

## DOCKETED

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In the Matter of: )  
 ) 17-BUSMTG-01  
 *Business Meeting* )  
 )

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## APPEARANCES

### Commissioners

Robert Weisenmiller, Chair  
Karen Douglas  
Janea Scott

### Staff Present:

Rob Oglesby, Executive Director  
Kourtney Vaccaro, Chief Counsel  
Rosemary Avalos, Public Advisor's Office  
Cody Goldthrite, Secretariat

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| Mark Alatorre           | 3           |
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| Angela Gould            | 14          |
| Peter Chen              | 15          |
| Mike Gravely            | 16          |
| Nelson Pena             | 18          |
| Anne Fisher             | 19          |
| Michael Sokol           | 20          |

Others Present (\* Via WebEx)

### Interested Parties

|                               |    |
|-------------------------------|----|
| * Derek Benson, EnergySource  | 8  |
| * Daryl Anderson, Modoc       | 9a |
| * Elizabeth Guzman, Modoc     | 9a |
| * Mariana Eneva, Imageair     | 9b |
| * John Muir, GreenFire Energy | 9c |
| Gerhard Achtelik              | 10 |

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Others Present (\* Via WebEx)

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| Joe Gagliano, CA Fuel Cell Partnership  | 10 |
| Tim Brown, FirstElement Fuel  | 10 |
| Bob Oesterreich, Air Liquide  | 10 |
| *Jackie Birdsall, Toyota  | 10 |
| *Jerome Gregeois, Hyundai America Technical Center                                | 10 |
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| Jason Anderson, Cleantech San Diego (Written statement)                           | 11 |
| Deepa Lounsbury, CalSEED  | 11 |
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| *Nish Mehta, Nuvve Corp.  | 13 |
| *Michael Kossis, Southwest Research Institute                                     | 15 |
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Claire Warshaw

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

- a. Claims filed at, and rejected by, the Victim Compensation and Government Claims Board against a number of defendants including the Energy Commission relating to the gas leak at Aliso Canyon.
- b. The U.S. Department of Energy's actions to delay effective dates and failures to complete certain energy conservation standards and test procedures for appliances.
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1 P R O C E E D I N G S  
2 JUNE 14, 2017 9:31 a.m.  
3 CHAIRMAN WEISENMILLER: Let's start the Business

1 Meeting with the Pledge of Allegiance.

2 (Whereupon, the Pledge of Allegiance

3 was recited in unison.)

4 CHAIRMAN WEISENMILLER: Good morning. So Items 2

5 and 17 are being held, so let's start with the Consent

6 Calendar.

7 COMMISSIONER DOUGLAS: Move consent.

8 COMMISSIONER SCOTT: Second.

9 CHAIRMAN WEISENMILLER: All those in favor?

10 (Ayes.)

11 CHAIRMAN WEISENMILLER: Consent Calendar passes

12 3-0. We have two Commissioners who are necessarily absent

13 today.

14 Let's go to Item 3.

15 MS. VACCARO: Excuse me, Chair Weisenmiller. And

16 just for the record that the two absent Commissioners are

17 Hochschild and McAllister.

18 CHAIRMAN WEISENMILLER: Yes.

19 So, let's go to Energy Efficiency Comparison.

20 MR. ALATORRE: Okay, good morning. Good morning,

21 Chair Weisenmiller and Commissioners. My name is Mark

22 Alatorre, I'm an Engineer with the Building Standards

23 Development Office and I'm here to present Item 3, which

24 got moved up a little bit.

25 So, this is the Energy Efficiency Comparison

1 between the 2016 Building Energy Efficiency Standards and  
2 the 2015 version of IECC. The reason for this comparison  
3 is because we're required to by the federal Energy Policy  
4 Act of 1992, which requires states that adopt their own  
5 building standards to certify to DOE that we've done a  
6 comparison and we are at least as efficient as the national  
7 model code.

8           So, our 2016 -- or our Building Energy Efficiency  
9 Standards is updated on a three-year cycle. And we've been  
10 given a goal to achieve zero net energy by 2020 for  
11 residential new construction. That's been -- that is the  
12 reason why we are so aggressive under the 2016 Update,  
13 which I will present the key differences.

14           So, the 2015 or IECC is also developed on a  
15 three-year cycle. The ICC, the International Code Council,  
16 is made up by members of industry as well as government,  
17 but the final vote comes down to ICC members who represent  
18 federal, state or local governments. IECC also does other  
19 codes, a total of 15. I have a couple of examples of some  
20 of the other model codes that they update.

21           So key differences that we found in comparing the  
22 2016 version of California's Energy Efficiency Standards to  
23 the 2015 IECC was we have a very detailed list of climate  
24 zones compared to theirs as well as we were very aggressive  
25 in our building envelope, so we have high-performance

1 attics and high-performance walls. And we also have a  
2 better water-heating assumption. However, we have greater  
3 air changes assumed in the performance modeling than IECC.

4 As far as climate zones here is a comparison map  
5 of, on the left being California's 16 climate zone  
6 breakdown versus the IECC climate zone map. I'd like to  
7 point out areas such as San Diego is considered the same as  
8 Sacramento or even some of the Mojave Desert, which we know  
9 isn't the case. So our prescriptive packages are a bit  
10 more tailored for our different climate zones.

11 For the high-performance attic, this is a key  
12 feature of the 2016 Standards. And the primary reason was  
13 we wanted to impact the attic environment. Traditionally,  
14 the duct system is installed in the attic and we wanted to  
15 reduce the attic temperatures. So, in the analysis in the  
16 2016 pre-rulemaking, or during the rulemaking, we found  
17 that if we put insulation at the roof deck we could have a  
18 big impact on the attic environment. So we based the  
19 prescriptive package around an R-13 at the roof deck, with  
20 R-38 at the ceiling level.

21 Many can be achieved in various methods, leaving  
22 in a lot of options for the builder. Here are a few  
23 examples of how that can be done: you can insulation above  
24 the deck, you can have insulation below, you could have  
25 hybrid roofing. Or, since we're trying to impact where the

1 ducts are located, you can bypass the high-performance  
2 attic and just put the ducts in a conditioned space.

3 Similarly, with the walls we are very aggressive  
4 in the U-factor, which would be equivalent to an R-19 in  
5 the building cavity with R-5 on the exterior. There's  
6 again many options for the builder to pursue to achieve  
7 this, whether he's using two-by-four or two-by-six  
8 construction.

9 The water heater assumption, our 2016 Standards,  
10 we based the prescriptive package on a tankless water  
11 heater with an energy factor of .82. IECC, their  
12 prescriptive package doesn't require a specific type of  
13 water heater. But when they give guidance on performance  
14 modeling they assume a 40-gallon storage, which has an  
15 energy factor of .615. So, doing our water heating  
16 comparison we greatly outperformed the IECC baseline.

17 So, here's a table kind of summarizing the key  
18 differences between the 2016 version of the Energy  
19 Standards versus the 2015 IECC. I highlighted in red some  
20 of the major differences. Again, the air changes that's  
21 assumed in the modeling for single family under the 2016  
22 Standards is at five air changes at ACH50. 2015 IECC  
23 assumes three, so they assume a tighter structure, but then  
24 we outperform them on insulation and water heating.

25 So in our analysis we used three prototype

1 buildings: single-story and a two-story single family of  
2 various square footage and a multi-family structure of  
3 three stories. We used the 2016 Impact Analysis to come up  
4 with construction starts. And we projected on an estimated  
5 amount of new construction by prototype building and  
6 applied the savings we found from the analysis to those, to  
7 that square footage, and we came up with this table. So  
8 this is highlighting the difference between our baseline  
9 minimally compliant prescriptive building versus the IECC's  
10 minimally compliant prescriptive building. And what's  
11 listed in this table is the difference between those two.  
12 And we have it listed by prototype and by climate zone.

13           And if we sum up by prototype this is the  
14 resultant, which is in giga-Btus, or million Btus. If we  
15 added all three prototypes together to come up with a total  
16 residential savings it would come up with this table, which  
17 highlighted, is 6,979 giga-Btus saved annually. To come  
18 put this number into perspective we converted it to  
19 gigawatt hours and it is roughly 44 percent of the annual  
20 electricity consumed by the residential SMUD customers, as  
21 reported to the Commission in 2015. Or 306,000 homes if we  
22 assume the CPUC's estimate for average home kilowatt hour  
23 consumption. So the state of California's energy  
24 efficiency standards saves 29 percent more energy on an  
25 annual basis than if we were to adopt the federal model



1 code.

2 I am available for questions as well as Ingrid  
3 Neumann, who is co-author of this report.

4 CHAIRMAN WEISENMILLER: Great, thank you.  
5 Any questions?

6 COMMISSIONER DOUGLAS: I don't have any  
7 questions, but I appreciated the comparison and the  
8 summary. It's a pretty impressive set of achievements,  
9 really, with the Building Standards.

10 CHAIRMAN WEISENMILLER: Yeah, I know. I agree,  
11 it was -- thank you, it was very informative.

12 MR. ALATORRE: Thank you.

13 CHAIRMAN WEISENMILLER: Thanks again.

14 Let's go on to Item 4.

15 MS. ZIAJA: Thank you. Good morning, my name is  
16 Sonya Ziaja. Staff recommend funding the contract with  
17 Berkeley Economic Advising and Research, otherwise known as  
18 BEAR, to analyze the potential economic impacts on  
19 disadvantaged communities under several energy scenarios.

20 The need for this analysis arises from ongoing  
21 Energy Commission's supported research to develop long-term  
22 energy scenarios designed to meet the state's 2030 and 2050  
23 energy and climate goals while still taking climate impacts  
24 into account.

25 The models used to develop those scenarios,

1   however, cannot produce the fine-scale outputs needed to  
2   inform planning for disadvantaged and low-income  
3   communities. Therefore, additional modeling is necessary  
4   to align the energy scenario work with state equity policy  
5   goals. BEAR has the only model capable of integrating  
6   economic impact considerations into the long-term energy  
7   scenario work at the desired scale as they have  
8   demonstrated in their prior work for CAISO's SB 350  
9   efforts.

10               Thank you.

11               CHAIRMAN WEISENMILLER: All right. Thank you.

12               First, any public comment? Anyone in the room?

13   Anyone on the phone?

14               (No audible response.)

15               Okay, so let's transition over to Commissioners.

16   Commissioners, I thought it was very important to add this  
17   to the scenario work so that we could get a sense -- this  
18   builds off of research that when the ISO did its analysis  
19   of the region-wide (phonetic) market one of things it did  
20   was look at impact on low-income communities or  
21   disadvantaged communities. And they used the BEAR model to  
22   do that. I know Mary Nichols and (indiscernible) who heard  
23   her presentation and were both impressed by this analysis.  
24   So, I thought it was a gap on what we were doing and worked  
25   with Sonya and Guido and the rest of the staff to really

1 fill that gap.

2 COMMISSIONER SCOTT: I got an excellent briefing  
3 on this and I'm already looking forward to the results of  
4 the study.

5 CHAIRMAN WEISENMILLER: Great.

6 COMMISSIONER SCOTT: Any comments? I will move  
7 approval of Item 4.

8 COMMISSIONER DOUGLAS: Second.

9 CHAIRMAN WEISENMILLER: All those in favor?

10 (Ayes.)

11 Item 4 passes 3-0.

12 Let's go back to Item 3 for a second. Actually,  
13 there is an attached resolution, so first let me ask if  
14 there's any public comments on Item 3, either in the room  
15 or on the line?

16 (No audible response.)

17 Then transition, Commissioners.

18 COMMISSIONER DOUGLAS: I'll move approval on Item  
19 3.

20 COMMISSIONER SCOTT: Second.

21 CHAIRMAN WEISENMILLER: All those in favor?

22 (Ayes.)

23 So this also passed 3-0. Great, thanks.

24 Let's go on to Item Number 5.

25 MR. YOUNIS: Good morning Chair and

1 Commissioners. My name is Laith Younis, from the Existing  
2 Buildings and Compliance Office of the Efficiency Division.  
3 I'm seeking approval through a proposed regulation or  
4 resolution of the agreement with the Energy Coalition to  
5 provide three types of services.

6 First, the statewide education and outreach for  
7 the implementation of the Building Energy Use Data Access,  
8 Benchmarking and Public Disclosure Program. Second, to  
9 facilitate energy-related workforce and industry alignment  
10 and third, to facilitate an Energy Efficiency Collaborative  
11 as directed by the 2015 Existing Building Energy Efficiency  
12 Action Plan and the 2016 Action Plan Update. Certain  
13 strategies within the Plan require highly specialized  
14 knowledge, which does not exist in any one civil service  
15 agency.

16 The Energy Coalition has the experience,  
17 expertise, knowledge and skillset to provide in-depth  
18 assessment of the various technical, financial and market  
19 barriers. A better understanding of these barriers will  
20 allow the Energy Commission to create and expand policies  
21 outlined in the Existing Building Energy Efficiency Action  
22 Plan. The barriers focused on this contract need to be  
23 addressed through extensive experience facilitating market  
24 actors to participate in public interaction.

25 The Energy Coalition will act as an outreach

1 coordinator, with techniques and strategies to bring  
2 together key stakeholders through formed relationships and  
3 trade associations, to communicate and implement policies  
4 created at the Energy Commission. The Energy Coalition has  
5 the history of working with public sector energy partners,  
6 communities, building owners and property managers, to  
7 adopt smart energy practices that the Energy Commission  
8 doesn't have access to or a relationship with.

9           This contract was a result of a competitive  
10 solicitation that received five applications. Today I am  
11 recommending contracting with the highest scoring team.

12           Thank you so much. And I am happy to answer any  
13 questions.

14           CHAIRMAN WEISENMILLER: Great, thank you.

15           First, any comments from anyone in the room or  
16 anyone on the line?

17           (No audible response.)

18           Okay, let's transition to the Commissioners.

19           COMMISSIONER DOUGLAS: I just wanted to say that  
20 this looks like a really good set of services. And I'm  
21 really pleased to see us getting this level of support for  
22 the benchmarking and for the public outreach. For a  
23 program like benchmarking, which really requires,  
24 obviously, communicating with building owners,  
25 communicating with tenants, communicating with the

1 marketplace, we really do need to put this kind of effort  
2 into outreach. And I'm always happy to see us kind of  
3 working hard on outreach.

4 So, I don't know if there are any other comments.  
5 I'll move approval of this item.

6 COMMISSIONER SCOTT: Second.

7 CHAIRMAN WEISENMILLER: All those in favor?

8 (Ayes.)

9 So, this passes 3-0. Thank you.

10 Let's go on to Item 6.

11 MS. GIYENKO: Good morning, Commissioners. My  
12 name is Elena Giyenko and I'm with the Demand Analysis  
13 Office, Energy Assessment Division. I'm here today to seek  
14 your approval of a proposed resolution to -- with Navigant  
15 Consulting, Incorporated. This is a three-year agreement  
16 for a total of \$1.5 million. The funding source is Air  
17 Pollution Control Fund.

18 The agreement purpose is to provide technical  
19 support to the Energy Commission staff for establishing and  
20 assessing statewide energy efficiency targets in compliance  
21 with the provisions of SB 350 on doubling energy efficiency  
22 by 2030. The agreement main task will include assessments  
23 of hourly and seasonal efficiency impacts in 2019  
24 Integrated Energy Policy Report, or IEPR; developing and  
25 reviewing energy savings potential studies; assessing

1 evaluation measurement and verification practices; tracking  
2 progress in meeting efficiency savings of SB 350 targets;  
3 estimating impacts from fuel substitution and evaluating  
4 cost effectiveness of energy efficiency resources.

5 I urge the Commissioners to approve this  
6 agreement. And if you have any questions, I am more than  
7 happy to answer them now. Thank you for your consideration.

8 CHAIRMAN WEISENMILLER: Thank you.

9 Any comments from anyone in the room or on the  
10 line?

11 (No audible response.)

12 Let's transition over to Commissioners.

13 COMMISSIONER DOUGLAS: It's a big day for energy  
14 efficiency for us. And, of course, that's really  
15 important, because we have very big energy efficiency  
16 goals. So we've got to get out there and get it done.  
17 I'll move approval of this item.

18 COMMISSIONER SCOTT: Second.

19 CHAIRMAN WEISENMILLER: All those in favor?

20 (Ayes.)

21 This passes 3-0. Thank you.

22 Let's go on to Item 7.

23 MR. ROGERS: Good morning, Chair and  
24 Commissioners. My name is Cody Rogers and I'm with the  
25 Efficiency Division's Data and Analytics Unit.

1           The Efficiency Division is working with the  
2 California Natural Resources Agency to develop the Energy  
3 Data Lake, also known as the Energy Analytics and  
4 Information Platform, which is a Hadoop-based platform.  
5 This platform is intended for the accumulation and analysis  
6 of energy data, which will provide support for data driven  
7 decision-making and a data portal with visualization tools  
8 for the public.

9           This proposed resolution is to approve an  
10 agreement with Accenture LLP to establish business  
11 requirements on behalf of the Energy Commission for the  
12 Energy Data Lake Project and operationalize four pilot data  
13 sources in the platform. The proposed four pilots to be  
14 included in this platform are: Assembly Bill 802  
15 benchmarking and disclosure program data, Home Energy  
16 Rating System field verification and diagnostics testing  
17 program data, Proposition 39 schools and utility program  
18 data and Commercial End Use Survey, CEUS, data. This  
19 contract will be funded by ERPA funding.

20           I'm happy to answer any questions you may have.  
21 And thank you.

22           CHAIRMAN WEISENMILLER: Thank you.

23           First, are there any comments from anyone in the  
24 room or on the line?

25           (No audible response.)



1           Okay, then let's transition to the Commissioners.

2           COMMISSIONER DOUGLAS: So just briefly also to

3 speak in support of this item I've talked to Commissioner

4 McAllister about the Data Lake concept and how it can help

5 us modernize the way that we use and access data. And the

6 way that we're able to put it together for real-world

7 applications in a much more flexible fashion. And I'm

8 excited about it, so I'll move approval of this item.

9           COMMISSIONER SCOTT: Second.

10          CHAIRMAN WEISENMILLER: All those in favor?

11          (Ayes.)

12          This item passes 3-0. Thank you.

13          Let's go on to Item No. 8, Geothermal Grant and

14 Loan Program.

15          MS. DEJONG: Hello, my name is Elisabeth de Jong

16 and I'm from the Geothermal Grant and Loan Program within

17 the Renewable Energy Division. Today, I am presenting one

18 grant proposal for funding from the Special Competitive

19 Solicitation Grant Funding Opportunity 16-509 that staff

20 held in response to Senate Bill 1074.

21          This solicitation required that eligible projects

22 met the following requirements: the project is for recovery

23 of lithium, metals, agricultural projects, products or

24 other beneficial minerals from highly mineralized

25 geothermal brines; project is located at a geothermal

1 facility in existence on January 1, 2017, that is in a  
2 disadvantaged community and provides local employment  
3 opportunities; project uses commercially available  
4 technologies for the mineral or product recovery processes.

5 I am seeking approval for an agreement with  
6 EnergySource Minerals for a project titled "Well to Wheels  
7 Lithium Design" that develops an engineering design to  
8 produce lithium and mineral co-products by utilizing  
9 commercially available processes and equipment. And using  
10 an existing pilot facility to collect and validate process  
11 design criteria. This project's grant fund proposal is for  
12 \$2,500,000.

13 Matt Klopfenstein from EnergySource is in the  
14 room and Shawn Dellegar and Derek Benson are attending via  
15 WebEx and are available to answer any questions in regards  
16 to this project.

17 I ask for your approval of this item and would be  
18 happy to answer any questions you may have.

19 CHAIRMAN WEISENMILLER: Thank you.

20 First, let's start with the gentleman. Anyone in  
21 the room want to make a comment? Anyone on the line, I  
22 think I have a slip from Derek Benson.

23 MR. BENSON: All right. Yes sir, I'm on the  
24 line.

25 CHAIRMAN WEISENMILLER: Do you want to make a

1 statement or are you just available to answer any  
2 questions?

3 MR. BENSON: Well, the only statement I'd like to  
4 make is I think I'd like to just acknowledge the efforts  
5 from the CEC and appreciate your consideration of this  
6 proposal.

7 CHAIRMAN WEISENMILLER: Okay, thank you.

8 Let's then transition over to the Commissioners  
9 on this one.

10 COMMISSIONER SCOTT: I got a really interesting  
11 briefing on this. And we have a couple other projects  
12 actually that are looking at brine and getting the minerals  
13 out of brine. But it sounded like an excellent project, so  
14 I'm happy to support it.

15 COMMISSIONER DOUGLAS: Yeah, I agree. I have  
16 been following these efforts for a number of years now and  
17 I'm still optimistic that this could be a really good  
18 resource and a really good kind of co-product from  
19 Geothermal.

20 COMMISSIONER SCOTT: I will move approval of Item  
21 8.

22 COMMISSIONER DOUGLAS: Second.

23 CHAIRMAN WEISENMILLER: All those in favor?

24 (Ayes.)

25 So, this passes 3-0. Thank you.

1           Let's go on to Item Number 9.

2           MS. DEJONG: I am also presenting four grant  
3 proposals for funding from the Competitive Solicitation  
4 Grant Funding Opportunity-16-505. Representatives from  
5 each of the following projects are attending via WebEx and  
6 available to answer any questions in regards to these  
7 projects.

8           The first agreement that I'm seeking approval for  
9 today is for the Modoc Joint Unified School District  
10 Geothermal Expansion Project; a plan to expand the existing  
11 geothermal heating system by constructing retrofits to the  
12 heating systems at the Modoc High School, Modoc Middle  
13 School and Alturas Elementary School. And construction of  
14 a geothermal fluid pipeline from the existing geothermal  
15 fluid pipeline system to the nearby planned Modoc Medical  
16 Center site with an \$880,000 grant from the Geothermal  
17 Resources Development Account.

18           Today staff is requesting that the Commission  
19 adopt CEQA findings that the project will have no  
20 significant or more severe environmental impacts than those  
21 already considered and mitigated to a less-than-significant  
22 level by the lead agency, the City of Alturas.

23           The City of Alturas has prepared both a Notice of  
24 Exemption for the existing building retrofits and a  
25 Mitigated Negative Declaration for the piping extension to

1 the hospital site. Energy Commission staff has reviewed  
2 the lead agency's Mitigated Negative Declaration and Notice  
3 of Exemption and has determined that the proposed agreement  
4 will have no new significant or substantially more severe  
5 environmental impacts beyond those already considered and  
6 mitigated. Staff has prepared a memo detailing our  
7 conclusions and the reasons for those conclusions. Staff  
8 also requests that you approve the grant agreement to fund  
9 the project.

10           The second agreement I'm seeking approval for  
11 today is the Imageair Project titled "Application of  
12 Surface Deformation and Induced Seismicity to Geothermal  
13 Operation and Exploration." Which will monitor surface  
14 deformation in geothermal fields in Southern California and  
15 Eastern California using satellite interferometric  
16 synthetic aperture radar, InSAR, to show how surface  
17 deformation and induced seismicity can help geothermal  
18 reservoir assessment and management by using advanced,  
19 cost-effective technology with a \$604,928 grant.

20           The third agreement I'm seeking approval for is a  
21 project with GreenFire Energy, titled "Demonstration of a  
22 Novel Water-Free Method of Extracting Energy from Hot Dry  
23 Rock," consisting of preparation for and execution of a  
24 small-scale demonstration of CO2-based geothermal power  
25 generation within an existing well in Inyo County with a

1 \$1,482,408 grant. This project will obtain the data  
2 required to assess the technical and economic behavior of  
3 the ECO2G process in a real-world situation.

4 The fourth and final agreement I'm seeking  
5 approval for today is the County of Modoc Project titled  
6 "Geothermal Resource Confirmation Drilling," to drill a  
7 geothermal resource confirmation exploratory well to a  
8 target depth of 4,000 feet, generate well logs and develop  
9 a reservoir model to further characterize the presence of a  
10 geothermal reservoir in Surprise Valley near the Surprise  
11 Valley Hot Springs with a \$1,638,022 grant. This project  
12 will help reduce the risk associated with advanced  
13 geothermal development in the area.

14 I ask for your approval of these items and would  
15 be happy to answer any questions you may have.

16 CHAIRMAN WEISENMILLER: Thank you.

17 Let's start with any comments from anyone in the  
18 room or on the line. On terms of on the line, I have a  
19 number of slips for people who are at least available for  
20 questions, but let's start with 9a. I have two folks from  
21 Modoc. Do either of you want to say anything or just be  
22 available for comments?

23 MR. ANDERSON: This is Darryl Anderson. I'm the  
24 Engineer for the School District of Modoc and located in  
25 Alturas. And we're on the downhill side of this project

1 and the Modoc School District would like to extend their  
2 thanks to the Commission for making this possible.

3 CHAIRMAN WEISENMILLER: Great, thank you. And  
4 Elizabeth Guzman, do you want to say anything?

5 MS. GUZMAN: I'm here with Tom O'Malley, the  
6 Superintendent. And again, just want to thank you for  
7 considering our project.

8 CHAIRMAN WEISENMILLER: Okay, great. Thank you.  
9 Let's go on to 9b. Again, Imageair, I believe we  
10 have someone on the phone?

11 DR. ENEVA: Dr. Mariana Eneva.

12 CHAIRMAN WEISENMILLER: Do you want to say  
13 anything or just be available to answer any questions?

14 DR. ENEVA: I'm available to answer questions.  
15 But of course, I want to thank the Commission for approving  
16 this project. We have had projects before with the  
17 California Energy Commission and they have always been  
18 successful. And we are happy to be able to continue this  
19 type of work.

20 CHAIRMAN WEISENMILLER: Great, thank you. In  
21 terms of 9c, Greenfire, I believe we have John Muir on the  
22 line.

23 MR. MUIR: Yes, that's true. I'm here to answer  
24 questions if necessary.

25 CHAIRMAN WEISENMILLER: Okay, do you want to make

1 a statement or just answer questions?

2 MR. MUIR: Just answer questions.

3 CHAIRMAN WEISENMILLER: Okay, great.

4 So, let's go on to 9d. I think we have our  
5 gentleman on the line, also, from Warner Mountain Energy.

6 (No audible response.)

7 Okay, so let's transition over to the  
8 Commissioners. We'll see if he returns or not.

9 COMMISSIONER SCOTT: I also had an excellent  
10 briefing on this set of projects, as well. And then they  
11 sound like great projects and the team worked hard to put  
12 them together, so I would be happy to move approval of Item  
13 9.

14 COMMISSIONER DOUGLAS: Second.

15 CHAIRMAN WEISENMILLER: All those in favor?

16 (Ayes.)

17 This is passed 3-0. Thank you.

18 Let's go on to Item 10, Light-Duty Vehicle  
19 Hydrogen Refueling Infrastructure.

20 MR. CAZEL: Good morning, Commissioners. My name  
21 is Phil Cazel and I am with the Energy Commission's Zero-  
22 Emission Vehicle and Infrastructure Office. I'm presenting  
23 nine grant agreements for possible approval that represent  
24 nine hydrogen station projects proposed under Grant Funding  
25 Opportunity 15-605, "Light-Duty Vehicle Hydrogen Refueling



1 Infrastructure."

2           Seven additional stations from the same grant  
3 funding opportunity will be presented for possible approval  
4 at a future business meeting.

5           The nine agreements presented for possible  
6 approval today are for capital expense grants to design,  
7 construct and commission these stations. Each proposed  
8 station has also applied for a \$300,000 operation and  
9 maintenance support grant, which will also be presented for  
10 Commission approval as each station is completed and ready  
11 to open to the public.

12           These nine projects will add to the growing  
13 network of 27 open retail hydrogen stations currently  
14 selling hydrogen fuel to electric fuel cell vehicle  
15 drivers. To ensure these proposed refueling stations are  
16 located in high-demand areas and are appropriately sized to  
17 meet the expected demand from fuel cell vehicles, Energy  
18 Commission staff worked closely with staff from the  
19 California Air Resources Board to assess the effect that  
20 each proposed station's coverage and capacity has on the  
21 existing refueling network.

22           The nine stations proposed for possible approval  
23 today are located in San Diego, Huntington Beach, Irvine,  
24 Sherman Oaks, Santa Monica, Santa Nella, Oakland, Campbell  
25 and Sunnyvale.

1           The station proposed for Santa Nella will be a  
2 connector station on Interstate 5 developed by Air Liquide  
3 Advanced Technologies. It will complement an existing  
4 station in Coalinga and will increase the refueling options  
5 for fuel cell electric vehicle drivers traveling between  
6 Sacramento or San Francisco and Southern California. The  
7 proposed Santa Nella station will dispense 180 kilograms of  
8 hydrogen per day, which is enough to refuel approximately  
9 35 to 60 fuel cell electric vehicles daily. Air Liquide is  
10 requesting just over \$1.7 million in grant funds and is  
11 committing over \$733,000 in match funding to develop this  
12 station.

13           The other eight proposed stations will be  
14 developed by FirstElement Fuel, Incorporated. These  
15 projects are located in high priority areas identified by  
16 the Energy Commission and the California Air Resources  
17 Board. Each station will be capable of dispensing 310  
18 kilograms of hydrogen per day, which is enough to serve 60  
19 to 100 fuel cell vehicles daily. FirstElement Fuel is  
20 requesting approximately \$1.9 million in grant funds per  
21 station and is committing over \$625,000 in match funding  
22 for each station.

23           If approved, these nine stations are expected to  
24 be open to the public in the first quarter of 2019 and will  
25 add 2,660 kilograms of 33 percent renewable hydrogen to the

1 daily capacity of the planned network of stations. This  
2 will make the planned network's dispensing capacity over  
3 12,000 kilograms per day, which is enough to support over  
4 17,000 fuel cell electric vehicles. Last year the  
5 California Air Resources Board projected that there will be  
6 over 13,000 fuel cell electric vehicles on California roads  
7 by 2019 and this is a needed step to meet that increasing  
8 demand.

9 Staff is asking for approval of these nine  
10 agreements listed as a through i in Item 10.

11 And a number of officials from Air Liquide and  
12 FirstElement Fuel are here today. Bob Oesterreich from Air  
13 Liquide, Tim Brown from FirstElement Fuel, as well as  
14 Gerhard Achtelik from California Air Resources Board and  
15 Joe Gagliano from the California Fuel Cell Partnership  
16 would like to make brief comments and also, Gia Vacin from  
17 the Governor's Office of Business and Economic Development.  
18 And we're all available to answer any questions as well.  
19 Thank you.

20 CHAIRMAN WEISENMILLER: Great, thank you. So,  
21 let's start with the public agencies and go through the  
22 comments. A or b, please?

23 MR. ACHELNIK: Good morning, Commissioners, I'm  
24 Gerhard Achtelik with the California Air Resources Board.  
25 And I want to express my support for these awards to Air

1   Liquide and FirstElement. And they represent an important  
2   step for the continued support of deployment of zero  
3   emission vehicles.

4               And I also want to acknowledge the good working  
5   relationship that the two agencies have on this project.  
6   Specifically, we work on technology station performance  
7   guidelines and the locations through the CHIT/CHAT Network.  
8   And those of you in this field know what that represents.

9               I want to -- you know, as Phil identified, the  
10   Santa Nella station provides another stop between Southern  
11   California and Northern California, but also represents a  
12   different access point for the Monterey Bay area. And  
13   then, the FirstElement awards not only open up new areas  
14   with the Oakland and San Diego awards, but infill areas  
15   that have high-demand areas.

16              And they also represent a next phase of station  
17   deployment. These stations are nearly double of the  
18   current deployment out of the current size and they also  
19   are able of two simultaneous fills. And so that's a new  
20   step. It creates redundancy and it shows the technology is  
21   maturing and that the market is maturing. And thank you  
22   very much.

23              CHAIRMAN WEISENMILLER: Thank you.

24              Let's go to GO-Biz.

25              MR. ACHELNIK: I'm sorry?

1           CHAIRMAN WEISENMILLER: Oh, I called GO-Biz next.

2           MR. ACHELNIK: Oh, oh sorry. I misunderstood.

3           MS. VACIN: Good morning I'm Gia Vacin, The Zero

4 Emission Vehicle Infrastructure Project Manager at GO-Biz.

5 I'm also here to express my support for approval of these

6 stations. These stations will enable expansion of the

7 market in places where fuel cell vehicles -- there is a

8 demand for fuel cell vehicles, as well as provide connector

9 stations. So echoing what Gerhard said.

10           In addition, both FirstElement Fuel and Air

11 Liquide have demonstrated success in developing and

12 operating stations. And so, we feel that you can move

13 forward with these approvals with confidence. Thank you.

14           CHAIRMAN WEISENMILLER: Thank you. Let's go to

15 Fuel Cell Partnership.

16           MR. GAGLIANO: Good morning Commissioners. My

17 name is Joe Gagliano, with the California Fuel Cell

18 Partnership. It's a membership organization that includes

19 the state agencies CEC and ARB, as well as the automakers

20 and station developers. We strongly support these projects

21 going forward. I can tell you from personal experience

22 that a lot of work goes on behind the scenes, both

23 individually and collectively, with all the members of that

24 partnership. And we are all looking forward to these

25 stations coming online. Thank you.

1 CHAIRMAN WEISENMILLER: Thank you.

2 Let's go to FirstElement Fuels.

3 MR. BROWN: Hi. I'm Tim Brown from FirstElement  
4 Fuel, pleased to be here today.

5 A little bit under three years ago you awarded  
6 substantial grant awards to FirstElement to develop  
7 hydrogen infrastructure. At that time, there were no  
8 retail stations open in California and no commercially  
9 available vehicles. We and our peers in industry and  
10 public agencies have worked tirelessly since then. And  
11 today we have 27 retail stations and nearly 2,000 cars in  
12 the public's hands in California.

13 FirstElement alone has sold over 150,000  
14 kilograms of hydrogen, equating to about 10 million miles  
15 of zero emission travel. And that's just in a little under  
16 three years. So, California has single-handedly proven  
17 that gasoline can be replaced. So thank you for that.

18 We're pleased to be considered for these current  
19 grants. And we promise to deliver results for these as  
20 well. Thank you.

21 CHAIRMAN WEISENMILLER: Thank you.

22 Air Liquide?

23 MR. OESTERREICH: Good morning, Bob Oesterreich  
24 from Air Liquide. Commissioners, staff, thank you for the  
25 opportunity for the Santa Nella station. I'll echo the

1    comments on the Santa Nella station. We think that's going  
2    to be a nice redundant and alternative path from the Bay  
3    Area down to L.A.

4                    As a global company, or worldwide company, we  
5    have a view of the entire globe and what's happening with  
6    fuel cell electric vehicles. And I can tell you at senior  
7    levels of our company California is a focal point for us,  
8    because of the activity and the vehicle deployments that we  
9    see here.

10                   And that leads us to having more confidence in  
11    our ability to invest here. And I think more importantly,  
12    with these stations that we're starting to develop in the  
13    network that the upstream investments, which are really the  
14    big ones, we see that California being key to be able to  
15    make the low-cost hydrogen and supply chains that are  
16    needed to achieve the ultimate goal. So thank you for the  
17    opportunity and we look forward to working with you.

18                   CHAIRMAN WEISENMILLER: Thank you.

19                   Anyone else in the room?

20                   (No audible response.)

21                   Let's transition over to the telephone lines and  
22    let's start with Toyota.

23                   MS. BIRDSALL: Yes, good morning. Can you hear  
24    me?

25                   CHAIRMAN WEISENMILLER: Yes.

1 MS. BIRDSALL: Okay. Good morning, Chair and  
2 Commissioners. This is Jackie Birdsall. I'm speaking on  
3 behalf of Toyota. I'm sorry I cannot be there in person.

4 I have just a few comments, and the first being  
5 that we'd like to state our support for these station  
6 awards as proposed by the Commission.

7 As we've heard from others, these proposals that  
8 are presented today represent an important and needed  
9 expansion of the fueling network. And they provide  
10 redundancy and coverage in key market areas for both  
11 current and future customers of the Mirai fuel cell  
12 vehicle.

13 Of particular importance, the Santa Nella station  
14 provides a backup for the I-5 Central Valley Corridor and  
15 opens up the capability of customers to reach the markets  
16 of Monterey and Carmel.

17 So, I'd like to close just by saying we greatly  
18 appreciate the staff's effort to assemble these proposals  
19 for review today and thank the Commission for the  
20 opportunity to provide our support.

21 CHAIRMAN WEISENMILLER: Thank you. Let's go to  
22 Hyundai.

23 MR. GREGEOIS: Good morning, I'm Jerome Gregeois  
24 with the Hyundai America Technical Center. (indiscernible)

25 (Audio interference on phone line.)



1           CHAIRMAN WEISENMILLER: Hold on, I think you're  
2 on speaker phone and we're getting horrible feedback.

3           MR. GRECEOIS: Oh, okay. I forgot that. I just  
4 moved away a little bit. Can you hear me better now?

5           CHAIRMAN WEISENMILLER: Yes, so if you could  
6 start again.

7           MR. GRECEOIS: Yes. So my name is Jerome  
8 Gregeois. I work with Hyundai America Technical Center in  
9 Los Angeles. And on behalf of Hyundai Motor Company I'd  
10 like to say that we support the expansion of the efforts to  
11 (indiscernible) for our current customers and our future  
12 customers. And we'd like to thank the CEC for your  
13 continued support for the (indiscernible) years to come.  
14 Thank you.

15           CHAIRMAN WEISENMILLER: Thank you.  
16 Let's go to Mercedes Benz.

17           MR. FORREST: Yes, hello. Can you hear me?

18           CHAIRMAN WEISENMILLER: Yes.

19           MR. FORREST: Okay, excellent. My name is  
20 Matthew Forrest and I'm with Mercedes-Benz. I'd like to  
21 express our strong support for these awards. We think that  
22 these are all excellent projects, which will bring  
23 substantial value to the drivers of these vehicles in the  
24 State of California. And they will allow the station  
25 network to keep pace with the projected vehicle

1 developments, which are very important for the launching of  
2 this technology.

3 We would like to thank the CEC staff as well as  
4 the Commissioners for helping to bring this valuable  
5 technology, the hydrogen cell fuel vehicles, to essentially  
6 the merging market in California. And we look forward to  
7 seeing these projects coming to fruition. Thank you.

8 CHAIRMAN WEISENMILLER: Great, thank you.

9 Anyone else on the phone?

10 (No audible response.)

11 Then let's transition to Commissioners,  
12 Commissioner Scott?

13 COMMISSIONER SCOTT: Sure. Well, you can see  
14 there's a lot of excitement here for these stations. I  
15 want to say thank you so much to Gerhard and Gia for being  
16 here and to the Air Resources Board staff and GO-Biz for  
17 working so closely in collaboration with us as we work to  
18 build out this network.

19 And also, thank you to all of our partners and  
20 all of the supporters that are here, because it really does  
21 take all of us working hand-in-hand together to stand up  
22 this hydrogen refueling and bring the vehicles and start  
23 making zero emission travel in California a reality. So it  
24 is very exciting.

25 Just a reminder, you all have all heard me say

1 this before, but the importance of transitioning to zero  
2 emission transportation is because currently the  
3 transportation sector is about 40 percent of the state's  
4 greenhouse gases; about 80 percent of the smog-forming  
5 nitrogen oxides, which as you all know, have serious public  
6 health concerns associated with them; and about 95 percent  
7 of the diesel particulate matter in the state, which again  
8 has serious public health concerns associated with it. So  
9 making this transition to zero emission vehicles is one way  
10 to meet both our air quality standards and the greenhouse  
11 gas goals that we have for the state.

12           And then to put these stations kind of into the  
13 broader context, Phil did a great job with that talking  
14 about 27 stations that are open retail right now, which is  
15 exciting. Almost weekly that number changes as additional  
16 stations come online, which is very exciting.

17           Under Assembly Bill 8, the Legislature has  
18 directed the Energy Commission to put \$20 million into  
19 hydrogen refueling stations until we meet an initial  
20 network of 100. So that's kind of how this fits into the  
21 broader picture and our directive under the Alternative and  
22 Renewable Fuel and Vehicle Technology Program goals. So  
23 with that, I want to thank all of our supporters for being  
24 here.

25           Oh, I also wanted to highlight and compliment the

1 great work that the staff has done in putting this  
2 together. These solicitations take a lot of care and  
3 feeding. And they started almost two years ago. In August  
4 of 2015 they accepted comments and suggestions from the  
5 public. We put together a draft solicitation and let folks  
6 weigh in on it. We really wanted to make sure we had  
7 captured a lot of the lessons learned from the initial set  
8 of stations and what do we need to do to tweak our  
9 solicitation for it to continue to be successful.

10 Air Resources Board worked with us in great  
11 detail on the models that helped kind of show where the  
12 stations should go. And we did a bunch of the pre-  
13 application workshops and had open question-and-answer  
14 sessions. And just really good public process all the way  
15 along as they put this together, so I want to compliment  
16 them for the great work that they did there.

17 And with that, if you don't have questions or  
18 comments --

19 COMMISSIONER DOUGLAS: I'll just make a very  
20 brief comment, which is that I had the opportunity a couple  
21 of months ago to do a speaking engagement in New York and  
22 it was with a Sustainable Energy For All forum. And so, I  
23 had a chance to talk about California's achievements in the  
24 transportation sphere, which meant that I had the  
25 opportunity to get up to speed. Because it's not something

1 that I follow as closely as Commissioner Scott, who is on  
2 track -- you know, tracking this on a day-to-day basis.  
3 But I was particularly impressed by the changes and the  
4 really concrete achievements in the hydrogen car area, both  
5 infrastructure and vehicles. So it's great to see this  
6 progress. It's great to have the automakers call in and  
7 participate in the meeting as well.

8 COMMISSIONER SCOTT: I will move approval of Item  
9 10.

10 COMMISSIONER DOUGLAS: Second.

11 CHAIRMAN WEISENMILLER: All those in favor?

12 (Ayes.)

13 This item passes 3-0. Thank you.

14 Let's go on to Item 11.

15 MR. CROFT: Good afternoon Commissioners. My  
16 name is Josh Croft from the Energy Research and Development  
17 Division. I'm requesting Commission approval today for the  
18 California Clean Energy Fund to enter into an agreement  
19 with entrepreneurs from eight small grant proposals  
20 totaling \$1.2 million from the CalSEED Initiative. The  
21 California Clean Energy Fund is the small grants  
22 administrator for the CalSEED Initiative.

23 The CalSEED Initiative provides a recurring  
24 opportunity for entrepreneurs to apply for up to \$150,000  
25 in funding as well as business, legal and technical

1 resources to test the feasibility of their energy concept.  
2 Additionally, CalSEED awardees have a chance to compete in  
3 a business plan competition for \$450,000 additional dollars  
4 to move from concept testing to prototype development.  
5 Through these two stages, CalSEED helps entrepreneurs  
6 demonstrate their early technical merits and commercial  
7 potential of their technology.

8           Leading up to the application period earlier this  
9 year, CalSEED held an informational webinar and conducted  
10 outreach workshops at each of the Energy Commission's four  
11 regional energy innovation clusters, which are located  
12 throughout the state. Following that outreach, CalSEED  
13 received over 300 applications. These applications came  
14 from throughout California and spanned a wide range of  
15 technologies.

16           Before you today are the first eight projects  
17 being recommended for funding from this solicitation. Staff  
18 plans to bring the remaining awards from this CalSEED  
19 solicitation to a future business meeting.

20           The first project to be approved today is titled  
21 "Industrial Solar Steam for Rural Central Valley." They  
22 are testing a solar collector design that uses fiber-  
23 reinforced, biodegradable material instead of steel. The  
24 project may significantly lower the cost of solar steam.

25           The second project titled "Lithium Extraction

1 with Ion Exchange Materials," is developing a manufacturing  
2 process for a material that will increase the amounts of  
3 lithium that can be extracted from brine. This can in turn  
4 lower the cost of lithium ion batteries.

5           The next project titled "Ultra-High Efficiency  
6 Energy Control Using Light," seeks to demonstrate a power-  
7 grid control device that can operate an order of magnitude  
8 faster than its competitors and at a higher voltage. This  
9 new technology can help enable better electric fault  
10 detection and recovery.

11           Next is CodeCycle. Codecycle is developing a  
12 software tool that layers building energy compliance code  
13 and inspection processes on top of building plans. The  
14 tool can prioritize an inspector's time on the energy  
15 measures with the highest impact. Building design teams can  
16 also use the tool to evaluate code compliance in real time.

17           The fifth project is titled "S1 Outdoor &  
18 Industrial Internet of Things LED Lamp." This project  
19 seeks to demonstrate an industrial LED bulb that operates  
20 at a significantly lower thermal resistance compared to a  
21 conventional LED. This eliminates the need for a heat sink,  
22 allowing IoT technology to take up that space.

23           The sixth project titled "Next Generation of  
24 Storage - Virtual Battery," is demonstrating a smart-grid  
25 control system with machine learning, cloud computing and

1 Internet of Things integration.

2           The next project is titled "High Efficiency  
3 Magnetic Refrigeration." The project will demonstrate a  
4 magnetic refrigeration technology that could provide up to  
5 50 percent more energy efficiency compared to traditional  
6 vapor-compression cycle technologies without using  
7 environmentally hazardous materials.

8           The last project before you today, titled "High-  
9 Power Long-Life Batteries for Grid Storage," demonstrates a  
10 new way to make carbon nanotubes from carbon dioxide.  
11 Carbon nanotubes are used in some types of lithium-ion  
12 batteries. This new method is expected to be able to  
13 produce carbon nanotubes significantly cheaper than the  
14 market does today.

15           Staff participated in the evaluation of these  
16 projects and we believe these projects represent a great  
17 first cohort for CalSEED. And we look forward to bringing  
18 the remaining recommended projects from this solicitation  
19 round at an upcoming business meeting.

20           Thank you. I will be happy to answer any  
21 questions that you may have.

22           CHAIRMAN WEISENMILLER: Thank you.

23           First, let's start with any public comment from  
24 anyone in the room or on the line. Come on up, Public  
25 Adviser?



1 MS. AVALOS: My name is Rosemary Avalos. I'm an  
2 Outreach Specialist with the Energy Commission Public  
3 Adviser's Office. And I'm going to read a public comment  
4 from Jason Anderson, President of Cleantech San Diego.

5 "Dear Chairman Weisenmiller and Commissioners, on  
6 behalf of Cleantech San Diego please accept this letter as  
7 one of support for Agenda Item 11 along with 13, 19b and  
8 19c.

9 "Cleantech San Diego is a non-profit business  
10 organization that positions the greater San Diego region as  
11 a global leader in the clean tech economy. We support the  
12 clean tech industry by fostering collaborations across the  
13 private, public, academic landscape, leading advocacy  
14 efforts to promote clean tech priorities and encouraging  
15 investments in the San Diego region. We enthusiastically  
16 support the regions, the agenda items listed above, because  
17 with their positive impact on our regional economy and  
18 environment and respectfully request their approval.

19 "Thank you in advance for your consideration of  
20 this request."

21 CHAIRMAN WEISENMILLER: Thank you.

22 Anyone else, either in the room or on the line?  
23 Please, come up, identify yourself. And give your card to  
24 the court reporter.

25 MS. LOUNSBURY: Thank you, Commissioners. I am

1 Deepa Lounsbury and I am the Program Manager for CalSEED.

2           You know, in this first solicitation we got 330  
3 applications, which means that we had a very large pool to  
4 select from. And they were selected by a very qualified  
5 team of technical -- by our Technical Advisory Committee,  
6 which is a team of finance and industry experts.

7           I also just wanted to thank the Energy Commission  
8 for filling in a very important funding gap for young,  
9 clean technology companies and entrepreneurs. This program  
10 is so hopeful and something that is uniting NGOs, academic  
11 institutions, national labs and companies, to build a  
12 network of support for entrepreneurs.

13           I'll pass the mike to Derrick, who's our grant  
14 manager, who will tell you a little bit more about the  
15 program and what comes next for these entrepreneurs.

16           MR. TANG: Hi. Thank you, Commissioners. I'm  
17 Derrick Tang, I'm the Grant Manager for CalSEED. And I'm  
18 responsible for supporting these awardees as they go  
19 through the CalSEED program.

20           And my first interaction with them was calling  
21 them to tell them that they have been recommended for  
22 approval. And just to hear the joy and excitement in their  
23 voices was by itself, a really great validation for this  
24 program. So thank you for providing that opportunity for  
25 them. They remain excited as they prepare for a summer of

1 professional development resources and training,  
2 accelerators, bootcamps, mentor-matching. We're really  
3 excited to get that kicked off very soon with them.

4 And we are very excited also that these are our  
5 first CalSEED awardees. I think the quality of these  
6 applications and the review process they've gone through is  
7 great, is a great sight of what's to come. And we look  
8 forward to building this community of 100 entrepreneurs  
9 over the next five years, so thank you again for that  
10 opportunity.

11 CHAIRMAN WEISENMILLER: Thank you. Thank you  
12 both for being here.

13 Anyone else?

14 (No audible response.)

15 Well, I would note when I was in Beijing that I  
16 signed an agreement with ZPark. ZPark is the innovation  
17 hub for Tsinghua University. It's been in existence for  
18 about 20 years and it has 22 buildings, including a couple  
19 of high-rises. It gets right now, about a billion a year  
20 in revenues from firms that its spun off.

21 And as part of that it provides a connection  
22 between our innovation hubs in California. I had a  
23 representative of both L.A. Cleantech Incubator and CalCEF  
24 with me and we did a tour the next day and talked about the  
25 processes of both, certainly looking forward to connecting

1     them also with San Diego and Fresno.

2             Go ahead.

3             COMMISSIONER SCOTT: I will move approval of Item  
4     11.

5             COMMISSIONER DOUGLAS: Second.

6             CHAIRMAN WEISENMILLER: All those in favor?

7             (Ayes.)

8             This passes 3-0. Thank you.

9             Let's go on to Item 12.

10            MS. PERRIN: Good morning, Commissioners. I'm  
11     Karen Perrin with the Energy Efficiency Research Office.  
12     I'm recommending approval of this grant, with Lawrence  
13     Berkeley National Laboratory. This grant provides \$100,000  
14     of CEC cost-share to leverage \$1.5 million grant with the  
15     Department of Energy.

16            The Energy Commission's grant was a result of the  
17     competitive solicitation to leverage federal investments  
18     that provide significant benefits to the California IOU  
19     ratepayers.

20            The goal of this agreement is to develop a new,  
21     advanced wall insulation material using nanoparticles that  
22     can increase the energy efficiency of buildings. This is  
23     important, because the size and design restraints make it  
24     challenging to retrofit existing buildings with high-  
25     efficiency insulation. Conventional insulations are

1 economical, but have low R-values and require using thick  
2 materials, which cannot be incorporated into most retrofit  
3 projects. This 41-month agreements goal is to develop a  
4 highly effective retrofit insulation that achieves two to  
5 four time increase in R-value, is economical and doesn't  
6 increase the cost of insulation, and fits within the space  
7 limitations of existing buildings.

8           Final project results can be expected by 2020.  
9 Testing and demonstration will be at LBNL. A significant  
10 market for building insulation is within the retrofit  
11 market, but this material can be used in both the retrofit  
12 and new construction.

13           I request approval of this agreement and I'm  
14 happy to answer any questions.

15           CHAIRMAN WEISENMILLER: Thank you.

16           First, let's start with is there anyone either in  
17 the room or on the line who wants to comment on this?

18           (No audible response.)

19           Then let's transition to the Commissioners.

20 Well, obviously I was going to say there's been a couple of  
21 different attempts to get sort of high-impact insulation in  
22 sort of shorter or a thicker space. I know at one point  
23 with LBL, the big new thing was aerogels, which I think are  
24 still a big new thing which never quite happened. But  
25 anyway, hopefully this one can really make a big

1 difference. And allow us again, to meet our building code  
2 requirements which we talked about earlier today, but in a  
3 cheaper, easier fashion.

4 COMMISSIONER DOUGLAS: All right, I'll move  
5 approval of this item.

6 COMMISSIONER SCOTT: Second.

7 CHAIRMAN WEISENMILLER: All those in favor?

8 (Ayes.)

9 This passes 3-0. Thank you.

10 Let's go on to 13.

11 MR. LOREDO-CONTRERAS: Good morning Chair and  
12 Commissioners. I am Ostap Loredon-Contreras from the R&D  
13 Division's Energy Systems Research Office. This agreement  
14 is one of the nine proposed projects from awards under the  
15 EPIC solicitation titled "Advanced Vehicle Integration  
16 Research and Demonstration."

17 This agreement with NUVVE Corporation will  
18 address the problems of electric vehicle ownership costs,  
19 possible congestion and overloading on the power grid due  
20 to EV charging and the need for ramping and frequency  
21 regulation to integrate more renewable power.

22 The project will demonstrate the integration of  
23 charging stations and passengers' vehicles, EV vehicles,  
24 from a number of manufacturers and will perform grid  
25 services to benefit EV drivers, the charging facilities and

1 the wider grid; services including demand response, voltage  
2 and frequency regulation and facility load and balancing  
3 with the aim of commercializing these services for private  
4 EV drivers.

5           Thirty DC fast-charge stations and twenty bi-  
6 directional stations will be installed at UC San Diego's  
7 microgrid and an off-of-campus zero-net energy warehouse.

8           UC San Diego will deploy California's most  
9 advanced solar forecasting capability, funded previously by  
10 the Energy Commission, to coordinate fast ramping in  
11 response to solar fluctuations. UC San Diego's microgrid  
12 will provide additional simulation capabilities and  
13 research value.

14           The project will optimize the blend of one-  
15 directional managed charging and bi-directional vehicle-to-  
16 grid and vehicle-to-building functions for different  
17 applications.

18           The project will show the value of electric  
19 vehicles as distributed energy resources, with the ability  
20 to defer or eliminate the need for grid upgrades, to  
21 upgrade the duck curve, to address the duck curve and to  
22 enable greater renewable energy penetrations.

23           The research project is the largest EPIC project  
24 involving individually owned electric vehicles, whose  
25 drivers can opt in to the research program. UC San Diego

1 uniquely has access to approximately 200 electric vehicles  
2 not affiliated with the campus fleet. Few or no other  
3 sites can offer this level of electric vehicles  
4 opportunity.

5 Staff recommends approval of this agreement. And  
6 I am available to answer any questions that you may have.

7 CHAIRMAN WEISENMILLER: Great. First, any  
8 comments from anyone in the room or on the line? I  
9 believe, Nish Mehta?

10 MR. MEHTA: Yeah, hi. This is Nish Mehta. I'm  
11 the CFO for NUVVE Corporation. And just wanted to thank  
12 everybody for giving us the opportunity to have this  
13 project and we're available for any questions.

14 CHAIRMAN WEISENMILLER: Great, thank you.

15 Yeah, it's sort of people making progress. So I  
16 would note one of the cities I visited in China, they're  
17 going to within a year have 14,000 buses, 700 patrol cars  
18 and 2,000 taxis, all electric. And so anyway, China is  
19 really forcing us to step up our game. And hopefully we  
20 can get some synergies between the two of us.

21 COMMISSIONER SCOTT: I got a great briefing on  
22 this project. And one of the things that I think is really  
23 exciting about it is that there's the 200 EVs that are just  
24 will come and plug in when they feel like it. And they  
25 might be there that day or they might not be there that



1 day. And being able to manage what that looks like in  
2 terms of the grid services, I think, will be really  
3 interesting.

4 And it's different from some of the other  
5 projects we've done where we had a set fleet and we know  
6 what time it's going to be charging, when it's not going to  
7 be charging. So, I'm very much looking forward to the  
8 results of this one.

9 And I will move approval of Item 13.

10 COMMISSIONER DOUGLAS: Second.

11 CHAIRMAN WEISENMILLER: All those in favor?

12 (Ayes.)

13 This passes 3-0. Thank you.

14 Let's go on to Item 14.

15 MS. GOULD: Yes, good morning. My name is Angie  
16 Gould from the Energy Research & Development Division. And  
17 I'm here to request your approval of six of the twelve  
18 grant agreements recommended for funding under a  
19 competitive solicitation to advance the deployment and grid  
20 integration of distributed solar resources through the use  
21 of energy storage, smart inverters and advanced forecasting  
22 and modeling techniques.

23 This solicitation covered six project groups.  
24 And the agreements I'm presenting for your approval today  
25 cover three of those project groups. There's Group 1:

1 Pilot Demonstration of Advanced Solar and Storage  
2 Technologies for Community-Scale Application. Group 4:  
3 Advanced Smart Inverter Capabilities to Support High-  
4 Penetration Solar. And Group 6: Energy Storage Deployment  
5 to Facilitate Storage Interconnection and Enable  
6 Integration of High-Penetration Distributed Solar.

7           The first project with EPRI is for the  
8 installation of community-scale solar generation and  
9 storage with an energy management system in a low income,  
10 multi-family disadvantaged community. The project will  
11 include high efficiency bifacial solar, the use of DC mini-  
12 grids to eliminate conversion losses and improve efficiency  
13 and models to incentivize customers to provide grid  
14 services and to share customer-owned resources on the  
15 customer side of the meter.

16           Another objective of the project is to  
17 demonstrate a cost-effective solution to achieving Zero Net  
18 Energy within an affordable housing community to realize  
19 California's 2020 goal for new sustainable and scalable ZNE  
20 communities.

21           The project with Advanced Microgrid Solutions  
22 will test, validate and demonstrate all eight Phase III  
23 functions recommended by the Smart Inverter Working Group,  
24 which is facilitated by the Energy Commission and the CPUC  
25 to provide recommendations under the CPUC's Rule 21

1 Proceeding. The Phase III smart inverter functions give  
2 grid operators visibility to DER resources and enable the  
3 DER to respond to signals to provide grid services.

4           The goal of this agreement is to support higher  
5 penetrations of solar on the grid, decrease distributed PV  
6 integration costs, increase circuit hosting capacity and  
7 enhance the value of distributed PV to consumers and the  
8 grid.

9           The next project with EPRI will demonstrate  
10 energy storage at an elementary school at the end of a  
11 distribution feeder that's prone to voltage issues and with  
12 limited PV hosting capacity. This project will provide new  
13 data, analysis and design for cost-effective integration of  
14 distributed PV with energy storage. This will improve  
15 reliability at two levels: one is at the distribution  
16 system level, by mitigating adverse PV impacts such as  
17 voltage violations; and the second is at the bulk level, by  
18 leveling out the duck curve and limiting dependency on  
19 operating reserves.

20           The project with Natural Capitalism Solutions  
21 will use distributed energy storage as part of an optimized  
22 local energy system that increases the ability of the  
23 distribution grid to support far more local PV generation  
24 while improving overall grid operations and economics.

25           The Valencia Gardens Energy Storage Project will

1    deploy 750 kilowatt hours of energy storage at a public  
2    housing complex in a disadvantaged community in San  
3    Francisco's Mission District. This project will provide a  
4    replicable model for California by deploying local energy  
5    storage in front of the meter that achieves multiple uses:  
6    interoperability with normal grid operations, including  
7    participation in existing wholesale markets, enhanced  
8    interconnection hosting capacity to accommodate far more  
9    local solar and solar-driven backup power for prioritized  
10   loads.

11            The project with UC Riverside will demonstrate a  
12   community-scale solar PV and energy storage system in a  
13   multi-family supportive housing building located in a  
14   disadvantaged community. The system will feature an energy  
15   management system that will coordinate solar PV generation  
16   with battery energy storage, provide reactive power support  
17   and shed peak demand.

18            The project will also assess various smart  
19   inverter functions, such as Volt-VAR control mode, which is  
20   a Phase 1 autonomous function and Volt-Watt control mode,  
21   which is a Phase 3 function.

22            The individual components will also be integrated  
23   on the DC side to facilitate efficient and cost-effective  
24   routing of electricity.

25            The final project with EPRI will include the

1 comprehensive evaluation of the Phase III smart inverter  
2 functions recommended by the Smart Inverter Working Group.  
3 Specifically, this project involves: 1) Implementing the  
4 Phase III functions in a commercial residential inverter;  
5 2) Performing laboratory testing to assess implementability  
6 and performance of Phase III functions in the UC San Diego  
7 smart inverter testing lab; 3) Installing roof-top solar PV  
8 panels and residential-scale inverters with Phase III  
9 functions at multi-family residential sites; and 4)  
10 Performing field pilot testing of 50 residential inverters  
11 at multi-family residential sites.

12 I request the Commission's adoption of the  
13 proposed resolutions approving these six agreements and  
14 making findings that the proposed projects are, as  
15 applicable, categorically or statutorily exempt under CEQA,  
16 the reasons stated in the backup materials provided to each  
17 of you and posted on our website. And I'll now take any  
18 questions you may have.

19 CHAIRMAN WEISENMILLER: Great, thank you. First,  
20 any comments from anyone in the room or on the line?

21 (No audible response.)

22 Then let's transition to the Commissioners.

23 I'm on the Lead on the Research area. And again,  
24 this is sort of an exciting group of projects. Certainly,  
25 I think the capabilities of smart inverters are critical,

1 going forward. And it's great to have some real-world  
2 experience with them. With all the Phase III functions, a  
3 couple of different approaches on that that's critical.

4 At the same time, it's really encouraging.  
5 Obviously, one our policies is to really make sure all  
6 Californians can benefit in our research. And so, having  
7 some of these demonstration projects located in low-income  
8 areas or disadvantaged communities is really critical,  
9 moving forward. So, it's great to see those pieces too.

10 MS. GOULD: Thank you.

11 COMMISSIONER DOUGLAS: Yeah, it's really exciting  
12 to see these projects move forward. And these are  
13 definitely projects that bring real benefits from clean  
14 energy to people where they can really enjoy them and see  
15 them and understand how they can make a difference in their  
16 communities. So, I'm very supportive. I'll move approval  
17 of this item.

18 COMMISSIONER SCOTT: Second.

19 CHAIRMAN WEISENMILLER: All those in favor?

20 (Ayes.)

21 So, this passes 3-0. Thank you.

22 MS. GOULD: Thank you.

23 CHAIRMAN WEISENMILLER: Let's go on to 15,  
24 Natural Gas Engine Improvement Efficiency Research and  
25 Development.

1                   MR. CHEN: Good morning Chair and Commissioners.  
2   My name is Peter Chen. I'm with the Energy Research and  
3   Development Division's Energy Generation Research Office.  
4   I'm here to request approval for three proposed agreements  
5   selected through as competitive solicitation to improve the  
6   efficiency of natural gas engines for transportation use.  
7                   Near-zero emission natural gas engines are now  
8   commercially available and can have a significant role in  
9   reducing NOx emissions from heavy-duty vehicles in  
10  California's severely polluted air basins. However, there  
11  is a 10 to 20 percent efficiency gap between current  
12  natural gas engines and equivalent diesel engines. This is  
13  identified in the 2015 Natural Gas Vehicle Research Roadmap  
14  as a major barrier to wider adoption of heavy-duty natural  
15  gas vehicles. The purpose of this solicitation was to  
16  reduce this efficiency gap, specifically targeting  
17  efficiency improvements in heavy-duty natural gas engines  
18  that are capable of achieving near-zero emissions.  
19                  The first agreement is with Transient Plasma  
20  Systems who will develop a low-energy, non-thermal plasma  
21  ignition system that improves combustion stability of  
22  natural gas engines. The ignition system uses an ultra-  
23  short duration, low-energy pulse to produce a more  
24  effective discharge than conventional spark ignition. This  
25  allows the engine to operate at higher pressure and higher

1 exhaust gas recirculation rates, resulting in increased  
2 efficiency.

3           Transient Plasma Systems will design a compact  
4 and robust power module for integration of the ignition  
5 system with a 6-cylinder engine and conduct a manufacturing  
6 analysis to estimate manufacturing costs and system life.  
7 The ignition system will be integrated and demonstrated on  
8 a prototype ultra-low NOx 12-liter engine at Argonne  
9 National Laboratory. Cummins Westport is providing the  
10 test engine and engineering support as match with an  
11 equivalent value of \$62,000.

12           The second agreement is with Southwest Research  
13 Institute, for the development and integration of dedicated  
14 exhaust gas recirculation on a 12-liter Cummins Westport  
15 natural gas engine to improve efficiency. Dedicated EGR  
16 routes the entirety of the exhaust from one or two  
17 cylinders to the remaining cylinders of the engine. The  
18 cylinders dedicated to producing the exhaust are run rich,  
19 producing carbon monoxide and hydrogen. These products of  
20 partial oxidation will improve knock tolerance, dilution  
21 tolerance and combustion rates in the remaining cylinders.

22           In addition, an optimized turbocharger will be  
23 developed and advanced ignition strategies will be tested  
24 to extend the rich limit of natural gas combustion.

25           Southwest Research Institute will use an advanced



1 after-treatment system developed in a recently completed  
2 project with ARB to keep NOx emissions at the near-zero  
3 level. SoCalGas is providing \$200,000 of match share.  
4 And Woodward is supplying \$50,000 of equivalent match for  
5 the advanced ignition technology and engine control system.

6 The third agreement is with North American  
7 Repower, who will modify a 13-liter Detroit Diesel engine  
8 to lean-burn natural gas operation and demonstrate a 10 to  
9 16 percent efficiency improvement compared to current  
10 stoichiometric engines. North American Repower will  
11 establish a modeling and simulation platform to guide the  
12 design optimization of key subsystems, such as the air  
13 handling and fuel injection system. In addition, North  
14 American Repower will test pre-chamber ignition and Corona  
15 ignition to extend the lean limits of natural gas  
16 combustion.

17 By incorporating SCR after-treatment, the engine  
18 will demonstrate NOx emissions down to the 0.02 gram-per-  
19 brake-horsepower- hour level, with emissions testing to be  
20 done at UC Riverside.

21 The project will be receiving \$200,000 from South  
22 Coast AQMD and \$150,000 from SoCalGas as match share.

23 I recommend approval for these proposed  
24 agreements and will be happy to answer any questions.  
25 Representatives from Transient Plasma Systems, Southwest

1 Research Institute and North American Repower are also on  
2 the line to answer any questions.

3 CHAIRMAN WEISENMILLER: Great. Thank you.

4 First, any comments from anyone in the room?  
5 Then let's transition the line and I'll give each of you a  
6 chance to say a few words. I've got cards from or tags  
7 from b. and c., so Southwest Research Institute and North  
8 American Repower. Okay, if you -- certainly, can you -- ?

9 MR. KOSSIS: Good afternoon.

10 CHAIRMAN WEISENMILLER: Go ahead, please.

11 MR. KOSSIS: This is Michael Kossis from  
12 Southwest Research Institute. I just wanted to take a  
13 moment to thank you for the opportunity to work on applying  
14 our dedicated EGR technology to a heavy-duty natural gas  
15 engine. We have shown in previous projects, both  
16 internally and externally, that dedicated EGR has potential  
17 for application on a natural gas engine. And with the  
18 funding that we should be receiving, I think we can  
19 overcome the challenges that are left and close the gap  
20 between natural gas engines and diesel engines in the  
21 heavy-duty market in terms of efficiency and emissions.  
22 Thank you.

23 CHAIRMAN WEISENMILLER: Thank you.

24 Mr. Reed, do you want to say anything? Or just  
25 answer questions?

1 DR. REED: If I can? Yes, this is Dr. John Reed  
2 from North American Repower. I wanted to thank the  
3 Commission for all the work that you do in promoting clean  
4 tech here in California, that I'm proud to say that we are  
5 recipients of CEC funds.

6 And it carries a lot of clout and it's allowed us  
7 to grow and develop from a very small, basically dream of a  
8 couple of guys to a nationally renowned company at this  
9 point. We have folks from the DiCambio Foundation and the  
10 Gates Foundation (phonetic) that are working with us now.  
11 I mean, it's just really exciting stuff.

12 And the projects that you've chosen here are all  
13 very promising. And I wanted to thank you and thank you  
14 for the staff that you provide. They've been great in  
15 helping us basically, become grant-worthy. So again, thank  
16 you for all that you do.

17 CHAIRMAN WEISENMILLER: Great, thank you.

18 Anyone else on the line? Okay, let's transition  
19 to the Commissioners.

20 COMMISSIONER SCOTT: So this is another really  
21 interesting one. I got a great briefing from Peter just  
22 yesterday on this. And I think he said this, but it's  
23 worth underscoring, that what's exciting I think about all  
24 three of these engines is the potential for them to be  
25 operating at near zero levels and closing the efficiency

1 gap that we have between natural gas and diesel engines,  
2 which will make them much more competitive in the  
3 marketplace should these projects come to fruition and get  
4 into the commercial sector.

5 So, it's pretty exciting to help fund I think,  
6 this type of project, so I will move approval of Item 15.

7 COMMISSIONER DOUGLAS: Second.

8 CHAIRMAN WEISENMILLER: All those in favor?

9 (Ayes.)

10 This passes 3-0. Thank you.

11 Let's go on to Item 16, Natural Gas Storage  
12 Infrastructure Safety and Integrity Risk Modeling Research  
13 Grants.

14 MR. GRAVELY: Good morning Chair Weisenmiller and  
15 Commissioners. I'm Mike Gravely from the R&D Division.

16 As a result, with the Aliso Canyon and other  
17 recent gas system challenges, Congress passed a protection,  
18 protecting our infrastructure of pipes and enhancing  
19 safety, the PIPES Act of 2016. One of the actions of that  
20 PIPES was to direct Department of Energy and Department of  
21 Transportation to form a working -- a taskforce with all  
22 relevant parties, and perform an analysis of the Aliso  
23 Canyon event and make recommendations to reduce the  
24 potential of occurrence of a similar event in the future.

25 One of the key recommendations from this

1 taskforce was for system operators to adopt risk management  
2 plans that included rigorous monitoring, well integrity  
3 evaluations, leakage surveys, mechanical integrity tests  
4 and conservative assessment intervals.

5           A second recommendation was for new wells to be  
6 designed so that single point of failure cannot lead to a  
7 leakage or uncontrolled flow. This solicitation was  
8 seeking new approaches to developing risk management tools  
9 and models to assist in natural gas utilities in managing  
10 their underground facilities and meeting the new regulatory  
11 requirements. The two highest-scored proposals from the  
12 solicitation is being offered today for approval for a  
13 total of just under \$5.4 million.

14           The Lawrence Berkeley National Lab Project will  
15 develop a risk management tool based on sets of process  
16 models that can evaluate scenarios, monitor data from both  
17 new sensors that they will install as well as sensors that  
18 are already installed and to be able to collect this data,  
19 build a supervisory interface to support users in making  
20 decision from data collection, taking preventive measures  
21 and mitigation when emergencies occur. The tool will  
22 provide increased management capability of the safety and  
23 integrity of the underground well.

24           The DN VL KIMA -- I'm sorry, DNV GL Project will  
25 be a scenario-based model that uses systems conditions,

1 available data and probabilistic analysis to develop future  
2 risk profiles to assist a utility in managing the storage  
3 facility safely and reliably.

4           These tools will provide -- will develop to  
5 assist the utilities in their management of the underground  
6 storage during normal conditions and when unexpected  
7 occurrences, challenges occur, to provide them information  
8 on how best to respond to different contingencies.

9           I'm requesting approval for these two grants  
10 today and prepared to answer any questions.

11 Representatives from both LBNL and DNV GL are on the line  
12 if you have any technical questions.

13           CHAIRMAN WEISENMILLER: Thank you. Is there  
14 anyone in the room who has any comments? Okay. How about  
15 on the line? I was going to say to give both of you a  
16 chance to either say a few words or indicate you're only on  
17 the line for questions.

18           MS. ZHANG: I'm from the Lawrence Berkeley Lab.  
19 I would like to thank the Commission for the opportunity.  
20 We feel the risk management tool will provide real value to  
21 California. And then we are available to answer questions.  
22 Thank you.

23           MR. SRIDHAR: I want to thank the Commission for  
24 the opportunity to double up advanced risk management  
25 methods for gas storage. We are already working with the

1 California utilities on advanced risk management  
2 methodologies for natural gas pipelines, using CEC funding.  
3 So the new project will dovetail with what we are doing  
4 currently. Thank you.

5 CHAIRMAN WEISENMILLER: Thank you.

6 Let's transition over to the Commissioners.  
7 Obviously, in recent years, we've been dealing with some of  
8 the risk of natural gas pipelines and storage projects.  
9 And certainly, on Aliso Canyon we worked closely with both  
10 DOGGR and with the PUC Safety Division on trying to go  
11 through, determine the risk, and come up with fixes there.  
12 And certainly as part of that activity, has been the  
13 opportunity to work with the Department of Energy,  
14 particularly Lynn Orr, when he was the Deputy Secretary.  
15 And certainly then the National Labs' have been a key part  
16 of our team, as we've gone through some of the risk  
17 assessment issues.

18 So again, it's very great to be able to use some of  
19 our limited research dollars to really expand our knowledge  
20 in these areas.

21 COMMISSIONER SCOTT: I will move approval of Item  
22 16.

23 COMMISSIONER DOUGLAS: Second.

24 CHAIRMAN WEISENMILLER: All those in favor?

25 (Ayes.)

1           This passes 3-0. Thank you.

2           Let's go on to Item 18.

3           MR. PENA: Good morning Chairman and  
4 Commissioners. My name is Nelson Pena of the Local  
5 Assistance and Financing Office in the Efficiency Division.  
6 Today I'm requesting approval of the Energy Conservation  
7 Assistant Act, also known as the ECCA Loan, to Princeton  
8 Joint Unified School District. The application is for a  
9 \$500,000 ECCA-ED funded loan to implement the installation  
10 of two separate fixed-access solar photovoltaic electric  
11 generation systems at its district-owned schools.

12           The loan will fund a single 110.5 kWdc  
13 photovoltaic system at Princeton High and Junior High  
14 School and a 40.2 kWdc photovoltaic system at the Princeton  
15 Elementary School in support of the district schools. Both  
16 photovoltaic systems combined are expected to produce  
17 approximately 229,089 kWh of electricity annually for the  
18 District.

19           The District will save over \$41,831 annually and  
20 reduce carbon dioxide equivalent, CO2e, in greenhouse gas  
21 emissions by 70 tons each year. The photovoltaic systems  
22 will be on District-owned land. And the solar investment  
23 tax credit is not applicable.

24           The Energy Commission staff has determined that  
25 this loan is technically justified and is based on the loan



1 amount. The calculated simple payback for this loan will  
2 be approximately 11.9 years, which is within the 20-year-  
3 payback-period requirement for the loan program and is  
4 within the 20-year effective useful life of the solar  
5 photovoltaic performance.

6 With this information, I request your approval of  
7 this item for the Princeton Joint School District. And I'm  
8 happy to answer your questions you may have.

9 CHAIRMAN WEISENMILLER: Thank you.

10 So let's start with any comments from anyone in  
11 the room? Anyone on the line?

12 (No audible response.)

13 So let's transition over to the Commissioners.

14 COMMISSIONER DOUGLAS: You know, I just wanted to  
15 say it looks like a very good project. I'll move approval  
16 of this item.

17 COMMISSIONER SCOTT: Second.

18 CHAIRMAN WEISENMILLER: All those in favor?

19 (Ayes.)

20 This passes 3-0. Thank you.

21 Let's go on to 19, Local Government Challenge.

22 MS. FISHER: Good morning Chair and

23 Commissioners. My name is Anne Fisher with the Efficiency  
24 Division's Local Assistance and Financing Office.

25 The Local Government Challenge Grant Program is

1 part of the Energy Commission's Existing Buildings Energy  
2 Efficiency Action Plan, which provides a roadmap to  
3 transform California's existing residential, commercial and  
4 public buildings to become high-performing and energy-  
5 efficient. The Action Plan serves as an important tool in  
6 the implementation of components of Senate Bill 350, which  
7 requires the Energy Commission to establish targets and  
8 meet goals to double energy efficiency in buildings.

9           The Local Government Challenge solicitation  
10 offered two funding opportunities: The Energy Innovation  
11 Challenge for innovative implementation of projects, and  
12 the Small Government Leadership Challenge, for smaller  
13 local governments to create and implement measures in  
14 Climate Action Plans and other climate planning documents.  
15 The Local Government Challenge is funded by the federal  
16 American Recovery and Reinvestment Act or ARRA.

17           Today, I have 13 agreements resulting from the  
18 Local Government Challenge grant solicitation for your  
19 consideration. Each of these local projects either help  
20 further the statewide goals for reducing energy consumption  
21 and greenhouse gases, or help facilitate the success of  
22 market transformation programs, such as the implementation  
23 of statewide benchmarking for non-residential buildings as  
24 required by AB 802.

25           The first grant to the Energy Council will launch

1 a project to accelerate multifamily building upgrades in  
2 Bay Area jurisdictions. The opportunity will enable  
3 broader consideration of multifamily energy assessment  
4 ordinances, ensuring that benchmarking and disclosure is  
5 feasible in the multifamily sector.

6 The second grant for the City of San Diego will  
7 launch an advanced Smart City Open Urban Platform network,  
8 which will automatically track, benchmark and reduce  
9 greenhouse gas emissions and energy use associated with its  
10 municipal facilities.

11 The third grant with the City of Del Mar, I want  
12 to point out the findings staff is asking the Commission to  
13 make under the California Environmental Quality Act or,  
14 CEQA, as well as request approval of the agreement.  
15 Regarding the proposed CEQA findings, the City of Del Mar  
16 is the lead agency with the Commission acting as the  
17 responsible agency. Commission staff has reviewed the City  
18 of Del Mar's Environmental Impact Report and Notice of  
19 Determination and has determined that the work to be  
20 performed under this proposed agreement presents no new  
21 significant or substantially more severe environmental  
22 impacts beyond those already considered and mitigated.

23 Regarding the project itself, this project will  
24 install 62.6 kilowatt photovoltaic system on the roof of  
25 the new city hall currently under construction. And

1 install a battery energy storage system to provide a  
2 minimum of five hours backup or supplemental power.

3           The fourth grant agreement with the San  
4 Bernardino Council of Governments funds eight local  
5 jurisdictions to update the 2014 San Bernardino County  
6 Regional Greenhouse Gas Reduction Plan. The eight sub-  
7 regional partner cities include Adelanto, Barstow, Big Bear  
8 Lake, Hesperia, Needles, Twentynine Palms, Victorville and  
9 Yucca Valley.

10           The fifth grant with the County of San Luis  
11 Obispo will fund a pilot project study identifying the  
12 feasibility of deep neighborhood based energy savings in a  
13 disadvantaged community.

14           The sixth grant with the City of Santa Cruz will  
15 add Building Automation System software and hardware to the  
16 Police Station and the City Hall Annex.

17           The seventh grant agreement with Ventura County  
18 Regional Energy Alliance will develop community and  
19 municipal energy action plans for four communities in Santa  
20 Barbara and Ventura counties.

21           The eighth grant agreement with Marin Clean  
22 Energy will design and implement a replicable Community  
23 Choice Aggregator Program to remove the barriers to  
24 deployment of distributed energy resources.

25           The ninth grant agreement with Marin General

1 Services Authority will implement the Resilient  
2 Neighborhoods Program, which is a grassroots effort to  
3 reduce residential building energy use.

4 The tenth grant agreement with Gateway Cities  
5 Council of Governments will prepare a Climate Action  
6 Planning Framework. Many members of the Gateway Cities  
7 COGs have not developed climate action plans. And the  
8 Climate Action Plan framework will help members adopt  
9 climate action plans and take additional steps toward  
10 reducing their greenhouse gas emissions.

11 The eleventh grant with the City of Santa Barbara  
12 will develop a detailed City of Santa Barbara Zero Net  
13 Energy Roadmap and Implementation Plan. The plan will  
14 include energy efficiency and renewable energy upgrade  
15 measures for city-owned buildings.

16 The twelfth grant with the City of San Leandro  
17 will implement high efficiency LED lighting, a new Building  
18 Automation System and a 1 megawatt solar photovoltaic power  
19 generation system at the City's Water Pollution Control  
20 Plant.

21 And the final grant with the City of Galt will  
22 develop a Climate Action Plan, Transportation Corridor  
23 Management Plan, and Master Plan.

24 I'm available to answer any questions. Thank  
25 you.

1                   CHAIRMAN WEISENMILLER:   Great.   Thank you.

2                   First, are there any comments from anyone in  
3 the room or on the line?

4                   (No audible response.)

5                   I was going to start by reading a statement from  
6 Commissioner McAllister, who obviously there's a lot of  
7 items on today's agenda that were near and dear to his  
8 heart, but this was the one we provided a written comment.  
9 So anyway, "Improving the performance of our existing  
10 buildings is fundamental to achieving our climate and  
11 energy goals. Most pointedly, the SB 350 Doubling Goal.

12                  "Local governments are critical partners for any  
13 effort to accomplish this. They touch every single  
14 significant construction project that happens in the state.  
15 Yet local governments are not often enough taken into  
16 account during state level policy discussions and face many  
17 barriers to properly manage the build environment in their  
18 jurisdictions. The local government challenge will help  
19 spawn innovative, practical solutions to many of these  
20 barriers.

21                  "I am extremely encouraged by the quality, depth  
22 and diversity of the many proposals. And look forward to  
23 working with all of them, going forward. I'm hopeful that  
24 the challenge can continue into the future, based upon the  
25 success of these first efforts.

1           "I'd like to thank staff for their great and  
2 persistent work to define the opportunity for this  
3 Initiative and mobilize the available existing funds and  
4 manage the RFP to bring this item to the Commission today."

5           Again, I would agree with Commissioner McAllister  
6 that certainly one of -- we have a number of challenging  
7 goals -- but one of the more important ones is doubling  
8 energy efficiency, which really ties back to existing  
9 buildings. And while we often look to the utilities as our  
10 partners on energy efficiency, one of the noticeable gaps  
11 has been local governments. Certainly, in the first Brown  
12 Administration, one of the things that Tom Hayden really  
13 championed was local government involvement in renewables  
14 and energy efficiency through the Solar - CAL Network.

15           So anyway, it's great to see this moving forward.

16           COMMISSIONER DOUGLAS: Yes, I'll move approval of  
17 this.

18           COMMISSIONER SCOTT: Second.

19           CHAIRMAN WEISENMILLER: All those in favor?

20           (Ayes.)

21           This passes 3-0. Thank you.

22           Let's go on to Item 20, Discussion of Energy  
23 Commission Progress Regarding Implementation of the Clean  
24 Energy and Pollution Reduction Act of 2015, SB 350.

25           MR. SOKOL: All right. Good morning

1 Commissioners. I'm Michael Sokol, here today to provide an  
2 update on SB 350 implementation. And today it'll be a  
3 pretty brief update, just like an updated schedule of  
4 activities. And I was actually tweaking the formatting on  
5 this schedule a little bit this morning. It looked like I  
6 might have messed it up a little bit, so we'll get an  
7 updated version posted on the website. But it's got the  
8 relevant information there.

9           And I really just wanted to run through there's a  
10 lot happening on the SB 350 schedule right now, and so I  
11 wanted to touch on a few key topics starting with the  
12 Integrated Resource Planning, which is all being conducted  
13 under the 17-IEPR-07 docket here. So there were a number  
14 of activities since the last business meeting update.

15           We had some comments due on the Transportation  
16 Electrification IRP workshops that were held in April. And  
17 so we had staff looking through and kind of digesting  
18 those. And figuring out how to incorporate needed  
19 revisions into the draft guidelines which, on May 25th  
20 there was a workshop on the draft guidelines, for publicly  
21 owned utility integrated resource plans. And so that was  
22 held here. We heard from stakeholders and the publicly  
23 owned utilities on some of the thoughts on the Draft  
24 Guidelines that had been posted, ahead of that workshop.  
25 So actually, looking forward, we have comments due on that,



1 on the Draft Guidelines by tomorrow June 15th.

2 And so we're going to look through any comments  
3 from stakeholders, look to incorporate any needed revisions  
4 into the guidelines and ultimately leading up to  
5 Consideration of Adoption at the August business meeting  
6 here in Sacramento. So there's a requirement to post the  
7 final guidelines 30 days and give notice of 30 days ahead  
8 of Consideration of Adoption, so that's the schedule that  
9 staff is working on.

10 I should also note there were two separate  
11 webinars, staff-level webinars, to support the IRP  
12 Guidelines development that were held on May 31st. And so,  
13 the comments that we're looking at tomorrow cover the May  
14 25th Draft Guidelines workshop as well as the two webinars  
15 that were held on May 31st. And so, we'll incorporate all  
16 those comments into that final draft that will be  
17 considered in August.

18 Second up here, you see the Low-Income Barriers  
19 Implementation Update. Really, the key activity is looking  
20 at workshop coming up on August 1st that we are actively  
21 planning for.

22 And this all follows up on a workshop that was  
23 held on May 16th, which is not shown here, but is on the  
24 previous schedule. And that was the first implementation  
25 workshop for the Low-Income Barriers Study. There was a

1 very good discussion. It was full day-packed agenda. It  
2 covered a number of the recommendations from the Barriers  
3 Study, including potential solutions for multi-family  
4 building issues, regional outreach and one-stop-shop  
5 pilots. There was a presentation from our team on better  
6 use of data to track progress. And a case study from Los  
7 Angeles Department of Water and Power. And then, in the  
8 afternoon there were a couple of other panel discussions on  
9 workforce development strategy for clean energy and also  
10 looking at clean energy financing pilots.

11 And so, I should mention there was really strong  
12 participation from other agencies. We had the CPUC was  
13 here and had a number of Commissioners that were present,  
14 ARB participated. We had the Governor's Office here as  
15 well to give some opening remarks and stick around for part  
16 of the discussion.

17 And all of this is supporting this inner-agency  
18 task force effort, really looking at strong coordination  
19 amongst the agencies facilitated by the Governor's Office.  
20 And as we discussed at the workshop there was sort of a  
21 kick-off task force meeting to bring in all the relevant  
22 representatives, make sure people are understanding what  
23 are the issues that were identified in the Barriers Study,  
24 and really help move forward that discussion on  
25 implementations of the recommendations. And so, there will

1 be a follow-up meeting that we're looking at dates for now,  
2 but likely in a July timeframe and looking at kind of a bi-  
3 monthly schedule for those, moving forward.

4           So I should move on to the next slide here, which  
5 is actually doubling of energy efficiency savings. Oh,  
6 well there's an issue -- I'm just going to walk through the  
7 key activities. There's only a couple of things here.  
8 We'll get an updated graphic onto the website here later  
9 this afternoon.

10           But for the doubling of energy efficiency savings  
11 this is on the 17-IEPR-06 docket. And really it's leading  
12 up to a workshop on June 19th, a staff-level workshop, to  
13 discuss the methodologies for ultimately establishing those  
14 targets. All leading up to another workshop in September  
15 that will bring together sort of the draft report and  
16 targets themselves for consideration at an October business  
17 meeting for potential adoption.

18           So there's a lot of analysis going on behind the  
19 scenes, a lot of discussions with CPUC. Making sure that  
20 everyone's on board with the methodologies that we're  
21 proposing. And so we'll see more about that on the 19th.

22           And lastly is the Energy Data Collection  
23 Rulemaking. And really this is working towards  
24 finalization of this initial Phase I package as we've  
25 discussed at the previous business meetings, that looks at

1 by the end of June getting that to Office of Administrative  
2 Law, which will begin sort of the open 45-day comment  
3 period. And marching ahead towards, what we're targeting,  
4 is an October business meeting consideration to try and hit  
5 a January 1 effective date for the Phase I recommendations  
6 -- excuse me, the Phase I rulemaking.

7           So again, that's kind of a high-level overview.  
8 There's a lot of activities that are going on to support  
9 all of these workshops and events and meetings. Oh, there  
10 you go, there's the updated graphic there, so we'll make  
11 sure this posted.

12           And I just wanted to lastly say thank you to the  
13 Media Office and Bailey Wobschall specifically, for helping  
14 to develop this schedule and to keeping it updated on a  
15 monthly cadence here. And so we want to get as much  
16 information on the upcoming events out to the public in a  
17 timely manner.

18           And so if there's any questions or comments  
19 please let me know. I'll be happy to answer those.

20           CHAIRMAN WEISENMILLER: Well, again thanks again  
21 Michael for working with us to keep on track on this.  
22 Obviously, implementation of SB 350 is a high priority for  
23 this agency. And I think we really appreciate your  
24 efforts, sort of pulling across the silos, to make sure  
25 we're getting things done.

1           Yeah, okay. So, let's go to 21, the Minutes.

2           COMMISSIONER SCOTT: Move approval of the

3 Minutes.

4           COMMISSIONER DOUGLAS: Second.

5           CHAIRMAN WEISENMILLER: All those in favor?

6           (Ayes.)

7           The Minutes passed 3-0.

8           Let's go to the Lead Commissioner and Presiding

9 Member Reports. Commissioner Scott?

10          COMMISSIONER SCOTT: Sure. I have just a few

11 things to update you all on. It's, as always, been another

12 busy month since we last had a chance to check in.

13          Just on Monday I got to have the opportunity to

14 speak with the California Women in Energy. And I joined

15 some folks from GM and Senator Skinner and others and we

16 talked about electric vehicles. And had just a nice chance

17 to answer some questions and participate in the California

18 Women in Energy forum.

19          On Monday last week we held our Energy Commission

20 Ports Collaborative, met together. We were joined by the

21 Port of San Diego, Port of Long Beach, Port of Los Angeles,

22 Port of Hueneme. Unfortunately, Stockton and Oakland

23 weren't able to make it to this in-person meeting. It was

24 a great chance to check in on how the projects that the

25 Energy Commission and others have helped fund are coming

1 along.

2           And then we had an opportunity to visit the BYD  
3 facility in Lancaster, so I want to say thank you very much  
4 to the Antelope Valley Air Pollution Control District for  
5 hosting our meeting, so that made it easy for us to get  
6 over to Lancaster and see BYD. BYD was really exciting to  
7 see. The number of buses that they are currently building,  
8 they're about to triple in size by August, which is pretty  
9 exciting. And for those of us who are part of the Ports  
10 Collaborative, what was really exciting was they have some  
11 yard hostlers and other port equipment that they're  
12 building. And some of them were actually literally, the  
13 piece of equipment that will be at the port. So we had fun  
14 taking pictures and kicking the tires on those, at that.

15           I had a chance to join the Center for New Energy  
16 and Economy dialogue. This was a couple of weeks ago.  
17 This was out in Denver. And it is a set of western states  
18 who initially gather together to talk about how we might  
19 want to work on the Clean Power Plan together and  
20 collaborate in that space. The Clean Power Plan, as you  
21 all know, is no more; at least as of right now. But the  
22 collaboration and the energy and the wanting to have the  
23 western states work together in partnership on issues that  
24 are critical to us is still very much in the forefront of  
25 everyone's minds. So it was really interesting to kind of

1 talk together and see what folks are thinking about in that  
2 space.

3           And many, many states in the west are moving away  
4 from coal and to natural gas and from natural gas into  
5 renewables. And a lot of the challenges that California  
6 faced, especially when San Onofre went down, trying to  
7 figure out what does the (indiscernible) support, and all  
8 of those other components that go along with that are  
9 things that are very much on the mind of our friends in  
10 other western states. So it was nice to be able to be a  
11 part of that dialogue.

12           I talked a little bit about electrification here  
13 in California and what we're doing in terms of integrating  
14 electric vehicles in to the Grid. And trying to address  
15 the infamous duck curve and that type of thing, which are  
16 issues that other western states might not have as acutely  
17 as we do here in California, but are coming. So it was  
18 nice to be able to just kind of trade notes and share  
19 information.

20           Two more events that I want to highlight, a  
21 couple of weeks ago I had an opportunity to go to the City  
22 of Gardena for GTrans. And they have repowered five of  
23 their internal combustion buses into all new -- well,  
24 they're repowered, but they look brand new -- electric  
25 buses. And they redid the seats and they have LED

1 lighting and fantastic windows and all of these types of  
2 things; they're wonderful. It was a great opportunity to  
3 put people to work to do those repowers and to start  
4 introducing electric buses into the City of Gardena fleet.  
5 So that was with GTrans.

6 One thing for me that was really exciting is  
7 Congresswoman Maxine Waters was there and she is fierce.  
8 And it was really great to have someone of her caliber  
9 excited about electric vehicles and also, to get to be at  
10 an event where she was, so that was pretty fun.

11 And then last I'll just highlight that we had an  
12 opportunity to do a ribbon cutting at the City of Fowler,  
13 which is in Fresno County. It's really exciting. We have  
14 13 solar-powered electric chargers. And so basically  
15 there's a solar panel. It feeds the energy into the  
16 battery and then people can drive their electric vehicles  
17 up there and charge in, so it's the nation's largest  
18 deployment of rural, solar EV chargers. It is in 13 of the  
19 15 cities in Fresno County, which is fantastic.

20 A funny thing from the event was that there was  
21 somebody plugged in to the charger when we got there. Just  
22 they were so excited that it was there they plugged their  
23 car in, so we had to find them so they could set up the  
24 event to get the transit in and that kind of thing. But it  
25 was really great. And it's great to see that kind of



1 deployment in the Central Valley and then to think about  
2 how can we accelerate that and expand that.

3 So those are a few things that I have been up to  
4 recently.

5 COMMISSIONER DOUGLAS: Great.

6 I just have a very brief report. I had an  
7 opportunity to go to Emeryville and visit one of the -- the  
8 only California company that has developed a floating  
9 platform for the offshore wind application, so Principle  
10 Power. And it was a great visit. And I really enjoyed  
11 seeing their office, seeing how they worked and their team  
12 and learning more about their technology.

13 CHAIRMAN WEISENMILLER: Great. I think Michael's  
14 covered some of the IEPR workshops we've had recently, so I  
15 will obviously, just talk about China.

16 And the Governor and Mary Nichols and I did a  
17 trade mission to China, that we visited the City of Chengdu  
18 and Sichuan. I can say Sichuan food is quite hot in case  
19 you really want to know. And pandas are, as the Governor  
20 said, they are at least as cute as Colusa. (phonetic) And  
21 certainly cuddly, I would have to say, certainly that part  
22 was. And then we went to Nanjing, took high-speed rail  
23 into Beijing, and yes the Governor still loves high-speed  
24 rail just to clarify that part.

25 And then in Beijing we did a number of events

1 that were centered around the Clean Energy Ministerial,  
2 including having a subnational component. And we actually  
3 -- or obviously Mary and I tended to be on different  
4 tracks. She tended to really focus on ZEV. For the  
5 record, the Chinese have about a million ZEVs. They have  
6 175,000 charger stations as of now. And as I said are  
7 making very serious activity, particularly in -- well,  
8 actually most of China has an air quality problem, but  
9 Beijing and Shanghai -- in terms of converting buses,  
10 taxis, cars over to (indiscernible) vehicles. I mean,  
11 basically at this point if you wanted to buy a vehicle or  
12 cars in Beijing you could either do an electric vehicle or  
13 you can go into a lottery to try to do an internal  
14 combustion.

15 COMMISSIONER SCOTT: They have a lottery for  
16 this.

17 CHAIRMAN WEISENMILLER: Right, you have to do a  
18 lottery. Yeah, so I mean it's a very strong push.

19 Mary and the Governor and I spent a lot of time  
20 trying to figure out ways to try to really harmonize what  
21 we're doing, what they're doing, and really drive costs  
22 down. Obviously if you want to send 5,000 chargers into a  
23 million chargers in China you would think charger cost will  
24 come down, for example, but again a lot of push on buses  
25 and other things there.

1           And in terms of -- I did a number of -- the  
2 Governor did a number of MOUs, I did a number of MOUs, Mary  
3 did a number of MOUs, all of which will be posted at some  
4 stage. But so generally have a lot more responsibility in  
5 the next 18 months on China.

6           But basically I would like to thank Alana  
7 Sanchez, Michael Murza, Fan Dai, (phonetic) for really  
8 helping pull the trip together. We were a pretty small  
9 group, you know. And people spent a lot of time pulling  
10 the pieces together and things worked remarkably well. So  
11 again, none of this comes easy. It takes a lot of that  
12 advance work.

13           In terms of conceptually, again the MOUs I was  
14 involved in -- or one of them -- really trying to tie  
15 together better our research and the Chinese research and  
16 basically clean tech.

17           Also, in terms of incubators, as I mentioned in  
18 the agreement I have with ZPark. We have space now and  
19 connections between our incubators in ZPark, which is just  
20 beyond world class in terms of innovation in that area.

21           And also we were surprised as this was coming  
22 together that we found a lot of Chinese institutions want  
23 to invest in clean tech in California. So we're in the  
24 process of organizing a China-California Clean Tech Fund,  
25 which again is sort of an awesome opportunity and again

1 just sort of at a very high level.

2 The other thing I would note of particular  
3 interest, is that we met both the City of Beijing Mayor and  
4 also with the Tsinghua University. And we're now going to  
5 have a -- Tsinghua is going to have a Climate Institute  
6 there, which is significant.

7 I would also note that we met with the President  
8 of China. You know, it's one of those things to wake up in  
9 the morning and suddenly see yourself on CNN or the Chinese  
10 equivalent had a much longer clip even, but I would note  
11 that we met with the President. Secretary Perry, who was  
12 there, met with the lowest-ranked member of the Politburo  
13 in Beijing when we were there. And we have the classic  
14 picture of the Governor and Perry shaking hands. The  
15 Governor, I would note, was on the up escalator and Perry  
16 was on the down escalator. But anyway yes, it was a great  
17 trip.

18 Anyway, let's go on to the Chief Counsel's  
19 Report.

20 MS. VACCARO: I just have one item this morning.  
21 You've indulged me in the past with introductions, so I  
22 thank you in advance for allowing me to do it again today.

23 We have, what I believe, are just three very  
24 personable, talented, impressive law students. I think  
25 some of you have seen them in meetings already. And I'd

1 like to just briefly introduce them.

2 We have Monika Darwish -- if you could all just  
3 stand up when I say your name -- Monika Darwish with us  
4 from UC Hastings. We have Lauren Murphy from UC Davis.  
5 And we have Sarah Rowan from Stanford.

6 And I'm, just as always pleased with this  
7 continuing high-caliber group that comes through Chief  
8 Counsel's Office. And if we're lucky when they pass the  
9 bar maybe we'll get to retain them. But at this point  
10 they're all two L's, so we'll see where their career takes  
11 them. But hopefully it will bring them back to Chief  
12 Counsel's Office at some point.

13 COMMISSIONER SCOTT: Can I just add -- actually,  
14 that reminds me I'm a little remiss in introducing -- I had  
15 an intern who has also joined us for the summer. I forgot  
16 to invite her down here, but I hope that you all will get a  
17 chance to see her and work with her. Her name Adriana  
18 Gomez and she joins us from UC Merced. And she's here for  
19 a second year in a row.

20 So Kourtney, to your point about hoping to keep  
21 folks, talented and wonderful at the Commission I hope that  
22 we'll continue that trend. And welcome to your interns.

23 CHAIRMAN WEISENMILLER: Great. Thank you.

24 Welcome all aboard. We really appreciate your  
25 public service this summer and looking forward to

1 interacting with you on a day-to-day basis.

2 Let's go to Executive Director's Report.

3 MR. OGLESBY: Well, I'm not going to miss the  
4 opportunity to embarrass my summer intern as well, by  
5 introducing Christopher Warner, (phonetic) who comes out of  
6 Cal Berkeley -- take a bow -- and is helping us on a  
7 variety of projects. And you'll see him throughout the  
8 summer. We're very lucky to have him.

9 Let me make just a brief observation and  
10 congratulate the Commission on completing another fiscal  
11 year. This year was a year that went very smoothly for us.  
12 And I think you'll notice that we don't have extra meetings  
13 or emergency meetings at the end of this month, at the end  
14 of June. And that today's agenda was -- although it was  
15 important and a lot of significant items on it, it was  
16 manageable and represents the hard work of the Energy  
17 Commission staff.

18 It takes a lot to bring all of the items  
19 throughout the year to you. It comes to you at the  
20 Commission meetings, but a lot of work goes into every  
21 piece and I wanted to recognize the work of the staff over  
22 this past fiscal year. And also congratulate the Board on  
23 making many, many important decisions on research grant  
24 funding. And of course, just the whole gamut of business  
25 that comes up forward this year, so congratulations.

1                   CHAIRMAN WEISENMILLER: Yeah, obviously, we also  
2 want to thank (indiscernible) who spends a lot of time  
3 trying to make sure this stuff all comes together in a  
4 timely fashion. And also thank Kourtney's shop and the  
5 attorneys, particularly Allan Ward, for trying to make sure  
6 this stuff goes through in a timely and correct fashion.

7                   Public Adviser's Report?

8                   MS. AVALOS: Public Adviser's has no update  
9 today, no.

10                  CHAIRMAN WEISENMILLER: Great.

11                  Any public comment? Please, come up and  
12 introduce yourself.

13                  MS. WARSHAW: Hi, my name is Claire Warshaw and I  
14 work for myself right now, I'm looking for work. But I  
15 have been following a lot of the CEC agenda items and I  
16 have curiosity about one of them that I just hope that  
17 people explore more and maybe speak more about, because I  
18 don't know if there is a lot of data that the public can  
19 access on it. And that's satellite imaging of geothermal  
20 fields as far -- I'm not saying that I know for sure this  
21 is true, I'm just saying this is my perspective -- I'm not  
22 certain how the public can access the safety of that kind  
23 of connection. And whether those kind of satellite  
24 connections actually contribute to any kind of global  
25 warming factors. So, I'm hoping that that kind of

1 information is there somewhere for people to read about.

2           It's not something that I don't think anyone  
3 would expect would happen. But I kind of suspect myself  
4 that satellites could influence climate changes in weather  
5 patterns. And it's just a suspicion, so I just wanted to  
6 voice that comment that that might get let looked at in  
7 data and research and just FYI kind of idea.

8           CHAIRMAN WEISENMILLER: Okay.

9           MS. WARSHAW: Thanks.

10           CHAIRMAN WEISENMILLER: Well, thank you. I would  
11 just note that all of our research is ultimately published  
12 and available online in that fashion. And that particular  
13 project, there's a follow-up on an earlier project. So  
14 again, you should be able to look at the results from that.

15           Anyone else?

16           (No audible response.)

17           Then this meeting is adjourned.

18                       (Adjourned at 11:26 A.M.)

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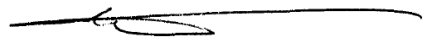


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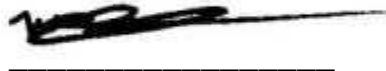
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