

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

Application of Pacific Gas & Electric Company
to Revise its Electric Marginal Costs, Revenue
Allocation, and Rate Design

A.16-06-013
(Filed February 6, 2017)

**OPENING COMMENTS OF THE CALIFORNIA ENERGY STORAGE ALLIANCE
ON GENERAL RATE CASE PHASE II MATINEE PRICING PROPOSAL
OF PACIFIC GAS AND ELECTRIC COMPANY**

Donald C. Liddell
DOUGLASS & LIDDELL
2928 2nd Avenue
San Diego, California 92103
Telephone: (619) 993-9096
Facsimile: (619) 296-4662
Email: liddell@energyattorney.com

Counsel for the
CALIFORNIA ENERGY STORAGE ALLIANCE

April 5, 2017

TABLE OF CONTENTS

I.	INTRODUCTION.	1
II.	ENERGY STORAGE RATE IDEAS SHOULD INCLUDE OPT-IN RATES ON MATINEE AND ON OFF-PEAK CHARGING PERIODS THAT COULD SUPPORT GREENHOUSE GAS EMISSION REDUCTION GOALS.	2
III.	RATE PROPOSALS FOR ENERGY STORAGE PROPOSED BY PACIFIC GAS AND ELECTRIC COMPANY ARE FLAWED.	4
IV.	THE COMMISSION SHOULD DIRECT DEVELOPMENT OF RATES DESIGNED TO WORK FOR ENERGY STORAGE.	5
V.	ENERGY STORAGE RATE CONCEPTS SHOULD APPLY UNIFORMLY FOR ALL INVESTOR OWNED UTILITIES.	6
VI.	CONCLUSION.	6

**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.

A.16-06-013
(Filed February 6, 2017)

**OPENING COMMENTS OF THE CALIFORNIA ENERGY STORAGE ALLIANCE
ON GENERAL RATE CASE PHASE II MATINEE PRICING PROPOSAL
OF PACIFIC GAS AND ELECTRIC COMPANY**

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 *General Rate Case Phase II Matinee Pricing Proposal of Pacific Gas and Electric Company* (“Application”).

I. INTRODUCTION.

CESA’s opening comments focus specifically on CESA’s proposal to add an energy storage-specific element to PG&E’s matinee pricing proposal. The prepared testimony of CalSEIA explains clearly how the proposed energy storage rates, E-DMD and A1-DMD, as structured in the Application, will not support deployment of energy storage. The analysis of CalSEIA witness, Nick Soleil, in particular, highlights a lower payback and Net Present Value

¹ 8minutenergy Renewables, Adara Power, Advanced Microgrid Solutions, AES Energy Storage, AltaGas Services, Amber Kinetics, 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, ElectrIQ Power, ELSYS Inc., eMotorWerks, Inc., Energport, Energy Storage Systems Inc., Enphase Energy, GE Energy Storage, 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, 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>).

based on PG&E's proposed rates, and that a modified rate structure with higher time-of-use ("TOU") rate differentials and demand charges can yield better customer-sited energy storage deployment economics, including in cases where energy storage is paired with PV solar. CESA thus recommends the Commission direct development of a suite of additional rates that can work with energy storage (including EV tariff rates) to promote adoption of energy storage. CESA offers preliminary ideas here for opt-in energy storage-related rates that can align the use-cases for energy storage for a retail customer with system needs and greenhouse-gas ("GHG") emissions reductions goals. In fact, the Commission should consider how best to apply this concept to all California utilities, perhaps as an expansion of the scope of the energy storage proceeding (R.15-03-011). This comprehensive rate design strategy should also apply to any matinee rate design efforts, including those currently being piloted pursuant to the Commission's recent Water-Energy Nexus Decision (D.16.11.021).

II. ENERGY STORAGE RATE IDEAS SHOULD INCLUDE OPT-IN RATES ON MATINEE AND ON OFF-PEAK CHARGING PERIODS THAT COULD SUPPORT GREENHOUSE GAS EMISSION REDUCTION GOALS.

CESA advocates for rate options designed and made available to retail electric customers using energy storage so that these users can opt-in to energy storage-focused rates. These energy storage-focused rate options should align with grid needs vis-à-vis clear off-peak or 'matinee' charging rates. Pilots to this effect are underway resulting from D.16-11-021, but further development is needed.²

² It is noteworthy that Southern California Edison ("SCE") filed a Petition for Modification of D.16-11-021 to exempt itself from offering pilot rates as required by D.16-11-021 because SCE expects its General Rate Case Phase II rate design window to include rates commensurate in some form with the goals and design of D.16-11-021.

To begin work in aid of developing an appropriate opt-in energy storage-specific rate, CESA has worked in the context of the Self-Generation Incentive Program Proceeding (R.12-11-005) to develop concepts for smart opt-in GHG-reducing rates that can be used by energy storage customers.³ There CESA's proposed GHG Reduction Tariff for Energy Storage Charging could form the basis for a simple opt-in tariff or 'bolt-on' tariff concept that would include ultra-low rates during a super-off-peak period to incentivize energy storage charging during this time and would be "bolted on" – *i.e.*, implemented in conjunction with the electric service customer's existing TOU or demand charge tariff. The concept of a 'super off-peak' rate aligns with CalSEIA's testimony in that it directs a large rate-differential between peak and off-peak or super off-peak periods.⁴

By setting a time-constrained super-off-peak period in the mid-day, for example, the Commission would have better assurance that energy storage customers on these rates are charging 100% from on-site or grid-connected PV solar. With reasonable super-off-peak periods and sufficiently low rates during this period, many energy storage projects would be incentivized to opt into this tariff as well.

To this end, CESA partnered with WattTime, a nonprofit organization dedicated to enabling electricity-consuming equipment to lower its GHG emissions footprint by deliberately syncing its energy consumption to moments of lower marginal GHG emissions. WattTime is able to do this because its unique software tools can measure the marginal GHG content of a grid in any U.S. market in five-minute intervals, using strictly empirical methods based on the latest academic literature. WattTime's analyzed the last three years of EPA emissions data for the

³ *CESA's Comments on ACR on Implementation of AB 1637*, filed January 1, 2017, pp. 12-13.

⁴ As discussed below, CalSEIA found a rate differential of at least 19.6 cents is required to create adequate incentives for energy storage.

California Independent System Operators (“CAISOs”) balancing authority area to determine that charging energy storage during a period between 12 a.m. and 6 a.m. on a daily basis (regardless of season or day of the week) would ensure the lowest possible GHG content for standalone energy storage. WattTime concluded that incentivizing a shift in energy storage charging to such times via the “bolt-on” opt-in tariff mechanism described above would reduce GHG emissions from energy storage systems in the CAISO’s balancing authority area. While the WattTime analysis is backward looking, it could be re-done based on forecasted grid prices to again yield an optimal super off-peak bolt-on periods and wholesale price differential which could be reflected in retail rates to the degree both GHG savings are achieved and where rates support energy storage.

III. RATE PROPOSALS FOR ENERGY STORAGE PROPOSED BY PACIFIC GAS AND ELECTRIC COMPANY ARE FLAWED.

The testimony of CalSEIA highlights how energy storage rates, as proposed by PG&E, will not support reasonable energy storage deployments and that rates discourage incremental energy storage deployments.⁵ This occurs in part because the rates provide extremely inadequate differentials between peak and off-peak or super off-peak periods and because the rates allow for only very small benefits of avoided demand charges.⁶ Specifically, the proposed PG&E rates for energy storage, including E-DMD, have rate differentials between 12 cents and 2 cents, depending on the time of year.

The very small spread proposed by PG&E does not support energy storage, may not reflect the system benefits of energy storage on rates with a wider rate differential, including in

⁵ CalSEIA Testimony of Tom Willard and Nick Soleil, p. 16.

⁶ Ibid, pp. 16-18

addressing system challenges and over-generation, and will not align with state goals for energy storage deployment.⁷ These rates fundamentally won't work for energy storage in a sufficiently meaningful or reasonable way and thus warrant reconsideration. In sum, CESA strongly advocates that the Commission should direct development of opt-in energy storage-specific rates in this proceeding.

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

The Commission has strong interest in ensuring energy storage rates workably deploy and direct this new technology. The Commission has identified energy storage as an important resource in promoting reliability, grid management, and GHG emissions reductions. Energy storage has been found to offer important benefits,⁸ is part of the Commission's Distributed Energy Resource Action Plan,⁹ and fits with the Commission's guiding principles for energy storage policy regarding the optimization of the grid, including peak reduction, integration of renewable energy, and the reduction of GHG emissions.¹⁰ Given these clear and compelling findings regarding the current and future roles for energy storage, it is critical to shape rates to support or accommodate the deployment of energy storage, likely with rate differentials of 20 cents or more, based on the kind of analysis set forth in the CalSEIA Testimony.¹¹

To develop rates that reasonably work with and are complimentary to customer-sited deployment of energy storage, the Commission should clearly direct development of opt-in rates

⁷ CalSEIA Testimony of Tom Willard and Nick Soleil, p. 17.

⁸ D.16-06-055, *Decision Revising the Self-Generation Incentive Program Pursuant to Senate Bill 861, Assembly Bill 1478, and Implementing Other Changes*, pp. 63-65.

⁹ California Public Utilities Commission, "California's Distributed Energy Resource Action Plan: Aligning Vision and Action," November 10, 2016, Vision Elements 1A and 1C.

¹⁰ R.15-03-011, pp. 2-3.

¹¹ CalSEIA Testimony of Tom Willard and Nick Soleil, pp. 16-18.

with a high differential between peak and off-peak periods. CalSEIA identifies other rates with larger TOU spreads that can work effectively with energy storage solutions.¹² This goal could best be accomplished with an additional ‘bolt-on’ rate.

V. **ENERGY STORAGE RATE CONCEPTS SHOULD APPLY UNIFORMLY FOR ALL INVESTOR OWNED UTILITIES.**

The Commission should apply opt-in energy storage rate design concepts uniformly to the IOUs. CESA therefore recommends the Commission structure a rate-design process to best address this goal. This goal would help consolidate and ensure appropriate uniformity in Commission actions on energy storage rates. Currently, these rates can be difficult to track because of the many forums where energy storage-related, matinee, or programmatic rates are being considered. CESA accordingly recommends further and more centralized coordination by the Commission in adopting opt-in energy storage rate designs.

VI. **CONCLUSION.**

CESA appreciates the opportunity to submit these opening comments on the Application and looks forward to working with the Commission and stakeholders in this proceeding.

Respectfully submitted,



Donald C. Liddell
DOUGLASS & LIDDELL

Counsel for the
CALIFORNIA ENERGY STORAGE ALLIANCE

Date: April 5, 2017

¹² Ibid, p. 17.