

Commissioners Present

Robert B. Weisenmiller, Chair
Karen Douglas
Andrew McAllister
Carla J. Peterman

Staff Present

Michael Levy
Rob Oglesby
Jennifer Jennings
Harriet Kallemeyn

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Amir Ehyai	4
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Akasha Kaur Khalsa	6
Shahid Chaudry	7
John Mathias	8-10
Donald Coe	11 & 12
Lindsee Tanimoto	13 & 14
Jim McKinney	13
Amanda Stein	14
Andre Freeman	15 & 16
Bill Kinney	17 & 18
David Nichols	19
Michael Lozano	20
Pablo Gutierrez	21
Heather Bird	22
Anish Gautam	23
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Dustin Davis	25
Joe O'Hagan	26-30
Leah Mohney	31
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Also Present

Interested Parties (*on phone)

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Michele Wong, Clean World Partners	7
Kyle Jenke, EdeniQ	8
Joan Ogden, UC Davis	9
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1. CONSENT CALENDAR 14
- a. INTER-CON SECURITY SYSTEMS, INC. Possible approval of Amendment 9 to Contract 200-07-004 with Inter-Con Security Systems, Inc. for unarmed security service. The amendment will add \$110,000 and extend the term from July 1 to December 31, 2012, to complete negotiations concerning the master service agreement administered by the California Highway Patrol, and include changes to update the contract terms and conditions. (ERPA funding.)
 - b. E3M Inc. for a 12-month no-cost time extension to align the contract end date with the end date of the funding grant with the U. S. Department of Energy and to include changes to update contract terms and conditions. (DOE funding.)
 - c. DRAW PROFESSIONAL SERVICES, INC. Possible approval of Amendment 1 to Contract 400-09-28 with Draw Professional Services, Inc. for a 12-month no cost time extension to align the contract end date with the end date of the funding grant with the U. S. Department of Energy and to include changes to update contract terms and conditions. (DOE funding.)
 - d. HUDSON TECHNOLOGIES COMPANY. Possible approval of Amendment 1 to Contract 400-09-029 with Hudson Technologies Company for a 12-month, no cost time extension to align the contact end date with the end date of the funding grant with the U. S. Department of Energy and to include changes to update the contract terms and conditions. (DOE funding.)

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1. CONSENT CALENDAR (Continued).
 - e. PLEXOS. Possible approval of Purchase Order 11-435.01-029 for \$91,300 to renew the Energy Commission license for Power Systems software, produced by Energy Exemplar, through June 13, 2013. Electricity Analysis staff use the PLEXOS production cost modeling software to simulate the California and Western U. S. grids, analyze energy system operations and market trends, and inform California energy policy decisions through the IEPR process and other forums. (ERPA funding.)
 - f. MATHWORKS. Possible approval of Purchase Order 11-445.01-013 with Mathworks for \$46,075 for five individual MatLab software license key packages needed for staff to manage, modify, and fully utilize the transportation energy demand forecasting model system (DynaSim). MatLab will enable staff to analyze software discrepancies and customize model runs, thereby increasing the transparency and defensibility of the forecasts provided by the DynaSim system. (ERPA funding.)
2. ABENGOA MOJAVE SOLAR PROJECT (09-AFC-5C). Possible **HOLD** approval of the petition to amend the California Energy Commission Decision for the Abengoa Mojave Solar Project to remove the wording in Condition of Certification BIO-7 requiring vehicular traffic during project construction and operation not to exceed a speed of 25 miles per hour on Harper Lake Road.
3. CALIFORNIA ENERGY DEMAND 2012-2022 FINAL FORECAST. 14
Possible adoption of the staff final report *California Energy Demand 2012-2022 Final Forecast*. The adopted electricity and end-user natural gas consumption and peak demand forecasts support the Commission's Integrated Energy Policy Report process and the California Public Utility Commission's Long-term Procurement Process as well as other energy planning studies and assessments. Forecasts for California as a whole and for each major utility planning area within the state are included in the report.

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4. CITY OF HAYWARD. Possible approval of Agreement 004-11-ECF for a loan of \$3 million to the City of Hayward to upgrade 7,599 streetlights with LED fixtures. The project is estimated to save 2,801,573 kilowatt hours of electricity annually, and reduce greenhouse gas emissions by approximately 967 tons annually. (ECAA program funding.)	29
5. AEMETIS, INC. Possible approval of Agreement ARV-11-017 for a grant of \$1,875,528 million to Aemetis, Inc. to cost share the development of a 1 million gallon per year capacity pre-commercial facility in Keyes, California using agriculture waste and cellulosic material for the production of ethanol. (ARFVTP funding.)	31
6. KENT BIOENERGY CORPORATION. Possible approval of Agreement ARV-11-020 for a grant of \$1,496,426 to Kent BioEnergy Corporation for the Fermentable Sugars for Ethanol from Microalgal Biomass Project to develop processes and assess commercial fuel production feasibility. The project will develop methods of cellysis and separation of the carbohydrate component, invent bio-engineered sugar releasing enzymes, and produce lab-scale quantities of fermentable sugars and ethanol. (ARFVTP funding.)	39
7. CLEAN WORLD PARTNERS, LLC. Possible approval of Agreement ARV-11-021 for a grant of \$6 million to Clean World Partners, LLC to increase Sacramento Bio-Refiner's capacity from 25 tons per day (TPD) to 100 TPD. This project will result in diverting 100 TPD of source-separated food waste from landfills to produce 566,000 diesel gallon equivalent of renewable natural gas and generate 3.17 million kilowatt hours of electricity every year. (ARFVTP funding.)	48
8. EDENIQ, INC. Possible approval of Agreement ARV-11-018 for a grant of \$3.9 million to EdeniQ, Inc. to develop and demonstrate EdeniQ's cellulosic ethanol production technology. The project includes feedstock evaluation, pretreatment and enzyme tests, equipment development and optimization, and demonstration of two ton per day cellulosic ethanol biorefinery. (ARFVTP funding.)	53

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9. UNIVERSITY OF CALIFORNIA DAVIS. Possible approval of Contract 600-11-005 for \$2,770,072 with the Regents of the University of California on behalf of the Davis Campus to conduct research comparing the value, benefits, and drawbacks of all types of alternative fuels and fuel uses in California, including updates on rollout scenarios and transition strategies, research on consumer perceptions, research on biofuel investment and deployment scenarios, assessment of low carbon options for the light duty vehicle sector, an assessment of natural gas as a transportation fuel, and development of case studies of potential biomass feedstock sources in California. (ARFVTP funding.)	63
10. BEAR VALLEY UNIFIED SCHOOL DISTRICT. Possible approval of Agreement ARV-11-023 for a grant of \$300,000 to Bear Valley School District to install a new compressed natural gas (CNG) fueling station that has both time-fill and fast-fill capability and can meet the current CNG fueling needs of the school district and allow the district to expand its fleet of CNG vehicles. (ARFVTP funding.)	75
11. CITY OF RIVERSIDE. Possible approval of Agreement ARV-11-031 for a grant of \$200,000 to the City of Riverside for a compressed natural gas station at the city's water quality control plant. The station will be used for city fleet vehicles and also be accessible to the public. (ARFVTP funding.)	77
12. ATLAS DISPOSAL INDUSTRIES. Possible approval of Agreement ARV-11-028 for a grant of \$300,000 to Atlas Disposal Industries to construct a new compressed and renewable natural gas fueling station in Sacramento to support private, public, and school fleet operators. (ARFVTP funding.)	80

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13. SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT. Possible approval of Agreement ARV-11-025 for a grant of \$217,000 to South Coast Air Quality Management District (SCAQMD). SCAQMD and Southern California Gas Company (Gas Company) will develop compressed natural gas (CNG) fueling infrastructure to support public retail sales for light-duty vehicles and trucks associated with goods movement and other fleet operations. It will also fuel Gas Company's growing private fleet of CNG powered vehicles. (ARFVTP funding.)	87
14. SYSCO FOOD SERVICES OF LOS ANGELES, INC. Possible approval of Agreement ARV-11-033 for a grant of \$600,000 to develop a publicly-accessible liquefied natural gas (LNG) terminal to fuel its goods movement fleet in Riverside. It will offer an LNG refueling station for other natural gas truck users along the I-215 corridor. (ARFVTP funding.)	93
15. NORTH STAR BIOFUELS LLC. Possible approval of Agreement ARV-11-035 for a grant of \$500,000 to North Star Biofuels LLC to develop a commercial scale biodiesel blending facility in Watsonville, California. The facility will help California meet the growing demand for low carbon fuels. The project will establish biodiesel blending at an existing facility. (ARFVTP funding.)	98
16. NATIONAL RENEWABLE ENERGY LABORATORY. Possible approval of Contract 600-11-002 for \$2,152,273 for a Cooperative Research and Development Agreement with the National Renewable Energy Laboratory to assist in the planning, implementation, and evaluation of the Alternative and Renewable Fuel and Vehicle Technology Program. Expert analysis of program investments and how effective they are in addressing economic, environmental, energy security, and petroleum reduction goals will be provided. (ARFVTP and ECAA funding.)	103

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18. UNIVERSITY OF CALIFORNIA DAVIS. Possible approval of Contract 600-11-006 for \$227,000 with the Regents of the University of California on behalf of the Institute for Transportation Studies (ITS) to enable the completion of Tasks 8 and 9 of Contract 600-10-006, "Assessing the Sustainability of Forest Biomass Utilization in California," with the U. S. Forest Service-Pacific Southwest Research Station. ITS will assess the impacts of biofuel demand on biorefinery location, and it will also develop a comprehensive Forest Products LCA Assessment. (ARFVTP funding.)	116
19. TMDGROUP, INC. Possible approval of Contract 600-11-007 for \$2,210,000 with tmdgroup, inc. for an outreach and marketing agreement that will represent an initial launch of a professionally developed campaign based on research to inform and influence key California stakeholders (i.e. goods movement leaders, fleet owners, independent vehicle operators) to the benefits of lower carbon clean alternative fuels, and advanced vehicle technologies. (ARFVTP funding.)	118
20. GAS TECHNOLOGY INSTITUTE. Possible approval of Agreement PIR-11-029 for a grant of \$1,733,000 to Institute of Gas Technology dba Gas Technology Institute to demonstrate waste heat recovery in industrial exhausts for stackless furnaces. The length of this agreement is 33 months. This project includes \$850,000 in match funding. (PIER natural gas funding.)	125

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21. GAS TECHNOLOGY INSTITUTE. Possible approval of Agreement PIR-11-028 for a grant of \$1,767,185 to Institute of Gas Technology dba Gas Technology Institute to develop and demonstrate an advanced, fuel-flexible combined heat and power system. This novel system will be developed, built and demonstrated at the San Bernardino Water Reclamation Plant to assess its technical and economic viability. This project includes \$870,388 in match funding. (PIER natural gas funding.)	128
22. BIODIESEL INDUSTRIES OF VENTURA, LLC. Possible approval of Agreement PIR-11-030 for a grant of \$1,829,544 to Biodiesel Industries of Ventura, LLC to demonstrate the integration of several emerging energy generation technologies to utilize waste products and reduce energy cost for biodiesel production at a facility located at the U. S. Naval Base in Port Hueneme, California. This project includes \$2,012,670 in match funding. (PIER natural gas funding.)	83
23. QUANTITATIVE BIOSCIENCES, INC. Possible approval of Agreement PIR-11-032 for a grant of \$1.5 million to Quantitative Biosciences, Inc. to develop and demonstrate a simple and affordable "turnkey" algae-based waste treatment method for California dairies that will produce energy, save water, and reduce greenhouse gas emissions. This project includes \$860,000 in match funding. (PIER natural gas funding.)	131
24. WESTERN COOLING EFFICIENCY CENTER. Possible approval of Amendment 2 to Contract 500-08-042 with the Regents of the University of California on behalf of the Western Cooling Efficiency Center to add \$800,000, extend the contract by 23 months to March 13, 2015, and include changes to update the contract terms and conditions. The funding will be for research projects in the areas of building sealing, ground source heat pumps, hydronic heating systems, and water re-use. (PIER electricity and natural gas funding.)	135

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26. UNIVERSITY OF CALIFORNIA IRVINE. Possible approval of Contract 500-11-028 for \$397,236 with the Regents of the University of California on behalf of the Irvine Campus to model the trade-offs of possible fuel paths for California biomass and biogas utilization and to quantitatively assess the energy and environmental impacts, including greenhouse gas emissions of each fuel path, with emphasis on air quality improvement and economic viability. (PIER electricity funding.)	152
27. UNIVERSITY OF CALIFORNIA MERCED. Possible approval of Contract 500-11-026 for \$258,383 with the Regents of the University of California on behalf of the Merced Campus to determine the type and amount of air pollutants formed during combustion of synthesis gas generated from a plasma-assisted biomass gasification process. The project will also study the economic implications and challenges of using such technology to produce heat and power including the cost benefits of reducing pollutants in nonattainment areas such as California's Central Valley. This project includes \$50,000 cost share from Foret Plasma Labs. (PIER electricity funding.)	154

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29. LAWRENCE BERKELEY NATIONAL LABORATORY. Possible approval of Contract 500-11-027 for \$1.1 million with the U. S. Department of Energy, Lawrence Berkeley National Laboratory to conduct a comprehensive investigation of emissions and leakages from the natural gas system and evaluate opportunities to reduce methane emissions from the California natural gas system. In consultation with industry partners, researchers will identify cost-effective reduction strategies and technologies. (PIER natural gas funding.)	160
30. CALIFORNIA INSTITUTE FOR ENERGY AND ENVIRONMENT. Possible approval of Contract 500-11-033 for \$1,193,197 with the Regents of the University of California on behalf of the California Institute for Energy and Environment to investigate the potential environmental implications of various future energy development scenarios in California. (PIER electricity funding.)	161
31. KEMA, INC. Possible approval of Contract 500-11-029 for \$3.5 million with KEMA, Inc. to provide technical support for the Research and Development Division. Work will be assigned to the contractor via work authorizations on an "as needed" basis (PIER electricity and natural gas funding and GRDA funding.)	164
32. KEMA, INC. Possible approval of Amendment 1 to Contract 600-09-012 with KEMA, Inc. for \$200,000 to add Task 7 to estimate net job creation, retention, and other economic effects attributable to the Energy Commission's ARRA-funded programs, add a subcontractor, and update contract terms. (ERPA funding.)	168

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P R O C E E D I N G S

JUNE 13, 2011 10:05 a.m.

CHAIRMAN WEISENMILLER: Good morning. Let's start with the Consent Calendar.

COMMISSIONER DOUGLAS: Move the Consent Calendar.

COMMISSIONER PETERMAN: I'll second.

COMMISSIONER DOUGLAS: All those in favor?

(Ayes.) Consent Calendar passes unanimously.

Let's go on to Item 3. *California Energy Demand Forecast 2012-2022 Final Forecast*. Chris?

MR. KAVALEC: Good morning. I'm Chris Kavalec from the Demand Analysis Office. I'm here to propose adoption of the *California Energy Demand 2012-2022 Electricity and Natural Gas Demand Forecast* or CED 2011, for short.

The 2011 is in there because we started this process more than a year ago. So what I'd like to do is run through a few slides summarizing the forecast, talking about the changes that we've made since we last publicly presented a forecast and talk about a couple of the components that folks tend to be interested in.

So I will start with statewide electricity

1 consumption in gigawatts hours. In the forecast we
2 did three scenarios - a high, a mid and a low. And
3 also shown in that graph for comparison is the last
4 adopted forecast, CED 2009. It makes the most sense
5 to compare the 2009 forecast to our mid-case, our mid-
6 scenario, because they use similar economic
7 demographic growth. That is Moody's most likely case,
8 at the time.

9 Growth in the mid-case relative to the 2009
10 forecast is about the same. A little bit higher
11 mainly because we're starting from a lower point.
12 Consumption in 2010 was below what was predicted in
13 the 2009 forecast because of the recession and because
14 2010 was a relatively cool weather year.

15 Statewide peak demand. This is a non-
16 coincident peak demand, meaning it's the sum over
17 individual planning areas. In this case mid-case
18 growth is significantly higher than in 2009 and that
19 is chiefly because in this forecast we incorporated
20 the impacts of climate change; which induced peak
21 demand to grow at a faster rate relative to 2009.

22 Statewide natural gas consumption. This is
23 end user natural gas consumption, meaning it doesn't
24 include natural gas from generation.

25 As is typically the case growth for natural

1 gas is lower than that for electricity. It's about
2 the same as it was in 2009 in the mid-case. The
3 reason for that is because – or a key reason for that
4 is standards have had much more of an impact
5 relatively in natural gas compared to electricity.
6 There are less end uses for natural gas and so it's
7 easier to target certain end uses and get a larger
8 reduction relative to electricity.

9 In February we presented what we called our
10 "Revised CED 2011." We had a Workshop on February 23
11 and we received comments from stakeholders. And based
12 on those comments we made a few revisions between the
13 revised forecast and the final forecast. I'll just go
14 through these items real quick here.

15 We increased the amount of savings that we
16 projected for our television standards based on
17 looking at additional studies and consulting with our
18 appliance standards folks here at the Commission.

19 We included non-event based response for the
20 first time. That's peak reduction coming from
21 programs like real-time pricing and load shifting.
22 This is differentiated from event-based demand
23 response, which is voluntary reductions on high demand
24 base. That's considers a supply side resource. But
25 these longer lasting programs like real-time pricing

1 we consider on the demand side.

2 We revised our electric vehicle forecast to
3 be consistent with the newly revised ARB Zero Emission
4 Vehicle Mandates. More about that in a second.

5 We included a natural gas vehicle forecast
6 provided to us by our fuels office.

7 Together with Southern California Edison's
8 staff we estimated impacts of electrification at
9 Southern California ports and from other industrial
10 sources.

11 And when we do these forecasts we do both an
12 end-use and econometric version and compare the two.
13 And attempt to resolve the differences. In the case
14 of Southern California Edison manufacturing we looked
15 at 2011 data. That would be the first year in the
16 forecast because 2010 is our base year. And we saw
17 that our end-use model had predicted a sharp decline
18 in 2011, which wasn't shown by the billing data that
19 we had for the year-to-date. So we substituted the
20 econometric version, which did not include – which did
21 not show a sharp decline in 2011. We substituted that
22 for the end-use version.

23 And this slide shows the difference between
24 the revised and final forecasts. What effects all
25 these different changes had. Roughly a 0.6 percent

1 increase in statewide consumption by 2022 in the mid-
2 case. I don't show peak or natural gas here because
3 they are so similar. The peak is nearly identical
4 between the revised and the final forecast.

5 And for natural gas the difference is only
6 the added natural gas vehicle forecast around 100
7 million therms by 2022.

8 Other components of interest. Electricity
9 savings from efficiency programs, standards and price
10 effects meaning reductions in electricity use in the
11 face of rate increases.

12 Electric light duty vehicles and PV
13 adoption.

14 In order, electricity savings, again, the
15 three scenarios. By 2022, due to standards, programs
16 and price effects and these are what we call
17 committed. In other words they're savings induced by
18 initiatives that have been finalized, have firm
19 funding and are already on the books as opposed to,
20 for example, future investor owned utility programs
21 that have not yet been finalized or funded by the
22 CPUC.

23 So by 2022 in the mid-case this shows
24 savings of around 95,000 gigawatt hours and this is
25 benchmarked to 1975. So this means that if we had

1 done nothing since 1975 by 2022 consumption would be
2 95,000 gigawatt hours higher. Okay. Or 60,000
3 gigawatt hours in 2010.

4 Electric vehicle consumption. The low case
5 here is based on a most likely compliance scenario put
6 together by ARB staff for the recently revised Zero
7 Emission vehicle Mandates. And ARB staff urged us to
8 use that as a low case. So we generated a high case,
9 which also zeroing emission vehicle mandates are met
10 but allowed. Our vehicle choice model that the fuels
11 office operates to predict additional plug in hybrid
12 vehicles. And that gave us our high-case. The mid-
13 case is just the average of the two.

14 And, finally, photovoltaic adoption. We
15 predict that by 2022 in the mid-case we're going to
16 have roughly 1,500 megawatts of peak generated by PV
17 systems. In other words, this is peak generated by
18 systems so that means a reduction in the amount of
19 peak that has to be provided by the utilities.

20 So with that, I will ask the dais for
21 questions or comments.

22 CHAIRMAN WEISENMILLER: Let me start with
23 some comments.

24 First, I wanted to indicate I've had the
25 opportunity to work with the staff on this development

1 of the forecast the last couple of years and certainly
2 appreciate the leadership of Chris Kavalec on this and
3 certainly the work of the Division Management and
4 certainly behind Chris there's a village of people
5 that have worked on this.

6 We've had a number of workshops. We've had
7 five workshops. We've had very active participation
8 from a number of parties. The IOUs, in particular,
9 SMUD, NRDC, the PUC, Sierra Club, California Energy
10 Efficiency Industry Council. So we've had a lot of
11 participation and certainly it's been necessary, in
12 turn. It's been necessary to get all the parties
13 involved in this and, as you know, this - energy
14 forecast is one of the key things the Energy
15 Commission does. If you look back in the 70s we were
16 one of the first agencies to try to come up with a
17 demand forecast, which provided the policy
18 implications of things like our building standards,
19 our appliance standards and allowed us to weigh those
20 policy choices versus conventional power plants. So
21 it's been sort of a key legacy thing for us but it's
22 very important to get it right. That, obviously that
23 one of the things that's been critical is we've
24 developed the models and the reputation for getting it
25 right and for not being too reliant on speculative

1 stuff. But, basically, making sure that people can
2 count on our forecast and by law all the other
3 agencies do have to count on our forecast in their
4 planning. So, again, this is something which I think
5 all of us have to take very seriously and make sure
6 that we've got the resources for that.

7 As part of this process, along with the
8 workshop, we brought in an independent PIER panel to
9 help on the review. And, again, certainly appreciate
10 their efforts and contribution to, again, help us do
11 this right. I tend to view this - again, I was
12 certainly involved in the initial forecasting but
13 consider the challenge now to be even more complicated
14 than then. I mean then we were definitely very data
15 limited and conceptually, I mean, a lot of it was
16 things people had never thought of how to do before
17 much less than try to scrounge up the data to do it
18 correctly.

19 But, at this point, one of the big
20 challenges that we've had is the economy. That one of
21 the things that really drives the forecast in a big
22 way is economic conditions in California. And
23 certainly we've been hammered. We are coming back.
24 But the demand forecast is certainly a function of how
25 much the economy comes back and when and where. And

1 those are very hard to forecast. That's one of the
2 reasons we're trying to do a range of uncertainty.
3 Another thing is, as Chris indicated, we're looking at
4 the energy efficiency. We're very serious programs.
5 As everyone knows there's lots and lots of controversy
6 on the attribution of the savings from those programs.
7 And we've tried to take, again, a pretty reasonable
8 approach there, a reasoned approach, on energy
9 efficiency.

10 At the same time we have certainly a very
11 aggressive distributed gen program. And, again, you
12 could certainly come up with higher or lower forecasts
13 there. And, also, was a vision mandated in the state
14 for zero electric vehicles so, again, there's lots of
15 different moving pieces that are moving in different
16 directions that somehow we're trying to incorporate
17 into a forecast which we're comfortable with.

18 And, finally, as Chris indicated this is the
19 first time anywhere in the country people have tried
20 to incorporate the impacts of climate change on the
21 forecast. This is a first step. It's more in the
22 expected peak load. Ultimately, I hope next year we
23 can make more progress and consider more the effects
24 upon the 1/10 peak load, the effects on sales, the
25 effects back on all of our planning models. I mean,

1 the globe is changing. Climate change is having
2 impact on our energy systems and our society. And we
3 have to incorporate that in the planning. But, again,
4 certainly want to congratulate Chris for taking some
5 of the first steps in really rethinking our planning
6 approaches to incorporate that.

7 So, again, I would strongly support the
8 forecast and encourage the Commission's adoption. I
9 would note that one of the issues that we have, which
10 we'll always struggle with, is our forecast feeds
11 different processes at the CAISO. And as much as we
12 always try to sync up the different processes,
13 inevitably at soon as you think you've figured out how
14 to have everything work smoothly, something slides.
15 Probably at all three places so that inevitably by the
16 time you get done it's not as clean a connection.

17 And the area here where we've had problems
18 is, obviously, the PUC has redone their Conservation
19 Potential Studies. They're rethinking the Energy
20 Efficiency. Ultimately, we'll be back here to talk
21 about the uncommitted conservation, you know, energy
22 efficiency stuff but at this point we all believe it's
23 important to get this out, feed this into the LTP and
24 realize that we still need to work on those
25 connections so that somehow the agency's stuff all

1 fits together seamlessly.

2 So, again, thanks, for your efforts.

3 MR. KAVALEC: If I could echo something that
4 the Chair mentioned. When we do these workshops you
5 only see three or four of us here but it's - putting
6 together the forecast is really a team effort with 15
7 or so folks working on different pieces. So I just
8 wanted to acknowledge their contribution.

9 CHAIRMAN WEISENMILLER: Yes. So, with that
10 -

11 COMMISSIONER DOUGLAS: I'm just looking
12 around to see if there are other comments. I just
13 wanted to say that I appreciate Chris and a couple
14 other members of the team briefing me on the forecast
15 yesterday, but at various times, really, throughout
16 the process that I've focused and asked questions and
17 so on.

18 I really appreciate the effort that was put
19 forward this year certainly by the Chair and your
20 leadership on this process. Also, the hard work by
21 staff. I was pleased to see that staff actually
22 forecasted a range. I think that's a really valuable
23 tool for helping people kind of assess and understand
24 the different variables that are out there.
25 Particularly, in the economic climate in which we find

1 ourselves. And I was also very pleased to see that we
2 took, as an institution, the first steps really I
3 think ever to incorporate climate change as a variable
4 in the forecast. And, while in this case, it was, you
5 know, particularly the extreme heat days and the
6 potential prevalence for more extreme heat days, I
7 think this is an area where we can also improve as we
8 go forward and learn more about how to incorporate
9 climate change as a variable into the forecast.

10 I really appreciate the work and strongly
11 support the forecast. And, obviously, strongly
12 support moving forward with it as quickly as we can
13 because of these other processes that rely on the
14 forecast.

15 COMMISSIONER MCALLISTER: I'd like to echo
16 what Chair Weisenmiller said just that it takes a
17 village and we have a lot of – this is a major lift
18 for us and I think it's a great. And I also got a
19 briefing and had significant discussions with staff on
20 this over the last few weeks and was really – there
21 have been challenges both on the sort of resources to
22 do this right side over the last few years and also I
23 think a lot of – those have been overcome, really, by
24 the dedication of staff and the understand of what a
25 significant and important endeavor this is.

1 I want to really highlight the innovation
2 and methods; partly it's the range sort of bracketing
3 it right. Because I think we all need to acknowledge
4 that people sort of intuitively expect this forecast
5 to be, "Oh. Well, this is the way things are going to
6 go." But the future is unknown, right? And that's
7 the challenge of the forecast.

8 As Lead on Energy Efficiency now I've sort
9 have taken to the challenge to say, "Okay. Well, I
10 want - what I want is to come in lower than the
11 forecast." Right? So it's sort of - that's the
12 baseline but it's not a given that it's going to
13 happen that way. And staff knows that. And I think
14 the methods really - the incorporation of methods and
15 particularly the econometrics and the triangulation
16 that you've done to try to keep - to use a variety of
17 methods to sort of come up with a most reasonable
18 assumption - most reasonable outcome is good. And
19 then bracket that with the other scenarios.

20 So I think that's a lot of innovation and
21 really this long effort that Chair Weisenmiller has
22 been shepherding and staff have been executing has
23 really paid off with this forecast.

24 So, again, kudos to staff on that.

25 Also, I think to pick up on what something

1 that Chair Weisenmiller said just about the interplay
2 between the agencies. I think this document is part
3 of a dialogue really. Obviously, times change
4 immediately and this takes time. You don't end up
5 where you started but that's not a bad thing. I think
6 the PUC has similar challenges and this is a key
7 document for that discussion with the Public Utilities
8 Commission. These are living documents and so this is
9 a key input to that discussion.

10 I've been impressed. I've been able to read
11 the document and see all of the innovation that staff
12 has brought to this and impressed and vigorously agree
13 with the adoption so thank you.

14 COMMISSIONER PETERMAN: I had the
15 opportunity to work relatively closely with Chris and
16 the group last summer and fall with the demand
17 forecast and I am pleased to see the evolution of
18 these forecasts over the last year and particularly
19 thanks to Chair Weisenmiller for your direction and
20 leadership with that.

21 I can also see how these forecasts and
22 presentation incorporate the multiple comments that
23 you received at the different workshops. Those are
24 incredibly valuable.

25 I just want to comment on the importance and

1 value of having the expert panel. I think that was a
2 good opportunity to bring the panel in. I think that
3 the panel both validated the Energy Commission's
4 approach as well as provided good suggestions on how
5 we can improve it going forward. One of my takeaways
6 from the panel was that all around the country states
7 are trying to figure out how to do this right and it's
8 not a perfect science. But that California's thinking
9 about all the right issues.

10 Just want to stress again the role that
11 uncertainty is currently playing right now in the
12 forecast. I just think that can't be highlighted
13 enough. And to the extent that staff has worked to
14 manage some of that uncertainty or at least to
15 acknowledge it. Particularly with electric vehicles
16 and the economy, climate change, energy efficiency.
17 And I would encourage staff, as they move forward, to
18 continue to work closely with our Transportation
19 Division and the Air Resources Board on refining some
20 of those projects for those uncertain factors. And
21 that there's just work to be done by parties outside
22 of the demand analysis team in order to reduce some of
23 those uncertainty around those projects.

24 And I think we'll see some real activity in
25 the next year or two, which will provide more

1 certainty around those numbers and should help
2 strengthen the forecast as well.

3 So I'm very supportive of the forecast and
4 congratulations on your efforts.

5 COMMISSIONER MCALLISTER: I'll make a motion
6 to approve Item - what is it? Item 3.

7 COMMISSIONER DOUGLAS: Second.

8 CHAIRMAN WEISENMILLER: Okay. All those in
9 favor?

10 (Ayes.) This Item passed unanimously.

11 Again, thanks Chris for your dedication and good job.

12 Item 4. City of Hayward. Possible approval
13 of Agreement 004-11-ECF for a loan of \$3 million. And
14 this is ECAA funding. Amir?

15 MR. EHYAI: Thank you, Chairman. Good
16 morning, Commissioners. My name is Amir Ehyai and I'm
17 with the Special Projects Office.

18 The City of Hayward is seeking a \$3 million
19 Energy Commission loan to replace nearly 7,600 of
20 their high pressured sodium streetlights with LED
21 technology.

22 When complete this project will save
23 approximately 2,800 megawatt hours of electricity
24 annually and reduce the city's utility expenses by an
25 estimated \$356,000. The capital cost for this

1 streetlight project is estimated to be \$3.5 million of
2 which \$500,000 will be funded using the anticipated
3 incentives and the remainder with the Energy
4 Commission loan at an interest rate of 3 percent.

5 The City is very eager about proceeding with
6 this project. If the Commission approves this loan
7 construction will start in the fall of this year and
8 will likely last 3-6 months.

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

11 CHAIRMAN WEISENMILLER: Commissioners, any
12 questions or comments?

13 COMMISSIONER MCALLISTER: So I think this is
14 a no brainer. We have to get LEDs out there. The
15 paybacks are there. I mean these are great projects
16 and ECAA is just a terrific program for local
17 governments to be able to access. As we know local
18 governments are really strapped, particularly for
19 infrastructure money. They're having a hard time
20 meeting payroll. They have all these issues. And
21 kudos to the City of Hayward for – this is not their
22 first experience with the ECAA program. I think
23 they've been really impressed and they came back for
24 more. And it's a good project, obviously. The
25 economic profile is there and this is sort of exactly

1 the kind of project that the loan program, Special
2 Projects Office, ought to be doing.

3 So I would move for approval.

4 COMMISSIONER DOUGLAS: Second.

5 CHAIRMAN WEISENMILLER: All those in favor?

6 (Ayes.) This Item passed unanimously.

7 Thank you.

8 MR. EHYAI: Thank you.

9 CHAIRMAN WEISENMILLER: Item 5. Aemetis
10 Inc. Possible approval of Agreement ARV-11-017 for a
11 grant of \$1,875,528. This is ARFVTP funding. Larry
12 Rillera? Good day.

13 MR. RILLERA: Good morning, Chairman and
14 Commissioners. My name is Larry Rillera with the
15 Division of Fuels and Transportation.

16 Staff seeks your approval for ARV-11-017, a
17 \$1,875,528 grant to Aemetis to construct a pre-
18 commercial cellulosic ethanol facility in Keyes,
19 California.

20 Aemetis Inc. is an in-state ethanol producer
21 with a 55 million gallon per year commercial facility
22 in Keyes, located just south of Modesto.

23 Under the project for consideration today,
24 Aemetis will design, construct and operate an
25 integrated cellulosic, starch ethanol, paid-commercial

1 facility. The project will deploy patent pending
2 enzyme based cellulosic ethanol technology using
3 agricultural waste and cellulosic feedstocks such as
4 wheat straw, corn stover, cotton waste and other
5 available California agricultural waste.

6 Results from the project will be used to
7 generate economic and design data demonstrating
8 viability for the commercial scale production of
9 advanced biofuel. By locating this project adjacent
10 to their existing commercial facility Aemetis will be
11 able to leverage the operating synergies created by
12 the proximity of the two facilities throughout the
13 testing phase.

14 Today staff recommends that the Commission
15 provide funding to Aemetis as they develop and
16 generate the data needed to prove their enzymatic
17 technology using California-based agricultural
18 feedstocks to produce commercially advanced biofuels.

19 This concludes my presentation. And I would
20 note that Andy Foster of Aemetis is here as well.
21 Thank you.

22 CHAIRMAN WEISENMILLER: Okay.

23 MR. FOSTER: Thank you, Larry. Mr.
24 Chairman, Commissioners, thank you very much.

25 I, first of all, would like to thank -

1 publicly thank Larry and Pat and everybody here at the
2 Commission and the Commissioners as well for the
3 amount of time that you've given us. We've spent a
4 lot of time in this building and we're very
5 appreciative of the support you've shown.

6 We're excited to begin this project.
7 Cellulosic ethanol is something that has been talked
8 about and I think it's something that the state
9 clearly has an objective in pursuing and getting
10 implemented at a commercial scale.

11 There's been, as I said, a lot of discussion
12 around it. We're excited to get going. We have our
13 own proprietary technology that Larry mentioned.
14 Since this application was submitted and approved
15 we've acquired another company that's a different type
16 of technology. And then on top of that we're working
17 with other California technology companies like EdeniQ
18 and others to accelerate the commercialization of
19 alternative, non-food feedstocks into the fuel supply.

20 So, again, I want to thank you all for your
21 support and your working with us. And I'd be happy to
22 answer any questions if you have any.

23 COMMISSIONER PETERMAN: Thank you.

24 Commissioners, I have a couple questions.

25 I had the opportunity to visit the Aemetis

1 plant and it's a very impressive institution. And
2 really providing some real great job opportunities in
3 an economically depressed area. Also excited to see
4 your commitment and movement toward cellulosic
5 ethanol.

6 Could you just take a moment and speak to
7 your long-term vision for cellulosic ethanol? When I
8 visited your facility you talked about having it as an
9 opportunity for multiple types of enzymes, perhaps for
10 different types of cellulosic production or also
11 biodiesel. So if you could speak to all those in
12 general.

13 MR. FOSTER: We're aggressively – thank you,
14 Commissioner. That's a great question.

15 We're aggressively pursuing what we call a
16 biorefinery strategy. And that is to leverage the
17 existing ethanol infrastructure that we have here in
18 California. There's three operating plants and one
19 that is idled. All three of us work very closely
20 together. I can only speak for us but we're very
21 interested in pursuing a replacement strategy. I
22 don't know that we're going to get, for this
23 particular plant, a 100 percent replacement of corn as
24 our feedstock but our goal is to replace as much of it
25 as possible with California agricultural residues. It

1 will save – it will obviously improve our carbon score
2 and it will move toward, I think, the vision of the
3 future which many companies have which is moving away
4 from food as a source of fuel. Although I think that
5 we can talk about corn and the viability of that going
6 forward but from a transportation infrastructure
7 perspective we're very interested in pursuing the
8 cellulosic piece for ethanol. We are looking at
9 biodiesel. We're also looking at another handful of
10 technologies that we'd like to implement there at the
11 plant. I'm not at liberty to talk about at this point
12 but we look at this and say there's, in California
13 alone, there's been over \$500,000,000 of
14 infrastructure investment in these plants. And I know
15 that Aemetis, Pacific Ethanol and CalGren and they're
16 all very interested in moving to this next generation
17 where we can start to draw locally for our feedstocks
18 and to use the technologies. And, frankly, our view
19 is whatever the best technology is what we're going to
20 implement at the plant. If it's ours, that's
21 fantastic but if it's EdeniQ or Codexis or some other
22 company that's what we're going to do. We're not
23 deploying a "it has to be invented here" attitude.

24 COMMISSIONER PETERMAN: And how unique is
25 this project in California and nationwide?

1 MR. FOSTER: Nationwide there's a number of
2 programs that are underway. Some of the Midwestern
3 states are a little more ahead of us in terms of
4 funding these kinds of projects. They're closer to
5 the sort of the heart of the ethanol industry. I
6 think in California this will be unique because it's a
7 large scale, pre-commercial facility. We're looking
8 at this as literally the next, not as a test bench,
9 not as a pilot. We've already done a pilot with this
10 technology in Butte, Montana. We've moved all of the
11 equipment down here. We'll leverage that.

12 So we think it's unique for California. We
13 think it's the only one that's in existence and
14 certainly the idea of combining an existing facility
15 so the starch component with agricultural waste and
16 doing them in the same facility rather than building a
17 green field facility, which in the present time is
18 just very difficult from a financing perspective. So
19 our view is to leverage the existing infrastructure to
20 make that conversion.

21 COMMISSIONER PETERMAN: And where will you
22 be sourcing your waste product from?

23 MR. FOSTER: From the Central Valley. We've
24 already had discussions - we have a marketing
25 Agreement with A.L. Gilbert. We work with J.D.

1 Heiskell High School who are two large agricultural
2 companies in California. There's plenty of
3 agricultural residue within 50-100 miles of our plant.
4 And so we've already been in discussions with
5 companies to seek those feedstocks out, talk to
6 farmers. So we really do have that all teed up and
7 we're anxious about providing another stream of income
8 for California farmers. That's also an important part
9 of this is that these are largely this agricultural
10 waste products are not leveraged to the marketplace.
11 They – so it's an opportunity for us to create yet
12 another market for California farmers.

13 COMMISSIONER PETERMAN: And just a final
14 question. I just wondered does this work in addition
15 to the biorefinery operational enhancement goals that
16 you have already committed to under your previous CPIP
17 funding.

18 MR. FOSTER: Yes. We, in fact, we've – all
19 of the BOEG goals we have met. We did that prior to
20 the first year of operation of the plant. This takes
21 to a whole another level. To a carbon score that
22 would be in the mid to high 60s as opposed to where
23 we're currently at, the low 90s. So we think that it
24 will make a significant impact there.

25 COMMISSIONER PETERMAN: Thank you. Fellow

1 Commissioners, do you have any questions for Mr.
2 Foster?

3 COMMISSIONER DOUGLAS: I appreciate your
4 questions and Mr. Foster appreciate you being here.
5 This sounds like a really good project. We're - I'm
6 very interested in seeing this technology come online
7 in California and go to work and make really good use
8 of the agricultural waste that is generated in the
9 Central Valley, and other parts of California, really.
10 So, anyway, thank you. Thanks for being here.

11 COMMISSIONER MCALLISTER: Just would
12 reiterate was Commissioner Peterman said. Great
13 questions. A couple I'm glad you already answered.
14 Just that the conversion over to the most efficient
15 resource and process is, I think, really key. We have
16 to start where we are and we need to convert when you
17 develop the next technologies that enable that to
18 happen effectively. So I think that vision is right
19 and I'm happy to support this project.

20 MR. FOSTER: We - well, just let me
21 reiterate the fact that we're very grateful to have
22 the State of California and the Energy Commission as a
23 partner. We've spent probably over \$3 million; excuse
24 me, on this technology already. Pardon me. But we
25 think it's important to have the state as a partner in

1 this. Not necessarily as the largest partner but as a
2 partner because LCFS is very much the future of fuel
3 transportation in the state and carbon reduction. And
4 we're excited to get this program going. As I said,
5 the staff has been extremely helpful and supportive
6 and we really are appreciative of everything that you,
7 Commissioners, and the staff at the Commission have
8 done to help us. Thank you.

9 CHAIRMAN WEISENMILLER: Okay. Thanks for
10 being here today.

11 COMMISSIONER PETERMAN: So, Commissioners,
12 I'm in support of this project. It's one of a number
13 of projects that we're using AB 118 funding to support
14 a transition to cellulosic ethanol and so I'd
15 recommend it for your adoption.

16 So I will move Item 5.

17 COMMISSIONER MCALLISTER: Thanks,
18 Commissioner Peterman, for all your engagement with
19 this as well as the lead on this issue. And I'll
20 second.

21 CHAIRMAN WEISENMILLER: All those in favor?

22 (Ayes.) This Item passed unanimously.

23 Thanks, Larry.

24 CHAIRMAN WEISENMILLER: Item 6 is the Kent
25 Energy Bioenergy Corporation. It's approval of

1 Agreement ARV-11-020 for a grant of \$1,496,426 and
2 Akasha Khalsa?

3 MS. KHALSA: Good morning, Commissioners.
4 My name is Akasha Kaur Khalsa. I'm with the Special
5 Projects Office of the Fuels and Transportation
6 Division.

7 Agenda Item 6 is the possible approval of
8 alternative and renewable fuel and vehicle technology
9 grant ARV-11-020 in the amount of \$1,496,426 for Kent
10 Bioenergy Corporation of San Diego, California.

11 I'm excited about this proposed research.
12 It's going to develop ethanol, a known liquid
13 transportation fuel from algae, grown in brackish or
14 reclaimed water on inerrable land using sustainable
15 processes.

16 Algae consumes atmospheric carbon dioxide
17 while it grows and consumes nutrients derived from
18 waste. Both fresh and saltwater species grown under
19 different conditions of light, temperature and pH will
20 be examined.

21 Kent Bioenergy's project team will provide
22 equal match funding if the Energy Commission will
23 approve the \$1.5 million Alternative And Renewable
24 Fuel and Vehicle Transportation Program Funds.

25 The project proposes a series of experiments

1 on one-celled plants that are grown in water, algae,
2 that analyzes which fuel making processes are
3 economically feasible. The proposed project relies on
4 several partnerships and various phases including
5 selecting various micro-algae to test, growing and
6 harvesting with established Kent Bioenergy techniques,
7 developing methods of cell wall rupturing, known as
8 cell lysis, investigating techniques of separating the
9 carbohydrates. It's not biodiesel that they're
10 investigating.

11 At least three top experts will contribute.
12 One, Professor Stephen Mayo, handpicks his best
13 graduates from the California Institute of Technology
14 to staff his company Protabit.

15 And this is key. The computational team
16 design shop, Protabit, will design bioengineered
17 enzymes. Then they'll develop a digital library of
18 enzymes, known deliberate sugars and they're enhancing
19 some computational enzyme-designed software that
20 pictures the molecules in three dimensions and
21 searches the library of shapes for a match with that
22 particular algae.

23 Then Professor Stephen Mayo's California
24 Institute of Technology laboratory staff will over and
25 over produce the enzymes and grow lab scale quantities

1 of fermentation sugars. Kent Bioenergy will take
2 those batches of sugars to the Federal National
3 Renewable Energy Laboratory in Colorado where it'll be
4 fermented into ethanol in a very standardized process
5 so then they'll compare the effectiveness of the
6 various iterations.

7 They'll also investigate commercial outlets
8 for the byproducts and assess commercial fuel
9 production feasibility and develop a production
10 protocol.

11 Between this \$1.5 million grant and the
12 match share this is a \$3 million of research. About
13 half of that money will go for biotech jobs. Kent
14 Bioenergy shall provide 4.1 biotech jobs in San Diego
15 and more than 12 biotech jobs in Pasadena. With a
16 preponderance of PhDs.

17 To sum up, the fermentable sugars from
18 ethanol, from microalgae biomass project is the lab
19 research into non-food based fermentable feedstock
20 with lower carbon intensity than Midwest corn.

21 Staff requests approval. I believe the
22 potential awardees are on the phone. Dr. James - no
23 one is on the line? Thank you very much.

24 COMMISSIONER PETERMAN: Well, thank you very
25 much. Your excitement is contagious. This seems like

1 a--I'm familiar with this project so this is a good
2 project and I think it demonstrates the value of
3 supporting multiple pathways to getting to biofuels
4 that are environmentally sustainable. When you were
5 giving your presentation, I couldn't help but think we
6 have some really smart people in California. Because
7 it seemed like a very complicated thing to figure out.
8 But I'm glad someone has and that we have the
9 opportunity to fund this type of research and support
10 its further development.

11 So I don't have any questions but I'll turn
12 to my fellow Commissioners to see if they do.

13 COMMISSIONER DOUGLAS: I just have maybe a
14 comment and a question. The comment is that I think
15 this is an area of tremendous potential and if we're
16 able to find ways to use saline or brackish or
17 otherwise not fresh water for production of fuel
18 through algae it will be a very sustainable pathway
19 for a certain amount of scalable fuel production. And
20 so I think this is a really exciting area and I'm
21 pleased to see the grant appears to be going to San
22 Diego where there's a lot of activity in this area.
23 Of course there's really good research on biofuels and
24 algae in other parts of the state as well but there's
25 a real center of activity in San Diego that I've

1 attempted to become somewhat familiar with but it's a
2 very robust area.

3 The one – the question I have is that my
4 understanding is that fuel production is obviously a
5 very valuable product and an important state goal but
6 I'm curious about whether there is also coproduct
7 potential that is also an important funding stream or
8 if this project is – is this project really focused on
9 fuel production or is it also potentially looking at
10 other coproducts?

11 MS. KHALSA: Landfills at this time are
12 required to be sealed from any liquids from the
13 landfill going into our water supply. So as it rains
14 there becomes a large amount of liquid that is
15 polluted that needs to be processed. So Kent
16 Bioenergy has an idea that they'll develop a process
17 that they can bring the ingredients, the proper algae
18 for the proper season, the summer one or the winter
19 one, to the landfill area. Clean the water
20 sufficiently that it can go into the environment and
21 process the algae into fuel and then there's
22 leftovers. The leftovers they're going to explore.
23 If they could be animal fuel or fertilizer or whatever
24 the other product stream will be so that they do think
25 that it could be commercially viable with additional

1 revenues from other parts of the algae.

2 COMMISSIONER DOUGLAS: That's great. It's
3 great that they're exploring that because I think
4 that's a big part of helping these operations to
5 become commercially viable; and self-sustaining is
6 just exploring the broad stream of benefits that can
7 come from these technologies. So thank you.

8 COMMISSIONER MCALLISTER: I just wanted to
9 expand a little bit and ask one question to follow up
10 on the path to market for technologies like this.
11 This is sort of one – this is the applied research
12 phase. Partly – they've done a lot of fundamental
13 research and now this is kind of applied. And I guess
14 just to build off what Commissioner Douglas said, I
15 think the – some of the best projects we can support
16 are those that really have a path to marketplace that
17 given if it meets milestones then is there a team that
18 can sort of bring this together. I think the team
19 you've described is a great – lots of experience there
20 and with NREL's expertise, etc.

21 Maybe you could expand on that a little bit
22 as far as what the partnerships future plans would be
23 assuming success and to get this technology into the
24 marketplace.

25 MS. KHALSA: We hope that this is the

1 research grant and after this we, Kent Bioenergy,
2 plans to apply for a prototype grant and then the
3 beginning of production grant would come after that.
4 That's the three stages we use here at the CEC.

5 And all of these three companies that are
6 the main contributors to this grant have all of the
7 equipment that they need. We are not buying very much
8 equipment at all. We're buying the time of experts to
9 make this come to reality. And the company, Kent
10 Bioenergy, actually has many tanks already built in
11 the desert between Palm Springs and the Salt and Sea
12 that are very well equipped to grow algae already. So
13 if we can figure out the proper steps, which we're
14 doing in this - approximately two years of this
15 proposed grant - they will be able to leap into
16 production.

17 COMMISSIONER MCALLISTER: Great. Thank you
18 very much. I'm very familiar with the San Diego kind
19 of ecosystem, if you will, around clean transportation
20 and biofuels. And I think it's a really good
21 leveraging of those resources and that intellectual
22 capital, which is pretty - very unique actually in the
23 country. I think it's a good project and presumably a
24 lot of the resources that you just described are part
25 of the match that they're bringing to the table for

1 this great. Which is great. We leverage lots of
2 private capital with these funds and the more the
3 better, right? In this day and age.

4 So thanks very much. I'm very supportive.

5 COMMISSIONER PETERMAN: And Commissioner
6 McAllister, just to follow up on your question. I
7 think it's accurate that we do need to think
8 eventually how to get these products to scale and to
9 market. And even though we're funding the research
10 right now, we've got to think about how to do the
11 correct demonstration and scale. And particularly,
12 from my understanding with bioenergy plants, that
13 initial first investment is hard to get someone to
14 take on and can be very expensive. And we have yet to
15 overcome that hurdle. And so something that the AB
16 118 program and the state generally needs to think
17 about as we move forward, we do have demand targets
18 for more sustainable biofuels, both at the federal
19 level and at the state but we're not seeing the
20 production. And so I think that projects like this,
21 this research project, the Aemetis projects we just
22 voted on, will help move us in the right direction.
23 But will still need to work closely with industry on
24 this.

25 COMMISSIONER MCALLISTER: Yeah. That's

1 great. Thank you. So I'll move.

2 COMMISSIONER PETERMAN: I'll second.

3 CHAIRMAN WEISENMILLER: All those in favor?

4 (Ayes.) This Item passed unanimously.

5 CHAIRMAN WEISENMILLER: Item 7. Clean World
6 Partners, LLC. Possible approval of Agreement ARV-11-
7 021 for a grant of \$6 million. And this is also
8 ARFVTP funding. Shahid Chaudry? Please.

9 MR. CHAUDRY: This is Shahid Chaudry. Thank
10 you, Mr. Chairman. Thank you, Commissioners.

11 I'm Shahid Chaudry with the Special Projects
12 Office. And I'm here today to request your approval
13 for a \$6 million grant funding to the Clean World
14 Partners to expand the capacity of Sacramento Bio-
15 Refiner's from 25 tons per day to 100 tons per day.

16 The first phase of the Bio-Refinery is under
17 construction at the Sacramento Recycling and Transfer
18 Station in Sacramento. And on completion will process
19 25 tons per day of organic waste food providing
20 multiple economic and environmental benefits. The
21 work on the expansion project will start after the
22 Phase 1 is completed, becomes operational and
23 successfully achieves the goals and objectives as
24 clearly described in CWP's proposal for this grant.

25 The total cost of the expansion project is

1 approximately \$13.2 million. The Clean World Partners
2 will match the Energy Commission's funding of \$6
3 million to complete the project.

4 The expansion of the facility from 25 – the
5 expansion of the facility from 25 tons per day to 100
6 tons per day to divert pre-landfill, source operated
7 food waste will produce enough renewable natural gas
8 to replace 566,000 gallons of diesel fuel a year,
9 generate more than 3 million kilowatt hours of
10 electricity annually, which is enough to power
11 approximately 400 typically California homes every
12 year; will offset 66 metric tons of CO2 equivalent
13 greenhouse gas emissions per day and will create 60
14 short-term manufacture ring jobs in Marysville, 20
15 short-term construction jobs and 6 long-term
16 operational jobs in Sacramento.

17 In a nut shell, on completion the facility
18 will further contribute to the Energy Commission's
19 goals of producing alternative and renewable
20 transportation fuels in California that can stimulate
21 economic development in the state and significantly
22 reduce greenhouse gas emissions and petroleum fuel
23 demand. Based on the estimated technical, economic
24 and environmental benefits, staff recommends the
25 Energy Commission's approval of this grant.

1 Thank you so much for your consideration,
2 Commissioners. And I'm available to answer any
3 questions you may have.

4 CHAIRMAN WEISENMILLER: Okay. I believe the
5 - Michelle Wong is also here. Please, you want to -
6 step forward.

7 MS. WONG: Hi.

8 CHAIRMAN WEISENMILLER: Thank you.
9 Commissioners, any - first, do you have any comments
10 on this contract?

11 MS. WONG: I do. I wanted to first, give a
12 profound thank you to the California Energy Commission
13 because without you this project would not have been
14 possible at all. The - I would also like to Shahid
15 Chaudry and Pat Perez for their support, patience and
16 commitment throughout the process.

17 As you know, this - our project will be the
18 largest high solid anaerobic digestion project in the
19 United States. It's also the first in the United
20 States to convert food scrapes into RNG transportation
21 fuel using the high solid anaerobic digestion. When
22 completed it's going to produce over 500,000 diesel
23 gallon equivalents of RNG and more than 3 million
24 kilowatt hours per year of electricity.

25 This project is only possible because of the

1 CEC. Not only because of your consideration of this
2 grant for scale-up but also by sharing the costs of
3 the feasibility studies that led to this project – to
4 first phase of this project and most importantly
5 because you invested in the AD research and
6 development at UC Davis for Dr. Ruihong Zhang five
7 years ago, which is the technology that we've licensed
8 to commercialize for this project.

9 So the California Energy Commission has been
10 supportive and involved in this project since the
11 beginning. And that's incredibly important to note.

12 Do you have any questions for me about the
13 project?

14 COMMISSIONER PETERMAN: No. I don't have
15 any questions about the project. Thank you for being
16 here. It's nice to see leadership, this national
17 leadership, in California's state capital. In our own
18 backyard. I think to the discussion we were having
19 earlier and Commissioner McAllister's comments this is
20 an example of a project where we can see the support
21 over the long-term from research to pre-commercial and
22 then now to expanding an existing facility.

23 Just a couple of things about this project.
24 It utilizes an existing site where there's already
25 biorefinery work being done and so it expands that

1 opportunity, which I think is very good to use those
2 sites that already have this type of industrial
3 activity happening. And it's also going to be very
4 beneficial towards helping the state reach its
5 landfill diversion goals. And so those are just my
6 initial comments. Commissioners?

7 MS. WONG: Just to add to what you were just
8 talking about. Many of you know Mayor Kevin Johnson
9 has set a goal for the City of Sacramento to create
10 three conversion - waste conversion facilities by the
11 year 2015. And we're proud to say that this is the
12 second facility in Sacramento that we've produced in
13 the course of 6 months. So we're well on our way to
14 reaching those goals.

15 COMMISSIONER PETERMAN: That's great news.
16 Is there anything else from staff?

17 MR. CHAUDRY: I think if you don't have any
18 questions, I don't have any further comments on this
19 though.

20 COMMISSIONER PETERMAN: Do we need any
21 statement from legal on this project on CEQA? Okay.

22 MR. LEVY: It's exempt under Categorical
23 Exemption.

24 COMMISSIONER PETERMAN: Okay. Thank you for
25 that clarification. With that then I will move Item

1 7.

2 COMMISSIONER DOUGLAS: Second.

3 CHAIRMAN WEISENMILLER: All those in favor?

4 (Ayes.) This item passed unanimously.

5 Thank you.

6 MR. CHAUDRY: Thank you, Commissioners.

7 CHAIRMAN WEISENMILLER: Thank you both for
8 being here.

9 MS. WONG: Thank you very much. And I'd
10 like to invite all of you to the opening of the first
11 phase of the project in September.

12 CHAIRMAN WEISENMILLER: Thank you.

13 MS. WONG: Thank you.

14 CHAIRMAN WEISENMILLER: Item 8. EdeniQ.
15 Possible approval of Agreement ARV-11-018 for a grant
16 of \$3.9 million. This is, again, ARFVTP funding.
17 John Mathias.

18 MR. MATHIAS: Morning. I'm John Mathias
19 from the Emerging Fuels and Technology of the Fuels
20 and Transportation Division.

21 EdeniQ applied to EFTO's Biofuels Production
22 Facility's grant solicitation. The purpose of which
23 was to encourage production of alternative and
24 renewable transportation fuels in California that can
25 significantly reduce greenhouse gas emissions and

1 petroleum fuel demand.

2 This project will demonstrate EdeniQ's
3 cellulosic ethanol conversion technology for
4 processing biomass ethanol feedstocks that do not need
5 to be imported to California, such as woodchips and
6 switchgrass. An integrated 2 ton per day biorefinery.

7 The project is located in Visalia,
8 California. And the funding for the project is \$3.9
9 million with match funds of \$10,082,341. Under this
10 project EdeniQ will evaluate the potential of several
11 feedstocks for cellulosic ethanol production, evaluate
12 pretreatment methods and enzyme formulations, install
13 and optimize pretreatment and hydrolysis equipment for
14 cellulosic ethanol production and perform test runs
15 using various feedstocks to optimize the ethanol
16 production process.

17 EdeniQ has been working with the large
18 ethanol producers in California to commercialize
19 EdeniQ's technology existing corn-based ethanol plants
20 and thereby commence commercial production of
21 cellulosic ethanol in California.

22 The success of this project would decrease
23 the need for importing ethanol feedstock from outside
24 of California, allow for ethanol production with
25 significantly lower carbon intensity and allow for

1 cellululosic ethanol production without using food-based
2 feedstocks.

3 In comparing ethanol produced using EdeniQ's
4 process to ethanol produced from Midwest corn EdeniQ
5 has calculated that cellululosic ethanol from
6 switchgrass will have up to 85 percent reduction in
7 carbon intensity and ethanol produced from woodchips
8 will have up to 99 percent reduction in carbon
9 intensity.

10 Funding for this project will lead directly
11 to the creation of 13 jobs in California with the
12 long-term potential of up to 50 temporary and 30
13 permanent jobs for each commercial ethanol plant at
14 which EdeniQ's technology is installed.

15 And Kyle Jenke is here from EdeniQ.

16 CHAIRMAN WEISENMILLER: Welcome, and thanks
17 for being here.

18 MR. JENKE: Thank you. Yeah. I'd just like
19 to thank the Commission for the opportunity to speak.
20 And say that we're very excited to have the CEC as
21 partner on our project.

22 I'd also like to publicly thank John
23 Mathias, Larry Rillera and really the rest of the CEC
24 staff for their help, very strong expertise and
25 support so far on our project.

1 For those of who are unfamiliar with EdeniQ,
2 we're a California-based cellulosic technology
3 company. We were founded about 5 years ago, backed by
4 some of the major venture capital firms here in the
5 state - Kleiner Perkins Caufield & Byers, Kleiner
6 Perkins Caufield & Byers, The Westly Group. And we're
7 based down in Visalia, which is in the Central Valley
8 and we're in rapid growth mode right now.

9 Just to give you an example. Last year we
10 started with about 30 employees. We ended the year
11 with 60 employees. We're at 90 today and we have
12 plans to get to 120 by year-end, partially funded by
13 this CEC grant. So we're very excited about the
14 growth.

15 As John mentioned, our plan is to optimize
16 and retrofit our biorefinery to run California
17 cellulosic feedstocks. Really with the goal of
18 proving out the viability and economics on a
19 commercial scale. Once the technology is proved out
20 under this grant we've partnered with the three major
21 California ethanol products - Aemetis, which is here
22 today and they've been a great partner so far - to
23 continue to help migrate their plant from corn over to
24 cellulosic material that is sourced here in the state.

25 I'd also note that our technology support

1 stands alone cellulosic ethanol plant as well once
2 commercial financing and demand for that becomes
3 available.

4 As I mentioned before we're very excited to
5 have the CEC as partner on this. And I appreciate not
6 only the financial support but also really the
7 expertise and knowhow that you guys offer us. So
8 thank you. Be happy to answer any questions.

9 COMMISSIONER PETERMAN: I'd just say that
10 it's good to see the partnerships that you're having
11 with existing ethanol facilities and looking for ways
12 to help them transition to cellulosic. And this is an
13 important part of the supply chain in terms of
14 reaching cellulosic goals so I just have - I've
15 already offered comments on this topic but they apply
16 to this project as well. It's an exciting one.

17 Commissioners?

18 COMMISSIONER MCALLISTER: So, let's see - I
19 think Commissioner Peterman has really been driving a
20 lot of this as the lead on AB 118. And I think the
21 fact that she's comfortable with this project and
22 knows a lot about it that gives me some comfort as
23 well. Having not been directly involved or as
24 involved in this I guess I do have sort of a question
25 along the same lines that I was asking before which is

1 sort of the path to marketplace. Because I think this
2 public/private shared responsibility approach is very
3 powerful and sends a signal to the marketplace.

4 On the other hand it does beg some
5 questions, right? If you have Kleiner Perkins or if
6 you have big VC money behind you than some in the
7 public might say, "Oh, you know. I don't know a lot
8 about this but if they have Kleiner Perkins' money
9 then what do they need state money for?"

10 I want to sort of, in a way, invite you to
11 respond to that, sort of, it's really an optics
12 question, I think. And we do this in public because
13 we have – because this is where we make decisions. So
14 I want to just talk about that explicitly and take
15 that head on because I think there is an aspect of
16 what we do that gives the marketplace comfort. If the
17 expertise that we have here in-house and on staff,
18 which is very real, evaluates an opportunity like this
19 and says, "Hey. We think this is good for us to
20 support." Then that in and of itself gives some
21 credibility to the technology and draws in more
22 investment.

23 I'm maybe answering my question for you but
24 I think, you know, that marketplace dynamic is really
25 important to understand. And you're operating out

1 there in the marketplace and I'd like to get your view
2 on how that - on how these opportunities develop in
3 the real world.

4 MR. JENKE: Sure. Thank you. I think it's a
5 good and very fair question. I say, you know, we're
6 very happy to be backed by the guys like Kleiner. A
7 lot of the money that they've given us we've used to
8 develop projects in other parts of the world. So
9 developing projects say down in Brazil or partnerships
10 with some of the companies in the Midwest.

11 The money that we're getting from the
12 California Energy Commission is really going to be
13 spent developing in-state - the technology that will
14 work with the in-state feedstocks. And over the last
15 year by working with companies like Aemetis or CalGren
16 or Pac Ethanol, there's really a need and a demand to
17 be able to migrate away from the corn-based ethanol to
18 the low carbon cellulosic ethanol.

19 And so when we see that demand there in the
20 marketplace we can get some funding from the
21 Commission to help scale up that technology quickly.
22 We have partners here where if our technology works
23 they're ready to use it. They're excited about it.
24 So we see that as the path to market. And we see why
25 with this CEC funding is a little bit different than

1 say more of our more private funding.

2 Does that answer your question?

3 COMMISSIONER MCALLISTER: Yeah, I think so.
4 Again, it's really important to understand what the
5 path to market is and make sure that after these start
6 up grants that it really can scale and stand up on its
7 own two feet in the marketplace. I think that staff
8 is comfortable with that. This is a clear opportunity
9 where that possibility at least exists. There's no
10 guarantees in the marketplace but that's why we have
11 this program. So thanks.

12 COMMISSIONER PETERMAN: And just to follow
13 up on Commissioner McAllister's questioning really the
14 role for public investment in this space, perhaps you
15 could speak to then the need for cellulosic ethanol -

16 MR. JENKE: Sure.

17 COMMISSIONER PETERMAN: And I think we have
18 certain mandates that are tied to a need for that but
19 also whether you see appropriate incentives or revenue
20 streams right now for that product. Why then if
21 there's policy supporting it, why is there not the
22 market demand yet?

23 MR. JENKE: Sure. I think I'd answer that
24 in two ways. The first piece was for the last 20
25 years it's always been we're two years away from this

1 cellulosic technology working. We've gone through
2 this for 20 years. I'm happy to say we're actually
3 here now. I can speak for EdeniQ; we have a
4 demonstration facility that we've turned on. It's
5 producing cellulosic ethanol. We have our ribbon cut
6 later this month, June 26. I'd love for you guys to
7 come down. I know some people from the CEC are coming
8 down. We have our demonstration facility. It works.
9 It's economic. So I think finally the technology is
10 there.

11 I also think that the demand from our
12 customers is also there now as well. If you look at
13 some of the California ethanol plants, and I don't
14 want to speak for them, but if they're importing corn
15 from the Midwest that's expensive. Especially where
16 corn prices are. So when you have a vast resource
17 here, feedstocks that they can use, they want to
18 leverage that. They want to process that in their
19 plants rather than bringing feedstocks in from the
20 Midwest.

21 So the technology works and our customers
22 want it. That's how we see it.

23 COMMISSIONER PETERMAN: Would you say then,
24 all that being said, the relative expense of the
25 cellulosic ethanol – it's hard for me to say this

1 morning – the cellulosic ethanol is more because,
2 based on that, then getting to Commissioner
3 McAllister’s point why are incentives needed?

4 MR. JENKE: Yeah. So far cellulosic ethanol
5 has been more expensive. Almost every single part of
6 the process is more expensive. The incentives have
7 been there to encourage companies to move in that
8 direction and we’re starting to see that. I think
9 eventually down the road those incentives will go
10 away. The technology will get to a point where it can
11 stand on its own. And that’s our hope. That’s our
12 goal.

13 COMMISSIONER PETERMAN: I think Mr. Foster
14 commented on the relative carbon intensity of
15 cellulosic ethanol versus corn ethanol, for example.
16 I think one of the things we’re looking at with this
17 opportunity is to use existing infrastructure
18 investments that have already been made in alternative
19 fuels in this state and improving those to get to
20 these lower carbon goals.

21 MR. JENKE: Yeah. I think that’s a great
22 point. That’s one of the things that we’re very
23 excited about, about working with these partners.
24 They’ve invested a lot in putting the steel into the
25 ground and to the extent that we can leverage this

1 instead of having to go out and finance a whole
2 standalone plant, I think that just speeds up the
3 process and improves the economics and the whole
4 process works a lot better.

5 COMMISSIONER PETERMAN: I think that with
6 all alternative fuels though and vehicle projects
7 we're supporting, we are looking towards a self-
8 sustaining industry. So it'd be good to continue to
9 hear from you about opportunities for cost
10 improvements as well as more opportunities for private
11 investment; so that we can utilize the limited public
12 investment that we have as well.

13 MR. JENKE: Yeah. Let's keep the
14 conversation alive.

15 COMMISSIONER PETERMAN: Okay. Thank you.

16 MR. JENKE: Thank you.

17 COMMISSIONER PETERMAN: Well with that if
18 there are no other comments, I will move Item 8.

19 COMMISSIONER MCALLISTER: I'll second.

20 CHAIRMAN WEISENMILLER: All those in favor?

21 (Ayes.) This Item passed unanimously.

22 CHAIRMAN WEISENMILLER: Thank you, John.

23 Ready for the next one which will be University of
24 California, Davis. Possible approval of Contract 600-
25 11-005 for \$2,770,072 with the Regents of the

1 University of California. This is again ARFVTP
2 funding. John, you want to come forward?

3 MR. MATHIAS: Yes. So this is a contract
4 with the UC Davis Institute of Transportation Studies,
5 Sustainable Transportation Energy Pathways Research
6 Program.

7 Through this project, UC Davis will conduct
8 research to compare the value, benefits and drawbacks
9 of all types of alternative fuels and fuel uses. The
10 results will be used to inform the Energy Commission's
11 investment plan and to develop information and
12 strategy recommendations for the state agencies in
13 meeting greenhouse gas emission goals and LCFS goals.

14 Eight separate research studies will be
15 carried out under this contract. The first study will
16 provide information on scenarios in transition
17 strategies for the transition to alternative vehicles
18 and fuels. The second study will collect data on
19 consumer perceptions and use of light duty alternative
20 vehicles over time in order to develop strategies for
21 market growth and infrastructure development. The
22 third will develop biofuel investment and deployment
23 strategies in California to make recommendations for
24 meeting national and state mandates for low carbon
25 fuels. The fourth will – sorry. Let's see. The

1 fourth will develop recommendations for policy tools
2 to spur the development of alternative vehicles and
3 fuels. The fifth will look at the role of refueling
4 and recharging infrastructure in driving consumer
5 behavior and adoption of alternative vehicles such as
6 EVs and E85 vehicles. The sixth will assess low
7 carbon scenarios for all non-light duty vehicles,
8 vehicle sub-sectors, to provide recommendations for
9 addressing AB 118 for non-light duty vehicle
10 transportation sub-sectors. The seventh will provide
11 a detailed assessment of natural gas as a
12 transportation fuel to determine the best use of
13 natural gas from a carbon emissions perspective and
14 the long-term viability of natural gas as a
15 transportation fuel. And the eighth will look at case
16 studies for biofuel crop adoption and production in
17 California using the California Bioenergy Crop
18 Adoption Model and also generate biofuel supply curves
19 using the Geospatial Biorefinery Siting – sorry, the
20 Geospatial Biorefinery Siting Model.

21 And Joan Ogden is here from UC Davis to make
22 comments also.

23 CHAIRMAN WEISENMILLER: Please step forward.

24 DR. OGDEN: Thank you. Good morning. And
25 thank you for the opportunity to speak. I direct the

1 Sustainable Transportation Energy Pathways Project
2 that John mentioned. And through the proposed project
3 here researchers at the Institute of Transportation
4 Studies at UC Davis will work with the Energy
5 Commission to compare the value and benefits and
6 drawbacks in transition issues in a variety of
7 alternative fueled vehicles and alternative fueled
8 uses.

9 And this will – is really right in tune with
10 AB 118 goals and so we see this work as really feeding
11 into this and something we will be able to work with
12 the Commission to look at developing and deploying
13 alternative and renewable and advanced transportation
14 technologies in support of the state's climate change
15 policies.

16 I might say that this program builds on
17 several decades of research on advanced vehicles and
18 low carbon fuels at the Institute of Transportation
19 Studies at Davis. So we have a large existing capacity
20 and the STEPS Program and NextSTEPS Program have been
21 going on for about 6 years now. We've engaged lots of
22 stakeholders in the whole process so we interact
23 closely with folks in the energy industries, in the
24 automotive industries as well as, of course, in the
25 state agencies.

1 We have an interdisciplinary team and from
2 the list of projects that John Mathias mentioned you
3 can see we have folks who are focused on things like
4 infrastructure development on consumer behavior and
5 market issues, on environmental analysis and we look
6 quite broadly at different subsectors within the
7 transportation system and different fuels.

8 So just to – I just might say, and I want to
9 thank the staff and the folks at the Commission. This
10 program has so far benefited from a longstanding
11 relationship with the CEC and maybe starting with
12 Commissioner Boyd and now Commissioner Peterman, who
13 was just at one of our conferences a couple of weeks
14 ago. And of course other state agencies we
15 collaborate closely with, with the Air Resources Board
16 and also South Coast.

17 So we're very excited to formalize this
18 relationship and to really focus this
19 interdisciplinary capacity and team we have on
20 projects that are very relevant within California.
21 That are right along the line of what AB 118 is
22 looking at. I wanted to specifically thank a number
23 of people in this relationship that we've had.

24 Of course, Commissioner Boyd and Peterman
25 but also Jim McKinney, Pat Perez, Tim Olson and John

1 Mathias for, and just in recent times, for several
2 meetings we've have with them on these issues. So we
3 look forward to this as a way to really bring our work
4 more into the fold with CEC and to work toward these
5 goals.

6 I'd be happy to take any questions to.

7 COMMISSIONER PETERMAN: Thank you for being
8 here. As you noted, the AB 118 Program supports a
9 diverse portfolio of fuels vehicles and
10 infrastructure. And we're halfway through the program
11 and so it's a good opportunity and good time to
12 support this type of research. To really do an update
13 and an assessment of benefits of costs related to
14 different technologies. I think the technologies have
15 improved in the last few years as have the
16 infrastructure and some of the costs. And so this
17 will really help inform the Energy Commission and our
18 Advisory Committee for the 118 Board as we move
19 forward and look to see where are the funding needs,
20 where are the opportunities and how does this all tie
21 into the larger state goals. I will say, just from
22 experience, know that UC Davis has a tremendous amount
23 of work happening on transportation. And as you know
24 across a number of different department and then
25 within these interdisciplinary working communities.

1 And that's that type of efforts we're going to need
2 going forward. And so I'm looking forward to seeing
3 the results of this contract.

4 Commissioners?

5 COMMISSIONER MCALLISTER: So thank you to
6 staff and Ms. Ogden for a little more background on
7 this. I think I'm reasonably familiar with what the
8 Institute for Transportation Studies has done in the
9 past and definitely see the diversity on the team.

10 I would say I think, again, the struggle I
11 think is sort of research versus markets. And there's
12 this increasing need to be as practical as possible in
13 developing these initiatives and really look at,
14 particularly – and the areas that I'm most familiar
15 with are EV deployment and consumer behavior and
16 increasing importance of understanding behavior as –
17 we're expecting behavior change to help us achieve our
18 carbon and climate goals and energy goals, etc. we've
19 got to understand that. We have to understand that
20 better.

21 I would sort of strongly encourage the team
22 to reach out across the state to incorporate the
23 expertise that exists, particularly throughout
24 Southern California. There are a number of actors
25 there that, I think, have a lot of very practical

1 program experience and also really understand the sort
2 of local adoption issues. The local infrastructure
3 issues. The placement. They're already involved in
4 that. Actually, the EV readiness studies that have
5 various sort of sponsors and funding sources and
6 everything. And the local air districts, etc that are
7 very involved in that.

8 So I know you already have these networks
9 but I think if I have a concern about this, I think
10 it's wonderful work, but if I have a concern about
11 this it's more along the lines of let's make sure that
12 we're not overly academic and under appreciative of
13 the actual marketplace. And I think the big challenge
14 here is with infrastructure deployment, with
15 consumers, with new products and we're on the very
16 front end of this. We're still at the innovator or
17 early adopter stage of all this. It's a lot of work
18 to figure out and sort of mold what's going to happen
19 going forward.

20 I think there's a lot of be learned from
21 many stakeholders in the marketplace. And let's make
22 sure that we have sort of proactively and
23 transparently create the knowledge that we need to
24 make better policy in the future and thanks for all
25 the expertise and the vision that you guys are

1 bringing to this effort.

2 DR. OGDEN: Thank you, Commissioner. I'll
3 just comment that I couldn't agree with you more about
4 the need to bring the diverse stakeholders together,
5 get people in the same room and really kind of create
6 a community who have the goals of making these kinds
7 of transitions. And that's one of the things that
8 we've really learned in our research so far is how
9 important it is to do that. And that's why we have
10 such a large array of industry folks as well as
11 government folks that we interact with on trying to
12 develop scenarios so that they do really reflect
13 what's going on there on the ground.

14 COMMISSIONER PETERMAN: Dr. Ogden, can you
15 speak more specifically about how you're engaging with
16 industry on this project as well as other projects in
17 your institute?

18 DR. OGDEN: Yes. Well, through the STEPS
19 Program, it's been structured as a research consortium
20 so we have about 20 sponsors and they're drawn from
21 the automotive companies, energy companies, state
22 agencies and federal agencies. So we have pretty much
23 all of the stakeholders in the room.

24 As far as the what we provide to them in
25 terms of interaction with the industry it takes

1 various forms depending in the company but we have
2 various symposiums such as the one that you
3 participated in where we bring together groups around
4 topics of interest in this transition. Like one time
5 we had a symposium on what would it take to initiate
6 new fuel pathways and we had panelists made up of our
7 own researchers and of industry folk.

8 We also interact one-on-one with industry or
9 in smaller subgroups with industry people as well.
10 And some examples of that, a few years ago there were
11 several industry players who were all interested in
12 fuel cells and hydrogen in Southern California. We
13 brought together a group of about 7 industrial
14 partners and we did through a series of meetings over
15 about a year, developed scenarios. So we worked quite
16 closely with them in a variety of settings. These can
17 be everything from technical analyses to these larger
18 strategies.

19 COMMISSIONER PETERMAN: I'm recalling at the
20 symposium that I went to; it was the research of Dr.
21 Sonia Yeh, was that?

22 DR. OGDEN: Yes.

23 COMMISSIONER PETERMAN: Is that her surname?

24 DR. OGDEN: Yes.

25 COMMISSIONER PETERMAN: And there were some

1 automakers in the audience and I think one of them
2 commented on how her research is being utilized by the
3 auto companies?

4 DR. OGDEN: Yes.

5 COMMISSIONER PETERMAN: Can you speak – do
6 you remember what that was actually referencing?

7 DR. OGDEN: Yes. This was one of the
8 research scientists who heads up our scenarios, some
9 of our scenario work, Dr. Sonia Yeh and she's done
10 some work on something called California TIMES Model,
11 which is a public domain, energy economic model. So
12 you can actually get in there, look at all these
13 assumptions. Kick the tires, if you will. And so
14 this has been very interesting to some of the industry
15 partners and I'm sort of saying that that's probably
16 what they were talking about. Is that you could vary
17 your own projection for how fast a new technology
18 might come on or what the transitional barriers would
19 be. Put it in a model like this and then look at what
20 it means in the rest of the economy. So that's really
21 important if you're prioritizing actions and that kind
22 of model and, of course, was used in the AB 32 process
23 to see what actions would be the most cost-effective,
24 might create the most jobs, what they would do in the
25 economy. So her models are, I think, quite

1 interesting to industry from that point of view. And
2 also it's a two way street so we talk to industry all
3 the time to make sure that what assumptions we're
4 putting into these big models make sense.

5 They use that. Actually, the energy
6 industry folks are using another of her models looking
7 at the overall energy efficiency of using natural gas.
8 And, of course, there's tremendous sort of natural
9 gas, shale gas boom going on. Everybody's very
10 interested in this low cost natural gas. So she's
11 been looking at what would that mean in terms of how
12 could you use these efficiently.

13 If you were an energy company and you had a
14 lot of natural gas, of course they're very interested
15 in that and the role of natural gas as a low carbon
16 fuel. So I think that may have been another area that
17 they're interested in.

18 COMMISSIONER PETERMAN: Thank you. Well,
19 with that, I will move Item 9.

20 COMMISSIONER DOUGLAS: Second.

21 CHAIRMAN WEISENMILLER: All those in favor?

22 (Ayes.) Item 9 passed unanimously.

23

1 CHAIRMAN WEISENMILLER: Let's go on to Item
2 10. Bear Valley Unified School District. Possible
3 approval of Agreement ARV-11-023 for a grant of
4 \$300,000 to Bear Valley School District. This is CNG
5 ARFVTP funding. John?

6 MR. MATHIAS: Thank you. Bear Valley
7 Unified School District applied for funding under the
8 Emerging Fuel and Technology's Office Alternative
9 Fuels Infrastructure Grant Solicitation. The purpose
10 of which is to encourage the establishment of
11 alternative transportation fuels infrastructure to
12 accommodate the deployment of alternative – the
13 deployment of alternative fuel vehicles to reduce the
14 use of petroleum fuels, to reduce greenhouse gas
15 emissions, provide competition in the transportation
16 fuels market and improve economic vitality in
17 California.

18 This agreement would install a CNG system at
19 the Bear Valley School District's bus depot for use by
20 the district's fleet vehicles and by CNG buses and
21 vehicles visiting from other school districts.

22 The CNG fueling system to be installed will
23 provide both time-fill and fast-fill fueling options.
24 The project budget is \$300,000 with match funding of
25 \$219,837.

1 Bear Valley School District currently has a
2 fleet of 23 diesel buses and 1 natural gas bus but
3 they are planning on converting the entire fleet over
4 to natural gas buses.

5 Bear Valley School District is located in
6 the Big Bear Lake area which is a rural part of the
7 South Coast Air District. The District participated
8 in a South Coast Air Quality Management Program, which
9 provided 2 CNG buses and a temporary fueling station
10 for 2 years. Due to the success of the temporary
11 program the District is converting its entire fleet to
12 CNG buses. But the closest fueling station is
13 currently 34 miles away at the Rim of the World School
14 District since the temporary station was removed from
15 the Bear Valley District.

16 The District's school buses average 8,000
17 miles per year and for each diesel bus that is
18 replaced a reduction of approximately 30,000 pounds of
19 CO2 emissions per year is expected. And the reduction
20 in pollution emissions from the use of CNG buses as
21 opposed to diesel buses will provide health benefits
22 to the students as well as to the general public.

23 I'm happy to answer any questions.

24 CHAIRMAN WEISENMILLER: Okay. Thank you.

25 Commissioners, any questions or comments?

1 COMMISSIONER PETERMAN: Do we have someone
2 in the audience associated with the project?

3 MR. MATHIAS: I don't believe - not that I
4 know of.

5 COMMISSIONER PETERMAN: I have no comments
6 except it's always great to see alternative vehicles
7 used by our next generation, and particularly
8 providing opportunities for this in rural communities
9 is a good thing.

10 COMMISSIONER MCALLISTER: I'll move.

11 COMMISSIONER PETERMAN: Great.

12 COMMISSIONER MCALLISTER: Approve Item 10.

13 COMMISSIONER PETERMAN: I will second.

14 CHAIRMAN WEISENMILLER: All those in favor?

15 (Ayes.) Item 10 passed unanimously.

16 CHAIRMAN WEISENMILLER: Thank you. Let's go
17 on to the City of Riverside. Possible approval of
18 Agreement ARV-11-031 for a grant of \$200,000. This is
19 also ARFVTP funding. Donald Coe?

20 MR. COE: Yes. Good morning, Commissioners.
21 My name is Donald Coe from the Emerging Fuel and
22 Technologies Office. The City of Riverside is
23 proposing to build a public accessible CNG station at
24 the Water Quality Control Plant, located at 5958 Acorn
25 Street, Riverside.

1 This CNG plant will consist of 2 fast-fill
2 dispensers which will be open around the clock to the
3 public. There will also be time-fill stations for the
4 use of the City of Riverside.

5 Two-hundred, thousand dollars is being
6 requested in grant funding from the California Energy
7 Commission for ARV-11-031.

8 This CNG station will consist of two skid-
9 mounted compressors, which will provide 1,000 standard
10 cubic feet per minute compressed natural gas and will
11 have a tank for standby storage of 33,000 standard
12 cubic feet to accommodate the anticipated surge
13 loading.

14 The fast-fill facility will provide public
15 access CNG to business, public and private fleets,
16 school districts and the general public on around-the-
17 clock basis. There will also be 5 time-fill posts
18 with 2 hoses each for each post for a total of 10
19 slow-fill stations.

20 Benefits. It will reduce the greenhouse
21 gases and dependency on petroleum by building
22 alternate fuels and advanced technology infrastructure
23 which will dispense between 27,000 and 800,000 diesel
24 gasoline equivalence of CNG each month.

25 Operate and maintain CNG stations in a safe

1 and efficient manner, thereby keeping the CNG prices
2 low, which will promote low emission CNG vehicles in
3 the state. The project will result in the creation of
4 jobs in a hard hit construction job market in the City
5 of Riverside.

6 Thank you, Commissioners, for your time.

7 CHAIRMAN WEISENMILLER: Thank you. Any
8 questions or comments?

9 COMMISSIONER PETERMAN: I'll just comment
10 that this project, with a focus on fleets, really
11 identifies an area where we heard from stakeholders
12 that there are real opportunities and demand for CNG
13 vehicles. Similarly, also with buses, that there's no
14 silver bullet when it comes to alternative fuels.
15 That CNG can play particularly in the fleet community.

16 I think going forward as we see natural gas
17 prices lower and decline we'll continually need to
18 evaluate the need for public investment in this space.
19 But I think we've seen that, in particular,
20 infrastructure and fueling stations are more
21 challenging to get the initial private investment in
22 and so I'm supportive of this project.

23 Commissioners?

24 COMMISSIONER DOUGLAS: I think it looks like
25 a great project.

1 COMMISSIONER PETERMAN: So, with that, I
2 will move Item 11.

3 COMMISSIONER DOUGLAS: Second.

4 CHAIRMAN WEISENMILLER: All those in favor?

5 (Ayes.) Item 11 passes unanimously. Thank
6 you.

7 CHAIRMAN WEISENMILLER: Let's go on to Item
8 12. Atlas Disposal Industries. Possible approval of
9 Agreement ARV-11-028 for a grant of \$300,000. This is
10 also ARFVTP funding. And, again, Donald Coe?

11 MR. COE: Yes. I'm still here. I am here
12 to present the proposed grant for the Atlas Disposal
13 Industries. This proposal will establish a new CNG
14 renewable natural gas fueling station to support
15 private, public and school operations.

16 The completed fueling station will be fully
17 powered using a portion of the 569 kilowatt hours of
18 green energy produced at the biorefinery and by Clean
19 World Partners making it the first CNG renewable
20 natural gas fueling station in California to not only
21 dispense renewable fuels but also to rely entirely
22 upon the renewable fuels for its own operation.

23 The proposed station will address the
24 critical lack of infrastructure to support fleets that
25 operate on CNG and successfully demonstrate an

1 integrated commercial scale waste to energy facility
2 that can produce renewable natural gas. When complete
3 the facility will contribute six temporary and two
4 permanent direct jobs to the Sacramento area.

5 Thank you for your time, Commissioners.

6 CHAIRMAN WEISENMILLER: Thank you. Any
7 questions or comments?

8 COMMISSIONER MCALLISTER: I think it's great
9 to – the idea of having fleets the ability to go fuel
10 up with renewable natural gas is exciting and I think
11 it's a good project. And the per diem of the cost from
12 the Energy Commission's perspective doesn't seem to be
13 huge over just regular compressed natural gas. So I
14 think it's a good sort of way to make that happen.
15 So, thank you. If there's any – looks like there's
16 somebody associated with –

17 CHAIRMAN WEISENMILLER: Yes. Please. Come
18 forward.

19 MR. SIKICH: Thank you. My name is Dave
20 Sikich. I'm the President of Atlas. And I just
21 wanted to take a moment to thank you for your
22 leadership and in investing in alternative fuel
23 infrastructure and kind of the vision of how important
24 that is to encourage fleets to change to clean fuels.

25 This project specifically wouldn't be

1 financially viable without the Energy Commission's
2 support. Your grant that you're considering today
3 will leverage over \$1 million of private investment
4 and we just want to thank you for that consideration.
5 And also thank your staff for helping us through this
6 process. Donald Coe and Sarah Williams have been
7 wonderful. Thank you.

8 CHAIRMAN WEISENMILLER: Thank you.
9 Commissioners, any questions or comments?

10 COMMISSIONER PETERMAN: I'll just offer a
11 comment here as we're about perhaps midway through a
12 number of contracts on this Business Meeting today
13 related to the ARFVTP fund. I usually just say AB
14 118. And just want to comment on the fact that the
15 fund is approximately \$100 million annually and we're
16 mandated by the legislation to support a diversity of
17 fuels and infrastructure in vehicles. And what you
18 can see just from the Items we've seen so far is that
19 there's a lot of projects that go into spending that
20 money. And we've really tried to be thoughtful at the
21 Commission about spreading that money around to
22 support those - that diversity of vehicles to help us
23 reach our state goals. And it is each of these grants
24 can represent months to even a couple of years of work
25 by the staff. By the different partners. It's not

1 just the companies that are receiving the grants but
2 also they have other partners as well they're working
3 with. Other local and state and federal partners and
4 so tremendous amount of work behind each of these.

5 And even though I have the pleasure to be
6 Lead Commissioner on transportation on the moment and
7 so you hear me comment on almost all of them, I do
8 want to acknowledge the role that my fellow
9 Commissioners have played in this transportation work.
10 In particular Chair Weisenmiller, and also
11 Commissioner Boyd who retired in December who was
12 instrumental in supporting a number of these projects
13 as they try to make their way through the system.

14 So, with that, I will move Item 12.

15 COMMISSIONER MCALLISTER: I'll second.

16 CHAIRMAN WEISENMILLER: Okay. All those in
17 favor?

18 (Ayes.) Item 12 passed unanimously.

19 CHAIRMAN WEISENMILLER: We're going to take
20 - thank you very much, Donald. We're going to take
21 one Item out of order in accommodation for a gentleman
22 in the audience and let's - also to sort of break up
23 the ARFVTP funding cycle for a second.

24 So let's go to Item 22 which just happens to
25 be Biodiesel Industries of Ventura, LLC. And this is

1 approval of Agreement PIR-11-030 for a grant of
2 \$1,829,554. And this is PIER Natural Gas Funding.
3 Heather Bird.

4 MS. BIRD: Good morning, Commissioners, and
5 thanks for accommodating us.

6 I'm Heather Bird with the Energy Efficiency
7 Research Office. We're seeking approval of a project
8 with Biodiesel Industries of Ventura, also known as
9 BIV, that will demonstrate the integration of 3
10 renewable onsite, on demand, combined heat pump
11 technologies into its biodiesel production facility
12 located at the Naval Base of Ventura County in Port
13 Hueneme, California.

14 The goal is to make the facility entirely
15 energy sufficient. If successful it will be the first
16 zero net energy biodiesel facility in California. The
17 3 CHP energy generation technologies are solar,
18 gasification and anaerobic digestion.

19 The latter two will use solid and liquid
20 byproducts of biodiesel production, oil extraction
21 solids from inedible pasture seeds, algae and raw
22 glycerin and wash water. These bio-products –
23 byproducts will be converted to a synthetic gas that
24 will be used in an internal combustion engine to
25 produce approximately 300,000 kilowatt hours and

1 11,000 therms per year.

2 These technologies, if adopted statewide by
3 other biodiesel producers, will have the potential to
4 reduce annual gas demand by 136,000,000 therms and
5 generate annual avoided costs of over \$2.8 million.

6 Major partners include the U.S. Navy, UC
7 Davis and Southern California Gas Company. We are
8 coordinating with Fuels and Transportation staff on
9 this project. BIV and partners will provide just over
10 \$2 million in match funding. The project term is 33
11 months. We request approval of this project and
12 before I conclude the applicant, Russ Teal, is present
13 and would like to make a few statements. Thank you.

14 CHAIRMAN WEISENMILLER: Yes. Please come
15 forward.

16 MR. TEAL: Thank you for moving me forward.
17 I have an appointment with Tim Olson and Gordon
18 Schremp down at Coalinga and if I don't leave by noon
19 I won't make it. So thank you very much.

20 Heather did a great job summarizing
21 everything. We're really excited about this project.
22 This will be the first biofuel facility to operate
23 entirely on heat and power generated by its own, we
24 don't call them waste products anymore, they're co-
25 products. But we'll be using all those co-products to

1 not only generate our own heat and power but the
2 potential is there to generate 25 times more
3 electricity than is actually consumed in the process.

4 So if we look at the relationship between
5 PIER funding and AB 118, this is one of those unique
6 situations where displacing the use of fossil fuels
7 helps reduce the carbon intensity of the fuel that's
8 actually produced. So our goal is to produce ultra
9 low carbon intensity biodiesel, which we define as
10 have a CI less than 20 and that's through a
11 combination of using renewable energy to produce the
12 fuel and by using low indirect land use change feed
13 stocks like Heather mentioned. The algae and the
14 Castor.

15 We look forward to July 19. While it will
16 be Navy Week up here and I actually asked for joint
17 recognition of the work that the CEC and the Navy are
18 doing together.

19 So are there any questions?

20 CHAIRMAN WEISENMILLER: Commissioners, any
21 questions or comments.

22 COMMISSIONER PETERMAN: I don't have a
23 question but I don't want to thank Mr. Teal for his
24 active engagement and enthusiasm on this work. You've
25 been a real active participant and contributor in the

1 AB 118 process. And it's exciting to hear that you're
2 working also with PIER in trying to make these
3 connections and continuously being a good partner with
4 our work with the Navy and so I wanted to personally
5 thank you for that.

6 MR. TEAL: It's my pleasure.

7 COMMISSIONER MCALLISTER: I'll move this
8 Item. Move to approve Item 22.

9 COMMISSIONER DOUGLAS: Second.

10 CHAIRMAN WEISENMILLER: All those in favor?

11 (Ayes.) This Item passed unanimously.

12 MR. TEAL: Thank you very much.

13 COMMISSIONER PETERMAN: Safe travels.

14 CHAIRMAN WEISENMILLER: Yes. So let's go
15 back to Item 13. South Coast Air Quality Management
16 District. Possible approval of Agreement ARV-11-025
17 for a grant of \$217,000. This is also ARFVTP funding.
18 Lindsee Tanimoto.

19 MR. TANIMOTO: Yes. Good morning, Chair and
20 Commissioners. My name is Lindsee Tanimoto. I'm from
21 Emerging Fuels and Technology Office of the Fuels and
22 Transportation Division.

23 I'm presenting for your approval today a
24 natural gas infrastructure project, PON-11-602, which
25 is Agenda item 13. I am the AB 118 Technical Lead for

1 this project.

2 The project that I'd like to present for
3 your approval today is ARV-11-025 with the South Coast
4 Air Quality Management District for a \$217,000.

5 Publicly accessible fueling and CNG will
6 give fleet operators an alternative fuel to use for
7 the use of local or regional goods movement. The
8 proposed compress natural gas station is located at
9 the City of Murrieta and will be built by the Southern
10 California Gas Company. They've proposed to provide a
11 solution to overcome a key barrier that has hindered
12 the development and widespread use of natural gas as a
13 transportation fuel.

14 The primary barrier to CNG vehicle
15 deployment is a lack of supporting infrastructure.
16 The goal of this project is to implement a 4 hour, 7
17 day a week, publicly accessible CNG fueling station in
18 the Riverside area alongside instates 15 and 215.

19 The objectives of this project are to
20 support fuel requirements of the existing and planned
21 expansion of the Southern California Gas Company's CNG
22 vehicle fleet, which now consists of 850. Other
23 fleets in the region that will have access to this
24 proposed CNG station are the City of Lake Elsinore,
25 the City – the Murrieta Unified School District, the

1 Riverside Transit Authority and Caltrans.

2 This station will create 10-15 new jobs in a
3 region that has been impacted by the recession.
4 During implementation this project is projected at
5 184,569 gallons of imported diesel fuel per year will
6 be displaced. Along with over 431 metric tons in
7 reduction of greenhouse gas emissions from
8 transportation in this region.

9 This project will serve as a demonstration
10 in the feasibility of construction, owning and
11 operating of publicly accessible station to supply CNG
12 for transportation. This project will enhance the
13 likelihood of increasing CNG vehicles and expand the
14 network of the CNG infrastructure throughout
15 California.

16 South Coast will provide a match of in-kind
17 services in the amount of \$7200 and the remainder of
18 the match will be from Southern California Gas Company
19 in the amount of \$654,000 for a total of 75 percent of
20 the total cost of this project.

21 This concludes my presentation of the Agenda
22 Item 13. And I will now accept any questions you may
23 have concerning this project. Thank you.

24 CHAIRMAN WEISENMILLER: Commissioners, any
25 questions or comments?

1 COMMISSIONER PETERMAN: I'll just comment
2 that it's good movement in particular is a significant
3 and disproportionate share of our criteria pollutants,
4 and our greenhouse gases. And although there's been a
5 lot of discussion and focus as you can see on, you
6 know, TV commercials, on the light duty fleet and
7 thinking about personal cars. We've really got to
8 address the need for alternative vehicles and good
9 movement. And I would expect that that need would
10 only increase as we climb our way out of this
11 recession. And so I'm supportive of all projects that
12 target that sector.

13 COMMISSIONER MCALLISTER: Yeah. I would
14 agree with what Commissioner Peterman said. I guess it
15 would be good to sort of describe - if you could
16 describe some of the partnerships between AQMD and
17 SoCal Gas and how they're working together on sort of
18 figuring out where to put these items. And, in
19 particular, the interest of the AQMD. If you could
20 give us some insight on that. I mean, obviously,
21 their criteria of pollutants and issues like that.
22 Their match seems a little low. So I was just
23 wondering what their participation in this is.

24 MR. TANIMOTO: Yeah. Their role, I believe,
25 is also the outlet for U.S. DOE funding for this area

1 so this is one of many projects that their bringing
2 forward to reduce greenhouse gas emissions in their
3 region. Unfortunately, I only have the South Coast
4 representative on the line to talk to more their share
5 but that's kind of like their goal. And their able to
6 find a partnership in the Southern California Gas.

7 COMMISSIONER WEISENMILLER: Okay. Great.
8 Yeah, maybe Jim.

9 MR. MCKINNEY: Commissioner McAllister, I'm
10 Jim McKinney. Manager of the Emerging Fuels
11 Technologies Office.

12 South Coast AQMD has a very aggressive
13 program to promote the use of CNG vehicles, as
14 Commissioner Peterman mentioned, for a goods movement.
15 I think as Lindsee Tanimoto mentioned this particular
16 station is strategically placed at a key intersection
17 of two freeways and facilitating goes with movement to
18 Arizona. So, again, kind of pulling that network void
19 between the ports and further distribution notes for
20 material.

21 COMMISSIONER MCALLISTER: Okay.

22 CHAIRMAN WEISENMILLER: If we do have
23 someone from South Coast on the line, we would
24 certainly welcome their contribution.

25 COMMISSIONER PETERMAN: I'll just also add

1 that in previous Business Meetings and in the AB 118
2 meetings we have had South Coast representation and
3 particularly have been hearing from that agency about
4 the need to focus on goods movement.

5 COMMISSIONER MCALLISTER: Well, and I'll
6 just say the reason I ask is that I think South Coast
7 also adopted a very aggressive electrification policy
8 for infrastructure and I think the fact – well, I
9 think natural gas to some extent has sort of come in
10 as a topic since then. And I'm sort of assuming that
11 this partnership is a result of that conversation but
12 I didn't want to presume anything.

13 But I think that's great. Diversity is good
14 and natural gas and electricity both have to be –
15 electrification of the vehicle fleet have to be both
16 part of the solution. And particularly for the goods
17 movement to make sense to do the natural gas route.
18 So, anyway, thanks a lot for your presentation.

19 MR. MCKINNEY: And I would just – if I could
20 just add, please, Commissioners. I think as I
21 understand South Coast's strategy electrification is a
22 strong option within the fence container box movement
23 at the ports. Electric drive is feasible for short
24 haul distances but beyond that you need a different
25 fuel because the battery packs are just too expensive

1 and too heavy at this point in time. So CNG is widely
2 thought of as a bridging fuel until we get RNG, or
3 renewable biodiesel, or other fuels into the mix. So
4 I think as best I understand it, as Dr. (inaudible)
5 has presented several times, that's their strategy.

6 COMMISSIONER MCALLISTER: Great. Thanks for
7 that clarification. I appreciate that.

8 CHAIRMAN WEISENMILLER: I would note that
9 the goods movement is 17 or 18 percent of the economy
10 - it's very, very important.

11 COMMISSIONER PETERMAN: I will move Item 13.

12 COMMISSIONER DOUGLAS: Second.

13 CHAIRMAN WEISENMILLER: All those in favor?

14 (Ayes.) This item passed unanimously.

15 Thank you.

16 CHAIRMAN WEISENMILLER: Let's go on to Item
17 14. Sysco Food Services of Los Angeles, inc. Possible
18 approval of Agreement ARV-11-033 for a grant of
19 \$600,000. This is again ARFVTP funding. Lindsee?

20 MR. TANIMOTO: Yes. I am presenting for
21 approval today a natural gas infrastructure project
22 from PON-11-602, Agenda Item 14.

23 This project is with the Sysco Food Services
24 of Los Angeles for \$600,000. General Physics will
25 construct a liquid natural gas publicly accessible

1 fueling station in Riverside. This project will
2 provide 24-hour public access to LNG fueling in the
3 Inland Empire along Interstate 215.

4 With the implementation at the Ports of Long
5 Beach and Los Angeles Clean Trucks Program the heavy
6 duty vehicles goods movement industry has accepted LNG
7 as an alternative fuel. But some operators have not
8 converted to LNG due to infrastructure limitations.

9 Sysco Foods is actively engaged with the
10 Clean Transportation Corridor. Currently there are
11 only 11 public LNG stations in California, of which 8
12 are located in Southern California.

13 In Riverside County there are no LNG fueling
14 stations. The closest is located at the United Parcel
15 Service Site in Ontario that provides public access to
16 LNG fueling and Inland Empire.

17 This creates an enormous barrier to the
18 expansion of LNG vehicles that are used for goods
19 movement that haul cargo along this corridor everyday
20 between Southern California and Las Vegas.

21 Sysco Foods has an existing LNG powered
22 fleet of 35 trucks that travel approximately 150 miles
23 per vehicle each day. This existing fleet is
24 projected to increase to 125 LNG trucks during the
25 life of the project.

1 As the largest full service marketing and
2 distribution organization in North America, Sysco
3 Foods' trucks travel to thousands of distribution
4 centers.

5 This station will serve an important
6 economic function for a region that has been impacted
7 by the recession through the creation of 24 jobs and
8 \$83,000 in annual excised tax revenues.

9 The station will provide an economic fueling
10 option for local fleets. During implementation of
11 this project it is projected that 820,500 gallons of
12 imported diesel fuel per year will be displaced along
13 with a reduction of 2,400 metric tons of greenhouse
14 gas emissions per year from transportation in this
15 region.

16 General Physics will provide a match share
17 from in-kind services and equipment in the amount of
18 \$802,294 and the remainder of the match will be from
19 the Fuller Construction in-kind services and equipment
20 in the amount of \$356,590 dollars for a total of 66
21 percent of the total cost.

22 This concludes my presentation of Agenda
23 Item 14. I will now accept any questions you may have
24 concerning this project. Thank you.

25 MS. STEIN: Good morning, Commissioners. My

1 name is Amanda Stein and I work in Chief Counsel's
2 Office. I would like to direct your attention to the
3 Draft Resolution I have prepared for this project,
4 which contains findings and a statement of overriding
5 considerations.

6 This statement is required under the
7 California Environmental Quality Act because the LNG
8 fueling station project is part of a larger industrial
9 facility and will contribute to significant impacts to
10 air quality, greenhouse gas emissions and traffic.

11 However, staff believes these impacts are
12 outweighed by the project's benefits. As Lindsee
13 discuss, the LNG fueling station will displace up to
14 1.2 million gallons of diesel fuel by 2015 and
15 eliminate roughly 2,400 metric tons of greenhouse gas
16 emissions each year, thus helping California to meet
17 its climate change goals under the Global Warming
18 Solutions Act of 2006 and the Low Carbon Fuels
19 Standard. This project benefits our air quality by
20 supporting an annual reduction of 6,800 tons of
21 nitrogen oxides and 1.4 tons of particulate emissions.

22 This project will promote regional growth
23 and natural gas vehicle deployments, cause economic
24 benefits from the creation of 24 jobs and generation
25 of excise and sales tax revenues.

1 Thank you.

2 CHAIRMAN WEISENMILLER: Thank you.

3 Commissioners, any questions or comments?

4 COMMISSIONER PETERMAN: I do have a
5 question. Mr. Tanimoto or Mr. McKinney, reflecting
6 upon this grant versus the one a couple before for the
7 CNG facility in Riverside that also helps with public
8 accessibility. I'm just wondering if you could speak
9 to why one would choose LNG over CNG and just kind of
10 - I'm just trying to get a sense of, we're looking at
11 the natural gas market generally. I mean what is it -
12 why both? What's the competitive advantage of one
13 versus the other?

14 MR. MCKINNEY: Yeah. I think that's an
15 excellent question, Commissioner. Again, Jim
16 McKinney. LNG is the fuel of choice and the kind of
17 medium of choice for long haul trucks. So this is a
18 Class 7A tractor for interstate travel.

19 And it's because of the density of fuel.
20 You can have a higher volume of fuel because it's
21 liquefied so you don't have to make as many refueling
22 stops. So CNG is a good option for kind of
23 intraregional transport goods movement. LNG is the
24 fuel of choice, again, for long haul interstate
25 transport.

1 COMMISSIONER PETERMAN: And in terms of
2 fueling stations, are these stations that can be co-
3 located together? Can you have the CNG and the LNG on
4 the same site? Are there some advantages to that?

5 MR. MCKINNEY: Yeah. I think we funded some
6 existing stations that have that dual fuel capacity in
7 the 2810 funding cycle.

8 COMMISSIONER PETERMAN: Thank you.

9 CHAIRMAN WEISENMILLER: Any other questions
10 or comments, Commissioners?

11 COMMISSIONER DOUGLAS: Just a brief comment
12 that, to me, this looks like a very beneficial project
13 and I think that it's really important to expand the
14 ability of liquefied natural gas to be part of goods
15 movement. I think there are tremendous air quality
16 and climate benefits in doing so. So I strongly
17 support this Item.

18 So I'll move approval of Item 14.

19 COMMISSIONER MCALLISTER: I'll second.

20 CHAIRMAN WEISENMILLER: All those in favor?

21 (Ayes.) This Item passed unanimously.

22 CHAIRMAN WEISENMILLER: Let's go on to Item
23 15. This is North Star Biofuels LLC. Possible
24 approval of Agreement ARV-11-035 for a grant of
25 \$500,000 and this is also ARFVTP funding. And Andre

1 Freeman.

2 MR. FREEMAN: Good afternoon, Commissioners.

3 My name is Andre Freeman. I'm a staff member in the
4 Emerging Fuels and Technologies Office.

5 Today I'd like to present for your approval
6 a grant with North Star Biofuels for the development
7 of a biodiesel blending facility for their biodiesel
8 protection site located in Watsonville, California.
9 The total funding for this project will be \$500,000.

10 North Star Biofuels LLC, a joint venture
11 between R Power Biofuels and Agri Beef Company, will
12 develop a commercial scale blending company for its
13 biodiesel production plant that is being completed in
14 Watsonville.

15 The company's commercial scale-proven,
16 closed loop biodiesel production technology will
17 provide a clean, advanced biodiesel for use throughout
18 California.

19 The blending infrastructure funding being
20 requested for this facility will allow for the ability
21 to deliver low carbon biodiesel directly to customers,
22 accelerating the state's ability to meet California
23 Air Resources Board LCFS.

24 This project will provide several near term
25 benefits to the state of California with the facility

1 tentatively scheduled to be completed by the end of
2 2012.

3 The City of Watsonville will see an economic
4 boost from direct and indirect jobs as well as the
5 revenue from fuel cells being fed into the local
6 economy.

7 This is especially important with this
8 project being located in an economically distressed
9 and industrial area. In addition to these economic
10 benefits, there are also major environmental benefits
11 that will be accrued from the production and usage of
12 this fuel. The carbon intensity of the biofuel that
13 will be blended at this facility will have a carbon
14 intensity of 75-85 percent less than conventional
15 diesel.

16 The waste streams being utilized as
17 feedstocks by this facility will reduce the amount of
18 products going to landfills and sewage systems as
19 well.

20 With North Star Biofuels Blending Facility
21 having the capacity to produce up to 15 million
22 gallons of biodiesel a year these benefits have the
23 opportunity to make major impacts in both the
24 Watsonville region and California as a whole.

25 I'd like to thank you for your consideration

1 of this Item and am available for any questions. And
2 there are also individuals from North Star Biofuels in
3 the audience to answer any of your questions.

4 CHAIRMAN WEISENMILLER: I was going to ask
5 those individuals to please step forward and introduce
6 yourself.

7 MR. LEVITT: My name is Sam Levitt. I'm the
8 Project Manager for North Star Biofuels.

9 CHAIRMAN WEISENMILLER: You want to say a
10 few words about the contract?

11 MR. LEVITT: Sure. Well -

12 CHAIRMAN WEISENMILLER: Your project.

13 MR. LEVITT: Well, our company is
14 headquartered in Emeryville, in the Bay Area, but
15 we're building a facility out in Watsonville.

16 As Andre said, it's going to be a 15 million
17 gallon per year facility. We have a patent-pending
18 technology to produce ultrapure biodiesel with low
19 carbon feedstock. Basically, it's - what we're going
20 to be able to do, you know, with the Air Resource
21 Board we have substantially discounted carbon
22 intensity and I'm here to basically ask any questions
23 you guys have about the project. But we really
24 appreciate the California Energy Commission being a
25 part of this project and to help promote low carbon

1 fuels into the marketplace in California.

2 CHAIRMAN WEISENMILLER: Thank you.

3 Commissioners, any questions or comments?

4 COMMISSIONER PETERMAN: I'll just comment
5 that this is another example of another company we
6 have investing in biodiesel and biofuels in the state.
7 I'm optimistic about opportunities in this area with
8 the increased competition from various companies. And
9 looking forward to seeing the results of all these
10 projects.

11 COMMISSIONER MCALLISTER: I'm just wondering
12 about the bio-jet output and sort of what that product
13 – what your plans for that product are?

14 MR. LEVITT: I think in the immediate term
15 we're focusing on biodiesel but the technology has the
16 ability to distil a certain throughput as bio-jet
17 fuel. But what we're anticipating doing is focusing
18 on that on the later stages as we're building out our
19 business model.

20 But for the first plant, we're focusing on
21 biodiesel.

22 COMMISSIONER MCALLISTER: Okay. Thanks.

23 COMMISSIONER PETERMAN: Just following up on
24 that quickly, can you just talk more about the pathway
25 then between the biodiesel and the aviation fuel?

1 MR. LEVITT: Well, yeah. So the pathway is
2 for biodiesel. We worked with the California Air
3 Resources Board and we developed a complete lifecycle
4 analysis with them for locally sourced waste oils and
5 animal tallow. So using our process technology and
6 animal feedstock it came out to roughly just north of
7 30 CI.

8 COMMISSIONER PETERMAN: Thank you. That
9 wasn't quite my question but that was a better answer
10 than the question that I asked. So good. Thank you.

11 With that, I'll move Item 15.

12 COMMISSIONER MCALLISTER: I'll second.

13 CHAIRMAN WEISENMILLER: All those in favor?

14 (Ayes.) Item 15 is approved unanimously.

15 CHAIRMAN WEISENMILLER: Let's go on to Item
16 16.

17 MR. LEVITT: Thank you.

18 CHAIRMAN WEISENMILLER: Thank you. Thank
19 you for being here.

20 National Renewable Energy Laboratory.
21 Possible approval of Contract 600-11-002 for
22 \$2,152,273. This is also ARFVTP funding and ECAA
23 funding. Andre Freeman.

24 MR. FREEMAN: Good afternoon again,
25 Commissioners. Just a reminder that there's an error

1 in the funding for this. It is just out of the ARFVTP
2 funding, not ECAA.

3 CHAIRMAN WEISENMILLER: Thank you for that
4 correction.

5 MR. FREEMAN: Today I'd like to present for
6 your approval an agreement with the National Renewable
7 Energy Laboratory, also known as NREL. This agreement
8 will provide program support for the development and
9 improvement of the Alternative and Renewable Fuels and
10 Vehicle Technology Program, also known as the AB 118
11 program. And also the related IEPR sub-reports that
12 are attached to this program.

13 This contract with NREL will also assist the
14 Fuels and Transportation Division's forecasting
15 activities through the refinement of the methodologies
16 used in the Commission's Dynasim Modeling System.

17 The main goal of this contract is to assist
18 in the coordinated effort to provide information that
19 will better inform investment in California's
20 alternative fuels industry.

21 This technical support agreement with NREL
22 will include interactions with many activities
23 throughout the AB 118 program. The biggest benefit
24 that will come from working with NREL will be
25 leveraging this significant amount of data collection

1 and in-house expertise that they have developed over
2 the years by working with the DOE as well as other
3 stakeholders.

4 Utilizing this work funded by the DOE the
5 Energy Commission will save resources by avoiding this
6 duplicated work. NREL will produce several formal
7 documents outlining their work including technology
8 and market reports that will provide detailed
9 assessments of advanced vehicle technologies,
10 including full battery electric, hybrid, natural gas,
11 propane, hydrogen and flex fuel vehicles.

12 Fueling infrastructure including EV
13 charging, natural gas, propane, E85, biodiesel and
14 hydrogen infrastructure. Fuel production including
15 gasoline, diesel and natural gas substitutes. And
16 consumer and investor behavior reports providing
17 likely scenarios for the acceptance of these new
18 transportation types into California.

19 These reports will feed into two major
20 deliverables. The first being the program benefits
21 report that will be used in development of the
22 upcoming 2013 IEPR benefits report. The second will
23 be the 2014-2015 AB 118 investment plan. During the
24 fiscal year 2012-2013 investment plan advisory
25 committee meetings a request from many stakeholders

1 has been to integrate more metrics and more
2 statistical analysis into how we invest our dollars.

3 The technical and guidance reports developed
4 through this agreement will help staff take major
5 steps toward this goal.

6 Additional support from this agreement will
7 come in the form of the established PEV planning tools
8 and data evaluation that NREL has onsite. These
9 activities will complement the regional PEV readiness
10 plan that's currently being developed in California,
11 that has been funded through the AB 118 program as
12 well.

13 These planning activities provide
14 information that can also be used in the ARB's
15 Visioning Plans for zero emission vehicles throughout
16 the future. NREL will also provide technical
17 assistance and evaluation of proposals that hold new
18 fuel types, which will require in-depth review of
19 environmental and economical benefits.

20 I'd like to thank you for your consideration
21 on this Item. I am available for any questions you
22 may have.

23 CHAIRMAN WEISENMILLER: Thank you.
24 Commissioners, any questions or comments?

25 COMMISSIONER PETERMAN: I'd just echo Mr.

1 Freeman's comments about what we've heard in the last
2 few advisory board meetings. Desire request for more
3 evaluations, more metrics and this is in-line with
4 that objective. And, particularly, I'm glad you
5 talked about the unique role that this contract will
6 have versus some of our other support contracts or
7 evaluation for supporting PEV community readiness and
8 rollout.

9 This is going to be particularly important
10 with the March Governor's Executive Order on zero
11 emission vehicles as well as the proposed NRG
12 settlement for EV infrastructure rollout. It's a
13 critical time to do this assessment to make sure we're
14 rolling the infrastructure out in a way that provides
15 that coverage necessary to meet some of those goals.

16 Commissioners, other questions? Comments?

17 COMMISSIONER MCALLISTER: Just to say there
18 are a lot of really wonderful efforts across the state
19 on EV readiness and different technologies and
20 different infrastructure issues. A lot of it is air
21 district, or region or city or county and I think
22 having an integrated view of all of this is going to
23 be really important and help these – help make sure
24 that we're not duplicating and also that these various
25 conversations are coordinated in such a way that they

1 actually efficiently get to the end goal. And I think
2 that's really important.

3 So thank you.

4 COMMISSIONER PETERMAN: I'll just note that
5 Commissioner McAllister hailing from the San Diego
6 area, a real EV hub, appreciating the perspective that
7 he's been able to bring for the on the ground
8 observations as well.

9 So, with that, I will move Item 16.

10 COMMISSIONER MCALLISTER: I'll second.

11 CHAIRMAN WEISENMILLER: All those in favor?

12 (Ayes.) Item 16 passed unanimously.

13 MR. FREEMAN: Thank you.

14 COMMISSIONER PETERMAN: And, Chair, I just
15 wanted to take a quick moment and thank Mr. Freeman;
16 in particular, because I know in the last week he's
17 been very responsive to various Commissioners' offices
18 around questions around a number of these grants. And
19 congratulations on these awards.

20 MR. FREEMAN: Thank you.

21 CHAIRMAN WEISENMILLER: Thank you. Let's go
22 on to 17. United States Forest Service. Possible
23 approval of Amendment 1 to Contract 600-10-006 with
24 the U. S. Department of Agriculture, Forest Service
25 Pacific Southwest Research Station. And this is to

1 add \$361,716. And this is, again, ARFVTP funding.

2 Bill Kinney.

3 MR. KINNEY: Good afternoon, Chairman
4 Weisenmiller. Commissioners. I'm Bill Kinney with
5 the Emerging Fuels and Technologies Office. This
6 afternoon, I should have said, requesting approval of
7 Amendment 1 to Contract 600-10-006, assessing the
8 sustainability of forest biomass utilization with the
9 United States Forest Service, Pacific Southwest Region
10 Station for \$361,716.

11 In May of 2011 the Commission approved this
12 interagency contract that harnesses the work of
13 leading California scientists to develop a set of
14 integrated tools for assessing and implementing
15 sustainable biomass utilization for biofuels
16 production. This agreement is supported through the
17 Sustainability Investment Category within the ARFVTP
18 Investment Plan.

19 This Amendment will restore the \$361,716 in
20 funding that was reduced from the original budget to
21 support a broader scale and scope of research
22 activities than under the existing contract.

23 California Forests are essential to meeting the goals
24 of both AB 118 and AB 32 in terms of carbon
25 sequestration and the forest's potential to provide

1 large volume of feedstocks for biofuels production.

2 Recent estimates of technically available of
3 forest biomass for biofuels production are 14 million
4 bone dry tons per year with a biofuels conversion
5 potential of over 1 billion gallons of low carbon
6 biofuels.

7 AB 118 Sustainability Regulations provided
8 the impetus for this research, which is designed to
9 address the complex dynamics of ecological,
10 environmental and economic sustainability of forest
11 biomass utilization.

12 The research locations include various field
13 locations in the Sierra Nevada as well as the campus
14 facilities of the Pacific Southwest Research Station,
15 UC Berkeley, UC Davis and the UC Blodgett at Research
16 Forest.

17 The benefits from this project – this
18 research will provide the scientific foundation for
19 developing sustainable forest practices, prescriptions
20 and projects to convert forest biomass into low carbon
21 transportation fuels. Sustainable utilization
22 provides significant environmental benefits including
23 reduced wildfire GHG emissions, increased diversity of
24 wildlife habitat and improved watershed function.
25 Deployment of forest biomass production facilities in

1 rural mountain communities in California will also
2 generate economic development, public health and
3 public safety benefits.

4 The PIs (I hope and believe. For sure it's
5 personnel costs for researching scientists) on this
6 project are not supported by this grant so we're
7 leveraging our funds here and in terms of enlisting
8 this expertise – however there are some 15 field techs
9 and modeling specialists that are being supported
10 during the life of this project.

11 The participants include the prime
12 contractor, which is of course the USDA, U.S. Forest
13 Service of the Pacific Southwest Research Station,
14 which is providing project oversight and specialized
15 forest science expertise. The subcontractors include
16 University of California at Berkeley, UC Davis and
17 Spatial Informatics. These partners are contributing
18 the work of over a dozen leading scientists from the
19 fields of forest ecology, forest carbon dynamics,
20 forest economics, wild land fire ecology, wildfire
21 behavior modeling, wildlife biology, soil science,
22 geospatial optimization and forest lifecycle analysis.

23 Thank you for your consideration. And I am
24 available to answer any questions you might have.

25 CHAIRMAN WEISENMILLER: Thank you.

1 Commissioners, any questions or comments?

2 COMMISSIONER PETERMAN: Commissioners, in AB
3 118 forum and especially in the series of workshops
4 we've been having around renewable energy as a part of
5 the IEPR, we have heard from the Department of
6 Forestry and Food and Ag and communities about the
7 devastating effect on the climate you can have from
8 forest waste that's not tended to. You know, if that
9 waste burns not only does the forest not only become a
10 sink for carbon, becomes a great emitter. And so
11 looking for opportunities in order to sustainability
12 collect that waste. In addition, as has been noted by
13 Mr. Kinney, there's significant economic
14 opportunities; particularly, in the rural communities.
15 Oftentimes we talk about some of the more economically
16 depressed parts of the state and the Central Valley or
17 the southern part of the state but there's really some
18 need as well in the Northwest.

19 So supportive of seeing this project and I
20 think it'll have benefits that will spillover into the
21 renewable energy sector as well.

22 COMMISSIONER MCALLISTER: Yeah. The fires -
23 our other policies for other environmental goals that
24 we have are also impacting this and so fire
25 suppression policy and things like that really give

1 rise to a need for an integrated look at how we manage
2 our forest resources generally. If there's this
3 opportunity to use it in our sphere, the energy sphere
4 o biofuels and electricity generation, whatever it may
5 be, I think that's a great thing.

6 And there's a lot of stakeholders who have
7 differing views about these issues and, in particular,
8 how we ought to be managing – even almost whether we
9 ought to be managing our forests practically and
10 aggressively. I think those – our process can
11 accommodate that. I think it's really an important
12 conversation and, hopefully, we find that there are
13 some opportunities there to help our greenhouse gas
14 challenges as well and other energy sector challenges.
15 So I'm supportive of this work.

16 MR. KINNEY: I could just add that the
17 ability to provide biofuel facilities really provides
18 a home for a large volume of material that the U.S.
19 Forest Service has actually, financially committed to
20 start doing for their fuel reduction.

21 So it's a very synergistic relationship.

22 COMMISSIONER DOUGLAS: Just a brief comment
23 along these lines. We get tremendous benefits,
24 societally, from our forests. They certainly provide
25 tremendous watershed and water quality benefits,

1 habitat, species. They serve as very significant
2 carbon sinks and, of course, there are industrial
3 opportunities, whether it's timber harvesting in some
4 parts of the state; although, that has to be done
5 sustainably and there are issues and controversies
6 around that, of course. And also the potential for
7 biofuel production and many of the benefits that we
8 get from California's forests are potentially or
9 currently being undermined by the legacy, as
10 Commissioner McAllister mentioned, of many, many
11 decades of really fire suppression policies and, also,
12 some of the impacts of climate change.

13 Whether it be the spread of pine bark
14 beetle, which is caused just terrible deaths of trees
15 in a widespread way in North America. And the risks
16 of catastrophic wildfires which are, obviously,
17 dangerous and traumatic for people and communities
18 anywhere near those fires. But also have lasting
19 potentially economic costs. Definitely release a lot
20 of carbon into the atmosphere. Definitely cause
21 tremendous air quality problems.

22 So we have both great problems and great
23 opportunities in our forests and my hope would be that
24 the kind of work we're seeing in Items 17 and 18 today
25 will help us, as a state and working with

1 stakeholders, better – be able to better articulate
2 the role and the potential of biofuel production in
3 helping us achieve and maintain some of the benefits,
4 the widespread benefits, that we get from the forests.
5 As was noted, habitat, watershed, carbon sink and the
6 economic potential that we get from the forest in a
7 completely different region of the state and
8 completely different process of course than the Desert
9 Renewable Energy Conservation Plan.

10 We're working hard on an effort that is
11 quite different but we're really looking at how do we
12 produce renewable energy that the state needs,
13 particularly from solar and wind technologies, in this
14 area of tremendously high potential. Consistent with
15 other values. Consistent with habitat and cultural
16 and recreational and other values in the desert. And
17 I think it does take that kind of approach sometimes
18 to really open up the potential of a resource in a way
19 that's sustainable.

20 So anyway, I would wish you and the
21 investigators luck on this. I'd love to hear how the
22 work is going.

23 COMMISSIONER PETERMAN: Sorry, go ahead.

24 COMMISSIONER MCALLISTER: What's that?

25 COMMISSIONER PETERMAN: I was going to say

1 something but you looked like you were going to say
2 something as well. Do you want to go ahead first?

3 COMMISSIONER MCALLISTER: Oh no.

4 COMMISSIONER PETERMAN: Just following up
5 briefly on Commissioner Douglas' comments, I think the
6 real challenge with forest biomass, as Commissioner
7 Douglas pointed out, there are such a wide array and
8 diversity of benefits that relate to a myriad of state
9 policies and, frankly, there's a variety of agencies
10 with local and state that are concerned with each of
11 these issues. And, because of that, you're not seeing
12 these additional benefits valued in our traditional
13 procurement models for electricity or transportation.

14 And the challenge going forward is not only
15 how do we stay consistent with these values, as
16 Commissioner Douglas has said, but how do we reward
17 and compensate for these values that the state's
18 getting from these resources. And that remains a
19 challenge that we welcome your thoughts on.

20 COMMISSIONER MCALLISTER: Okay.

21 COMMISSIONER PETERMAN: Okay. All right.
22 We're going to make a motion now. I move Item 17.

23 COMMISSIONER DOUGLAS: Second.

24 CHAIRMAN WEISENMILLER: All those in favor?

25 (Ayes.) Item 17 passed unanimously.

1 CHAIRMAN WEISENMILLER: Let's go on to Item
2 18. University of California, Davis. Possible
3 approval of Contract 600-11-006 for \$227,000 with the
4 Regents of the University of California. This is,
5 again, ARFVTP funding. Bill Kinney again.

6 MR. KINNEY: Yes. I'd like to - I'm here to
7 request approval for Contract 600-11-006 with the
8 Regents of the University of California, the Institute
9 of Transportation Studies, for \$227,000 for this
10 project facility citing and lifecycle analysis of
11 forest biomass.

12 As I said, in May of 2011, the Commission
13 approved the parent contract for this agreement, which
14 is 600-10-006 accessing the sustainability of forest
15 biomass utilization in California.

16 This parallel agreement with UC Davis will
17 provide \$227,000 in supplemental funding that will
18 enable the timely completion of tasks number 8 and 9
19 of the parent contract and the appointment of key
20 personnel who could not employed in the original
21 contract or its amendment.

22 The benefits and justification for this
23 agreement are essentially the same as for the parent
24 contract. In the interest of time, with your
25 permission, I will forego that description.

1 Participants here are scientists from the
2 University of California at Davis, the Institute of
3 Transportation and Studies.

4 And I am happy and available to answer any
5 questions.

6 COMMISSIONER PETERMAN: Thank you. Unless
7 my fellow Commissioners have any questions – this is,
8 as Mr. Kinney has discussed similar rationale at the
9 previous Item.

10 So unless any questions or comments,
11 otherwise I'll move the Item. Okay. I'll move Item
12 18.

13 COMMISSIONER DOUGLAS: Second.

14 CHAIRMAN WEISENMILLER: All those in favor?
15 (Ayes.) Item 18 passed unanimously.

16 CHAIRMAN WEISENMILLER: Thank you.

17 MR. KINNEY: Thank you.

18 CHAIRMAN WEISENMILLER: Let's go on to Item
19 19. Tmdgroup, Inc. Possible approval of Contract 600-
20 11-007 for \$2,210,000 with tmdgroup, inc. And this is
21 also ARFVTP funding. And Dave Nichols.

22 MR. NICHOLS: Good afternoon, Commissioners.
23 Chair. My name is David Nichols. I am from the Fuels
24 and Transportation Department Division. I am from the
25 Emerging Fuels Office.

1 I am here today with a recommendation for
2 acceptance of the contract with tmdgroup for outreach
3 and marketing.

4 The purpose of the contract with tmdgroup is
5 to develop and execute a comprehensive outreach and
6 marketing campaign to advance transition of the
7 transportation fuels market to non-petroleum, lower
8 carbon, clean alternative fuels and advanced vehicle
9 technologies. The outreach and marketing campaign
10 that results from this contract will represent the
11 initial launch of a professionally developed campaign
12 that will assist the program in implementing this
13 outreach and marketing strategy.

14 Some of the highlights - this is a work
15 authorization contract in the amount of \$2,210,000.
16 This was authorized and directed under the investment
17 plan of 10-11. This has \$1.9 million in 10-11 funds,
18 \$250,000 in 11-12.

19 The tmdgroup was 1 of 11 proposals that were
20 brought to us under RFP 600-11-601. They have a lot
21 of experience working with government agencies. Over
22 20 that I can tell, including First 5 California, CHP,
23 the Department of Education along with multiple
24 counties.

25 They're going to be taking a multiple step

1 approach in this contract. There's going to be a lead
2 time of research and analysis that will involve key
3 leaders in the goods movement industry. They will
4 allow for fleet owners, independent vehicle operators,
5 owners and stakeholders to be involved in discussions
6 about alternative fuels. From that information there
7 will be the development of outreach and marketing
8 campaign. Then an implementation of that outreach and
9 marketing campaign. And then a follow up with an
10 analysis of that campaign, giving us some hard numbers
11 and hopefully better understanding of how to reach out
12 into these markets to help them understand the
13 benefits.

14 The outcome of this agreement will serve to
15 familiarize the commercial and public fleet owners and
16 managers and independent vehicle operators with the
17 current available alternative fuels and advanced
18 vehicle technologies and their optimum duty cycles.

19 Tmdgroup will be working with Ewald &
20 Wasserman, research consultants; Olmstead & Williams
21 Communications, for public and media relations; The
22 Jemigan Group, which is a DVBE that will be part of
23 the media planning guide. Along with them they're
24 using several subject matter experts. Thomas
25 Turrentine, PhD from UC Davis. Kevin Nesbitt, UC

1 Davis. Asha Weinstein, Agrawal, PhD from UC Berkeley
2 and current director of Mineta Transportation. And
3 Hilary Nixon, PhD from UC Irvine, Associate Professor,
4 Department of Urban and Regional Planning.

5 The term of this contract will be start from
6 June going through November of 2014. The project
7 should be completed in 29 months and it is a statewide
8 campaign that focuses on key goods movement.

9 If you have any questions, I'd be more than
10 happy to try to address those. Thank you.

11 CHAIRMAN WEISENMILLER: Thank you.

12 Commissioners, any questions or comments?

13 COMMISSIONER PETERMAN: Commissioners, I
14 think it's fitting that this is the last AB 118
15 contract on the Business Meeting agenda because it
16 really focuses on what has to happen next, which is
17 the marketing outreach. We have approved a number of
18 good projects today that are really going to change
19 the alternative fuel and vehicle space. But they
20 won't transform it completely if we don't see fleet
21 operators and purchasers of equipment adopting these
22 technologies.

23 What's different about the transportation
24 space versus electricity space is that public agencies
25 and regulated agencies are not the primary purchasers

1 of this alternative resource. And so we've got to
2 make sure that the message is getting out.

3 Once you to open your eyes when you're out
4 there you start to realize how many alternative fueled
5 buses there are, taxicabs, etc but you kind of have to
6 look for that logo that says it. And so the more we
7 can get the word out both through state action as well
8 as everyone who has received a grant from the program,
9 I encourage you to get the word out as well. Because
10 that's really how we're going to transform the sector.

11 I'll also note that this is a contract where
12 I would encourage the parties to utilize the research
13 as in the expertise of the professionals you've
14 identified. But also to reach out and interact with
15 industry as Commissioner McAllister mentioned in a
16 previous comment. Because they'll have as good a
17 sense as well about who really – how to proceed with
18 marketing and let's utilize some of the successful
19 marketing strategies we have for conventional vehicles
20 and fuels in the past.

21 MR. NICHOLS: Thank you very much,
22 Commissioner Peterman. This is a case where the
23 rubber hitting the road is not actually a metaphor.
24 And I think that the marketing across the board for
25 energy efficiency, for areas where we've been working

1 for a longtime but where we're really hitting the
2 point where massive change and adoption is necessary
3 to meet our goals.

4 Transportation is definitely one of those
5 areas. I think the getting – developing the right
6 message, getting the right message out and that's not
7 just message. It's messages. It's plural, very
8 plural. So each of the niches of users, of decision
9 makers, of everything, really need a message that's
10 well-developed and well-conceived and has traction.

11 And that's not – that doesn't just happen
12 automatically. It really needs an effort, that's a
13 team effort, and that is very – that involves a very
14 diverse group of stakeholders. And I think
15 transportation in America, particularly in California,
16 is something that has a very complex cultural dynamic
17 that has a huge amount of history. I mean many, many,
18 many dissertations have been written on it – on our
19 transportation culture. And it's really built into
20 our networks, the way – almost – than most sort of
21 consumptive endeavors.

22 So I think – not to get too theoretical here
23 but I just think that rubber does really hit the road
24 with the message to the marketplace. All the users,
25 the industries, the decision makers and fleets, etc.

1 etc.

2 The marketing and outreach, I would just
3 really encourage the executors of this project to
4 reach out to all the knowledgeable stakeholders that
5 are making decisions every day and that understand
6 where they are coming from. And the various pressures
7 on them in order to develop the right messages and
8 influence them to get them to make the decisions that
9 we need. That will move us in the right direction.
10 So I'm really looking forward to how this project goes
11 and just seeing the material and outreach efforts.

12 MR. NICHOLS: This is a work authorization
13 contract so every step in the process is fully vetted
14 and looked through thoroughly by staff before any next
15 steps are taken. And great care was taken to select
16 people that followed the RFP process in that we're
17 looking for hard numbers. Things that we can follow.
18 Directions that we can take that are verifiable. Use
19 the best information possible.

20 COMMISSIONER MCALLISTER: Great. Thank you.
21 That process - that work authorization process is very
22 good for that. So, thanks.

23 So I'll go ahead and move this Item, which
24 is 19.

25 COMMISSIONER PETERMAN: I'll second.

1 CHAIRMAN WEISENMILLER: All those in favor?

2 (Ayes.) Item 19 passed unanimously.

3 CHAIRMAN WEISENMILLER: Let's go to -

4 COMMISSIONER PETERMAN: Oh. Just before we
5 move on to the next Item, I just wanted to take this
6 opportunity to thank the AB 118 and transportation
7 staff for their tremendous work in moving these
8 contracts out, meeting our encumbrance deadlines.
9 Particularly thanks to Jim McKinney, who's Office
10 Manager for the AB 118 program, his staff as well as
11 well as our Executive Director Rob Oglesby and, in
12 particular, Drew Bohan, our Deputy Director who has
13 worked with staff. You can see there's plenty of work
14 to be done and there are a lot of hands involved and
15 so thank you.

16 And also, let me not forget Pat Perez, the
17 Divisions' Director and the Chief Counsel's Office as
18 well. See, there's so many. It's like a Grammy
19 acceptance speech. You always forget someone. But we
20 cannot do this without legal team as well. These are
21 complicated projects first time, oftentimes, in new
22 areas and so thank you all for your assistance.

23 CHAIRMAN WEISENMILLER: Thank you. So let's
24 go to Item 20. Gas Technology Institute. Possible
25 approval of Agreement PIR-11-029 for a grant of

1 \$1,733,000 to Institute of Gas Technology dba Gas
2 Technology Institute. This is going to be \$850,000.
3 This is PIER match funding. PIER natural gas funding.
4 Mike Lozano.

5 MR. LOZANO: Good afternoon, Commissioners.
6 My name is Michael Lozano with the Industrial Ag Water
7 Team. This project waste heat recovery for power
8 generation was a result of our competitive 2011
9 Emerging Technologies Demonstration grant
10 solicitation.

11 The industrial sector in California consumes
12 286 trillion BTUs per year of natural gas, a
13 significant portion of this, about 9 percent, is used
14 in relatively higher temperature furnaces. Such as
15 those found in metals refining and glass melting. And
16 these generate exhaust gases in excess of 800 degrees
17 Fahrenheit. Many of these furnaces are stackless and
18 exhaust directly in the building. Effective heat
19 recovery technologies currently do not exist for the
20 stackless furnaces and even for certain furnaces with
21 stacks because of material limitations, gas leakages
22 and additional issues.

23 A significant opportunity exists to recover
24 additional heat through process heaters such as these,
25 even from those that already are equipped with heat

1 recovery systems. The proposed energy technology
2 effectively recovers waste heat and industrial exhaust
3 gases above 800 degrees Fahrenheit. And converts it
4 into power while addressing many of the limitations in
5 existing technologies.

6 This exhaust waste heat to electricity
7 system consists of a heat recovery water heater that
8 recovers the heat and these exhaust gases. It heats
9 the water and this hot water drives an organic Rankine
10 cycle engine generating electricity. The important
11 and new proprietary technology being researched is a
12 pressure balanced exhaust gas intake design.

13 We seek to find over 84 percent in heat
14 recovery for stackless furnace and that's the plan
15 with this particular design. The technology is
16 especially attractive for furnaces with demanding
17 pressure controls and can be retrofitted without any
18 furnace downtime.

19 This 33 month project will involve the
20 design, development and demonstration of a prototype
21 at a site in Southgate, California.

22 We request approval of this project. And I
23 am ready to answer any questions. Thank you.

24 CHAIRMAN WEISENMILLER: Commissioners, any
25 questions or comments?

1 COMMISSIONER MCALLISTER: Just – I think
2 we've been hearing more about the organic Rankine kind
3 of coming out of the marketplace and being a viable
4 option for improving efficiency in both retrofit and
5 new installs. I think it's a technology that works,
6 clearly. And sort of, again, this is the theme that
7 we always try to maybe harp on even is making sure
8 that the technology is going to the marketplace and
9 they work and that people want to install them and
10 that they really have some traction and the cost point
11 is right. The cost benefit, etc. definitely can help
12 us improve the operational capabilities of our fleet.
13 So I think – I'm supportive of this project.

14 So I'll move Item 20.

15 COMMISSIONER DOUGLAS: Second.

16 CHAIRMAN WEISENMILLER: All those in favor?

17 (Ayes.) Item 20 passed unanimously. Thank
18 you.

19 MR. LOZANO: Thank you.

20 CHAIRMAN WEISENMILLER: Let's go to Item 21,
21 which is Gas Technology Institute. Possible approval
22 of Agreement PIR-11-028 for a grant of \$1,766,185 to
23 Institute of Gas Technology, again, dba Gas Technology
24 Institute. And this is PIER Natural Gas funding.
25 Pablo Gutierrez.

1 MR. GUTIERREZ: Thank you, Commissioner. My
2 name is Pablo Gutierrez, as you just mentioned. And I
3 am with the Electric Generation Research Office.

4 And I'm here to request your approval of a
5 \$1.76 million funding agreement with the Institute of
6 Gas Technology. This agreement will be a 33 month
7 duration with \$870,000 in match share.

8 This project will develop and demonstrate
9 and the San Bernardino County Water Reclamation Plant
10 a 750 kW advanced fuel flexible, hydra-generation,
11 DGCHP system. The project will integrate an
12 innovative stage gas turbine and internal combustion
13 engine coupled to a generator.

14 The integrative system will be designed to
15 use a range of fuel including natural gas and hydra-
16 gen and biogas to produce from the water reclamation
17 plant's digester.

18 The gas turbine will convert a portion of
19 the biogas into a hydrogen rich gas. The hydrogen
20 rich gas will then be blended with natural gas and the
21 remaining biogas. The blended fuel will allow the gas
22 turbine and the internal combustion engine to operate
23 at the desirable conditions that will result in
24 reduced NOx and EOC emission levels significantly
25 below the South Coast Air Quality Management District

1 Limits and the 2007 Carbon Standards for distributed
2 generation.

3 This project was recommended for funding
4 through the 2012 hydra-generation, fuel flexible,
5 distributed generation and heat and power
6 solicitation. The purpose of this competitive
7 solicitation was to fund research, development and
8 demonstration projects that will advance the science
9 and market penetration of grid connected DGCHP
10 technologies. And integrate emerging multiple fuels,
11 DGCHP technologies, including energy storage and fuel
12 flexibility and diversified applications.

13 And I'd be happy to address any questions
14 that you might have.

15 CHAIRMAN WEISENMILLER: Thank you.
16 Commissioners, any questions or comments?

17 COMMISSIONER DOUGLAS: No. I think this
18 looks like a really good and exciting project. I'd be
19 pleased to move approval of Item 21.

20 COMMISSIONER MCALLISTER: I'll - again, I
21 think CHP and these technologies are part of the plan
22 to improve our overall energy performance and
23 essential and there's lots of potential here in
24 California. So I'll second.

25 CHAIRMAN WEISENMILLER: Okay. All those in

1 favor?

2 (Ayes.) This Item is also approved
3 unanimously.

4 CHAIRMAN WEISENMILLER: We're going to take
5 a 45 minute lunch break now and we will come back and
6 deal with – start with Item 23, since Item 22 has
7 already been approved.

8 Thank you.

9 (Off the record at 12:37 p.m.)

10 (Back on the record at 1:35 p.m.)

11 CHAIRMAN WEISENMILLER: Let's start with
12 Item 23. Quantitative Biosciences, Inc. Possible
13 approval of Agreement PIR-11-032 for a grant of \$1.5
14 million to Quantitative Biosciences, Inc. And this is
15 PIER Natural Gas funding. Anish?

16 MR. GAUTAM: Good afternoon, Commissioners.
17 My name is Anish Gautam with the Energy Research and
18 Development Division. And we're here to seek approval
19 of the project with Quantitative Biosciences, or QBI.

20 Now California is the nation's largest dairy
21 state with over 22,000 dairies and on these dairies we
22 have, collectively, a herd of 1.8 million dairy cows
23 and it, as you can imagine, with a herd that size
24 Waste Management Treatment handling is an issue.

25 The current approach from the industry is to

1 use a lagoon approach where liquefied manure stays in
2 lagoons for an extended period of time after which the
3 wastewater gets used to irrigate maturation crop for
4 the dairy cows.

5 In this project QBI will be demonstrating
6 their turnkey algae based system that can not only
7 replace the lagoon approach but also have added
8 ancillary benefits of the facilities.

9 The project will occur at the Van Ommering's
10 Farm in Lakeside, which is in San Diego country.

11 The technology itself consists of four
12 parts. The anaerobic pond, the highroad algae pond,
13 the algae settling pond and the final step is
14 (inaudible) pond. At the end of the cycle the system
15 produces water, which is high enough quality to
16 irrigate high value crops. It also produces biogas
17 that can be used on electricity generation and also
18 produces algae biomass that can be sold either as fish
19 food or fertilizer. And this project will be looking
20 at its use as fish food.

21 If the system is applied to 900 or so
22 dairies that have 500 dairy cows or more, you're
23 looking at a potential of generating over 2 billion
24 kWh of electricity per year; saving the industry over
25 \$200 million in energy costs while also producing \$150

1 million of biomass. All from a system that we
2 anticipate to cost about \$60,000 and have an annual
3 operation maintenance cost of \$20,000. Now these are
4 preliminary numbers but it gives you an idea to what
5 we're expecting.

6 The project term is 33 months and during the
7 course QBI will be providing \$860,000 in match
8 funding.

9 With that I conclude. If you have any
10 questions, I'd be happy to answer. And we seek your
11 approval for this project. Thank you.

12 CHAIRMAN WEISENMILLER: Thank you.

13 Commissioners, any questions or comments?

14 COMMISSIONER DOUGLAS: Well, just briefly,
15 this is a really promising project and hopefully it
16 achieves its goals because there's a lot of potential
17 benefits that could be realized by having this kind of
18 really turnkey water treatment method and the energy
19 generation and so on that goes along with it.

20 So I'm in strong support of this.

21 COMMISSIONER MCALLISTER: Lots of co-
22 benefits here because of the dairies have concentrated
23 resources but also concentrated environmental impacts.
24 So it seems like we're potentially taking on a lot of
25 issues with this project. And I think that it's

1 interesting and we're always - dairies are - in fact,
2 I was just looking at a map the other day of all the
3 dairies in Southern California. And there are massive
4 concentrations in very important areas that have
5 population nearby, have water issues. So, obviously,
6 it's a big sector that we need to find an innovative
7 solution for. So I think it's a good project for that.

8 CHAIRMAN WEISENMILLER: We have to keep
9 those cows happy.

10 COMMISSIONER MCALISTER: Happy cows for
11 California. So I'll move on this issue. Move on Item
12 23.

13 COMMISSIONER DOUGLAS: Second.

14 CHAIRMAN WEISENMILLER: All those in favor?

15 (Ayes.)

16 CHAIRMAN WEISENMILLER: So coming up to
17 Items 24 and 25 and I am on the UC Davis - or I am on
18 the Advisory Board to the UC Davis Energy Efficiency
19 Center. And I would say that I am following in the
20 footsteps of Art Rosenfeld, who was on it for a number
21 of years, and Anthony Eggart, who was on it for a
22 number of years. It's a great opportunity in dealing
23 with some of the real thought leaders like Amory
24 Lovins and Ralph Cavanagh on energy efficiency.

25 However, in this context I have been advised

1 by Chief Counsel that I should recuse myself. And
2 obviously I thank them for their diligent, hardworking
3 and, sometimes, creative or frustrating activities to
4 keep us out of trouble. But I tend to listen to their
5 advice. So I'll be back after that. And after that I
6 have a different set of issues but why don't we take
7 up Item 33 next, which is Aspen. And, again, the
8 history was that I once was with MRW. And MRW I guess
9 has done some work with Aspen for us in a different
10 area and not in this contract but, again, I think in
11 the interest of being conservative I will recuse
12 myself on that one, also.

13 COMMISSIONER DOUGLAS: All right, Chairman.
14 We'll let you know when you can come back.

15 We'll begin with Item 24, the Western
16 Cooling Efficiency Center. Possible approval of
17 Amendment 2 to Contract 500-08-042 with the Regents of
18 the University of California on behalf of the Western
19 Cooling Efficiency Center to add \$800,000 and extend
20 the contract by 23 months, and includes some changes
21 to update the contract terms and conditions. Golam?

22 MR. KIBRYA: Good afternoon, Commissioners.
23 My name is Golan Kibrya with the Energy Efficiency
24 Research Office. I'm here to seek your approval of an
25 amendment or an existing contract for the Western

1 Cooling Efficiency Center at the University of
2 California, Davis.

3 This Amendment will add \$800,000 to the
4 existing contract for the Center to undertake 4 new
5 projects.

6 The first project is to develop an
7 innovative process for sealing business envelopes. In
8 the proposed process a nontoxic polymer sealant will
9 be released with pressurized air inside the building
10 space and then as the air tries to escape through the
11 leaky spot it would deposit the sealant on the surface
12 and the process will continue until the opening is
13 blocked.

14 So this process will significantly reduce
15 the amount of time for sealing business envelopes and
16 also it would reduce the cost by a significant margin.
17 And, consequently, it would reduce the energy
18 consumption by the buildings.

19 The second project is to enhance the thermal
20 capacity of hydronic cooling and heating system by
21 adding a phase changing material with the water. So
22 the phase changing material can store a large amounts
23 of thermal energy because of its latent heat. So this
24 would reduce – significantly reduce the amount of
25 fluid required for a given size of a system. So this

1 would reduce the system size and the pumping power,
2 which would eventually reduce the cost of the system
3 and also it would improve the system efficiency.

4 The third project is to evaluate the
5 performance and cost-effectiveness of ground source
6 heat pump effectiveness of a new drilling technique
7 for installing ground source heat pumps. Ground
8 source heat pumps, as you know, they are energy
9 efficient but not cost-effective. This new technique
10 has the potential to significantly reduce the cost of
11 drilling for ground source heat pumps.

12 So this proposed technology would reduce the
13 initial cost of the ground source heat pumps. And
14 also, I know it has the potential to make them cost-
15 effective. This technology also has the potential to
16 be used for net zero energy buildings.

17 The fourth project involves developing a
18 water treatment process for grey water that could be
19 reused for evaporated cooling systems. The Western
20 Cooling Efficiency Center has partnered with Southern
21 California Edison and water treatment manufacturers
22 and evaporative cooling equipment manufacturers such
23 as ICI, Sealey and Beutler Corporation for this
24 project.

25 The cooling center plant and the treatment

1 products will be provided by the manufacturers, free
2 of cost, to the cooling center. All four projects, as
3 described here, will involve development and
4 demonstration of the technologies in the California
5 investor-owned utility service territories. Out of
6 the \$800,000, \$500,000 will come from PIER Electric
7 Budget and \$300,000 from the PIER Natural Gas Project.

8 I would like to request your approval of
9 this Amendment but before I conclude we have Dr. Mark
10 Madera, the Director of the Cooling Center, here in
11 the audience and he would like to say a few words
12 about the center.

13 COMMISSIONER DOUGLAS: Thank you. Please
14 come forward.

15 DR. MADERA: Hello. Good morning – or good
16 afternoon, now. I’m Mark Madera and I run the Western
17 Cooling Efficiency Center. I’m basically going to
18 speak on behalf of the Center, essentially to say that
19 we started in 2007 and I got there in 2008. And
20 basically it was projects like this that sort of
21 created – that made the Center work. And we wound up
22 growing from 3 people to 20 odd some people now
23 working at the Center on cooling efficiency and HVAC
24 efficiency issues.

25 And I guess what I really want to do it

1 thank the CEC because it's the CEC that made that
2 happen. It isn't all CEC money that's supporting it
3 but it was all CEC money that basically created the
4 ideas that we could then bring to utilities. And
5 we've done that now successfully on a number of
6 projects and we sort of created contests for
7 manufacturers and things like that. And have gotten
8 the utilities to step up and take that and run with
9 that. That's worked really well.

10 So this is just another, sort of, the next
11 round of that process, if you'd like. And I
12 definitely appreciate the fact that the Commission is
13 here to help support us try to move things forward in
14 California.

15 COMMISSIONER DOUGLAS: Thank you. Thanks
16 for being here. Questions or comments, Commissioners?

17 COMMISSIONER PETERMAN: I'll just comment
18 that I had the opportunity to visit the Cooling
19 Efficiency Center and also say the Lighting Center,
20 which will be the next one. I was very impressed with
21 both of them and, particularly, got to observe the
22 work that was being done on the sealing that you can
23 spray onto the walls. It's pretty fascinating stuff
24 and so I'm very happy to support this project.

25 COMMISSIONER DOUGLAS: I think that all of

1 these projects sound very good to me. And, of course,
2 in our efficiency work we really look forward to
3 technology innovation that allows us to do better
4 every time we move forward with standards adoption.
5 So I think this is very valuable. So is there a
6 motion on Item 24? Oh. Go ahead.

7 COMMISSIONER MCALLISTER: Just wanted to
8 chime in here. I think this – individually these
9 technologies are really – each of them has a lot of
10 potential. And, again, this is an investment in
11 figuring out what works and tweaking what we thinks
12 going to work so that it works even better and is
13 cost-effective and I think the Center has done a
14 really good job with that historically and hear a few
15 other opportunities to do that.

16 Big word going forward is also integration
17 and how we can build these technologies into a process
18 for new construction, for retrofits, looking at
19 spillovers into other areas. I think with the sealing
20 technologies there are all sorts of ways and other
21 kinds of environments. Not just buildings but also
22 other things that need sealing and tweaking this same
23 approach and technologies using new materials and new
24 delivery mechanisms, etc. I think allows us, the
25 collective us, to build on all those experiences that

1 we're gathering.

2 So I think it's – just a really good
3 synergistic thing and will, to sort of echo what Karen
4 said – what Commissioner Douglas said, there's a long
5 process, can be quite long, of developing fundamental
6 research, getting it good to go for the marketplace
7 and building the market. And all those things kind of
8 happen in parallel. And on the next round of Title 24
9 we won't have new technologies if they're not back,
10 going through this pipeline and getting ready for
11 battle out there in the marketplace.

12 So I think this middle area where it's
13 really, practically, applied, an applied focus, is
14 really critical for bridging that gap. And it's
15 really nice to have centers like the Cooling Center.
16 We have a big state with lots of smart people in it
17 and I think it's really fantastic that we can support
18 this work.

19 So I'll move to approve Item 24.

20 COMMISSIONER PETERMAN: I'll second.

21 COMMISSIONER DOUGLAS: All in favor?

22 (Ayes.) The Item's approved unanimously.

23 COMMISSIONER DOUGLAS: Item 25. California
24 Lighting Technology Center. Possible approval of
25 Amendment 2 to Contract 500-08-053 with the Regents of

1 the University of California, California Lighting
2 Technology Center to add \$1.5 million, extend the
3 contract term 24 months to March 30, 2015, and include
4 changes to update the contract terms and conditions.
5 Dustin Davis?

6 MR. DAVIS: Good afternoon, Commissioners.
7 I'm Dustin Davis with the Energy Efficiency Research
8 Office. This Agenda Item seeks your approval to amend
9 this contract to incorporate the following changes:
10 extend the contract term by 24 months to March 30,
11 2015, and add the following five projects totaling
12 \$1.5 million with an additional \$715,000 in match
13 funding.

14 The first project will be LED replacement
15 lamp performance testing. This project will conduct
16 tests on commercially available LED replacement lamps
17 and catalogue all the data to educate consumers about
18 the performance provided by the wide range of these
19 products in the market. And be used as a basis to
20 develop utility rebates, which are expected to rollout
21 next year. And minimum performance standards, which
22 these rebates would be based on, in order to qualify.
23 And, again, this is to help increase the market
24 adoption of LED replacement lamps. If more efficiency
25 LEDs were to replace 50 percent of the current

1 inefficient light sources about 5,000 gigawatt hours
2 could be saved each year in California.

3 The second and third project will be
4 developing next generation adaptive interior and
5 exterior lighting. These projects will integrate
6 dimmable light sources with a suite of next generation
7 controls such as advanced motion sensing technology,
8 daylight sensors, demand responsiveness and network
9 functionality, which operate as a complete and cost-
10 effective system configured for the unique performance
11 needs of interior and exterior applications. Industry
12 partners for these projects include California-based
13 companies Finelite, Watt Stopper and Lumewave. And if
14 more fixtures utilized multiple control strategies
15 over 7,000 gigawatt hours annually could be saved.

16 The fourth project we're looking to add here
17 will be an adaptive lighting demonstration in the
18 industrial agricultural sector. This project will
19 build upon previous PIER work that looked at
20 developing adaptive lighting solutions optimized for
21 this market sector but has yet to demonstrate the
22 technology to this project will go ahead and do the
23 demonstration in this sector, most likely located in
24 the Central Valley.

25 And, for the fifth project here, we're

1 looking to do market transformation activities. This
2 project will perform strategic activities, which aim
3 to remove market barriers and increase the market
4 adoption of all the technologies developed in this
5 program with activities that include curriculum
6 development for green job training, developing best
7 practice guides, compiling data in coordination with
8 the building standards office to make the case for
9 more stringent energy efficiency standards and
10 targeted outreach efforts.

11 With that I'll conclude and gladly answer
12 any questions. Thanks.

13 COMMISSIONER DOUGLAS: Thank you.
14 Commissioners, any questions or comments on this Item?

15 I'll just briefly say that obviously
16 lighting is an area of tremendous potential and we're
17 definitely seeing that with the move to LEDs. Oh
18 good. Go ahead.

19 COMMISSIONER MCALLISTER: Just - LEDs
20 represent - so we've seen in lighting I think sort of
21 waves in improvement in technologies and we're at the
22 next wave. And it's really important that we're - we
23 went from T-12s to T-8s. We selectively did T-5s. We
24 invented a lot of great ballast and we started to get
25 good electronic controls out there. We got responsive

1 occupancy and all that kind of stuff. This is sort of
2 the next wave of getting LEDs in there gives us all
3 the above plus the added efficiency. The quality of
4 light, the longevity of the lamps as labor costs
5 become a bigger component of the whole lighting
6 system, the longevity really becomes important. I
7 think the reason a lot of resources have gone to
8 lighting is that it's a huge portion of our overall
9 energy consumption. It's actually going down, I
10 believe, now and that's - it's really a harbinger of
11 hopefully of things to come where when we try to turn
12 this ship and really reduce our energy consumption.
13 And LEDs is a group of technologies that really allows
14 us to do that. That's partly why this is so exciting.

15 To the extent that we can achieve other
16 things like have the manufacturing done in California,
17 in the U.S., sort of is self-support in this. I think
18 it's really a powerful example that we'll be able to
19 use to demonstrate California's leadership but, most
20 importantly, to reach our goals. I'm strongly
21 supportive of - obviously, that project. There's some
22 other very interesting things in this package and,
23 again, getting the marketplace to adopt these
24 technologies. Creating the conditions where it can
25 and it's cost-effective and there's low perceived risk

1 is what it's all about and where we're headed with
2 this project.

3 So thank to the Lighting Center and to the
4 staff, really, for all its support in bringing this
5 forward. Thank you.

6 MR. DAVIS: Thank you.

7 COMMISSIONER DOUGLAS: Thank you,
8 Commissioner. Can we -- do we have a motion on this
9 Item?

10 COMMISSIONER MCALLISTER: So I'll move on
11 Item 25.

12 COMMISSIONER PETERMAN: I'll second.

13 COMMISSIONER DOUGLAS: All in favor?

14 (Ayes.) The Item's approved unanimously.
15 Let's go to Item 33. Thank you.

16 COMMISSIONER DOUGLAS: Item 33 is the Aspen
17 Environmental Group. Possible approval of Contract
18 700-11-027 for \$15 million with Aspen Environmental
19 Group to provide environmental and engineering
20 services for three years to support the Energy
21 Commission's power plant licensing, power plant
22 compliance, and transmission corridor designation
23 programs. Joseph?

24 MR. MERRILL: Good afternoon, Commissioners.
25 As introduced my name is Joseph Merrill. I'm with the

1 Citing Transmission and Environmental Protection
2 Division. And our staff is requesting today approval
3 of the contract 700-11-027 with Aspen Environmental
4 Group. As introduced, the contract will be a – would
5 be a 3 year, \$15 million technical support contract to
6 provide environmental and engineering services as
7 needed to support the Energy Commission’s staff power
8 plant’s licensing, power plant compliance and
9 transmission corridor designation program peak
10 workloads.

11 The Aspen Team includes Aspen Environmental
12 Group, the prime contractor, as well as a team of sub-
13 contractor team members. The contract was
14 competitively bid using the RFQ solicitation process.
15 And would be funded by approved Energy Facility
16 Licensing and Compliance Fund dollars and ERPA
17 dollars.

18 And I open the floor for questions.

19 COMMISSIONER DOUGLAS: I just wanted to make
20 a brief comment on this contract. In my view this is
21 a really important contract for the Energy
22 Commission’s Citing Program. And for, really, two
23 reasons.

24 One is the technical assistance that we get
25 through this contract and a number of very detailed

1 disciplines that come up in siting cases.

2 The other is the nature of the work. Power
3 plant applications are not staged evenly though the
4 year. Sometimes there are times where we handling a
5 very significant caseload and other times that
6 workload drops off. And we've certainly experienced
7 that with the Recovery Act cases, which had us really
8 all engines go and utilizing everyone here. The
9 contract and just the tremendous effort that we had to
10 put into getting through this tremendous bump in the
11 caseload.

12 That workload dropped down very
13 significantly after the ARRA cases were – after we
14 worked through the ARRA cases. And we also worked
15 through a number of natural gas cases at the same
16 time. We see that caseload ticking up again now. And
17 so as I sit here and monitor cases that are coming in,
18 as Lead Commission for Siting, that's one of the
19 things that I pay a lot of attention to.

20 And I'll just warn you now there's an uptick
21 coming in. So get ready. And one of the things that
22 this contract allows us to do is to manage the ups and
23 downs of the workload by having a resource to call on
24 when we do get more cases in than average or more
25 cases in than what we're able to handle with our staff

1 alone. We actually – and, of course, the nature – the
2 challenge for us is that when somebody's data – when
3 we find someone data adequate and we assign a
4 Committee. We then have a statutory 12 month deadline
5 and while we don't get everything through the Energy
6 Commission in 12 months we make a serious effort to
7 get cases through expeditiously and in 12 months when
8 we can. In the Recovery Act cases we actually got
9 cases through in less than 12 months. Pretty
10 complicated ones, even with heavy workload.

11 So this is a really important resource for
12 the Commission and as I noted I think that we're
13 already at a reasonably full – we already have a
14 reasonably full plate with the number of cases we have
15 in-house. We've got a couple solar thermal. We've
16 got a number of natural gas plants. But we have a bit
17 of an influx coming in I think between now, I'd say,
18 and the early fall.

19 So I think this will be an important
20 resource for us. I don't know if either of you have
21 any additional comments or if, Joseph, you'd like to
22 say anything?

23 MR. MERRILL: No. I know my presentation.

24 COMMISSIONER PETERMAN: I'll just offer a
25 comment or two. I think particularly at this time we

1 are Siting plants or doing environmental review of
2 plants that are using technologies that we don't have
3 much experience with in California. And that are in
4 sensitive locations and have large footprints and so
5 it's very important to make sure that we have the
6 resources to do both the analysis and then the
7 compliance for those projects that we approve
8 correctly. So I'm supportive of that.

9 It is not lost on me that this is a sizable
10 contract in terms of dollars and so I'm encouraging
11 staff to be, and I'm sure they are and the team that
12 works on Siting, to be cogniscent of – make sure
13 we're spending the money efficiently and using the
14 contract well. And to the extent that we find that we
15 don't need these contract dollars that we adjust
16 accordingly. That we're maximizing the value.

17 COMMISSIONER MCALLISTER: Yeah. I believe –
18 correct me if I'm wrong but this is also a work order
19 contract –

20 MR. MERRILL: It is.

21 COMMISSIONER MCALLISTER: It is. So that
22 allows staff to manage the workflow. When we contract
23 things out there's always kind of inherent tension.
24 You know the contractor is on the same team as us
25 because we're directing and working together and

1 trying to get the job done. But, also, they're a
2 contractor and need to be managed effectively and sort
3 of held to the fire when necessary. So that dynamic
4 is something we all acknowledge and need to be
5 cogniscent of.

6 I think the other – another important thing
7 to keep in mind here is that as I – I'm still new. I
8 won't be able to say that for much longer, probably.
9 But it'll be a lame excuse coming up here pretty soon.
10 But as I learn more about Siting and, sort of, from
11 the process perspective and also just the workflow.
12 The Aspen Team here has a lot of different expertise
13 on it that they can draw from. And really with all
14 these new technologies that Commissioner Peterman
15 referred to and the fact that each Siting case really
16 is unique and has unique factors associated with it
17 that need a deep dive. So having a stable of real
18 knowledgeable folks that we can call on and the
19 contractor can call on is really important. The idea
20 that we would have all of that very detailed expertise
21 on staff is a bit of a stretch. And so this is
22 appropriate to have this be outside resources that we
23 can manage and pull in as appropriate.

24 So I'm very supportive of this contract. It
25 is a big one but, again, we can manage the flow. We

1 can call on staff to manage the flow and make sure
2 that we're using that resource effectively. So
3 thanks.

4 COMMISSIONER DOUGLAS: Great. Thanks.
5 Thank you. Do we have a motion on Item 33?

6 COMMISSIONER PETERMAN: I'll move Item 33.

7 COMMISSIONER MCALLISTER: I'll second.

8 COMMISSIONER DOUGLAS: All in favor?

9 (Ayes.)

10 MR. MERRILL: Thank you.

11 COMMISSIONER DOUGLAS: Thank you, Joseph.
12 The Item is approved unanimously. And here comes the
13 Chair so we're in great shape. We'll get to the next
14 Item in just a moment.

15 CHAIRMAN WEISENMILLER: Good to be back. We
16 must be on Item 26. University Of California Irvine.
17 Possible approval of Contract 500-11-028 for \$397,236
18 with the Regents of the University of California.
19 This is PIER Electricity funding. This is Joe
20 O'Hagan.

21 MR. O'HAGAN: Good afternoon, Commissioners.
22 My name is Joe O'Hagan. I'm in the Energy Generation
23 Research Office in the R&D Division.

24 This proposed project that is before you
25 now, and the next two on the Agenda, were developed

1 through a solicitation that was limited to California
2 State University and UC Researchers to address
3 challenges facing greater bioenergy utilization in
4 California.

5 This first project is proposed to help
6 policymakers and stakeholders understand possible
7 pathways to greater utilization of bioenergy in
8 California and some environmental consequences of
9 these.

10 The proposed researchers are going to take
11 detailed spatial distribution of potential bioenergy
12 resources and from that information evaluate existing
13 technologies, develop a model of potential
14 infrastructure to support electricity generation,
15 transportation fuels and heating use of this
16 bioenergy. And from those that infrastructure
17 developed supply chain models as well.

18 In using that information they will develop
19 scenarios, a number of scenarios, on how these
20 resources could be utilized once again addressing the
21 electricity generation, transportation fuels and
22 heating. These scenarios will address air quality,
23 greenhouse gas emissions, fossil fuel utilization and
24 economic consideration. The modeling will
25 specifically do detailed analysis of air quality

1 ramifications for both the South Coast Area Air
2 District and the San Joaquin Valley.

3 I'm available for any questions.

4 CHAIRMAN WEISENMILLER: Thank you.

5 Commissioners, any questions or comments?

6 COMMISSIONER DOUGLAS: I think this seems
7 like really good work. I'll move approval of Item 26.

8 COMMISSIONER PETERMAN: I'll second.

9 CHAIRMAN WEISENMILLER: All those in favor?

10 (Ayes.) This Item passed unanimously.

11 CHAIRMAN WEISENMILLER: Let's go onto Item
12 27. University Of California Merced. Possible approval
13 of Contract 500-11-026 for \$258,383 with the Regents
14 of the University of California. This is, again, PIER
15 Electricity Funding. And this is Joe again.

16 MR. O'HAGAN: Thank you, Chairman
17 Weisenmiller. This project is to help assess air
18 quality ramifications using biomass - gasification of
19 biomass that is assisted by a plasma technology. As
20 you're aware this technology has great promise for
21 gasification processes. Yet, there has been very
22 little work done on the air quality ramifications of
23 this process.

24 The proposed project will look at the - not
25 only the characteristics of this synthesis gas

1 generated from this process but also evaluate how that
2 – what measures are needed to make that gas usable in
3 combustion engines or turbines. It'll also evaluate
4 the criteria or pollutants not only from the
5 gasification process but the utilization of the gas as
6 well. And then it'll also evaluate the economic
7 challenges facing use of this resource.

8 I'm available for any questions you may
9 have.

10 CHAIRMAN WEISENMILLER: Thank you.
11 Commissioners, any questions or comments?

12 COMMISSIONER MCALLISTER: Just a couple of
13 quick questions. So the plasma technology I think has
14 been explored for utilization in non-biomass
15 applications. Sort of for waste reduction generally.
16 I'm wondering sort of where this fits into the
17 spectrum of plasma research and is it at a campus or a
18 private lab. What's the – what does this look like?

19 MR. O'HAGAN: Yes. It's a – not confusing
20 my projects. It is at the University. There will be
21 a plasma turbine to utilize the gasification from the
22 plasma process and that's the match funding from the
23 corporation. And that'll also be at the University.
24 So it'll be mostly laboratory work and testing.

25 COMMISSIONER MCALLISTER: Okay. So mostly

1 lab testing and from there, presumably, some future
2 step or phase of the project we would look at a more
3 market based application of this if successful? Is
4 that right?

5 MR. O'HAGAN: Yes.

6 COMMISSIONER MCALLISTER: Okay. Thanks.
7 Seems valuable. So I'll move Item 27.

8 COMMISSIONER DOUGLAS: Second.

9 CHAIRMAN WEISENMILLER: All those in favor?
10 (Ayes.) Item 27 passed unanimously.

11 CHAIRMAN WEISENMILLER: Let's go on to Item
12 28. California State University Fullerton. Possible
13 approval of Contract 500-11-030 for \$164,201 with
14 California State University, Fullerton Auxiliary
15 Services Corporation. This is again PIER electricity
16 funding and this is Joe again.

17 MR. O'HAGAN: Thank you, Chairman. This
18 project proposed, as I mentioned before, it came from
19 this solicitation limited use UC and CSU researchers.

20 The purpose of this project is to develop
21 air quality information helpful for permitting
22 anaerobic digesters using food waste. As you know
23 this is a potential source, an excellent source, of
24 bioenergy. So far most anaerobic processes using food
25 waste also use other materials such as at wastewater

1 treatment plants and things. And there's a lack of
2 good information on larger scale food waste anaerobic
3 digestion of food waste. And this project will
4 attempt to provide the information needed for that.
5 They'll also look, once again, at the biogas generated
6 from the anaerobic digesters, what measures are needed
7 to clean up that biogas for utilization in turbines or
8 fuel cells or however it's used and then identify air
9 quality ramifications from these processes. They'll
10 also analyze the constituents of the waste processes
11 from the digester and ensure and identify any toxic
12 constituents.

13 The benefits of this project, of course,
14 will be to help us assist in developing anaerobic
15 digesters for biogas production in the state.

16 If you have any questions I'd be happy to
17 answer them.

18 CHAIRMAN WEISENMILLER: Thank you.
19 Commissioners, any questions or comments?

20 COMMISSIONER PETERMAN: I'll just offer one
21 comment. Am really pleased to see the diversity of
22 universities and colleges that we're working with.
23 And just in this Business Meeting alone, I've seen
24 maybe 5-6 different colleges and it's nice to see the
25 California State University at Fullerton engage in

1 this work.

2 COMMISSIONER MCALLISTER: I think the
3 diversity of different projects and technologies that
4 are sort of under a few common themes here like biogas
5 is clearly a place where there's just a lot of
6 tremendous potential and a lot of people thinking
7 about this. And there are going to be some really
8 great technologies that come out of this. So very
9 exciting to see the different approaches that are
10 being taken and the support of staff for that
11 portfolio approach. And always based on the technical
12 competence. So I don't know if you want to sort of
13 describe some of that a little bit further of the
14 staff effort here to make sort of – bring a variety of
15 projects forward that all have merit.

16 MR. O'HAGAN: Thank you for that. I
17 certainly can't take credit for this project as one of
18 my colleagues who is injured and has been out of work
19 for awhile, although she's been working from home part
20 time now. I did want to also mention that this
21 project will involve doing the measurement and
22 analysis on existing anaerobic digester from the
23 Inland Empire Waste Treatment Facility in Chino.

24 But we do, just getting back to the
25 diversity of projects, we do try to address – there

1 are so many issues, maybe not heard to come up with a
2 diversity projects trying to address everything.

3 COMMISSIONER PETERMAN: Just one other quick
4 observation about this. These series of grants relate
5 to electricity production and in the morning we had a
6 number of grants related to biogas or transportation.
7 So I'd be interested in going forward or learning
8 about whether PIER is engaged in funding any research
9 that looks at the suitability of biogas for each of
10 those types of uses and if there's a preferred use and
11 under what circumstances would one prefer to use the
12 biogas for transportation over electricity or vice
13 versa.

14 MR. O'HAGAN: Well, the first project I
15 presented, I believe it was the UC Irvine, 26, does
16 evaluate alternative pathways for bioenergy, including
17 biogas. And they both looked at electricity
18 generation transportation fuels and heating using
19 that.

20 COMMISSIONER PETERMAN: Great. I didn't
21 have to wait long to hear that answer. Thank you.

22 COMMISSIONER DOUGLAS: I will - I see
23 Commissioner Peterman reaching for the mic too but
24 I'll move approval of Item 28.

25 COMMISSIONER PETERMAN: I will second.

1 CHAIRMAN WEISENMILLER: All those in favor?
2 (Ayes.) Item 28 passed unanimously.

3 CHAIRMAN WEISENMILLER: Let's go on to Item
4 29. Lawrence Berkeley National Laboratory. Possible
5 approval of Contract 500-11-027 for \$1.1 million with
6 the U. S. Department of Energy. And this is PIER
7 natural gas funding. And Joe?

8 MR. O'HAGAN: Thank you, Chairman. Just as
9 a matter of background, late last year the Energy
10 Related Generation – Research Office released a
11 solicitation for the private sector and one of the
12 topics was to do research addressing greenhouse gas
13 emissions from the California Natural Gas System.

14 We didn't receive any proposals for that
15 topic so this interagency agreement with Lawrence
16 Berkeley National Lab was developed. And the purpose
17 of this project is to do additional methane emissions
18 measurements from the natural gas system. There's
19 been a number – amount of work done recently that some
20 of the measurements have a fair amount of uncertainty
21 like pressure release valves and compressor seals and
22 that sort of thing. So they'll do additional
23 measurements on those. We'll work closely with the
24 industry and take measurements of industrial
25 facilities. And then they'll also evaluate potential

1 mitigation measures, test their effectiveness and
2 evaluate the cost of those measures.

3 We've gotten initial, indication support,
4 from Southern California Gas and Pacific Gas &
5 Electric, as well as others. I'm available for any
6 questions that you may have.

7 CHAIRMAN WEISENMILLER: Great. Thank you.
8 Commissioners, any questions or comments?

9 COMMISSIONER PETERMAN: Do you have any
10 questions?

11 COMMISSIONER DOUGLAS: We got distracted.
12 Is there a motion.

13 COMMISSIONER PETERMAN: No.

14 COMMISSIONER DOUGLAS: Well, I would be
15 delighted to make a motion. I move that we approve
16 Item 29.

17 COMMISSIONER MCALLISTER: I'll second.

18 CHAIRMAN WEISENMILLER: All those in favor?

19 (Ayes.) Item 29 passes.

20 CHAIRMAN WEISENMILLER: Thank you. Let's go
21 onto Item 30. California Institute for Energy and
22 Environment. Possible approval of Contract 500-11-033
23 for \$1,193,197 with the Regents of the University of
24 California. And, again, this is PIER electricity
25 funding. And this is Joe. One last time.

1 MR. O'HAGAN: Yes. Thank you. Please note
2 that it is my last project on the Agenda.

3 [LAUGHTER]

4 MR. O'HAGAN: The purpose of this project is
5 to conduct research at a number of University of
6 California and California State University campuses on
7 the environmental consequences of future energy
8 development within the state.

9 As you know, with California striving to
10 meet our greenhouse gas emission control limits as
11 well as the Renewable Portfolio Standard and the
12 electricity system has already changed significantly
13 in recent years and will undoubtedly change more in
14 the future.

15 The campuses that are involved in this
16 research include 5 UC campuses, including Berkeley,
17 Santa Cruz, Riverside, Davis and Los Angeles. And the
18 2 CSUs are San Diego State and San Jose.

19 The purpose of the project therefore is to
20 develop information and inform decision makers on
21 potential environmental consequences of future energy
22 development within the state. There's 2 portions of
23 this project.

24 The first is to, under another PIER funded
25 project, scenarios of energy development within the

1 state are being developed by Professor Dan Kammen at
2 the University of California, Berkeley. This study
3 would fund an environmental evaluation of these
4 different scenarios basically identifying the
5 environmental footprint of these possible
6 developments. Including land amounts required, water
7 demand criteria, air pollutants. This will allow
8 decision makers to compare the environmental
9 consequences of these different scenarios.

10 The second portion of the project is a
11 result of a solicitation that was limited to UC and
12 CSU researchers to identify and start a feasibility
13 study on innovative technology tools or models for
14 evaluation of possible environmental consequences of
15 energy development we would see in the next 5-10
16 years.

17 This portion of the project was selected
18 from 19 proposals submitted by researchers and the 6
19 projects that have been selected will address small
20 hydropower generation, onshore and offshore wind, wave
21 energy, large scale solar development in the Southern
22 California desert.

23 And that ends my presentation. If you have
24 any questions.

25 CHAIRMAN WEISENMILLER: Thank you. Any

1 questions or comments?

2 COMMISSIONER PETERMAN: I'd just like to
3 thank staff for their briefings for me on these
4 projects over the last few months. And I'm
5 supportive.

6 COMMISSIONER DOUGLAS: I'll just add that
7 this is another project that I'd love to hear about as
8 it progresses or get a progress report on because it
9 does raise really interesting issues.

10 I'd be happy to move approval of Item 30.

11 COMMISSIONER PETERMAN: Was that a motion?
12 I'll second.

13 CHAIRMAN WEISENMILLER: All those in favor?

14 (Ayes.) This Item passed unanimously.

15 Thanks, Joe.

16 MR. O'HAGAN: Thank you very much.

17 CHAIRMAN WEISENMILLER: Good job on these.

18 Let's go on to 31. KEMA, Inc. Possible approval of
19 Contract 500-11-029 for \$3.5 million with KEMA, Inc.
20 to provide technical support. And this is PIER
21 electricity and natural gas funding and GRDA funding.

22 Leah Mohny, excuse me.

23 MS. MOHNEY: Good afternoon. My name is
24 Leah Mohny from the Energy Efficiency Research
25 Office. We're recommending approval of this agreement

1 with KEMA, Inc. to provide technical support to the
2 Commission's Energy Research and Development
3 Activities.

4 This contractor was selected as a result of
5 a competitive solicitation and the contractor's
6 ability to provide expertise as needed in up to 50
7 areas including building energy efficiency, industrial
8 agricultural and water efficiency, energy technology
9 systems integration, energy related advanced
10 generation, renewable energy technologies and
11 transportation.

12 Work will be assigned through work
13 authorization on an as needed basis. Each work
14 assignment will identify specific tasks and a budget.
15 Examples of work that could be assigned to the
16 contractor include: comparative evaluation of advanced
17 energy technologies, technical assistance with
18 proposal reviews, project development and research gap
19 analysis, project financial analysis and due diligent,
20 benefits assessment, appraisal, removal, storage, sale
21 and salvage of equipment and assistance with
22 technology outreach.

23 The length of this agreement is 32 months.
24 And I'm available for any questions.

25 CHAIRMAN WEISENMILLER: Thank you.

1 Commissioners, any questions or comments?

2 COMMISSIONER PETERMAN: No. I'll just
3 comment that these support contracts help us move
4 forward with our work. And the same comment that I
5 had with the Aspen contract is making sure that we're
6 using the contract money efficiently and focusing on
7 our highest need areas.

8 COMMISSIONER MCALLISTER: Yeah. Absolutely.
9 I think similar issues as the Aspen contract. In the
10 same way that Siting is particularly – this is not
11 Siting. This is other issues. Siting has its own
12 issues because it's much more of a potentially
13 contentious stakeholder. It's got especially, sort
14 of, constrained rules on it.

15 All these areas, we are pushing the envelope
16 and we need external resources that we can manage to
17 bring in the kind of expertise that we want to. That
18 we need to really understand the issues that are at
19 the margin of our understanding.

20 So this definitely fits in that mold.
21 Again, the contractor works for the Commission and
22 it's always the management versus the team aspect of
23 it. There's always something that needs managing.
24 That needs – it has to be explicit. And but we've
25 proven that we can do that. And I think that staff

1 has done a really good job at identifying resources
2 that they need to be effective and get the job done in
3 a reasonable timeframe so I'm very supportive of this
4 project.

5 So I'll move to approve Item 31.

6 COMMISSIONER DOUGLAS: Second.

7 CHAIRMAN WEISENMILLER: All those in favor?

8 (Ayes.) Item 31 passed unanimously.

9 MR. LEVY: Mr. Chairman? Can I just
10 interject? I heard there was an issue while I stepped
11 out to use the restroom. I apologize for being
12 absent. There's no issue with respect to CIEE or MR.
13 Kammen. Commissioner Peterman is -

14 COMMISSIONER MCALLISTER: I was actually
15 worried about that for myself. Not for Commissioner
16 Peterman.

17 MR. LEVY: It's not an issue. Commissioner
18 Peterman has no more conflict with CIEE because it's
19 more than 12 months since she received any
20 compensation from CIEE. And Mr. Kammen's affiliation
21 on either thesis committee is not a financial interest
22 in either respect.

23 COMMISSIONER MCALLISTER: Yeah. Okay.
24 Thanks. So just for the record, that's why I was
25 running around behind the scenes here. Trying to

1 figure out if there was an issue but it turns out
2 there was not.

3 COMMISSIONER PETERMAN: I appreciate your
4 concern, Commissioner. And something that I had to
5 look at as well in my first year so it's important to
6 be cautious and not to be in violation of those
7 conflicts of interest. I think it's important that we
8 continue to make sure we're doing our best to obey,
9 to not have a violation of those.

10 COMMISSIONER MCALLISTER: Thanks for paving
11 the way for me to get a quick answer there. So.

12 [LAUGHTER]

13 CHAIRMAN WEISENMILLER: Okay. So let's go
14 on to 32. KEMA, Inc. Possible approval of Amendment 1
15 to Contract 600-09-012 with KEMA, Inc. for \$200,000 to
16 add a task. And this is ERPA funding. Monica Rudman?

17 MS. RUDMAN: Good afternoon. My name is
18 Monica Rudman. And I lead the Energy Commission's
19 effort to evaluate its American Reinvestment Recovery
20 Act, or ARRA, funded programs.

21 I'm here today to request approval of an
22 Amendment to Contract 600-09-012 with KEMA, Inc. This
23 Amendment would add \$200,000 for Task 7 to estimate
24 net job creation, retention and other economic effects
25 attributable to the Energy Commission's ARRA programs.

1 In addition, it would add a subcontractor
2 update to some of the contract terms.

3 The Energy Commission has been charged by
4 the Department of Energy, DOE, with administrating
5 over \$314 million of ARRA funds. We have distributed
6 these funds throughout California by developing and
7 implementing and programs to increase the energy
8 efficiency of public, commercial and residential
9 buildings to train workers as well as to increase the
10 manufacturing clean energy technologies.

11 In recognition of the importance of good
12 stewardship of public funds, in April 2010 the Energy
13 Commission executed a contract with KEMA, Inc. to
14 conduct evaluation measurement and verification or as
15 we say EM&V, activities of our ARRA programs. The
16 broad goal of EM&V is to assess the success of
17 programs, to provide accountability and to document
18 benefits.

19 Deliverables from the contract provide
20 independent verification of the program's
21 achievements. In addition, contract activities
22 provide evidence that federal funds were wisely spent.

23 KEMA staff will visit project sites to
24 verify appropriate end use technologies were actually
25 installed and energy savings accurately reported.

1 Another program specific evaluation objective includes
2 assessing workforce training efforts.

3 DOE recommended that states use certain
4 metrics when assessing ARRA program performance.
5 These are energy demand savings, renewable energy
6 capacity and generation. Carbon emission reductions
7 and direct jobs. Direct jobs are defined as jobs for
8 which wages and salaries are either paid for or
9 reimbursed with ARRA funding. Funding recipients
10 report these to the Energy Commission and DOE via
11 monthly electronic reports.

12 However, staff has worked on the EM&V effort
13 we recognize that the ARRA funding has more widespread
14 economic impacts to California than just direct jobs.
15 There have been jobs created or retained by suppliers
16 of the energy efficiency equipment. Also energy
17 savings from installing equipment lowers the utility
18 bills of program participants, thus freeing funds to
19 spend on goods and services.

20 These jobs and savings represent additional
21 economic impacts to our state.

22 Approval of this proposed Amendment to
23 Contract 600-09-012 will enable the Energy Commission
24 to obtain a more complete understanding of the
25 economic impacts of our program. It will allow the

1 KEMA team to estimate the number of indirect and
2 induced jobs in addition to reporting direct jobs.
3 You will also – they will also be to assess some
4 regional impacts and determine additional economic
5 impacts such as changes in gross state product.

6 KEMA, working together with an experienced
7 subcontractor, Economic Development Research Group,
8 plans to utilize a macro economic model developed by
9 Regional Economic Models Inc. to develop – to perform
10 a dynamic input output analysis based on ARRA program
11 spending. The Department of Energy will utilize this
12 same model to conduct economic evaluations of the ARRA
13 programs nationally.

14 Approval of this Amendment will allow the
15 Commission to maintain consistency with the DOE
16 evaluations.

17 In conclusion, assessing impacts of the ARRA
18 program on the California economy and jobs is an
19 important and difficult task with many technical
20 complexities. I believe we have a solid approach and
21 team and urge you to approve the proposed Contract
22 Amendment. Thank you.

23 CHAIRMAN WEISENMILLER: Thank you. First,
24 any public comment?

25 MR. EMBLEM: Good afternoon.

1 CHAIRMAN WEISENMILLER: Good afternoon.

2 MR. EMBLEM: My name's Eric Emblem. I'm
3 here with the Joint Committee on Energy and
4 Environmental Policy. This is a Committee that was
5 set up by the Sheet Metal Workers of the Western
6 States Council, including California, Arizona, Nevada
7 and Hawaii.

8 We have 15 training facilities. In the
9 state of California we spent \$60 million a year
10 training workers. And I testified here back when the
11 ARRA funds came. And I pointed out to the then
12 Commissioners, and Ms. Douglas was the Chair at that
13 point, that it's very important that we track these
14 funds. And that we track how they're spent. And that
15 the jobs be real jobs. And that they do what the ARRA
16 funds were committed to do and that was to create
17 career paths to the middleclass. And that's very
18 important today to us as it was then. So this study
19 has a particular interest to us and number one I'm in
20 favor of it after I've heard the scope of it. We're
21 not against it obviously, data is good.

22 I think I'd like to suggest some things as
23 we're doing this. And this may already be in the
24 matrix that was referred to by DOE. And that is we
25 discern the quality of the jobs that have been

1 created. That we determine the range of sallies and
2 wages of the workers that are in those jobs. That we
3 determine the ratio of people placed to training
4 given.

5 The Energy Commission also had a Clean
6 Energy Job Program. And I don't know if it's tied to
7 this and I don't know what the length may be but
8 possibly there should be a link between the ARRA funds
9 and this. Because I see the effects of this report and
10 the use of this data going far beyond just ARRA funds.

11 I sit on a Committee at the Western HVAC
12 Performance Alliance and I Chair the Workforce
13 Education and Training Committee of that group. And
14 they are currently working on tying training in the
15 future to energy jobs in efficiency, particular
16 portfolio programs at the PUC. So, again, this data
17 that is gathered in this report will be very useful to
18 us as we deliberate how do we look in the future at
19 portfolio programs and work with how we implement
20 that.

21 And I think with that, that's my point.
22 Again, I'm in favor of this. I think it's money well
23 spent and I think that KEMA is a great contractor and
24 will do a great job. But just some thoughts to put
25 into it.

1 And possibly, the last thing is, maybe some
2 kind of Advisory Group that would work with them on
3 putting this report together and kind of as a sounding
4 board before the complete report is issued. Thank you
5 very much for your time.

6 COMMISSIONER DOUGLAS: Thank you, Eric.
7 Thanks for being here. Thanks for your patience in
8 sitting through many, many, many hours of our Business
9 Meeting to get to this Item.

10 I remember very well the early days of the
11 ARRA program, or at least I think I remember.

12 MR. EMBLEM: Very busy for you.

13 COMMISSIONER DOUGLAS: It was a really busy
14 time. And a really exciting time and we were at the
15 precipice. WE are moving forward with a tight timeline.
16 Implementing programs, some of which – many of which
17 we had never implemented before. Others which we were
18 scaling up in ways we never had before. And the EM&V
19 contract that we entered into with KEMA early in that
20 process that Monica referred to was step one in our
21 effort to make sure that in the mad rush of doing what
22 needed to be done to scope program to go through the
23 stakeholder process and administer contracts and
24 administrate solicitations and just go through all of
25 the work that needs to be done to create programs – to

1 do our part of creating programs and work with people
2 outside of this building who are implementing them.
3 That we didn't lose sight of the lessons that could be
4 learned from the experience. And that we would emerge
5 at the end of this experience with some understanding
6 of where the goals were achieved, of where the goals
7 were not, if not - why not. So that we can actually
8 build on and learn from the ARRA experience

9 And in the course of working with staff on
10 the - on KEMA's work, it also became clear that we had
11 not asked enough of the questions and the types of
12 questions that you're asking. It also became clear
13 that those are not questions that are very easy to
14 answer sometimes. For example, in a residential
15 retrofit program, we have one program administrator,
16 let's say it's a local government, and there are
17 rebates available on the program. And maybe they're
18 provided by a utility or maybe they're provided
19 through ARRA funding, through the local government.
20 There are sort of QAQC requirements but a contractor
21 under that program registers, gets on the list, but
22 then sort of the question of is that contractor hiring
23 up, what kinds of - so what are the salaries and what
24 are the salary levels and when are they hiring from
25 the training programs. Those are some things that are

1 not as easy to get to and they were certainly – it was
2 certainly information that the questions we asked
3 initially were not going to help us answer very
4 thoroughly.

5 Now I've got to say as I sit here, I have
6 some doubt as to whether the scope that Monica talked
7 about, or maybe she can help me understand this,
8 actually gets us all the way to your questions. It
9 was very clear that the DOE formulas did not really
10 help us answer these questions either, and in some
11 really glaring ways.

12 And my favorite example of a really glaring
13 lack of answer is the manufacturing program that we
14 had. The Clean Energy Business Financing where we
15 provided low interest loans to California
16 manufacturers who expanded production lines and hired
17 people and ordered equipment and so on and so forth
18 but we got to count zero jobs for those because buying
19 equipment is not a job. So we knew that we wanted to
20 be consistent with DOE and count the way that DOE
21 wants us to count but also to deepen our understanding
22 of the real world impacts of the ARRA programs.

23 I want to make sure that you don't walk out
24 of here more optimistic than you should be about
25 everything that we'll be able to get to with this

1 \$200,000 augmentation about maybe Monica you can help
2 with that.

3 MS. RUDMAN: We are looking at jobs from
4 several different perspectives and attacks. So this
5 is an economic model, which will be more looking at
6 the larger economic impacts hopefully with some
7 regional information. But, in addition, we've already
8 scoped out and we're already underway doing some type
9 of studies where we're looking at, what we call our,
10 Clean Energy Workforce Training Programs. And we've
11 done some interviews with program participants and are
12 asking them about the impact of the training on their
13 ability to get jobs and find jobs. And we've also
14 interviewed some employers to see how that program is
15 going out. So we're studying that. So that is
16 something that will be part of the final report.

17 And, in addition, within each of the other,
18 kind of, evaluations we're also looking at doing some
19 surveys of program participants to get a better
20 understanding of jobs. So that will provide the more
21 anecdotal information that I think you're interested
22 in.

23 But this economic study will take a look at
24 all the programs with a consistent type of approach
25 and so that we can characterize the jobs in a way

1 that's consistent with what DOE is doing and based on
2 similar definitions and similar spending trends and
3 similar variables. So.

4 MR. EMBLEM: Just in -- kind of in response,
5 and I hear what you're saying because I've done
6 research in the past and I've funded it. It's very
7 expensive.

8 But I do want to say two things. During ARRA
9 something happened with public policy in Washington
10 and it shifted. When it shifted, public policy in
11 Washington the DOE direction shifted along with it.
12 But California didn't shift. In fact with prop 23, we
13 said we're on the road to efficiency and to zero net
14 energy and we're going to stay on that road. So if
15 the scope of this doesn't get there, perhaps we should
16 look at working with KEMA on some kind of an expansion
17 later. Because this idea with the utilities and the
18 PUC on this in-room decision that they have out right
19 now and the program implementation plans. When we
20 talk about workforce standards, it's not a blind issue
21 now. It's in the decision. It's in the PUC's
22 decision.

23 So last week I was meeting with the Bay Area
24 Council of Low Income Groups talking about low income
25 programs and implementation. And talking about wages

1 of workforce didn't get the ire I used to get before.
2 They understand it. So the data that can be gathered
3 from this. I know the DOE has their matrix and we're
4 looking at that. We want to at least comply with
5 that, I agree. But in California we're setting the
6 standards. We're setting the benchmarks for the
7 future. Not only for California but for other areas
8 that are looking at implementing an aggressive plan
9 like we have.

10 So, I just want you to broaden your
11 thoughts. Think about it a little bit and say, "How
12 can we take this study from a workforce and workforces
13 standards perspective, utilize the data gathered, to
14 make the Clean Energy Workforce Programs more vibrant
15 and more applicable to energy efficiency and
16 greenhouse gas emission as we move forward."

17 COMMISSIONER PETERMAN: Thank you for those
18 comments. I'll just also add that in addition to this
19 contract there are other forms as you're thinking
20 about workforce development at the Commission.

21 We had a workshop on May 29 as part of the
22 2012 IEPR and specifically as part of development of
23 the renewable strategic plan on job opportunities and
24 workforce development for the renewable sector. And
25 many of the panelists were panelists who work on job

1 training and workforce development across all clean
2 energy but including energy efficiency and a lot of
3 the discussion actually focused around energy
4 efficiency and there were some common themes. One
5 that there's training going on but there's a bit of a
6 disconnect between the job opportunities and the
7 training, how do we better match those. There was a -
8 the first panel was on the quantification of jobs and
9 some of the advancements as well as the challenges
10 with that. And so as part of that work we'll be
11 providing some detailed tactical recommendations for
12 how the state needs to move forward to meet some of
13 its 2020 goals in particular. Particularly, even
14 though the focus of the report is on renewables, I
15 think that you could think the recommendations would
16 also be well suited for energy efficiency or could
17 encompass both. And so I would say look towards that
18 when it comes out in draft and also offer your
19 comments as well. The other Commissioners will have
20 the opportunity to provide their insight.
21 Particularly another interest of focus for us as well.

22 MR. EMBLEM: Great. Thank you very much.
23 Thank you for your time.

24 COMMISSIONER MCALLISTER: Mr. Emblem, thanks
25 very much for coming in. I, again, appreciate that

1 and agree with what you said. We definitely have to
2 do something that synthesizes that takes the same
3 approach as DOE and their overall evaluation.

4 Like Commissioner Douglas said, the \$100,000
5 per job – per one job per \$100,000 of DOE money to go
6 toward something doesn't even begin to sort of scratch
7 the surface of what a job actually is. And so I think
8 what we – and DOE has evolved. They have a lot of new
9 people. They have a lot of turnover. They've
10 learned, I think, relatively quickly for a federal
11 agency and are starting to think about these issues as
12 well. And modify what they're doing.

13 But I do agree with you. California really
14 has to be asking the deep questions. This is like a
15 group of social questions. It's economic. It's
16 regional. It's local. And I was, until recently, on
17 the more your side of that fence. And I feel like the
18 definition of what good training is – the state gets a
19 bunch of money they have to sort of get out into the
20 marketplace. And the temptation is definitely is to
21 do relatively brief training to a lot of people. That
22 lets you check a lot of boxes. So institutionally
23 that's kind of the easiest thing to do.

24 We all know how much pressure we were under
25 during the ARRA – I give Commissioner Douglas and the

1 rest of the Commissioners here, they were fighting
2 that fight but particularly Commissioner Douglas, who
3 was leading a lot of the ARRA work, for getting that
4 done. This was just a huge collective effort here at
5 the Commission from all I understand. I was kind of
6 on the outside looking in at the Commission but also
7 regionally trying to get the projects done on the
8 ground. It was – there were a lot of barriers.

9 But one thing we learned very clearly, well
10 two things. One there are different categories of
11 potential workers in the energy efficiency sector that
12 have different needs. Some of them need more
13 education. Some of them need basic education. The low
14 income communities are very different from some of the
15 established contractor sectors, etc. There are a lot
16 of ways you have to parse it to really get to a kind
17 of a useful result.

18 And then also high quality training of a
19 fewer member of people, at least in my case, where I
20 was in. And my understanding is that this is pretty
21 uniformly true, is that high quality in-depth training
22 of fewer people better matches the marketplace today,
23 roughly. Hopefully that's going to change as the
24 marketplace scales, right. But we have to have
25 quality out there.

1 So I think that there are ways to accomplish
2 this that aren't just throwing a big net and what
3 turns up. They're actually being targeted and really
4 handholding in the near-term so that we have the basis
5 for a marketplace that works and provides people
6 quality.

7 And on the energy efficiency side and the
8 building retrofits or the building performance for
9 events going forward I think that's aligned with what
10 you said there. Obviously there are a lot of
11 stakeholders here it's a conversation that's going to
12 be transparent and open and in the public. But I
13 think the – a discussion that gets us to some
14 recommendations of what training should look like
15 going forward is really important to have. And I
16 invite you to participate in that and the forums that
17 we have here at the Commission. And, also, that
18 decision over at the PUC it's a final decision and
19 they're moving forward on it. And I think on July 2
20 the portfolios are due to the Commission and we'll see
21 what happens on the utility side as far training.

22 I think and agree that the agencies need to
23 be well coordinated with that. So those discussions
24 are to be coming and really important to get right
25 this time.

1 MR. EMBLEM: Right. Those are very
2 thoughtful suggestions there. Just on this Workforce
3 Education and Training Committee that I'm working with
4 at the Western Performance Alliance, which was
5 commissioned by the PUC. We're looking at the next
6 cycle. And our job is to identify training gaps
7 between now and zero net energy. So it wasn't
8 necessarily to look at the status today. It's what do
9 we need to do with training to get us to zero net
10 energy. And if there's some lessons to be learned
11 from ARRA, from a quick implementation of funds, we
12 need to hear that. And our groups need to use that
13 data as we make recommendations that ultimately will
14 be in the report that will go in the next program
15 cycle.

16 So I just think that all of this kind of
17 fits into programs in the future.

18 COMMISSIONER DOUGLAS: I think it makes a
19 lot of sense. And I think we'd be very happy to
20 follow up with you and talk more about how to do this.

21 MR. EMBLEM: Great. Great. Thank you much,
22 Commissioner. Appreciate it. By the way, I think
23 your Agenda today was great. I think everything that
24 you're working on is terrific. Makes me feel good.
25 Makes me feel proud.

1 COMMISSIONER DOUGLAS: Thank you. Can't
2 beat that. So I will move Item 32.

3 COMMISSIONER PETERMAN: I will second.

4 CHAIRMAN WEISENMILLER: All those in favor?

5 (Ayes.) Item 32 passed unanimously. Again,
6 thanks for your comments.

7 CHAIRMAN WEISENMILLER: Item 34. Minutes.

8 So we have the May 31 Business Meeting Minutes.

9 COMMISSIONER MCALLISTER: I'll move to pass
10 Item 34.

11 COMMISSIONER DOUGLAS: Second.

12 CHAIRMAN WEISENMILLER: All those in favor?

13 (Ayes.) Business Meeting minutes are
14 approved.

15 CHAIRMAN WEISENMILLER: Lead Commissioner or
16 Presiding Member Reports.

17 COMMISSIONER PETERMAN: I'll give just a
18 quick update on a couple of things. We had the
19 seventh of seven workshops for the Renewable Strategic
20 Plan, as part of the 2012 IEPR, this week.

21 Each Workshop has had excellent
22 participation. Excellent panels. Thanks for all the
23 staff involved for making that happen. We'll be
24 working towards getting out recommendations for public
25 comment and review later this year. And there will be

1 a public workshop on that document.

2 I'll also just note that I was in Burbank on
3 Friday at an event at the Burbank Airport on Electric
4 Vehicles, which was co-sponsored by Burbank Water and
5 Power. And it was an event that was geared in
6 particular towards the studio community in the LA
7 area. And studios use a lot of electricity and have a
8 lot of transportation needs. It could be upwards of
9 5,000 people on a studio lot at a given time. And
10 some of the peak hours they have usage of 5-7
11 megawatts, that's bigger than some of our small public
12 utilities. And so there's a real opportunity for
13 renewables and alternative vehicles on these sites.

14 And we also talked about too that studios
15 present us with an image of how to live our lives on
16 television and movies and increasingly want that image
17 to reflect the cleaner, sustainable future that we
18 want. So I think in my comments I said something
19 along the lines of, "Whether on Wisteria Lane or
20 Sesame Street, there's - it makes sense to have solar
21 PV and energy efficient appliances and cleaner cars."
22 And so looking forward to doing similar events.

23 I'm looking forward to going to San Diego
24 tomorrow. I'm going to be meeting with some
25 environmental justice groups. And just a part of the

1 continued communication we want to have with
2 communities around the state. And in the morning I'll
3 be speaking at a workshop on making the community EV
4 ready, as well. So lots of exciting things happening.

5 I'll also add one other thing which is I
6 want to make sure we acknowledge that Friday will be
7 the one year anniversary of our Executive Director.
8 His contribution to the Agency has been tremendous.
9 You can see – there are many visible examples of that.
10 Including the increasing greening we're having of our
11 halls. If you haven't been by the Commission
12 recently, it's lighter. It's brighter. It's airier.
13 And many things that he has done, that his staff have
14 done, that are behind the scenes but are making us run
15 increasingly like a well oiled machine. And so thank
16 you for his service to the Commission.

17 CHAIRMAN WEISENMILLER: Thanks. I'll be
18 very brief. First, I'll be in San Diego too tomorrow
19 but I'm – I've been heavily involved in the summer of
20 2012 issues. So the flex alerts are kicking off
21 tomorrow and so you may see or hear about that or see
22 or hear about me talking about that while you're in
23 the press tomorrow.

24 COMMISSIONER MCALLISTER: Chairman
25 Weisenmiller, I'll be in San Diego too tomorrow.

1 CHAIRMAN WEISENMILLER: Oh wow. Are we on
2 the same plane?

3 COMMISSIONER MCALLISTER: I'm just going
4 home.

5 [LAUGHTER]

6 CHAIRMAN WEISENMILLER: And so, at any rate,
7 for reference, we've had a very good series of
8 workshops. We've had 7. I'm always staggered when I
9 think back at one of the first IEPRs was one that
10 Geesman did and it was a main IEPR, not off-cycle, but
11 they had 60 some workshops in one year. And
12 certainly, I told John last year when I was doing it,
13 I was not going to be beat that record. We kept more
14 to 30-some. But certainly would encourage Andrew to
15 think less is more.

16 COMMISSIONER PETERMAN: Chair, I believe
17 earlier in the year I said there will be no more than
18 15 and we've had a total of about 9. So coming in
19 under there's still room for opportunity.

20 CHAIRMAN WEISENMILLER: Oh yeah. I thought
21 you were going to point out that some of those were my
22 fault. And I guess we do have the one coming up on
23 infrastructure in Southern California. But anyway -

24 COMMISSIONER PETERMAN: We're still going to
25 do it.

1 CHAIRMAN WEISENMILLER: We're still going to
2 do it.

3 COMMISSIONER DOUGLAS: I really have nothing
4 to report. Although all this talk of San Diego
5 reminds me of when I ran into Commissioner Peterman,
6 you know, at 5 a.m. at the line and we both rode in
7 the same plane to San Diego to our great surprise. So
8 anyway, wish you all happy travels tomorrow. That's
9 it.

10 COMMISSIONER MCALLISTER: So tomorrow I'll
11 actually be at Miramar for a dedication of a
12 generation facility at an interesting project that
13 they've got down there. So that's not all home time
14 but I'm going down a day early for that.

15 I actually don't have a report. The energy
16 efficiency – there's lots of activities going on but I
17 think the – I'm actually just really happy that the
18 particular areas that I'm going to be really focusing
19 on are energy efficiency, natural gas, working with
20 Commissioner Peterman in the near-term, and then also
21 gearing up for the IEPR next year. So definitely –
22 obviously, lots of expertise here that I'll be drawing
23 on from the other Commissioners but defining what the
24 sort of core focuses are going to be for the IEPR is
25 really important. And I think a lot of the

1 conversation that we've been having at the Business
2 Meetings and in some of the workshops will give me a
3 much better idea of where the kind of overlapping
4 issues are that really need a deep dive for the IEPR.
5 And I think there's a lot of excitement to take some
6 of these issues on and really get some policy
7 recommendations.

8 The other thing that I'm discovering – you
9 all know this but for me, I've always liked having the
10 IEPR as a reference document but I think the traction
11 that it has and the visibility that it has across the
12 state is huge. And the legislature really relies on
13 it. And the advisors over there really rely on it.
14 And other agencies rely on it. I guess that puts that
15 document in a really interesting position to have a
16 big impact on the state and help us achieve our common
17 goals. I really appreciate the process and the
18 expertise here on the dais on that. So thanks.
19 Thanks, Commissioner Peterman, this year particularly.

20 CHAIRMAN WEISENMILLER: Chief Counsel's
21 Report. Item 36.

22 MR. LEVY: Good afternoon, Commissioners.
23 I'd like to take the opportunity to briefly introduce
24 my intern team for this summer and ask the 3 of them
25 stand up and step forward please.

1 CHAIRMAN WEISENMILLER: Please.

2 MR. LEVY: Once again we have a bright team
3 of attorneys, or future attorneys, who are coming here
4 and volunteering their services to the California
5 Energy Commission. The first one I'll introduce is
6 Margaret Moody. She has a Master's Degree in
7 International Relations from Yale. She's working on
8 PhD coursework at UC Santa Barbara in Comparative
9 Culture Perspectives. Her Bachelors was Magna Cum
10 Laude from SF State. She's in her third year -
11 starting her third year at UC Davis King Hall. And
12 she had a judicial externship for Justice James
13 Lambden in the 1st District Court of Appeal. I'll note
14 that she is fluent in Spanish, Italian, German,
15 French, Sweden - Swedish, and Persian. So I think we
16 can handle anybody who comes into the building this
17 year.

18 Jonathan Kendrick has his Bachelor's Degree
19 in International Political Economy from Puget Sound in
20 2003. He is also starting his 3rd year at UC Davis
21 King Hall. He had an Honors Internship with the
22 California Department of Justice Public Rights
23 Division and he is also - he was a Peace Corps
24 volunteer in Ukraine and he is fluent in Ukrainian.
25 So we've got another one.

1 Adam Regele had his Bachelor of Sciences
2 from – in Environmental Science from UC Berkeley.
3 He's also a 3rd year, starting his 3rd year of law
4 school but at Hastings College of the Law. He was a
5 legal intern at the California Public Utilities
6 Commission, Office Manager at Climate Action Reserve,
7 a Policy Assistant for the Climate Registry and a
8 Board Member of the Berkeley Energy Alliance for
9 Renewables. And I am told, and have it on really good
10 authority, that he is exceptionally fluent in English.

11 [LAUGHTER]

12 MR. LEVY: Please welcome this team for the
13 summer.

14 CHAIRMAN WEISENMILLER: Thank you. Thanks
15 all of you for your service this summer. And we
16 appreciate the opportunity to interact with you on
17 stuff. So, again, welcome aboard.

18 Okay. Thirty-seven, Executive Director's
19 Report.

20 MR. OGLESBY: Well, very briefly, but first
21 thank you Commissioner Peterman for your kind words.
22 And it's been a privilege to work here for the past
23 year as Executive Director.

24 I'd like to observe that this is the last
25 meeting of the fiscal year for the Commission. I'd

1 like to recognize the stamina of the Commissioners in
2 moving an Agenda that discharged all of our
3 obligations to fund worthy projects for both the PIER
4 program and the AB 118 program. All of that in spite
5 of having a bar minimum quorum for most of the year
6 and also complicated by some challenging regulatory
7 work that we're mixed – that were part of the mix.

8 I also want to recognize that, in completing
9 the fiscal year two weeks before the end of the fiscal
10 year, that staff did a beyond fantastic job of
11 readying these items and preparing them. It takes a
12 lot of work to bring the work to you for your
13 consideration.

14 And, I'd have to add a difficulty factor,
15 because we began this year with a great deal of
16 workload to move ARRA projects, which we've reported
17 frequently as we've gone through the year. But where
18 we stand now is having fully discharged our
19 obligations for the PIER and the AB 118 program. Some
20 demanding regulations on time and the ARRA set program
21 and the Appliance Rebate Program. And as many as some
22 other projects as well. But I wanted to observe that
23 as a wrap up to the end of a challenging fiscal year
24 that ended successfully. And with a couple of weeks
25 to spare.

1 CHAIRMAN WEISENMILLER: Thanks again.
2 Thanks again for your service this year. Public
3 Advisor's Report.

4 MS. JENNINGS: I have nothing to report.
5 Thank you.

6 CHAIRMAN WEISENMILLER: Public Comment.
7 This meeting is adjourned.

8 [Meeting is adjourned at 2:56 p.m.]

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