

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

Order Instituting Rulemaking to Oversee the
Resource Adequacy Program, Consider Program
Refinements, and Establish Annual Local and
Flexible Procurement Obligations for the 2017 and
2018 Compliance Years.

Rulemaking 17-09-020
(Filed September 28, 2017)

**COMMENTS OF THE CALIFORNIA ENERGY STORAGE ALLIANCE
ON RESOURCE ADEQUACY PROCEEDING ORDER
INSTITUTING RULEMAKING**

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The California Energy Storage Alliance (“CESA”)¹ hereby submit these comments on the Resource Adequacy (“RA”) Proceeding’s *Order Instituting Rulemaking*, filed on September 28th, 2017 (“OIR”).

I. INTRODUCTION

Resource Adequacy (“RA”) continues to be a key component of the state’s reliability and grid planning efforts. CESA strongly supports capacity planning efforts that ensure reliability

¹ 8minutenergy Renewables, Able Grid Energy Solutions, Adara Power, Advanced Microgrid Solutions, AES Energy Storage, AltaGas Services, Amber Kinetics, American Honda Motor Company, Inc., Bright Energy Storage Technologies, BrightSource Energy, Brookfield, California Environmental Associates, Consolidated Edison Development, Inc., Customized Energy Solutions, Demand Energy, Doosan GridTech, Eagle Crest Energy Company, East Penn Manufacturing Company, Ecoult, EDF Renewable Energy, ElectriQ Power, eMotorWerks, Inc., Energport, Energy Storage Systems Inc., GAF, 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., Ormat Technologies, OutBack Power Technologies, Parker Hannifin Corporation, Qnovo, Recurrent Energy, RES Americas Inc., Sempra Renewables, Sharp Electronics Corporation, SolarCity, Southwest Generation, Sovereign Energy, Stem, STOREME, Inc., Sunrun, Swell Energy, Viridity Energy, 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>).

and provide a sufficient and workable fleet by which the California Independent System Operator (“CAISO”) and other grid operators can effectively manage and balance the grid.

The RA construct resulted in part from the circumstances that arose out of the 2000-2001 California energy crisis. While many factors played a role in that costly and concerning crisis, one component of the crisis stemmed from the excessively large gap between the fleet yielded by the market and the actual needs of grid operators. While many rules have developed to address reliability, any planning efforts should seek to ensure the grid operators’ needs are met. As with the energy crisis, solving for unmet needs out of the market can be costly. The California Public Utilities Commission (“Commission”), as the RA planning authority, should naturally ensure a robust portfolio of results with sufficient characteristics and must-offer-obligations should result to ensure reliable grid operations.

Planning is not an exact science, and CESA supports the Commission’s approach of developing a record and making reasonable changes to the RA framework. The key change for this RA proceeding should undoubtedly be enhancements to the Flexible Capacity framework to ensure the grid’s upwards and downwards flexibility needs will be met in any month in virtually all circumstances. At the Commission’s Voting meeting on the last predecessor to this proceeding, several Commissioners expressed a view that further progress of a ‘durable flexible product’ is needed and should occur with some urgency.

In these comments, CESA emphasizes several high priority enhancement ideas that should be scoped into and resolved in this RA proceeding. CESA represents over 65 member companies focused on the energy storage industry. These companies respond to information and signals from markets, among other factors, and the current RA market does not appear to signal that fast flexibility, as opposed to slower flexibility across three hours, is critical. As such,

CESA believes the RA planning tool may be under-performing in both its reliability and ‘signaling’ need.

CESA’s top priorities for this RA proceeding include:

1. Updates and enhancements to the durable flexible product.
2. Authorizing capacity counting for solar plus storage, *e.g.* a solar plus storage ELCC, or other generation plus storage RA tools.
3. Consideration of capacity planning to meet downward ramping needs.
4. Enhancements that promote efficiency by reduce out of market capacity procurements.

II. COMMENTS

- A. **CESA recommends five key priorities for the 2017-2018 RA Proceeding to ensure reliability and to avoid undue out of market actions, to properly value energy storage resources, and to signal key grid needs for the California energy market-place.**

The above listed four key items should be prioritized in this RA proceeding to address key grid needs and to support the overall capacity market structure. Ultimately, by addressing these priority topics, the Commission will ensure California ratepayers are reasonably and reliably served by the prevailing RA capacity market via solid reliability, competitive procurement of helpful types of capacity, and proper and reasonable valuations of energy storage resources.

CESA provides brief justifications for each of the four priority items below.

1. Updates and enhancements to the durable flexible product.

It’s a ‘brave new world’ where system planning for peaking needs alone is insufficient. Planning for flexibility is extremely important for both reliability and for cost-efficiency. Absent an effective durable flexible product, the CAISO may face reliability penalties and risks, could operate grid inefficiently (by committing excess units, taking out of market actions including buying capacity, curtailing uneconomically, restricting outages or maintenance, and many other

factors), and risk disorderly retirements and inadequate transformation of markets to address near-term grid needs.

Most importantly, the current three-hour Flexible Capacity counting solution and needs-determination does not appear to be providing a sufficient fleet to the CAISO. The three-hour solution is so broad that many slow resource count for flexibility that may ultimately be unavailable. This results in large part because the CAISO fundamentally needs faster committing and more flexible units which are not being ‘brought’ by the RA portfolio. CESA recommends consideration of a 1-hour based flex RA ‘count’, if not a more comprehensive solution based on a breakdown of predictable ramping needs (“variability”) as well as less predictable balancing needs (“uncertainty”). This latter approach may yield two flex products, which can ensure both the CAISO’s Day-Ahead and Real-Time conditions and markets have adequate fleets to work with.

CESA strongly recommends action to complete any overhaul to the Flexible Capacity RA product tools. This matter will require workshops and likely some study or needs-determination. CESA recommends the Commission iterate its design if a full overhaul of the entire RA program cannot workably be completed by Summer, 2018.

2. Authorizing capacity counting for solar plus storage, e.g. a solar plus storage ELCC, or other ‘plus storage’ RA tools.

The Commission has implemented its Effective Load Carrying Capability (“ELCC”) counting convention, but has not authorized any solar plus storage ELCCs. CESA recommends the Commission definitely authorize a RA value for this important resource combination so that solar resources can improve the RA value with some amount of energy storage that is not designed to provide stand-alone RA.

Many solar and wind resources saw decreases in their RA values over time. The addition or retrofit of energy storage may economically boost the resources RA value and reduce

variability and uncertainty needs in helpful ways. Many resources need RA rules and signals to pursue these retrofits which ultimately support the grid needs and support other Commission or environmental goals.

The actual ‘counting’ of an ELCC for a solar plus storage can likely be determined using data gathered by the Commission. Importantly, if the Commission does not wish to be responsible for performing calculations of ‘generation plus storage’ ELCC’s, the Commission should direct would-be RA providers in how to calculate this ELCC on their own. Commission pre-approval or pre-authorization of any approach should be clear so that developers have a clear path forward.

Finally, must-offer obligations (“MOO”) for combined resources should be clarified. It may be that the resources participate in the CAISO through different participation pathways, e.g. through the Variable Energy Resources (“VER”) forecasting tool for the solar and through the Non-Generator Resource (“NGR”) model for energy storage. This separate participation models should be valid, insofar as the CAISO’s participation pathways require or encourage this type of participation, and any assessments of the MOO, For example, the RA Availability Assessment Mechanism (“RAAIM”) should treat this separate participation as fully compliant with existing MOO rules. Further, RAAIM counting for NGRs providing flexibility should be clarified, as the logic for this calculation is apparently not currently documented or available.

3. Consideration of capacity planning to meet downward ramping needs.

Any assumptions that overgeneration is an ‘operational issue only’ understates the complicated nature of energy markets, grid reliability, capacity contracts, and other factors. CESA believes it is discriminatory and unreasonable to presume, particularly in planning exercises, that curtailments can occur in unlimited quantities. In many cases, this is not true due to physical or contractual matters, and it also relies on selective treatment in CAISO markets

where some resources are shut off just so others can run. An over-reliance on curtailment also may inadvertently authorize over-commitments of fossil resources, again where out of market costs lead to inefficiency and where emissions can be higher. In some cases, curtailments may be allowing import of unspecified power, potential coal, into California. For all of these reasons, the Commission should explore how capacity planning for downward ramping needs. Such an exploration will likely yield a more efficient, clean, and reliable operation of the grid in ways that also signals to market participants and to contracting parties what types of services are valuable and why.

Finally, the CAISO is regulated by FERC which has historically focused on free market concepts to meet reliability needs. Out of market actions, over time, indicate an inefficient market structure which may prompt overhauls or increased penalties, in addition to being more expensive than an efficiency market-based outcome. California should provide a fleet to the CAISO where excessive out of market actions or curtailments, especially out of market curtailments are not deemed normal or unduly necessary.

4. Enhancements that promote efficiency by reduce out of market capacity procurements.

Market efficiency theories should apply to the RA market. Fundamentally, if the fleet is undercompensated or insufficient to meet grid needs, out of market actions are taken. These actions represent failures of the planning model and potentially also ‘close calls’ for the CAISO’s reliability. Overtime, if a market’s payments are insufficient, more and more resources will opt out of markets. If these opt-outs are disorderly and irrespective of grid needs, out of market contracts may be relied upon to retain the capacity, creating more out of market compensation. While CESA does not advocate for any overpayments, reasonable and efficient market structures should be a clear goal.

CESA is concerned that the Commission may be authorizing an RA model that seeks to provide only minimal payments to resources, rather than to signal and compensate resources via an efficiency market. The Commission certainly recalls that out of market actions, including those of the energy crisis, are extremely expensive and should be avoided. Market signals do transform the fleet over time. Market signals can affect how resources plan maintenance, anticipate ramping, retrofit themselves, etc. These are real physical or financial actions that result from market signals.

III. CONCLUSION

CESA appreciates the opportunity to submit comments on the Rulemaking and to offer recommendations for the scope of this proceeding. CESA looks forward to working with the Commission and parties on the further development of a durable and robust RA program.

Respectfully submitted,



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