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 ORDER INSTITUTING RULEMAKING TO ENHANCE THE ROLE OF DEMAND RESPONSE IN MEETING THE STATE'S RESOURCE PLANNING NEEDS AND OPERATIONAL REQUIREMENTS

Donald C. Liddell
DOUGLASS & LIDDELL
2928 2nd Avenue
San Diego, California 92103
Telephone: (619) 993-9096
Facsimile: (619) 296-4662
Email: liddell@energyattorney.com

Counsel for the
CALIFORNIA ENERGY STORAGE ALLIANCE

October 21, 2013

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 ORDER INSTITUTING RULEMAKING TO ENHANCE THE ROLE OF DEMAND RESPONSE IN MEETING THE STATE'S RESOURCE PLANNING NEEDS AND OPERATIONAL REQUIREMENTS

Pursuant Rule 14 of the California Public Utilities Commission's ("Commission's") Rules of Practice and Procedure, and the *Order Instituting Rulemaking to Enhance the Role of Demand Response in Meeting the State's Resource Planning Needs and Operational Requirements,* filed on September 19, 2013 ("OIR") the California Energy Storage Alliance ("CESA")[1] hereby submits these comments on the OIR.

I. INTRODUCTION.

CESA strongly supports the Commission's stated intention to determine whether and how to bifurcate current utility-administered, ratepayer-funded Demand Response ("DR")

[1] The California Energy Storage Alliance consists of 1 Energy Systems, A123 Systems, AES Energy Storage, Alton Energy, American Vanadium, AU Optronics, Beacon Power, Bright Energy Storage, BrightSource Energy, CALMAC, Chevron Energy Solutions, Christenson Electric Inc., Clean Energy Systems Inc., CODA Energy, Deeya Energy, Demand Energy, DN Tanks, Eagle Crest Energy, East Penn Manufacturing Co., Ecoult, Energy Cache, EnerVault, FAFCO Thermal Storage Systems, FIAMM Group, FIAMM Energy Storage Solutions, Flextronics, Foresight Renewable Systems, GE Energy Storage, Green Charge Networks, Greensmith Energy Management Systems, Growing Energy Labs, Gridtential Energy, Halotechnics, Hecate Energy LLC, Hydrogenics, Ice Energy, Innovation Core SEI, Invenergy, K&L Gates LLP, KYOCERA Solar, LightSail Energy, LG Chem Ltd., NextEra Energy Resources, OCI Company Ltd., Panasonic, Paramount Energy West, Parker Hannifin, PDE Total Energy Solutions, Powertree Services, Primus Power, RedFlow Technologies, RES Americas, S&C Electric Co., Saft America, Samsung SDI, Sharp Labs of America, Silent Power, SolarCity, Stem, Sovereign Energy Storage LLC, Sumitomo Corporation of America, TAS Energy, UniEnergy Technologies, 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

programs into demand-side and supply-side resources, for the purpose of prioritizing DR as a utility-procured resource competitively bid into the California Independent System Operator's ("CAISO's") wholesale electricity market. CESA very strongly supports development and adoption of a roadmap to collaborate and coordinate with other Commission proceedings and state agencies in order to expand the future role of supply-side DR in the form of, and as optimized by, energy storage technology, specifically including the very recently approved *Energy Storage Framework and Design Program*.[2] The OIR should serve to articulate the features that DR and energy storage share in common, as well as those that they do not, in order to shape and guide California's energy policy direction going forward.

Finally, CESA supports the bridge funding approach described in the OIR. CESA supports RFOs for cost-effective commercially viable energy storage technologies, and also generally supports Commission funding of pilot programs that will help enable new DR and energy storage projects achieve commercial success in a cost-effective manner, including those discussed in the OIR.

II. THIS PROCEEDING SHOULD BE CLOSELY COORDINATED WITH OTHER COMMISSION AND CAISO PROCEEDINGS AND STAKEHOLDER PROCESSESSES DEALING WITH DEMAND RESPONSE, VEHICLE GRID INTEGRATION AND ENERGY STORAGE.

The OIR appropriately highlights the direct relationship between this proceeding and the Commission's currently active Resource Adequacy proceeding:[3]

> [S]takeholders will develop counting rules, eligibility criteria, and must offer obligation for use-limited resources, preferred resources, combined cycle gas turbines, and energy storage resources for Commission consideration. Determination of a methodology for the Qualifying

[2] *See, Decision Adopting Energy Storage Procurement Framework and Design Program*, issued October 17, 2013, in R.10-12-007.

[3] R.11-10-023.

> Capacity of wholesale demand response resources is also included in the scope of Phase 3 of the Resource Adequacy proceeding [Footnote deleted]" (OIR, p. 11).

The OIR also notes that the Commission, in collaboration with the CAISO, is presently in the process of determining a flexible capacity framework and qualifying capacity ("QC") rules for both energy storage and wholesale, supply-side, DR resources in the context of a *Joint Reliability Multi-Year Framework*.[4]

III. THE SCOPE OF THIS PROCEEDING SHOULD TAKE FULL ACCOUNT OF SIMILARITIES AND DIFFERENCES BETWEEN ENERGY STORAGE AND DEMAND RESPONSE.

As the Commission is aware, a draft staff proposal to develop qualifying capacity ("QC") and effective flexible capacity ("EFC") methodologies for energy storage and supply-side DR resources is presently being considered in the RA proceeding ("Flexible Capacity Proposal"). Supply-side DR, which is eligible for RA credit, is distinguished from customer-focused DR programs and rates, which are not.[5] In the Flexible Capacity Proposal, customer-focused DR programs and rates count toward system reliability needs as load modifiers rather than as supply-side resources, and are included in load forecasting rather than receiving a QC or EFC.

Because the Flexible Capacity Proposal does not intend to account for the operational dissimilarities between DR and energy storage, CESA respectfully disagrees with the policy

---

[4] As the CAISO notes in its Prehearing Conference Statement, served on October 14, 2013, "Staff members of the Commission and the ISO have proposed a Joint Reliability Framework that combines a multi-year resource adequacy obligation for load serving entities with a multi-year market based ISO backstop capacity procurement mechanism, called the Reliability Services Auction, and a 4 to 10 year forward planning assessment." (Footnote 2, at p. 2).

[5] *Qualifying Capacity and Effective Flexible Capacity Calculation Methodologies for Energy Storage and Supply-Side Demand Response*, September 13, 2013. A resource's Qualifying QC is the number of Megawatts eligible to be counted towards meeting a load serving entity's ("LSE's") System and Local RA requirements, subject to deliverability constraints. A resource's EFC is the number of Megawatts eligible to be counted towards meeting an LSE's Flexible RA requirements. The revised QC that incorporates deliverability constraints is called the Net Qualifying Capacity ("NQC").

timing horizon for determining the durational requirements for energy storage that are assumed in the Flexible Capacity Proposal, namely:

> "Currently, System and Local RA rules require that facilities be capable of operating for four hours at a time and for three consecutive days in order to be eligible to receive a QC. To receive an EFC and be eligible to count as Flexible RA, facilities must be capable of ramping up or sustaining output for three hours. These rules already apply to ES [energy storage] and DR resources. *While the above durational requirements may be revisited in light of the ELCC-ERC Study results, we do not intend to address them as part of the ES and DR QC and EFC calculation methodologies* [Emphasis added]" (p. 5).

CESA also disagrees with the approach to counting energy storage for flexible capacity proposed by the CAISO in its related *Flexible Resource Adequacy Criteria and Must offer Obligation*:[6]

> "As with demand response resources, storage resources have unique operating characteristics. Additionally, energy storage can take many forms. For example, some storage resources may be able to provide very rapid responses for short periods of time by carefully managing the charging and discharging of the resource. Therefore, the ISO is proposing a flexible capacity resource must offer obligation designed for storage resources. Specifically, the ISO proposes that storage resources (excluding pump storage) that provide flexible capacity either (1) submit economic bids for regulation for the time period from 5:00 a.m. – 10:00 p.m. as a regulation energy management resource, or (2) select one of the must-offer obligations outlined above for demand response resources. These options are designed to allow the SC [scheduling coordinator] of the resource to select the must-offer obligation that works best with the specific storage technology."

As noted in its responses to specific questions posed in the OIR below, CESA's position is that RA counting issues should be resolved in the RA proceeding - and not directly in this proceeding.

[6] *Market and Infrastructure Policy Third Revised Straw Proposal*, October 3, 2012.

IV. CESA'S RESPONSES TO SPECIFIC QUESTIONS POSED BY THE COMMISSION IN THE OIR.

CESA hereby provides the following responses to specific questions posed in the OIR:

QUESTION 1. Are there any potential problems or concerns with bifurcating demand response programs into demand-side and supply-side resources?

CESA'S RESPONSE: CESA supports the bifurcation of DR programs proposed by the Commission's staff[7] and embraces the opportunity to help stakeholders and the Commission directly address and resolve anticipated problems and concerns.

QUESTION 2. Under a bifurcated framework, how should demand response programs or products be designed? How should existing programs evolve?

CESA'S RESPONSE: CESA urges the Commission to consider outlining that supply-side DR resources should be specifically matched to the flexibility needs identified by the CAISO:

- Regulation Energy Management ("REM"), which would specify that the resource could perform REM during the specified period. Such resources should be rated by their ability to provide regulation in both the upward and downward direction.
- Operating Reserves and five-minute to five-minute load following.
- Three- hour ramping capacity, in which the resource would be required to ramp from pMin to pMax over a three-hour period.

Energy storage resources and electric vehicle chargers (distinct from the vehicles) should be specifically allowed to qualify as a supply-side DR resources. Resource valuation should consider a resource's abilities in the following areas:

---

[7] *Staff Proposal for Demand Response Pilots in 2015*, August 2013.

- Response time
- Dispatchability
- Availability and use limitations
- Impact on customer loads
- Locational value
- Load increasing value, or the ability to add load during a system or locational over generation situation.

CESA believes these qualities represent the needs expressed by system operators in managing the grid.

QUESTION 3. How could the Commission adopt a competitive procurement mechanism for supply-side demand response similar to the procurement process utilized in other Commission programs (e.g. Renewable Portfolio Standard)? This includes identifying the planning steps and competitive procurement process that will determine the demand response products Utilities should procure to fulfill their demand response needs while balancing the needs of customers and those of stakeholders, including the CAISO. What are the strengths and weaknesses of the Commission's procurement mechanisms and lessons learned from other Commission programs that should inform the design of supply-side demand response procurement?

CESA'S RESPONSE: It is important that competitive procurement recognize and compensate for the capabilities of energy storage resources enumerated above. In order to support procurement by utility customers and third parties providers of DR, it is also important

that the competitive procurement mechanism provides a consistent projection of need and value for the capabilities procured.

QUESTION 4. What mechanisms shall the Commission develop such that local and system reliability needs forecasted by resource planners drive the development and procurement of demand response programs?

CESA'S RESPONSE: CESA anticipates that appropriate mechanisms will be developed in proceedings and stakeholder processes devoted to RA for energy storage and DR.

QUESTION 5. What changes in programs (e.g. locational targeting, longer funding cycles, load-increasing) and evaluation methods will create greater certainty that a demand response program can supply capacity when and where the grid needs it?

CESA'S RESPONSE: See CESA's response to Question number 4, above.

QUESTION 6. How should the Commission determine the appropriate policy on Resource Adequacy capacity payments for demand response?

CESA'S RESPONSE: RA flexible capacity payment policy should match the proposed supply-side DR programs and requirements. Specifically, CESA advocates for the following:

- Flexible capacity should be decoupled from standard capacity in terms of qualifying requirements.
- Flexible capacity should incorporate requirements that encourage best fit resources for grid needs. The requirements should allow for resources that provide any or all of the following benefits:
    - Regulation
    - Operating Reserves and five minute to five minute load following

- Three hour ramping ability, or capability to provide flexible ramping per changes in future CAISO analysis

- It should not be expected that every supply side DR resource could provide all of the above capabilities. Resources should instead be allowed to qualify in the area for which they are best suited.

- Resource categories should be developed and valued based upon the "ELCC and EFC" methodology proposed in the RA proceeding.

- The ELCC and EFC methodology should provide future projections for value and need of various resource categories going forward.

QUESTION 7. What should be the role of the Utilities in demand response programs going forward? Should special consideration be given to each sector (residential, commercial, industrial) or other customer attributes?

CESA'S RESPONSE: In order to provide the most cost-effective and valuable DR fleet, CESA advocates for a variety of ownership models. Supply-side DR should allow access from utility resources, as well as from resources owned by third parties and utility customers.

QUESTION 8. How should demand response programs be operated to be more competitive and lead to a robust demand response market?

CESA'S RESPONSE: Determining the answer to this fundamental policy question should be the goal of this proceeding.

QUESTION 9. Are there disincentives that limit the interest of potential demand response providers (including Utilities) in demand response programs? What can the Commission do to overcome those disincentives, if any?

CESA'S RESPONSE: Excessive metering, monitoring, and control requirements are a key disincentive to potential demand response and energy storage providers. CESA supports the CAISO's efforts to reduce metering and monitoring requirements, along with the implementation of automated controls that would allow the CAISO to remotely dispatch systems without the need of a scheduling coordinator. An additional disincentive is uncertainty concerning future payment streams and value. Where possible, the Commission should consider ways to improve predictions of future value. Establishing a competitive, transparent capacity or Resource Adequacy payment mechanism should specifically be considered.

QUESTION 10. How should cost-effectiveness be treated, if at all, under a competitive procurement framework for supply-side demand response?

CESA'S RESPONSE: All resources should be modeled in a framework that recognizes their ability to deliver benefits at lower cost than other grid alternatives. The framework should take into account the ability of resources to provide energy shifting that will support current and future grid requirements.

QUESTION 11. How does a proposed bifurcated framework with supply-side demand response enforce the loading order and ensure that demand response is procured and operated as a preferred resource before the utilities peaker power plants?

CESA's RESPONSE: Dispatchable supply-side DR offers great benefit to grid needs in at least the following important ways:

1. Supply-side DR can offer the flexibility required by the CAISO

2. Supply-side DR can best utilize renewable energy by increasing load at times of high renewable generation, reducing load during ramping time periods, and adding to the regulation capability of the electric power system.

3. Supply-side DR can offset traditional generation.

QUESTION 12. What are the standards, technologies, and architectures needed to enable greater participation by demand response providers in the residential and small- and medium-sized business customer base?

CESA's RESPONSE: CESA advocates that the Commission should support the CAISO's proposed reduced metering, monitoring, and signaling requirements. Reduced requirements will maximize the number of local supply-side resources that can be dispatched according to grid needs while reducing the cost of those resources. Ensuring that the same dispatch protocols are used by IOUs and the CAISO will also encourage providers to standardize and lower the cost of market entry.

QUESTION 13. As contemplated in the existing energy efficiency portfolio, high upfront costs act as a significant barrier to deploy additional cost-effective savings. The Commission is piloting a series of on-bill financing activities, including providing ratepayer funded Credit Enhancements. Should ratepayers provide similar Credit Enhancements in Demand Response programs to take advantage of the emerging infrastructure? If so, at what level and for what types of programs?

CESA's RESPONSE: CESA expresses no opinion on this general subject at this time

QUESTION 14. What are additional ways to reduce the number of customer touch points between our retail Demand Response programs with other existing Demand Side programs (i.e. Energy Efficiency and Distributed Generation)?

CESA's Response: CESA expresses no opinion on this general subject ate this time.

V. THE COMMISSION SHOULD INITIALLY ADDRESS BRIDGE FUNDING FOR 2015.

Like the Commission, CESA recognizes that the Commission's review and analysis of DR programs described in the OIR will not be complete in time for the 2015 budget cycle. CESA thus, supports the Commission's proposal to move forward with developing a proposed decision that provides for 2015 funding for the current DR programs.

VI. CONCLUSION.

CESA appreciates this opportunity to respond to the OIR, and looks forward to working with the Commission and other stakeholders throughout the entire proceeding.

Respectfully submitted,

Donald C. Liddell
DOUGLASS & LIDDELL

Counsel for the
CALIFORNIA ENERGY STORAGE ALLIANCE

Date: October 21, 2013