

**BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA**

Application of Pacific Gas and Electric Company
to Revise its Electric Marginal Costs, Revenue
Allocation and Rate Design (U39M).

Application 16-06-013
(Filed June 30, 2016)

**COMMENTS OF THE CALIFORNIA ENERGY STORAGE ALLIANCE
ON THE PROPOSED DECISION ELIMINATING THE PACIFIC GAS AND
ELECTRIC COMPANY MATINEE PRICING PILOT OBLIGATION**

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In accordance with Rules of Practice and Procedure of the California Public Utilities Commission (“Commission”), the California Energy Storage Alliance (“CESA”)¹ hereby submits these comments on the *Proposed Decision Eliminating the Pacific Gas and Electric Company Matinee Pricing Pilot Obligation*, issued on April 26, 2017 (“Proposed Decision”).

I. INTRODUCTION.

CESA generally agrees with the Proposed Decision that eliminates PG&E’s requirement to implement its energy matinee pricing tariff pilot, having fulfilled its obligation to design such a proposal pursuant to Decision (“D.”) 16-11-021. CESA is supportive of Pacific Gas and

¹ 8minutenergy Renewables, Adara Power, Advanced Microgrid Solutions, AES Energy Storage, AltaGas Services, Amber Kinetics, American Honda Motor Company, Inc., Bright Energy Storage Technologies, BrightSource Energy, Brookfield, Consolidated Edison Development, Inc., Customized Energy Solutions, Demand Energy, Doosan GridTech, Eagle Crest Energy Company, East Penn Manufacturing Company, Ecoult, EDF Renewable Energy, ElectriQ Power, eMotorWerks, Inc., Energport, Energy Storage Systems Inc., Geli, Green Charge Networks, Greensmith Energy, Gridscape Solutions, Gridtential Energy, Inc., Hitachi Chemical Co., IE Softworks, Innovation Core SEI, Inc. (A Sumitomo Electric Company), Johnson Controls, LG Chem Power, Inc., Lockheed Martin Advanced Energy Storage LLC, LS Power Development, LLC, Magnum CAES, Mercedes-Benz Energy, National Grid, NEC Energy Solutions, Inc., NextEra Energy Resources, NEXTracker, NGK Insulators, Ltd., NICE America Research, NRG Energy, Inc., OutBack Power Technologies, Parker Hannifin Corporation, Qnovo, Recurrent Energy, RES Americas Inc., Sharp Electronics Corporation, SolarCity, Southwest Generation, Sovereign Energy, Stem, STOREME, Inc., Sunrun, Swell Energy, UniEnergy Technologies, Wellhead Electric, and Younicos. The views expressed in these Comments are those of CESA, and do not necessarily reflect the views of all of the individual CESA member companies. (<http://storagealliance.org>).

Electric Company's ("PG&E") proposal in its General Rate Case Phase 2 Application ("A.") 16-06-013 for an opt-in super-off-peak time-of-use ("TOU") rate that applies to a broader set of customers. While the "directional" conclusions of the pilot would have been beneficial, CESA understands that the cost and the timing of the pilot limited the potential value of the pilot in informing upcoming rate design. Rather than awaiting the results of the pilot to implement an energy matinee pricing tariff at a broader scale, CESA supports the consideration of rate design in Phase 2 of A.16-06-013 as a strategy to address California's need for more resources that are capable of increasing load or charging during time periods of abundant solar generation.

For similar reasons, a Proposed Decision was recently issued that approved Southern California Edison Company's ("SCE") Petition for Modification to eliminate the requirement to implement its approved energy matinee pricing pilot,² given that SCE plans to implement matinee pricing tariffs more broadly in its Rate Design Window proceeding (A.16-09-003), which will produce similar data concerning the effects and performance of rates designed to shift demand to the mid-day spring period. In light of these proposals to eliminate energy matinee pricing tariff pilots for each of the investor-owned utilities ("IOUs"), CESA believes it is important for the IOUs to consider and add an energy storage-specific element to these matinee tariff proposals in the broader rate case proceedings.

II. CALIFORNIA NEEDS ENERGY STORAGE-SPECIFIC MATINEE PRICING TARIFFS TO ADDRESS OVERSUPPLY CONDITIONS.

As California advances toward its statewide renewable goals, the California Independent System Operator ("CAISO") has reported significant overgeneration and ramping issues from the rapid deployment of solar and wind generation. In 2014, the CAISO conducted a detailed

² *Proposed Decision Granting Southern California Edison Company's Petition for Modification of Decision 16-11-021*, issued on May 12, 2017, R.13-12-011.

analysis of actual and projected electric net load for 2012 through 2020 and uncovered the ‘duck curve’, which pointed to potential operating challenges related to oversupply risk during the midday and steep three-hour afternoon ramps (of up to 13,000 MW by 2020).³ ScottMadden Energy Consultants, a consulting firm, analyzed average hourly production data from CAISO from January 2011 to June 2016 in a study to understand if actual results aligned with the original ‘duck curve’ forecast from 2013 and found that the duck curve is: producing net loads lower than forecast; increasing ramps throughout the year; creating the most severe ramping needs on the weekends; and occurring in multiple seasons (not just spring months).⁴ The CAISO also reported that the actual three-hour ramp reached 12,960 MW on December 18, 2016 and the net load reached a new low of 10,386 MW on April 9, 2017 – indicating that California is already at predicted 2020 levels for the original ‘duck curve’ estimate.⁵ These changes to grid conditions have led to impacts on renewable curtailments as well. The percentage of real-time intervals with curtailments is also increasing significantly every year since 2014. In 2017, curtailments occurred in 31.1% of real-time intervals, up from 9.6% in 2014, 15.8% in 2015, and 21.1% in 2016.⁶

Energy storage resources are the only resources with the unique ability to charge during oversupply periods and discharge during evening peak demand periods to reduce ramping needs and reduce curtailments, thereby maximizing investments in renewables and greenhouse-gas-free technologies. These grid conditions therefore create a strong case for a comprehensive strategy

³ California ISO. *What the Duck Curve Tells us About Managing a Green Grid*. https://www.caiso.com/Documents/FlexibleResourcesHelpRenewables_FastFacts.pdf

⁴ ScottMadden Energy Consultants, *Revisiting the California Duck Curve: An Exploration of Its Existence, Impact, and Migration Potential*. October 2016. http://www.scottmadden.com/wp-content/uploads/2016/10/Revisiting-the-Duck-Curve_Article.pdf

⁵ *Briefing on Supply Conditions*, EIM Governing Body Meeting, presented by Mark Rothleder on April 19, 2017.

⁶ *Ibid.*

that creates strong economic incentives for storage developers and operators to deploy these versatile resources in innovative ways to maximize value to the grid. Matinee pricing tariffs in general, but also matinee pricing tariffs that are specific to energy storage technologies are just the beginning. Unlike other load-modifying technologies, energy storage resources are dispatchable, able to sustain a load increase, able to have multiple starts, and versatile enough to address grid conditions on short notice. Energy storage can also continue to meet host customer needs during a dispatch through advanced software automation. Concern in the pilot project proposals regarding customer acceptance of matinee pricing tariffs is less relevant to customers with software-driven energy storage, given the advanced and intelligent response capabilities of these technologies.

III. THE COMMISSION SHOULD DIRECT DEVELOPMENT OF RATES DESIGNED TO WORK FOR ENERGY STORAGE.

Given current and future grid conditions and the Commission's recognition of the importance of the role of energy storage in addressing these conditions, CESA recommends that the Commission clearly direct the IOUs to develop a rate design strategy for using energy storage to address urgent grid issues, including energy storage-specific opt-in matinee pricing tariffs with a sufficiently high differential between peak and off-peak periods. These tariffs with a super-off-peak charging rate could use forward-looking negative marginal generation analysis, as done by PG&E in A.16-06-013, to determine off-peak hours from 10 a.m. to 3 p.m. in the months of March, April, and May.⁷ Alternatively, or additionally, these tariffs could potentially use marginal emissions analysis, as CESA did in the Self-Generation Incentive Program ("SGIP") proceeding, to determine that charging energy storage during off-peak hours from 12

⁷ PG&E Exhibit-9, Chapter 12, pp. 18-19.

a.m. to 6 a.m. on a daily basis would minimize the emissions impact of standalone energy storage.⁸

While there is no longer an opportunity to consider these matinee pricing tariffs in R.13-12-011 or in A.16-06-013, there is still an opportunity to develop these tariffs for energy storage in SCE's 2016 Rate Design Window Proposal (A.16-09-003). In that proceeding, SCE is required to align its Application with the Distributed Energy Resources Action Plan ("DER Action Plan"), which, among other things, aims to identify "processes for adopting innovative rates and tariffs [that] are flexible and timely."⁹ CESA therefore urges the Commission to direct implementation of matinee pricing tariffs, including one specific to energy storage, that align with its comprehensive rate design strategy, beginning with A.16-09-003.

IV. CONCLUSION.

CESA appreciates the opportunity to submit these comments on the Proposed Decision and looks forward to working with the Commission and stakeholders to develop energy storage-specific matinee pricing tariffs as part of an overall strategy to use energy storage to enhance the value of renewable resources. CESA looks forward to actively participating in development of these ideas and assisting with analysis to address these critical grid reliability needs

Respectfully submitted,



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⁸ *Comments of the California Energy Storage Alliance on the Assigned Commissioner's Ruling on Implementation of Assembly Bill 1637*, filed on January 31, 2017, pp. 12-13.

⁹ *Scoping Memo and Ruling of Assigned Commissioner*, issued on March 21, 2017, A.16-09-003.