

 California ISO	Business Requirements Specification Responses to Stakeholder Questions/Comments	Template Version:	5.0
		Document Version:	1.0
FERC Order 2222		Date Created:	9/9/2024

*Responses to stakeholder input for the **FERC Order 2222 Business Requirements Specification**, as received during the designated commenting period, are provided in the table below.*

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Item	From	Org	Submit Date	BRQ REF	Question	Response
1	Kevin Ou	PG&E	7/24/2024 10:36:27 AM	BRQ009	<p>Can CAISO further define HDERAs?</p> <p>Are they [HDERA] the DCR and the battery storage</p> <p>Are they [HDERA] the DCR and the rooftop solar</p>	<p>HDERA is an aggregate resource type that <i>must have at least one underlying DCR</i> (Distributed Curtailment Resource). Optionally, HDERA resources may additionally aggregate DER (Distributed Energy Resource).</p> <p>DCR would behave similar demand response, providing its supply as the amount of demand curtailment below baseline, while DER injects energy directly onto the grid.</p> <p>Examples of HDERA resources include:</p> <ul style="list-style-type: none"> - DCR + DER (battery storage, rooftop solar) - DCR (no DER)
2	Kevin Ou	PG&E	7/24/2024 10:36:27 AM	BRQ009	<p>What are the technology types of generator resources for DER, which will be part of the HDERAs?</p>	<p>Any technology capable of injecting energy to the grid is eligible.</p> <p>Certain technology types, however, may be restricted by the local regulatory authorities and may be ineligible to participate as a DCR. CAISO will not need to track those ineligibilities.</p>
3	Kevin Ou	PG&E	7/24/2024 10:36:27 AM	BRQ009	<p>How the capacity of the storage (Pmin and Pmax) combined with the baseline consumption (baseline of the demand response) works? – It should be the net energy but need CAISO to confirm</p>	<p>HDERA Pmin only represents the metered DER load. The DCR baseline load is not considered in developing a HDERA Pmin.</p> <p>HDERA Pmax of the HDERA would be the DER energy injection and DCR load reduction capabilities combined.</p>
4	Kevin Ou	PG&E	7/24/2024 10:36:27 AM	BRQ010 BRQ021	<p>Currently the RDRR and PDR resource level baseline methodology and technical characteristics have been submitted via DRSS. Why the HDERAs's resource (such as new/removed underlying locations, modified maximum capacity amount, new baseline methodology, change in resource SC, etc.) need to be submitted to another different application (RIMs)?</p>	<p>In addition to underlying DCR, HDERA resources may include DER components, which do not comport with the DRSS system and its processes as they strictly apply to demand response only.</p> <p>Consistent with DERA resources, the tariff requires a new DERP Agreement whenever HDERA resources adds/removes/modifies their underlying DCR/DER components. Such modifications will require the HDERA undergo the NRI process through RIMS.</p>

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5	Kevin Ou	PG&E	7/24/2024 10:36:27 AM	BRQ010 BRQ021	Can CAISO provide further clarification on the concurrent submission? – it's in RIMs as it stated in BRQ018. However the impact application is "N/A" for these two BRQs.	<p>In addition to system impacts, requirements may also describe business processes that feed or extract information to or from the system.</p> <p>In this case, when the HDERA aggregator/SCME initiates a request for participation through a Concurrence Letter, they must provide an Attachment A which includes detail for each underlying DCR/DER component for the proposed HDERA resource.</p> <p>In addition to the existing DER, Attachment A will now support DCR. Customers with outdated Attachment A documents should be aware of this update (which will be available through the CAISO Public Website).</p>
6	Kevin Ou	PG&E	7/24/2024 10:36:27 AM	BRQ003	Baseline methodology is defined in GRDT as of now - Why the impact application on the baseline methodology is master file instead it should be GRDT and Master File?	While both the GRDT and the Master File are impacted by supporting the new HDERA resource attributes, we would consider the GRDT as derivative of Master File and an extension of the same impacted system.
7	Kevin Ou	PG&E	7/24/2024 10:36:27 AM	BRQ003	What are the HDERA data CAISO is referring to?	<p>"HDERA Data" refers to resource attributes defined in Master File and the GRDT that are applicable to HDERA resources.</p> <p>See specific data attributes referenced in <i>FERC2222-BRQ101</i>.</p>
8	Kevin Ou	PG&E	7/24/2024 10:36:27 AM	BRQ115 BRQ119	<p>What MFRD is CAISO referring to?</p> <p>Is MFRD and Master File interchangeable in this doc?</p>	<p>Yes, MFRD and MF can be considered interchangeable in this document.</p> <p>MFRD stands for Master File Reference Data.</p>

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9	Kevin Ou	PG&E	7/24/2024 10:36:27 AM	Section 5.3 Business Process: Manage DAM (MMG LII) Manage RTM – SIBR	What is MMGLII stands for?	This abbreviation means “Manage Market and Grid - Level II.” This is the CAISO business process impacted by the requirements in Section 5.3.
10	Kevin Ou	PG&E	7/24/2024 10:36:27 AM	BRQ005	Since part of the HDERAs e.g. (DER-Storage) is not demand response resource, it that appropriate for CAISO to apply the net benefit test to the HDERA as a whole resource?	Yes, this was expressly discussed and ordered in the FERC proceeding.
11	Kevin Ou	PG&E	7/24/2024 10:36:27 AM	BRQ116 (BRQ 112 and 110) seems contradicting	The GDFs is submitted via the NRI process, which becomes default in BRQ110. How come in BRQ 116, GDFs become accept hourly/daily bid? – it is contradicting to BRQ112, second paragraph, “DERA/HDERA resource data modifications (e.g. changes to Baseline Methodology, GDF, DCR/DER locations, etc.) must also follow the same process.” So if the GDFs need to be changed, do we have to go through the NRI process again?	Master File GDFs (determined during the NRI process in RIMS) are used by default unless the SC assigns new GDFs with the hourly bid submission. The only time the NRI process would need to be re-initiated is if the HDERA is modified (e.g. removal or addition of underlying DER/DCR, changes to HDERA or DER/DCR capacities, changes in ownership or SC, modified baseline methodology, etc.).
12	Kevin Ou	PG&E	7/24/2024 10:36:27 AM	BRQ007	Is CAISO expecting the meter data file indicate HDERA resource type? or just a generation resource type as of now like demand response resource? If so, what field in the meter data file (MDEF) will be modified?	Meter data file should indicate the measurement type of “Generation” for DERA and HDERA resources. MSMT_TYPE = GEN

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13	Kevin Ou	PG&E	7/24/2024 10:36:27 AM	BRQ007	Can CAISO provide an example of the mathematical equation on how the HDERAs' combined baseline is calculated?	<p>An HDERA's demand curtailment resource DCR has multiple baseline calculation options. These are exemplified in the Demand Response BPM in Section 5 and explained in the CAISO tariff section 4.13.4 Performance Evaluation Methodologies for PDRs and RDRRs.</p> <p>Link to DR BPM: https://bpmcm.caiso.com/Pages/BPMDetails.aspx?BPM=Demand%20Response</p>

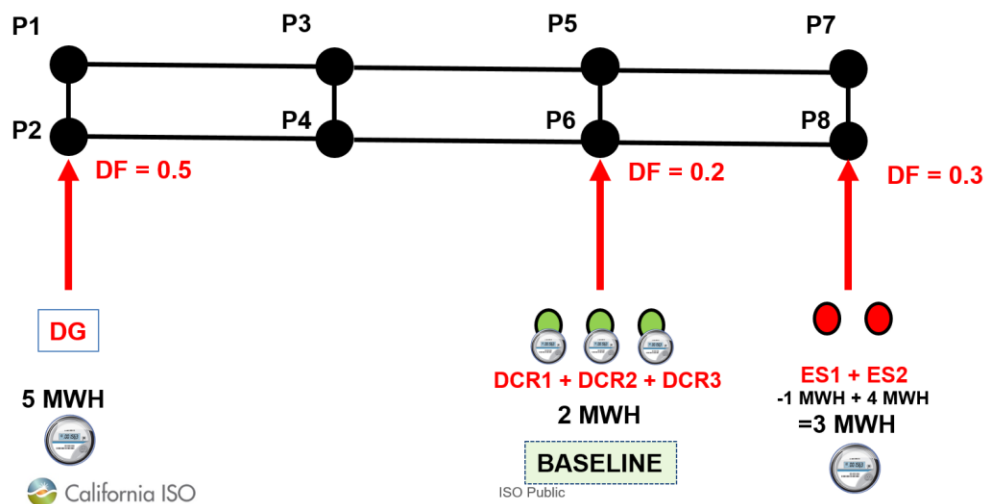
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14	Kevin Ou	PG&E	7/24/2024 10:36:27 AM	Appendix A BRQ008	Can CAISO provide an example of the mathematical equation for the HDERA settlement energy quantity as how it determines the aggregate the sum of net energy from both DER and DCR?	<p>Please reference Appendix A in the FERC Order 2222 BRS for the following scenarios/examples:</p> <p>HDERA net energy > 0 MWh: (where net positive supply occurs due to the aggregate DER charging MWh being exceeded by the aggregate HDERA supply MWh)</p> $= MWh_{DER(DG)} + MWh_{DCR1} + MWh_{DCR2} + MWh_{DCR3} + MWh_{DER(ES1)} + MWh_{DER(ES2)}$ $= 1.2 + 0.5 + 0.2 + 0.2 + 0.8 + (-0.4)$ $= 2.5 \text{ MWh}$ <p>HDERA net energy = 0: (Scenario where net zero supply occurs due to the aggregate DER charging MWh matching the aggregate HDERA supply MWh)</p> $= MWh_{DER(DG)} + MWh_{DCR1} + MWh_{DCR2} + MWh_{DCR3} + MWh_{DER(ES1)} + MWh_{DER(ES2)}$ $= 0.8 + 0.1 + 0 + 0.1 + (-0.6) + (-0.4)$ $= 0 \text{ MWh}$ <p>HDERA net energy < 0 (where net negative supply occurs due to the aggregate DER battery charging MWh exceeding aggregate HDERA supply MWh):</p> $= MWh_{DER(DG)} + MWh_{DCR1} + MWh_{DCR2} + MWh_{DCR3} + MWh_{DER(ES1)} + MWh_{DER(ES2)}$ $= 0 + 0 + 0.2 + 0 + (-0.3) + (-0.1)$ $= -0.2 \text{ MWh}$ <p>Note that DCR curtailment amounts (i.e. MWh reduction below the calculated baseline) are reflected as positive supply to the grid in both the market instruction and metering measurement.</p>

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Appendix A (from FERC Order 2222 BRS):

Figure A.1: Example of HDERA underlying resources (both DER + DCR)



DCR = Distributed Curtailment Resource (supply is curtailment amount below baseline demand)

DER = Distributed Energy Resource (supply is amount injected to grid)

DF = Distribution Factor (max 1.0, min 0.0, total sum must = 1.0)

DG = Distributed Generation (type DER)

ES = Energy Storage (type DER)

P1 through P8 are separate Pnodes in Market