Joint DER Parties

CESA, Enel X, Sunrun, Inc., CALSSA

R.21-10-002, Track 2

February 4, 2022

CPUC Energy Division Workshop

Why Are We Here?

- There is significant stranded and/or underutilized BTM battery export capacity value in existing PDR model, which accounts for load reduction only
  - PDR and current QC methodologies do not value exports, which leaves a lot of value on the table for BTM virtual power plants.
  - Joint Parties open to exports under PDR model, but this has not proven feasible.
- Distributed Energy Resource Provider (DERP) model was created in 2016, but is not utilized. One major limiting factor is lack of QC methodology.
- FERC Order 2222 has required all ISOs/RTOs to develop a DER participation model, like the DERP.
- Upfront QC of BTM storage and hybrids, inclusive of export to the grid, drives smart and economic design decisions on storage configurations
  - Not designed for minimum customer load
  - Supports long-term investments
- Ultimately, our goal is to evolve the resource. Customer side investment in dispatchable mobile and stationary storage will only increase, and that capacity should be available to the market.

Overview - Report and Proposal

- Report and proposal - submitted to CPUC on January 21, 2022.
- Report covers eight barriers identified in D.21-06-029, and our recommendations based on current law and policy, as well as existing Commission decisions and policy, and the work and recommendations of prior working groups, in other fora - including Integrated Distributed Energy Resources (IDER), multiple use applications (MUA), Self Generation Incentive Program (SGIP), and FERC Order 2222. Report gives recommendations for all barriers.
- Proposal covers specific proposals for: qualifying capacity (QC) methodology, must offer obligation (MOO), incrementality, deliverability and sale for resale.
- We've spent significant time on the eight barriers over three workshops. This presentation focuses on the proposals. Next two working group meetings will dive deeper into specific topics.

Table 1: Reconceptualization of Eight Barriers

Barrier from D.20-06-031 / D.21-06-029	**Relevance**	**Replacement issue, if applicable**
Forward determination of capacity associated with renewable production, consumption, charging, and export.	Relevant, with reframing.	QC methodology and associated recommendations to align with Slice of Day reform, if adopted.
RA requirements associated with customer providing capacity.	Undefined and relevance unclear, customers provide capacity load resources now under Proxy Demand Response (PDR).	Proposals: Must-offer obligations, Availability Assessment Hours / Slice of Day, supply plan showings.
Wholesale market participation including metering, dispatch control, and communication with CAISO.	Metering and dispatch control addressed in existing CAISO tariff. Communication or visibility may be relevant, with reframing. Retail capacity settlement must be addressed.	Visibility and communication at the transmission-distribution interface for significant DER Aggregation (DERA) penetration; and permit use of submetering for retail capacity settlement.
Cost for energy associated with consumption, charging, and export.	Only relevant for standalone storage, and not solar-charged storage.	Sale for resale associated with standalone BTM storage. Also, distribution service to access the wholesale market during deliveries, which is covered in the FERC jurisdictional WDAT.
Changes such that NEM and SGIP resources are compensated for capacity, while discounting for their NEM and SGIP compensation as necessary to ensure that the resources do not receive compensation beyond their value.	Relevant, with reframing.	RA incrementality framework for services and NEM.
Load forecasting and adjustment for BTM resources.	Relevant and primarily within jurisdiction of the CEC.	N/A
Interaction of such resources with existing BTM resources such as PDR.	Not relevant.	Remove from list of barriers.
Deliverability determination	Relevant & within jurisdiction of CAISO.	Leveraging and streamlining the existing DG Deliverability study framework.

Qualifying Capacity Methodology

Set QC methodology equivalent to front of meter *initially*:

- **Standalone storage:** Pmax of storage unit.
- **Storage hybrids:** Total QC = Effective ES QC + Effective Renewable QC

Effective ES QC equals the minimum of: (1) The energy (MWh) production from the RE from 2 hours after the net load peak until 2 hours before the net load peak assuming charging is done at a rate less than or equal to the storage capacity. This renewable charging energy is then divided by 4 hours to determine the QC; or (2) The QC of the energy storage device.

Effective Renewable QC equals the remaining renewable capacity, net of the capacity required to charge the battery at a constant rate over the available charging hours, multiplied by the ELCC factor for the month.*

QC value for BTM storage and hybrids is inclusive of battery exports.

Retail and wholesale settlement at the battery inverter, rather than host load.

**2020 Qualifying Capacity Methodology Manual. CPUC.*

QC Methodology, continued

Considering how to best account for on-site load consumption of storage discharge, and valuation of load drop plus export. DERP/NGR does not include baselining. Will discuss further at February 8th Working Group Meeting. Welcome constructive ideas in this regard.

Charging Sufficiency Considerations:

Standalone BTM Storage: BTM standalone energy storage resources must demonstrate excess energy is available in other non-shown slices to fully charge the resource and ensure its QC

Hybrid BTM energy storage: BTM hybrid resources should account for onsite charging availability from its paired generation resource before determining and accounting for any additional excess energy needs (if any) from the grid.

Incrementality

There is a need for a universal incrementality framework for DERs, as well as for in-front-of-meter (IFM) resources providing multiple services. A full incrementality framework for services is not appropriately addressed in the RA docket. However, there is some precedent for how to treat NEM and SGIP resources in IDER solicitations:

*A commitment of **SGIP** capacity to meet dispatch requirements should be considered an incremental service above and beyond what is compensated via SGIP. The IOUs should be required to treat any SGIP incentivized storage project that provides the services they are soliciting as wholly incremental. The IOUs should give the provider the full payment for services procured irrespective of any additional SGIP incentives payments the provider may receive.*

*Projects already compensated through **NEM** should be considered fully incremental for the purposes of DIDF RFO bids and deferral tariff offers, if the DER provider makes a material enhancement to provide the IOU-solicited deferral services (e.g., the addition of storage that commits to meeting the dispatch requirements described in the solicitation terms and pursuant to the contract for the IOU-solicited deferral services).* (D.12-02-006, Attachment A)

Incrementality

Instances in which incrementality considerations are relevant:

1. For net metered customers, propose that the QC for the resource be the same as that for standalone storage unit and no renewable production be considered in the QC calculation.
2. Adjustments to the forecasting process.
    a. Allow LSEs to adjust monthly load forecasts and RA obligations based on up-to-date assumptions around new DER deployments and operations, either as load modifiers or supply resources
    b. Overall, encourage increasingly granular DER data to inform forecasts (e.g., incorporating submetered BTM resource data in CEC forecasting to assess ex post load impacts)

Instances in which incrementality considerations are not relevant:

1. The collection of a storage or renewable energy technology incentive. Such incentives include, but are not limited to: the Self Generation Incentive Program (SGIP), Solar on Multifamily Affordable Housing (SOMAH), Multifamily Affordable Solar Housing (MASH), and any successor renewable energy or storage incentive program, insofar as these programs *do not require dispatch in response to electric system needs.*
2. Provision of other, non-resource adequacy, services, including but not limited to distribution level services, and customer level services such as back-up power and resiliency.

Must Offer Obligation

The must-offer obligation (MOO) for BTM solar and storage or standalone storage resources should be structured to coincide with times when these resources are expected to be needed the most, or contracted for under the Slice of Day framework

This is dictated in the current framework by the Availability Assessment Hours (AAHs), set at 4-9 PM.

Obligation to bid in all hours (24/7), consistent with all other CAISO resources, including PDR.

Meet any minimum dispatch availability requirements. Currently, a PDR resource must be able to be dispatched 3 consecutive days/month, 24 hours/month, for 4 hours/dispatch. Recommend that the same be true for a BTM resource that is required to use the DERP model. Note that a future Slice of Day framework may change this requirement.

Subject to CAISO's Resource Adequacy Availability Incentive Mechanism (RAAIM) currently, and to the extent this persists under a Slice of Day framework, if adopted.

Deliverability

New approach needed: allow DER Aggregations (rather than single site) to be studied at relevant DGD nodes; allow interested or contracted LSEs to proactively signal study and allocate needed T&D upgrades in turn (which can ultimately flow to contracted DERAs).

Encourage CAISO and direct CPUC staff in relevant proceedings to refine this aggregated deliverability proposal

Adopt the QC proposal, recognizing that the actual RA qualification will be based on NQC, which will be developed with the follow-on CAISO and CPUC processes

**Assuming that specific deliverability studies and processes are CAISO items, with coordination with either WDAT and Rule 21 processes*

Sale for Resale

Maintain “keep all things retail” in the interim for BTM hybrid and storage resources to qualify for RA while allowing for the use of contract and/or bidding structures to ensure optimal storage dispatch

> e.g., PG&E Long-Term Resource Adequacy Agreement with Energy Settlement Contract, to ensure no net sale of energy

Launch a new rulemaking to begin the development of metering and accounting methodologies to move toward wholesale-retail differentiation

Upcoming Working Group Meetings

Tuesday, February 8th: 9 am - 1 pm

https://eqresearch.my.webex.com/eqresearch.my/j.php?MTID=mddf79f9fce264308a9647705d5358b25
Meeting number (access code): 2630 414 1156
Meeting password: GMyMUEWn582

+1-408-418-9388,,26304141156#46968396#

Tuesday, February 22nd: 9 am - 1 pm

https://eqresearch.my.webex.com/eqresearch.my/j.php?MTID=me7061dd8034d553cbf7ed24f4681c404
Meeting number (access code): 2630 481 8537
Meeting password: i6bJZPMng58

+1-408-418-9388,,26304818537#46259766#

Conclusion