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BUSINESS MEETING
BEFORE THE
CALIFORNIA ENERGY COMMISSION

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

CALIFORNIA ENERGY COMMISSION
1516 NINTH STREET
ART ROSENFELD HEARING ROOM - FIRST FLOOR
SACRAMENTO, CALIFORNIA

WEDNESDAY, NOVEMBER 9, 2016
10:00 A.M.

Reported by: Kent Odell

A P P E A R A N C E S

Commissioners Present

Robert B. Weisenmiller, Chair

Karen Douglas

David Hochschild

Andrew McAllister

Janea Scott

Staff Present

Rob Oglesby, Executive Director

Kourtney Vaccaro, Chief Counsel

Cody Goldthrite, Secretariat

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P R O C E E D I N G S

NOVEMBER 9, 2016

10:03 a.m.

CHAIR WEISENMILLER: Let's start with the pledge of allegiance.

(The Pledge of Allegiance

was recited in unison.)

CHAIR WEISENMILLER: So, I'm actually going to start out the business meeting with a moment of silence in memory of Tom Hayden. Tom was very active in the first Brown administration, and certainly always had a tradition of -- no matter what the times were, he would continue to fight for social justice and the environment.

So, anyway.

(A moment of silence was observed.)

CHAIR WEISENMILLER: Okay. Thanks.

Let's start with the Consent Calendar. We're going to split that and hold Item A and do the rest of the Consent Calendar.

Is there a motion for the Consent Calendar except for Item A?

CHIEF COUNSEL VACCARO: Excuse me, Chair Weisenmiller. If we could go ahead and explain why first? I think that would be --

CHAIR WEISENMILLER: Yeah. Sure. Go ahead.

COMMISSIONER McALLISTER: Yeah. Item A is our

1 membership with NASEO, the National Association of State
2 Energy Officials. I'm on the Board of Directors and so I'm
3 going to recuse myself from that item.

4 COMMISSIONER DOUGLAS: Great. So, I move the
5 Consent California except for Item A.

6 COMMISSIONER SCOTT: Second.

7 CHAIR WEISENMILLER: All those in favor?

8 (Ayes.)

9 CHAIR WEISENMILLER: So, the Consent Calendar
10 except for Item A passes five to zero.

11 Commissioner McAllister is leaving the room.

12 Okay. Do I have a motion for Item A?

13 COMMISSIONER DOUGLAS: Move Item 1A.

14 COMMISSIONER HOCHSCHILD: Second.

15 CHAIR WEISENMILLER: All those in favor?

16 (Ayes.)

17 CHAIR WEISENMILLER: So, Item 1A passes four to
18 zero, one abstention or refusal.

19 (Commissioner McAllister rejoined the meeting.)

20 CHAIR WEISENMILLER: Item 2 - we have no items.
21 Let's go on to Item 3. We're going to hold Item 2.

22 MR. NYBERG: Good morning, Chair. Good morning,
23 Commissioners.

24 My name is Michael Nyberg and I am the program
25 manager for the Emission Performance Standard in the Energy

1 Assessments Division.

2 The Emission Performance Standard was established
3 under Senate Bill 1368 by Senator Perata, Chapter 598 of the
4 2006 Statutes.

5 The EPS limits long-term investments in baseload
6 generation by the state's utilities to power plants that
7 meet an emission performance standard for carbon dioxide.
8 The standard was jointly established by the California
9 Energy Commission and the California Public Utilities
10 Commission and is set at 1,100 pounds per megawatt-hour.

11 On October 19, 2016, the city of Glendale
12 submitted a compliance filing requesting a determination
13 that their Second Amendatory Power Sales Agreement is in
14 compliance with the Greenhouse Gases Emission Performance
15 Standard, pursuant to Title 20 of the California Code of
16 Regulations, beginning with Section 2900.

17 The city of Glendale is a participant in the
18 Intermountain Power Project, an 1,800-megawatt coal-
19 generating power plant located near Delta, Utah. Along with
20 Glendale, other purchasers of IPP's energy include twenty-
21 three Utah municipalities, six rural electric cooperatives,
22 and five other California municipalities (Anaheim, Burbank,
23 LADWP, Pasadena, and Riverside).

24 The Second Amendatory Power Sales Contract, signed
25 on March 16th, 2016, allows for the repowering of the

1 Intermountain Power Project's coal-fired generating units
2 with up to 1,200 megawatts of natural gas-fired combined
3 cycle units by July 1st, 2025. This contract expires on
4 June 15th, 2077.

5 The Repowering Project will have a pair of 600-
6 megawatt natural gas-fired power blocks with an expected CO₂
7 emission rate of approximately 800 pounds per megawatt-hour.
8 Glendale's share will be 20 MW up to a maximum of 26 MW.
9 Glendale also has an option to withdraw from the Project or
10 reduce its entitlement by up to twenty percent by
11 November 1, 2019.

12 Glendale acknowledges that a subsequent EPS
13 compliance filing will be necessary if the final design
14 implementation is significantly different from one of three
15 options described in this filing.

16 The Los Angeles Department of Water and Power,
17 Intermountain Power's operating agent, previously submitted
18 a compliance filing for the conversion of IPP from a coal-
19 fired to a gas-fired power plant and was found compliant at
20 the October 19th Business Meeting.

21 Glendale's compliance filing involves the exact
22 same resource as LADWP and identifies the same three
23 potential combined cycle designs and vendor specifications.
24 Based on this information, staff calculated the expected CO₂
25 emission rates at various loads and was able to duplicate

1 the CO₂ emission rates to within zero to two percent.

2 Staff has evaluated Glendale's compliance filing
3 and concludes that the analysis conducted in reviewing
4 LADWP's compliance filing holds here as well: staff
5 concludes that the Second Amendatory Power Sales Contract is
6 compliant with the EPS pursuant to Section 2902(a);
7 specifically, that the proposed combined cycle power plant
8 design in the compliance filing is below the EPS limit of
9 1,100 pounds per megawatt-hour. The combined cycle units
10 specified in the Second Amendatory Power Sales Contract meet
11 the EPS.

12 Therefore, staff recommends the Energy Commission
13 find that the covered procurement described in the Glendale
14 compliance filing complies with the Energy Commission's
15 Greenhouse Gases Emission Performance Standard, Title 20,
16 beginning with Section 2900 of the California Code of
17 Regulations.

18 Representatives from the city of Glendale are here
19 to provide a summary statement concerning the compliance
20 filing.

21 Thank you.

22 CHAIR WEISENMILLER: Thank you.

23 Please, go ahead.

24 MR. ABUEG: Good morning. I'm Ramon Abueg with
25 Glendale Water and Power, and here with me is Ms. Christine.

1 MS. GODINEZ: Christine Godinez, Principal
2 Assistant City Attorney for Glendale.

3 MR. ABUEG: So, this project will help us to
4 completely divest from coal power plants. So, this is one
5 of the two power plants that we have participation in. One
6 is on one, which we would be off by next year, and this will
7 be the last one.

8 By going through this project, we would be able to
9 get off and divest from coal completely two years earlier,
10 and we would be able to meet and comply with AB 1368, but
11 with a reduction of the CO₂ emission from the new power
12 plant.

13 With our participation here, as well, it would
14 allow us to bring more renewable resources using the
15 transmission that will be made available through this
16 project, which would help us meet the other compliance that
17 we need in terms of the RPS.

18 So, we believe this is a great project to help not
19 only with the reliability but also meeting the environmental
20 compliance.

21 Thank you.

22 CHAIR WEISENMILLER: Thank you. Thanks for being
23 here today.

24 Obviously, one of the important things for
25 California is reducing greenhouse gas emissions for our

1 energy system. In the power sector, we're twenty percent
2 below the 1990 levels as of 2014. A lot of that has been
3 because of the divestiture away from coal and the additional
4 renewables.

5 So, certainly, IPP is one of the last remnants of
6 the '70s in this area, so it's good to see that -- this
7 movement.

8 COMMISSIONER DOUGLAS: All right. So, I'll just
9 agree with the chair's comments and move approval of this
10 item. Thank you for being here.

11 MR. ABUEG: Thank you.

12 COMMISSIONER SCOTT: Second.

13 CHAIR WEISENMILLER: All those in favor?

14 (Ayes.)

15 CHAIR WEISENMILLER: This passes five to zero.

16 Thank you.

17 Thanks, again.

18 MR. ABUEG: Thank you very much.

19 CHAIR WEISENMILLER: Let's go on to Item 4.

20 MR. NYBERG: Good afternoon again, Chair,
21 Commissioners.

22 Similar to Item 3, I, Michael Nyberg, am
23 presenting an Emission Performance Standard compliance
24 filing regarding the conversion of the Intermountain Power
25 Project from a coal-fired power generation facility to a

1 natural gas-fired combined cycle facility.

2 On October 12, 2016, the city of Pasadena
3 submitted a compliance filing requesting a determination
4 that their Second Amendatory Power Sales Agreement is in
5 compliance with the Greenhouse Gases Emission Performance
6 Standard, pursuant to Title 20 of the California Code of
7 Regulations, beginning with Section 2900.

8 The Second Amendatory Power Sales Contract, signed
9 on March 16th, 2016, allows for the repowering of
10 Intermountain Power's 1,800-megawatt coal-fired generation
11 plant with up to 1,200 megawatts of natural gas-fired
12 combined cycle units by July 1st, 2025. The Repowering
13 Project will consist of a pair of 600-megawatt natural gas-
14 fired power blocks with an expected CO₂ emission rate of
15 approximately 800 pounds per megawatt-hour. This contract
16 expires on June 15th, 2077.

17 Pasadena's share of the repowering project will be
18 53 MW up to a maximum of 72 MW. Pasadena also has an option
19 to withdraw from the Project or reduce its entitlement by up
20 to twenty percent by November 1, 2019.

21 Pasadena acknowledges that a subsequent EPS
22 compliance filing will be necessary if the final design
23 implementation is significantly different from one of three
24 options described in this filing.

25 As previously stated, LADWP submitted a compliance

1 filing for the conversion of IPP from a coal-fired to a
2 gas-fired power plant and was found compliant at the
3 October 19th Business Meeting.

4 Pasadena's compliance filing involves the exact
5 same resource as LADWP and identifies the same three
6 potential combined cycle designs and vendor specifications.

7 Staff has evaluated Pasadena's compliance filing
8 and concludes that the analysis conducted in reviewing
9 LADWP's compliance filing holds here as well: staff
10 concludes that the Second Amendatory Power Sales Contract is
11 compliant with the EPS pursuant to Section 2902(a);
12 specifically, that the proposed combined cycle power plant
13 design in the compliance filing is below the EPS limit of
14 1,100 pounds per megawatt-hour. The combined cycle units
15 specified in the Second Amendatory Power Sales Contract meet
16 the EPS.

17 Therefore, staff recommends the Energy Commission
18 find that the covered procurement described in the Pasadena
19 compliance filing complies with the Energy Commission's
20 Greenhouse Gases Emission Performance Standard, Title 20,
21 beginning with Section 2900 of the California Code of
22 Regulations.

23 A representative from the city of Pasadena is here
24 to provide a summary statement concerning their compliance
25 filing.

1 Thank you.

2 CHAIR WEISENMILLER: Thank you.

3 Please, go ahead.

4 Thank you.

5 MR. BAWA: Good morning, Inspector, Chairman
6 Weisenmiller, and Commissioners. My name is Gurcharan Bawa.
7 I am the Interim General Manager for Pasadena Water and
8 Power. I want to thank you for the opportunity to discuss
9 Pasadena's SB 1368 EPS compliance filing for our proposed
10 investment in the IPPs renewal project.

11 Our situation is quite similar to Glendale, or
12 LADWP, but I'll quickly go through some of the specifics
13 about Pasadena.

14 The city of Pasadena has been a leader in setting
15 aggressive goals to meet climate change challenges, such as
16 a few years ago we set up an RPS goal of forty percent by
17 2020, compared to the state's mandated goal of thirty-three
18 percent.

19 Additionally, Pasadena also has set a goal of
20 reducing its greenhouse emissions by sixty percent below
21 1990 levels by 2030, compared to the state goal of forty
22 percent.

23 In July of 2015, the Pasadena City Council
24 approved the Second Amendatory Power Sales contract for IPP
25 that became effective this March. This amendment has

1 allowed, now, the conversion of current IPPs coal-fired
2 generation of 1,800 megawatts to a new proposed 1,200
3 megawatts of natural gas-fired combined cycle units.

4 The investment in the IPP repowering project
5 pursuant to the Second Amendatory Power Sales contract is
6 also referred to as Renewal Power Sales contract. The
7 procurement of this project through the Renewal Power Sales
8 contract will enable Pasadena to accelerate its divestiture
9 from coal two years earlier than as planned today.

10 It also would allow us to use the surplus capacity
11 on the same transmission system that connects California to
12 Utah to procure potentially new renewable resources and
13 energy storage systems there. The new units would be
14 capable of ramping up and down very rapidly, and that would
15 allow variable renewable resources, such as wind and solar,
16 to be integrated more smoothly into the transmission system.

17 These units obviously are much more -- are going
18 to be much more energy efficient, and that would be of value
19 to our portfolio. Also, being these units in Utah and new
20 potential renewable energy resources in Utah would provide a
21 necessary geographic diversity to Pasadena within its
22 resource mix. And that's important for the reliability of
23 the power system.

24 The IPP renewal project along with the associated
25 transmission system provides the necessary mechanism for

1 Pasadena to be able to meet its 2030 goals and beyond. The
2 CEC approval of this compliance filing will enable us to
3 enter into the Renewal Power Sales contract with IPA.

4 I'd like to thank you for your time and
5 consideration and would like to take any questions you may
6 have. Thank you.

7 CHAIR WEISENMILLER: Great. Thank you for being
8 here.

9 Are there any comments from anyone in the room or
10 on the phone?

11 (No audible response.)

12 CHAIR WEISENMILLER: Okay. Then, again, I'll
13 indicate that, you know, we appreciate your being here and
14 certainly we look forward to working with Pasadena on
15 addressing the greenhouse gas issues under 350 and, again,
16 support your step today on IPP.

17 MR. BAWA: Thank you.

18 COMMISSIONER DOUGLAS: So, I'll move approval of
19 this Item 3 -- or, I'm sorry, Item 4.

20 COMMISSIONER SCOTT: Second.

21 CHAIR WEISENMILLER: All those in favor?

22 (Ayes.)

23 CHAIR WEISENMILLER: Item 4 passes five to zero.
24 Thanks, again.

25 MR. BAWA: Thank you very much.

1 CHAIR WEISENMILLER: Let's move on to Item 5 - the
2 city and county of San Francisco.

3 MS. NEUMANN: Good morning, Commissioners. My
4 name is Ingrid Neumann from the Building Standards Office.

5 On April 26th of this year, the city and county of
6 San Francisco's Board of Supervisors unanimously voted to
7 require solar installation on all newly-constructed
8 buildings in Ordinance No. 71-16. The cost effectiveness
9 study was also heard and approved on this date.

10 In addition, the mayor of San Francisco approved
11 the adopted ordinance on May 6th. This is the first
12 requirement of its kind seen in a major city in the United
13 States, and brings San Francisco one step closer to its goal
14 of running entirely on renewable energy by 2020.

15 As part of this ordinance, the city and county of
16 San Francisco will require that all newly-constructed
17 buildings of residential occupancy of ten floors or less, as
18 well as newly-constructed buildings of nonresidential
19 occupancy of ten floors or less and greater than 2000 square
20 feet in gross floor area, install solar photovoltaic systems
21 and/or solar thermal systems in the solar-ready zone, which
22 is fifteen percent of roof space for most buildings as
23 defined in Title 24, Part 6.

24 Local governmental agencies are required to apply
25 to the Energy Commission for approval of local energy

1 standards that are more stringent than the adopted statewide
2 Energy Standards found in Title 24, Part 6.

3 Staff has reviewed the city and county of
4 San Francisco's application for approval of their local
5 energy efficiency standards and has found that the
6 application was complete as of August 1, 2016, consisting
7 of:

8 1. The proposed local energy standards.

9 2. A study with supporting analysis showing how
10 the local agency determined energy savings and cost
11 effectiveness of the local energy standards.

12 3. A statement that the local standards will
13 require buildings to be designed to consume no more energy
14 than permitted by Title 24, Part 6.

15 4. A California Environmental Quality Act
16 Assessment.

17 No public comments were received by the Energy
18 Commission during the sixty-day comment period, which ended
19 October 15th.

20 Staff recommends the item be approved and the
21 Energy Commission Resolution be signed. I am available to
22 answer any questions you may have.

23 Thank you.

24 CHAIR WEISENMILLER: Thank you.

25 First, any comments from anyone in the room or on

1 the line?

2 Richard, please go ahead.

3 THE OPERATOR: Richard Chien, your line is open.

4 (No audible response.)

5 THE OPERATOR: Mr. Richard Chien, your line is
6 open.

7 MR. CHIEN: Yes, I'm sorry. I just got back to my
8 desk.

9 CHAIR WEISENMILLER: Okay. Go ahead.

10 MR. CHIEN: I'm sorry. I don't have any comments
11 at this time.

12 CHAIR WEISENMILLER: Okay. Thank you.

13 Let's go to Commissioner discussion.

14 Commissioner McAllister?

15 COMMISSIONER McALLISTER: So, yeah. So, just
16 briefly. I mean, we've -- you know, we very much encourage
17 local governments, particularly leadership -- well, really,
18 any local government that wants to provide leadership and,
19 you know, can develop a stretch code in its own context with
20 its own process and really push the envelope on our building
21 energy efficiency standards, certainly as we move towards
22 highest performing buildings and zero-net energy and
23 encouraging that in any way we can.

24 Local governments are really the forefront of that
25 movement and it's really a movement that's moving in a big

1 way. So, you know, I think politics is local, I think, as
2 we know today more than we did maybe yesterday or days
3 before that, and that leadership is going to be critical as
4 we move forward, even more so than ever.

5 And I would encourage other local governments
6 across the state to talk to San Francisco and the other
7 local governments that have chosen different ways to move
8 ahead - the stretch codes, local standards - to kind of
9 unpack their process, understand what they did, look at
10 their cost-effectiveness, see if it's appropriate for their
11 context and in all of the other cities and counties across
12 the state, and think about adopting similar codes.

13 The context is different, the population is
14 different, the building is different, so each local
15 jurisdiction really needs to look with a critical eye at
16 what's best, but this is a great thing and San Francisco
17 really deserves commendation for moving the ball forward.
18 So, I'm enthusiastically supportive of this item.

19 COMMISSIONER HOCHSCHILD: Just to chime in. So, I
20 want to just give credit where credit's due. The person
21 actually within the San Francisco city government who did a
22 lot of the legwork for this is Tara Weeks, who is one of our
23 Standard summer fellows with us at the Energy Commission
24 when she was working for the Department of the Environment.
25 And there is a lot more of these to come. Laurie ten Hope

1 and I just spoke at a conference, I think last month, of a
2 whole consortium of Bay Area local governments all looking
3 at how to promote DG renewables, you know, building towards
4 our ZNE goals.

5 So, I really want to thank the good folks at the
6 city of San Francisco for getting this over the finish line,
7 and I'm in full support.

8 COMMISSIONER McALLISTER: Great. So, any other
9 comments?

10 (No audible response.)

11 COMMISSIONER McALLISTER: No? Okay. I'll move
12 Item 5.

13 COMMISSIONER SCOTT: Second.

14 CHAIR WEISENMILLER: All of those in favor?

15 (Ayes.)

16 CHAIR WEISENMILLER: So, Item 5 passes five to
17 zero.

18 Thank you.

19 Let's go on to Item 6, Assembly Bill 1110,
20 implementation rulemaking.

21 MR. CHOU: Good morning, Chair Weisenmiller and
22 Commissioners. My name is Kevin Chou with the Renewable
23 Energy Division, and with me is Lisa De Carlo, staff
24 counsel.

25 Staff is requesting approval of an Order

1 Instituting Rulemaking to begin the process of considering
2 modifications to the Power Source Disclosure Program
3 regulations, which are necessary to comply with recently
4 passed Assembly Bill 1110.

5 Enacted in 1998 by Senate Bill 1305, the Power
6 Source Disclosure program is designed to provide accurate,
7 reliable, and easy-to-understand information for consumers
8 revealing what resources make up an individual retail
9 supplier's mix of generation, and comparing it to
10 California's mix as a whole. The Power Source Disclosure
11 regulation establishes the format and timing of various
12 reporting requirements, including a detailed format for the
13 Power Content Label, which is the label that discloses the
14 fuel mix of retail suppliers' electricity sources to
15 consumers.

16 The program has been periodically amended to
17 comply with changes in statute, including several changes
18 earlier this year, mainly to comply with Assembly Bill 162,
19 which required retail suppliers to disclose their entire
20 fuel mix portfolio through an additional category known as
21 "unspecified sources of power." The modifications removed
22 the "net system power" reporting requirement, and revised
23 specific reporting requirements to retail customers and to
24 the Energy Commission.

25 In September of 2016, Assembly Bill 1110 was

1 signed into law, adding requirements for retail suppliers to
2 disclose the greenhouse gas emissions intensity of their
3 electricity sources as well as associated unbundled
4 renewable energy credits. AB 1110 aims to provide consumers
5 a greater level of transparency regarding the composition of
6 various electricity products offered to California
7 consumers.

8 AB 1110 requires the Energy Commission to do the
9 following:

10 First, adopt a methodology, in consultation
11 with the State Air Resources Board, for the
12 calculation of greenhouse gas emissions intensity
13 for each purchase of electricity by a retail
14 supplier to serve its customers;

15 Second, calculate the greenhouse gas
16 emissions intensity associated with statewide
17 retail electricity sales based on the greenhouse
18 gas emissions for total California system
19 electricity;

20 Third, ensure that there is no double
21 counting of greenhouse gas emissions or emissions
22 attributes; and, determine a format for the
23 disclosure of the portion of annual sales derived
24 from unbundled renewable energy credits;

25 Fourth, adopt guidelines, by a vote of the

1 Energy Commission, for reporting and disclosure of
2 greenhouse gas emissions intensity associated with
3 retail sales by January 1, 2018;

4 And, finally, to make other minor changes to
5 the program.

6 We are seeking your approval to open a rulemaking
7 proceeding to consider modifications to Section 1390 through
8 1394 of our regulations for the purpose of implementing
9 AB 1110 and to consider any other modification to the Power
10 Source Disclosure program regulations that are determined to
11 be necessary.

12 This concludes my presentation and we are happy to
13 answer any questions.

14 CHAIR WEISENMILLER: Thank you.

15 First, are there any comments from anyone either
16 in the room or on the phone?

17 (No audible response.)

18 CHAIR WEISENMILLER: Okay.

19 Commissioner?

20 COMMISSIONER HOCHSCHILD: Yeah. Let me thank the
21 staff for preparing this, and I recognize that it is a
22 tight, tight timeline to get everything done by the date
23 mandated in the legislation but I think we can pull it off.

24 Ultimately, this is going to be, for me, about
25 truth in advertising and making sure that we'll also be

1 consistent with the practices of the ARB. And we'll be
2 getting into all the details of that as the proceedings move
3 forward, but I'm glad to get the process started.

4 Thanks, Kevin.

5 COMMISSIONER SCOTT: I was -- this was a great
6 briefing that I got from the staff late last week and one of
7 the things that I raised with them is also the -- as the
8 public member, you know, kind of the public component,
9 because I think some things like greenhouse gas intensities
10 are not things that the general public is thinking about.
11 So, how we can -- as we put this together, to think about
12 how we can articulate that in a way that, when people see
13 that label, they'll really know what it means.

14 COMMISSIONER McALLISTER: You know, I'll just say
15 sort of the NSHP -- I mean, I think we continue along a
16 really positive road to getting that program to the finish
17 line and doing what it was intended to do way back in the
18 day, in 2006, when it was -- when the Legislature passed SB
19 1 and all the corollary pieces of that.

20 I want to thank Commissioner Hochschild for all
21 his leadership on that and I kind of continue to pay
22 attention (laughter) to that because it's tightly bound up
23 with buildings. And I think the staff is really doing a
24 great job administering and all the pieces are really in
25 place to keep improving the program and make it as

1 successful as it can be. So, thanks to staff for that, as
2 well.

3 COMMISSIONER HOCHSCHILD: I will move the item.

4 COMMISSIONER McALLISTER: I'll second.

5 CHAIR WEISENMILLER: All those in favor?

6 (Ayes.)

7 CHAIR WEISENMILLER: This passes five to zero.

8 Thank you.

9 MR. CHOU: Thank you.

10 CHAIR WEISENMILLER: Let's go on to Item 7,
11 proposed adoption of the guidelines for California's solar
12 electric incentive programs, sixth edition.

13 MR. FOLKMAN: Good morning, Chair Weisenmiller and
14 Commissioners. I'm James Folkman with the Renewable Energy
15 Division. Also, seated next to me is Michelle Chester,
16 Staff Counsel.

17 Energy Commission Staff is seeking approval of the
18 Guidelines for the California Solar Electric Incentive
19 Program, known as Senate Bill 1, and this will be the sixth
20 edition.

21 Staff presented the draft guidebook to the public
22 in a public workshop held September 16th, 2016.

23 Senate Bill 1 established the framework for the
24 California Solar Initiative, known as CSI, and directs the
25 Energy Commission to develop eligibility criteria,

1 conditions for incentives, and radiant standards that must
2 meet -- that must meet to qualify for ratepayer-funded
3 incentives.

4 The New Solar Home Partnership, NSHP, administered
5 by the Energy Commission, will be one of the last active
6 programs under the CSI after December 31st of this year.
7 The NSHP, which provides incentives for solar on new
8 residential buildings, was recently reauthorized for the
9 remaining -- remainder of its legislatively-allocated
10 funding.

11 The SB 1 Guidelines are being updated to respond
12 to the extension of NSHP and to address updated energy
13 efficiency standards and a maturing solar industry. The
14 SB 1 Guidebook under consideration today, again, is the
15 sixth edition.

16 The changes to the SB 1 Guidebook are general in
17 nature and create a framework for NSHP to work under. These
18 proposed changes include updates to Chapter 4, Section A -
19 solar energy system designs and installation standards
20 incentives.

21 Staff proposes to add the option for a flexible
22 installation incentive, known as FII, which would allow the
23 administrators of SB 1 programs to design and offer a
24 simplified incentive calculation that meets the SB 1
25 directive to incentivize high-performing systems, but also

1 allows greater flexibility than the current expected
2 performance-based incentive calculation.

3 The FII structure would pay up-front incentives,
4 calculated based on a related expected performance of the
5 system and must take into account a minimum detailed
6 performance data for the major system components and
7 geographic location.

8 However, other details would be left up to the
9 program administrators. If program administrators of an
10 SB 1 incentive program, such as NSHP, decide to implement an
11 FII option, the specific details would be addressed through
12 a subsequent public workshop and guidebook change for that
13 specific incentive program.

14 The next proposed change concerns field
15 verification in Chapter 4, Section F and G and Appendix C.
16 To ensure compliance with program requirements, SB 1
17 incentive programs require third-party field verifications
18 of PV systems, which may be completed through a sample
19 testing.

20 Staff proposes to increase the maximum allowable
21 sample group size from seven to fifteen for FII projects.

22 Staff also proposes to allow program
23 administrators to design an alternative testing procedure
24 that is appropriate for the parameters of an FII option, if
25 offered.

1 As with the flexible installation incentive
2 option, changes to field verification requirements within
3 any SB 1 incentive program, such as NAHP, would be discussed
4 in a subsequent public workshop and guidebook change for
5 that specific incentive program.

6 The next proposed change is to update the energy
7 efficiency requirements in Chapter 5, Sections B and C, for
8 applications meeting current and future updates to the
9 Title 24 building energy efficiency standard.

10 Currently, SB 1 Guidelines define energy efficient
11 requirements for new construction related to the 2008
12 Building Standards; however, the 2013 Building Standards are
13 in effect now, and the next update - the 2016 Building
14 Standards - will become effective in January of 2017. In
15 addition, Building Standard will be updated again in 2019.

16 The staff proposes to allow program administrators
17 to determine the appropriate energy efficiency requirement
18 related to the standards in effect for new construction
19 projects in SB 1 incentive programs. This includes offering
20 a code-compliant incentive for new construction projects
21 that are subject to 2013 standards or later, which would
22 require as a minimum that the new construction project meet
23 the current Title 24 Building Standards.

24 Code-compliant projects would be subject to the
25 energy efficiency verifications that are required for

1 compliance with Title 24. In addition to these larger
2 changes, these proposed guidelines allow added flexibility
3 to accredited laboratories performing PV module testing to
4 determine similarity for groupings of modules for testing
5 purposes.

6 Also, these guidelines include minor
7 clarification -- or clarifying language and editing changes.

8 In conclusion, approval of this proposed sixth
9 edition of the SB 1 Guidelines would allow additional
10 flexibility for solar electric incentive programs, including
11 NSHP, to streamline program administration, reduce
12 application processing time, and decrease administration
13 costs, while also meeting the overall SB 1 program
14 requirements.

15 I ask for your approval on this item and thank you
16 for the time and consideration. I am available to answer
17 questions.

18 CHAIR WEISENMILLER: Thank you.

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

21 (No audible response.)

22 CHAIR WEISENMILLER: Okay. Let's transition to
23 the Commissioners.

24 Commissioner Hochschild?

25 COMMISSIONER HOCHSCHILD: Thank you, Jim. And let

1 me just again express my gratitude to the PUC and our
2 colleagues there on the Commission for authorizing the
3 additional funds to fill out the mandate under SB 1.

4 I'm very proud of our administration of this
5 program. I think we're in an era where government is often
6 demonized, but we're actually running this program with less
7 cost and with greater efficiency and that's part of the
8 reason the stakeholders were supportive and are supportive
9 of our continued administration as we proceed down to finish
10 out the spending on this program. And I really regard it as
11 sort of the glide path to ZNE.

12 So, I just want to again thank the staff for their
13 good work, and this additional streamlining we're doing, I
14 think, is going to make it run even better. And with that,
15 unless there's other comments --

16 COMMISSIONER McALLISTER: I need to make a comment
17 and, basically, mea culpa - that I was trying to multitask
18 and, obviously, badly (laughter) the last item. And I'm
19 obviously supportive of the 1110 rulemaking opening, as
20 well. But my comments really were about this item
21 (laughter).

22 So, the NSHP just is a really shining success, as
23 you know, and I want to thank you for your leadership on it
24 and certainly thank staff for doing a bang-up job on the
25 administration. I mean, it's not an easy task. There are a

1 lot of stakeholders and, as we're moving forward, we have to
2 actually sweep out some of the past practices that really
3 aren't there for good reason and reevaluate and use critical
4 thinking.

5 And I think that's -- that program design and
6 implementation aspect of many of the things we do
7 increasingly is very underappreciated and I'm really, really
8 proud of us for taking that on and doing a terrific job.

9 So, as you can imagine, it's a slightly hectic
10 morning with all that happened yesterday. So, I apologize
11 for trying to multitask and doing it badly. (Laughter.)
12 So, thank you very much. I'll second the item.

13 Did you move it?

14 COMMISSIONER HOCHSCHILD: Yeah. I'll move the
15 item.

16 COMMISSIONER McALLISTER: Okay. I'll second.

17 CHAIR WEISENMILLER: All those in favor?

18 (Ayes.)

19 CHAIR WEISENMILLER: The item passed five to zero.

20 Thank you.

21 MR. FOLKMAN: Thank you.

22 CHAIR WEISENMILLER: Let's go on to Item 8,
23 Waterford Unified School District.

24 MR. YASNY: Good morning, Commissioners. Ron
25 Yasny, Prop 39 staff.

1 Staff is proposing adoption of a resolution
2 approving Agreement 002-16-ECG. This agreement is an Energy
3 Conservation Assistance Act loan to the Waterford Unified
4 School District, located in Stanislaus County.

5 It is funded using Proposition 39 funds.

6 Based on the loan amount of \$708,227 at zero
7 percent interest and an estimated annual energy cost savings
8 of around \$47,000, the simple payback period is around
9 fifteen years.

10 The loan finances energy efficiency projects at
11 two district schools, including exterior lighting, interior
12 lighting, and lighting control retrofits.

13 The project benefits also include energy savings
14 of 375,000 kilowatt hours of electricity annually, and a
15 reduction of almost 130 tons of greenhouse gas emissions.
16 Submitted for your approval.

17 CHAIR WEISENMILLER: Thank you.

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

20 (No audible response.)

21 CHAIR WEISENMILLER: Okay. Then, let's go to the
22 Commissioners.

23 Commissioner McAllister?

24 COMMISSIONER McALLISTER: Yeah. So, thanks for
25 the explanation. This is, I think, another in a long line

1 of good projects funded by ECAA-ED and Prop 39 funds. So,
2 I'm fully supportive, so I'll move Item 8.

3 COMMISSIONER SCOTT: Second.

4 CHAIR WEISENMILLER: All those in favor?

5 (Ayes.)

6 CHAIR WEISENMILLER: The item passed five to zero.

7 Thank you.

8 Let's go on to Item 9, BDP Technologies, LLC.

9 MR. LOZANO: Good morning, Commissioners. My name
10 is Michael Lozano. We're representing the Industrial Ag
11 Water team of the Energy Efficiency Research Office.

12 This morning, we are requesting approval of this
13 competitively-bid grant with BDP Industries for
14 \$1.56 million with \$330,000 in matched funding in form of
15 equipment, which is really nice. And this is to fund the
16 biological double-efficiency technology for wastewater
17 treatment facilities.

18 Currently, there are 143 public-owned wastewater
19 treatment facilities that use secondary treatment -- and
20 this is in California. Wastewater treatment plans require a
21 substantial amount of water and electricity to operate and,
22 in some cases, are also limited by available land,
23 especially in urban areas.

24 The most common secondary wastewater treatment
25 process for nutrients removal is referred to as the

1 activated sludge process. Aeration is required in the
2 activated sludge process. Basically, we're putting in
3 bubbled air, mixing it so you can get oxygen into the water
4 to feed the microbes.

5 And this accounts for -- this energy to put in air
6 accounts for between forty-five and seventy-five percent of
7 plan electricity consumption, so it's a very big part.

8 The BDP aeration technology being funded reduces
9 fifty percent of the air needed for secondary treatment and
10 nearly doubles the oxygen transfer efficiency. Essentially,
11 this technology enables the user to almost double energy
12 efficiency in the secondary treatment process while also
13 double throughput in the same tank footprint. So,
14 basically, you can process more in the same size facility.
15 You don't have to build out infrastructure or, you know,
16 build a new pad. Basically, you put your equipment in your
17 same tank.

18 The proposed project potentially saves about
19 163,000 megawatt hours of energy and 834 billion gallons of
20 water per year given a fifty percent implementation of this
21 technology in California municipal wastewater treatment
22 plants.

23 This is pretty good. It's -- our Demand Analysis
24 Office says that this would be about 22,600 homes, which is
25 not huge but, when you consider that's for fifty percent,

1 which is only about seventy-one, seventy-two publicly-owned
2 plants in California, it's a pretty good bang for your buck.

3 This forty-one-month project will be located at
4 the City of Rialto Wastewater Treatment Plant in
5 San Bernardino County, and we request approval of this
6 project. I'm prepared to answer any questions.

7 CHAIR WEISENMILLER: Great. Thank you.

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

10 (No audible response.)

11 CHAIR WEISENMILLER: Okay. Transitioning to the
12 Commissioners.

13 I'm obviously the lead on R&D and think this is a
14 good project. As you indicated, you know, the energy part.
15 I guess one of the things we should try to investigate as
16 part of it has been a reference paper -- or a peer-reviewed
17 paper in the last week or two also saying that wastewater
18 treatment plants are major sources of methane emissions,
19 that it would be good to begin as part of this to see what
20 we can do there and if this helps in that area.

21 Any other comments?

22 Commissioner Douglas?

23 COMMISSIONER DOUGLAS: No comments. It sounds
24 very good and I'll move approval of this item.

25 COMMISSIONER McALLISTER: Second.

1 CHAIR WEISENMILLER: All those in favor?

2 (Ayes.)

3 CHAIR WEISENMILLER: This passes five to zero.

4 Thank you.

5 MR. LOZANO: Thank you.

6 CHAIR WEISENMILLER: Let's go on to Item 10,
7 Pacific Northwest National Laboratory.

8 MR. JENKS: Good morning, Chairman and
9 Commissioners. My name is Chris Jenks and I am representing
10 the Zero Emission Vehicle and Infrastructure Office.

11 Today I am seeking approval of a proposed
12 resolution approving Amendment 1 to Contract 600-15-014 with
13 the Pacific Northwest National Laboratory (PNNL) operated by
14 the Battelle Memorial Institute for the U.S. Department of
15 Energy.

16 Amendment 1 would increase the budget by \$221,333
17 for a new total of \$442,666 to increase the number of
18 hydrogen fueling station safety plans to be reviewed by
19 PNNL's Hydrogen Safety Panel. This agreement reimburses the
20 cost of hydrogen safety plan reviews and station audits by
21 the PNNL Hydrogen Safety Panel for GFO-15-605. It will be
22 funded through the alternative and renewable fuel and
23 vehicle technology program.

24 The Panel is comprised of experts who provide
25 recommendations on hydrogen safety issues; assist with

1 identifying safety gaps, best practices, and lessons
2 learned; and help integrate safety planning to ensure that
3 projects address and incorporate hydrogen and related safety
4 practices.

5 The Panel has been in operation since 2003 and
6 contains sixteen members and up to five are expected to
7 recuse themselves. These consultations and reviews by the
8 Panel will strengthen the safety planning of future hydrogen
9 refueling stations and ensure that the proposed projects
10 that will potentially be funded by the Energy Commission
11 have adequate Safety Plans.

12 According to this amended agreement:

13 The Panel shall evaluate at least fifteen
14 Safety Plans submitted to the Energy Commission as
15 part of applications to GFO-15-605. These
16 evaluations shall be provided to the scoring team
17 for the GFO to help inform the evaluations of the
18 applications scores.

19 The Panel shall evaluate and explain hydrogen
20 releases and other hydrogen refueling station or
21 ancillary equipment-related incidents for all
22 grant recipients. They shall evaluate the grant
23 recipients' ensuing experiences based on their
24 reports on hydrogen releases and incidents
25 submitted to the Panel by the Energy Commission

1 staff. The reports submitted to the Panel will be
2 the same reports submitted by hydrogen station
3 providers to the Unified Program Agency.

4 The Panel will guide station operators to
5 anonymously post incident reports on the
6 Department of Energy Hydrogen Lessons Learned
7 database website, which facilitates the sharing of
8 knowledge from actual experiences using and
9 working with hydrogen.

10 The Panel shall evaluate each hydrogen
11 refueling station funded under the GFO-15-605
12 annually, for three years after the station
13 becomes operational, as defined in the GFO. The
14 evaluation will include the station's adherence to
15 the initial Safety Plan and any related Safety
16 Plan implementation issues. These evaluations
17 consist of a site visit the first year and
18 telephone interviews the second and third years.

19 Staff is asking the Commission to approve the
20 proposed resolution to amend the agreement with PNNL to
21 increase the budget by \$221,333.

22 Thank you for your consideration. I am available
23 to answer any questions you may have.

24 CHAIR WEISENMILLER: Thank you.

25 First, are there any comments from anyone in the

1 room or on the phone?

2 (No audible response.)

3 CHAIR WEISENMILLER: Okay. Then, let's transition
4 to the Commissioners.

5 Commissioner Scott?

6 COMMISSIONER SCOTT: I don't have too much to add
7 because it was a great summary here, but as you heard, the
8 point of adding this addition money is so that the lab can
9 help us to ensure that the projects that we're looking at
10 really are going to meet safety standards and have adequate
11 safety plans. So, it's an important component of building
12 our hydrogen refueling infrastructure.

13 So, if there are no questions, I will move
14 approval of Item 10.

15 COMMISSIONER DOUGLAS: Second.

16 CHAIR WEISENMILLER: All those in favor?

17 (Ayes.)

18 CHAIR WEISENMILLER: This passes five to zero.

19 Thank you.

20 MR. JENKS: Thank you.

21 CHAIR WEISENMILLER: Let's go on to Item 11.

22 MS. ZHANG: Good morning, Chairman and
23 Commissioners.

24 My name is Taiying Zhang. I'm from the Fuel and
25 Transportation Division. I'm presenting Item 11, Sanger

1 Unified School District, Agreement ARV-16-004, for your
2 approval. The proposed grant is for \$500,000.

3 Under this agreement, Sanger Unified School
4 District will install and operate a compressed natural gas
5 fast-fill fueling station at its transportation facility in
6 the city of Sanger, a small rural district in the Central
7 Valley, located fifteen miles south of Fresno.

8 The proposed station will include a 3,600-psi
9 compressor, which will increase the district's ability to
10 refuel CNG vehicles and expand its CNG vehicle fleet. The
11 Sanger Unified School District transportation fleet
12 currently includes seventeen CNG buses serviced by six slow-
13 fill hose dispensers, which do not have the capacity to
14 service additional buses.

15 The installation of this new station will allow
16 Sanger to replace eight of their diesel buses with CNG buses
17 by 2018. In addition, up to fourteen gasoline service
18 vehicles will be replaced by the District and affiliated
19 partners by 2018.

20 The new CNG fueling facility includes a fuel
21 management card reader system, making it possible for other
22 districts and the public to use the station. The station is
23 estimated to displace about 50,000 gallons of diesel fuel
24 and it reduces greenhouse gas emission by 490 metric tons of
25 CO₂ per year.

1 Sanger, and the surrounding community, is located
2 in a high unemployment zone and economically distressed
3 area. This project will benefit the disadvantaged community
4 directly.

5 Thank you for your consideration. I am available
6 for your questions.

7 CHAIR WEISENMILLER: Thank you.

8 First, are there any comments from anyone in the
9 room or on the phone?

10 (No audible response.)

11 CHAIR WEISENMILLER: Okay. Then, let's transition
12 to the Commissioners.

13 Commissioner Scott?

14 COMMISSIONER SCOTT: I don't have any additional
15 comments to add on this one, but I will happily move
16 approval of Item 11.

17 COMMISSIONER DOUGLAS: Second.

18 CHAIR WEISENMILLER: All those in favor?

19 (Ayes.)

20 CHAIR WEISENMILLER: This passes five to zero.

21 Thank you.

22 Let's go on to Item 12, discussion of Energy
23 Commission progress RE: implementation of the Clean Energy
24 and Pollution Reduction Act of 2015, SB 350.

25 MR. SOKOL: Good morning, Commissioners. I'm

1 Michael Sokol, serving as Special Coordinator for the
2 implementation of Senate Bill 350, the Clean Energy and
3 Pollution Reduction Act of 2015. And I'll provide a quick
4 status update on the Energy Commission's implementation
5 efforts, which will then be followed by a more detailed
6 update on a few of the specific activities mandated by the
7 bill.

8 To accomplish the goals of SB 350, the Energy
9 Commission will be expanding its data collection activities
10 in a number of ways. Staff discussed two of those avenues
11 at last month's business meeting with detailed updates
12 provided on the Title 20 Data Collection Regulations to
13 support expanded forecasting needs, and Assembly Bill 802,
14 Building Energy Use Benchmarking and Disclosure Program.

15 Today, you'll hear a bit more about some
16 activities that are currently underway to support the
17 management and analysis of all this data in a presentation
18 provided by Christine Awtrey from the Energy Efficiency
19 Division.

20 Last month, we also heard an update on the SB 350
21 low-income barriers study, and staff continues to make
22 progress on this study as we approach the January 1st, 2017,
23 legislative deadline. Today, you'll hear a bit more on the
24 latest effort in this -- the latest of this effort.

25 Since the last update, Energy Commission staff has

1 continued to coordinate with other agencies on a variety of
2 topics related to SB 350 to ensure consistency and alignment
3 of programs wherever possible. Coordination efforts have
4 included interagency discussions for the low-income barriers
5 study, integrated resource planning, and energy efficiency
6 target-setting activities, among others.

7 Looking ahead, a number of SB 350-related items
8 will be presented for consideration at the upcoming Business
9 Meeting, including the final draft of the low-income
10 barriers study and the existing Building Energy Efficiency
11 Action Plan update.

12 Next month, we'll also hear a more detailed update
13 on the development of IRP Guidelines for the state's largest
14 publicly-owned utilities. The Energy Commission has been
15 hosting a series of resource-specific workshops to discuss
16 current POU activities related to the IRP development.

17 Most recently, one of these workshops, focused on
18 transportation electrification, was held on October 5th and
19 comments are now being reviewed by staff.

20 Another similar workshop on renewable energy and
21 energy storage is tentatively planned for December 13th.

22 As I mentioned, we'll provide a more detailed
23 update on these efforts at next month's Business Meeting.

24 That concludes my overview presentation. And now
25 I'll hand off to Public Adviser, Alana Mathews, to provide

1 an update on the barriers study.

2 MS. MATHEWS: Thank you.

3 Good morning, Commissioners.

4 I just want to highlight something very briefly
5 because pretty much most of my updates tend to be the same.
6 So, just to review, on October 21st, we did release the
7 draft recommendations for the report and public comment was
8 open until October 28th.

9 Staff is currently working on addressing all of
10 the comments that we received to prepare the draft report
11 and recommendations, which is on track to be released in
12 December so that we can have time to receive public comment
13 again, and then have it submitted at our December 14th
14 meeting.

15 The second thing that I want to highlight is that
16 we have been in coordination with ARB and had a very
17 productive meeting so that the barriers study that SB 350
18 required. It has two parts from both our agency and Air
19 Resources Board. We'll continue to be coordinated and
20 consistent to provide that information to the Legislature.

21 And those are the main two updates that I have.

22 CHAIR WEISENMILLER: Thank you.

23 MR. SOKOL: And now, Christine Awtrey will provide
24 the presentation on the data efforts.

25 MS. AWTRY: Good morning, Chair and

1 Commissioners. I'm Christine Awtrey, Project Manager of the
2 Energy Commission's Data Repository Project, and today I'm
3 going to provide an overview of the data collection project
4 to support the data goals of SB 350 and AB 802.

5 SB 350 requires the state to double statewide
6 energy efficiency savings in electricity and natural gas in
7 use by 2030. A key driver in SB 350 is analyze --
8 assessing, analyzing, and distributing energy-related data
9 in support of meeting the targets established as a result of
10 the mandate.

11 In order to determine if California is on target
12 to meet the goals of SB 350, more granular and disaggregated
13 data is needed across the Commission. The Efficiency
14 Division's business programs include Proposition 39, energy
15 efficiency in existing buildings, commercial building
16 benchmarking, and building energy efficiency standards, as
17 well as the forecast under the Energy Assessments Division,
18 which all currently receive or will receive energy data in
19 some form.

20 These programs will be involved in defining the
21 business processes and policies and procedures needed to
22 support the collection, storage, analysis, and dissemination
23 of energy consumption data, and the interface developed to
24 access this centrally-stored data for analytical purposes
25 and distribution to key stakeholders and the public.

1 Energy Commission program staff will work with key
2 stakeholders to coordinate collection and reporting
3 activities regarding this data.

4 The overarching objectives of the Data Collection
5 Project is:

6 To develop a data repository to receive,
7 process, and store energy data from various
8 sources in various formats in a central location.

9 To develop a repository to accept data from
10 legacy systems and current systems with the
11 flexibility to change as new technology is
12 developed and new mandates are changed or
13 approved.

14 A centralized energy data repository will
15 eliminate manual research, compilation, and reporting.
16 Instead, data analysis and reporting can be done faster, be
17 applicable, and be more reliable.

18 In addition to needing a repository to store data,
19 we also need visualization tools, such as dashboards with
20 relevant information for policymakers, building owners, and
21 others to track progress towards mandates, targets, and
22 goals, as well as to conduct ad hoc queries to answer
23 questions.

24 The Energy Commission collected a variety of
25 datasets for different program areas for different business

1 needs. The Commission needs to streamline data collection
2 efforts to remove redundancies and modernize collection and
3 storage processes by having a single repository to store
4 data from different sources for different purposes in order
5 to connect -- conduct analysis and report information to
6 others.

7 Currently, there's not a central location for this
8 data to be stored and analyzed. The potential solution is
9 for the Energy Commission to create a new repository called
10 the Energy -- called an Energy Data Lake to easily manage
11 large amounts of disparate data and provide analytical
12 capabilities to more effectively perform analyses, make
13 decisions, and report information to stakeholders to support
14 SB 350 and AB 802.

15 The Data Lake is a concept already being
16 implemented by the California Natural Resources Agency for
17 their department. A Data Lake is an easily-accessible
18 centralized repository of large volumes of structured and
19 unstructured data.

20 The Data Lake can hold vast amounts of raw data.
21 The data structure and requirements are to define when the
22 data is needed, rather than structured as collected and
23 stored. A Data Lake is a large, flat pool of unstructured
24 data with appropriate tags attached to data terms in order
25 to understand data relationships from various datasets.

1 Tagging data on the way into the Data Lake from
2 various sources makes granular data more useful and
3 meaningful.

4 The Energy Commission wants to invest in a long-
5 term data solution that will grow and change as mandates and
6 business needs grow and change. A Data Lake can scale and
7 adapt to changes versus building a new system every time a
8 mandate or program changes.

9 A Data Lake is highly flexible, allowing for real-
10 time analytics with high accessibility so that policymakers,
11 stakeholders, and the public can have various analytical
12 tools available to them. A Data Lake supports various data
13 types, making it easier to receive data from various
14 sources, and it uses an open-source framework for processing
15 and analyzing big data at high speeds.

16 The Energy Commission will be able to capture data
17 that will likely increase in volume, variation, and velocity
18 in the future. That data will allow the Commission and our
19 stakeholders to perform advanced analytics for policymaking,
20 program development, and forecasting.

21 The Commission will be able to provide data to
22 stakeholders and to the public, where it can be used in
23 different ways to drive the marketplace. We can leverage
24 existing toolsets and knowledge of data scientists and other
25 Commission staff to access the data in the repository.

1 The Energy Commission will have the flexibility to
2 receive data in many different formats, transforming it
3 after it's received, and to connect data from different
4 sources for policymaking, decision-making, and reporting.

5 Our timeline:

6 We're looking at November to December of 2016 to
7 scope and evaluate data tool solutions.

8 January to February of 2017 - release a
9 solicitation to hire a contractor.

10 March to April - hire a contractor.

11 We're looking at May and moving after that forward
12 to develop an Energy Data Lake.

13 Although this may seem like an ambitious timeline,
14 we will leverage work already completed by the California
15 Natural Resources Agency to build the Energy Data Lake in
16 2016-2017.

17 Thank you, and I'm available for any questions.

18 CHAIR WEISENMILLER: Thank you.

19 Any questions from anyone in the audience?

20 (No audible response.)

21 CHAIR WEISENMILLER: Commissioners?

22 COMMISSIONER McALLISTER: Great. So, I'll sort of
23 jump in here. I want to thank Christine and -- Christine
24 Collopy, who's also been a real strong advocate for this
25 effort, and Dave Ashuckian at -- over at the Division, and

1 Rob really for also, at the highest level of the -- of
2 staff, sponsoring and nurturing this effort.

3 I want to just put it in context, you know, that
4 there's a certain amount of wonkiness and sort of data terms
5 that Christine -- you know, that are unavoidable in this
6 conversation, really, and Christine presented it at a high
7 level, but still, you know, sort of tags and, you know, sort
8 of data flows and kind of the terms associated with those
9 things are not something in popular use.

10 And -- but I think it reflects the fact that we
11 live in an age where we all kind of need to be literate on
12 these issues. Data is the lifeblood of a lot of businesses
13 and, increasingly, of government. Government ops is doing a
14 lot of good stuff on this front and doing hack-a-thons and
15 getting sort of publicly -- public data out there in a way
16 that people can use it and intersect it and cross it and
17 analyze it and learn stuff that wouldn't necessarily occur
18 to us in this building or other agencies in their roles.

19 And so, I think that creativity -- that
20 marshalling of creativity is something that you can't really
21 control or dictate from an agency. You really have to kind
22 of let it -- let it bubble and let smart people think about
23 things and come up with solutions. And that is very much
24 the case with our energy realm, our energy arena that we
25 work in every day. And our stakeholders are out there

1 having experiences that give them perspectives that we don't
2 necessarily have, and that diversity is a good thing, right?
3 We need to leverage it.

4 So, this effort, I think, is -- you know, kudos to
5 natural resources for figuring out the Data Lake was a good
6 approach. I mean, I think -- you know, I've been involved
7 and I think much -- many of the staff have been involved in
8 software development projects that -- over the years that --
9 they're incredibly painful and they often don't go to the
10 place that you think you're going and you -- or that you
11 want to go because it's hard to preserve flexibility.

12 It's hard to scope out a software development or
13 an analytical tool development process and get to a place
14 where you -- then, when the inevitable changes come down the
15 road, you can have the flexibility to readjust. That's
16 really difficult because once you've built it, it's built.

17 And so, the Data Lake actually is a flexible -- as
18 Christine said, it's flat. And so, you can kind of apply
19 different templates to it and pull data up into your
20 particular task really easily and flexibly.

21 So, that's a really key -- it's out there, you
22 know. A lot of our private sector folks out in the world in
23 Silicon Valley -- I mean, they're the place where all of
24 this came about. And so, here we are in California in 2016
25 and we need to apply these tools to our -- to do better and

1 better effective and more efficient policymaking and
2 implementing here in California. And so, this really
3 enables us to do that.

4 So, this SB 350 and AB 802 - Christine went down
5 the list of the reasons why we have to do this because the
6 Legislature's asking us to do a lot of things that are only
7 going to benefit from having access and sort of fluidity in
8 our use of more granular, more detailed, and temporal,
9 longitudinal data so we can do time-based analysis.

10 We can see the evolution of the marketplace. For
11 the doubling role, which is, you know, in my realm, I feel
12 this is just essential to baseline and then to see where
13 we're going. We have to know where we started in order to
14 know where we're going. Are we doubling efficiency or not?

15 So, you can't measure it; you have to do used
16 analytics to figure it out in some robust way. This is
17 really the only path forward to do that.

18 And then, it has the corollary benefits of, you
19 know, we need to do this for our forecasting, as well. And
20 so, those two things, I think -- and there will be more as
21 the transportation marketplace evolves and, as kind of we
22 have a lot more information but a lot more initiatives,
23 it'll enable us to have an insight that we just currently
24 don't have.

25 And so, I'm super excited about this task. You

1 know, the SB 350 calls out a long list of things that we are
2 supposed to understand and their impact and the doubling,
3 you know, and their overlapping and their disparate set
4 of -- kind of stew of different initiatives.

5 So, it's PACE programs, it's Prop 39, it's
6 building standards, it's appliance standards, it's a whole
7 bunch of things that we are, you know, called upon to
8 understand and to know what their impact on the doubling or
9 the -- how we're reaching our doubling goal.

10 So, this is -- I guess this is a long way of
11 saying that, you know, I, at least, see this as a really
12 transformational kind of period for the Commission to get --
13 to preserve and continue to enhance, really, our historical
14 role as the developer of knowledge about the energy sector,
15 and providing that public resource that only can come from
16 an agency. It only can come from the government. It's not
17 going to happen if we don't do it.

18 So, you know, the flip side of that is it's a huge
19 responsibility and I think we're all very palpably aware of
20 that. And, you know, what Christine says, oh, we're going
21 to turn around the give data to the public. It's not that,
22 like -- you know, it's not that -- you know, personal
23 information or anything.

24 It's the knowledge that we develop in order to
25 define policies at a high level and a very aggregated level

1 a kind of market tools that -- the kind of information that
2 markets can kind of use to develop themselves and to
3 activate themselves, but that, you know, really responsible
4 curation of this data is another thing that this Data Lake
5 approach really does well.

6 So, there's just a huge number of benefits. I
7 can't even -- you know, I'm not -- I've already probably
8 talked too long, but it's -- there's a long list of benefits
9 and -- many of which we don't even know what they're going
10 to be.

11 And it's something that I feel very strongly
12 about, obviously, and I think staff is -- a lot of -- see,
13 over the last couple of years, I think a lot of lights have
14 come on in the building. Like, oh, you know, this -- yes,
15 it's a big task, but wow! Boy, the benefits are going to be
16 huge.

17 And I actually think that, to the extent that the
18 utilities -- you know, this is going to be an evolution of
19 business practice for them, too, to interface with this
20 effort. And, you know, certainly we have the authority to
21 do it and we're going to do it.

22 I think that I have every expectation that it's
23 going to benefit them, as well. It's going to enable them
24 to target their programs in a way that lifts more savings
25 out of the marketplace, that those savings will be more and

1 more identifiable and quantifiable, they'll be attributable,
2 they'll be something that will really complement the IRP
3 development process.

4 So, this rich diversity of energy resources that
5 we're going to have up and down the chain, from large scale
6 to all the way to behind the meter, the smallest scale,
7 we're going to be able to understand what's going on out
8 there in the marketplace. And that is just invaluable.

9 So, I think the Commission is very well-placed to
10 do this. I think that staff is on top of it. We have some
11 resources; the Legislature has been, I think -- has
12 acknowledged and has really supported this effort and given
13 it resources to move forward, and we're firing on all
14 cylinders.

15 So, I think it's moving forward and that's why I
16 appreciate the presentation. I'm glad it -- that we could
17 fit it into the agenda today.

18 COMMISSIONER HOCHSCHILD: Commissioner, can I just
19 ask? You've been talking about data for many decades,
20 actually.

21 (Laughter.)

22 COMMISSIONER HOCHSCHILD: So, this is a great step
23 forward. My question is are you satisfied with how
24 comprehensive this is? Are there areas that we're missing?
25 I mean, just speak to the scope.

1 COMMISSIONER McALLISTER: Yeah. So, I guess
2 the -- you know, we have to start where we are, right? So,
3 we've got the Energy Analysis Division -- and I want to
4 thank the chair, also, for just being incredibly supportive
5 and obviously very forward-thinking about this, as well.
6 You know, the Energy Analysis Division, where the
7 forecasting sits, and the Efficiency Division really are the
8 two logical divisions where this kind of starts, right?

9 And, you know, we have seven divisions. There
10 are -- as with any entity, you know, governmental or not,
11 there are certain silos or certain practices, there's
12 certain kind of just standard operating procedures that we
13 use.

14 So, I think that, over time, definitely expect
15 that this tool will emerge as -- you know, the values of it
16 and sort of the uses of it and the use cases and all that
17 will emerge and, you know, those lights will go on in other
18 divisions, as well. Like, oh, gosh, you know, I can use
19 this.

20 I mean, Commissioner Douglas has been doing all of
21 this GIS stuff on the DRECP, and there's a huge application
22 of this for that as well, right? At least linking those two
23 efforts. And so -- expanding them and moving them in new
24 directions.

25 So, I feel like this is really a first step but by

1 no means -- the Renewables Division is going to have a -- I
2 think get a lot of value out of this, as well, you know, to
3 the extent that we are going to have buildings information
4 in addition to consumption information, we'll be able to
5 come up with metrics that -- to really understand how people
6 are using buildings and how that's impacting energy
7 behavior. And that enables us to then make better policy.

8 You know, so I think the -- it's -- the full
9 scope -- I think we don't even really understand the
10 boundaries of it, but we know that we're in a good place to
11 start the process. But it's going to -- it'll expand in
12 ways that I think are going to be really valuable.

13 COMMISSIONER DOUGLAS: I'm just going to say
14 briefly that Rob described this to me ahead of the business
15 meeting and I was really excited to hear about it. And I
16 think that, while I don't have the -- you know, I didn't
17 have the opportunity to really dig into how this is similar
18 or different from the system that we used in DRECP and also
19 San Joaquin Solar and Ready II, it has a lot of the same
20 really positive attributes in terms of the flexibility to
21 use data from various sources and to essentially build the
22 tools that you need, drawing from this common pool of data,
23 or build the tools or simple applications that you need, as
24 opposed to putting all these resources into building a
25 mousetrap that just does one thing and not have the

1 flexibility.

2 And so, I really think that this is an exciting
3 tool and I'm really interested in exploring more how we --
4 you know, how we use, you know, GIS and location-specific
5 information, how this allows us to just combine our efforts
6 here. But I think it's really exciting stuff.

7 COMMISSIONER McALLISTER: Great. Yeah. Thanks a
8 lot.

9 And, I guess, just a couple of other points. It
10 does require us to, you know, hire certain skillsets that
11 are able -- that -- you know, both inside the building and
12 go look for contractors that can do these new things, right?

13 And so, data is sort of more in the -- it's a
14 literacy issue sort of in our job classifications, as well.
15 So, that's something that is -- you know, there are long-
16 term kind of efforts going on to evolve that aspect as well,
17 you know, which has its challenges.

18 And then, also, I didn't point out that this is
19 related to the data regs update that we're doing. So,
20 there's a rulemaking on the data regs that we're in the
21 middle of right now, and so this effort certainly is being
22 done in a context of that and vice versa.

23 And so, there's a lot of thinking going on about
24 how we can sort of get all of our ducks in a row and
25 encourage -- you know, not create new barriers and really

1 make sure that this has a nice sort of runway to take off.

2 This is not a voting item, right? So, we'll just
3 move on?

4 (No audible response.)

5 COMMISSIONER McALLISTER: Okay.

6 Well, thanks very much for the presentation and
7 I'm really optimistic about where this is going.

8 CHAIR WEISENMILLER: Okay. Thanks.

9 Let's go on to the minutes.

10 COMMISSIONER SCOTT: Move approval of the minutes.

11 COMMISSIONER McALLISTER: Second.

12 CHAIR WEISENMILLER: All those in favor?

13 (Ayes.)

14 CHAIR WEISENMILLER: Minutes pass five to zero.

15 Lead Commissioner or presiding member reports.

16 Commissioner Scott?

17 COMMISSIONER SCOTT: Sure. Just a couple updates
18 for you all this morning. Between this meeting and the last
19 one, we hosted our Alternative and Renewable Fuel and
20 Vehicle Technology Program Advisory Committee meeting that
21 went really well. It was great. We had most of the members
22 show up in person and the rest of them on the phone. I
23 think we were just missing one or two, so that was great.
24 We had really good participation.

25 It seems that we are on track with the investments

1 that we're proposing in the current draft, which is great.
2 We are -- I think the comment period ended last week, but
3 we're getting comments in on the draft that we'll put
4 together.

5 We'll do our second Advisory Committee meeting not
6 in Sacramento - probably back in the San Joaquin Valley
7 again in the beginning of the year. So, that's coming along
8 well.

9 I also wanted to just thank the staff for their
10 fantastic work on that. The Advisory Committee members --
11 several of them reflected during the day that each year they
12 feel like the plan is getting better and better. And so, I
13 appreciate staff's attention to detail and work to really
14 continuously improve the great work that we do.

15 I may have mentioned this the last time, because
16 we had just done our Department of Navy Energy Commission
17 State of California MOU, but I went to Chicago Ideas Week a
18 few weeks ago, which was really a ton of fun.

19 I have a few friends who live in Chicago and they
20 are, like, beside themselves that I was going to be at
21 Chicago Ideas Week because I guess everyone in Chicago wants
22 to go at some point to hear one of the speeches or talks,
23 and the ideas range really from everything.

24 They're not -- it's not just energy, not just the
25 environment, but all kinds of terrific ideas. And I had a

1 chance to go with Assistant Secretary Denny McGinn and
2 highlight how the military is helping solve the energy
3 crisis and talk about the terrific partnership that we have
4 had with the military, the work that they're doing,
5 highlight the electric vehicles that -- they're nontactical
6 - that they're going to bring onto their bases here in
7 California.

8 The resiliency - he talked a lot about energy
9 security, worrying about the dynamics in the world in the
10 face of climate change. In places where you may have
11 drought, you may already have civil unrest and then you sort
12 of add this layer on top of it.

13 And -- so it was just -- it was a great chance to
14 highlight the work that we have done together with the
15 military, but also to hear, I think, for folks how and why
16 an institution like the military is leading the way on
17 topics like energy and the environment.

18 And then, I just wanted to do personnel updates,
19 which are sad for me but really exciting for my folks. And
20 one is -- I think they're over here.

21 I have O'Shea Bennett, who has been here as a Sac
22 State intern for about two and a half years, actually,
23 working with my office. He worked on some of the regional
24 readiness plans, he worked on helping us to update the
25 webpage, and we've giving him -- he has an engineering

1 background, so we've given him some kind of, like, how stuff
2 works types of papers to put together for us. And I'm just
3 delighted.

4 He is going to stay here at the Energy Commission
5 as an Energy Analyst in the Renewables Division for the New
6 Solar Homes program. So, I'm excited to be able to keep his
7 talent here at the Commission, and I just want to say thank
8 you for your good work, O'Shea. I appreciate that a lot.

9 O'Shea Bennett - I might have just jumped in and
10 not said his name.

11 (Laughter.)

12 COMMISSIONER SCOTT: And I also wanted to say
13 thank you so very much to my fantastic admin, Amy Brousseau,
14 who is going to become an Associate Energy Specialist in the
15 Appliances Outreach and Education Office. So, I am really
16 excited for her and her fantastic opportunity. I'm really
17 depressed for me --

18 (Laughter.)

19 COMMISSIONER SCOTT: -- because she's been
20 fantastic, wonderfully organized, really helped out my team
21 a lot. We just -- you know, we wouldn't be able to get
22 through the day without her fantastic work every day. So, I
23 will miss her a lot but I am so excited that she has this
24 wonderful new opportunity before her. She actually starts
25 up there on Monday.

1 I have to say thanks to the Appliances Division
2 for letting me keep her an extra week. That helped out a
3 lot. (Laughter.) So, anyway, I just wanted to say --
4 acknowledge my team and say thank you so much to them for
5 the great work that they did and just say how happy I am
6 that we're able to keep such talented individuals at the
7 Energy Commission as a place for them to continue to learn
8 and grow.

9 That's my update.

10 COMMISSIONER McALLISTER: That's a perfect segue
11 because we're very happy to have Amy at the Efficiency
12 Division.

13 (Laughter.)

14 COMMISSIONER McALLISTER: So -- and that's a
15 wonderful thing about the Commission is that people can have
16 different experiences and do laterals and learn, so.

17 Just a couple of things, really. Let's see. I
18 guess the main thing I wanted to talk about a little bit was
19 I was able to do a trip -- had the opportunity to do a trip
20 to Brazil between the last meeting and this meeting. And it
21 was at the invitation of the State Department. ISO --
22 Angelino with the ISO has kind of been developing this
23 relationship and there is just really a compelling reason
24 to -- a set of reasons, really, to work with them.

25 In particular, I went to the northeast, but all

1 over Brazil they're rethinking their electric sector.
2 They're trying to leverage renewables. They have immense
3 renewable resources. Their wind energy is on the scale of
4 ours in California and growing incredibly quickly.

5 They have something like 12,000 megawatts
6 installed and all pretty much within the last five years and
7 operating at above fifty percent capacity factors. It's
8 unbelievable. The wind does all year; there's no
9 seasonality and it's just constant.

10 And so, they get -- there are places where they
11 get sixty percent capacity factor. And that's just almost
12 unheard of. And so, they're looking at how they can
13 preserve their hydro resources. They also have a drought
14 going on. They have -- they've had -- historically about
15 eighty percent of their power has been hydropower. You
16 know, (indiscernible) and some other -- or (indiscernible),
17 rather, and some other hydro resources.

18 They're thinking -- they have been thinking about
19 developing new ones, but it looks like that may not happen
20 because they're also having hydro issues with climate
21 change. So, they're down to sixty-five or so percent hydro
22 and they're looking at developing their wind and solar
23 further.

24 They have interesting reverse auction approaches
25 to getting wind. They're not applying those to solar.

1 They've done one on solar and they've gotten some bids.
2 They certainly are concerned about local manufacturing and
3 they're trying to foster that and balance the procurement
4 with the local manufacturing issues, but inviting foreign
5 companies in is happening sort of at breakneck speed.

6 And so, I visited the northeast -- three states in
7 the northeast and made pitches for the Under 2 MOU and I
8 think have good traction there on that. So, that's a pretty
9 great thing.

10 I think -- you know, given sort of the national
11 election, I think it highlights -- in this country, I think
12 it highlights the even higher -- even greater importance of
13 the Under 2 MOU and how that local and regional leadership
14 is really going to make it happen.

15 So, you know, kudos to the governor for just --
16 have -- being -- pressing in on that front. I mean, it's
17 incredible.

18 And then, finally, I -- you know, being the lead
19 on energy efficiency here - and the reason they asked me is
20 I've worked in that region before, like, years ago, and have
21 lived in Brazil and speak Portuguese and also kind of work
22 on these issues as my day job here.

23 So, it was a really great just connection and was
24 able to reconnect with even the individuals that I've worked
25 for before. My Portuguese came back after a couple of days

1 and it was kind of all systems go. It was like I was -- you
2 know, those neurons are still actually working, you know.
3 After fifty, there's hope, okay?

4 (Laughter.)

5 COMMISSIONER McALLISTER: But on the efficiency
6 front, there is incredible resource. I mean, you know, it's
7 hot all year long so there's really no seasonality to the
8 air conditioning loads. And the -- as they scale up solar,
9 and they've put in place metering recently. They've put in
10 place, actually, probably superior policies in some ways to
11 ours because they allow you to trade off from roof to roof
12 if you're the same entity. So, you can, you know, put on
13 your warehouse and credit it to your mothership, you know,
14 your central office, say, in the city, on your high-rise or
15 whatever. So, if you have the same jurisdictional entity,
16 you can do that. If you're the same business entity, you
17 can do that.

18 So, there's a lot of that going on. So, small
19 scale is really poised to take off. The northeast has
20 subsidized capital because it's sort of the -- it's the
21 really -- the more developing country part of Brazil. So,
22 they have a bank that specifically focuses on the
23 northeastern part of the country and they have -- so they
24 have really low-cost capital to do these projects.

25 So, really, all the pieces are there for solar to

1 take off and, as they ramp it up, I think they're in a
2 position to do what we are talking about, which is leverage
3 demand response and leverage demand-side loads, particularly
4 air conditioning and lighting, to incorporate all these
5 renewables.

6 So, it's really a beautiful opportunity for us to
7 interact with them, help them do stuff. I mean, obviously,
8 there are cultural and economic differences, but we do have
9 much more in common than maybe you'd assume at first -- at
10 first glance.

11 So, the State Department really organized a great
12 trip. A lot of high-level meetings, you know, with the
13 movers and shakers in each of the three states up in the
14 northeast that I visited: Fortaleza and Pernambuco and Ceara
15 and Rio Grande do Norte and they're really leading. It's
16 really quite spectacular how visionary, particularly
17 Pernambuco, but I would say also the other two states.
18 They've got a lot to work with and they're really moving
19 forward.

20 So, the other couple things I just want to call
21 out are -- you know, I guess DOE's future may be in
22 somewhat -- will be in flux, so we don't really know.
23 (Laughter.) But they do have a couple of new accelerators
24 that we are -- that we're joining to work on low-income
25 issues, which really interphase -- dovetails well with the

1 barriers report, and another one on ZNE schools, which we're
2 hoping to participate in, as well.

3 So, that kind of approach to convene at the
4 federal level and help states interact. Hopefully, that
5 will continue going forward.

6 And then, finally, I wanted to introduce my new
7 advisor. She is in the room, even though I didn't give her
8 the heads up - Martha Brook. (Laughter.) So, as of the
9 last meeting, I said Pat Saxton went back to the division
10 and -- also to the Appliances Division, so they are firing
11 on many cylinders now.

12 But Martha came over from the Existing Buildings
13 Office and had previously been working on the update to the
14 AB 758 Action Plan, which hopefully will come before us in
15 December. And she has sort of really worn a lot of hats at
16 the Commission, has deep experience, and just is a very
17 thoughtful and highly-skilled professional. And I'm just
18 super ecstatic to have her on my team.

19 So, thanks, Martha, for taking the leap. So,
20 Martha and Brian now are my two advisers, so they're my best
21 contact, probably. (Laughter.)

22 So, that's it for me. Thanks, very much.

23 COMMISSIONER DOUGLAS: All right. Well, I've just
24 got a few brief reports. A couple weeks ago, I went to the
25 Southern California Energy Summit. I always -- I've gone to

1 that conference a couple years in a row and I always enjoy
2 going there.

3 It was held in the Palm Springs area and, you
4 know, a lot of topics were discussed. A big focus on
5 renewable energy, of course, and also the Salton Sea - there
6 was a panel on that and actually a representative from the
7 Mexican government on that panel, which was pretty
8 interesting.

9 There was also a UC Davis conference on offshore
10 wind that Commissioner Hochschild and I both attended. It
11 was a really interesting day. The first day was probably
12 more policy-focused, the second day was highly technical and
13 included -- you know, there's a lot of science being brought
14 to bear on -- under -- better understanding the technology,
15 its potential, its constraints, the environment, and it
16 really isn't possible to do more than really scratch the
17 surface in a conference like that.

18 But, at least it was a start in opening up the
19 science dialogue and so I'm sure Commissioner Hochschild
20 will mention that, as well.

21 And today, actually, I'm heading out after the
22 Business Meeting and tomorrow I will get to speak at the
23 dedication of a Blythe and McCoy project, which I'm really
24 looking forward to. And I'll look forward to reporting back
25 on that later.

1 Thank you.

2 COMMISSIONER HOCHSCHILD: Well, let me just
3 address the elephant in the room, which is -- you know,
4 elections have consequences and I think, after last night,
5 it's very likely that our energy policy landscape is going
6 to be pretty radically remade. And those consequences
7 include, you know, the possible elimination of the Clean
8 Power Plan or the EPA altogether as an agency or federal
9 subsidies for renewables through the Department of Energy
10 new appliance standards.

11 And I think the main take-home point for us as an
12 agency is that, as Commissioner McAllister alluded to, the
13 importance of our work nationally becomes elevated evermore.
14 Really the leadership on this suite of issues we're working
15 on is, I think, very likely to fall heavily to the states
16 and to California in particular.

17 So, it really just does raise the stakes of the
18 game for our work and our work has to continue and we're on
19 a great path. So, we have to redouble our efforts to shine
20 the light.

21 I wanted to share a few photos actually from my
22 visit to the offshore wind conference last week in Rhode
23 Island, which included a site visit to the first offshore
24 wind project installed in the United States.

25 The governor has asked me -- was asking me to go

1 to this and I have to say I'm very glad that I did. And I
2 want to just -- this is basically a thirty-megawatt project
3 with five, six-megawatt turbines that are installed in about
4 ninety-five feet of water. It's a fixed-bottom array, so
5 it's actually planted into the seabed.

6 And the service vessel -- just to show how this
7 works, basically, the service vessel comes up and sort of
8 stays accelerated and into the ladder and the workers are
9 able to get on and off the platform.

10 Next slide.

11 It's about -- is that clicking through for you?

12 Yeah.

13 They're about -- the hub height is about 400 feet,
14 and then to the top of the blade, it's about 600 feet. This
15 is quite close to land - about three miles off the coast of
16 Block Island, but it didn't actually -- this is a closer
17 photo, but, from Block Island, it actually didn't look that
18 big.

19 Next slide.

20 And just so you know, how the workers get on and
21 off, they're all cabled in. There are safety cables that go
22 down the ladders. They unclick and go to the next level.

23 Next slide.

24 And I think the most important change that's
25 happened is a technology innovation. The project I saw is

1 really the second from the right there - that's sort of what
2 the installation looked like in shallow waters. And what's
3 happened in the last few years is the development of
4 floating wind turbine arrays, which allow for deep water
5 installations.

6 Our entire coast is a deep-water shelf, and so the
7 market now is moving towards these arrays that basically are
8 tethered by three high-tension cables to the sea bed. And
9 that's a new innovation.

10 Next slide.

11 And that just in turn -- you can click through
12 this just to show you the load of -- just go ahead and click
13 next. So, this is just the electric load in California.

14 Next slide.

15 Next -- and this is what offshore winds'
16 generation profile looks like - next - versus onshore wind -
17 next - versus solar. I think the point here -- so, onshore
18 wind in California is about a thirty-five percent capacity
19 factor. Offshore is about fifty percent. And if you were
20 to design a renewable technology to perfectly complement
21 solar PV, it's really outstanding, just -- it is a -- it's
22 up in the morning, goes down in the middle of the day, and
23 then ramps up in the afternoon.

24 Next slide.

25 And then, the other trend, obviously, is, as these

1 get sited offshore, they're not visible. So, this is a
2 500-megawatt project in -- off the coast of the UK. It's
3 fourteen miles offshore and, in sort of the before and after
4 picture, you can't see a difference. So, you think about
5 what killed, for example, the Cape Wind Project - that was
6 really because these were visible.

7 And the Coast Guard has developed a very
8 sophisticated model to assess what's visible and what's not
9 from shore. The two companies that have bid in California
10 to the first offshore wind lease that's being administered
11 by the Bureau of Ocean Energy Management that's just off the
12 coast of Morro Bay. So, that's Trident and StatOil.

13 And that project is, like, twenty-three miles from
14 shore. So, visibility is not going to be an issue. There
15 are other issues to deal with - an impact on fisheries and
16 Coast Guard and, you know, if there's marine mammal issues,
17 et cetera - but just to give you guys a sense, this is --
18 this is some of the issues that became clearer in focus for
19 me last week.

20 Just in terms of other updates, one thing I do
21 want to acknowledge -- Albert Ladeen for helping -- one
22 thing we're going to be doing -- we've been, you know --
23 this guest speaker has been going really well. We've had --
24 last week -- actually, this week, we had Felicia Markus from
25 the Water Board come give an overview of her good work to

1 reduce water use in California, and Albert is putting
2 together, basically, a podcast to record some of these
3 presentations on sort of success stories for reducing energy
4 and water use. And that will be publicly available.

5 So, any other of you who are having guests, and
6 they're open to having their speech recorded and made
7 available to the public, we're going to be doing that.

8 And that's, I guess, the other big one -- I'm -- I
9 got invited to give a couple of talks in Morocco at the
10 COP 22 conference. I spoke to the governor's office and
11 Mary Nichols (phonetic) about that. But I did decide to go,
12 so I will be there starting on Friday, and, you know, I
13 think, obviously, the election results are going to change
14 that conversation pretty significantly. But I'll report
15 back when I -- what I hear and I return.

16 CHAIR WEISENMILLER: Great. First, I wanted to
17 thank Commissioner Scott and Commissioner Douglas for
18 picking up some of my travel invitations.

19 (Laughter.)

20 CHAIR WEISENMILLER: I just got back from China,
21 which is at least an experiment in jet lag, which -- so far,
22 jet lag is winning. But, anyway, we did -- I went with
23 Go-Biz. They wanted -- when the governor did his trade
24 mission, obviously, ultimately that resulted in our
25 agreement with the NDRC on energy. There was also an

1 agreement that GO-Biz had on economic development with a
2 number of provinces.

3 So, this was a follow-up for the GO-Biz economic
4 development MOU. And we focused on clean tech, which is
5 sort of how I got there. And we covered -- I was expected
6 to do seven cities in, like, eight days or nine days,
7 depending upon counting the flight over and the flight back
8 and all that.

9 So, it was a pretty whirlwind view of trying to --
10 you know, obviously, on all these trips, you sort of pick up
11 things and, you know, pick up memories and interact with
12 people, so it -- clearly very vibrant society.

13 At this stage, you know, certainly the giant is
14 awakening in many respects. And a lot of interest in
15 renewables -- I mean, they're facing issues, but I went to a
16 conference - and this is the tag - there was a -- along with
17 everything else, I did a day trip to do an energy event in
18 Suzhou.

19 And, anyway, that one -- the -- China, as of
20 September, has 120 gigawatts of wind and just shy of
21 70 gigawatts of solar. Obviously, it's a huge system, but
22 that's gone from very small numbers to probably the world's
23 leading, you know, amount in a relatively short time.

24 Unfortunately, their metrics are installed
25 capacity and not delivered gigawatt hours, and so a lot of

1 this stuff is not interconnected and/or being curtailed.
2 You know, the common refrain was that the economy has not
3 been going strong in China, and it -- you know, if the
4 economy is not strong, load growth is less than they
5 anticipated, which means if you're going full-throttle on
6 renewables, nuclear, coal - something's got to give and,
7 unfortunately, it tends to be more the renewables giving.

8 So, they're in the process of some degree of
9 adjusting that, and at the same time, certainly, we -- you
10 know, we certainly witnessed the air quality issues in China
11 and -- you know, which are a consequence of, certainly, the
12 coal use, automobile use - a lot of interest in zero
13 emission vehicles, awful lot of activities there.
14 Obviously, much more local champions than California
15 champions, but, anyway, it's -- it's always a good
16 opportunity to visit.

17 I mean, I think, at the conference, the sense was
18 California and Germany were really leading the world on --
19 we -- you know, basically addressing greenhouse gas issues.
20 And there was a lot of positive feedback. So, as you said,
21 that sort of getting the message out is important.

22 But -- and I -- I'm going to just close on --
23 with -- by noting, you know, sort of the déjà vu feelings
24 of, in the first Brown administration -- when we got to 1980
25 and President Reagan came in. And, you know, it quickly

1 went to yanking solar systems off the White House or any
2 number of activities which were not precisely in a direction
3 that we were going.

4 But one of the things that we did, we --
5 collectively, the administration should give a lot of credit
6 to Huey Johnson and Kirk Muckell, but basically waking up --
7 you know, in this day then, they -- between this point and
8 the inauguration, did these -- with Cecil Andress, did the
9 CEQA/NEPA process to designate the (indiscernible) in
10 Northern California.

11 So, this is certainly a time that all of you
12 should be trying to figure out what do you really need to
13 get done between now and inauguration day? And I guess --
14 that one actually went into the evening, I guess - one of
15 the chief justices, fortunately, had gone to an inauguration
16 dinner, you know, and could not be grabbed for the court
17 restraining order, but anyway.

18 (Laughter.)

19 CHAIR WEISENMILLER: Anyway, so, yeah. Think
20 about that, you know. I guess I suggest, to the extent that
21 you're trying to get some offshore leases done, it's -- you
22 may want to hustle those leases along. For example -- and I
23 know on some of the DOACP stuff or some of these standards,
24 yeah. So, I mean, just across the board, you know, it's
25 forced march time.

1 Anyway -- but, as I said, certainly in this
2 situation, I -- you know, I think the California leadership,
3 as everyone has said, will be critical, but certainly it's
4 good to start thinking about how the relationship between us
5 and the feds are changing, and areas where we have been
6 allies will become more difficult. So, definitely move fast
7 now.

8 Anyway, let's go on to the chief counsel's report.

9 CHIEF COUNSEL VACCARO: Nothing today, thank you.

10 CHAIR WEISENMILLER: Executive director report.

11 EXECUTIVE DIRECTOR OGLESBY: Nothing to add today,
12 thank you.

13 CHAIR WEISENMILLER: Public advisor report.

14 MS. MATHEWS: Three things, very briefly. I did
15 have an opportunity -- I was invited back by Climacore Bay
16 Area to give a short keynote to their new orientation class,
17 starting in the fall of this year.

18 I also was invited to host two sections for the
19 2017 statewide NAACP conference. So, there was a session on
20 clean energy and the Black community, so I was able to talk
21 about the initiatives -- or the 350 Barriers Report as well
22 as provide funding opportunity information for all of our
23 funding programs, including Prop 39.

24 And then, lastly, it was announced yesterday that
25 the governor appointed a new deputy public adviser, so I

1 just wanted to say how happy I am for that, and thank you to
2 Rob and the chair for supporting the expansion of what the
3 public adviser's office is doing to make sure that we
4 increase our outreach and support, as well as participation
5 for Energy Commission programs to members of the public --
6 all members of the public of California.

7 CHAIR WEISENMILLER: Great.

8 Any public comment?

9 (No audible response.)

10 CHAIR WEISENMILLER: This meeting is adjourned.

11 (Thereupon, the California Energy Commission
12 Business meeting was adjourned at 11:44 a.m.)

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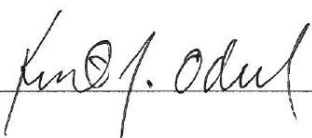
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I do hereby certify that the testimony in the foregoing hearing was taken at the time and place therein stated; that the testimony of said witnesses were reported by me, a certified electronic court reporter and a disinterested person, and was under my supervision thereafter transcribed into typewriting.

And I further certify that I am not of counsel or attorney for either or any of the parties to said hearing nor in any way interested in the outcome of the cause named in said caption.

IN WITNESS WHEREOF, I have hereunto set my hand this 11th day of November, 2016.

A handwritten signature in cursive script, appearing to read "Kent Odell", is written over a horizontal line.

Kent Odell
CER**00548

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I do hereby certify that the testimony in the foregoing hearing was taken at the time and place therein stated and that the testimony of said witnesses were transcribed by me, a disinterested person, into typewriting.

And I further certify that I am not of counsel or attorney for either or any of the parties to said hearing nor in any way interested in the outcome of the cause named in said caption.

IN WITNESS WHEREOF, I have hereunto set my hand this 11th day of November, 2016.



REBECCA HUDSON