California ISO

Stakeholder Comments Template

Energy Storage and Distributed Energy Resources (ESDER) Phase 4

This template has been created for submission of stakeholder comments on the Straw Proposal for ESDER Phase 4. The paper, stakeholder meeting presentation, and all information related to this initiative is located on the initiative webpage.

Upon completion of this template, please submit it to initiativecomments@caiso.com. Submissions are requested by close of business **May 17, 2019.**

Submitted by	Organization	Date Submitted
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Please provide your organization's general comments on the following issues and answers to specific requests.

The Independent Energy Producers appreciates the opportunity to comment on the CAISO's Energy Storage and Distributed Energy Resources (ESDER) Phase 4 Straw Proposal. At this early stage of the stakeholder initiative, IEP provides general comments on the issues associated with the state-of-charge (SOC) parameters for non-generator resources such as storage; bidding requirements, DR operational characteristics; and variable output DR. IEP anticipates further engaging these subjects as the stakeholder initiative process proceeds.

On the other hand, IEP raises several concerns and issues associated with the proposal to enable Non-24x7 settlement of Behind-the-Meter (BTM) NGR. We are concerned that this matter raises a host of legal and technical issues and concerns, as discussed on the initial Stakeholder CC on May 07 and as addressed by IEP herein. As a result, this matter will occupy an inordinate amount of CAISO management and stakeholder time and resources when other matters "on the table" have a higher probability of success. We are concerned that deliberation of this matter becomes a barrier to moving forward on the other critical issues raised in this initiative. Accordingly, we recommend removing this matter from the ESDER4 agenda.

1. Non-Generator Resource (NGR) model SOC parameter

The goal is to enable "real-time" state-of-charge (SOC) management by enabling Scheduling Coordinators to submit end-of-hour SOC bids on a *voluntary* basis. The end-of-hour SOC bids would become parameters/constraints that would affect CAISO dispatch instructions. This enables the SC to manage the resource (charge/discharge). Resource will be eligible to receive bid-cost-recovery if dispatched uneconomically like other resources.

Generally, IEP supports this proposal.

2. **Bidding requirements for energy storage resources**

Like other resources, the CAISO will calculate default energy bids for storage resource to be employed in conditions of market power. CAISO needs to work out what the resource costs are likely to be which would be the basis for the insertion of default energy bids – CAISO is seeking inputs from stakeholders on these costs given the storage/discharge capabilities [see pg. 22-23]

Generally, IEP supports this proposal.

3. **DR operational characteristics**

a. Please provide comments on the CAISO's three options.

This matter deals with how best to reflect DR operational "challenges" in CAISO market. It relates to setting the PMIN and how the resources move between PMIN and PMAX.

IEP generally supports the direction the CAISO is taking with regards to DR operational characteristics. With regards to the three options, we believe that each of the three options warrant additional discussion/elaboration in Working Groups and/or Workshops.

4. **Variable output DR**

a. CAISO requests additional detail and reasoning from stakeholders who believe a more appropriate method exists for determining QC than applying an ELCC methodology.
b. CAISO requests stakeholder feedback on controls needed to ensure that forecasts accurately reflect a resource's capability.

The CAISO views some if not all DR as being "variable" in nature due to its operating constraints (discharge/charge). In this context, the CAISO proposes to treat "variable DR with RA capacity" like Variable Energy Resources (VERs), i.e. wind and solar. The key here will be getting the forecast of future supply correct. However, if treated like a VER resources, the resource (a) will have to submit a reliable supply forecast (or accept an CAISO forecast) and, in exchange (b) the resource will be exempt from RAAIM. In addition, the CAISO proposes to develop an ELCC value for Variable DERs (which will replace the Load Impact Protocols used today – although, the ELCC values may be based on the LIPs used today.)

At this point, IEP is generally supportive of the proposal to treat variable DR like how other intermittent resources (wind, solar) are treated under the VER program, including applying the ELCC methodology to variable DR. On the other hand, if a DR resource is determined to be less like a VER and more like a non-intermittent thermal resource (e.g. for purposes of RA counting), then the treatment of DR as a VER needs to be re-considered, including the application of the ELCC methodology for purposes of RA counting. Non-intermittent DR should not be afforded VER treatment.

5. **Non-24x7 settlement of behind the meter NGR**

   a. **As a behind the meter resource under the non-generator resource model, any wholesale market activity will affect the load forecast. How will load serving entities account for changes to their load forecast and scheduling due to real time market participation of behind the meter resources?**

   b. **How would a utility distribution company prevent settling a resource at the retail rate when the behind-the-meter device is participating in the wholesale market?**

   c. **If a behind-the-meter resource is settled only for wholesale market activity, what would prevent a resource from charging at a wholesale rate and discharging to provide retail or non-wholesale services? How would this accounting work?**

The CAISO is considering implementing a non-24x7 settlement for non-RA behind-the-meter (BTM) resources under the non-generator (NGR) resource model. Currently, NGRs are settled for all hours in the wholesale market. As noted by the CAISO in the Straw Proposal and during the stakeholder CC on May 07, the proposal to implement a non-24x7 settlement for non-RA BTM resources under the NGR model raises significant questions, including the following:

- How will load-serving entities (LSEs) account for changes to the load forecast due to real-time market participation, given that any wholesale market activity will affect the load forecast.
- How would the utility distribution company (UDC) prevent settling a resource at the retail rate when the BTM device is participating in the wholesale market?
- What would prevent a resource from charging at a wholesale rate and discharging to provide retail on non-wholesale services?

Equally important, the proposal to enable BTM resources to essentially "toggle" between retail markets and wholesale markets in the day-ahead and/or real-time raise a host of additional concerns and issues that require full consideration prior to implementation.

Below, IEP addresses separately the jurisdictional/legal and technical concerns raised by this proposal.

Jurisdictional Concerns/Issues:

As IEP understands the proposal/concept, BTM resources would be able to participate in other markets (e.g. retail markets) without 24x7 wholesale settlement because their point of interconnection allows them to provide retail and distribution services (wholesale) most easily.[1] Building off this general concept, some parties have indicated that all dispatchable capacity of these facilities, and not just the capacity in excess of the capacity used to offset simultaneous load,

[1] CAISO ESDER4 Straw Proposal, p. 24

would be counted and compensated as RA capacity and would be recognized for RA purposes.[2] The full capacity potential of BTM storage would be made available to the market.

In addition, proponents of the proposal/concept raise the issue of "incrementality," i.e. the ability of a solar + storage facility that provides RA capacity to participate in other programs.[3] The proposal contemplates exports of a facility's RA capacity, a product that is not consumed by the customers associated with the solar + storage facilities and thus is not susceptible to netting or treatment as a billing arrangement. Under this concept, all the storage component's discharge, including any quantity consumed by the customer, is compensated in wholesale markets. Yet, under this concept, Net Energy Metering (NEM) transactions are not deemed to be wholesale sales that would fall under FERC's jurisdiction.

In response, IEP notes first that the overall goal of the proposal is to increase the ability of aggregated BTM solar + storage facilities to qualify for and sell RA capacity at wholesale. As a result, the proposal touches on areas that are subject to federal jurisdiction, and specifically to the jurisdiction of the Federal Energy Regulatory Commission (FERC).

Second, this proposal/concept appears to be a fundamental deviation from the existing model for NEM and net surplus compensation that has been generally supported by FERC. In the existing model, NEM essentially provides for an exchange of electricity between the customer and the utility; the customer provides electricity to the utility when the output from the solar installation exceeds the customer's load (typically during the day) and the utility provides electricity to the customer when the solar output is less than the customer's demand (at night). The nature of this exchange makes it simple to see how FERC could view NEM as a billing arrangement. Net surplus compensation adds the twist that the customer will be compensated at rates equivalent to the utility's avoided cost (the PURPA standard) for solar production that exceeds the customer's demand over a period of time.

As IEP understands the proposal/concept, the utility would buy RA capacity from the solar + storage aggregation, but the individual customer would still be able to offset its consumption (and effectively be compensated by the avoided retail rate) with the energy produced by the solar installation. But, as discussed below, RA capacity also includes the obligation to deliver energy to the grid when called on. If the customer is already receiving credit or net surplus compensation for **all** the energy produced by the solar installation, the additional obligation to provide the energy associated with RA capacity to the grid seems to raise issues of duplicate claims for the same energy or double payment. Thus, the question about who owns or can claim the energy associated with the RA capacity requires complete clarity about the essential requirement that *the storage battery must be charged **only** with the energy produced by the solar installation, and **never** by energy from the grid.*

Third, under this proposal/concept, RA capacity from the solar + storage facilities may be exported to the electric grid at the distribution level. IEP notes, however, that currently the facilities would be ineligible for the Rule 21 interconnection process *unless* they qualify as NEM resources. Rule 21 further provides that applications for interconnections to the utility's

[2] Sunrun Track 3 RA Proposal, California Public Utilities Commission (R. 17-09-020), pp. 11-12.
[3] Sunrun Track 3 Proposal, p. 13.

distribution system for generating facilities that are subject to FERC's jurisdiction must be under the utility's FERC-approved Wholesale Distribution Access Tariff. The jurisdictional ambiguity described above extends to the interconnection process; the answer to the jurisdictional questions will determine the answers to the interconnection questions.

Fourth, under the CAISO tariff, RA resources are subject to a must-offer obligation (MOO) to offer their RA capacity into the CAISO's day-ahead market and to deliver energy if dispatched.[4] If the storage capacity is used for other purposes, as suggested by this proposal, the resource may not be able to recharge and deliver the energy associated with the full amount of committed capacity if it is dispatched the following day. While aggregation of solar + storage resources would overcome variation among individual projects, a series of days with low solar production or high residential demand could leave the aggregated resource with insufficient discharge capability to meet its MOO. Moreover, the proposal raises a fundamental question: namely, from where does the energy to meet the MOO derive, if the customer is already compensated for 100% of the production from the solar installation? Moreover, who would be entitled to the market revenues resulting from the dispatch of the MOO energy? Again, it cannot be overemphasized that the storage facility must **never** be charged with energy from the grid.

Technical Concerns/Issues:

To the extent that a resource is enabled to "toggle" back and forth between retail markets and wholesale markets, the proposal/concept raises a number of non-jurisdiction issues, including but not limited to the impact on load/supply forecasting (i.e. the risk of "double-counting" across a myriad state agencies such as the CEC IEPR; CAISO LCR, CPUC IEPR; appropriate market compensation to avoid double-compensation; and protection against non-discriminatory treatment in wholesale markets of eligible wholesale resources.

- **Concerns regarding Double-counting**. Currently, BTM solar resources operating under the NEM program are treated as "supply-modifiers" in that their operations are netted against demand over a specified duration of time (e.g. month, year). Enabling these resources to serve as a supply-resource (and, thereby provide a RA capacity product in wholesale markets) raises concerns about the integrity of energy/capacity forecasting which currently is shared/apportioned among LSEs, the CEC, the CPUC, and the CAISO. Moreover, it raises concerns that a single resource may be double-counted for purposes of meeting an LSE's resource adequacy obligations: first, as a load-modifier reducing overall RA obligations; and, second, as a RA resource to meet an LSE's annual/multi-year RA obligations.

- **Concerns regarding Double-compensation.** To the extent that a resource's output (energy/capacity) is fully compensated at the retail level (e.g. NEM compensation subject to CPUC jurisdiction), then that resource's energy and/or capacity should not be eligible for additional compensation in wholesale markets (energy, capacity, ancillary services). Double-compensation for the same product/service providing by a resource risks undermining clear, transparent market price signals and, thus, it risks undermining the integrity of the CAISO's wholesale markets.

[4] CAISO Tariff, § 40.6.1.

- **Non-Discriminatory Treatment Is Limited to Resources Eligible to Participate in Wholesale Markets.** Certainly, the CAISO has an obligation to design and implement markets that afford non-discriminatory treatment and service. The Principle of Non-discriminatory treatment in wholesale markets ,however, extends only to products/services eligible to provide wholesale products/services. It does not apply to resources/products/services that are ineligible to participate in wholesale markets such as those resources/products/services that participate in retail markets, including resources/products/services receiving NEM or NEM-like compensation.

6. Additional comments

Please offer any other feedback your organization would like to provide from the topics discussed during the working group meeting.

To the extent that BTM-resources, including variable DR, are eligible to provide resource adequacy (RA) products and services, these resources must be subject to the same resource-adequacy Must-Offer Obligation (MOO) as are all other resources providing RA products and services. The principle of comparable treatment must apply in the RA market, particularly with regards to the MOO, to ensure the underlying integrity of the resource adequacy framework and to ensure proper pricing (and liquidity) in the RA market.