

State of California
California Energy Commission
Minutes of the January 9, 2019, Energy Commission Business Meeting

The meeting was called to order by Chair 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

THE COMMISSION WILL CONSIDER AND MAY TAKE ACTION ON THE FOLLOWING ITEMS:

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. ALLIANCE TO SAVE ENERGY. Proposed resolution approving Agreement 150-18-008 with Alliance to Save Energy for a \$25,000 contract to renew the Energy Commission's membership for one year. Membership allows Energy Commission staff to meet with key policy and decision makers and officials from over 100 organizations to advance energy efficiency through unique and effective policy, market transformation, education, communications, and research and technology initiatives. These meetings provide a forum for exchanging information, ideas, and resources. (ERPA funding) Contact: Michael Poe.
 - b. THE REGENTS OF THE UNIVERSITY OF CALIFORNIA ON BEHALF OF THE DAVIS CAMPUS. Proposed resolution approving Amendment 1 to Agreement EPC-17-018 with The Regents of the University of California on behalf of the Davis campus, to change the project location from a naval base in Ventura County to a cold storage facility in Oxnard, California, and to replace equipment vendor SEaB Energy with Impact Bioenergy Inc., including a revision to pre-existing intellectual property. Contact: Tanner Kural.
 - c. INVESTMENT PLAN UPDATE FOR THE ALTERNATIVE AND RENEWABLE FUEL AND VEHICLE TECHNOLOGY PROGRAM. Possible approval of modifications to funding allocations for the *2017-2018 Investment Plan Update for the Alternative and Renewable Fuel and Vehicle Technology Program*. The modifications subtract \$300,000 from the Natural Gas Fueling Infrastructure funding allocation and \$20,529 from the Advanced Freight and Fleet Technologies funding allocation, and add \$320,529 to the Natural Gas Vehicle Incentives funding allocation. (ARFVTP funding) Contact: Patrick Brecht.

Commissioner McAllister announced he is recusing himself from Item 1a because he is on the Board of Alliance Energy. Commissioner Douglas disclosed that she is teaching at King Hall at UC Davis and UC Davis is the prime contractor in Item 1b and subcontractor in Item 7d. Commissioner Douglas moved Items 1b-c and Commissioner Scott seconded. The vote was unanimous (5-0). Commissioner McAllister left the room. Commissioner Douglas moved Item 1a and Commissioner Scott seconded. The vote was 4-0.

2. SMALL POWER PLANT EXEMPTION FOR THE MCLAREN BACKUP GENERATING FACILITY PROJECT (17-SPPE-01). Consideration of and possible action on the petition for reconsideration of the Commission's Final Decision of November 7, 2018. The petition for reconsideration was filed by Intervenor Helping Hand Tools on December 7, 2018. The McLaren Backup Generating Facility Project would provide backup power to the McLaren Data Center when power is not available from the electric grid. The project would consist of 47 diesel power and 3 lifesaving generators with a generating capacity of approximately 99 megawatts. It would be located at 651, 725, and 825 Mathew Street in Santa Clara, California. Contact: Susan Cochran. (Staff presentation: 10 minutes)

- a. Possible closed session deliberation on the above described petition for reconsideration. [Government Code Section 11126(c)(3)].

The Commissioners adjourned to closed session after which Commissioner Douglas moved to deny the Petition for Reconsideration and directed the Chief Counsel's Office (CCO) to draft a corresponding order and Commissioner Scott seconded. The vote was unanimous (5-0). After reviewing the proposed order and giving the parties and opportunity for review, Commissioner Douglas moved approval of the order and Commissioner Hochschild seconded. The vote was unanimous (5-0).

3. CAMPBELL COGENERATION PROJECT (93-AFC-03C). Possible approval of an order granting the petition to amend to: 1) install a Siemens wet compression system upgrade; 2) replace the two existing burners with upgraded Siemens HR3 burners; and 3) increase the start-up carbon monoxide (CO) emission limit to reflect the recent emission monitoring system upgrades. Staff concludes that the facility changes will not result in a significant impact to the environment or cause the facility to be out of compliance with any laws, ordinances, regulations, or standards. Contact: Mary Dyas. (Staff presentation: 5 minutes)

Commissioner Douglas moved Item 3 and Commissioner Scott seconded. The vote was unanimous (5-0).

4. APPLIANCE EFFICIENCY REGULATIONS RULEMAKING FOR COMMERCIAL AND INDUSTRIAL AIR COMPRESSORS (Docket Number 18-AAER-05). Proposed resolution adopting a Negative Declaration, including a finding of No Significant Impact under the California Environmental Quality Act (CEQA), and adopting changes to Title 20, §§1601-1608 to incorporate new appliance efficiency regulations for commercial and industrial air compressors. Contact: Alejandro Galdamez. (Staff presentation: 10 minutes)

- a. NEGATIVE DECLARATION FOR THE PROPOSED APPLIANCE EFFICIENCY REGULATIONS FOR COMMERCIAL AND INDUSTRIAL AIR COMPRESSORS. Negative Declaration, which includes a finding of No Significant Impact under CEQA, for the proposed regulations for commercial and industrial air compressors. This proposed adoption comes after a 30-day public comment period necessary to comply with CEQA guidelines.
- b. APPLIANCE EFFICIENCY REGULATIONS FOR COMMERCIAL AND INDUSTRIAL AIR COMPRESSORS. Changes to Title 20, §§1601-1608 to incorporate new appliance efficiency regulations for commercial and industrial air compressors. The changes for commercial and industrial air compressors include: revised scope; new and revised definitions; an alternative efficiency determination method (AEDM); a minimum efficiency performance standard; and certification requirements. This proposed adoption comes after a 45-day public comment period and public hearing held under the California Administrative Procedure Act.

Commissioner McAllister moved Item 4 and Commissioner Hochschild seconded. The vote was unanimous (5-0).

5. CALIFORNIA ENERGY DEMAND UPDATED FORECAST, 2018-2030. Proposed resolution adopting the *California Energy Demand Updated Forecast, 2018-2030*. This includes updated baseline forecasts of electricity consumption and peak demand for California and for utility planning areas within the state, as well as forecasts of hourly and monthly peak electricity demand for the California Independent System Operator (California ISO) control area and transmission access charge areas. The forecast update incorporates more recent economic/demographic assumptions; an additional year of historical data; revised projections for electric vehicle and behind-the-meter photovoltaic (PV) system adoption; a new default time-of-use rate impact analysis; and revised estimates of additional achievable PV. The update retains existing estimates of additional achievable energy efficiency. If adopted, this forecast update will serve as a key input into a number of planning efforts, including transmission and distribution system planning, integrated resource planning, and resource adequacy. Contact: Nick Fugate. (Staff presentation: 15 minutes)

Commissioner McAllister moved Item 5 and Commissioner Douglas seconded. The vote was unanimous (5-0).

6. CALIFORNIA PUBLIC UTILITIES COMMISSION AGREEMENT. Proposed resolution approving Agreement RMB700-18-005 between the California Energy Commission and the California Public Utilities Commission (CPUC) to reimburse the Energy Commission up to \$1 million to provide the CPUC with Energy Commission staff expertise for technical consulting services to support electricity and natural gas system modeling and analysis, and related activities. Contact: Al Alvarado. (Staff presentation: 5 minutes)

Commissioner Douglas moved Item 6 and Commissioner Hochschild seconded. The vote was unanimous (5-0).

7. BRINGING RAPID INNOVATION DEVELOPMENT TO GREEN ENERGY (BRIDGE). Solicitation GFO-17-308 sought proposals to fund applied research and technology demonstration and deployment energy efficiency projects that will allow researchers to continue technology development without losing momentum or pausing to fundraise from private sources (EPIC funding) Contact: Rachel Salazar. (Staff presentation: 5 minutes)
 - a. LUCENT OPTICS, INC. Proposed resolution approving Agreement EPC-18-003 with Lucent Optics, Inc. for a \$1,692,069 grant to develop a new lighting platform technology for making material-efficient and aesthetically pleasant wide-area LED lighting luminaires at a fraction of the cost of traditional fluorescent and LED fixtures. This lighting panel technology combines high-efficiency LEDs with a thin and flexible plastic sheet that redistributes light emitted by the LEDs without glare and without the need for complex and expensive luminaire structures.
 - b. UBIQUITOUS ENERGY, INC. Proposed resolution approving Agreement EPC-18-004 with Ubiquitous Energy, Inc. for a \$2,998,055 grant to scale its ClearView Power technology to meet the size requirements and specifications needed for window production. ClearView Power is a transparent solar coating that, when applied to glass, selectively absorbs and converts non-visible light to electricity while also blocking the infrared light that causes heat gains in buildings. As part of this project, Ubiquitous Energy will demonstrate that the solar coating application can be integrated into a standard glass manufacturing process.
 - c. HELIOTROPE TECHNOLOGIES, INC. Proposed resolution approving Agreement EPC-18-005 with Heliotrope Technologies, Inc. for a \$3,667,104 grant to

demonstrate an electrochromic smart window technology that uses proprietary nanocrystal technology to dynamically manage sunlight intensity as it passes through a window. This electrochromic window expects to achieve a price point below \$25 per square foot in order to achieve mass-market adoption. As part of this project, Heliotrope Technologies will conduct a real-world field installation and collect performance data and customer feedback.

- d. GLINT PHOTONICS, INC. Proposed resolution approving Agreement EPC-18-007 with Glint Photonics, Inc. for a \$1,999,990 grant to further develop a novel luminaire system that provides automated control over the angular and spatial distribution of solid-state lighting. The system's functionality can dynamically target light to wherever it is needed, significantly improving light utilization efficiency and lighting quality compared to conventional LED luminaires.

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

8. CALIFORNIA CLEAN ENERGY FUND DBA CALCEF VENTURES. Proposed resolution approving four grant applications totaling \$1.8 million from the Electric Program Investment Charge (EPIC) program's California Sustainable Energy Entrepreneur Development (CalSEED) Initiative 2018 Prototype Award Competition. The Prototype Awards were selected competitively via a business plan competition where CalSEED subawardees that had previously received a \$150,000 Concept Award were evaluated on the technical and commercial potential of their technology. These individual follow-on funding awards are for a maximum of \$450,000 each. (EPIC funding) Contact: Joshua Croft. (Staff presentation: 5 minutes)

- a. CalSEED Initiative (2018 Prototype Awards)

- i. CodeCycle LLC, Oakland, California, Expanding Coverage of Advanced Compliance Technology, with Ongoing Central Valley Demonstration, Kim Goodrich and Dan Suyeyasu, \$450,000. The goal of this project is to expand the functionality of software that improves building energy code compliance by using data-driven web and mobile software to streamline the compliance process for design teams, contractors, and building inspectors. Current approaches to energy code enforcement are largely paper-based, but CodeCycle converts complex energy standards into easy-to-understand interfaces for design teams and building departments. CodeCycle's technology currently covers the commercial lighting requirements of Title 24, Part 6. During the Prototype Award project, the team will expand the software's coverage to include additional sections of the code such as commercial envelope, and HVAC, as well as the residential energy standards.
- ii. Nativus, Solana Beach, California, Hyper-Efficient Rotary Air Conditioner, Matt Miller, \$450,000. The goal of this project is to create and test a prototype, highly efficient portable room air conditioner with a substantially lower weight and a 50 percent power reduction compared to the industry standard while providing similar cooling capacity. This efficiency gain is made possible via a proprietary rotary heat exchanger that combines the heat exchanger surface, motor, and compressor with a centrifugal fan that greatly increases energy efficiency by removing the "boundary layer" from a traditional heat exchanger. With a successful demonstration at the lab-scale, Nativus will use the Prototype Award to move development of their technology to the prototype-scale and conduct further component- and system-level validation.

- iii. PowerFlex Systems Inc., Los Altos, California, Optimal Load Sharing of DCFC and Level-2 Charging at Work, Cheng Jin, \$450,000. The goal of this project is to prototype an expanded software system that jointly optimizes multiple levels of electric vehicle (EV) charging, solar PV generation, energy storage, customer preferences, and building load. As the need increases for large-scale workplace EV charging, site owners will seek to lower their whole-site peak daily load. With the Prototype Award, Powerflex Systems will implement a prototype system that can jointly optimize Level-2 and Level-3 EV charging on the same electrical infrastructure in a way that is optimal with respect to solar generation and building loads, as well as other objectives such as minimizing electricity costs of drivers, and minimizing demand charges.
- iv. Sepion Technologies, Emeryville, California, EV BOOST (Electric Vehicle – Battery Optimization Opportunities for Sustainable Transportation), Peter Frischmann, \$450,000. The goal of this project is to scale a prototype battery membrane that enables drop-in, roll-to-roll manufacturing of lithium-metal anode batteries with significantly greater energy density compared to traditional graphite anode lithium-ion batteries. This technology maintains the necessary safety characteristics and competitive costs of traditional lithium-ion batteries by avoiding the need for large scale reconfiguration of existing manufacturing lines. In the Concept Award, Sepion demonstrated their membrane’s ability to support stable cycling with lithium-metal anode batteries—outperforming the current commercial separators. During the Prototype Award, the team will scale up to 100kg batches with roll to roll manufacturing while demonstrating that the enhanced performance demonstrated at a small scale is maintained.

Commissioner Hochschild moved Item 8 and Commissioner McAllister seconded. The vote was unanimous (5-0).

- 9. **Minutes.** Possible approval of the December 10, 2018 Business Meeting minutes.

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

- 10. **Lead Commissioner or Presiding Member Reports.** The Commissioners reported on their recent activities. The Chair announced that the Commissioners will go into closed session as specified in Item 2 of the agenda, which provides notice of a possible closed session for a deliberation, pursuant to Government Code Section 11126(c)3. Upon returning from closed session the Commissioners approved an order denying the Petition for Reconsideration.

- 11. **Chief Counsel's Report.** None.

- a. Pursuant to Government Code section 11126(e), the Energy Commission may adjourn to closed session with its legal counsel to discuss any of the following matters to which the Energy Commission is a party:

- i. *In the Matter of U.S. Department of Energy (High Level Waste Repository), (Atomic Safety Licensing Board, CAB-04, 63-001-HLW); State of California v. United States Department of Energy (9th Cir. Docket No. 09-71014).*
- ii. *Communities for a Better Environment and Center for Biological Diversity v. Energy Resources Conservation and Development Commission, and California State Controller (Alameda County Superior Court, Case No. RG13681262).*

- iii. *State Energy Resources Conservation and Development Commission v. Electricore, Inc. and ZeroTruck* (Sacramento County Superior Court #34-2016-00204586)
- iv. *Natural Resources Defense Council, Inc., et al. v. United States Department of Energy* (Federal District Court, Northern District of California, #17-cv-03404).
- v. *City of Los Angeles, acting by and through, its Department of Water and Power v. California Energy Resources Conservation and Development Commission* (Los Angeles Superior Court, Case No. BS171477).
- vi. *State Energy Resources Conservation and Development Commission v. City of San Jose, JUM Global, L.L.C.* (Sacramento Superior Court, Case No. 34-2018-00230652).

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

- 12. **Executive Director's Report.** The Executive Director gave a report.
- 13. **Public Adviser's Report.** The Public Adviser gave a report.
- 14. **Public Comment.** None.

Appearances:

(*by telephone)

Joseph Schofield, SMUD

Scott Galati, DayZen LLC

Robert Sarvey, Helping Hand Tools

Eric Poff, SMUD

Michelle Chester, Somach Simmons & Dunn

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Charles Kim, Southern California Edison
Bryan Boyce, Energy Solutions
Delphine Hou, California ISO
Tenley Ann Dalstrom, California Clean Energy Fund
Spencer Myers, Vantage Data Centers
Chris Khuffman, Quincy Compressor
Simon Baker, California Public Utilities Commission

There being no further business, the meeting was adjourned.

Respectfully submitted,


CODY GOLDTHRITE
Secretariat

