

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

Application of San Diego Gas & Electric Company (U902M) for Approval of its Energy Storage Procurement Framework and Program As Required by Decision 13-10-040.

Application 14-02-006  
(Filed February 28, 2014)

Application of Pacific Gas and Electric Company (U39E) for Authorization to Procure Energy Storage Systems during the 2014 Biennial Procurement Period Pursuant to Decision 13-10-040.

Application 14-02-007  
(Filed February 28, 2014)

Application of Southern California Edison Company (U338E) for Approval of Its 2014 Energy Storage Procurement Plan.

Application 14-02-009  
(Filed February 28, 2014)

**COMMENTS OF THE CALIFORNIA ENERGY STORAGE ALLIANCE ON  
SCOPING MEMO AND RULING OF ASSIGNED COMMISSIONER  
AND ADMINISTRATIVE LAW JUDGE**

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June 12, 2014

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In accordance with the Rules of Practice and Procedure of the California Public Utilities Commission (“Commission”), the California Energy Storage Alliance (“CESA”)<sup>1</sup> hereby

<sup>1</sup> The California Energy Storage Alliance consists of 1 Energy Systems, A123 Systems, AES Energy Storage, Alton Energy, American Vanadium, Aquion Energy, ARES, North America, Beacon Power, Bosch Energy Storage Solutions, Bright Energy Storage Technologies, Brookfield Renewable Energy Group, CALMAC, ChargePoint, Clean Energy Systems, CODA Energy, Consolidated Edison Development, Customized Energy Solutions, DN Tanks, Duke Energy, Eagle Crest Energy Company, EaglePicher Technologies, East Penn Manufacturing Company, EDF Renewable Energy, EnerSys, EnerVault, EV Grid, FAFCO Thermal Storage Systems, FIAMM Group, FIAMM Energy Storage Solutions, Flextronics, Foresight Renewable Solutions, GE Energy Storage, Green Charge Networks, Greensmith, Gridscape Solutions, Gridtential, Halotechnics, Hitachi Chemical Co., Hydrogenics, Ice Energy, Imergy Power Systems, ImMODO Energy Services Corporation, Innovation Core SEI, Invenergy, K&L Gates, KYOCERA Solar, LG Chem, LightSail Energy, LS Power, Mitsubishi International Corporation, NextEra Energy Resources, NRG, OCI, OutBack Power Technologies, Panasonic, Parker Hannifin, PDE, Powertree, Primus Power, RES Americas, Rosendin Electric, S&C Electric Company, Saft, SeaWave Battery, SEEO, Sharp Labs of America, SolarCity, Sovereign Energy Storage, STEM, Stoel Rives, SunPower, TAS Energy, Tri-Technic, UniEnergy Technologies, and Wellhead. 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>

submits these comments on the *Scoping Memorandum and Ruling of Assigned Commissioner and Administrative Law Judge*, issued on May 27, 2014 (“Scoping Memorandum”).

## **I. INTRODUCTION.**

CESA agrees with the scope of issues stated in the Scoping Memo that need to be addressed in a Commission decision before the end of 2014. First and foremost, these comments focus on the basic question: “Should PG&E’s, SCE’s and SDG&E’s proposed procurement plans for the 2014 Biennial Solicitation be adopted?”<sup>2</sup> CESA continues to strongly support the Applications and recommends their approval by the Commission. CESA responds in these comments to specific issues and questions identified in the Scoping Memo and by the Commission’s staff<sup>3</sup> with a focus on ensuring all energy storage options are properly recognized and valued for the capabilities they can provide to the integrated electric system.

## **II. CESA PROVIDES THE FOLLOWING RESPONSES TO SPECIFIC QUESTIONS POSED TO THE PARTIES IN THE SCOPING MEMORANDUM.**

### **A. Attachment A Supplemental Questions.**

1. Do PG&E, SCE, and SDG&E Applications comply with (D.) 13-10-040 (Energy Storage Decision) and the Commission’s guiding principles for energy storage procurement? Do PG&E, SCE, and SDG&E correctly identify its existing eligible energy storage projects and correctly calculate its 2014 Biennial Adjusted Storage Target? If not, what deficiencies exist and how should they be addressed?

### ***CESA’s Response.***

The Applications submitted for approval by Pacific Gas and Electric Company, Southern California Edison Company, and San Diego Gas & Electric Company (“Utilities”) comply with

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<sup>2</sup> Two other primary determinations are also required, but CESA defers to other parties in commenting on them at this time, but reserving the right to address them in reply comments and elsewhere as appropriate: 1. Will PG&E, SCE, and SDG&E proposed utility procurement plans ensure safe and reliable delivery of energy to customers? 2. Should the utilities’ cost recovery methodologies for energy storage procurement through various ratemaking mechanisms be approved?

<sup>3</sup> *A.14-02-006 Workshop, IOU Energy Storage Procurement Applications*, June 2, 2014 (“Workshop”).

the Framework Decision the Commission's guiding principles as stated by the Commission. The Applications correctly identify existing energy storage projects identified in the Framework Decision. However, as discussed below, the Commission needs to be careful to ensure that energy storage systems that can provide the desired capabilities and benefits to the electrical system are not considered ineligible simply because of the way they are configured.

2. Will PG&E, SCE, and SDG&E proposed procurement plans ensure safe and reliable delivery of energy to customers?

***CESA's Response:***

Each of the Applications takes pains to specifically and affirmatively address safety and reliability as subjects of critical importance to the Commission and all stakeholders. CESA strongly supports and agrees with the Utilities regarding the high degree of care and attention that must be paid to installation and operation of energy storage systems at all times.

3. Do cost recovery and allocation rules associated with transmission/distribution/and customer-side of the meter types of storage need to be clarified and/or further defined in this proceeding or other related proceedings?

***CESA's Response:***

As suggested directly or indirectly by the Utilities in the Applications, cost recovery and allocation should probably be clarified and further defined by the Commission to some extent in this proceeding. CESA expresses no view on those important topics at this time.<sup>4</sup>

4. Should any energy storage cost recovery occur through the Power Charge Indifference Adjustment (PCIA) for above- market stranded costs? Is cost recovery through Cost Allocation Mechanism (CAM) appropriate for generation providing reliability services?

***CESA's Response:***

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<sup>4</sup> CESA expresses no view as to whether or not the Commission should entertain the suggestion by Southern California Edison Company ("SCE") in its Application that a workshop on these topics could be helpful to the Commission, with the strong proviso that any consideration of the issues involved should not be allowed to delay the conclusion of this proceeding in any way or negatively impact the schedule set forth in the Scoping Memorandum. CESA also notes that the rate design questions could be resolved concurrent with the RFO as long as a decision was reached before the Utilities selected the winning proposals.

CESA expresses no view on these important topics at this time.

5. Does the *Pro Forma* Energy Storage Agreement adequately address contract issues or should it provide more standardized or specific detail? Is the 10-year contract limit a barrier towards effective and timely financing of proposed projects?

***CESA's Response:***

Although CESA appreciates the desire for standardized *pro forma* contracts in an effort to reduce transactions costs for all parties, CESA questions whether that is reasonable or possible at this stage of the energy storage industry transformation process. As a minimum, multiple “start of discussion contract forms” as proposed by SCE are necessary for this evolving technology. CESA also confirms its specific request addressed to the Workshop that there should be no constraint on the duration of contracts offered in forthcoming Request for Proposals (“RFO’s”). The optimum price/value proposition for ratepayers is unlikely to be the same for every project; constraints can only lead to suboptimal results and should be avoided where possible. Moreover, CESA reiterates its remarks made at the Workshop that the *pro forma* contracts presented by the utilities appear to have provisions that in many instances may be commercially unreasonable to the point of negatively impacting the ability of bidders to finance their proposed energy storage projects.<sup>5</sup>

6. Should the deadline to execute and submit contracts from the 2014 Storage RFO to the Commission change from one year after the RFO issued to a longer period (e.g., within one year of creating its short list of offers)?

***CESA's Response:***

No. Delay increases uncertainty and risk. CESA supports any reasonable efforts by the Commission to accelerate implementation of the procurement plans proposed in the Applications.

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<sup>5</sup> See, Appendix A to the *Response of the California Energy Storage Alliance to Consolidated Applications*, filed April 7, 2014.

7. Should pre-bidding interconnection requirements be consistent across utilities? If so, how?

***CESA's Response:***

CESA supports PG&E's approach that allows maximum time for a project to get through the lengthy, and frequently excessive, requirements of the current interconnection process. Those requirements should be consistent across the Utilities.

8. Other than the Permanent Load Shifting incentive program and Self-Generation Incentive Program, should the IOUs be doing more to procure or support customer-side storage? If so, how should the IOU plans be augmented?

***CESA's Response:***

CESA strongly supports efforts by the Utilities to procure customer-side energy storage, and recommends that the Commission direct the Utilities to continue proposing new on-site pilot energy storage incentive programs of various kinds in the near term to allow additional field testing, alternative ownership structures, and methods of contracting on both sides of the customer's meter. Implementation of a clarifying tariff addressing the interconnection of customer-sited energy storage, especially for installations where grid services to either the utility or the CAISO are supplied under WDAT, is critically needed to unlock the value in customer-sited systems.

In addition, CESA believes that customer-side energy storage can provide many of the use cases (such as congestion relief, local capacity, or frequency regulation) that will be procured through transmission and distribution-focused RFOs. As such, CESA believes that customer-sited energy storage should be allowed and encouraged to submit responses the RFOs if the technology can meet the use case. This will result in more competitive solicitations and a better outcome for ratepayers. CESA was encouraged to hear at the Workshop that the Utilities all concurred that proposals should not be disqualified from bidding or ultimately being selected in solicitations based solely on their interconnection location if they can meet the required use case.

9. Does the Commission's post solicitation review process and related timing provide sufficient transparency and due process to ensure a quality storage procurement process?

***CESA's Response:***

CESA supports any reasonable efforts to enhance transparency and due process in the procurement processes proposed by the Utilities in their procurement plans, but has no specific recommendations at this time.

10. Should projects be approved by Tier 3 advice letter or by Application? What parameters should dictate the appropriate method?

***CESA's Response:***

CESA supports Commission approval of contracts for energy storage projects resulting from procurement plans proposed in the Applications by means of Tier 3 advice letters.

**B. June 2, 2014 Commission Workshop-Related Questions.<sup>6</sup>**

11. Do the definition of storage and/or related eligibility rules need to be clarified. If so, how?

***CESA's Response:***

CESA supports the Commission's interpretation of the statutory definition of energy storage systems provided in Public Utilities ("P.U.") Code §2835(a) in its decisions, and applauds the constructive efforts of the Commission's staff to stimulate discussion at the Workshop of how the specific language should be interpreted in relation to the many different uses and applications of energy storage technology. Eligibility rules to be applied by the Utilities in implementing the Utilities' energy storage procurement plans should be clear and logically

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<sup>6</sup> CESA recommends that the written presentations by parties that were discussed at the workshop held pursuant to the Scoping Memorandum on June 2, 2014 ("Workshop") should be formally admitted into the record as evidence in this proceeding.

derived from the plain meaning of the words used in the statute, and should be articulated to provide as much guidance as possible for the benefit of all stakeholders.<sup>7</sup>

Due to the complexity of some energy storage use cases, and applications, CESA supports a cautious approach by the Commission to clarification of definitions and resulting eligibility rules. CESA recognizes that the definition of eligible energy storage systems may be outside the scope of this proceeding.<sup>8</sup> CESA thus proposes the following modest clarification of the functional expression of the definition of “energy storage system” proposed by the Commission’s staff at the Workshop. To be eligible to be counted toward the Commission’s energy storage procurement targets, an energy storage system must perform the following functions:

Function 1. Absorb energy from the grid, a renewable generator, or a mechanical process, *and*

Function 2. Store the absorbed energy: (a) by means of a mechanical, chemical, or thermal process, *and* (b) by means of an asset procured, built, or maintained primarily for: (i) Function 1 above during a certain period of time, and (ii) Function 3 below in a later period of time, *and*

Function 3. Discharge the stored energy to affect the state of the grid by: (a) directly supplying energy to the grid *or* (b) directly or indirectly reducing load on the grid.

Applying the above functional expression of the definition, CESA recommends that the Commission should clarify that at least the following use cases should be deemed eligible to be counted toward the Commission’s energy storage procurement targets at this time:

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<sup>7</sup> Use of the terms “broad” and “narrow” to categorize energy storage uses and applications at the Workshop was very useful in framing the discussion, but in the end the Commission will, of course, determine the extent to which any specific clarification of P.U. Code §2835(a) is necessary or desirable in the context of approval of the Applications.

<sup>8</sup> No clarification is needed to determine eligibility of biogas requested by PG&E in its Application because a logical analysis leads to the conclusion that the application and use of biogas, as described and discussed in PG&E’s Application, should not be deemed eligible by the Commission.



<b>Use Case</b>	<b>Counting Criteria</b>
Grid-connected chemical, thermal, or mechanical energy storage system absorbing energy from and discharging to the grid	MW rating of primary function (absorb energy or discharge)
V2G EV Charging/Discharging	Aggregated discharge MW available to the grid.
Grid-connected thermal energy storage for permanent load shifting (PLS)	Established energy offset methodology
Hybrid thermal generation and thermal energy storage or CAES	MW shifted from peak to off-peak
Grid-connected energy storage system absorbing energy from a connected generating facility or the grid and discharging to the grid or to reduce on-site load	Discharge capacity.
<b>Absorb/store train's braking energy and discharge to grid</b>	Minimum of absorption or discharge capacity

The valuation of each eligible energy storage resource must of course take full account of the project's specific value and benefits to the grid. CESA also recommends that the Commission address the need for any further clarification at the next opportunity in a quasi-legislative context such as a new energy storage-focused proceeding. Experience gained through actual Commission-approved procurement of energy storage systems by the Utilities on a case-by-case basis in the context of this proceeding and other proceedings in which the Commission will be asked to approve procurement of additional energy storage systems will certainly suggest any additional areas where guidance may be helpful to stakeholders.<sup>9</sup>

12. Do the “commercial availability” and “technologically viable” evaluation criteria need to be clarified? If so, how?

***CESA's Response:***

Consistent levels of technical performance, operational and market track record, and in principal commercial readiness should be an evaluation factor in any procurement process managed by the Utilities. CESA agrees with the apparent consensus of opinion among the

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<sup>9</sup> It is very important that the Commission should provide clear and consistent guidance concerning definition of terms and rules related to energy storage in all contexts. While the need will be obvious as the Commission is asked to approve procurement decisions by the Utilities, there are certainly other contexts such as the Commission's Self Generation Incentive Program and permanent load shifting programs.

Utilities and other stakeholders represented at the Workshop that an unbiased case-by-case approach to these criteria is inevitable.

13. Does the consistent evaluation protocol (CEP) need to be augmented? If so, how can it be augmented to enhance storage program goals? Is the quantification of benefits adequately addressed in protocols?

***CESA's Response:***

CESA does not elaborate here on its consistent and often stated view that the Consistent Evaluation Protocol (“CEP”) should be augmented in a variety of ways related to enhancing transparent quantification of the *benefits* (in addition to the costs) of energy storage. CESA completely agrees with and strongly supports the view articulated by the Environmental Defense Fund<sup>10</sup>, among many others, that: “The Commission should require that the IOUs provide a more in-depth discussion of how quantitative and qualitative valuations will take GHG and criteria air pollution reduction potential into account. Such a requirement is consistent with D. 13-10-040’s mandate that valuation take into account “GHG emissions-reducing attributes, such as permanent load shifting away from greenhouse gas emitting fossil generation or reduction of demand for peak electrical generation using fossil fuels. Costs and benefits with respect to other environmental outcomes, such as the consumptive water use, or water, toxic, or solid waste pollution associated with the full lifecycle of storage technologies – and the alternatives - ought to be considered as well. For example, EDF urges the Commission to evaluate PG&E’s assertion that intensity of water use should not be a factor that is used in evaluating bids.” (pp. 4-5)

The extensive footnoted references in EDF’s filing are a fertile source of documentation that should provide guidance in this proceeding, as well as a variety of other proceedings at the Commission that are, and will be, dealing with the benefits of energy storage.

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<sup>10</sup> See, *Comments of the Environmental Defense Fund in Response to Scoping Memorandum Supplemental Questions*, filed June 6, 2014.

14. Do procurement/RFO requirements need to be augmented? If so, how?

***CESA's Response:***

CESA recommends that the *pro forma* RFOs that are part of the Applications should be augmented to address all of CESA's recommendations here, of course, including most specifically those related to (i) the attached *pro forma* contracts, discussed in response to question number 5, above, and the (ii) the CEP discussed in response to question number 14, above. In addition, the CEP should be clarified as to the assumptions that will be used in bid evaluation in at least the following general topic areas: 1. Treatment of energy storage charging as wholesale or retail. 2. Ancillary services pricing. 3. Greenhouse Gas ("GHG") price assumptions.

15. Should the standard for deferment of the biennial procurement target be clarified? Should the deadline for requesting deferment of storage targets change from three months after the utilities' receipt of RFO offers to a longer period (e.g., 12 months after the RFO offers have been shortlisted)?

***CESA's Response:***

This standard does not need to be modified.

**III. CESA RECOMMENDS THAT THE COMMISSION CONSIDER A NUMBER OF ISSUES IN A NEW ENERGY STORAGE RULEMAKING PROCEEDING.**

The Framework Decision clearly recognized that considerable work remains to be done in parallel with approval of the Applications, and specifically referred to the broad list of market barriers itemized in its previous Commission decisions and rulings on energy storage issued in the process of implementing AB 2514, together with attached studies and reports prepared by the Commission's staff.<sup>11</sup>: "The Proposed Plan referred to the market barriers hindering broader adoption of emerging storage technologies and market transformation that were identified in

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<sup>11</sup> See, e.g., *Decision for Adopting Proposed Framework for Analyzing Energy Storage Needs*, D.12-08-016. pp. 10-21.

D.12-08-016: 1. Lack of definitive operational needs. 2. Lack of cohesive regulatory framework. 3. Evolving markets and market product definition. 4. Resource Adequacy accounting. 5. Lack of cost-effectiveness evaluation methods. 6. Lack of cost transparency and price signals (wholesale and retail). 7. Lack of commercial operating experience. 8. Further define the energy storage interconnection process.” (Framework Decision, p. 7).

There has, of course, been substantial progress made on addressing each and every one of the barriers that have been explicitly recognized since the Commission began to address the broad subject of energy storage,<sup>12</sup> but much remains to be done in other active Commission proceedings and in a successor proceeding to R.10-12-007. CESA does not propose a “laundry list” regarding each of each market barrier to rapid deployment of energy storage here because there are numerous proceedings in which CESA will assist the Commission in addressing all of them. Likewise, CESA does not suggest a listed order of priority of importance of each market barrier or degree of urgency save only the pressing and immediate subject of interconnection that bears directly on the Applications discussed above.

Specifically, the charging and discharging of energy storage is currently subject to completely different tariff treatment at the state and federal levels. This impacts interconnection study processes, grid upgrade cost responsibility, and just and reasonable rate treatment. The Commission should clearly define what aspects of standalone and generation-paired energy storage projects constitute “load” versus what is not considered to be “load.” For example, absorbing energy should be excluded from the definition of load because charging isn’t always an end use of power. In effect, charging is “negative generation.” However, station power, is a legitimate end use of power and for consistency with other energy projects it makes sense to

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<sup>12</sup> See, *Order Instituting Rulemaking Pursuant to Assembly Bill 2514 to Consider the Adoption of Procurement Targets for Viable and Cost-Effective Energy Storage Systems, R.10-12-007*, filed December 6, 2010.

consider such uses to be “load.” Clarifying this would significantly streamline interconnection processes because absorbing energy and discharging could be studied under a single generator interconnection process. It would also remove conflicts with respect to grid upgrade cost responsibility.

The Commission should work with the California Independent System Operator (“CAISO”) to enable wholesale market pricing for charging transmission and distribution-connected energy storage resources, and to direct the Utilities to develop new rate structures for the charging of energy storage resources participating in wholesale markets depending on voltage of interconnection and use case. Allowing access to real-time pricing when storage is participating in wholesale markets for both charging and discharging would eliminate the very real barrier of forcing energy storage projects to pay retail rates for storing energy, while receiving wholesale rates for discharging. It would also allow energy storage systems to better align with real time system conditions, enhancing the value proposition of storage assets providing wholesale market functions.

#### IV. CONCLUSION.

CESA thanks the Commission for its consideration of these comments.

Respectfully submitted,



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June 12, 2014