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CESA's Comments on Gas Efficiency Improvements for Reliability Workshop

Additional submitted attachment is included below.

December 16, 2020

Email to: docket@energy.ca.gov
Docket Number: 20-SIT-01
Subject: CESA's IEPR Microgrid Workshop Comments

Re: Comments of the California Energy Storage Alliance on the Lead Commission Workshop on Incremental Efficiency Improvements to Natural Gas Power-Plants for Electric System Reliability and Resiliency

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The California Energy Storage Alliance (CESA)[1] appreciates the opportunity to serve as a panelist and to offer these post-workshop comments on the Lead Commissioner Workshop on "Incremental Efficiency Improvements to Natural Gas Power-Plants for Electric System Reliability and Resiliency," held on December 2, 2020. CESA recognizes the importance of ensuring reliability while advancing the state's decarbonization objectives, where the unprecedented heat storms in August and September 2020 and rolling outages on August 14-15 highlighted the need for California regulators and policymakers to assess our planning frameworks, market designs, and resource procurement to mitigate risks of repeat events.

In these comments, CESA aims to support the California Energy Commission (CEC), as well as its sister agencies in the California Public Utilities Commission (CPUC) and California Independent System Operator (CAISO) in addressing these urgent electric system reliability and resiliency issues

Hybrid gas-storage represents an immediate cost-effective resource adequacy (RA) capacity resource that should also play an important role in transitioning the state's gas fleet towards Senate Bill (SB) 100 decarbonization goals and reducing local pollutants in disadvantaged communities. As CESA and Marin Clean Energy (MCE) presented at the workshop, hybridization with storage (*e.g.*, lithium-ion batteries, thermal storage) provides many benefits during both regular operating conditions and emergency conditions.

For example, the incremental storage component of the hybrid gas-storage resource is able to provide spinning reserves, regulation, and quick response during emergency or near-emergency grid energy needs, in contrast to a conventional standalone combustion turbine, which due to start times, impact its ability to provide these services and contingency values unless the conventional standalone combustion turbine remains online to account for start times. With the storage component providing these reserves and ancillary services, the gas unit is able to remain offline until needed for greater energy needs, which in turn reduce the emissions impact associated with the unit's minimum operating level (Pmin).

There are system-wide benefits as well where hybridization can allow for more efficient dispatch across the entire gas fleet. With peaker units generally committed to provide spinning

[1] CESA is a 501(c)(6) organization representing over 100 member companies across the energy storage industry. www.storagealliance.org

reserves, other more efficient units on system must be backed down. By reducing a peaker's Pmin to 0 MW, hybridization allows more efficient dispatch across the system. A credible roadmap for hybridizing the gas fleet shows how we can initially reduce and ultimately phase out the gas fleet and deliver system-wide benefit.

For reference and for further evidence of the potential value of hybridization as both a near-term emergency reliability and decarbonization strategy, CESA recommends that the CEC consider the Gridwell Consulting study that modeled how various hybridization scenarios that led to cost savings in resource buildout through 2030, reduced daily starts of remaining gas fleet by an average of 940 starts a year (50%), and reduced GHG emissions from remaining gas fleet by 350,000 metric tons a year, among other things.[2] CESA also commissioned a study in 2018 that affirmed many of the same results and found reliable system operations under a scenario even with significant gas retirements at a comparable cost to business as usual.[3] Over time, the hybridized gas fleet can transition to a standalone battery storage structure as needed.

In light of the current emergency reliability, the benefits and value of hybridization are more acute given that the incremental storage capacity can be procured, deployed, constructed, and commissioned on an expedited basis. By leveraging a brownfield site and taking advantage of the existing interconnection capability, the usually-long development process to get new incremental resource capacity online is avoided or mitigated. There are reduced permitting risks as well since the added storage component will reduce the emissions profile of the gas unit, keeping it well within the bounds of its air permits and CEC licenses.

Importantly, with the storage component providing the operating reserves needed, it would free up supply-side capacity to address any shortfalls to meet extreme heat event load conditions. During the August 14-15, 2020 rolling outages, the CAISO chronicled the need to maintain and even increase the operating reserve requirements, which ultimately reduces the RA supply pool and creates critical emergencies when dipping into these reserves.[4] In this sense, hybridization is an obvious near-term emergency reliability strategy to mitigate these risks. Thus, in the near-term, CESA strongly urges the CEC to coordinate with the CPUC and CAISO to take all the actions necessary to support procurement that may be directed by the CPUC in R.20-11-003 in response to these emergency reliability needs.

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[2] *Hybrid Storage Technology: Initial assessment of the greenhouse gas reduction and economic savings from Hybrid EGT® adoption in California* prepared by Gridwell Consulting in July 2018. https://dfb97770-7344-44b9-889b-04db60882823.filesusr.com/ugd/fe68bf_ff74a8c24c6d4907b8bea661be9f99df.pdf

[3] Attachment 1 of the *Comments California Energy Storage Alliance on the Ruling of Assigned Administrative Law Judge Seeking Comment on Proposed Preferred System Portfolio and Transmission Planning Process Recommendation* on January 31, 2019 in R.16-02-007. https://docs.cpuc.ca.gov/PublishedDocs/Efile/G000/M263/K645/263645344.PDF

[4] *Preliminary Root Cause Analysis: Mid-August 2020 Heat Storm* published by the Joint Agencies on October 6, 2020 at 5, 14, and 30-31. http://www.caiso.com/Documents/Preliminary-Root-Cause-Analysis-Rotating-Outages-August-2020.pdf

Conclusion

In summary, CESA believes that hybridization of the gas fleet with storage represents a cost-effective means to deliver immediate emergency reliability, reduce greenhouse gas and local emissions, and deliver ratepayer savings and system efficiencies. As a result, we recommend that the agencies coordinate in charting a path forward on this rational and highly-beneficial pathway to meeting near-term needs without compromising on long-term decarbonization objectives. CESA appreciates the opportunity to provide these comments on the CEC workshop. We look forward to collaborating with the CEC and other stakeholders in this proceeding.

Sincerely,

Jin Noh
Policy Director
CALIFORNIA ENERGY STORAGE ALLIANCE
jnoh@storagealliance.org