

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

Order Instituting Rulemaking to Enhance the
Role of Demand Response in Meeting the
State's Resource Planning Needs and
Operational Requirements.

R.13-09-011
(Filed September 19, 2013)

**COMMENTS OF THE CALIFORNIA ENERGY STORAGE ALLIANCE ON
ADMINISTRATIVE LAW JUDGE'S RULING REQUESTING COMMENTS
REGARDING THE COST-EFFECTIVENESS PROTOCOLS AND THE
VALUATION WORKING GROUP REPORT**

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July 31, 2015

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The California Energy Storage Alliance (“CESA”)¹ hereby submits these comments pursuant to the Rules of Practice and Procedure of the California Public Utilities Commission (“Commission”) in response to *Administrative Law Judge’s Ruling Requesting Comments Regarding the Cost-Effectiveness Protocols And The Valuation Working Group Report*, issued by Administrative Law Judge Kelly A. Hymes on June 19, 2015 (“ALJ’s Ruling”).

¹ 1 Energy Systems Inc., Abengoa, Advanced Microgrid Solutions, AES Energy Storage, Aquion Energy, ARES North America, Brookfield, Chargepoint, Clean Energy Systems, CODA Energy, Consolidated Edison Development, Inc., Cumulus Energy Storage, Customized Energy Solutions, Demand Energy, Duke Energy, Dynapower Company, LLC, Eagle Crest Energy Company, East Penn Manufacturing Company, Ecoult, ELSYS Inc., Energy Storage Systems, Inc., Enersys, EnerVault Corporation, Enphase ENERGY, EV Grid, Flextronics, GE Energy Storage, Green Charge Networks, Greensmith Energy, Gridtential Energy, Inc., Hitachi Chemical Co., Ice Energy, IMERGY Power Systems, Innovation Core SEI, Inc. (A Sumitomo Electric Company), Invenergy LLC, K&L Gates, LG Chem Power, Inc., LightSail Energy, Lockheed Martin Advanced Energy Storage LLC, LS Power Development, LLC, Manatt, Phelps & Phillips, LLP, Mitsubishi Corporation (Americas), Mobile Solar, NEC Energy Solutions, Inc., NextEra Energy Resources, NRG Solar LLC, OutBack Power Technologies, Panasonic, Parker Hannifin Corporation, Powertree Services Inc., Primus Power Corporation, Princeton Power Systems, Recurrent Energy, Renewable Energy Systems Americas Inc., Rosendin Electric, S&C Electric Company, Saft America Inc., Sharp Electronics Corporation, Skylar Capital Management, SolarCity, Sony Corporation of America, Sovereign Energy, STEM, SunEdison, SunPower, Toshiba International Corporation, Trimark Associates, Inc., Tri-Technic, Wellhead Electric. 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>).

I. INTRODUCTION.

CESA applauds the significant amount of work done by the Commission's staff and the DR Valuation Working Group to update the framework to evaluate Demand Response ("DR") cost-effectiveness attached as Appendix A² and Appendix B³ to the ALJ's Ruling. If done correctly, CESA's view is that this effort will enable more resources to participate, possibly more frequently, with more transparency in the DR evaluation process, ultimately creating a level playing field for energy storage and preferred resources to compete with traditional resources. CESA shares the goals of other stakeholders in this proceeding in allowing for Load Serving Entities ("LSEs") and other energy industry stakeholders to procure the most dependable, cost-effective energy resources and help California achieve a cleaner, more efficient, and reliable electric power system.

Unfortunately, California currently has one of the less attractive DR markets in the nation and the objectives of this proceeding need to be achieved soon to ensure that the right DR resources are procured. Any factors that lower the value of DR programs in the framework set forth by the Commission - giving resources values that are below 100% of market value only further distorts the likelihood of DR market adoption. If anything, the factors considered in this proceeding should allow some DR resources to attain cost-effectiveness scores higher than 100% and become more competitive options.

² *2014 Revised Demand Response Cost Effectiveness Protocols; Energy Division Staff Proposal April 25, 2014 Updated June 2015, June 11, 2015 ("Protocols").*

³ *Load Modifying Resource Demand Response Valuation Working Group Compliance Report, May 1, 2015 ("Report").*

II. ENERGY STORAGE IS A KEY ENABLER OF DEMAND RESPONSE AND THUS SHOULD BE EXPLICITLY ADDRESSED IN THIS PROCEEDING.

Energy storage must plainly be addressed explicitly and specifically in this proceeding. Neither the Proposal nor the Report refers to energy storage in any meaningful way. The *only* mention at this point is to a form of DR using energy storage known as “permanent load-shifting”:

"These protocols may not be fully applicable to permanent load-shifting programs, especially if those programs are non-dispatchable. However, until such time as a future Commission decision determines a specific cost-effectiveness method for load-shifting programs, LSEs should use these protocols. If an LSE determines that modifications to these protocols should be made to accommodate a load-shifting program, then those modifications must be clearly described and approved in writing by the Commission." (Staff Proposal, p. 7).

It is widely understood that dispatchable supply resources and load modifying DR facilitated by energy storage technology offers great benefit to grid needs in at least the following important ways:

1. Energy storage can offer reliable flexibility needed by the California Independent System Operator (“CAISO”) by being dispatchable on command, offering reliable load reduction, energy, and ancillary services.
2. Energy storage can efficiently utilize renewable energy by instantly increasing load at times characterized by high excess renewable generation, and reducing load during ramping time periods, and adding to the regulation capability of the grid.
3. Energy storage can offset the need for inefficient ramping of traditional generation, and ultimately relieve the system of the need for new peaking capacity.
4. Energy storage can offset the need for costly distribution upgrades by enabling a more efficient use of resources on the distribution system.
5. Energy storage on the customer side of the meter can enable more frequent, less invasive dispatches and should be rewarded as such.

III. SEVERAL COST-EFFECTIVENESS CALCULATION FACTORS PROPOSED BY THE COMMISSION NEED TO BE FURTHER REFINED AND APPEAR TO BE PREMATURE OR INCOMPLETE

A. The C Factor Should be Revised or Removed from the Cost-Effectiveness Calculation.

While the exact rules governing the C Factor calculations will be further refined in the LSE work papers, CESA has concerns regarding the usefulness of this factor in reaching the Commission's goals. It appears to place an unnecessary burden on DR programs that are called upon frequently. If one of the goals of this proceeding is, as stated in the OIR, to "develop and adopt a roadmap with the intent to collaborate and coordinate with other Commission proceedings and state agencies in order to strategize the future of demand response in California,"⁴ the C Factor appears to be a step in the wrong direction. Creating more frequent calls and year-round programs, as CESA has proposed⁵, would allow the most cost-effective resources to respond and participate and therefore have the highest value for ratepayers. The fact that a DR resource responds to 1 in 5 signals or 1 in 10 signals shouldn't have a negative impact on its cost-effectiveness as in the example set forth by the Commission:

"For example, a program which is operated year-round and has a maximum number of 15 call hours per month has an annual maximum number of 180 event hours. If the program has been in existence for four years, and was called 100, 120, 20 and 140 hours respectively during those years, then the average of $100 + 120 + 20 + 140$, divided by 180, or $95/180$, or .54. This number will determine the dispatchability factor. Since the dispatchability factor makes up half of the C factor calculation, the dispatchability factor is half of .54, or 27%. That is added to the 50% insurance value to get a total C factor of 77% for this program. Details of this calculation for each DR program must be included in the work papers." (CESA's Comments, p. __).

⁴ *Order Instituting Rulemaking To Enhance The Role Of Demand Response In Meeting The State's Resource Planning Needs And Operational Requirements*, p.2.

⁵ *Comments of The California Energy Storage Alliance on Proposed Decision Addressing Foundational Issue of The Bifurcation Of Demand Response Programs*, p. 5.

CESA recommends that the C Factor be revised to start at 100% and provide an adder for resources that score higher in this category. Furthermore, CESA advocates that in the context of change that is affecting DR, as well as Distributed Energy Resources (“DER”) and Integrated Demand Side Management (“IDSM”), and other distributed resources, it is a step in the wrong direction to evaluate programs based on their historic dispatch profiles. If the C Factor can’t be revised in a positive way, it should simply be removed.

B. The “D Factor” Should be Revisited by the Commission.

The default value of the D Factor should be 100% until the Commission establishes a transparent and uniform way for utilities to determine this critical value. With the right incentives, energy storage will show up at the “right place”, “right certainty,” and “right availability” (Proposal, p. 37). However it shouldn’t be the sole responsibility of LSEs to provide an “explanation of how the foregoing criteria apply to each DR program.” Again, CESA recommends that the D factor be an adder above and beyond 100% to encourage healthy market participation.

C. The “E Factor” Should be Mandatory for LSEs.

The E Factor described at page 35 of the Proposal should be required in the cost-effectiveness analysis. The dynamic nature of the E Factor gives it tremendous value in evaluating DR program design. It’s the only factor that will incorporate real time congestion and grid conditions, and could accordingly prove to be a valuable tool in evaluating both load modifying and supply resources.

IV. THE PROPOSED METHODOLOGY NEEDS TO BE CLOSELY LINKED TO OTHER ONGOING COST-EFFECTIVENESS EFFORTS AT THE COMMISSION.

The piecemeal approach adopted by the Commission in various cost-effectiveness evaluation efforts to date is certainly suboptimal by any standard. The variety of tools used and

the maturity of some of the tools proposed create unnecessary confusion across various active Commission proceedings. For example, the cost-effectiveness tools developed in this proceeding should be used in the IDSM proceeding. Likewise, modifications to locational net benefits should be taken into account in the DER proceeding. CESA certainly *is* encouraged to note that electric vehicles, a form of energy storage, were included in a recent exercise to map the cost-effectiveness frameworks for the different demand-side resources at Energy Division workshops held in the IDSM proceeding.⁶

V. CONCLUSION.

CESA thanks the Commission for the opportunity to provide these comments in response to the ALJ's Ruling.

Respectfully submitted,



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⁶ See, *Administrative Law Judge's Ruling Noticing July 30, 2015 Cost-Effectiveness Workshop*, issued July 17, 2015.