

**State of California**  
California Energy Commission  
Minutes of the May 13, 2020, Energy Commission Business Meeting

The meeting was called to order by Chair Hochschild. The Pledge of Allegiance was led by Chair Hochschild.

Present:

David Hochschild, Chair  
Janea A. Scott Vice Chair  
Patricia Monahan, Commissioner

Karen Douglas, Commissioner  
J. Andrew McAllister, Commissioner

The California Energy Commission's (CEC) May 13, 2020 Business Meeting will be held remotely, consistent with Executive Orders N-25-20 and N-29-20 and the recommendations from the California Department of Public Health to encourage physical distancing to slow the spread of COVID-19. The public is able to participate and observe the meeting consistent with the direction in these Executive Orders. Instructions for remote participation can be found in the notice for this meeting and as set forth below in this agenda.

Pursuant to California Code of Regulations Title 20 Section 1104(e), any person may make oral comment on any agenda item. To ensure the orderly conduct of business, such comments will be limited to three minutes per person as to each item listed on the agenda that will be voted on today. Any person wishing to comment on information items or reports (non-voting items) shall reserve their comment for the general public comment portion of the meeting agenda and shall have three minutes total to address all remaining comments.

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

**1. Consent Calendar.**

(Items 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. BLYTHE SOLAR POWER PROJECT (09-AFC-06C). Proposed order granting approval of the staff and project owner jointly initiated amendment to delete Condition of Certification TRANS-8 from the Commission Decision. Staff concludes that TRANS-8 is legally unenforceable and its proposed deletion will not result in a conflict with the findings and conclusions in the decision, or cause a significant impact to the environment, or cause the facility to be out of compliance with any laws, ordinances, regulations or standards. Contact: Eric Veerkamp.
- b. CITY OF RIVERSIDE (20-EPS-01). Proposed order approving the Executive Director's recommendation that the City of Riverside's Power Purchase Agreement with Roseburg Forest Products Co. for the procurement of

bioenergy from the Weed Cogeneration Plant be found compliant with the Emission Performance Standard for Local Publicly Owned Electric Utilities pursuant to Senate Bill 1368 (California Code of Regulations, Title 20, Sections 2900-2913). Contact: Michael Nyberg.

- c. SOUTHERN CALIFORNIA PUBLIC POWER AUTHORITY (20-EPS-01). Proposed order approving the Executive Director's recommendation that the Southern California Public Power Authority's Power Purchase Agreement with Star Peak Geothermal LLC for the procurement of geothermal energy from the Star Peak Geothermal Energy Project be found compliant with the Emission Performance Standard for Local Publicly Owned Electric Utilities pursuant to Senate Bill 1368 (California Code of Regulations, Title 20, Sections 2900-2913). Contact: Michael Nyberg.
- d. RENEWABLES PORTFOLIO STANDARD 2014-2016 COMPLIANCE PERIOD 2 REVISED VERIFICATION RESULTS REPORT (18-RPS-02). Proposed resolution adopting Renewables Portfolio Standard Verification Results for Truckee Donner Public Utility District Compliance Period 2 (2014-2016), Revised report. The revised report incorporates minor corrections to the accumulated and applied excess procurement values reported in the Renewables Portfolio Standard Verification Results Truckee Donner Public Utility District Compliance Period 2 (2014-2016) report adopted at the March 12, 2019 business meeting. Contact: Chris Metzker.

*Commissioner Scott moved Item 1 and Commissioner Douglas seconded. The vote was unanimous (5-0).*

## **2. Great Oaks South Backup Generating Facility (20-SPPE-01).**

Proposed order appointing a committee of two commissioners to preside over the small power plant exemption (SPPE) proceeding and any other proceedings arising from the application filed on March 19, 2020 by SV1, LLC, a wholly owned subsidiary of Equinix, LLC for the Great Oaks South Backup Generating Facility. The facility would include thirty-six 3.25-megawatt (MW) diesel-fired back up generators to provide up to 99.0 MW of uninterruptible power supply to the proposed Great Oaks South Data Center to be located in the City of San Jose. The facility would only operate when the PG&E electrical service to the data center has failed. The CEC is the lead agency for the project under the Warren-Alquist Act and the California Environmental Quality Act, and will prepare the appropriate environmental document. If an SPPE is granted, the facility would be exempt from CEC jurisdiction and the project would be subject to permitting by the City of San Jose and other agencies. Contact: Steven Kerr. (Staff presentation: 5 minutes)

*The Chair announced that Commissioner Douglas would be the Presiding Member and he would be the Associate Member of the Committee. Commissioner Douglas moved Item 2 and Commissioner Scott seconded. The vote was unanimous (5-0).*

## **3. Approval of Disadvantaged Community Advisory Group (DACAG) New**

**Member (16-OIR-06).**

Proposed resolution appointing new member, Román Partida-López, to fill a current vacancy in the DACAG. Senate Bill 350 (de León, Chapter 54, Statutes of 2015) required the California Public Utilities Commission (CPUC) and the CEC to establish an advisory group consisting of representatives from disadvantaged communities. The DACAG is comprised of 10 members, jointly selected by two commissioners from the CEC and two commissioners from the CPUC, and one tribal representative appointed by the Governor's Tribal Liaison. Contact: Noemí Gallardo. (Staff Presentation: 5 minutes)

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

**4. Proposition 39: California Clean Energy Jobs Act K-12 Program (13-CCEJA-01).**

Proposed resolution adopting substantive changes to the Proposition 39: California Clean Energy Jobs Act K-12 Program 2020 Program Implementation Guidelines. Proposed changes will extend the final project completion date by one year to June 30, 2021, and extend the required filing of Final Project Completion Reports by one year to June 30, 2022, to allow local educational agencies to complete all projects approved under the Proposition 39 program, which are now delayed due to the closure of all public schools in California due to the COVID-19 pandemic. Contact: Marites Antonio. (Staff presentation: 5 minutes)

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

**5. Renewables Portfolio Standard 2014-2016 Compliance Period 2 Verification Results Reports (18-RPS-02).**

Proposed resolution adopting two Renewables Portfolio Standard Verification Results reports for Local Publicly Owned Electric Utilities for Compliance Period 2 (2014-2016), Azusa Light and Water and the City of Industry (RPS POU Verification Results Reports). Each RPS POU Verification Results Report contains information specific to that POU on procurement target and portfolio balance requirements and any deficits thereto, the amount of eligible renewable energy retired and applied shown by Portfolio Content Category and other classifications, any historic carryover and excess procurement amounts, and any optional compliance measures being applied. Contact: Kevin Chou. (Staff presentation: 5 minutes)

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

**6. The Energy Coalition – The EPIC Challenge: Accelerating the Deployment of Advanced Energy Communities (Phase II re-release) (GFO-15-312).**

Proposed resolution approving Agreement EPC-19-006 with The Energy Coalition for a \$9,093,833 grant to build-out and demonstrate the Basset-Avocado Advanced Energy Community (BAAEC), and adopting staff's determination that this action is

exempt from CEQA. The BAAEC is a new model for providing affordable, locally produced renewable energy and energy services at scale within a disadvantaged community. The BAAEC will include: 1) a Smart Community Solar and Storage system to offset the annual electricity load of low-income enrolled participants; 2) a Microgrid Resiliency Hub to provide clean back-up power to the community in emergencies, severe heat days or blackouts; 3) a Prosumer Network consisting of 50 single family homes equipped with solar photovoltaic and battery storage that will be integrated with a Blockchain Community Network Pilot; and 4) a Mobile Grid of electric vehicle charging stations and shared electric mobility options to reduce greenhouse gases and improve air quality. (EPIC funding) Contact: Michael Ferreira. (Staff presentation: 5 minutes)

*Commissioner Scott moved Item 6 and Commissioner McAllister seconded. The vote was unanimous (5-0).*

## **7. Advancing Next-Generation Heating, Cooling and Water Heating Systems (GFO-19-301).**

This solicitation sought proposals to fund applied research and technology demonstration projects that develop and demonstrate innovative, efficient, and environmentally-friendly approaches to provide space conditioning, refrigeration and water heating in buildings. Projects will develop systems with efficiencies comparable to or higher than today's high efficiency equipment, while also utilizing low or no global warming potential refrigerants or non-vapor compression technology. (EPIC funding) Contact: Brad Williams. (Staff presentation 5 minutes)

- a. FRANKLIN ENERGY SERVICES, LLC. Proposed resolution adopting CEQA findings and statement of overriding considerations for Franklin Energy Services, LLC's space conditioning and hot water system project and approving Agreement EPC-19-012 with Franklin Energy Services, LLC.
  - i. CALIFORNIA ENVIRONMENTAL QUALITY ACT FINDINGS.
    - a. Pacifica Landing Site. Findings that based on the Lead Agency, Contra Costa County's, July 8, 2019 approval of the Pacifica Landing development project and general plan amendment and corresponding findings and conditions of approval, Mitigated Negative Declaration, Mitigation Monitoring Program, and Initial Study, the work under the proposed project presents no new or increased environmental impacts beyond those already considered and mitigated.
    - b. East Garrison Site. Findings that based on the Lead Agency, Monterey County's, Final Subsequent Environmental Impact Report, Resolution 05-264 and associated findings, Mitigation Monitoring and Reporting Plan, and Statement of Overriding Considerations, the work under the proposed project presents no new significant or

more severe environmental impacts beyond those already considered and mitigated where possible; and adopting a statement of overriding considerations for significant immitigable impacts.

- c. Existing Residential Buildings in Southern California. Adopting staff's determination that the work under the proposed project at these sites is exempt from CEQA.
- ii. FRANKLIN ENERGY SERVICES, LLC'S SPACE CONDITIONING AND HOT WATER SYSTEM PROJECT. Agreement EPC-19-012 with Franklin Energy Services, LLC for \$1,499,925 grant to develop, test, and demonstrate a combined space conditioning and hot water system, incorporating built-in load shifting that will deliver clean, affordable space conditioning and domestic hot water to existing and new homes. The integrated pod will be installed in residential homes to demonstrate cost-effectiveness, load flexibility, and GHG emissions reductions.
- b. DOE-LAWRENCE BERKELEY NATIONAL LABORATORY. Proposed resolution approving Agreement EPC-19-013 with Lawrence Berkeley National Laboratory for a \$3,000,000 grant to fund the development and field evaluation of an open-source, scalable, low-cost control solution for optimal demand management of high-efficiency heat pumps in small and medium commercial buildings, and adopting staff's determination that this action is exempt from CEQA.
- c. ELECTRIC POWER RESEARCH INSTITUTE, INC. Proposed resolution approving Agreement EPC-19-014 with Electric Power Research Institute, Inc. for a \$2,498,557 grant to develop, test, and demonstrate ammonia- and carbon dioxide-based heat pumps in multifamily and small commercial applications to improve heating and cooling efficiencies while advancing a low global warming potential refrigerant solution, and adopting staff's determination that this action is exempt from CEQA.
- d. REGENTS OF THE UNIVERSITY OF CALIFORNIA ON BEHALF OF THE DAVIS CAMPUS-WESTERN COOLING EFFICIENCY CENTER. Proposed resolution approving Agreement EPC-19-015 with The Regents of the University of California, on behalf of the Davis campus, for a \$2,537,436 grant to develop and test an advanced control system that saves energy, improves grid reliability, and reduces greenhouse gas emissions by optimizing heat pump operation based on building owner/occupant preferences, comfort and use patterns, electricity pricing, electricity grid needs, real-time greenhouse gas emission rates, and weather data, and adopting staff's determination that this action is exempt from CEQA. Pilot testing will occur in low-income residential units in Northern California.
- e. REGENTS OF THE UNIVERSITY OF CALIFORNIA ON BEHALF OF THE DAVIS CAMPUS-WESTERN COOLING EFFICIENCY CENTER. Proposed resolution approving Agreement EPC-19-016 with The Regents of the

University of California on behalf of the Davis campus for a \$1,916,306 grant to develop and demonstrate next generation air to air heat pumps and microchannel polymer heat exchanger in single-family and multifamily residential buildings that utilize low global warming potential refrigerants, and achieve high efficiency and cost savings relative to other competing technologies, and adopting staff's determination that this action is exempt from CEQA.

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

#### **8. Geothermal Energy Overcoming Technology Hurdles and Enabling Recovery of the Mineral Lithium (Geothermal) (GFO-19-303).**

This solicitation sought proposals to fund applied research and development, and technology demonstration and deployment projects that meet the following objectives: develop and demonstrate technologies, tools, and strategies to improve the productivity and flexibility of existing geothermal facilities; and develop and demonstrate technologies to recover lithium from geothermal brine. Contact: Chuck Gentry. (Staff presentation: 5 minutes)

- a. LAWRENCE BERKELEY NATIONAL LABORATORY. Proposed resolution approving Agreement EPC-19-019 with Lawrence Berkeley National Laboratory for a \$1,661,032 grant to demonstrate the advantages of concurrently acquiring time-lapse magnetotelluric and passive seismic data over a producing geothermal reservoir, and adopting staff's determination that this action is exempt from CEQA. The data will produce enhanced images of structural features and properties of the geothermal reservoir, and accurate reservoir modeling, monitoring, and placement of production wells. A field demonstration at the Geysers will be carried out to evaluate the value added from applying this technology.
- b. MATERIALS RESEARCH LLC. Proposed resolution approving Agreement EPC-19-017 with Materials Research LLC for a \$1,878,634 grant to demonstrate a pilot scale process for the recovery of lithium from geothermal brines, and adopting staff's determination that this action is exempt from CEQA. The agreement is based on a newly developed sorbent material for the extraction of lithium and a carbon negative sorbent regeneration process for the direct formation of high-purity lithium carbonate. The co-production of this valuable metal adds revenue and improves the economics of geothermal energy generation.
- c. BHER MINERALS, LLC. Proposed resolution approving Agreement EPC-19-020 with BHER Minerals, LLC for a \$6,000,000 grant to design, build, and commission an integrated system that includes geothermal brine pre-treatment and lithium recovery processes and adopting staff's determination that this action is exempt from CEQA. The proposed demonstration project will deploy an innovative technology at an existing geothermal power facility in Calipatria, California to cost-effectively process at least 100 gallons of geothermal brine

per minute and produce a battery-grade lithium carbonate at a production cost of approximately \$4,000 per ton.

*Commissioner Scott moved Item 8 and Commissioner Douglas seconded. The vote was unanimous (5-0).*

## **9. Advanced Refrigeration and Heat Pumps for the Industrial Sector (GFO-19-304).**

This solicitation sought proposals to fund applied research and development projects that enable cost-effective decarbonization of California's industrial sector. (EPIC Funding) Contact: Ilia Krupenich. (Staff Presentation: 5 minutes)

- a. GENERAL ENGINEERING & RESEARCH, L.L.C. Proposed resolution approving Agreement EPC-19-021 with General Engineering & Research, L.L.C. for a \$1,699,066 grant to develop and test a high efficiency magnetic refrigeration technology that has the potential to reduce electricity and capital costs by operating in the cryogenic temperature regime of 10-80 kelvins, and adopting staff's determination that this action is exempt from CEQA.
- b. THE REGENTS OF THE UNIVERSITY OF CALIFORNIA, MERCED. Proposed resolution approving Agreement EPC-19-022 with The Regents of the University of California, Merced for a \$656,630 grant to develop an improved high temperature heat pump for industrial heat recovery applications based on the Stirling cycle, an efficient thermodynamic alternative to conventional vapor-compression technology, combined with using fluid to act as pistons, and adopting staff's determination that this action is exempt from CEQA.
- c. INSTITUTE OF GAS TECHNOLOGY DBA GAS TECHNOLOGY INSTITUTE. Proposed resolution approving Agreement EPC-19-023 with Institute of Gas Technology dba Gas Technology Institute for a \$1,621,556 grant to develop and test a novel heat recovery system which includes a booster ejector enhanced refrigeration system utilizing industrial process waste heat and adopting staff's determination that this action is exempt from CEQA. The technology has the potential to reduce electrical and natural gas consumption of the food processing industry by 20 percent.
- d. ELECTRIC POWER RESEARCH INSTITUTE, INC. Proposed resolution approving Agreement EPC-19-024 with Electric Power Research Institute, Inc. for a \$1,999,483 grant to develop an advanced high temperature heat pump technology that can cost effectively recover low grade heat from industrial processes and transform it into useful heat such as low-pressure steam, and adopting staff's determination that this action is exempt from CEQA.
- e. NELUMBO INC. Proposed resolution approving Agreement EPC-19-025 with Nelumbo Inc. for a \$1,997,411 grant to develop and test an advanced anti-ice coating for industrial refrigeration systems, and adopting staff's determination that this action is exempt from CEQA. The coating is an innovative inorganic ceramic that combines nano-structures and surface chemistry to manipulate

condensation and frost to improve the energy efficiency of industrial refrigeration systems.

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

**10. Developing Lessons Learned, Best Practices, Training Materials and Guidebooks for Customer Side of the Meter Energy Storage (GFO-18-305).**

This solicitation sought proposals to identify key permitting issues to the cost-effective installation of energy storage and provide a set of best practice guidelines to address the issues. The guidelines will address customer side of the meter applications. Contact: Quenby Lum. (Staff Presentation: 5 minutes)

- a. CENTER FOR SUSTAINABLE ENERGY. Proposed resolution approving Agreement EPC-19-026 with Center for Sustainable Energy for a \$1,000,000 grant to fund the research and development of an electronic Energy Storage Guidebook designed to help local governments and their permitting agencies identify best practices and guidelines for permitting energy storage systems based on technology type, size and application, and adopting staff's determination that this action is exempt from CEQA.

*Commissioner Scott moved Item 10 and Commissioner Douglas seconded. The vote was unanimous (5-0).*

**11. California Dairies, Inc. – Food Production Investment Program (GFO-19-901).**

Proposed resolution approving Agreement FPI-19-015 with California Dairies, Inc. for a \$4,002,506 grant to design, install, and operate a high-temperature solar thermal energy system at the recipient's milk and butter processing facility in Turlock, and adopting staff's determination that this action is exempt from CEQA. This system will convert solar energy into supplemental heat for thermal processes resulting in reduced natural gas consumption and greenhouse gas emissions. This project is expected to provide benefits to priority populations through criteria pollutant emission reductions. (GGRF Funding) Contact: Kaycee Chang (Staff presentation: 5 minutes)

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

**12. Demonstrating Replicable, Innovative Large-Scale Heat Recovery Systems in the Industrial Sector (GFO-19-503).**

This solicitation sought proposals to fund the testing and demonstration of innovative waste heat recovery systems that are replicable and scalable in various industries to reduce natural gas use and greenhouse gas emissions. The intent is to increase adoption rates of cutting-edge waste heat recovery technology. (PIER NG funding) Contact: Kevin Mori. (Staff presentation: 5 minutes)

- a. INSTITUTE OF GAS TECHNOLOGY dba GAS TECHNOLOGY INSTITUTE. Proposed resolution approving Agreement PIR-19-004 with Gas Technology Institute (GTI) for a \$1,410,566 grant to demonstrate a novel technology



combining low cost heat exchangers with automated heat extraction to recover waste-heat for heating water at two industrial facilities, and adopting staff's determination that this action is exempt from CEQA. The project will be demonstrated at two breweries and will reduce natural gas use and reduce air emissions.

- b. TREVI SYSTEMS INC. Proposed resolution approving Agreement PIR-19-005 with Trevi Systems Inc. for a \$1,567,387 grant to develop and test a low-cost innovative and high-performance polymeric heat exchanger capable of reducing natural gas use by 20 percent in industrial facilities and adopting staff's determination that this action is exempt from CEQA. The heat exchangers aim to reduce exchanger costs by 80 percent compared to metallic heat exchangers and will be demonstrated at two food and beverage facilities.

*Commissioner Scott moved Item 12 and Commissioner Douglas seconded. The vote was unanimous (5-0).*

### **13. Minutes.**

Possible approval of the April 8, 2020 business meeting minutes.

*Commissioner Scott moved Item 13 and Commissioner McAllister seconded. The vote was unanimous (5-0).*

### **14. Lead Commissioner or Presiding Member Reports.**

*The Commissioner's reporter on their recent activities.*

### **15. Executive Director's Report.**

*The Executive Director gave a report.*

### **16. Public Advisor's Report.**

*The Public Advisor gave a report.*

### **17. Public Comment.**

*Mark Straub.*

### **18. Chief Counsel's Report.**

- a. Pursuant to Government Code section 11126(e), the CEC may adjourn to closed session with its legal counsel to discuss any of the following matters to which the CEC 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, Case No. 34-2016-00204586).
  - iv. *Natural Resources Defense Council, Inc., et al. v. United States Department of Energy* (Federal District Court, Northern District of California, Case No. 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. *In re: PG&E Corporation and In re: Pacific Gas and Electric Company* (United States Bankruptcy Court, Northern District of California, San Francisco Division, Case No. 19-30088).
  - vii. *Chukwuemeka (Emeka) Okemiri v. California Energy Commission, et al.* (Sacramento Superior Court, Case No. 34-2018-00246019).
  - viii. *State Energy Resources Conservation and Development Commission v. HyGen Industries, Inc.* (Sacramento County Superior Court No. 34-2019-00252543).
  - ix. *Olson-Ecologic Testing Laboratories, LLC v. CEC.* (Orange County Superior Court. Case No. 30-2019-01115513).
- b. Pursuant to Government Code §11126(e), the CEC 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 personnel matters.

None.

Appearances:

(\*by telephone)

Scott Morgan, Governor's Office of Planning and Research

Eric Besseling, Berkshire Hathaway

Jonathan Weisgall, Berkshire Hathaway

Christy Zamani, Day One

Richard Torres, Azusa Light & Water

Len Viejo, City of Industry

Jeff Becker, Fresno County Office of Education

Janet Dixon, Chair of the School Energy Coalition and Director of Facilities Development at the Temecula Valley School District

Rick Brown, Terra Verde (Read into record)

Inbal Nachman, Skyven Technologies

\*Brian Kolodji, Kolodji Corp.

Flan Kolodji, Kolodji Corp. (Read into record)

\*Sean Kolodji, Kolodji Corp.

Bruce A. Kimball, Greenleaf Group (Read into record)

Mark E. Russell, Radian (Read into record)

Román Partida-López, Greenlining Institute

Fabiola Lao, Center for Sustainable Energy

Scott Galati, DayZen

There being no further business, the meeting was adjourned.

Respectfully submitted,

CODY GOLDTHRITE  
Secretariat