

**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.

Rulemaking 13-09-011  
(Filed November 8, 2012)

**COMMENTS OF THE CALIFORNIA ENERGY STORAGE ALLIANCE  
ON ADMINISTRATIVE LAW JUDGE'S RULING REQUESTING RESPONSES TO  
ADDITIONAL QUESTIONS IN REGARD TO 2018 AND BEYOND DEMAND  
RESPONSE PROGRAMS**

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The California Energy Storage Alliance (“CESA”)<sup>1</sup> hereby submits these comments pursuant to the Rules of Practice and Procedure of the California Public Utilities Commission (“Commission”) regarding the *Administrative Law Judge’s Ruling Requesting Responses to Additional Questions in Regard to 2018 and Beyond Demand Response Programs*, issued on May 20, 2016 (“Ruling”).

**I. INTRODUCTION.**

CESA appreciates the opportunity to submit comments on the Ruling, which directs parties of R.13-09-011 to reply to questions in response to the Interim Report on Phase I Results

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<sup>1</sup> 1 Energy Systems Inc., Adara Power, Advanced Microgrid Solutions, AES Energy Storage, Amber Kinetics, Aquion Energy, Bright Energy Storage Technologies, Brookfield, California Environmental Associates, Consolidated Edison Development, Inc., Cumulus Energy Storage, Customized Energy Solutions, Demand Energy, Eagle Crest Energy Company, East Penn Manufacturing Company, Ecoult, Electric Motor Werks, Inc., ElectriQ Power, ELSYS Inc., Enphase Energy, GE Energy Storage, Geli, Gordon & Rees, Green Charge Networks, Greensmith Energy, Gridscape Solutions, Gridtential Energy, Inc., Hitachi Chemical Co., Ice Energy, Innovation Core SEI, Inc. (A Sumitomo Electric Company), Invenergy LLC, Johnson Controls, K&L Gates, LG Chem Power, Inc., Lockheed Martin Advanced Energy Storage LLC, LS Power Development, LLC, Mercedes-Benz Research & Development North America, Nature & PeopleFirst, LLC, NEC Energy Solutions, Inc., NextEra Energy Resources, NGK Insulators, Ltd., NRG Energy LLC, OutBack Power Technologies, Parker Hannifin Corporation, Powertree Services Inc., Qnovo, Recurrent Energy, RES Americas Inc., Saft America Inc., Samsung SDI, Sharp Electronics Corporation, Skylar Capital Management, SolarCity, Sovereign Energy, Stem, SunPower Corporation, Sunrun, Swell Energy, Trina Energy Storage, Tri-Technic, UniEnergy Technologies, Wellhead Electric, Younicos. The views expressed in these reply comments are those of CESA, and do not necessarily reflect the views of all of the individual CESA member companies. (<http://storagealliance.org>).

of the *2015 California Demand Response Potential Study* (“Study”). A key finding of the study is that its results should be viewed in the context of a ‘megatrend’: the possibility of battery storage resetting the price referent if capital costs decline and information/control technologies improve to a certain extent.<sup>2</sup> CESA agrees that energy storage (including dispatchable electric vehicle charging) has tremendous potential as a demand response (“DR”) resource given its advantages of:

- Being dispatchable;
- Being able to sustain a load increase or decrease in response to a dispatch signal (*i.e.*, dependability or firmness of the demand response);
- Being able to have multiple starts;
- Having instantaneous response time; and
- Minimizing customer attrition due to frequent or long dispatches through advanced software automation.

Significantly, as California advances toward its 50% Renewable Portfolio Standard (“RPS”) goal by 2030, energy storage offers the CAISO with reliable and efficient flexibility to address overgeneration and ramping needs.

However, these unique attributes are not valued or compensated in current utility-administered demand response programs or priced into the wholesale market. In other words, demand response resources are not differentiated based on the ‘quality’ of its dispatch that reflects a resource’s speed, accuracy, and duration in providing demand response. As the Commission moves toward further integration of DR resources into the CAISO market, linking the performance attributes of DR dispatches with the appropriate level of compensation and

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<sup>2</sup> *2015 California Demand Response Potential Study: Charting California’s Demand Response Future*, Lawrence Berkeley National Laboratory’s Interim Report on Phase 1 Results submitted on April 1, 2016, pp. 2, 69, and 80.

incentives will be key to helping California more efficiently achieve its energy and environmental goals, potentially at lower costs as well.

CESA commends the Commission, the CAISO, and other key stakeholders in this proceeding. CESA is pleased to see the progress of California in bifurcating DR programs according to D.14-03-026 and in encouraging third-party DR participation: in utility-administered programs; through the implementation of Electric Rule 24 in 2014; and through pilot testing of the procurement of supply-side DR resources in the Demand Response Auction Mechanism (“DRAM”). These decisions have been important in the progress of developing market and program participation structures for third-party-provided DR resources.

In light of this progress, there is still substantial work ahead to unlock the full value of DR resources in meeting California’s policy goals and operational requirements. In these comments, CESA selectively answers to questions posed in the Ruling to support a decision providing PG&E, SDG&E, and SCE guidance for developing DR applications for 2018 and beyond demand response activities and budgets. CESA offers several principled recommendations to guide DR program and market development going forward.

## **II. CATEGORY 1 QUESTIONS: DEMAND RESPONSE GOALS AND OBJECTIVES.**

### **1. In general, what should the Commission expect demand response to accomplish in California?**

Historically, the objective for DR resources in California has been to reduce peak demand needs for the electric grid and provide timely load reduction in emergency reliability situations. Pending developments in this proceeding, an interim goal was established that continued the state’s objective to have DR resources meet 5% of the combined peak demands of Southern California Edison Company (“SCE”), Pacific Gas and Electric Company (“PG&E”), and San

Diego Gas and Electric Company (“SDG&E”). This interim goal was established in the Settlement Agreement between the investor-owned utilities (“IOUs”) and several other settling parties.<sup>3</sup>

A sufficient record has been developed in this proceeding to demonstrate how this singular peak-shaving goal is in some instances outdated and does not fully capture how DR resources can provide a number of other grid benefits. DR resources such as energy storage can provide flexible resource adequacy (“RA”) capacity, provide ancillary services, defer or mitigate transmission and distribution upgrades, manage overgeneration, and provide reliability services during emergency events. DR resources should be expected to serve any and all of these electric grid needs reliably and accurately.

**2. In general, what are your expectations of demand response in California?**

At the very least, CESA expects that the Commission will encourage IOUs and grid operators to dispatch DR resources according to the loading order and expect DR resources to perform. It is not sufficient for DR resources to be compensated for their availability during bid or event windows, but rather compensation should be based on actual dispatch.

**3. Should the Commission set a different goal for load modifying and supply demand response resources? If yes, respond to the first two questions separately for load modifying and supply demand response.**

CESA believes that the Commission should set the same overarching goals and objectives for supply-side and load-modifying resources to meet California’s energy and

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<sup>3</sup> *Settlement Agreement Between and Among Pacific Gas and Electric Company, Southern California Edison Company, San Diego Gas & Electric Company, California Independent System Operator Corporation, Office of Ratepayer Advocates, The Utility Reform Network, California Large Energy Consumers Association, Consumer Federation of California, Alliance for Retail Energy Markets, Direct Access Customer Coalition, Marin Clean Energy, EnerNOC, Inc., Comverge, Inc., Johnson Controls, Inc. Olivine, Inc., Sierra Club, Environmental Defense Fund, Clean Coalition, and EnergyHub/Alarm.com on Phase 3 Issues*, submitted on August 4, 2014. pp. 6-7.

greenhouse gas (“GHG”) emission reduction goals. CESA also views market transformation as being an important overarching goal for supply-side and load-modifying resources to demonstrate and verify the ability of DR resources to provide a host of other grid services, not just peak shaving or emergency reliability, which have historically been the value propositions and policy objectives for DR. Market transformation is also critical in California’s transition from a utility-centric model for DR to one where third parties are able to compete with IOUs and provide innovative customer engagement and market services.

Some resources, such as energy storage, can provide both load-modifying and supply-side DR. For example, energy storage resources could function as load-modifying DR during the summer months to provide distribution grid support, while operating as a supply-side resource during the spring and fall to provide flexible capacity for the CAISO. Such resources should not be prevented from acting as both types of DR resources. Granted, there are a number of challenges in defining each of the attributes of DR resources and allocating these benefits to one DR resource type or the other, as well as in preventing ‘double counting’ of DR benefits that can deliver capacity value while also affecting load forecasts. These are all issues that will likely be resolved in the future in this proceeding or the RA proceeding, but resources that can operate as either type of DR resource should not be driven by objectives that conflict with each other.

Furthermore, the rationale for establishing the same overarching goals for supply-side and load-modifying DR resources is to remove the silos of DR programs and market mechanisms. Resources that can provide both load-modifying and supply-side DR would not benefit from multiple different programs and market mechanisms with variations in objectives, customer participation, and access to customer data. Instead, CESA recommends that DR in

California should be driven by overarching objectives for DR resources that are consistent across programs and market mechanisms.

However, there are obvious differences between the two DR resources that drive the need to establish separate performance requirements and compensation mechanisms. While supply-side resources are procured for specific grid service through day-ahead and real-time markets, load-modifying resources are procured through rates, tariffs, and riders, making it less of a product or resource in the way that supply-side resources are. This distinction drives the need to set separate performance expectations for supply-side resources, which are more likely to accurately procure DR resources for the specific attributes and services that the market is seeking if performance-based compensation mechanisms are implemented.

Despite these necessary distinctions in valuation and compensation, the two DR resources can and should still strive to achieve the same goal. The Commission has held a position that the CAISO should not have exclusive control over DR programs in California,<sup>4</sup> with supply-side resources supporting system reliability for the CAISO and with load-modifying resources supporting local reliability for the load-serving entity (“LSE”). Despite these differences, the Commission has explicitly stated that there will be no preference toward one or the other. Even as these two DR resource types serve different levels of grid need and impact the grid in different ways, CESA believes it is important to have the driving force behind both resource types to be the same: to support renewables integration and reduce GHG emissions. Achieving these same goals are just being done differently through the provision of different types of grid services and through different ‘procurement’ mechanisms.

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<sup>4</sup> *Decision Addressing Foundational Issue of the Bifurcation of Demand Response Programs*, D.14-03-026, issued on April 4, 2014, p. 22.



**4. Should the Commission set a different goal for third-party supply resources (e.g., demand response auction mechanism) and utility supply resources (e.g., Southern California Edison’s Capacity Bidding Program bid into the CAISO market? If yes, respond to the first two questions separately.**

No, CESA sees no need to set a different goal for third-party versus utility supply resources. CESA believes in the role of both third parties and IOUs in administering and managing supply DR resources and supports fair competition between the two. Both should be held to the same goals, objectives, and performance standards for the same reasons as stated in the response to Category 1, Question 3 above.

**5. What metrics and targets (e.g. x number of customers per year per program or y percent of customers able to respond within z number of minutes) should the Commission use to measure the following aspects of demand response: Customer participation, engaging new customers, reliable customer response, deployment of automated technologies, market transformation; and integration with other distributed energy resources including energy efficiency and battery storage.**

CESA focuses its response on proposing metrics and targets for market transformation (see CESA’s detailed response to Category 2, Question 5) and integration with other distributed energy resources such as battery storage. For market transformation, CESA recommends the following metrics:

- Number and type of third-party DR providers enrolled in DR programs
- Number and type of third-party DR providers bidding DR into the CAISO market via Electric Rule 24
- Number and type of end-use customers enrolled in DR program
- Number and type of DR-enabled technologies employed in DR program

For integration with other distributed energy resources (“DER”) such as energy storage, CESA recommends the following metrics, specifically with energy storage technologies in mind:

- Percentage of customers with energy storage technologies enrolled in DR programs
- Percentage of customers with EV chargers enrolled in DR programs

- Cost savings (\$/MW) achieved through DR resources integrated with energy storage
- Megawatt-hours of DR provided by DR resources integrated with energy storage
- Percentage of actual dispatch (number and duration) of DR resources integrated with energy storage in response to dispatch signal
- Potential and actual peak demand savings of DR resources integrated with energy storage

See response to Category 1, Question 7 for CESA’s explanation of the rationale for the above proposed metrics.

**6. Are there additional demand response aspects for which the Commission should develop metrics and targets?**

Yes, as the Commission develops metrics and targets for DR resources in California, it should closely evaluate the *ability* of DR resources to respond to dispatch signals. Depending on the grid service for which the DR resource is being dispatched for, the Commission and the CAISO should collect data on how quickly and accurately the DR resource is responding to ramping dispatch signals, in providing RA capacity, and in submitting bids into the Proxy Demand Response (“PDR”) mechanism. This evaluation should include when the DR resource is being dispatched as well (*e.g.*, during overgeneration hours, off-hours, and the off-season winter months).

**7. Explain and justify why and how the Commission should prioritize the demand response aspects provided in questions five and six above?**

Market transformation is generally difficult to measure and quantify. Given that California is still in the early stages of demonstrating the use of demand response to provide a range of different grid services, CESA believes it is important to clearly articulate the market transformation goals for DR resources. Market transformation goals have been articulated in the Self-Generation Incentive Program (R.12-11-005) as well as the Energy Storage Rulemaking

(R.10-12-007), which strive to help bring down technological costs and provide procurement and/or operational experience of alternative (yet unfamiliar) technologies. Similar to those proceedings, the Commission should strive to test and validate a broad range of different technologies and business models in DR programs for 2018 and beyond that increases the IOUs' and the CAISO's operational experience with them. Simultaneously, IOU and third-party DR providers will gain experience and a better understanding of developing optimal portfolios of DR resources and end-use customers to meet grid needs and DR program goals. To pursue market transformation, it is therefore important to track the level of diversity in technologies, end-use customers, and DR providers participating in IOU-administered DR programs and participating directly in the CAISO market via Electric Rule 24.

CESA's metrics for the integration with other DERs such as battery storage are driven by the need for the Commission to understand the relative performance of traditional DR resources (e.g., building management systems) as compared to traditional DR resources integrated with DERs. Overall, the Commission should support DR resources that demonstrate superior performance in terms of actual dispatch, accuracy, response time, and firmness. CESA believes that traditional DR resources integrated with DERs have the potential to achieve that superior performance while decreasing customer acquisition costs and reduce customer fatigue concerns. However, these hypotheses must be validated, and in the spirit of market transformation, there should be metrics that track the percentage of DR customers with integrated technology solutions as well as metrics that measure the relative performance of integrated technology solutions with that of standalone traditional DR resources.

**8. Who should be responsible for meeting the goal and objectives of demand response?**

Administrators of DR programs, whether by a third party or utility (“IOU”), should be responsible for meeting the above goals and objectives.

**III. CATEGORY 2 QUESTIONS: IMPROVING DEMAND RESPONSE PROGRAM DESIGN.**

**1. The Interim Report found that demand response resource potential and costs within an end-use category varies widely across customer sites depending upon cost of incentives, program administration, marketing and individual customer load shapes. The report recommends targeting customers within each sector who have eligible end-uses with strong coincidence between end-use load baselines and times of system need, large potential load reduction, and characteristics that indicate a propensity to participate. How should programs be designed to best make use of this information?**

CESA supports targeting of customers with strong coincidences between end-use load baselines and times of system need, but has no comment at this time on how programs should be designed to make use of this information.

**2. The Interim Report recommends integrating demand response with other clean energy services to reduce costs, increase potential and decrease customer confusion. The report points to a growing number of integrated measures that provide both energy efficiency and demand response capabilities. These integrated measures include programmable communicating thermostats and other technology, which provide energy management, convenience, and may reduce the cost of enabling demand response. What policies or benchmarks should the Commission adopt to support such integration? Explain and justify whether and how the Commission should ensure that new construction includes modern demand response enabling technologies?**

CESA has no comment at this time.

**3. The Interim Report observes widespread confusion among building code officials and market actors regarding the intention of Title 24 requirements for automated technology. The Interim Report recommends that the Commission evaluate knowledge gaps and develop training sessions to address the gaps. Should the Commission evaluate knowledge gaps for Title 24 requirements? How should such an evaluation be performed? What policies should the**

**Commission adopt to ensure that Title 24 can lower the cost of demand response automation?**

CESA has no comment at this time.

- 4. The Interim Report concludes that providing feedback to customers immediately following a demand response event encourages customers to participate in demand response. How can the Commission design programs to cost-effectively provide feedback to customers?**

Load and event data should be made accessible to customers, with customer authorization of third party access to that data via a ‘green button’ – *i.e.*, a simple mechanism to give consent to third parties of their customer data. This access will allow third parties to conduct calculations and analysis that takes into account load patterns, customer preferences, and market signals to best optimize DR operations. In the interest of market transformation and innovation, CESA believes that third parties are best positioned to conduct such analyses.

- 5. The Interim Report advises that demand response potential could be greater and more cost-effective if market transformation policies and practices were adopted. What practices or policies should the Commission adopt to facilitate market transformation? How can the Commission encourage and support manufacturers producing end-uses applicable to demand response, e.g. appliances and building controls?**

CESA believes that market transformation should be one of the key goals of DR programs in California. As noted in CESA’s response to Category 1, Question 7 above, a diverse range of technologies and business models should be supported by the Commission. Rather than establishing prescriptive policies, CESA believes that best means to achieve market transformation for DR in California is to unlock technological and operational innovation from third parties. Through competition with the IOUs and with third parties, innovations are likely to arise from providing the greatest value to customers. Therefore, policies adopted to pursue market transformation goals should remove barriers for third-party-administered Rule 24/32 CAISO portfolios.

One area of innovation and market transformation has been in the multiple-use capabilities of certain DR resources, such as energy storage. Using the same asset, customers are able to tap into multiple revenue streams by providing a range of grid services. However, one key barrier to unlocking this innovation has been the strict dual participation rules that, for example, restrict energy storage to participating in just one DR program. These dual participation rules unfortunately results in third-party DR programs competing against IOU-administered DR programs. To pursue market transformation goals, policies that prevent value stacking should be removed. The same lenses should be applied to other policies and practices in California that limit DR innovation.

**6. Explain and justify the most important program design changes the Commission should require for the 2018 demand response portfolio. Include a detailed explanation and justification for how this change could be made.**

The most important program design change for the 2018 DR portfolio is in rewarding ‘higher value’ dispatchable DR resources while penalizing non-performing or under-performing DR resources. Currently, as it stands today, energy storage resources, which are dispatchable and provide accurate, firm, and fast-responding DR, cannot economically compete in DR programs due to its higher capital costs relative to traditional DR resources. Clarification is needed on response time, ramp rates, and notification rules for DR resources. With each of these attributes, values should be attached that ensure that higher-performing DR resources are fairly compensated for providing these value-add attributes.

**7. Over the history of the demand response programs, the Commission has approved many pilots. Pilots allow the Commission to test a new concept or program design, or advance a new policy objective or operational requirement. What current demand response pilots should the Commission consider transitioning to a program? Are there pilots outside of the demand response portfolio that the Commission should consider integrating into the demand response portfolio, either for 2018 or in the future? In addition, Pacific Gas and Electric Company, San Diego Gas & Electric Company, and Southern California**

**Edison are each directed to include, with their responses to the questions in this Ruling, a list of all demand response pilots approved since 2012. The list shall include the justification for undertaking the pilot, the customer segment the pilot targets, the results of the pilot, and whether the pilot should be transitioned to a full program.**

CESA has no comment at this time.

- 8. Through the 2013-2014 demand response program year, the Utilities completed process evaluations for demand response activities on an intermittent basis. Have the process evaluations been useful and/or effective for improving evaluated programs' design and operation? Is there a need to continue the process evaluations? How often? Should there be agreed-upon criteria for the demand response activities that should be included for evaluation? Should the process evaluations be filed formally?**

CESA has no comment at this time.

**IV. CATEGORY 3 QUESTIONS: INCREASING PARTICIPATION AND PERFORMANCE IN DEMAND RESPONSE.**

- 1. The Interim Report has suggested at least six strategies that could increase participation in demand response, including lowering the cost of demand response, target marketing, market transformation of technologies, and aligning profit mechanisms across end-users, aggregators and utilities. What policies should the Commission adopt to increase participation in demand response?**

To increase DR participation, CESA recommends that the Commission reform the baseline methodology for PDR and other DR programs, allow least-cost metering solutions for supply-side resources, and harmonize communication standards protocols for aggregated resources.

Fundamentally, baselines are not needed for energy storage resources and merely act as a barrier to energy storage resources that are involved in multiple-use applications and are frequently dispatched such that a baseline load is difficult or impossible to establish. For example, the existing PDR baseline makes it impossible to provide RA capacity in the CAISO market and demand charge management for the customer. If 10 non-event days are available within a 45-day look-back window, the baseline is calculated using event days, which sets the

‘baseline’ load to be lower and short-changes the DR provider for providing other grid or customer services. Rather, energy storage resources have the advantage of having a meter attached to its system, which allows IOUs or the CAISO to directly measure the kW-level reduction in response to dispatch signals. Therefore, CESA finds baselines to be unnecessary for energy storage resources.

Upfront integration costs (*e.g.*, telemetry costs) are a significant barrier for DR participation in the CAISO market. Especially for aggregations where the telemetry costs are more significant for multiple small sites than for a single, alternatives should be explored, such as statistical sampling or allowing third parties to procure their own lowest-cost metering solutions. Finally, to encourage more aggregation of DR resources to participate in the CAISO’s PDR model, a communication standards protocols needs to be established. Standardization of these protocols would lower the costs of developing portfolios to bid into the CAISO market.

**2. What policies should the Commission adopt to influence behavior change in response to time-of-use pricing?**

CESA has no comment at this time.

**3. What design changes could the Commission make to current demand response programs to specifically increase the number of customers participating in the programs?**

CESA has no comment at this time.

**4. Should the Commission allow, prohibit, or require the use of technology deployment within the demand response auction mechanism? What policies would be required?**

CESA does not support any requirement for or prohibition of technology deployment within the Demand Response Auction Mechanism (“DRAM”). Rather, CESA requests that the Commission allow a diverse range of DR resources to compete in the DRAM while implementing appropriate price signals and incentives in the market to ensure that DR attributes



(e.g., accuracy, response time, firmness) are quantified and compensated for. As a market transformation pilot program, the DRAM should consider a range of DR resources.

- 5. The Interim Report observes that large commercial building owners know the energy use intensity of their buildings. Underscoring that data on peak demand load shapes is less available, the Interim Report suggests that this data could communicate an understanding of energy usage beyond kilowatt hours thus leading to a better awareness of demand response. Do you think that a customer attaining their peak energy use data is important to the success of demand response in California? What steps could the Commission take to foster the availability and use of this data?**

CESA has no comment at this time.

**V. CATEGORY 4 QUESTIONS: INCREASING THIRD-PARTY PROVIDER PARTICIPATION.**

- 1. If the Commission determines it reasonable to continue the demand response auction mechanism beyond the pilot phase, funding will be necessary. In order to fund such an auction, the Commission must first determine the size of a DRAM program. Explain and justify basis on which the Commission should design the size of the DRAM program. Should the DRAM program size be based on an overall budget limitation, a megawatt limitation, the number of available registrations in the CAISO market or another metric? Additionally, explain and justify the length of delivery contracts for a DRAM program.**

CESA has no comment at this time.

- 2. Provide an estimation of a budget for each of the three demand response utilities to administer a DRAM program based on your responses to question number 1 above.**

CESA has no comment at this time.

- 3. Provide a detailed list of metrics, data and issues that the Commission should consider before transitioning from a DRAM pilot to program.**

CESA supports the Commission's goal of increasing third-party provider participation.

Several CESA members are active participants in the Demand Response Auction Mechanism ("DRAM") pilots intended to test the feasibility of procuring RA-eligible supply-side resources and integrating them into the CAISO market. Others participate directly in the CAISO market

through Electric Rule 24. CESA supports the evolving role of the IOUs in administering supply-side and load-modifying demand response resources and in acting as a scheduling coordinator for demand response resources in several pilots, including the DRAM pilot and supply-side pilot programs. Third parties should continue to have an opportunity to independently provide demand response as well as participate in load-modifying demand response programs, typically administered by the IOU.

CESA stresses the importance of transitioning the DRAM from a pilot to a sustainable DR program. As one-year programs, customers face higher costs to participate in the DRAM than if the DRAM were a multi-year program that allowed third parties to offer customers longer-term contracts. While it is important to see the results of the pilot program, CESA believes it is important to make this a multi-year program once it is ready for commercial roll-out. Relatedly, to make the DRAM a sustainable program that supports market transformation goals, CESA recommends that DRAM contracts must value various attributes of different DR resources appropriately. For example, DRAM contracts currently do not value multi-start capabilities, response time, or duration of dispatch. As a result, DRAM under-values certain higher-performing resources such as energy storage and dispatchable electric vehicle (“EV”) chargers. These attributes must be valued in order to ensure the highest quality of DR resources.

## **VI. CATEGORY 5 QUESTIONS: CAISO MARKET INTEGRATION OF UTILITY PROGRAMS.**

- 1. Should the Commission require that all demand response resources have one trigger or should the Commission allow multiple triggers, as is the current policy?**

The Commission should allow for multiple triggers. If DR programs move toward DR resources that can provide various grid services, triggers will be based on the type of grid service being provided. The trigger, for example, for overgeneration differs from that of frequency

regulation and peak load in terms of timing and frequency. Within this context, CESA finds it difficult to find one trigger that would support DR resources providing all these different grid services. When DR programs focused on peak shaving alone, a single trigger may have been feasible, but the direction of 2018 and beyond DR programs should be to allow for multiple triggers wherein DR resources respond to the appropriate incentives and market signals accordingly.

- 2. In designing triggers for demand response programs, what elements should the Commission take into account? To what extent does participant fatigue factor into trigger design? Explain in detail what steps the Commission should take to ensure that demand response programs are being maximized (bid at prices that result in dispatch) while avoiding participant fatigue.**

CESA has no comment at this time.

- 3. There has been discussion regarding the ability to pre-dispatch demand response resources in the day-ahead market to mitigate local contingency on the grid. What is the definition of pre-dispatch?**

Pre-dispatch is the provision of information, projections, and dispatch requirements by the grid operator to market or program participants in advance of the day-ahead market. This notice allows participants, usually Reliability Must Run (“RMR”) generation units in the CAISO, to be informed of its contractual obligation to meet minimum operating requirements, while providing the grid operator with information on the availability and associated costs of supply resources in tight supply-demand conditions.

- 4. What is the impact of pre-dispatching demand response resources if they are not ultimately needed in real time and not dispatched?**

For traditional DR resources that are pre-dispatched and not ultimately dispatched in real time, there are concerns about customer inconvenience and fatigue along with non-payment. With energy storage resources, there is less of a concern with customer inconvenience and

fatigue, but there may be lost opportunity costs of not being able to provide other grid services for a specified pre-dispatch window.

**5. Explain and justify whether customers should be compensated for being pre-dispatched even if they are not ultimately dispatched?**

By reserving capacity that ultimately goes unused, energy storage resources lose out on other revenue-generating opportunities from using that capacity to provide other grid services such as frequency regulation or customer services such as solar self-consumption. The Commission should support multiple-use applications, but energy storage resources are unable to tap value from reserving capacity in accordance with the pre-dispatch signal that ultimately goes unused. Therefore, CESA recommends that customers be compensated for reserving capacity even though the resource is ultimately not dispatched. This payment is equivalent to paying for reserves because the value of the pre-dispatch is in terms of capacity, not necessarily the energy that is actually delivered.

**6. What are the practical implications of different baselines between utility demand response programs and the baselines in the CAISO tariff?**

If baselines are required for energy storage resources, CESA believes that baselines for IOU DR programs should be consistent with the baselines in the CAISO tariff. This allows for energy storage resource participation in both load-modifying and supply-side DR programs and ensures greater consistency in the quality of settlement data. However, if a less-than-ideal baseline is implemented for one type of DR resources, CESA does not recommend that the sub-optimal baseline to be extrapolated and applied to both load-modifying and supply-side resources. In other words, a flawed baseline should not be applied across all resources for the sake of consistency. Only when the appropriate baseline (or even better, no baseline) is applied

to one type of resource does CESA request that the baseline be applied across both types of DR resources.

- 7. Explain and justify whether and how the Commission should revise current utility demand response program baselines? Address the question of when the Commission should commence such a revision given that the CAISO is currently examining the addition of baselines to its tariff in Phase 2 of the Energy Storage and Distributed Energy Resources (ESDER) initiative.**

As noted in its response to Category 5, Question 6 above, CESA finds baselines to be unnecessary for energy storage resources.

- 8. The CAISO recently established a methodology for statistical sampling for settlement purposes. What, if any, additional Commission policies are needed to facilitate the market loads?**

CESA has no comment at this time.

- 9. Explain and justify whether and how the Commission should standardize the penalties for non-performance across the utility demand response tariffs and demand response contracts with third-party providers? Explain and justify whether CAISO market penalties should be incorporated into this standardization?**

CESA has no comment at this time.

- 10. Currently, capacity incentives are competitively established (via competitive bids) for third-party providers participating in the CAISO market, administratively established for utility programs, and competitively established (via requests for offers) for third-party contracts with the utilities. Explain and justify whether the Commission should align the capacity incentives for demand response resources provided by utility programs with those provided by third parties? What are the advantages and disadvantages of moving to a competitive framework for all capacity incentives?**

CESA supports the IOUs moving to a competitive framework for all capacity incentives to be consistent with those provided by third parties, but cautions against focusing strictly on lowest-cost resources in any competitive solicitation. There are a number of DR performance attributes that are currently not quantified and therefore unlikely to be valued in a cost-benefit

evaluation of competitive bids for DR resources. Until those attributes are quantified and valued, CESA cautions against strictly selecting lowest-cost resources.

**11. The Supply Resource Demand Response Integration Working Group Report highlighted the relationship of the net benefits test and the default load adjustment. Explain and justify whether the Commission should reevaluate its rules established in D.12-11-025 regarding the net benefits test and the default load adjustment?**

CESA has no comment at this time.

**12. Following the integration of utility demand response programs into the CAISO market, explain and justify whether the Commission should require the utilities to continue to file the weekly demand response exception report required by D.14-05-025 and Resolution E-4708.**

CESA understands that the weekly DR exception report identifies each occurrence when a DR program was economic to dispatch but was not called, which improves the transparency of the IOU' administration of DR program. Given the role that IOUs will likely to continue to play in the administration of DR programs, CESA finds the DR exception report as an important mechanism to ensure that the IOUs are honoring the loading order and require IOUs to justify why other generation resources were dispatched ahead of DR resources in response to a dispatch signal. Depending on the type of DR resource, an IOU's dispatch of generation resources ahead of DR resources may be understandable given the concern of customer attrition and fatigue with frequent dispatch. However, it is also important to hold the IOUs accountable for treating DR as a preferred resource. In sum, the Commission and stakeholders should have visibility of the rationale for a 'DR exception' and CESA therefore recommends the continued filing of DR exception reports. The frequency of the report filings – whether weekly as it is today, biweekly, or monthly – should be determined by the Commission that balances the goal for greater transparency without unduly burdening the IOUs with administrative costs.

**VII. CONCLUSION.**

CESA thanks the Commission for the opportunity to submit these comments on the Ruling and looks forward to working with the Commission and other stakeholders in designing DR programs for 2018 and beyond.

Respectfully submitted,



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