

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

Order Instituting Rulemaking to Continue
Implementation and Administration of California
Renewables Portfolio Standard Program.

Rulemaking 11-05-005
(Filed May 5, 2011)

**REPLY COMMENTS OF THE CALIFORNIA ENERGY STORAGE ALLIANCE
ON ASSIGNED COMMISSIONER'S RULING ON RENEWABLES PORTFOLIO
STANDARD PROCUREMENT PLANS AND NEW PROPOSALS**

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July 18, 2012

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Pursuant to the Assigned Commissioner’s Ruling Identifying Issues and Schedule of Review for 2012 Renewables Portfolio Standard Procurement Plans Pursuant to Public Utilities Code Sections 399.11 et seq. and Requesting Comments on New Proposals, issued April 5, 2012 (“ACR”), the California Energy Storage Alliance (“CESA”)¹ hereby submits these reply comments in accordance with the California Public Utilities Commission’s (“Commission’s”) Rules of Practice and Procedure.

I. INTRODUCTION.

CESA’s overarching reaction to the Opening Comments filed by parties is essentially to highlight for the Commission the major grid-changing, if not game-changing, impact that incorporating energy storage can have on RPS procurement in a variety of ways. Other active interrelated Commission dockets involve overlap of policy issues to some extent.² But energy

¹ The California Energy Storage Alliance consists of A123 Systems, Bright Energy Storage Technologies, CALMAC, Chevron Energy Solutions, Deeya Energy, East Penn Manufacturing Co., EnerVault, Fluidic Energy, GE Energy Storage, Green Charge Networks, Greensmith Energy Management Systems, Growing Energy Labs, HDR Engineering, Ice Energy, Kelvin Storage Technologies, LG Chem, LightSail Energy, Primus Power, Prudent Energy, RedFlow Technologies, RES Americas, Saft America, Samsung SDI, SANYO Energy, Seeo, Sharp Labs of America, Silent Power, Stem, Sumitomo Electric, Sumitomo Corporation of America, 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://storagealliance.org>

² It is critical that the policy determinations made in this proceeding are applied consistently across , at a minimum, the Long Term Procurement, Resource Adequacy and Energy Storage proceedings.

storage should be expressly incorporated as part of the RPS procurement process by taking the following immediate steps in this proceeding. First, requiring potential energy storage applications to be considered as an option in utility RPS procurement plans, focusing on the applications with the greatest near term deployment potential to improve local and system integration, balancing and regulation needs. Second requiring potential energy storage applications be considered as an option in utility RPS procurement plans, focusing on the applications with the greatest near term deployment potential to meet local and system capacity requirements specific to their respective service territories. Third, requiring that energy storage be called out as a qualifying option for consideration in evaluation of RPS-eligible projects that bid into utility RFOs. Fourth, requiring that inclusion of energy storage be used as a weighted evaluation factor in analyzing and short-listing bids submitted in response to utility RFOs for RPS-eligible resources.

Responding directly to Opening Comments filed by parties that include arguments pro and con, and disagreeing with some, CESA recommends consideration of energy storage's potential in the integration of renewables in terms of both the costs *and* benefits of energy storage in specific applications proposed by bidders in the RPS procurement process. At the same time, CESA emphasizes that cost causation and cost allocation are *not* issues on which it takes any position in this proceeding

Finally, CESA urges the Commission to schedule a workshop as soon as possible to consider the policy and operational implications of adopting CESA's policy recommendations

regarding incorporation of energy storage considerations for integration of RPS-eligible resources in this procurement cycle.³

II. THE COMMISSION SHOULD REQUIRE UTILITY RPS PROCUREMENT PLANS, REQUESTS FOR OFFERS, AND BID EVALUATION FACTORS TO GIVE SUBSTANTIAL WEIGHT TO EMPLOYING ENERGY STORAGE TECHNOLOGY AS A DESIGN OPTION IN RPS-ELIGIBLE PROJECTS.

Some commenting parties suggest that the Commission may be (perhaps inadvertently) endorsing an oversimplified valuation approach in comparing resource determined RPS-eligible project characteristics. They argue that the Commission has, at least implicitly, suggested that large-scale, minimally intermittent resources will be prioritized while distributed, smaller-scale, and intermittent renewable projects will either be eliminated from consideration or moved farther down any short list. SCE's procurement plan, for example, prioritizes certain RPS technology classes (namely larger-scale centralized generation) over others (including distributed firmed renewables). Of course, such an approach may minimize expenditures at the point of procurement, but it would not address possible baseload bias in the RPS procurement process nor facilitate the development of an optimized, well-balanced grid. Instead, the Commission should adopt policies that encourage smart grid and RPS-eligible resource development that includes incorporating capacity-firming technologies, that can mitigate transmission and distribution grid constraints, and that allow for more rapid expansion of all grid-connected RPS-eligible resources. (CESA notes that energy storage systems are among the options that can advance each of the above goals.) The Commission's approved RPS project evaluation methodology and project short listing process should dovetail with transmission planning and resource adequacy

³ For example, the Commissions should clarify definitions and standardize all key operational factors, including ancillary services and flexibility "as bid", and for future modification of RPS-eligible resources regarding the degree of their intermittency.

requirements of the CAISO that focus on local and system grid optimization and not only individual generation prioritization.

Renewables that are intermittent may be rejected when transmission cost adders are applied in evaluation of RPS-eligible renewables. CESA's view is that intermittency should be addressed not through ranking of intermittent renewable technologies such as wind and solar, but through the expanded use of capacity-firming and shaping energy storage technology that can be employed as an option, along with operational techniques to manage intermittency. As argued by SolarReserve, for example, capacity-firming and shaping energy storage technology such as molten salt can eliminate variability by smoothing out generation and by allowing fully controllable dispatching of electricity from RPS-eligible resources by incorporating energy storage into projects is a superior choice to disallowing those projects because it enables greater overall amounts of RPS-eligible resources to compete, and more generation types, to be incorporated into the grid.

Capacity-firming and shaping energy storage technology may also be added later, or retrofitted, after intermittent RPS-eligible generation has been installed and begun operating. It should be possible to reduce the need for costly system upgrades through post-installation addition of capacity-firming and -shaping energy storage. The Commission should explore all of the benefits of flexibility in RPS-eligible resource evaluation that takes this into account, including reduction in intermittency penalties incurred by intermittent resources that have the option of demonstrating potential for addition of future capacity firming and shaping by means of energy storage.

III. THE COMMISSION SHOULD INCLUDE BOTH THE COSTS AND THE BENEFITS OF EMPLOYING ENERGY STORAGE FOR INTEGRATION OF RPS-ELIGIBLE PROJECTS.

Because energy storage can be added to any RPS-eligible technology, prioritizing and encouraging energy storage in RPS procurement will enable both expanded resource diversity and “least-cost best-fit” optimization. If resources are optimized to shape supply, a greater number of total projects should be able to be installed without triggering system upgrades. The Commission should direct increased portfolio diversity and minimize integration costs by the addition of energy storage as an option to optimize the economics of RPS-eligible resources. Employing energy storage should lead to installation of a greater number of installed projects overall and accelerate the expansion of RPS-eligible generating capacity and related emissions reduction benefits.

There is currently no uniform method of calculating value for reduction intermittency alleviation in the RPS procurement process. Utilities include either a specified (but arbitrary) integration adder – \$8.50/MWh for PG&E, for example, or simply do not clearly define integration adder costs or benefits for bidding projects. Levels of intermittency are not addressed either by the Commission or by any of the utility RPS procurement plans, aside from PG&E’s alternative recommendation to consider individual projects on a case-by-case basis.⁴ Technologies which can help smooth or even eliminate intermittency, such as capacity-firming and shaping energy storage, are much more likely to be incorporated into RPS-eligible projects – and thus into the California grid – if developers have clarity that their value will be recognized in the bidding process. For these reasons, and simply for sake of clarity in the RPS procurement process, varying levels of intermittency, shape, and firmness should be assigned clear values.

⁴ As pointed out by CalWEA, there is no indication of how such valuation of variation in intermittency will occur.

CESA also agrees with comments by several parties as to the need to include and clarify valuation for ancillary services. Generating facilities and technologies that are capable of providing ancillary services should be compensated accordingly in the bidding process; they should also know what the value of their full characteristics are before they submit bids. CESA's view is that capacity-firming and shaping energy storage technologies provide and the option of delivering additional ancillary services, and that those services should be recognized. For example, energy storage allows for controlled dispatching of energy into the grid, high capacity factors, and high capacity value, among other benefits. If these services are recognized, standardized in the valuation process, and made known to project developers, then they can fully account for ancillary services in their bids. Properly valuing ancillary services will encourage further development of dynamic transmission and grid-connected technologies, such as energy storage, which can improve the efficiency of existing RPS-eligible resources. CESA agrees with several parties that ancillary services should accordingly be clarified and included in the RPS bid evaluation process.

IV. THE COMMISSION SHOULD ADDRESS COST CAUSATION AND ALLOCATION IN ANOTHER PROCEEDING.

CESA takes no position on cost causation or cost allocation of RPS integration costs. Consistent with the approach being taken by the CAISO, incorporating integration costs and benefits into the RPS procurement process will be much more readily advanced if the Commission addresses issues of cost causation and cost allocation in a separate proceeding.

V. **THE COMMISSION SHOULD SCHEDULE A WORKSHOP TO CONSIDER THE POLICY AND OPERATIONAL IMPLICATION OF ENERGY STORAGE-INTEGRATING RENEWABLES AS PART OF THE RENEWABLES PORTFOLIO STANDARD.**

In order to provide RPS-eligible project developers with needed guidance regarding evaluation methodology and weighting of relevant factors, both components of the RPS procurement process should be clear and transparent. CESA's view is that these should best be developed in a workshop setting. Minimizing imbalance charges, and the ability to be compensated for ancillary services, in particular, are two aspects that are important to project development that in need of much greater clarity.

VI. **CONCLUSION.**

CESA thanks the Commission for its consideration of these reply comments and urge that the Commission consider and implement the recommendations discussed herein.

Respectfully submitted,



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CALIFORNIA STORAGE ALLIANCE

Date: July 18, 2012

VERIFICATION

I, Donald C. Liddell, am counsel for the California Energy Storage Alliance (“CESA”) and am authorized to make this Verification on its behalf. I declare under penalty of perjury that the statements in the foregoing copy of Reply Comments of the California Energy Storage Alliance on Assigned Commissioner’s Ruling on Renewables Portfolio Standard Procurement Plans and New Proposals, filed in R.11-05-005, are true of my own knowledge, except as to matters which are therein stated on information or belief, and as to those matters I believe them to be true.

Executed on July 18, 2012, at San Diego, California.



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