged community of Encanto in Southeast San Diego into a community of near Zero Net Energy buildings. This project will include close engagement of the local community as well as the San Diego Unified School District to increase familiarity and buy-in with clean energy technologies and deployments.

Item h is with the Local Government Commission for $1.5 million. This project will work with the City of Fresno to pilot a new process that allows local governments and developers to identify, prioritize and secure different financing mechanisms that will support a suite of projects that will comprise an advanced energy community.

This new process will be using Fresno's Blackstone quarter as well as its Downtown area as a pilot location.

Item i is with the Zero Net Energy Alliance, for just under $1.5 million. This project will work with the City of Lancaster to develop

innovative policy frameworks and business models that overcome adoption barriers for Zero Net Energy in residential communities, and communities-distributed energy resources.

This project will provide tools and training for other local governments in the region as well as project developers, home builders, utilities and other stakeholders on how to use these technical and financial business models to advance Zero Net Energy and distributed energy resources.

Item j is with Biodico, Inc. for $1.1 million. This project will work with multiple jurisdictions in the Central Valley to develop and pilot a project management application tool, which will analyze how farms and agricultural communities can streamline permitting, financing, interconnection of multiple distributed energy resources in agricultural setting.

Along with multiple regional partners, this will be developed in collaboration with the San Joaquin Valley Air Pollution Control District and the United States Navy.

Item k is with the Zero Net Energy Alliance for just $1.5 million. This project will work with the City of Richmond to facilitate development to a

comprehensive and integrated policy planning and financing framework, which the City of Richmond will then look to adopt into their regulatory landscape.

As part of this project, the ZNE Alliance along with the City of Richmond will also facilitate the planning and permitting of approximately 20 abandoned homes within the city to be converted into affordable ZNE homes.

Item 1 is with the University of California Irvine, for $1.5 million. This project will work with the City of Huntington Beach to develop tools that will plan and design the deployment of integrated advanced energy technologies to convert the disadvantaged community of Oak Park into an advanced energy community, while providing a template for converting other communities in the region into similar developments.

Staff is seeking approval for these items and I can answer any questions you may have at this time.

CHAIRMAN WEISENMILLER: Thank you.

Well, first let's start with if there's anyone in the room who has comments, please come up. Identify yourself with the court reporter.

MR. LEWIS: My name Craig Lewis. I'm the

Executive Director of the Clean Coalition. And the Clean Coalition is a non-profit entity with a long history of collaborating with the California Energy Commission, mostly on policy and technology innovation that enable advanced energy communities.

We are also positioned here to receive one of the rewards. And I wanted to just I am very pleased and I am thankful for the leadership of the California Energy Commission, and for the long-standing and continuing collaboration that we have. Thank you.

CHAIRMAN WEISENMILLER: Thank you. Thanks for being here.

Please come up next?

MR. SCHEUER: Hello, I'm Kif Scheurer. I'm the Climate Change Director at the Local Government Commission. We're also one of the proposed awardees.

I want to thank the Commission for this program as a whole, for the opportunity to really advance the energy profile of our communities through innovative projects. We feel that a project in Fresno is going to provide a game-changing resource, an opportunity to bring together policy and financing, and offer a replicable model for the

state as a whole. So thank and we encourage you to support it.

CHAIRMAN WEISENMILLER: Thank you. I was going to ask people to give their card to the court reporter when you finish speaking.

Come up, please come up.

MR. SCHROSKE: Hello, Commissioners. My name is Richard Schorske. I'm the Executive Director of the ZNE Alliance and the Electric Vehicle Alliance.

I just wanted to thank the Commission for providing a very comprehensive, and I think a wonderfully integrative proposal framework. I just wanted also note that our projects in the City of Lancaster and in Richmond are both located within CCAs. And both entities have the intention to coordinate with regard to developing novel terra structures that can integrate EVs into the Grid. And we hope to deploy those across multiple CCAs throughout California.

Another interesting element of the project that you may be interested in is that both -- as you may know the City of Lancaster, which has a very aggressive renewables goal -- 100 percent renewable by 2020 -- and they're more than half way there, is

also the site of the largest electric bus deployment in the State. Soon to be about 80 electric buses, each with batteries of 325 kWh to 550 kWh per bus, which creates a lot of good news and bad news for the Grid. And they are looking for a lot of stationary storage to mitigate demand chargers.

And we hope to work with the utility, with Southern California Edison, as well as Lancaster Choice Energy, to see what we can do about demand charges in that context. And also develop a VGI approach that could help to bring some two-way energy flow into the grid from that substantial resource.

And we anticipate that in Richmond medium-duty trucks serving the Port may also be part of that opportunity. So in the commercial medium-duty sector and heavy-duty sector we see the VGI is coming really soon -- not tomorrow, but this year. So thank you very much.

CHAIRMAN WEISENMILLER: Okay. Thank you. Thanks for being here.

Please come up?

MR. NAHAS: Good day, Commissioners. Tony Nahas from the Energy and Resources Group at UC Berkley, we are responsible for --

MS. VACCARO: Excuse me. I'm going to interrupt just really quickly.

MR. NAHAS: Yes.

MS. VACCARO: I want to make sure that this is not with respect to Item f at all?

MR. NAHAS: No.

MS. VACCARO: Okay, good. Go ahead.

MR. NAHAS: It is Item d.

MS. VACCARO: Thank you

MR. NAHAS: All right, the EcoBlock Project.

I wanted to respectfully urge the Commissioners when in future funding for these remarkable projects -- that allow us to integrate a suite of technologies to drive ZNE, energy storage, and the other advances we need to get to a low or even zero carbon society -- one thing that we would want you to think of including in any future research, is the inclusion of social sciences in respect to their impact on communities.

We find this to be absolutely key in our work in research. We're working with the community of approximately 115 individuals living on an average low-to-middle income city block in Oakland. To approach the necessary steps to convert this

neighborhood into an entirely ZNE neighborhood with deep water retrofits requires an enormous amount of buy-in.

And we find that despite the fact that you've been very generous with public monies in funding us, we find that there is an additional amount that really ought to be there to cover the social sciences and to work with these people, because for them it's a life change of enormous proportions.

Thank you very much for your consideration, Commissioners.

CHAIRMAN WEISENMILLER: No, thank you.

Anyone else in the room?

(No audible response.)

Okay. Let's go to anyone on the phone that has comments, again on everything but F.

MR. PONDER: Hello?

CHAIRMAN WEISENMILLER: Please go ahead and identify yourself.

MR. PONDER: Yeah, I'm Bill Ponder. I'm the Vice President of Groundworks San Diego, and a long time resident of the project area.

I'd like to just highlight a few points about the importance of this grant to our community.

This project will transform the defined project area within the City of San Diego's Encanto Community, in the top 25 percent of California Environmental Protection Agency in the 2.0 disadvantaged communities, into a federated ZN and E systems. The need for this community to get to Zero Net Energy is critical to its long-term survival.

We are grateful for the California Energy Commission to recognize that Southeast San Diego can achieve this goal.

I want to stress the importance of the novelty of the community-based bottom up approach to sustainable planning models that strive for the Zero Net Energy and to create an environment for the next generation of residents who will benefit from our work.

Our nonprofit, Groundwork San Diego, is deeply rooted in the Encanto Community. And the CEC funds have been a missing link to a critical work that will be accomplished in the statement of work. So thank you for the timing of this and the magnitude of it.

And I want to turn it over to our Project Manager, so that he can talk about the relationship between Groundwork San Diego and the other agencies

that are going to be involved.

MR. SAKUMAR: Hello. My name is Srinivas Sukumar. I'm a retired corporate executive affiliated with the Jacobs School of Engineering at UC San Diego for the last ten years. I'll be working for Groundwork for the next 23 months as a Project Manager for this inseed (phonetic) project.

We would like to mention our strong appreciation to two institutions. UCSD for its EarthLab Initiative, and the Center for Energy Research to enable the direct transfer of their technical and operational experiences in distributed energy to Encanto's federation of DER and community planning; and SDG&E for its strong support and participation in Phase I.

SDG&E, on May 16th, featured a member of one of Encanto's churches during the unveiling of the EV pilot charging program. We look forward to working with the Commission staff and returning in 2018 with our full proposal for Phase II. Thank you very much.

CHAIRMAN WEISENMILLER: Thank you.

Anyone else?

(No audible response.)

Okay. So let's go to the Commissioners on

this.

Now, I think again, we're looking at sort of transforming society. And so certainly these are exciting. They're sort of step one for stuff, certainly encourage people to do the job. And also look for matching funding obviously for UC Berkley, talk to PG&E, talk to Oakland, talk to a lot of people. Don't just look to us for all time.

So anyway, but having said that we're excited and would like to see these projects be successful, so you can move on to Phase II.

Andrew?

COMMISSIONER MCALLISTER: Yeah, I guess I agree with the comments that have been made about how big a deal the cultural aspect of this is.

I mean we tend to sort of with a de facto engineering approach say, "Okay the building and the property boundaries are kind of where decisions are made." Well actually that's a big part of it, but actually if we're talking about true cultural change, it has to be communities.

And we sit here at the state level and really the local jurisdictions and the local communities and the neighborhoods are where a lot of the decisions in fact, in practice, by people get

made. And so we have Codes and Standards that sort of bound the discussions legally and regulatorily, but in fact, on the ground, people need to be comfortable making these decisions. So we have to produce transaction costs. We have to provide information. We have to do all these foundational things, but at the end of the day, we need to understand how communities make decisions and how individuals within those communities contribute.

And so I agree with the need for social science research. Again not necessarily all funded by the Energy Commission. I think there's a large sort of chain of touches on any given project that happens and it really does start at the local level.

These are big investments. They're not anything -- individuals cannot take them lightly, because of significant funding and significant effort. But it's not just about contracting a contractor to come into your house and change your windows. It's actually much broader and community oriented, so I'm very much -- I think this is a great set of projects. I'm really happy we're doing this theme on the solicitations.

COMMISSIONER SCOTT: I also love these projects, another great briefing I got from Anthony

on them.

And another thought that I just wanted to share with you all is that I really love the concept here; you know the EPIC challenge. And I'm thinking in my head, how do I have an ARFVTP challenge in the transportation space where we have the chance to do a Phase I and help fund the planning. And then have the folks who won the Phase I have an opportunity to compete amongst themselves to do a Phase II where we really help fund the implementation of the -- or one of the funders of the implementation in Phase II.

And I really like that concept a lot and so I just wanted to share that with you all.

COMMISSIONER MCALLISTER: Okay. So I'll move item 18 all except for Item f.

COMMISSIONER SCOTT: Second.

CHAIRMAN WEISENMILLER: Okay, all those in favor.

(Ayes.)

CHAIRMAN WEISENMILLER: So this item passes 4-0.

Now, hold on a second. Commissioner McAllister is recusing himself on f, so he's leaving the room.

(Commissioner McAllister recused himself.)

CHAIRMAN WEISENMILLER: Go ahead.

MR. NG: Good morning again, Commissioners. Item f is with the City of Berkeley for just under $1.5 million to design, plan and facilitate the permitting of a clean energy micro-grid community.

This project will use a downtown parking facility as an anchor facility through which to analyze the impacts of aggregating and sharing clean energy resources across several facilities in a dense urban environment including critical facilities, while working with stakeholders to develop regulatory, technical and financial plans that support similar developments.

Staff is seeking approval of this item and I can answer any questions you may have.

CHAIRMAN WEISENMILLER: Thank you.

So first, is there anyone in the room or on the line that has comments on this item?

(No audible response.)

CHAIRMAN WEISENMILLER: Okay. So basically then back to we'll just transition over to Commissioners.

Again, I think this is exciting. I mean certainly on the micro-grid side, we've been doing a variety of projects. We're obviously trying to

transition from sort of research projects to applications in a variety of fashions, do some degree of standardization, and drive the cost down.

And certainly micro-grids, as the Navy can tell you or the Marines, that if you have a variety of resources at a location and/or demand response is part of it, you need something to tie it together. And it's obviously they've get the much more sophisticated ones on things like making sure you've got reliable power at a military base or campus or among bases.

But again we're trying to get -- we're doing a road map this year on micro-grids, but again this is a critical enabling technology going forward.

COMMISSIONER SCOTT: I will move approval of item 18f.

COMMISSIONER DOUGLAS: Second.

CHAIRMAN WEISENMILLER: Okay, all those in favor?

(Ayes.)

CHAIRMAN WEISENMILLER: This passes 3-0 with one recusal.

(Commissioner McAllister returns from recusal of Item 18f.)

CHAIRMAN WEISENMILLER: Commissioner McAllister is coming back as we go on to Item 19, Developing the Smart Grid of 2020: Clean, Safe and Highly Intelligent. Staff?

MS. SICHON: Good morning Commissioners. My name is Consuelo Sichon with the Energy Research and Development Division.

Staff released a competitive grant solicitation in November, 2015 to fund applied research and development projects that develop technologies, tools or strategies, for the modern distribution system that will help to efficiently and reliably integrate distributed and renewable generation into California's electric Grid.

A total of 29 proposals were received and 23 of those proposals passed administrative screening. The notice of proposed award was released in March, 2016, awarding seven projects for a total of more than $7 million.

Today, staff is seeking approval of the first four projects totaling more than $4 million, which address the solicitation goals by developing Smart Grid operation and management practices, or developing enhancements to existing distribution automation systems.

Item 19a is for a grant with the Electric Power Research Institute, Incorporated that will result in open source communication software that can be incorporated into grid-type solar generation and other distributed energy resources to meet the California Rule 21 requirements for monitoring and managing those resources.

This project will also provide a certification test procedure, by which any distributer energy resource system or device can be checked for compliance with the Smart Energy Profile 2.0 Application Protocol Standard. The recipient will be providing more than 240,000 in match funds.

Item 19b is for a grant with the Siemens Corporation to fund the development of software that allows electrical distribution substations to communicate with each other and with smart meters to perform their functions, and also links grid problems to potential solutions. Distribution operators could use the real time dashboard display to automate routine and non-routine tasks performed at a substation.

This project could result in faster resolution of power outages, thereby making the Grid more resilient. The recipient will be providing

$455,000 in match funds.

Item 19c is for a grant to fund the continued development of cloud-based software called Powernet for homes and businesses.

The SLAC National Accelerator Laboratory received initial funding from the U.S. Department of Energy's ARPA-E Program to prove the concept of this open source and open architecture software platform. This project would build upon that research by conducting a pilot test of Powernet under different simulated market conditions for Navy residential housing in Monterey, California.

This pilot test will help to understand how distribution automation systems can accept aggregated data from residences and use it to more efficiently run the Distribution Grid.

Item 19d is a grant with Onset Incorporated to develop modeling software called the UniGen Smart System, which simulates directly coupling renewable resources with firming resources such as a gas-fired power plant and/or energy storage in near real-time so that the combined output does not deviate from the committed dispatch schedule.

This approach helped solve generation variability problems at a local level to lessen the

amount of variability seen at the transmission scheduling level, which reduces renewable integration costs.

Staff requests approval of these four agreements and I'd be happy to answer questions.

CHAIRMAN WEISENMILLER: Thank you.

Well first, are there any comments from anyone in the room or on the line on these items.

(No audible response.)

Okay. Let's move over to the Commissioners then.

Certainly, one of things that we're seeing as a real transformation area is the distribution system. The PUC under President Picker's leadership, on More Than Smart, has been really trying to move the envelope in this area; and also in coordination with the State of New York, on the REV with the PUC Chair there; and also with Hawaii, which certainly has its own set of issues on the distribution circuits.

So it's a pretty collaborative on some -- I think the notion on this stuff is sort of step-by-step. But certainly trying to outlay some of the groundwork through the research is critical. I think we've gone from pretty dumb systems. I think

the last time, according to Michael, we were looking at some of the polls from President Picker. And there's sort of more intelligence on many of the polls than most people would now realize. And so trying to figure out how that's going to be tied into the security, into the sort of resource acquisition, planning is critical.

And also there's obviously cyber security issues. You know that I know on some -- obviously working with the Navy on some of their stuff, but again it's just people are very nervous about any cloud-based systems. Or again, on the cyber security as we move into the distribution area, making sure that we keep everything safe and reliable will be critical.

So again, these are pretty interesting projects from different perspectives that are trying to move things along.

COMMISSIONER MCALLISTER: Yeah, just a lot of the action these days is at the Distribution Grid. And it sort of goes along with this local jurisdiction issue at some level, but I'd really think the optimization really needs to be localized. And we're moving in that direction in the forecasting and some of the analysis we're doing and

trying to really push things down to a level that technology is enabling and really requiring that planning go.

You know, on Item 11, City of Baldwin Park, we made a loan today, approved that one, and that includes distribution transformers. And that's a place where some of this R&D might come around, some of these projects that actually we're going to help fund some hardware that has some of these smart features included in it.

That Distribution Grid is a huge investment that's going to be renewed as we renovate our distribution systems. And so this is sort of falling out of this could be best practices to help that be managed at the lowest cost and highest effectiveness. So this is really great groundbreaking stuff.

Again, thanks Connie and the staff for working through all of these and making sure we get good projects.

Okay. I will move Item 19.

COMMISSIONER DOUGLAS: Second.

CHAIRMAN WEISENMILLER: All those in favor?

(Ayes.)

CHAIRMAN WEISENMILLER: Item 19 passes 4-0.

Let's go on to Item Number 20, Advancing Water and Energy Efficient Strategies in Technologies in California. Staff?

MR. MORI: Good afternoon, Commissioners. I'm Kevin Mori of the Energy Efficiency Research Office. Today, staff is recommending approval of two agreements for projects totaling more than $3.2 million of EPIC funding.

These agreements are from the solicitation titled, "Advancing Water and Energy Efficient Strategies and Technologies in California."

The purpose of this solicitation is to fund applied research, demonstration and deployment and market facilitation of technologies and strategies that would save both water and energy to address the current California drought.

These agreements are results of the competitive solicitation in which we received 39 proposals for three funding groups. The two agreements presented today are from funding group two, Technology Demonstration and Deployment.

The first project is winery water and energy savings with the University of California Davis for almost $2 million. The wine industry is the second largest consumer of electricity in the

food industry and consumes approximately 400 GhW per year. It also takes about six gallons of water to produce one gallon of wine.

The recipient will demonstrate an efficient reverse-osmosis water treatment technology that treats barrel wash water to potable water standards. And a wine-to-wine heat exchanger to heat and cool white wine for the stabilization process at the existing large-scale wine production facility, Jackson Family Wines, in Sonoma County.

The Vibratory Shear Enhanced Process is a reverse-osmosis membrane system that vibrates the treatment membrane to prevent fouling and nearly eliminates reverse-osmosis reject water. The wine-to-wine heat exchanger improves the stabilization process and removes crystallization from the bottling process.

These technologies have the potential to save 1.4 million gallons of water per year and 246,000 kWh hours per year. Over $400,000 will be provided as match funding. The project is expected to take 45 months and has Jackson Family Wine as a project partner.

The second project is advanced renewable energy storage and recycled water projects with

Victor Valley Wastewater Reclamation Authority for approximately $1.7 million.

The proposed project will address the inability of the existing power generation system to respond to variable onsite electrical loads under existing conditions, rather than fluctuations in the wastewater treatment plant's power demand. For example, when a bank of electric motors turns on or off, can trip off a portion of the facility's wastewater treatment equipment, resulting in effluent exceeding California's strict Title 22 recycled water requirements.

Currently, Victor Valley Wastewater Reclamation Authority must dispose of this water without beneficial use. Under the project, the equipment tripping off due to power fluctuations would be significantly curtailed, enabling reuse and savings of approximately 2.5 million gallons of water per year, and reducing recycling which would therefore increase plant efficiency.

The recipient and project team will demonstrate an advanced pre-commercial flow battery storage and control system at the recipient's existing regional wastewater treatment plant, located in a disadvantaged community outside of

Victorville, in Southern California.

When complete the project will deploy Primus Power's innovative ENERGYPOD flow battery system, managed by a controller system designed by University of California, Riverside.

The stored power will be used to meet peak demand onsite with 100 renewable energy, reducing Grid power demand by approximately 4.2 GWh/yr, which is equivalent to a power cost reduction of approximately $470,000 per year. And reducing greenhouse gas emissions by 1,400 metric tons of CO2 equivalent per year.

Over $900,000 will be provided as match. This project is expected to take four to five months and has University of California Riverside, Primus Power Corporation, Anaergia Services, Apple Valley Construction Company, and Master Electric as project partners.

Staff recommends approval of these projects. I will be happy to answer any questions. And thank you. Xxx 20:41:01

CHAIRMAN WEISENMILLER: Thank you.

We have one public comment on this item in the room. Please come forward.

MR. PANKIV: Good day, I appreciate the

opportunity. Good day, Commissioners. My name is Nazar Pankiv. I am assisting California rivers in and improving, enhancing energy flow. And as for now I also am facilitating your research and study in American rivers, here in this capital region.

My recommendation is to support the State Water Board for adoption of regulations to prevent water misuse, unreasonable use, and by preventing supply shortage loss, and promoting also water cycling and harvesting the rain as a source and promoting these activities in educational institutions.

So we are asking for you to support the emergency regulations and resolutions to be more mindful in the water savings.

CHAIRMAN WEISENMILLER: Okay. Thank you.

No, we have a very good with Felicia Marcus at the Water Board. And certainly we have been part of the Governor's emergency orders on water conservation and have indeed done Water Efficiency Standards in record time. So any way we certainly understand the drought in California and are working with the Water Board on that, so thank you.

MR. PANKIV: Yeah, because we have already commented and observed many unreasonable water usage

in the capital region, so we are kindly suggesting you to support this resolution.

CHAIRMAN WEISENMILLER: Well again we work with the Water Board. They're the primary Authority, and we'll certainly continue to work with them. Thank you.

MR. PANKIV: Thank you.

CHAIRMAN WEISENMILLER: Any other public comment either in the room --

(No audible response.)

CHAIRMAN WEISENMILLER: Okay. So let's go to the dais. Again, I think as we just talked, I mean I notice Peter Glick is now saying -- well, so if you look at this year, the interesting statistics from the Water Board that did a great presentation down at Pendleton to us and the military, was that basically El Nino was sort of a bust. In Northern California, we basically got our reservoirs full. We got rain. It was a good year frankly.

Southern California is basically in the fifth year of the drought. And at the same time when you look, the weather is starting to -- water temperatures are changing from basically El Nino to -- anyway, we're going from presumably a wet year to a dry year. It's a little early to talk about the

severity of the dry year coming forward, but Dr. Glick has noted that this might mean that California's in sort of a permanent state of drought. And so in that condition, then obviously it's very important to look at technologies to basically make sure we're using water more efficiently.

Also, in terms of looking forward to reclamation, again the Governor's done a recent Executive Order moving forward on -- well, I think a lot of the targets have been relaxed -- that we're trying not to have people become complacent on water use and to avoid wasteful uses of water.

All right, I think these measures are a good step again in developing the options that we have for people going forward on how to better use water.

COMMISSIONER MCALLISTER: I'll move Item 20.

COMMISSIONER DOUGLAS: Second.

CHAIRMAN WEISENMILLER: All those in favor?

(Ayes.)

CHAIRMAN WEISENMILLER: So this item passes 4-0 again. Thank you.

So let's go on to the minutes, Item 21.

COMMISSIONER SCOTT: I move approval of the minutes.

COMMISSIONER MCALLISTER: I'll second.

CHAIRMAN WEISENMILLER: All those in favor?

(Ayes.)

CHAIRMAN WEISENMILLER: The minutes are approved 4-0.

Let's go on to Lead Commissioner/Presiding Member Reports.

Commissioner Scott?

COMMISSIONER SCOTT: Okay, great. I have a few things that I wanted to highlight for you all today.

First is last week I went with Mike Gravely, my advisor Rhetta deMesa, to Fort Irwin National Training Center, which was a fantastic trip. You fly into Ontario and then you drive two hours or so on I-15. And they have their own road off of I-15 that goes up to the base.

This is an Army installation. And what they do there is train brigades, which is one of the largest sizes of formations that can move. So it's up to 5,600 people at a time that can train at the center there. So it was really neat.

They had a series of impressive projects

that they shared with us. They have a fantastic concentrated solar facility installed. I'm blanking on exactly how many megawatts. I forgot to write it down to bring to share with you all, but that was really neat. One of the things they're looking for of course, as many of our military installations across California, are is some resiliency.

They're at the end of a power line and it makes a big deal if the power goes out there. It impacts their ability to carry out their training mission as well as to just house the soldiers in the desert comfortably.

So that was fantastic to see. They have a wastewater treatment facility there. They get water from various wells -- wells is maybe not quite right -- but basins around the area. The water is not drinkable. So they have to use reverse osmosis in order to have drinkable water at the base.

But what they're working on is this wastewater treatment facility. It was triple filtration. And it had some really interesting kind of like a dialysis that was the first part. And it had two more components that it has to run through. That's how you get the arsenic, the fluoride, and the silica out of the water, so that it will be

drinkable.

Once that project is up and running, which is supposed be later this summer, almost 100 percent of the water on the base, will then be drinkable. And so they won't have to have this dual water system that they currently have. They'll just be able to use the water.

They have also built the DOD's -- or so they say -- the DOD's first Net Zero Energy hospital. And that was really, really cool to see. That is also under construction, so we got to put on our hard hats and shoes and kind of go walking around this construction site. And so it was kind of neat though, because all the piping and the lighting and all of that is still out so that you can kind of see the different things that they've put in place. This is going to be a state-of-the art facility, Zero Net Energy. It'll be LEED Platinum as well.

They have -- I forget what you call it, but the theory is that if you are in a nice setting, you'll heal better. And so there are these amazing windows that just pull the desert almost right into your hospital room, but it's also fantastic for lighting and those types of things as well.

And so this just was a really interesting facility to see. That's also supposed to be open sometime this summer and the fall.

And then they also have a waste-to-energy project there. It uses pyrolysis, so a lot of heat in order to digest the materials. And this one was also fascinating to see, because when it's up and running at scale, they will be able to put all of the waste at the base into this facility. And so there will be a zero waste facility as well, at the installation.

So it was just really awesome to see the types of projects that they're working on. They were excited to hear that the Energy Commission is interested in working in partnership with them on different projects that are of mutual interest to each other.

So I really enjoyed that visit, and want to say thanks again to Mike Gravely and to Rhetta for setting up such a great trip and also to Fort Irwin for being such wonderful hosts. That was just last week.

Two other things I wanted to update you on. We did a Technology Merit Review on the EV Infrastructure. So we've done a series in the

Transportation team of little mini merit reviews, kind of like the DOE's Annual Merit Review. Of course we can't take over a convention center and look into every project that we have, but we've been highlighting first the biofuels, then the medium-duty, heavy-duty space. And now we've looked at some EV Infrastructure.

So it was fantastic to pull in folks who were thinking about corridors, who were thinking about destinations, who were looking into the multifamily and really kind of do a deep dive and understand what some of the challenges that they've seen, and also what some of the successes they have seen are, so that we can kind of take those lessons learned and raise all boats in the EV Infrastructure space.

Commissioner Carla Peterman joined me for that, so that was fantastic. I appreciate her spending some time with us that day.

And then I wanted to talk to you a little bit about a journey that I took at the end of April, with Mary Nichols and Tyson Eckerle and a few other folks from Air Resources Board Energy Commission and GO-Biz. We drove from Santa Monica to Sacramento in our fuel cell electric vehicles, fueled up at Harris

Ranch, which was terrific. They were wonderful hosts for us.

But it was great. We had four Toyota Mirais and two Hundai Tucsons. And we had a little caravan. Left Santa Monica in a timely way after ribbon cutting the hydrogen station that was there. We stopped at the end of Tejon Pass to swap out drivers. I have to say these cars are really, really fun to drive and I didn't want to swap out, but I did.

So the next part from Tejon Pass up to Harris Ranch I rode in a Marai with Mary. And that's fantastic. We got to Harris Ranch. That station is a first element station, True Zero, is what they're calling them. And we refueled all six cars in about 20 minutes and actually got all of that done before the press got there, because we were a little bit early when we arrived. But we had a terrific press event. This is a connector station. You actually can drive from Southern California to Northern California in these vehicles.

They're fantastic, they're quiet, they're smooth, they're zippy, they're really responsive. And they have some really neat high-tech stuff like adaptive cruise control. It has lane assist, so it

lights up on a -- it's got a little screen in front of you and it kind of lights up if you get too close to one edge of the lane or the other. So they're really fun to drive.

We did a little stop kind of in between Harris Ranch and Sacramento, again to have a chance to swap out drivers, swap out companions in the cars and then drove the rest of the way here to Sacramento.

Got to Sacramento around 5:00 o'clock, which was great. And then we hosted at Miwell, (phonetic) a reception with some legislators, so that we were able to talk to them with about what we had been doing during the day.

And I was going to make some slides and bring them, but I decided not to do that, but I do have some really fun photos. So I'd be happy to share those with you all.

But the statistics, where we are right now there's 17 stations that are open for retail, so we're still at the beginning. There's 300 cars; we anticipate 51 by 2017. Just last Friday, we opened Santa Barbara Station and there's a couple stations in the Bay Area that are pending. So if you want to take that drive along the Coast instead of along I-

5, you'll be able to do that soon. And so that was just a really great trip.

If you have a Twitter account and you want to look it up, look up #MarysValleyRally. And we had our own emoticons that day, which were really fun. That's what I would have brought a picture of to show you.

But it just was a great opportunity to show that the technology is here. It's commercially available. The fueling stations are here. Anyone who has a credit card and the car can just go there and fuel up the car. So that was kind of the purpose of our trip.

That was actually really a lot of fun. It was a great day.

And then the last thing I wanted to do was just say thank you to Linda Rapattoni, who I know is retiring in a couple of weeks. She has been really great to work with. She has a lot a lot of enthusiasm for the transportation projects, for the ARFVTP program. She can run that acronym off of her tongue just as fast as I can. I really have appreciated how she has dug in and helped us communicate about some of the successes in the program. So I wanted to just take a moment to

acknowledge her and say thank you.

And that's my report.

COMMISSIONER MCALLISTER: Great. So they do maintain 80; is that what you're saying, you got there before the press? That's good.

COMMISSIONER SCOTT: Yes.

COMMISSIONER MCALLISTER: But you weren't driving 80, I'm sure.

So let's see. I actually have been out of the office for much of the intervening time between the last business meeting and this one, but I did, working from Denver, Colorado, which has very different weather from here, I can tell you. It snowed on us twice in the last three weeks.

So I guess the main thing I wanted to talk about was just a little bit about the L.A. Sustainability Summit. It was the tenth anniversary, it was in late April. And they just do such a great job and they get high level participation with the mayor and just the business and community leaders from across the Region, across the city, and just maintaining the...

We talked a little earlier about community. It's a big, big city, huge city, a lot of diversity, and they manage to maintain a vision and keep some

continuity year to year on what they talk about with the new flavors of the day. Obviously those change a little bit, but they really have a long-term vision and I really admire L.A. and I'm excited about all the things that they're doing on the sustainability front in energy and in water and linking it to jobs and disadvantages communities and all the really important social issues that they're also grappling with. So my panel, I think, was very fruitful and stimulated a lot of good discussion.

The other thing I want to do is just thank my staff. Pat Saxton, my Adviser, and Donna Parrow, my Executive Assistant, they did a great, great job while I was out of the office and kept a lot of balls in the air and I was able to really keep plugged in with their assistance while I was away.

And then also I finally want to thank my colleagues here on the dais for just keeping the fort running and everything moving forward.

And finally, the Efficiency Division staff, Dave Ashukian and Christine and the team in the various offices. A lot got done, a lot's getting done. There's many, many balls in the air, lots of fronts we're moving forward on with respect to standards.

Just submitted some incredibly good comments to the Department of Energy on the general service lighting rulemaking that they're engaged in, and I think we are providing so much value beyond our state borders in the energy efficiency realm.

It's not unheard of, we do that here. Even people expect us to and we want to, but the impacts of what we do here and then we're able to show that it can be done and then take that to the federal level just multiplies in order of magnitude the impact that we have, and so it's really huge.

Another example of that is the battery charger standards that just went federal as well. They really keyed off -- the majority of what the Department of Energy did keyed off of what we had done years ago in our home state, and I think really provides value to a good reason to get industry aligned with a set of standards that is assertive and saves a lot of energy that wouldn't otherwise happen without us.

So on the battery chargers I want to thank Commissioner Douglas for she was really pushing that back in the day and it's really had a huge impact, so we're hoping the same thing can happen with computers, the same thing can happen with lighting

and really have an impact beyond our own weight, you know, punching above our weight. Our weight is big, but the country is even bigger, so very, very positive developments.

And I think we have just terrific staff on that and many other efficiency items, which we see every business meeting, so I want to just thank staff for keeping all those balls moving forward.

CHAIR WEISENMILLER: And I did get a very nice note from Ralph Cavanaugh with the NRDC's blog, again thanking us for our work on the battery chargers.

Let me segue to Commissioner Douglas.

COMMISSIONER DOUGLAS: Well, I will say that when I saw the action taken by DOE it certainly brought a smile to my face and made my day.

COMMISSIONER MCALLISTER: I will say also, a number of positions ago back in the day, maybe -- let's see, I want to say probably right around 2000, I did some of the original actual work in a consulting capacity with developing some foundation for the battery charger standards back when we were really just thinking about what approach might make sense for that sector, and worked on that for, I think a couple years and then moved on to other

things.

But to have it come around and really go to fruition and become something real is very gratifying to be part of this community where a lot of people worked on that and got it moving forward and it came to fruition here at the Commission.

COMMISSIONER DOUGLAS: Yeah, absolutely. Yeah, that was an amazing achievement and a lot of people worked really hard on that.

I just remember being fairly new to appliance standards at that point. I had helped as Chair get the TV standards across the finish line, but I didn't really sit with them from start to finish in the same way that I had the chance to do with battery chargers. And I remember sitting here at this dais and at some point being really sorry that Art wasn't sitting next to me helping to translate some of the arguments I was hearing between the technical experts from staff and industry and the environmental groups and others. But we all pulled through as we do and I'm certainly watching the developments on computer standards and some of the other work that we're doing now with a lot of interest.

So I'll keep my report really brief. I

just wanted to note that on Tuesday of last week, May 10th, I participated in an event at the Governor's Office to launch or release the report on the San Joaquin solar work, which is work that I've reported on every now and then at the dais. But it was a really impressive and experimental effort to take some of the tools and ideas and platforms that we used in the desert renewable energy conservation plan, but to employ them in a non-regulatory stakeholder driven forum that would, we hoped, combine the analytical rigor and the data driven methodology and transparency that we were able to achieve in, for example, the DRECP. But to work in a collaborative non-regulatory quick timeframe to have stakeholders with agency technical support put together and document their own positions on things from where they think the San Joaquin Valley renewable energy is most appropriate; where they think in the San Joaquin Valley conflicts with environmental or agricultural or other land uses are most difficult to resolve or easier to resolve.

And the net result of that process really culminated in the report. All of the work that was done was documented so that the work doesn't end with the report; you can actually go in and access

the data. You can reassemble the data and you can understand exactly why it looks the way it looks. You can ask different questions and answer them with the underlying data, and you can put in your own data and see it against your own data. And so it's very much a living and breathing platform that was built in this collaborative way.

I want to thank some of our staff who contributed expertise and time to those efforts; Scott Flint, Jim Bartridge, Tom Gates on helping support tribal outreach and consultation. With that effort I think it will be an important contribution to the RET-I2 process as that moves forward.

In any case, if anyone's interested in getting the report, it's available on the web. I probably should be able to rattle off the URL; I can't, but I'm sure that just a little bit of searching and you'll have no trouble finding it.

CHAIR WEISENMILLER: Great. I was just going to say I remember after the battery charger adoption going back with PG&E and DOE arguing about how they shouldn't preempt us. So it's nice to have gone from the threat of preemption to under the current Secretary of Energy a very supportive role forward is good.

So I actually have a lot of ground to cover; I'll do it briefly.

First, obviously on Cinco de Mayo was a good event for basically focusing on the Latino contribution to California. And so Senator Hueso had a special committee meeting on the border issues. I testified at that hearing on what we've done to sort of build off of that.

Again, the Governor and I went to both China and Mexico, so in Mexico we have an MOU and so I covered what we've done in the last year or so on the MOU.

Obviously I gave a lot of credit to Emilio, my adviser on Mexican issues, for helping to really move that along. And as I noted earlier that we have a delegation in Mexico at this moment, in fact, trying to build off of stuff. That was one day.

The Consul General in Sacramento also had a major reception, again to celebrate.

Then there was a meeting between the Governor and myself with the Foreign Minister of Mexico and the Mexican ambassador to the U.S. who used to be the consul general in Los Angeles and, I would say new consul general in Sacramento.

Obviously, the Trump issues are

reverberating throughout our relationships with Mexico, and again, it was a very cordial meeting that we had with them. And the Governor pointed out and said if Trump gets elected we'll actually build a wall between California and the U.S., which certainly deepened our relationship with the Mexican Government.

So anyway, it was a good meeting, a lot of substance. They're very interested in ways we can work together on energy issues.

One of the more interesting ones is Mexico has done a recent solicitation on renewables, and the average price is 4.7 for the portfolio. The lowest is like 3.7 per kilowatt hour for solar. So I had that.

I also had two workshops. Commissioner Douglas was with me on both of those.

One was on RETI 2.0 with President Picker and myself and obviously the Bureau and the Cal ISO. We got a pretty good progress report from Brian Turner.

I think the message -- I don't know. I remember a long time ago everyone was like was there enough renewables to meet our targets? And as we go forward between solicitation and planning it's

always like there are a lot more than we need. And if anything, the issue is what's the environmentally responsible way to do a portfolio as opposed to, my God, we have to do that last acre regardless of the consequences.

But again, in Brian's presentation there's an awful lot of potential, so there's a chance to be smart on the environmental side. There's also a chance to be smart on trying to get a mixed portfolio of technologies. And I think at this point we're all positioned for the next process there.

Also I had a meeting, the Governor and I had an event on regional governors issues with the ISO, as it's being transformed. I think all of us have probably been to those dreary conferences where people talk about how the renewable revolution is transforming the utility sector and blah-blah-blah. And you always scratch your head and say what about the regulators, when are we going to get transformed once we realize it's a different world.

And the ISO is being transformed from a California specific into a regional organization, so probably the key issue (indiscernible) is governance, and it's at least started a public

dialog there.

Commissioner Florio had an interesting paper. There were interesting papers by the Public Service Commissioner from the northwest, Energy Foundation Ron Binz almost became First Chair. We were debating how to address him as the Almost Chair and he didn't get the title, but anyway, a lot of interesting stuff there. Comments are coming in.

We're working through the next steps. Some of this was very California-centric and expect the dialog to deepen throughout the west going forward.

And then as part of my deep dive into market issues, I did a tour of Europe with Steve Berberich, Executive Director of the Cal ISO, Petar, who is a real IT brains of the operation, and the administrator of Bonneville Power Administration.

And so we went to, in different combinations, but we went to a Swiss Grid, which is sort of the crossroad for power into Italy, the bottom line. It's remarkable, they have like 800 distribution companies in Switzerland. Think about it for a second. Yeah.

COMMISSIONER MCALLISTER: Market structure, are those publicly owned, are those private?

CHAIR WEISENMILLER: Well, it's a little

(inaudible).

COMMISSIONER MCALLISTER: Municipal?

CHAIR WEISENMILLER: Yeah, yeah. Again, I didn't get the full spectrum. So far I know there's some investor owned for Zurich or something, but the little villages all have their own little co-ops or whatever. But this is sort of the grid operator. You look out from the office there's this huge combination of power lines coming in from over the border. But again, I think everyone goes through Switzerland to get somewhere.

It's interesting because then we went to Berlin to look at the German situation, then we went to Oslo to look at the Nordic situation. And obviously Germany is the middle of the EU while Switzerland is not, nor are the Nordics. But it's very interesting how in spite of the political differences how it's really a very integrated market.

So as we think about integrating the west, it's remarkable how Europe has integrated their markets from whatever, including the Nordic markets which are really Norway, Sweden, Denmark, Finland, one big market pool -- incredible hydro system. But anyway, interesting how they organized that.

And in Germany it was a good day to be there in that they are actually launching serious efforts on energy efficiency, and so they have the equivalent of 758 since obviously there's not a lot of new construction necessarily, a lot of existing buildings. And they launched a big media campaign last Thursday.

When I asked them how much they said they couldn't tell me what the cost was but it was huge, so they have to figure out precisely what. And they were going to send links to the media efforts there, but they're trying to get much more serious on energy efficiency. The market, they've had the structural issues. In fact, their biggest renewable day was the day before we met with them.

But actually when you think of a duck curve in California's situation it's sort of when it's in Germany you go, oh my god, we thought we had it bad, where in the summer it's sunlight from like 5:00 a.m. to 10:00 or 11:00, and so they have more solar and wind than they have load, actually very close to more.

And then when you look at the load curve for the winter day, which is when the peak is. There's like little to no solar, not much wind, and

so you go from over-generation phenomenally in the summer or solstice period to nothing from renewables, or very little during your peak period. And so they trying to keep things alive to deal with the peak or deal with the market switching as they go forward -- running in phenomenal cost now on over-gen issues.

And since they're not well connected physically, they have phenomenal amounts of over-gen in the north, which they can't get south, so they're shipping it off to Norway at whatever Norway wants. They're then pulling in generation in the south to meet their load, so it's like wow, bottom line.

And then they have coal plants as reserves.

COMMISSIONER MCALLISTER: Are they doing a RETI equivalent to try to solve the transmission issues of north/south?

CHAIR WEISENMILLER: Actually, we had a very interesting conversation about for 50 hertz, which is the old East German system, how they are trying to do a very public planning process on transmission, just continual meetings; having said that, it takes them at least ten years.

There were states like Bavaria who have said no, it's not coming across us to the load

centers, and so transmission is not easy and it's not any easier in Germany than it is here, bottom line. In fact, that's why historically they've had just one price node or zone from northern Germany through Austria that now they have to separate into north and south. The EU is forcing them, which is a big step for them to go from a single price throughout everything to presumably a low price in the north, a high price in the south.

Then also that will make much clearer some of the economic dislocations. They do a ton of manual re-dispatch in the south to deal with power loads, as I said, while they're shipping power north into Norway for the renewables.

Anyway, as I said Norway, you just go there and they have a huge hydro system. They act as the battery. They're now doing transmission lines to the UK and another line from Germany to Sweden, so they've figured out the money comes from trans -- well, the grid operator there is happy, because they build transmission -- put it in a rate base, and the hydro folks get a higher price by doing these interconnections. So again, they're not as happy but happy.

COMMISSIONER MCALLISTER: Got a big battery

basically, and they can play the market a little bit.

CHAIR WEISENMILLER: It's huge. Yes, huge, huge battery. A lot of storage capacity.

COMMISSIONER MCALLISTER: Was there much talk in Germany about the equity implications of some of this, the north/south split and pricing?

CHAIR WEISENMILLER: Well, I know historically they refuse to do that because of the equity and the political issues of just one price throughout. But as I said, the good or bad news of being part of the European Union is at some point the regulator can step in and tell you to do politically unpopular things, although they certainly have a lot of back-and-forth on what Germany's doing and typically the regulator is fine with it.

But as with here, the German power market prices are affecting everyone else in Europe. For example, the Nords have a pump storage project in Germany. Well, at this point the prices can be pretty much zero on peak and pretty much zero off peak, so the spread for pump storage is not good as they try to figure out what to do next on how to keep that alive.

But anyway, that was interesting on that part just to really understand much better how the specific markets work in Europe and how they integrate together both politically and economically.

And then on Aliso, I've sent out letters to many of the state agencies in the L.A. footprint asking them to really step up on demand response energy efficiency and other preferred technologies for down in the summer. The letters have been docketed; some of the responses will be docketed. We got a good response from the Department of Corrections on their programs.

Anyway, I think that's about it for now. So let's go on to Chief Counsel Report.

MS. VACCARO: Nothing today.

CHAIR WEISENMILLER: Thank you. Executive Director Report.

MR. OGLESBY: Very briefly, I was absent for the first part of this meeting because I was testifying in the Senate on our budget. It's still budget season, there's a ways to go. And overall, our budget is doing well I'll do a briefing after it passes and it's all said and done.

Last week I did a swing in the Southern

California region to help do outreach on where we are on Aliso Canyon. I had a number of cities and presentations to both public and private sector folks basically stressing the findings of the technical advisory group and the action plan and the mitigation measures that are recommended for reliability for the summer.

I included a Long Beach meeting with the City and the Oil and Gas Division; met with the South Coast Air Quality Management District that's working with LADWP, and Universal Studios, which has a large stake in reliability both for their own facilities, their communications network and their theme park, which can have 33,000 people at any given time as it operates.

The week was culminated with a workshop convened in Northridge by Senator Pavley that included all the utilities regionally down there, including SCPPA and LADWP Balancing Authority, as well as PG&E from the north and the gas company. We discussed both the status of reliability issues as a result of Aliso as well as measures needed going forward to improve reliability given the loss of that resource in the near term.

That's all I have.

CHAIR WEISENMILLER: Great.

Public Adviser Report?

MS. MATTHEWS: Briefly, the Summer Institute in Energy Law And Policies cosponsored by Commissioner Scott and myself received grant funding, so on May 3rd, the big day, I was presented with a check for a little over $3,000 that will cover the cost of transportation, two full-time teachers, and lunches for the students who will be able to participate, and they also had match funding from the Elk Grove Unified School District that will also allay the cost and allow the students to get a stipend so they can get paid for participating in the program.

CHAIR WEISENMILLER: And the Diversity Fair?

MS. MATTHEWS: Yes, on April 29th we were able to host our first diversity career fair at the Energy Commission. And I want to thank all of the staff members and divisions who had a table out. It was very successful. I've received a lot of feedback.

We also had training sessions to let participants know how to get a state job and as well as give interviewing tips, so that was a great

success.

CHAIR WEISENMILLER: Great. So let's go on to public comment? I believe we have one.

Yes, come on up.

MR. MCLAUGHLIN: Good afternoon. My name is Larry McLaughlin. I serve as the Regional Director for the Advanced Transportation Renewable Energy Sector in the Inland Empire Desert Region under the California Community Colleges Doing What Matters Initiative.

And the project we're here today to inform you of is the curriculum being developed on energy storage. We're currently putting together the materials, PowerPoints, lesson plans and readings for community college faculty to use in their programs to provide students with an introductory level education on energy storage technologies. It will inform students of applications, benefits and economics of energy storage.

And these curriculum resources will also include how storage effectively enables a variety of micro-grid scenarios and how the cars we drive may become part of the solution to capturing and using large amounts of renewable energy.

These curriculum resources are designed to

introduce small size solar integrators as well, like small company owners, managers, and staff to electric energy storage through workshops and community education, because we believe that these companies will become the primary marketing outlet for the residential market.

The energy storage curriculum is almost complete. We'll soon convene an industry review panel to go through these materials and make sure that we are technically accurate and they comply with industry safety. Our challenge, however, is the handing off of these materials and the teaching methods to community college faculty. California is a big state, we have a lot of faculty members teaching electrical, building, and transportation related programs.

Our first task will be to train these trainers, to bring faculty together in regional workshops to train them in the content and the use of the materials. Then assistance from the industry will be needed to give instructors some of the necessary hands-on resources. Our approach is to ensure that tomorrow's workforce understands the underlying concepts as well as the how-to skills required to make clean energy work. We need to

teach our students how to think about these things.

Imagine using our cars as a load source that enables us to generate higher levels of renewable energy; that's a great concept, and it's the kind of thing that gets our students excited.

The students that we teach with this program today will be the installers and the maintainers of our energy storage units and EV charging stations, and they'll also be tomorrow's managers and decision makers. They'll become the contractors, the foremen, the designers, the inspectors, the planners. These will be decision makers and hands-on implementers of tomorrow. So we're setting out to not only teach our students the technical skills but also how to think about these potential solutions.

Thank you for the opportunity to tell you about our plans for incorporating energy storage into the community college curriculum. We're about 95 percent complete and very soon we'll have a link that will allow you to go and review the materials.

And if you're really interested, we would be more than happy to provide a beta test type workshop for the Commission or for your staff. Thank you.

CHAIR WEISENMILLER: Thank you. Thanks for being here. Any other public comment?

(No audible response.)

Then this meeting is adjourned.

(Adjourned at 12:48 P.M.)

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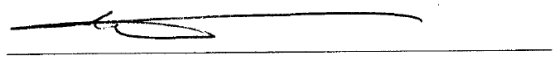

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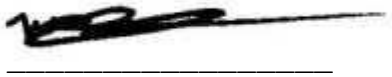

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