



January 22, 2020

Warren-Alquist State Energy Building
1516 Ninth Street
Art Rosenfeld Hearing Room
Sacramento, California 95814
10 a.m.
(Wheelchair Accessible)

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. **ALLIANCE TO SAVE ENERGY MEMBERSHIP.** Proposed resolution approving Agreement 200-19-019 with Alliance to Save Energy for a \$25,000 contract to renew the Energy Commission's (CEC) membership for one year. Membership allows CEC 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: Andrea Hoppe.
- b. **NATIONAL ENVIRONMENTAL BALANCING BUREAU 2019 UPDATE REPORT (13-ATTCP-01).** Proposed resolution approving the National Environmental Balancing Bureau (NEBB) nonresidential mechanical acceptance test technician certification provider update report for the *2019 Building Energy Efficiency Standards* (Energy Code). This will allow NEBB to administer its

proposed program changes and training curricula adjustments for the 2019 Energy Code. Contact: Joe Loyer.

- c. CAMPTONVILLE COMMUNITY PARTNERSHIP. Proposed resolution approving a change in grant recipients for Agreement EPC-17-042 from ICF Incorporated, L.L.C., which withdrew from the project, to the Camptonville Community Partnership, and the removal of major subcontractor, the Center for Sustainable Energy, which also withdrew from the project. Otherwise, the project, the Camptonville Biomass-to-Energy Project (aka Forest Biomass Business Center Bioenergy Facility - Gellerman Site), has not changed from when the CEC approved it on September 11, 2019. This \$4,999,830 grant will fund the design and construction of an innovative 5 MW (3 MW BioMAT export plus 2 MW export through other market channels) biomass power plant in Camptonville that will incorporate advanced air pollutant emission controls and a low water consumption condenser. This project will help reduce the population of dead and diseased trees by consuming up to 50,000 bone dry tons of forest biomass per year. (EPIC funding) Contact: Rizaldo Aldas.
- d. CALIFORNIA CLEAN ENERGY FUND DBA CALCEF VENTURES. Proposed resolution approving Amendment 1 to grant EPC-18-002, with California Clean Energy Fund dba CalCEF Ventures regarding a \$10,999,701 grant to fund the development of the California Test Bed Initiative (CalTestBed). The proposed amendment responds to clarification of CalCEF's planned CalTestBed selection processes for entrepreneurs to receive technology testing services. The planned processes do not require the extent of conflict-of-interest requirements set forth in Exhibit E of the original grant agreement. The revised Exhibit E also reflects a new applicable law that takes effect January 1, 2020. Minor edits to the Scope of Work and the Terms and Conditions in Exhibit C were also needed. There is no impact on the budget. (EPIC funding) Contact: Katrina Leni-Konig.
- e. CALIFORNIA CLEAN ENERGY FUND DBA CALCEF VENTURES. Proposed resolution approving changes of recipients of three California Sustainable Energy Entrepreneur Development (CalSEED) small grant awards issued under Agreement 300-15-007. All aspects of each project including the project team, technology under development, Scope of Work, and Terms and Conditions will remain the same. (EPIC funding) Contact: Joshua Croft.
 - i. Transfer of \$150,000 award for project titled "Enhancing Renewable Fuel Production with CO2 Microbubbles" from University of California (UC), Riverside to OceanForesters.
 - ii. Transfer of \$150,000 award for project titled "Graphite-coated High Energy Density Powder" from UC, Riverside to SiLi-ion, Inc.
 - iii. Transfer of \$150,000 award for project titled "Low-Cost Portable Smart Wi-Fi Programmable Learning Bio-Mimicking Solar Shrub" from California State University, Fullerton to Aura Technology LLC.

- f. **ADVANCED POWER AND ENERGY PROGRAM (APEP).** Proposed resolution approving a purchase order for \$4,999 with the Advanced Power and Energy Program at UC, Irvine, to co-sponsor their annual International Colloquium on Environmentally Preferred Advanced Power Generation (ICEPAG) 2020 Microgrid Global Summit taking place March 24-26, 2020; and approving use of the CEC logo in co-sponsorship advertisements. CEC staff will have the opportunity to highlight the success and lessons learned from past and current Electric Program Investment Charge (EPIC) investments in the advancement of microgrids, and to receive valuable input in the areas of energy technology systems integration and renewable integration from leading industry experts. (EPIC funding) Contact: Mike Gravely.
- g. **ORDER INSTITUTING RULEMAKING PROCEEDING (20-AAER-01).** Proposed Order Instituting Rulemaking to update the Appliance Efficiency Regulations, contained in the California Code of Regulations, Title 20, sections 1601-1609. This order will include updates to repeal the existing requirements for self-contained lighting controls, to modify data submittal requirements for certain federally regulated products, and to make other clarifying changes that do not modify the underlying efficiency standards. Contact: Carlos Baez.

~~2. Small Power Plant Exemption for the Laurelwood Data Center (19-SPPE-01).~~

~~Consideration and possible approval of an order adopting the Committee Proposed Decision on the Application for a Small Power Plant Exemption (SPPE) for the Laurelwood Data Center (19-SPPE-01). A proposed decision will be issued prior to January 22, 2020, that includes a Mitigated Negative Declaration prepared pursuant to the California Environmental Quality Act (CEQA). The project would include 56 diesel-powered generators, with one generator dedicated to providing fire and life safety support when electrical power is not provided by the grid. Located at 2201 Laurelwood Road in Santa Clara, California, generators would be restricted to generating electricity to meet the Laurelwood Data Center electrical load of approximately 99 MW and would not be connected to the grid. Contact: Susan Cochran. (Staff presentation: 10 minutes)~~

- ~~a. Possible closed session deliberation on the above-described SPPE. [Government Code §11126(c)(3)].~~

3. Mission College Data Center (19-SPPE-05).

Proposed order appointing a committee of two commissioners to preside over the SPPE proceeding and any other proceedings arising from the application filed on November 25, 2019, by Oppidan for the proposed Mission College Data Center (MCDC). MCDC would be located in Santa Clara and consist of a building that houses data servers and up to 78.1 MW of associated diesel-fueled backup generators to provide an uninterruptible power supply during an emergency loss of utility 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 project 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)

4. Lake View Geothermal (79-AFC-01C).

Proposed order approving the revised post-certification petition for modification to install a stationary permanent emergency diesel-driven engine for the cooling tower wet-down system to aid in protection against wildfires and adding air quality conditions of certification to conform with air district permit requirements. With the proposed conditions of certification, staff concludes 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: Eric Veerkamp. (Staff presentation: 5 minutes)

5. California Energy Demand Forecast, 2019-2030 (19-IEPR-03).

Proposed resolution adopting the *California Energy Demand 2019-2030 Forecast* of natural gas and electricity consumption, as well as hourly and peak electricity demand for California and for certain utility planning areas within the state. The forecast includes estimates of additional achievable energy efficiency to provide managed forecast scenarios for planning. The adopted forecast will be used in a number of planning processes, including the California Independent System Operator's transmission planning and the California Public Utilities Commission's integrated resource and distribution planning. Contact: Nick Fugate. (Staff presentation: 10 minutes)

6. Trinity Public Utility District (19-BSTD-05).

Proposed resolution determining that the solar photovoltaic (PV) requirement in the 2019 Building Energy Efficiency Standards (Energy Code) shall not apply to newly constructed low-rise residential buildings in Trinity Public Utility District (Trinity). Trinity submitted an application package for a determination regarding whether the solar PV requirement should apply to its service territory (Title 24, Part 1, §10-109(k)). Staff posted the application for a 60-day public comment period and performed a cost-effectiveness analysis based on public agency rules adopted by Trinity. Staff found that using Trinity's agency rules causes the CEC's cost-effectiveness conclusions for the solar PV requirement to not hold. Contact: Cheng Moua. (Staff presentation: 5 minutes)

7. City of Davis Local Ordinances Exceeding the 2019 Energy Code (19-BSTD-06).

Proposed resolution approving an application submitted by the City of Davis to enforce local energy ordinances that exceed the energy efficiency requirements of the 2019 Energy Code (Title 24, Part 6). The local ordinance requires, for new residential construction, a total Energy Design Rating (EDR) of 9.5 for mixed fuel single-family buildings, and a total EDR of 10 for mixed-fuel low-rise multifamily buildings. Both are also required to be pre-wired for future retrofit to electric water heating, space heating, cooking, and clothes drying. Contact: Danuta Drozdowicz. (Staff presentation: 5 minutes)

8. City of San Leandro.

Proposed resolution approving Agreement 008-19-ECI with the City of San Leandro for a \$1,284,140 loan at one percent interest to install various energy efficiency measures at its 14 facilities and adopting staff's determination that this action is exempt from CEQA. Upon completion, the project will reduce about 550,871 kWh of grid electricity consumption annually, saving the City about \$112,402 in utility costs. Based on the loan amount, the simple payback is 11.4 years. (ECAA funding) Contact: Balraj S. Sandhu. (Staff presentation: 5 minutes)

9. Rim of the World Recreation and Park District.

Proposed resolution approving Agreement 009-19-ECI with Rim of the World Recreation and Park District for a \$156,783 loan at one percent interest and adopting staff's determination that this action is exempt from CEQA. The proposed project includes retrofitting interior and exterior lighting to light emitting diodes (LED), and installing rooftop-mounted solar PV systems at three locations totaling 24.4 kWdc. The project is estimated to save the district 58,805 kWh of electricity, resulting in annual energy cost savings of \$9,615. The simple payback on the loan amount is approximately 16.3 years. (ECAA funding) Contact: David Michel. (Staff presentation: 5 minutes)

10. Digital Energy, Inc.

Proposed resolution approving Agreement 400-19-001 with Digital Energy, Inc. for a \$2,100,000 contract to assist and support the Bright Schools and Energy Partnership Programs. These programs promote implementation of energy efficiency and renewable generation measures in existing facilities by providing technical assistance services such as energy audits to public agencies. (ECAA Funding) Contact: Marites Antonio. (Staff Presentation: 5 minutes)

11. Renewable Energy for Agriculture Program – Farmers' Fresh Mushrooms California, Inc.

Proposed resolution approving Agreement REA-19-004 with Farmers' Fresh Mushrooms California, Inc., for a \$300,000 grant to install a 125 kW solar PV system to serve a mushroom farm in Colusa County, and adopting staff's determination that this action is exempt from CEQA. (GGRF funding) Contact: Geoffrey Dodson. (Staff Presentation: 5 minutes)

12. California Clean Energy Fund DBA CalCEF Ventures.

Proposed resolution approving six grant applications totaling \$2,700,000 from the EPIC program's CalSEED Initiative 2019 Prototype Award Competition and adopting staff's determination that this action is exempt from CEQA. These "Prototype Awards" were selected via a business plan competition where CalSEED entrepreneurs 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: Eleanor Oliver. (Staff presentation: 10 minutes)

a. CALSEED INITIATIVE 2019 PROTOTYPE AWARDS

- i. Stasis Group, Inc., Modesto, Ducted Phase Change Material Cooling, \$450,000. The goal of this project is to reduce energy consumption and peak demand for cooling in commercial buildings by integrating a ducted thermal energy storage system into HVAC systems, using phase change materials in an active air stream with instrumentation and controls. The Stasis system is a simple, bolt-in installation retrofit that has a unique control system that maximizes the value the phase change materials provide to the grid by empowering the building to dynamically shift heating and cooling loads without reducing occupancy comfort. With the Prototype Award, the team will continue lab testing to fine tune a prototype full-scale product; conduct field installations in cooperation with business owners to demonstrate real-world electric cost savings; and collect data that can facilitate future steps toward commercialization.
- ii. Empow Lighting, LLC, Sacramento, LED Lighting Film for Low-Cost Retrofits of Fluorescent Lights, \$450,000. The goal of this project is to demonstrate a full-scale prototype for a drop-in LED retrofit solution for linear fluorescent fixtures that will enhance energy efficiency, light quality, and aesthetics without requiring rewiring or training. Empow employs a thin and flexible LED lighting sheet as an overlay for fluorescent fixtures, avoiding energy losses within the fixture and increasing useful light output. With the Prototype Award, Empow will design and fabricate full-scale working prototypes; test technology performance using both in-house and independent measurements, and demonstrate retrofitting a standard-size linear fluorescent troffer using the thin-sheet LED lighting panel.
- iii. Maxout Renewable, Inc., Livermore, Maxout Polyverter, \$450,000. The goal of this project is to continue development on an all-in-one solar inverter called the Polyverter. The Polyverter includes patented technologies that create an ultra-reliable inverter that combines per-panel optimization, battery storage, and emergency back-up capability at one third the cost of current competitors. The Polyverter uses a single optimizer to process power imbalances between solar panels that have varying power performances. With the Prototype Award, the team will complete the battery technology development and testing, manufacture multiple prototype units for testing and demonstration, conduct field-testing, and conduct preliminary certification testing.
- iv. InPipe Energy, Inc., Chino, In-PRV (pressure recovery valve) Renewable Energy Generation System, \$450,000. The goal of this project is to demonstrate a first-of-its-kind digitally enabled water pipe control valve that captures energy that would otherwise be lost from pressurized release valves in water pipelines. InPipe has developed the In-PRV™, which uses proprietary software, sensors, and components such as microturbines, control valves, and piping. It accurately controls pressure

and produces a consistent, predictable and reliable source of renewable energy by leveraging existing water pipeline infrastructure without affecting operations. With the Prototype Award, the team will complete a field installation and demonstration of an In-PRV™ in a California-based water agency.

- v. GenH, Inc., Palos Verdes Estates, The Mobile Envelope Dam Electrification System, \$450,000. The goal of this project is to develop a first-of-its-kind, rapidly deployable, fully modular system that electrifies non-powered dams and canal heads without construction or investment in any fixed infrastructure. The system is siphon based and conveys upstream water up-and-over the dam to turbines downstream. It delivers multiyear stable kWh energy production without the need for storage at half the kWh cost of natural gas. Adaptive Hydro™ benefits dam and canal owners by providing new no-cost, no-impact revenue opportunities. With the Prototype Award, GenH will perform the design and engineering of the commercial Adaptive Hydro™ system for the smallest module size (2.5KW) and deploy the system.
- vi. SkyCool Systems, Inc., Mountain View, SkyCool Panels, \$450,000. The goal of this project is to reduce energy and water use in data center cooling systems. SkyCool Systems has developed panels that radiate heat to the sky without water consumption and only using the electricity required to run a pump. The cooling effect from these panels is enabled by a patented, multilayer, optical film that emits infrared heat to the cold sky, while cooling the panels. With the Prototype Award, the team will continue modeling efforts to determine the optimum surface area, orientation, and integration with a modular data center; develop a design; and deploy a test system to demonstrate the cooling performance of the panels.

13. Minutes.

Possible approval of the December 11, 2019, and January 8, 2020, business meeting minutes.

14. Discussion Item: Lead Commissioner or Presiding Member Reports.

A lead commissioner on a policy matter may report to the full commission on the matter and discussion may follow. A presiding member on a delegated committee may report to the full commission on the matter and discussion may follow.

15. Discussion Item: Executive Director's Report.

16. Discussion Item: Public Advisor's Report.

17. Public Comment.

Individuals may speak up to three minutes on any matter concerning the CEC, with the exception of items appearing on this agenda or items related to pending adjudicative (certification or enforcement) proceedings.

18. Discussion Item: Chief Counsel's Report.

- a. Pursuant to Government Code §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. *Helping Hand Tools v. California Energy Commission, and Vantage Data Centers LLC* (Sacramento Superior Court, Case No. 34-2018-80003026).
 - vii. *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).
 - viii. *State Energy Resources Conservation and Development Commission v. HyGen Industries, Inc.* (Sacramento County Superior Court No. 34-2019-00252543).
 - ix. *National Electrical Manufacturers Association, et al. v. CEC, et al.* (U.S. Eastern District Court of California Case No. 2:19-cv-02504).
 - x. *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 CEC, which might include personnel matters.

Participate by Telephone. To participate by telephone, call 1-888-823-5065 on business meeting days after 9:50 a.m. (Pacific Time). The passcode is "business"

meeting” and the call leader is Jerome Lee. If you plan to speak about a specific item, please give the item number to the operator.

In the event of technical problems with the telephone line, it is recommended that comments be submitted by email to publicadviser@energy.ca.gov or facsimile to 916-654-4493 by 5 p.m., at least two days before the meeting.

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Public participation. Questions may be directed to the Public Advisor, Noemí O. Gallardo, via email at publicadviser@energy.ca.gov, or by phone at 916-654-4489 or 800-822-6228.

Accommodation. Requests may be directed to Yolanda Rushin at 916-654-4310, at least five days before the meeting.

Wi-Fi. Access is available in the building’s public areas (atrium, snack bar, and library).

Media. Inquiries may be directed to Media and Public Communications at 916-654-4989.

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Adjournment of Hearings and Meetings. Depending on time and the orderly management of proceedings, the CEC may adjourn (recess or postpone) any noticed hearing or meeting to be continued the next day, another specific date or time, or the next business meeting. Any such adjournment will be noticed at the time the order of adjournment is made. (Government Code §§11128.5, 11129)