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 JOINT COMMISSIONER AND ADMINISTRATIVE LAW JUDGE'S RULING AND SCOPING MEMO

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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"), and the *Joint Assigned Commissioner and Administrative Law Judge's Ruling and Scoping Memo*, issued on November 14, 2013 ("Scoping Memo").

I. INTRODUCTION.

CESA applauds the Commission's effort to redefine the market for Demand Response ("DR") services and sees tremendous potential in creating a new category of services to build a

[1] The California Energy Storage Alliance consists of 1 Energy Systems, A123 Energy Solutions, AES Energy Storage, Alton Energy, American Vanadium, AU Optronics, Beacon Power, Bosch Energy Storage Solutions, Bright Energy Storage, BrightSource Energy, CALMAC, Chevron Energy Solutions, Christenson Electric Inc., Clean Energy Systems Inc., CODA Energy, Deeya Energy, DN Tanks, Duke Energy, Eagle Crest Energy, EaglePicher, East Penn Manufacturing Co., Ecoult, Energy Cache, EnerSys, 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, NRG Energy, OCI Company Ltd., OutBack Power Technologies, 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, Sovereign Energy Storage LLC, Stem, Stoel Rives LLP, Sumitomo Corporation of America, TAS Energy, Tri-Technic, UniEnergy Technologies, Xtreme Power, and Wellhead Electric Co. 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

cleaner, more efficient, and cost effective electric power system. CESA supports bifurcating this proceeding into demand side and supply side components. Expanding and clarifying the role of DR to meet California's current and future operational requirements will enable greater participation, competition and access to a larger, cost-effective toolkit of resources available to utilities, the CAISO and a more efficient, reliable grid.

II. CESA'S RESPONSES TO SPECIFIC QUESTIONS POSED BY THE COMMISSION IN THE SCOPING MEMO.

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

1. BIFURCATION

a) In the Order Instituting Rulemaking (OIR), the Commission proposes to bifurcate the current demand response programs into demand-side and supply-side resources. (See Figure 1 below for the proposed realignment). The OIR defines the demand-side programs as customer- focused programs and rates, and supply side resources as reliable and flexible demand response that meets local and system resource planning and operational requirements. Please comment on the terms, demand-side and supply-side resources, and the definitions provided. If you disagree with the terms and/or definitions, please provide your recommended changes and explain why your recommendation is more appropriate.

CESA'S RESPONSE: CESA agrees with the definitions set forth in the Scoping Memo and suggests further refining the definitions in light of the specific needs that each DR product addresses in the power system: distribution level services should be provided by demand-side DR resources, and system wide balancing services should be provided by supply-side DR resources. As a result, supply-side DR's counting for RA purposes, distinguishes it from

customer-focused DR programs and rates, which are not supply side resources.[2] However, as is currently being done today, aggregation of demand side resources should be allowed to aggregate DR resources to participate in wholesale markets. This can be accomplished, for example, by aggregating load and/or aggregating behind the meter energy storage services including stationary energy storage, energy storage augmenting EV charging and or energy storage onboard electric vehicles. Energy storage can provide both supply side and demand side DR by discharging which can appear as a reduction in load and/or back feeding directly into the grid (where other loads can use this energy). Distinction of these use cases is important as interconnection maybe treated differently in the case of discharging for load reduction vs. back feeding energy back to the grid. CESA recommends that aggregated demand side DR for use as a supply side resource should also be eligible to be treated as supply side DR.

CESA applauds the Commission's continuous efforts to define and make existing DR programs more effective with R.02-06-001, R.07-01-041, and A.08-06-001. Demand-side programs should continue to be streamlined with clear guidelines to protect customers from the inherent complexity of wholesale energy market mechanisms. CESA encourages the Commission to further define the role of third party aggregators, which will be foundational in the Commission's effort to create a "high quality" supply-side DR product class with increased value for system operations. In light of the extensive suite of resource options available to address DR needs, CESA recommends that both demand side and supply side definitions of DR

[2] *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").

be inclusive of energy storage's ability to provide two-way power flow to the local load or to the grid.

CESA believes that dispatchable supply-side and demand side DR enabled by energy storage offers great benefit to grid needs in at least the following important ways:

1. Energy storage can offer reliable flexibility required by the CAISO by being dispatchable on command, offering reliable load reduction or energy/ancillary service.
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 electric power system.
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.

b) Are there any potential problems or concerns with the proposed bifurcation or realignment of demand response programs into demand-side and supply-side resources? For example, are there any legal issues or other concerns such as missed opportunities for integration?

CESA's RESPONSE: CESA's main concern is the current uncertainty concerning future revenue streams and value for DR products. Enabling multi-year contracts (5-10 years) for DR services can help ameliorate this problem significantly. CESA applauds the commission for approving the bridge funding while encouraging the Commission to accelerate the stakeholder process to ensure that the reformed programs deliver the expected value to the grid and to ratepayers.

c) The OIR describes an ongoing tension between the supply-side and demand-side requirements for demand response. The OIR states that demand response as resource adequacy resources are held to the same requirements as generation resources for system reliability and economic efficiency. Simultaneously, the needs and technical capabilities of customers and providers should also be considered in program design. How could the proposed bifurcation or realignment of supply-side and demand-side resources be designed to serve both sets of requirements?

CESA's RESPONSE: Demand response resources, including energy storage functioning as demand response, should not be held to the *same historic* requirements as generation resources for system reliability. For example, existing standard capacity (RA) accounting rules for demand response require 4-hour duration over three consecutive days. For starters, these accounting rules are currently being redefined in the current RA rulemaking (R.11-10-023) and standard capacity is likely to be separately defined from flexible capacity. Further, as CA's flexible capacity needs are further defined by CAISO, it is unlikely that the historic four hour duration requirement will be necessary. Storage offers the opportunity to provide a large amount of flexible capacity without a commensurate amount of standard capacity, which is a good fit for grid needs going forward. The CPUC has already recognized that the Effective Flexible Capacity of a storage resource could far exceed its Qualifying Capacity. Therefore, CESA recommends that future flexible capacity products be decoupled from standard capacity and that both products be defined in as small (short duration) increments as possible so as to enable accurate procurement of capacity and minimize the amount of unnecessary excess capacity purchases for ratepayers. Further, purchasing required capacity in short duration increments will increase the number of available competitive solutions to meet that need and increased competition will help drive down costs for ratepayers.

Resolving the tension between delivering flexible capacity and simultaneously meeting the needs and technical capabilities of customers and providers can be accomplished via clear price signals. For example, a behind the meter energy storage system can be used for multiple

grid services, including load leveling (demand charge reduction), providing capacity (RA) or ancillary services (frequency regulation, spinning reserve). The operational dispatch of this storage device will be governed by rational economic decisions over time, decisions that are governed by real time optimization of anticipated revenue/savings possible within the limits of the devices operational capabilities. If there is transparency in the anticipated revenue from any of the grid services (*e.g.* Sell ancillary services vs. provide demand side DR vs. peak load reduction) then the device can act accordingly. Generally, if a multi-year contract for RA or flexible capacity can be obtained by end users or aggregators, then that contract can be considered an 'anchor' revenue stream around which other grid services may be added in real time if operationally feasible.

Finally, it should be recognized that energy storage resources, by charging and discharging, can provide a flexible range that is double their discharge rating (e.g., 100kW storage resource can provide 200kW of 'flexible range'). The full flexible range of storage is recognized and utilized in Regulation Energy Management, Regulation Up, Regulation Down, and during load following activities. Storage resources can also charge during the midday solar peak and discharge during the morning and evening ramps, providing flexibility in both directions. As California moves toward a renewable future, the value of the full charge and discharge range for flexibility should certainly be recognized in the Supply Side DR proceeding.

d) What role, if any, will the load impact protocol serve in this realignment? Are revisions required? Should the Commission develop separate sets of evaluation criteria and/or processes for the demand and supply sides?

CESA's RESPONSE: Determining the answer to these questions should be one of the goals of this proceeding.

2. COST ALLOCATION

a) Current policy requires the utilities to identify, in their demand response applications, the rates used for cost recovery of each program and the justification for that rate. What, if any, additional information should the Commission require to ensure equitable cost allocation and why?

CESA's RESPONSE: Determining the answer to this fundamental cost allocation issue should also be one of the goals of this proceeding.

b) If the Commission bifurcates the demand response programs into demand-side and supply-side, does it need to revise its requirements for cost allocation in order to ensure equitable cost allocation? How and why?

CESA's RESPONSE: The success of any new DR products depends on appropriate cost recovery and that should also be addressed in this proceeding.

c) In resource adequacy procurement, costs are allocated across the LSE's. If the Commission bifurcates demand response programs into demand side and supply side, should costs for supply-side procurement be allocated in the same fashion as resource adequacy procurement? If not, recommend other frameworks.

CESA's RESPONSE: Resource categories should be developed and valued based upon the effective load carrying capability ("ELCC") and equivalent firm capacity, ("EFC") methodology proposed in the RA proceeding. The ELCC and EFC methodology should also provide future projections for value and need of various resource categories going forward.

3. BACK-UP GENERATORS

a) In D.11-10-003, Conclusion of Law No. 5 states, "fossil-fueled emergency back-up generation resources should not be allowed as part of a demand response program for resource adequacy purposes." The decision required the utilities to work with Commission staff to identify data regarding the use of back-up generators. The Utilities shall provide a description of data they have on customer back-up generator usage in demand response programs. We request other parties to share this information as well.

CESA's RESPONSE: In a fully functioning market, backup generators would have no incentive whatsoever to compete for revenue in demand response programs. CESA looks forward to reviewing the information gathered by the Commission on this topic. However,

energy storage, when used as a backup generator *should* be permitted to participate in DR programs and RA programs. Unlike fossil fueled emergency backup generators, energy storage resources produce no local emissions and can be instantaneously dispatched to increase grid reliability.

b) If the Commission bifurcates demand response programs, how should the Commission develop rules that are consistent with the D.11-10-003 policy statement?

CESA's RESPONSE: Determining the answer to this issue should be one of the goals of this proceeding.

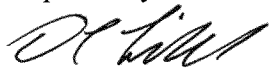
c) What are the current laws and regulations regarding back-up generation, including those by the Air Resources Board, local air quality management districts and/or any other related regulatory body?

CESA's RESPONSE: CESA defers to parties with superior working knowledge on this topic at this time. Given that such rules were likely created with diesel or other fossil fueled backup generators, CESA strongly recommends that they be revised in part to proactively encourage usage of distributed energy storage in place of fossil fueled emergency backup units and the ability to use such storage units for grid support services.

III. CONCLUSION

CESA appreciates this opportunity to comment on the Scoping Memo, and looks forward to working with the Commission and stakeholders in this proceeding.

Respectfully submitted,



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