

DOCKETED

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19-ERDD-01 - Berkeley Lab's comments

Additional submitted attachment is included below.



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California Energy Commission

1516 Ninth Street
Sacramento, CA 95814

RE: Lawrence Berkeley National Laboratory Comments on ‘Clean Energy Alternatives to Diesel Backup Generator Systems’

Docket 19-ERDD-01

Berkeley Lab supports a portfolio of clean technology options for resilient communities. We also see the need for mobile, flexible, and renewable generation resources that are cleaner than diesel generators that are widely deployed today. Please see our comments and questions below:

- We suggest that the CEC consider offering a working definition of clean energy in the context of this opportunity
- Fuel based generators, even those with alternative fuels (bio-fuels, hydrogen, biomass) may present logistical and safety issues during a PSPS and or a natural disaster event however, mobility of energy storage assets in the case of resiliency can be useful. This can include inexpensive and green storage where the primary storage is done off site and delivered to a generator when needed in response to an event such as PSPS or wildfires. While this could be thought of as similar to the way diesel generation sets currently operate, we recommend considering inexpensive green alternatives beyond biofuels which could include delivering green hydrogen or other chemicals for fuel cells and electrode materials for rechargeable and primary batteries.
- Would this effort allow backup renewable resources to be associated with existing fixed assets? The Berkeley Lab research team sees several key benefits for example using large solar shaded carports as a component of the backup power source.
- We suggest that the backup generator systems be considered for PSPS events or for compound events such as a PSPS that occurs with a forest fire or seismic event.
- We suggest that CEC provide examples of use cases of interest for backup generator systems
- We seek the following clarification: Does the CEC see a connection between the workshop titled, "Workshop to Discuss Research into Clean Energy Alternatives to Diesel Backup Generator Systems (conducted on January 21, 2021) and the



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- upcoming MORBUGS GFO? What if any topical connections are there between the January 21st workshop and the pending MORBUGS GFO?
- The workshop had a strong emphasis on gas powered generators. Does CEC view reliance on the natural gas pipeline system as a reliable PSPS infrastructure asset?
- Among other critical loads, how are datacenters ranked during a PSPS event?

Berkeley Lab appreciates the opportunity to provide these comments.

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