

State of California
California Energy Commission
Minutes of the July 8, 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) July 8, 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. IMPERIAL IRRIGATION DISTRICT. Proposed order approving the Executive Director's recommendation that the Imperial Irrigation District's Power Purchase Agreement with GeoGenCo Project #501 LLC for the procurement of geothermal energy from the GeoGenCo Project #501 facility 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.
- b. VELOZ. Proposed resolution approving Agreement 600-19-012 with Veloz for a \$50,000 contract which provides the CEC membership for six months. Membership allows the CEC to participate in member meetings, working

groups, workshops, briefings, and other events; and provide input on electric vehicle awareness campaigns. Veloz membership provides a forum for the CEC to collaborate with stakeholders in the electric vehicle community. (ARFVTP funding) Contact: Sharon Purewal.

Commissioner Scott moved Item 1a and Commissioner McAllister seconded. The vote was unanimous (5-0). Chair Hochschild announced that he is recusing himself from Item 1b because he is currently serving on the Public Policy Advisory Committee of Veloz. Commissioner Scott disclosed that is a founding member of Veloz and that previously served on its Public Policy Board. Commissioner Douglas moved Item 1b and Commissioner McAllister seconded. The vote was 4-0.

2. Informational Presentation on the 2020 California Energy and Employment Report.

Presentation by BW Research on the methodology and major findings of the 2020 California Energy and Employment Report, which was released in June 2020 and jointly sponsored by the CEC and California Public Utilities Commission. The report provides 2019 employment data from California's energy sector and preliminary findings on the energy employment impacts of COVID-19. Contact: Fritz Foo. (Staff presentation: 5 minutes)

BW Research gave a presentation on Informational Item 2. No action was taken.

3. Lafayette Backup Generating Facility (20-SPPE-02).

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 May 20, 2020, by Digital Realty for the proposed Lafayette Backup Generating Facility (LBGF) in Santa Clara, California. LBGF would consist of diesel-fired generators to provide up to 99.8 megawatts of backup power for the associated Lafayette Data Center building in the event electricity cannot be supplied by the utility, Silicon Valley Power. The CEC is the lead agency for the project under the Warren-Alquist Act and CEQA, and will prepare the appropriate environmental document. If an SPPE is granted, the facility would be exempt from CEC jurisdiction and subject to permitting by the City of Santa Clara and other agencies. Contact: Steven Kerr. (Staff presentation: 5 minutes)

The Chair announced that Commissioner Douglas will be the Presiding Member and that he will be the Associate Member of the Committee. Commissioner Douglas moved approval of Item 3 and Commissioner Scott seconded. The vote was unanimous (5-0).

4. Solar Energy Generating Systems VIII and IX (88-AFC-01C and 89-AFC-01C).

Proposed order granting the petition for modification to add a battery energy storage system and associated equipment to the Solar Energy Generating Systems (SEGS) VIII and IX solar thermal power plants. Staff has concluded that environmental impacts would be less than significant and both SEGS VIII and IX would remain in compliance with all applicable laws, ordinances, regulations, and standards with the continued implementation of existing conditions of certification in the Final Commission Decision for each project, and with the implementation of staff's

proposed new conditions of certification that would be added to the Decisions for both projects in the areas of Transmission Line Safety and Nuisance, Transmission System Engineering, and Worker Safety and Fire Protection. Contact: John Heiser. (Staff presentation: 5 minutes)

Commissioner Douglas moved approval of Item 4 and Commissioner Scott seconded. The vote was unanimous (5-0).

5. Heat Pump Water Heater (HPWH) Demand Management Systems.

Proposed resolution approving an application for consideration of improved energy modeling for Heat Pump Water Heater Demand Management Systems. The Natural Resources Defense Council submitted an application, under Title 24, Part 1, Section 10-109, for including modeling of the energy impacts of HPWH Demand Management Systems in the CEC's public domain building energy modeling software as an alternative procedure for demonstrating compliance with performance standards. The specifications for the alternative include criteria necessary to model the energy impacts of specific demand management features on hot water energy use and are drafted in the style of a Joint Appendix to facilitate future inclusion in the Joint Appendices of the California Energy Code. Contact: Danny Tam. (Staff presentation: 5 minutes)

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

6. Renewables Portfolio Standard 2014-2016 Compliance Period 2 Verification Results Report (18-RPS-02).

Proposed resolution adopting the Renewables Portfolio Standard Verification Results Report for San Francisco Public Utilities Commission (SFPUC) – Hetch Hetchy Power for Compliance Period 2 (2014-2016), (RPS POU Verification Results Report). The RPS POU Verification Results Report contains information specific to SFPUC – Hetch Hetchy Power 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 approval of Item 6 and Commissioner Scott seconded. The vote was unanimous (5-0).

7. Imperial Western Products, Inc. A California Corporation - Food Production Investment Program (GFO-19-901).

Proposed resolution approving agreement FPI-19-033 with Imperial Western Products, Inc. a California Corporation for a \$2,117,678 grant to design, install, and operate a microgrid system that will produce and store renewable electricity at the recipient's animal food processing facility in Coachella, and adopting staff's determination that this action is exempt from CEQA. The microgrid system will produce and store renewable electricity, providing reliability while reducing operating

costs and greenhouse gas emissions at the facility. This project is expected to provide benefits to priority populations through workforce development. (GGRF funding) Contact: Hannah Craig. (Staff presentation: 5 minutes)

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

8. Assessing Long-Duration Energy Storage Deployment Scenarios to Meet California's Energy Goals - GFO-19-308.

The purpose of this solicitation is to fund research projects that will evaluate different scenarios for the deployment of long-duration storage to meet the state's mandates to decarbonize the electricity sector in California by 2045. The objective is to develop a clear understanding of the role that long-duration energy storage (10 hours or greater) can and should play in the future of California's grid and identify the optimal durations and locations to support a variety of applications. This information will inform the development of policy to enable the deployment of long-duration storage in the state and provide necessary information to manufacturers and the investment community to build the market for long-duration storage in the state. (EPIC Funding) Contact: Mike Gravely, Jeffrey Sunquist. (Staff Presentation: 5 minutes)

- a. ENERGY AND ENVIRONMENTAL ECONOMICS, INC. Proposed resolution approving agreement EPC-19-056 with Energy and Environmental Economics, Inc. for a \$1,500,000 grant to fund the analysis of different scenarios to help understand the role that long-duration energy storage (LODES) will play in the future of California's grid and adopting staff's determination that this action is exempt from CEQA. Additionally, the recipient will develop and provide a publicly available modeling toolkit to provide various regulators, policy-makers, and stakeholders with the ability to appropriately value the role of LODES.
- b. THE REGENTS OF THE UNIVERSITY OF CALIFORNIA, ON BEHALF OF THE MERCED CAMPUS. Proposed resolution approving agreement EPC-19-060 with The Regents of the University of California, Merced for a \$1,254,955 grant to understand the role and cost targets for long-duration storage options and evaluate actions that California could take to aid the state of California to reach zero-carbon and related goals by 2045 and adopting staff's determination that this action is exempt from CEQA. The project will improve existing grid expansion modeling tools, determine the role of emerging energy storage resources in the expansion of California's energy grid, and evaluate the cost targets for long duration energy storage under different scenarios.

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

9. Demonstrating Long Duration and Title 24-Compatible Energy Storage Technologies - GFO-19-306.

The purpose of this solicitation is to fund technology demonstration and deployment projects for innovative longer-duration, non-lithium ion energy storage, and for Title 24 Joint Appendix 12 compliance-related energy storage. These projects involve

installing and operating pre-commercial energy storage technologies in multiple applications. (EPIC Funding) Contact: Quenby Lum. (Staff Presentation: 5 minutes)

- a. RINCON BAND OF LUISEÑO INDIANS. Proposed resolution approving agreement EPC-19-050 with Rincon Band of Luiseño Indians for a \$7,282,496 grant to demonstrate the integration of two types of non-lithium ion energy storage technologies, and adopting staff's determination that this action is exempt from CEQA. The energy storage technologies are vanadium redox flow battery and flywheel storage systems, which will each provide 400kW of load for up to 12 hours. The two technologies will be interconnected with solar photovoltaic to create a microgrid that will provide resiliency and cost savings for multiple buildings, including a wastewater treatment plant and an emergency public shelter.
- b. INDIAN ENERGY LLC. Proposed resolution approving agreement EPC-19-051 with Indian Energy LLC for a \$5,002,334 grant to demonstrate a long duration energy storage solution based on mixed integration of energy storage technologies, including vanadium redox flow battery, zinc hybrid cathode battery, and mechanical flywheel, at Camp Pendleton and adopting staff's determination that this action is exempt from CEQA.
- c. GRID ALTERNATIVES. Proposed resolution approving agreement EPC-19-045 with GRID Alternatives for a \$1,710,494 grant to demonstrate a solar plus vanadium redox flow battery storage system to provide energy resiliency for the Soboba Band of Luiseño Indians fire station, and adopting staff's determination that this action is exempt from CEQA. The project will validate system performance, such as: long duration energy storage, load shifting, peak shaving, and resiliency during utility power outages. The data obtained on capital cost, operating cost, performance and lessons learned will support commercial deployment.
- d. INDIAN ENERGY LLC. Proposed resolution approving agreement EPC-19-046 with Indian Energy, LLC for a \$1,218,374 grant to fund the development and demonstration of a flywheel energy storage technology that stores and discharges electrical energy for 10 hours or more at a power level of at least 50 kW, and adopting staff's determination that this action is exempt from CEQA. This demonstration will help the Viejas Band of Kumeyaay Indians and their communities by providing increased resiliency, higher reliability, lower energy costs, and support to local critical facilities.
- e. MISSION PRODUCE, INC. Proposed resolution approving agreement EPC-19-048 with Mission Produce, Inc. for a \$2,000,000 grant to improve existing vanadium redox flow battery technology and demonstrate the improvements at scale for a refrigeration facility in a disadvantaged community, and adopting staff's determination that this action is exempt from CEQA.
- f. ANTELOPE VALLEY WATER STORAGE, LLC. Proposed resolution approving agreement EPC-19-058 with Antelope Valley Water Storage, LLC for a \$2,000,000 grant to fund a behind-the-meter demonstration of an aquifer

pumped-hydro (APH) system and adopting staff's determination that this action is exempt from CEQA. The project will assist in better understanding APH and define the value and benefits that longer duration APH energy storage can provide, especially when applied in disadvantaged communities and low-income communities.

- g. THE REGENTS OF THE UNIVERSITY OF CALIFORNIA, RIVERSIDE. Proposed resolution approving agreement EPC-19-059 with The Regents of the University of California, Riverside for a \$939,232 grant and adopting staff's determination that this action is exempt from CEQA. This project will develop and demonstrate a new technology for optimal coordination of a network of autonomous, plug and play, behind-the-meter solar-battery units for residential homes. The units will be designed to perform demand-side management such as load shifting, maximizing solar use, and backup power. Each unit, called 4-Quadrant Plug and Play Cooperative Unit (PQ-CU), is based on solid-state-technology supported by small-scale solar and battery.
- h. BOXPOWER INC. Proposed resolution approving agreement EPC-19-047 with BoxPower Inc. for a \$999,099 grant to demonstrate a modular containerized solar plus energy storage system at residential customer sites and adopting staff's determination that this action is exempt from CEQA. The project will demonstrate the system performance as an integrated hardware and software platform with the ability to provide: customer energy cost savings; emissions savings; grid services; and resiliency during utility power outages. The data obtained will support commercial deployment.
- i. ELECTRIC POWER RESEARCH INSTITUTE, INC. Proposed resolution approving agreement EPC-19-054 with Electric Power Research Institute, Inc. for a \$999,841 grant to install and evaluate the performance of commercially available energy storage in new construction single-family homes and multifamily affordable housing and adopting staff's determination that this action is exempt from CEQA. This Agreement will also assess the values of energy storage for the customer and determine whether any future changes to the Title 24 building code would be valuable.

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

10. Validating Capability of Second-Life Batteries to Cost-Effectively Integrate Solar Power for Small-Medium Commercial Building Applications - GFO-19-310.

The purpose of this solicitation is to fund applied research and development projects that will develop a validated and replicable approach to repurposing retired electric vehicle (EV) batteries for stationary energy storage applications (second-life EV battery) (EPIC Funding) Contact: Tanner Kural (Staff Presentation: 5 minutes)

- a. SAN DIEGO STATE UNIVERSITY RESEARCH FOUNDATION. Proposed resolution approving agreement EPC-19-053 with San Diego State University

Research Foundation for a \$2,837,672 grant to fund the development and integration of cost-effective second-life EV batteries with a solar photovoltaic system and adopting staff's determination that this action is exempt from CEQA.

- b. REJOULE INCORPORATED. Proposed resolution approving agreement EPC-19-055 with ReJoule Incorporated for a \$2,970,774 grant to develop novel battery grading tools to more quickly and accurately assess the health of repurposed EV batteries for stationary storage, and adopting staff's determination that this action is exempt from CEQA. This project will also validate the ability of second-life EV batteries to integrate solar and provide resiliency benefits at two pilot sites: a homeless shelter and a commercial building that supports multiple small businesses.

Commissioner Scott moved approval of Item 10 and Commissioner Monahan seconded. The vote was unanimous (5-0).

11. Minutes.

Possible approval of the June 10, 2020 business meeting minutes.

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

12. Lead Commissioner or Presiding Member Reports.

The Commissioner's reported on their recent activities.

13. Executive Director's Report.

The Executive Director gave a report.

14. Public Advisor's Report.

None.

15. Public Comment.

Scott Galati.

16. 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. *State Energy Resources Conservation and Development Commission v. HyGen Industries, Inc.* (Sacramento County Superior Court No. 34-2019-00252543).
 - viii. *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.

The Chief Counsel gave a report.

Appearances:

(*by telephone)

*Sarah White, BW Research

*Philip Jordan, BW Research

*Scott Galati, DayZen, LLC, representing Digital Realty

*Dan Thompson, Terra-Gen

*Amanda Johnson, LSA Associates

*James Hendry, SFPUC

*Amanda Johnson, Imperial Western Products

*Mark Buhler, Antelope Valley Water Storage

*Josh Simmons, Prosper Sustainability, LLC

*Ram Narayanamurthy, EPRI

*Zora Chung, ReJoule Inc.

*Licha Lopez, PG&E

*Ashley Armstrong, AO Smith

*Pierre Delforge, NRDC

*Ankur Maheshwari, Rheem Manufacturing

Steven Uhler, Self (comments read into the record)

There being no further business, the meeting was adjourned.

Respectfully submitted,

CODY GOLDTHRITE
Secretariat