



## Stakeholder Comments Template

### Energy Storage and Distributed Energy Resources (ESDER) Phase 4

Submitted by	Organization	Date Submitted
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The Issue Paper for ESDER Phase 4 substantively fails to include many issues the CAISO can and should address within this phase of the initiative. The primary drivers for addressing issues in ESDER Phase 4 should be recognized as including at least the following:

- State Policy Imperatives: The passage of SB 100, along with complementary goals and legislation for transportation electrification and energy storage are putting California on a path to a clean, distributed energy future.
- FERC Order 841: Both the principles underlying the Order as well as the deficiencies in the CAISO's current participation models for storage require action in ESDER.
- Pending FERC Order on DER participation in wholesale markets: While the timing and content of such an Order are TBD, the principles and parameters of that future Order are clear enough to inform policy development now.
- The CPUC MUA Working Group: While the WG report issued in 2018 failed to provide specific changes to CAISO rules, enough progress was made to identify straightforward fixes that the CAISO can implement now to enable generally accepted MUA use cases
- Customer demand: Customer adoption of distributed resources, especially solar and storage, continues to accelerate. Enabling their visibility and full participation in the CAISO markets should be a top priority for the CAISO's two primary missions: grid reliability and market efficiency

Each of these drivers require the CAISO to take a proactive approach to evolving its tariff and business processes to integrate the rapid growth of distributed energy resources (DERs). Stakeholder conversations over the last several years have already identified several key issues that the CAISO can and should address soon, including proactively pushing the California Public Utilities Commission to make progress on problems that the CAISO needs resolved in order to move forward in its mission.

## 1. Non-Generator Resource (NGR) model

Please state your organization's position as described in the Issue Paper: **Support with caveats.**

Stem supports the identified NGR issues only to the extent that addressing these issues does not preclude consideration of several barriers that make NGR untenable for behind-the-meter (BTM) resources. In short, the NGR issues in the Issue Paper appear to be lower priority than the issues listed below, and as such the Issue Paper NGR issues should be dropped first if Phase 4 encounters resource constraints.

The barriers to participation for BTM NGR projects are well known and have been discussed in previous ESDER stakeholder conversations. With the market and policy drivers noted above, there's no longer a valid reason to delay addressing these barriers. Each of these barriers can also be considered within the MUA conversation, but they are described here to distinguish the NGR specific issues from MUA issues that are independent of participation model.

### NGR resources are "in the market" 24x7

The Issue Paper does mention this problem and appropriately scopes it into ESDER 4. However, it should be emphasized that this is one of the top current problems with the NGR model and is arguably a violation of the intent of FERC Order 841 and therefore merits more than just consideration in ESDER, but an commitment to resolution.

This rule prevents storage resources from providing CAISO services that do not require 24x7 availability. As such, the CAISO tariff maintains a barrier to energy storage installations providing all the services they are technically capable of providing, which is the core requirement of FERC Order 841.

### BTM storage projects as NGR pay twice for energy used to charge the storage system

The CAISO's FERC Order 841 compliance filing failed to explain why the current NGR participation model complies with Paragraph 321 on this topic. That paragraph orders "each RTO/ISO to prevent resources using the participation model for electric storage resources from paying twice for the same charging energy." Given that the CAISO holds up NGR as the compliant participation model for electric storage resources, the CAISO tariff is clearly out of compliance with this Paragraph.

Furthermore, that entire section of FERC Order 841 originated from a problem identified specifically in the CAISO NGR model. The "double charging" issue was specifically called out in the FERC proceeding as one of the key reasons why NGR still needed improvement. Paragraph 321 exists primarily because FERC agreed that NGR needed to

be fixed. To then claim that this is not a problem in the CAISO tariff is non-sensical at best.

### DERP aggregations do not qualify for Resource Adequacy

While single installation BTM NGRs can theoretically provide RA, the MUA WG highlighted that DERP aggregations of BTM NGRs cannot qualify to provide RA. Due to the typical size of BTM resources, it is much more likely that BTM NGRs will need to join a DERP aggregation in order to participate in CAISO markets.

While the RA program in California is under CPUC jurisdiction, the CAISO still has the responsibility to bring storage resources into their markets to provide services they are technically capable of providing. Furthermore, since FERC specifically asked for current barriers to NGR aggregations, and this issue was identified in comments, one can reasonably expect that the forthcoming FERC DER Order will require the CAISO to provide a path for DERP aggregations to provide RA. Finally, the worsening duck curve is going to create increasing need for Flex RA, a service that energy storage should be well-suited to provide. Allowing large scale single storage installations to participate in Flex RA while preventing aggregated storage from participating is clearly discriminatory and contravenes market access principles.

Thus ESDER 4 should explore and detail all the changes in market rules the CAISO can implement to enable DERPs to provide RA as well as actions required of the CPUC. This proactive approach would then push the CPUC to take appropriate action.

### Exporting BTM resources trigger federal jurisdiction for interconnection

Current California rules require BTM resources that export for wholesale participation to go through FERC jurisdictional interconnection (Wholesale Distribution Access Tariff), which costs significantly more in time and money than Rule 21. In contrast, similar resources in New York and New England ISO territories do not trigger the same jurisdictional treatment. Stem has not investigated the legal justification behind this difference but recommends that the CAISO work with the CPUC and distribution utilities to determine whether California could adopt the practices of those other ISOs.

## **2. Multiple-Use Applications (MUA)**

Please state your organization's position as described in the Issue Paper: **Oppose**

The Issue Paper states that "The CAISO will examine the application of these MUA rules in the CAISO market in ESDER 4." Stem opposes this statement as being both outdated and inadequate with respect to the progress of the MUA conversation in California.

CAISO staff participated in the CPUC MUA Working Group in 2018 and should be fully aware of the conversations that occurred. The initial premise of the MUA WG was that

the MUA Rules that were adopted by the CPUC in early 2018 were insufficient to design regulations, market rules and programs for multi-use applications. Bluntly, those rules are not actionable, and as written, there's no clear way to "apply" the rules to the CAISO market. Examining the application of those MUA Rules as written without incorporating the MUA WG discussions would be a useless exercise.

While the MUA WG failed to move the MUA framework forward, it did identify several clear actions that the CAISO could undertake to enable more multi-use applications. Although full wholesale-retail multi-use will require action by both the CPUC and CAISO, the CAISO should take the lead in making the changes in its rules and IT systems that are already known to be useful.

For example, all MUA WG stakeholders accepted the concept that a customer should be allowed to participate in two different DR programs that are completely distinct in time, e.g. a summer months program and a winter months program (time-differentiated MUA). None of the current rules provide for this distinction and so this MUA scenario is currently not feasible.

Similarly, all MUA WG stakeholders accepted the concept that a resource's total capacity could be allocated to different DR programs (hardware-stacked MUA). The classic example is a 1 MW battery that commits 200 KW to one program and 800 KW to another. Direct metering of the battery and established settlement procedures make this operationally feasible today, but again this is prohibited by current dual participation rules.

Another type of configuration would involve treating the building load and the behind-the-meter battery as separate capacity (resource-separated MUA). E.g. the potential load drop is registered in BIP while the on-site battery is registered in a PDR aggregation. The CAISO's MGO performance evaluation methodology already has a procedure for this configuration, but the Commission's rules do not.

Additionally, the CAISO has recently approved the Proxy Demand Resource-Load Shift Resource (PDR-LSR) and the Commission's Load Shift Working Group (LSWG) has issued a report including proposals for several pilot products that would test a variety of mechanisms to compensate any type of DR resource for increasing demand with an accompany demand reduction at a different time.

Although the MUA WG did not address these products, these load shift concepts are clearly different services from traditional "shed" demand response. There exists no reason a customer should be prevented from enrolling in a shift service and a shed service at the same time. E.g. participating in BIP while being a PDR-LSR resource. This can be termed "bi-directional MUA" in the DR contexts

In summary, within the MUA topic area, ESDER 4 should address the following issues:

- CAISO should allow multiple Resource IDs located at the same retail Service Account ID (SAID) for all CAISO resource registrations (enables capacity-differentiated MUAs)
- Corollary to above: A single customer should be allowed to enroll in multiple DRP or DERP aggregations by using different Resource IDs. Each Resource ID is still limited to one aggregation at a time.

- CAISO should allow each Resource ID to be easily moved in and out of an aggregation or switch between DRPs (enables time-differentiated MUA)
- CAISO should confirm that performance evaluation and settlement procedures are in place for all 3 MGO configurations – B1, B2, and B3 (necessary for resource-separated MUA)
- CAISO should work with CPUC to ensure that PDR-LSR resources are able to register for any utility-run traditional “shed” DR program (bi-directional multi-use)

### **3. Demand Response Resources**

Earlier Phases of ESDER have left an important baseline issue unresolved, the “baseline zeroing” issue, adding a significant barrier to the adoption of the Metered Generator Output (MGO) performance evaluation methodology as well as adding unnecessary risk to adoption of the new PDR-LSR product.

The original MGO Baseline was designed for traditional “shed” demand response implemented by BTM storage systems. The MGO Baseline averages the storage activity over the previous 10 non-event days, but has always treated charging activity as zero when calculating the average. Thus, resources using MGO do not receive full credit for the performance during the call intervals. This has emerged as a significant barrier to the adoption of MGO.

The design of PDR-LSR partially fixed this problem by including activity in the opposite direction in the baseline average. But that baseline is still zeroed out if the resulting average is in the opposite direction of the dispatched behavior. This design element is not only logically unsound, but now poses an unreasonable barrier to participation in the new PDR-LSR product.

In order to improve uptake in both the MGO methodology and the PDR-LSR product, ESDER 4 should fix this issue.

### **4. Additional comments**

The initial ESDER 4 Issue Paper appears to be trying to limit the scope of ESDER 4 to a minimal number of small, easily addressed issues. Stem appreciates staff resource constraints as well as the sentiment that scarce resources should not be applied to products and services that have not seen much uptake by new resources.

Stem suggests that to deliver on the mission of the CAISO and the requirements imposed by FERC, this approach should be re-cast: Rather than prioritizing efforts based on immediate needs of the small number of existing market participants, resources should be applied to issues that will likely bring the largest number of new participants into the market.

If participation models are seeing very low uptake, the response should not be to abandon those models. The response should be to identify the key barriers to uptake and resolve those as quickly as possible. Stem has worked closely with CAISO staff and the whole range of stakeholders over the course of the ESDER initiative to identify those barriers. The list is long enough that some of them should get prioritized into ESDER 4.