Stakeholder Comments Template

Submitted by	Company	Date Submitted
Aditya Chauhan	Southern California Edison (SCE)	10/19/2017

Please use this template to provide your comments on the discussion from the Energy Storage and Distributed Energy Resources Phase 3 stakeholder call at the California ISO on October 12, 2017.

Submit comments to initiativecomments@CAISO.com

Comments are due October 18, 2017 by 5:00pm Pacific time

Please provide your comments on the topics listed below from the Issue Paper presentation discussed during the October 12 stakeholder call, as well as any additional comments you wish to provide using this template.

1. Please provide comments on whether your organization supports or opposes the Demand Response proposal item, as well as the reasons why.

Demand Response Modelling Limitations

SCE strongly supports addressing the identified modelling limitations in ESDER 3.

Weather-sensitive DR

During the stakeholder call, the topic came up of being able to determine the amount of capacity of weather-sensitive DR in future hours. The CAISO commented that ELCC may be able to address this issue.

SCE agrees with the principle proposed here, which is to determine the expected reliability contribution of Demand Response (DR) resources based on best data available – which includes historical performance, and its ability to be dispatched at the time of system need. SCE is open to exploring the use of the ELCC, or a similar methodology that is able to capture the weather-sensitive nature of certain DR programs, their dispatchability, and the fact that DR availability is highly correlated with system needs (the higher the loads, the higher the potential load drop). It is worth pointing out that the current methodology for setting the Qualifying Capacity (QC) for DR resources already relies on historical performance data, through the use of the Load Impact Protocols. In fact, current QC values for DR are not equivalent to Pmax, or installed capacity of other resources, but rather reflect the expected on-peak contribution, which can be exceeded on extremely hot days.

The CAISO should determine the right approach to weather-sensitive DR through a stakeholder discussion on methodology for setting DR QC, and the resulting market bidding obligations such as the Availability Assessment Hours and exposure to RA AIM. This should be coordinated with the CPUC's RA proceeding to ensure consistent treatment across the CPUC and CAISO jurisdictions. Furthermore, as DR resources can be (re)designed to meet market needs, this conversation should include feedback from DR providers and coordinated with the program design discussed in the CPUC DR proceeding.

Resource Design Constraints

SCE strongly supports addressing the identified resource constraints in ESDER 3. In addition to the potential to strand willing customers and associated resources / megawatts, this also increases the complexity of market operations, as individual DR programs have to be broken into multiple resources. As a result, SCE would potentially have over 100 DR resources in the market, increasing the bidding, operations and settlements workload. This could be significantly reduced by removing the requirement to break out the resources by LSE.

SCE would also like to note that while the removal of the LSE designation would reduce the amount of resources to be integrated in the market, it would result in larger capacity PDRs and RDRRs. This would then add pressure for more PDRs to supply telemetry if the capacity is larger than 10 MW. SCE encourages the CAISO to explore less expensive telemetry options in ESDER Phase 3.

Demand Response Aggregations Rules

SCE strongly supports addressing the identified DR Aggregation Rules in ESDER 3. As explained above, this could help simplify market operations to a reasonable level. The potential paths for discussion should not be limited to elimination of the DLA rule, but also include options such as data provision. For example, the current DLA rules could be kept, but the SC/DRP could be required to disaggregate the DR resource data to the LSE level, to

allow for current CAISO settlements rules to continue – i.e. the "by LSE" aggregation could be enforced at the settlement level.

RDRR economic buy-back of day-ahead awards

If the CAISO is not supportive of pursuing this option, it should still consider the discussion of potential alternatives within the scope of ESDER 3. The challenge SCE is hoping to address is that some DR resources are partially a PDR and partially an RDRR product – and they cannot be registered as one during certain hours, and as another during others.

Load shift/Load consumption product

SCE understands and appreciates the CAISO's concerns regarding providing incentive to load to utilize energy in a wasteful manner (e.g. lighting a field in mid-day unnecessarily) as opposed to utilizing the energy in a manner that is productive (e.g. pre-cooling of building spaces, energy storage, or employing additional production capacity. However, SCE believes that this discussion needs to take place in the context of existing and future retail rate design. Today, the energy bid floor in the CAISO is -$150/MWh = -15 cents/kWh. The total retail rate charged to load in SCE territory is always above 17 cents/kWh. Any load consuming during over-generation and getting a maximal CAISO payoff is, at best, facing a consumption discount. The total payoff from consuming during over-generation will always be negative. In order to fully appreciate the impacts of a load shift/load consumption proposal, there must be a discussion of the application of transmission and distribution charges to a load from its LSE. In addition, there should also be a discussion about the rate structures that will be allowed to take advantage of such a program. For example, if a real-time pricing option were developed that utilized the CAISO DLAP price in the retail bill, then participation in a load shift/load consumption program would likely double compensate for the consumption. Similarly, a Time of Use rate which is designed to emulate the energy price over the course of a day could likewise be double compensated. SCE believes that this type of a program deserves a rigorous discussion to provide the correct incentives without providing for over compensation. From a market design perspective, it would make more sense to design a load consumption product first – as that would be a building block toward a load shift product.

2. Please provide comments on whether your organization supports or opposes the Multiple-Use Applications proposal item, as well as the reasons why.

SCE supports efforts to increase the value of energy storage through enabling energy storage systems to stack incremental value and revenue streams by delivering multiple services to the wholesale market, transmission systems, the distribution grid, and end users.

SCE believes that discussion of the Multiple Use Applications (MUA) as discussed in the issue paper are warranted. Such discussion needs to be considered within the framework and any final decisions stemming from the CPUC's proceeding on MUAs.

SCE has provided extensive comments on the Draft MUA framework for the CPUC's and CAISO's consideration as part of Rulemaking (R.) 15-03-011.[1] SCE's comments on the MUA framework are generally supportive, but include several recommendations for refining and improving the framework.

Among other things, SCE:

- Recommends that timing, and the ability for storage devices to provide multiple services simultaneously and without interference among those services, be a key consideration when defining areas of interaction among energy services and domains and in determining incremental value of services or products;
- Recommends that opportunities for MUA be evaluated on the specific needs of the services or products being solicited, on a case-by-case basis;
- Recommends that rules for MUA ensure reliability while allowing enough flexibility for storage devices to provide value;
- Submits that separate metering is necessary, but not sufficient, for behind-the-meter (BTM) wholesale charging of energy storage devices, and that specific rules and protocols must also be developed; and
- Provides guidance on BTM wholesale charging, including some potential metering configurations, for consideration by the CAISO, the CPUC, and stakeholders.

SCE agrees that the CAISO should consider changes to its DER requirements, especially as it relates to the MUA framework. As it stands, there is no clear understanding of how DERs will be operationally shared between the CAISO and the UDC when DERs offer multiple reliability services. For example, a DER could be contracted to both defer distribution upgrades as well as offer Resource Adequacy benefits. In such a case, there are simple and complex uses of such a resource. A simple use would be to utilize the resource in certain months for distribution needs and use the resource as RA in other months. In this case, the resource is never providing both services at the same time and there is no conflict between the two. In another example, the distribution need may correspond exactly to the Availability Assessment Hours in which case, the same resource could provide RA and by operating in those hours has also met the distribution need. Where it becomes difficult is in situations in which the distribution need is not identical or fully encompassed within the Availability Assessment Hours. If the use of the resource in hours outside of the Availability Assessment Hours in order to satisfy the distribution needs will preclude its use during the Availability Assessment Hours (e.g. insufficient charge level for a battery due to prior

[1] See: SCE Comments on Joint Staff Proposal on Multiple Use Applications for Energy Storage, filed June 16, 2017

discharge), then the ability to serve both needs becomes much more dependent on the number of occasions and likely circumstances in which the resource would not be available for both needs on the same day. This is very similar to other limitations on resources which have been addressed through various mechanisms such as the Maximum Cumulative Capacity "buckets" construct which is used to avoid over-reliance on resources limited in their operation.

For the reasons above, the historical view has been to not allow a resource to provide a multiple services where one of the services is RA. SCE believes that further discussion of this topic should occur to allow for resources to meaningfully provide the services for which they are capable and for which the transmission and distribution operators can reasonably rely upon.

In addition, in the example above, the 24x7 participation requirement for DERs would cause the DER wholesale settlements to be impacted by a distribution deferral dispatch. The CAISO should investigate if this is appropriate.

3. Please provide comments on whether your organization supports or opposes the Non-Generator Resource proposal item, as well as the reasons why.

SCE finds the topics listed in the Issue Paper to be a good starting point for the discussion on NGR.

4. Please provide additional comments, if any, from the discussion.

The MUA framework as proposed by the CPUC and CAISO state that an Energy Storage resource will not be able to provide two reliability services at the same time. As mentioned above, one way that the SC could share the resource between the UDC for distribution deferral purposes and the CAISO for Resource Adequacy purposes, is to offer the resource only to the market one month and dispatch the resource for a distribution deferral need on another month. SCE proposes that the CAISO consider the dispatch of a DR resource for distribution deferral purposes or local or system emergencies be counted as events, and hence, be excluded from the baseline calculation of the DR resource wholesale settlements when the resources are not registered in the market. The current processes for sharing the DR resources between the UDC and the CAISO specify that the Demand Response Provider (DRP) submit an outage to the CAISO such that the resource is marked unavailable to the CAISO. Submitting an outage card to the CAISO also automatically excludes that day from being counted in the baseline calculation. However, in the case where the resource was not integrated in the market during the time period of the baseline calculation but then is subsequently integrated, there is no functionality to submit outages and have the dispatch days be excluded from the lookback window that makes up the baseline. The new baseline

methodologies that were proposed as part of ESDER Phase 2 require that the SC/DRP calculate the baseline and performance of the DR resources. Given that the DRP should know when the resources were dispatched for reasons other than the market, the DRP will be able to exclude all dispatch days from the calculation.

SCE also encourages the CAISO to consider adding a "Select All" feature in the Outage Management System such that SCE's real-time dispatch operations staff would have the capability to quickly identify all PDR and RDRR resources as being on outage when they are dispatched for system-wide emergencies out-of-the-market. Currently, staff must submit each resource into the system one-by-one when system contingencies are called, making it difficult to meet the 1-hour outage notification requirement while reacting to changing conditions within the generation fleet in real time. SCE currently has more than 60 RDRR and PDR resources integrated into the market which is expected to increase by January 1st as SCE strives to meet the DR bifurcation deadline.