

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

Order Instituting Rulemaking Pursuant to Assembly Bill  
2514 to Consider the Adoption of Procurement Targets  
for Viable and Cost-Effective Energy Storage Systems.

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R.10-12-007  
Filed December 16, 2010

**REPLY COMMENTS OF THE CALIFORNIA ENERGY STORAGE ALLIANCE  
TO ADMINISTRATIVE LAW JUDGE'S RULING ENTERING INITIAL  
STAFF PROPOSAL INTO RECORD AND SEEKING COMMENTS**

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Pursuant Rules 1.4(a) and 6.2 of the California Public Utilities Commission’s (“Commission’s”) Rules of Practice and Procedure, and *Administrative Law Judge’s Ruling Entering Initial Staff Proposal Into Record and Requesting Comments*, issued December 14, 2012 (“ALJ’s Ruling”) the California Energy Storage Alliance (“CESA”)<sup>1</sup> hereby submits these reply comments to the ALJ’s Ruling.

**I. INTRODUCTION.**

Having reviewed the Opening Comments, CESA once again applauds the excellent work undertaken by the Staff in preparing the Initial Staff Proposal.<sup>2</sup> All parties, CESA included, consider it thoughtful and comprehensive. Most importantly, CESA strongly agrees with those Opening Comments, and the Initial Staff Proposal itself, that recognize that the Initial Staff Proposal is not a solution in and of itself but a process recommendation for going forward – and while CESA supports such an effort we are very cognizant that the goal of this proceeding is not

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<sup>1</sup>The California Energy Storage Alliance consists of A123 Systems, Bright Energy Storage Technologies, CALMAC, Chevron Energy Solutions, Debenham Energy, Deeya Energy, East Penn Manufacturing Co., Inc., EnerVault, Fluidic Energy, Greensmith Energy Management Systems, HDR Engineering, Inc., Ice Energy, LG Chem, LightSail Energy, Inc., Powergetics, Primus Power, Prudent Energy, RedFlow Technologies Ltd., RES Americas, Saft America, Inc., Samsung SDI, SANYO Energy Corporation, Seeo, Sharp Labs of America, Silent Power, SolarCity, Sumitomo Electric, SunEdison, SunVerge, TAS Energy, and Xtreme Power. 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://www.storagealliance.org>.

<sup>2</sup>*Energy Storage Framework Staff Proposal*, issued December 12, 2011, identified as Attachment A to the ALJ’s Ruling and referred to as *Initial Staff Proposal*.

a process or analytical framework, but, as the Initial Staff Proposal underscores, the “end goal of this proceeding is to determine what procurement targets, if any, should be established for energy storage.”<sup>3</sup> The Initial Staff Proposal, very appropriately, is redolent of the Staff’s White Paper on Storage’s conclusion that “if policymakers want to increase the amount of EES in operation throughout California’s electricity system they must take action.”<sup>4</sup> CESA provides these reply comments directed to the Opening Comments filed by parties.

**II. THE COMMISSION SHOULD ADOPT AN ALTERNATIVE SCHEDULE AND PROCESS THAT PROMOTES CONTINUITY OF ANALYSIS AND DISCUSSION AND SHORTENS THE PROCEEDING’S TIME FRAME.**

Parties’ Opening Comments underscore the fact that they are very supportive of optimizing the deployment of energy storage; and in fact it is noteworthy that although there are a range of views as to how to best do that, no Opening Comments were filed that argue against increased deployment of energy storage. CESA is in general agreement with the comments of Southern California Edison, the California Independent System Operator, the Sierra Club, and others. Parties’ comments, as well as the Initial Staff Proposal itself, also recognize the complexity and challenge of the nine categories of pending energy storage deployment issues described in the Initial Staff Proposal. This complexity, combined with the critical importance of deploying substantially greater amounts of energy storage, the statutory deadlines set by AB 2514, and by the power grid’s great and increasing need for additional energy storage resources, makes successfully concluding this proceeding without needless delay a logistical and analytical challenge.

Accordingly, CESA respectfully recommends that the Commission take a fresh, hard look at the pathway that will most likely succeed, and consider alternatives to the proposed schedule and process to efficiently advance this proceeding. CESA believes that it is not necessary (and may in fact actually be unproductive) for there to be “clean breaks” between different phases of this proceeding, as is currently envisioned. Similarly, CESA believes that the proceeding’s phases should neither progress in lockstep with each other nor on a sequential basis.

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<sup>3</sup>*Initial Staff Proposal*, page 14.

<sup>4</sup>*Electric Energy Storage: An Assessment of Potential Barriers and Opportunities*,” July 9, 2010, p. 8, cited by the Sierra Club in its Opening Comments.

CESA recommends instead that the Commission move this proceeding forward on a continuous basis with different activities advancing *simultaneously*, somewhat independently of the progress made by other (even related) activities. Other complex, multi-faceted and important Commission proceedings such as the Commission’s four-phased rulemaking on Demand Response Policies and Protocols,<sup>5</sup> among others, have taken this “parallel not serial” approach – and appropriately so in order to most productively consider and resolve multiple complex issues within a single proceeding.

Under such a concurrent approach, CESA recommends that Staff be directed to put forward in the Final Staff Proposal a set of top priority issues and an attendant process that can best advance the pivotal issues in this proceeding. The Commission can then take the Staff’s priority and process recommendations into consideration in arriving at the Proposed Decision. As always, parties will be able to comment on the priorities and process in their comments on the Proposed Decision.

Additionally with respect to the schedule, although CESA is in agreement in general with the CAISO’s Comments, CESA disagrees that there need, or even should, be yet another round of comments by parties following the release of the Final Staff Proposal.<sup>6</sup> Doing so would consume the Commission’s time and resources without providing commensurate, if any, benefit because Opening and Reply Comments will be submitted shortly thereafter on the Proposed Decision and well before any Final Decision is issued by the Commission.

We note that the Initial Staff Proposal found that: “The workshops and comments provided by the parties demonstrate that there are too many considerations, barriers, issues and uncertainties to be dealt with at the same time.”<sup>7</sup> We concur and thus would like to be clear that we are not recommending a process that attempts to deal with *all* issues at the same time but rather one that considers more than one issue simultaneously starting with the most critical and foundational, such as cost-effectiveness methodology.

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<sup>5</sup> *Order Instituting Rulemaking Regarding for Demand Response Load Impact Estimates, Cost-Effectiveness Methodologies, Megawatt Goals and Alignment with California Independent System Operator Market Design Protocols*, R.07-01-041, filed January 24, 2007.

<sup>6</sup> *Comments of the California Independent System Operator Corporation on Initial Staff Proposal*, January 31, 2012, p. 8.

<sup>7</sup> *Initial Staff Proposal*, p. 13.

### **III. THE COMMISSION SHOULD ADDRESS A COST-EFFECTIVENESS METHODOLOGY FOR ENERGY STORAGE FIRST AND FOREMOST.**

In the Initial Staff Proposal, Staff states that: “Phase2 of this proceeding will consider the appropriate methodology for evaluating costs and benefits of energy storage. The Commission has utilized cost-benefit tests in previous energy efficiency, distributed generation, and demand response proceedings. The Commission will seek general consistency with these decisions, while recognizing that modifications to these methodologies will be required to reflect the unique attributes of energy storage.”<sup>8</sup> [Footnotes deleted]. CESA *strongly and completely* disagrees with the notion of deferring detailed examination of cost-effectiveness evaluation methodology at all – least of all to Phase 2 of this proceeding, if a phased approach is in fact retained. As discussed in greater detail below, the Commission will not make any meaningful progress toward achieving the objectives and requirements of this proceeding without adequately resolving cost-effectiveness. Cost-effectiveness is pivotal and foundational to optimizing the deployment of cost-effective energy storage, and is a complex, charged, “particularly challenging”<sup>9</sup> issue that deserves the adequate time and attention of parties and the Commission. Cost-effectiveness is foremost among pending issues, and needs to come first.

### **IV. THE COMMISSION SHOULD BUILD ON THE COST-EFFECTIVENESS EVALUATION METHODOLOGY DEVELOPED FOR PERMANENT LOAD SHIFTING, AND NOT THE “STANDARD PRACTICE MANUAL.”**

There is widespread if not complete agreement that energy storage needs a cost-effectiveness methodology constructed to accurately and robustly value storage’s various benefits, applications and costs. The most productive way to proceed at this time is to start with the cost-effectiveness test for Permanent Load Shifting (“PLS”) under development in the Commission’s Proposed Decision Adopting Demand Response Activities and Budgets for 2012-1014 (“Proposed DR Decision”) as the starting point for the basic elements of a new cost-effectiveness methodology for energy storage.<sup>10</sup> This methodology can be readily adapted for

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<sup>8</sup>Initial Staff Proposal, p. 7.

<sup>9</sup>Initial Staff Proposal, p. 14.

<sup>10</sup>Revised Proposed Decision Adopting Demand Response Activities and Budgets for 2012 through 2014, issued January 20, 2012.

the purposes of this proceeding concurrently to the identification and prioritization of energy storage end-uses or applications.

The Proposed DR Decision presents the rationale for using the PLS methodology as a basis for evaluating energy storage more broadly: “PLS refers to the shifting of energy usage from one time period to another on a recurring basis. Generally speaking, PLS involves storing electricity produced during off peak hours and using the stored energy during peak hours to support loads. Examples of PLS technologies include battery storage and thermal energy storage. Thermal energy storage uses electricity during off peak hours to store thermal energy in ice, chilled water or eutectic solution that can be used during the day to cool buildings.”<sup>11</sup> The Proposed DR Decision emphasizes the fact that the omission of qualitative analysis is problematic for PLS programs when evaluating the total resource cost (“TRC”) since there are customer-perceived non-energy and monetary benefits of PLS.

Regardless of the Commission’s decision to use the PLS cost-effectiveness test as the starting point for an energy storage cost-effectiveness methodology, CESA agrees that “general consistency” with existing cost-benefit tests (for energy efficiency, distributed generation and demand response) is desirable, particularly for applications of energy storage on the customer-side-of-the-meter. But going further than “general consistency” is inappropriate, and thus CESA believes that the Commission should not build a storage cost-effectiveness methodology simply from “modifications”<sup>12</sup> to those existing cost-benefit tests.

The existing cost-benefit tests were developed for quite different energy resources—particularly energy efficiency—and ones that do not have the broad range of attributes, applications and ability to be situated on either side of the meter as energy storage does. The Initial Staff Proposal is imprecise in asking for comments on the “four primary Standard Practice Manual alternatives utilized by the Commission to evaluate cost-effectiveness”<sup>13</sup> because it fails to note that the Standard Practice Manual was designed for, and is used to, evaluate the cost-effectiveness of energy efficiency, and not any of the other electric sector resources. This important distinction is noted on the Commission’s web page devoted to this issue, “Cost-effectiveness: Standard Practice Manual,” which states that “The Standard Practice Manual

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<sup>11</sup> Proposed DR Decision, p. 149.

<sup>12</sup> *Initial Staff Proposal*, p. 7.

<sup>13</sup> *Initial Staff Proposal*, p. 16.

contains the Commission’s method of evaluating *energy efficiency* investments using various tests of cost-effectiveness.”<sup>14</sup> [Emphasis added]. Additionally, the Standard Practice Manual itself is subtitled “Economic Analysis of *Demand-Side* Programs and Projects.”<sup>15</sup> [Emphasis added]. The Division of Ratepayer Advocates,<sup>16</sup> Southern California Edison,<sup>17</sup> the Sierra Club<sup>18</sup> and others note this and accordingly recommend limiting or even avoiding the use of the Standard Practice Manual, and its four tests, for energy storage. The Proposed DR Decision also comes to a similar conclusion in the DR and PLS setting: “The Commission is apparently not convinced at this point that the TRC ratio as calculated by the Utilities is the appropriate test to evaluate the cost-effectiveness of a program where large capital investment is required on the part of the customer, such as for PLS and other energy storage systems.”<sup>19</sup>

Importantly, the Standard Practice Manual cost-effectiveness tests were primarily developed for behind the meter applications. Energy storage maybe used for a very diverse range of applications in California’s electric power system, including primarily distribution and transmission and generation-level applications.

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<sup>14</sup><http://www.cpuc.ca.gov/PUC/energy/Energy+Efficiency/Cost-effectiveness.htm>

<sup>15</sup> See cover page; at [http://www.energy.ca.gov/greenbuilding/documents/background/07-J\\_CPUC\\_STANDARD\\_PRACTICE\\_MANUAL.PDF](http://www.energy.ca.gov/greenbuilding/documents/background/07-J_CPUC_STANDARD_PRACTICE_MANUAL.PDF)

<sup>16</sup>“In many of the identified ‘end uses’, energy storage will be more analogous to generation and/or transmission and distribution facilities operated by independent merchant generators or the investor owned utilities (IOUs), not demand-side management programs such as demand response, energy efficiency, and distributed generation.” *Comments of Division of Ratepayer Advocates on Administrative Law Judge’s Ruling Entering Initial Staff Proposal into Record and Seeking Comments*, filed January 31, 2012, pp. 4-5.

<sup>17</sup> “However, the Standard Practice Manual was not designed to evaluate grid-sited resources that are owned and operated by utilities or third-party developers, and generally will not provide significant insights into those applications.” *Comments of Southern California Edison Company to the California Public Utilities Commission on the Energy Storage Framework Staff Proposal*, filed January 31, 2012, p. 14.

<sup>18</sup> “None of the four primary Standard Practice Manual alternatives used by the Commission to assess cost-effectiveness in the Standard Practice Manual tests appear to be a good basis for determining cost-effectiveness of EES.<sup>52</sup> Each of the four tests addresses demand side management and by definition none of these tests fully capture the unique characteristic of energy storage, *i.e.*, the cost effectiveness of its non-demand side management aspects.” *Opening Comments of Sierra Club California on Administrative Law Judge’s December 14, 2011 Ruling Entering Initial Staff Proposal into Record and Seeking Comments*, filed January 31, 2012, page 14.

<sup>19</sup> Proposed DR Decision, p. 8.

V. **THIS PROCEEDING IS IN FACT EVEN MORE IMPORTANT THAN HAS BEEN PREVIOUSLY RECOGNIZED.**

CESA notes that the Initial Staff Proposal highlights the need and value for other Commission proceedings to fully consider energy storage.<sup>20</sup> CESA strongly concurs with Staff on this point, but notes that for various reasons the other proceedings have not yet done so. The Resource Adequacy and Long-Term Procurement Plan proceedings are prominent examples.<sup>21</sup> Although CESA remains optimistic that energy storage will be addressed meaningfully in those and other Commission proceedings, the lack of progress in those proceedings to date underscores our view of the critical importance of this proceeding –and the need for this proceeding to continue to progress in a timely manner.

CESA disagrees with the Division of Ratepayer Advocates’ suggestion that “the amount of energy storage needed to support particular applications should be identified in, and authorized by, each relevant proceeding (e.g. Resource Adequacy, Long Term Procurement Plans, Renewable Portfolio Standards)”<sup>22</sup> as that likely would be counterproductive – it would de-rationalize the analytic and policy process, unduly increase Commission workload and potentially lead to internally contradictory results regarding storage’s treatment. Instead, this proceeding should handle this central issue, and subsequently the other relevant proceedings can use these results as appropriate. CESA supports Southern California Edison’s recommendation of “revising the Regulatory Matrix to identify which proceedings will directly contribute to resolving each barrier, as well as identifying which proceedings can influence or tangentially address the barrier”<sup>23</sup> while underscoring that – for the reasons described in the preceding paragraph – such a step is *necessary but not sufficient* to ensure that other proceedings are helping to address barriers to cost-effective energy storage.

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<sup>20</sup>See, e.g. Initial Staff Proposal, p. 7, “The first important outcome of this rulemaking should be to begin the process of having RA value assigned to energy storage as part of the new RA rulemaking (R.11-10-023),” as well as pp. 3, 5 and 17.

<sup>21</sup> *Order Instituting Rulemaking to Oversee the Resource Adequacy Program, Consider Program Refinements, and Establish Annual Local Procurement Obligations*, R. 11-10-023, filed October 20, 2011 and *Order Instituting Rulemaking to Integrate and Refine Procurement Policies and Consider Long-Term Procurement Plans*, R. 10-05-006, filed May 6, 2010 respectively.

<sup>22</sup> *Comments of Division of Ratepayer Advocates on Administrative Law Judge’s Ruling Entering Initial Staff Proposal into Record and Seeking Comments*, filed January 31, 2012, p. 1.

<sup>23</sup>*Comments of Southern California Edison Company to the California Public Utilities Commission on the Energy Storage Framework Staff Proposal*, January 31, 2012, p. 2.



**VI. CONCLUSION.**

CESA appreciates the opportunity to submit these reply comments, and looks forward to working with the Commission, Staff and parties throughout the remainder of this proceeding.

Respectfully submitted,



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