

STATE OF CALIFORNIA

California Energy Commission

Minutes of the February 25, 2015, Energy Commission Business Meeting

The meeting was called to order by Chair Robert B. Weisenmiller. The Pledge of Allegiance was led by Chair Weisenmiller.

Present:

Robert B. Weisenmiller, Chair

Karen Douglas, Commissioner

J. Andrew McAllister, Commissioner

David Hochschild, Commissioner

Janea A. Scott, Commissioner

1. CONSENT CALENDAR. (Items on the Consent Calendar will be taken up and voted on as a group. A commissioner may request that an item be moved and discussed later in the meeting.)
 - a. STION CORPORATION. Proposed resolution approving Amendment 1 to Loan Agreement 002-10-CEB for a novation in which Stion Corporation (formerly known as HETF Solar, Inc.) will assume all obligations and liabilities of the original borrower now known as CM Manufacturing Inc. Contact: Jacob Orenberg.
 - b. SUBPOENA FOR PROVISION OF DATA. Consideration and possible adoption of subpoena directing the California Independent System Operator to provide data needed to evaluate generation and transmission outages, congestion, and load to assist Energy Commission staff in assessing resource adequacy and system reliability. Contact: Caryn Holmes.
 - c. SOUTHERN CALIFORNIA PUBLIC POWER AUTHORITY. Possible approval of the Executive Director's recommendation that the Southern California Public Power Authority's contracts with ORNI 37 LLC, ORNI 47 LLC, and County Sanitation District No. 2 of Los Angeles County be found compliant with the Emission Performance Standard for Local Publicly Owned Electric Utilities pursuant to SB 1368 (California Code of Regulations, Title 20, Sections 2900-2913). Contact: Michael Nyberg.
 - d. MEMORANDUM OF UNDERSTANDING: STATE LANDS COMMISSION. Possible approval for the Executive Director to renew the Memorandum of Understanding with the California State Lands Commission regarding the coordination of power plant permitting activities. Contact: Roger Johnson.
 - e. VIEW, INC. Proposed resolution approving Amendment 1 to Agreement PIR-12-024 with View, Inc. for a budget reallocation to correct errors in the original budget and reallocate funds to personnel and related costs. The grant agreement amount, work scope, and term remain unchanged. The purpose of this project is to demonstrate a commercial building retrofit that integrates dynamic daylighting and passive cooling/heating to achieve zero net energy. (PIER natural gas funding) Contact: Jackson Thach.
 - f. NONRESIDENTIAL BUILDING ENERGY USE DISCLOSURE PROGRAM (14- EUDP-EMY-01). Proposed resolution readopting as an emergency regulation section 1682(c) of Title 20 of the California Code of Regulations, which sets forth the compliance schedule for the Nonresidential Building Energy Use Disclosure

Program for buildings of at least 5,000 and up to 10,000 square feet, and readopting the Finding of Emergency pursuant to Government Code section 11346.1. Contact: Daniel Johnson.

- g. ACCEPTANCE TEST ELECTRONIC FORMS DELEGATION. Proposed order delegating to the Executive Director, or his or her designee, the ministerial authority to approve the electronic filing of existing certificate of acceptance compliance documentation, submitted by Commission-approved Acceptance Test Technician Certification Providers, that conforms to a format, informational order and content approved by the Energy Commission under the 2013 California Building Code Title 24, Part 1, Chapter 10, Section 10-103(a)(4)(A). Contact: Daniel Wong.

Commissioner Douglas moved and Commissioner McAllister seconded approval of the Consent Calendar, with the exception of Item 1c which was removed from the agenda. The vote was unanimous. (5-0)

2. ENERGY COMMISSION COMMITTEE APPOINTMENTS. Possible approval of appointments to the Energy Commission's Standing Committees and Siting Case Committees. Contact: Kevin Barker. (Staff presentation: 5 minutes)

No action was taken on Item 2.

3. RENAMING OF ENERGY COMMISSION HEARING ROOMS. Proposed resolution renaming the Energy Commission's public hearing rooms in honor of former Commissioners Charles R. Imbrecht and Arthur Rosenfeld. Contact: Abigail May. (Staff presentation: 5 minutes)

Commissioner Hochschild moved and Commissioner Scott seconded approval of the resolution. The vote was unanimous. (5-0)

4. INTEGRATED ENERGY POLICY REPORT (14-IEP-1). Possible adoption of the 2014 *Integrated Energy Policy Report Update*. Contact: Heather Raitt. (Staff presentation: 15 minutes)

Commissioner Scott moved and Commissioner Douglas seconded adoption of the IEPR Update and errata changes discussed at the meeting. The vote was unanimous. (5-0)

5. PETITION FOR RULEMAKING (15-MISC-01). Proposed order denying a petition, submitted by Mr. Patrick Splitt of APP-TECH, Incorporated, to conduct an emergency rulemaking proceeding to amend portions of the 2013 Building Energy Efficiency Standards, California Code of Regulations, Title 24, part 6, and associated administrative regulations in part 1, chapter 10. Contact: Taylor Rhodes. (Staff presentation: 10 minutes)

Commissioner McAllister moved to deny the petition for concurrent standard and emergency rulemaking. Commissioner Douglas seconded. The vote was unanimous. (5-0)

6. ENERGY ANALYSIS AND COMFORT SOLUTIONS, INC. (14-HERS-01). Proposed order approving Energy Analysis and Comfort Solutions, Inc. (EACS) as a Home Energy Rating System (HERS) Provider to oversee HERS Raters conducting field verification and diagnostic testing to show compliance with the 2013 Building Energy Efficiency Standards for Prescriptive Residential HVAC Alterations and the EACS HERS Data Registry as a residential data registry. Contact: Suzie Chan. (Staff presentation: 5 minutes)

Commissioner McAllister moved and Commissioner Douglas seconded approval of the order. The vote was unanimous. (5-0)

7. ALTERNATIVE AND RENEWABLE FUEL AND VEHICLE TECHNOLOGY PROGRAM (ARFVTP) (15-OIR-2). Proposed resolution adopting Emergency Regulations to modify the program's funding restrictions contained in Title 20, section 3103 of the California Code of Regulations to eliminate the requirement for credit discounting and to make a Finding of Emergency pursuant to Government Code section 11346.1. Contact: Tim Olson. (Staff presentation: 5 minutes)

Commissioner Scott moved and Commissioner McAllister seconded approval of Item 7. The vote was unanimous. (5-0)

Chair Weisenmiller announced a recess until 1:30 p.m.

8. WOODLAND JOINT UNIFIED SCHOOL DISTRICT. Proposed resolution approving Agreement ARV-14-033 with the Woodland Joint Unified School District for a \$128,000 grant to deploy 16 publicly accessible plug-in electric vehicle charging stations at seven sites in the City of Woodland. (ARFVTP funding) Contact: Brian Fauble. (Staff presentation: 5 minutes)

The meeting resumed at 1:30. Commissioner Scott moved and Commissioner Douglas seconded approval of Item 8. The vote was unanimous. (5-0)

9. PILOT-SCALE AND COMMERCIAL-SCALE ADVANCED BIOFUELS PRODUCTION FACILITIES (PON-13-609). This funding solicitation sought proposals for pilot-scale and commercial-scale biofuel production facilities in California. (ARFVTP funding) Contact: Pierre duVair. (Staff presentation: 5 minutes)
 - a. AEMETIS, INC. Proposed resolution approving Agreement ARV-14-027 with Aemetis, Inc. for a \$3,000,000 grant to develop and use sorghum feedstock that will lead to the production of low carbon transportation fuel.
 - b. URBANX RENEWABLES GROUP, INC. Proposed resolution approving Agreement ARV-14-034 with UrbanX Renewables Group, Inc. for a \$5,000,000 grant to construct a 10 million gallon per year biorefinery that will produce at least 7.5 million gallons per year of renewable diesel (NOx-neutral, low carbon intensity, drop-in fuel).
 - c. CITY OF NAPA. Proposed resolution approving Agreement ARV-14-037 with the City of Napa for a \$3,000,000 grant to produce renewable compressed natural gas (RNG) from dry anaerobic digestion of organic wastes. Modifications at the City's existing materials diversion facility will enable conversion of 25,000 tons per year of food waste, green waste and manure into biomethane. An RNG refueling station will be installed to supply an existing fleet of 35 waste and recycling trucks with a negative carbon intensity fuel. The facility will produce 328,000 diesel gallons equivalent per year.

Commissioner Scott moved and Commissioner Hochschild seconded approval of Item 9. The vote was unanimous. (5-0)

10. ZERO EMISSION VEHICLE (ZEV) READINESS (PON-14-603). This funding solicitation sought proposals to develop and implement regional readiness plans for electric vehicles, fuel cell electric vehicles, and associated fueling infrastructure. (ARFVTP funding) Contact: Sharon Purewal. (Staff presentation: 5 minutes)

- a. SOUTH BAY CITIES COUNCIL OF GOVERNMENTS. Proposed resolution approving Agreement ARV-14-035 with the South Bay Cities Council of Governments for a \$199,559 grant to conduct outreach to multi-unit dwelling owners and homeowners' associations within the 15 cities in the Southern California Edison territory as specified in the South Bay Cities Plug-In Electric Vehicle Deployment Plan.
- b. SAN DIEGO ASSOCIATION OF GOVERNMENTS (SANDAG). Proposed resolution approving Agreement ARV-14-036 with the San Diego Association of Governments (SANDAG) for a \$300,000 grant to further regional deployment of plug-in electric vehicles and infrastructure through a combination of resource development, training, technical assistance, and outreach.

Commissioner McAllister disclosed that his prior employer was involved in Item 10b and recused himself with respect to Item 10 and left the room. Commissioner Scott moved and Commissioner Hochschild seconded approval of Item 10. The vote was unanimous among the remaining commissioners. (4-0)

Commissioner McAllister returned following the vote.

11. SEQUOIAS COMMUNITY COLLEGE DISTRICT. Proposed resolution approving Agreement 021-14-ECG with the Sequoias Community College District for a \$3,000,000 loan at zero percent interest to install solar photovoltaic panels at two campuses within Sequoias Community College District. The project is estimated to save the District 1,735,397 kWh, resulting in annual energy cost savings of \$409,541. Based on the loan amount, the simple payback is approximately 7.3 years. (ECAA-Ed funding) Contact: Laura Zaninovich. (Staff presentation: 5 minutes)

Commissioner McAllister moved and Commissioner Scott seconded approval of Item 11. The vote was unanimous. (5-0)

12. ORMAT NEVADA, INC. Proposed resolution approving Agreement GEO-14-004 with Ormat Nevada, Inc. for a \$631,620 grant for a project to initiate a groundwater monitoring program for the Casa Diablo IV geothermal development near Mammoth Lakes, California. Two new groundwater monitoring wells will be drilled and baseline data will be collected from those wells. A flow test will then be conducted for up to 30 days using two existing geothermal wells, with the monitoring wells used to check for any connectivity between the shallow cold groundwater and the deeper geothermal reservoir to be used by the Casa Diablo IV development. (GRDA funding) Contact: Cheryl Closson. (Staff presentation: 5 minutes)

Commissioner Hochschild moved to continue Item 12 to the March 2015 business meeting. Commissioner Douglas seconded. The vote was unanimous. (5-0)

13. NATURAL GAS TECHNOLOGIES. Proposed resolution approving the six highest ranking grant applications totaling \$891,550 from the Public Interest Energy Research (PIER) program's Energy Innovations Small Grant Solicitation 14-03 Natural Gas and Transportation Natural Gas. These grants were competitively selected and are capped at \$150,000 each. (PIER natural gas funding) Contact: James Lee. (Staff presentation 10 minutes)
 - a. Natural Gas (14-03G)
 - i) University of California, San Diego, *Tar Reforming Catalyst for Producer Gas Cleaning for BioSNG Production*, Cattolica, Robert, \$150,000. The goal of this

project is to demonstrate the use of a catalyst (Ni-Fe-CaO) to remove tar from producer gas from an operational biomass gasifier. This innovation has the potential to lead to the removal of expensive downstream gas cleaning processes that are currently needed to remove tar prior to the production of Bio-Synthetic Natural Gas.

- ii) Stanford University, CA, *In Situ Sensors for the Control of Synthetic Natural Gas Production*, Hanson, Ronald, \$150,000. The goal of this project is to demonstrate a novel sensor technology that provides rapid feedback during turbulent gas flow within a reactor system. This technology is needed to control steam addition in a reactor system which protects catalyst reformation and to efficiently control the biomass gasifier. The technology has the potential to significantly reduce the cost of renewable natural gas.
- iii) Pyro-E LLC, Oakland, CA, *Pyroelectric-assisted Heat and Power System for Distributed Co-generation*, Lu, Kevin, \$150,000. The goal of this project is to demonstrate a micro Combined Heat and Power (CHP) device that is expected to be more efficient and have increased reliability compared to other micro CHPs. The use of solid-state pyroelectric materials to convert heat directly into electricity is expected to be more powerful than traditional thermoelectrics. The technology has the potential to increase baseline engine efficiency and reduced ownership cost for micro CHP systems.

b. Transportation Natural Gas (14-03TNG)

- i) Quantitative BioSciences, Inc., San Diego, CA, *Algae Purification of Agricultural Waste Biogas for Biomethane*, Cookson, Natalie, \$150,000. The goal of this project is to demonstrate a biogas purification technology that will be designed to clean the biogas resulting from wastewater treatment by passing it through algae “raceway” pond water. The carbon dioxide and hydrogen sulfide components of the biogas will transfer to the water, leaving only purified biomethane that will be compressed and used as a transportation fuel. Compared to typical lagoon methods used on farms, this technology is expected to use less land while reducing greenhouse gas emissions and producing energy from additional waste sources.
- ii) Otherlab, San Francisco, CA, *Spiral Tube Low-Profile Natural Gas Tank*, Recht, Daniel, \$145,267. The goal of this project is to determine the feasibility of using spiral tubes made of braided fiber composite to create a low-profile natural gas tank with a height of no more than seven inches for use in compressed natural gas vehicles. This technology is expected to free up cargo space and increase driving range by lying flat in the bottom of a truck bed or the undercarriage of a passenger car.
- iii) Ascend Energy Systems, Shingle Springs, CA, *Direct Natural Gas Ceramic Fuel Cell Hybrid Vehicle Feasibility*, Pearson, Kenneth, \$146,283. The goal of this project is to determine the feasibility of using a newly developed small solid oxide fuel cell (SOFC) to utilize natural gas directly to generate electricity in an electric all-terrain vehicle. Older SOFC technology has typically been heavier, bulkier, and more sensitive to shock and vibration. This project is expected to serve as a model for examining the merits of SOFCs in other hybrids for larger on-road vehicles. This will be done by showcasing an

expected increased efficiency compared to natural gas vehicles while decreasing total emissions.

Commissioner Douglas moved and Commissioner Scott seconded approval of Item 13. The vote was unanimous. (5-0)

14. TECHNOLOGIES AND APPROACHES FOR MORE AFFORDABLE AND COMFORTABLE BUILDINGS GRANTS, PON-13-301. This grant solicitation sought proposals for applied research and development projects that develop next generation end-use efficiency technologies and strategies for the building sector. (EPIC funding) Contact: Heather Bird. (Staff presentation: 10 minutes)
 - a. UNIVERSITY OF CALIFORNIA, BERKELEY. Proposed resolution approving Agreement EPC-14-009 with the Regents of the University of California, on behalf of the Berkeley Campus for a \$2,939,964 grant to develop new practical design and operation tools for radiant cooling and heating systems. This project will also provide recommendations to improve radiant system modeling capabilities for the Title-24 Alternative Calculation Method Reference Manual.
 - b. UNIVERSITY OF CALIFORNIA, BERKELEY. Proposed resolution approving Agreement EPC-14-013 with the Regents of the University of California, on behalf of the Berkeley Campus for a \$2,488,964 grant to develop low-cost, low-power, accurate, calibration-free, and compact airflow sensors (anemometers) for measuring: (1) room airflow in occupied commercial buildings; and (2) volumetric air flow in Heating, Ventilating, and Air Conditioning (HVAC) systems and laboratory fume hoods. The technology will save energy by using the collected data to correct current wasteful HVAC malfunctions that result in inefficient systems and uncomfortable buildings.
 - c. LAWRENCE BERKELEY NATIONAL LABORATORY. Proposed resolution approving Agreement EPC-14-010 with the Department of Energy's Lawrence Berkeley National Laboratory for a \$2,500,000 grant to evaluate the benefits of solar reflective "cool" walls, assess existing cool wall technologies, develop new cool wall solutions, and create the infrastructure needed to implement cool walls to save energy, reduce peak power demand, and improve air quality in California.
 - d. LAWRENCE BERKELEY NATIONAL LABORATORY. Proposed resolution approving Agreement EPC-14-017 with the Department of Energy's Lawrence Berkeley National Laboratory for a \$1,875,000 grant to develop energy efficient lighting control systems that provide lighting services closely tailored to the needs of building occupants, and allow integration into whole-building control and automation systems.
 - e. UNIVERSITY OF CALIFORNIA, DAVIS. Proposed resolution approving Agreement EPC-14-011 with the Regents of the University of California, on behalf of the California Lighting Technology Center on the Davis Campus for a \$2,995,187 grant to design and develop innovative light-emitting diode lighting solutions for three key product categories: screw-base replacement lamps, linear tubular replacement lamps, and spectrally optimized dedicated LED luminaires. The research will focus on quality, performance, and longevity without increase in costs to consumers.

- f. CREE, INC. Proposed resolution approving Agreement EPC-14-014 with CREE, Inc. for a \$2,774,920 grant to develop high-efficacy, low-cost LED luminaires based on a novel light guide optics architecture.
- g. LAWRENCE BERKELEY NATIONAL LABORATORY. Proposed resolution approving Agreement EPC-14-015 with the Department of Energy's Lawrence Berkeley National Laboratory for a \$1,000,000 grant to research direct current (DC) and alternating current (AC)-DC hybrid power applications in buildings and develop resource information, end-use templates, and building guidelines that could improve the ability to achieve zero net energy buildings.
- h. LAWRENCE BERKELEY NATIONAL LABORATORY. Proposed resolution approving Agreement EPC-14-012 with the Department of Energy's Lawrence Berkeley National Laboratory for a \$1,000,000 grant to develop alternative attic construction practices that contribute to lower residential heating, ventilation, and air conditioning system energy consumption.
- i. BIRA ENERGY, INC. Proposed resolution approving Agreement EPC-14-016 with BIRA Energy, Inc. for a \$1,000,000 grant to develop new approaches to home attic design using novel construction and materials that have lower incremental cost compared to current accepted methods for sealing and insulating attics.

Commissioner Douglas disclosed that she is an adjunct professor at UC Davis King Hall and that King Hall is not a recipient of funds from the UC Davis award in this item. Commissioner McAllister made the same disclosure with respect to his wife, who is a King Hall employee.

Commissioner Douglas moved and Commissioner McAllister seconded approval of Item 14 with the exception of Item 14f which was removed from the agenda. The vote was unanimous. (5-0)

15. **Minutes:** Possible approval of the January 14, 2015, Business Meeting Minutes.

Commissioner Douglas moved and Commissioner McAllister seconded approval of the Minutes. The vote was unanimous. (5-0)

16. **Lead Commissioner or Presiding Member Reports.** The commissioners reported on their recent activities and site visits.

17. **Chief Counsel's Report:** None

18. **Executive Director's Report.** Executive Director Rob Oglesby gave the report.

19. **Public Adviser's Report.** Public Adviser Alana Mathews gave the report.

20. **Public Comment:** None

Appearances:

Manuel Alvarez, Southern California Edison

Tim Carmichael, CNGVC

Jennifer Case, New Leaf Bio Fuel

Matthew Christie, TRC Energy Services

Dennis Domaille, Mammoth Community Water District

Anna Doty, Environmental Defense Fund

Eugene Dunlap

Andy Foster, Aemetis

Joe Gershen, CA Biodiesel Alliance

Enid Joffe, CFCI
Ryon Kenny, Clean Energy
Julia Levin, Bio Energy Association of CA
Ronnen Levison, Lawrence Berkeley National Laboratory
Lisa Mortenson, Community Fuels
Clyde Murley, College of the Sequoias
George Nesbitt
Paul Relis, CR& R Inc.
Jeff Serfass,, California Hydrogen Business Council
John Shears SEERT
Harry Simpson, Crimson Renewable Energy
Wade Sorola, Clean Fuel Connection
Floyd Vergara, California Air Resources Board
Charlene Wardlow, Ormat Technologies
Patrick Wayos, Mammoth Community Water District
Chuck White, Waste Management
Valerie Winn, Pacific Gas & Electric Co

There being no further business, the meeting was adjourned.

Respectfully submitted,

HARRIET KALLEMEYN
Secretary to the Commission