

October 15, 2018

Energy Division
California Public Utilities Commission
505 Van Ness Avenue
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Re: Reply Comments of the California Energy Storage Alliance to Draft Resolution E-4949: Pacific Gas and Electric request approval of four energy storage facilities with the following counterparties: mNOC, Dynegy, Hummingbird Energy Storage, LLC, and Tesla.

Dear Mr. Petlin and Ms. McMahon:

The California Energy Storage Alliance (“CESA”)¹ submits these reply comments to Draft Resolution E-4949, issued on September 20, 2018, approving cost recovery for three power purchase agreements (“PPAs”) and one engineering, procurement and construction (“EPC”) agreement for a total of four energy storage facilities with mNOC, Dynegy, Hummingbird Energy Storage, LLC, and Tesla.

¹ 8minutenergy Renewables, Able Grid Energy Solutions, Advanced Microgrid Solutions, AltaGas Services, Amber Kinetics, American Honda Motor Company, Inc., Axiom Exergy, Brenmiller Energy, Bright Energy Storage Technologies, Brookfield Renewables, Carbon Solutions Group, Centrica Business Solutions, Consolidated Edison Development, Inc., Customized Energy Solutions, Dimension Renewable Energy, Doosan GridTech, Eagle Crest Energy Company, East Penn Manufacturing Company, Ecoult, EDF Renewable Energy, ElectrIQ Power, eMotorWerks, Inc., Enel, Enerport, ENGIE, E.ON Climate & Renewables North America, esVolta, Fluence Energy, GAF, General Electric Company, Greensmith Energy, Ingersoll Rand, Innovation Core SEI, Inc. (A Sumitomo Electric Company), Iteros, Johnson Controls, Lendlease Energy Development, LG Chem Power, Inc., Lockheed Martin Advanced Energy Storage LLC, LS Power Development, LLC, Magnum CAES, Mercedes-Benz Energy, NantEnergy, National Grid, NEC Energy Solutions, Inc., NextEra Energy Resources, NEXTracker, NGK Insulators, Ltd., NRG Energy, Inc., Parker Hannifin Corporation, Pintail Power, Primus Power, Range Energy Storage Systems, Recurrent Energy, Renewable Energy Systems (RES), Sempra Renewables, Sharp Electronics Corporation, SNC Lavalin, Southwest Generation, Sovereign Energy, Stem, STOREME, Inc., Sunrun, Swell Energy, True North Venture Partners, Viridity Energy, Wellhead Electric, and Younicos. The views expressed in this Response are those of CESA, and do not necessarily reflect the views of all of the individual CESA member companies.

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I. INTRODUCTION.

CESA continues to support the determination in Draft Resolution E-4949 to approve the four energy storage contracts submitted for approval by Pacific Gas and Electric Company (“PG&E”) in Advice Letter 5322-E. Multiple parties submitted comments in opposition to the Draft Resolution, including Calpine, NRG, Public Advocates Office (“PAO”), Independent Energy Producers Association (“IEPA”), and Shell Energy. CESA provides its reply comments to some of their points below.

II. DISCUSSION.

A. Energy storage projects are contracted to provide RA-qualifying capacity and should partially or fully address the Moss Landing and South Bay local capacity requirements.

Multiple parties raised the concern about the lack of detailed study from the California Independent System Operator (“CAISO”) on the duration of the local capacity requirement (“LCR”) need in the Moss Landing and South Bay local sub-areas from the deficiency created by the intent to retire by the Gilroy facility.² CESA agrees that understanding the duration of the underlying grid need is important, as done in the Moorpark Local Sub-Area Capacity Study. However, it is important to note that Resolution E-4909 gives PG&E and the Commission the authority to consider the procurement of energy storage resources to “*partially or wholly* obviate the need for, or extension of, RMR contracts [emphasis added],”³ and thus even if the full need is not mitigated, the proposed energy storage resources would still be within the authorization of Resolution E-4909. Furthermore, PG&E indicated that it “coordinated with the CAISO before and after the RFO to ensure the requirements and location of the selected projects would be within the relevant subarea,”⁴ which suggests that the CAISO has consulted PG&E on this matter. Unless the CAISO indicates otherwise, CESA believes that the proposed energy storage contracts meet the requirements of Resolution E-4909.

B. Energy storage procurement targets would be exceeded but should not be rejected just for that purpose if addressing a grid need.

Several parties expressed concern about the proposed energy storage projects pushing PG&E above and beyond the energy storage procurement targets in the transmission and distribution domains established by D.13-10-040,⁵ even when accounting for domain transfer ‘counting’ rules. When addressing a specified grid need, however, it is reasonable for the Commission to approve

² NRG’s comments at p. 5 and PAO’s comments at pp. 2, 5.

³ Order 9.

⁴ *Pacific Gas and Electric Company’s Reply to Protests of Advice Letter 5322-E for Energy Storage Contracts Resulting from PG&E’s Local Sub-Area Request for Offers Per Resolution E-4909*, submitted on July 26, 2018, pp. 8, 10-11.

⁵ Calpine’s comments at p. 10 and IEPA’s comments at p. 3.

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energy storage projects to address those specified needs even if there would be no added ‘compliance’ benefit of meeting residual energy storage procurement targets. The targets were established to encourage market transformation of energy storage,⁶ giving the investor-owned utilities (“IOUs”) the leeway to explore the deployment of energy storage resources for innovative use cases outside of an explicit needs determination, but given the cost-effectiveness requirement, the IOUs are incentivized to align energy storage procurement with explicit needs that improve the competitiveness of energy storage resources. For the proposed energy storage contracts, some portion will help PG&E meet its residual procurement target needs, which is an added benefit for the approval of these contracts, but it appears that PG&E has sufficiently demonstrated the net benefits of these contracts even without accounting for the added compliance benefit.⁷

C. Energy storage projects located in the Moss Landing and South Bay local sub-areas provide environmental benefits.

The Draft Resolution concurred with CESA that the proposed energy storage resources would produce environmental benefits. Given the environmental policies and goals of the state, the four energy storage contracts advance these policies and goals by obviating the need in part or in full for reliability must-run (“RMR”) contracts for the Gilroy facility.

PAO and Calpine argue that the finding and conclusion in the Draft Resolution that the proposed energy storage projects will reduce greenhouse gas (“GHG”) emissions is unsubstantiated, especially without a study of proposed operations.⁸ On the one hand, CESA agrees that further analysis could have been provided to substantiate claims of GHG emission reduction benefits. However, CESA believes that the in-front-of-the-meter (“IFOM”) energy storage projects proposed by PG&E for approval will likely operate to provide GHG emission benefits. With the CAISO having set RA Availability Assessment Hours (“AAH”) between 4pm and 9pm to reward availability during these hours of greatest need,⁹ and with IFOM energy storage resources subject to RA must-offer obligations incentivized to charge during hours of lower wholesale energy prices, the IFOM energy storage resource will likely be operated to provide environmental benefits. In general, marginal GHG emission rates are relatively well-correlated with wholesale energy market prices¹⁰

⁶ *Decision Adopting Energy Storage Procurement Framework and Design Program*, D.13-10-040, issued October 21, 2013, Conclusions of Law 4 and 5.

<http://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M079/K533/79533378.PDF>

⁷ *Pacific Gas and Electric Company’s Reply to Protests of Advice Letter 5322-E for Energy Storage Contracts Resulting from PG&E’s Local Sub-Area Request for Offers Per Resolution E-4909*, submitted on July 26, 2018, pp. 12-14 and Draft Resolution E-4949, p. 30.

⁸ PAO’s comments at p. 4 and Calpine’s comments at p. 13.

⁹ *Decision Adopting Local Capacity Obligations for 2019 and Refining the Resource Adequacy Program*, D.18-06-030, issued on June 25, 2018,

¹⁰ In their methodology, WattTime uses day-ahead wholesale energy prices to inform forecasts for marginal GHG emission rates. See *SGIP GHG Signal Working Group Final Report*, published on September 6, 2018, p. 127.

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and thus IFOM energy storage resources operating in response to wholesale price and AAH signals are likely to provide GHG emission benefits.¹¹

Finally, CESA cautions the Commission to view the findings from the Self-Generation Incentive Program (“SGIP”) within context. Specifically, one of the key findings of the SGIP impact evaluations have been that the misalignment of retail rates has led to some of the unintended GHG emission impacts, contrary to program goals.¹² However, IFOM energy storage resources are not subject to retail rates and instead participate directly and only in the wholesale market. Further, the SGIP impact report even recommended wholesale market integration of behind-the-meter (“BTM”) energy storage resources to address some of the issues around misaligned retail rates because “when locational marginal prices are high, utility marginal costs and marginal emissions tend to be high as well.”¹³ With IFOM energy storage resources already participating directly and only in the wholesale market, citations to the concerns raised in this report by the PAO and Calpine may be less relevant within the context of PG&E’s proposed energy storage projects.

¹¹ CESA understands that further verifiable analysis is likely needed given the complexities of the GHG impacts depending on the operations of the energy storage resource. CESA is supportive of such efforts and understands that the IRP process will likely address GHG emission impacts of local resources.

¹² *2017 SGIP Advanced Energy Storage Impact Evaluation*, submitted to PG&E and SGIP Working Group on September 7, 2018, Chapter 1: Executive Summary, pp. 24-25.
http://www.cpuc.ca.gov/uploadedFiles/CPUC_Public_Website/Content/Utilities_and_Industries/Energy/Energy_Programs/Demand_Side_Management/Custom_Gen_and_Storage/2017_SGIP_AES_Impact_Evaluation.pdf

¹³ *Ibid*, p. 26.

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III. CONCLUSION.

CESA appreciates the opportunity to submit these reply comments to Draft Resolution E-4949 and seeks to find ways to collaborate with the Commission, PG&E, and other stakeholders to carefully and reliably manage the electric grid for the benefit of ratepayers. In sum, considering that the proposed energy storage contracts will provide environmental benefits and will address the identified need in part or in full, PG&E's Advice Letter complies with Resolution E-4909 and thus Draft Resolution E-4949 should be approved by the Commission.

Respectfully submitted,



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Service lists R.15-03-011 and R.17-09-020