

**ESDER 4 – Storage DEB Draft Tariff Language  
Comments by Department of Market Monitoring  
December 3, 2020**

**34.1.5 Mitigating Bids in the RTM**

**34.1.5.1 Generally**

After the Market Close of the RTM, after the CAISO has validated the Bids pursuant to Section 30.7 and Section 34.1.4, and prior to conducting any other RTM processes, the CAISO conducts a MPM process. The results are used in the RTM optimization processes. Bids on behalf of Demand Response Resources, Hybrid Resources, and Participating Load, ~~and Non-Generator Resources~~, are considered in the MPM process but are not subject to Bid mitigation. **Energy storage resources whose PMax are less than five (5) MW or net consumers over a quarterly basis are considered in the MPM process, but not subject to Bid mitigation.** Bids from resources comprised of multiple technologies that include Non-Generator Resources will remain to be subject to all applicable market power mitigation under the CAISO Tariff, including Local Market Power Mitigation.

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**31.2 Day-Ahead MPM Process**

After the Market Close of the DAM, and after the CAISO has validated the Bids pursuant to Section 30.7, the CAISO will perform the MPM process, which is a single market run that occurs prior to the IFM Market Clearing run. The Day-Ahead MPM process determines which Bids need to be mitigated to the applicable Default Energy Bids in the IFM pursuant to Section 31.2.3. For Maximum Net Dependable Capacity of Legacy RMR Units, Bids will be mitigated to the RMR Proxy Bids pursuant to Section 31.2.3. The Day-Ahead MPM process optimizes resources to meet Demand reflected in Demand Bids, including Export Bids and Virtual Demand Bids, and to procure one hundred (100) percent of Ancillary Services requirements based on Supply Bids submitted to the DAM. Virtual Bids and Bids from Demand Response Resources, Hybrid Resources, and Participating Load, ~~and Non-Generator Resources~~ are considered in the MPM process, but are not subject to Bid mitigation. **Energy storage resources whose PMax are less than five (5) MW or net consumers over a quarterly basis are considered in the MPM process, but not subject to Bid mitigation.** Bids from Participating Load resources that are not subject to Bid mitigation will

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"the ISO proposes that storage resources less than 5 MW and whose ultimate parent company is not a net-supplier in the ISO market will not be subject to market power mitigation." – Final Proposal, P. 11

**Commented [A2]:** Not consistent with policy. This reads that all resources with PMAX less than 5 MW and all resources who are net buyers would be exempt. Policy reads:  
"the ISO proposes that storage resources less than 5 MW and whose ultimate parent company is not a net-supplier in the ISO market will not be subject to market power mitigation." – Final Proposal, P. 11

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also be considered in the MPM process. Bids from resources comprised of multiple technologies that include Non-Generator Resources will remain to be subject to all applicable market power mitigation under the CAISO Tariff, including Local Market Power Mitigation. The mitigated or unmitigated Bids and RMR Proxy Bids identified in the MPM process for all resources that cleared in the MPM are then passed to the IFM. The CAISO performs the MPM process for the DAM for the twenty-four (24) hours of the targeted Trading Day.

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**39.7.1 Calculation of Default Energy Bids**

Default Energy Bids shall be calculated by the CAISO, for the on-peak hours and off-peak hours for both the DAM and RTMs, pursuant to one of the methodologies described in this Section. The Scheduling Coordinator for each Generating Unit owner or Participating Load must rank order the following options of calculating the Default Energy Bid starting with its preferred method. The Scheduling Coordinator must provide the data necessary for determining the Variable Costs unless the Negotiated Rate Option precedes the Variable Cost Option in the rank order, in which case the Scheduling Coordinator must have a negotiated rate established with the Independent Entity charged with calculating the Default Energy Bid. If no rank order is specified for a Generating Unit or Participating Load, then the default rank order of (1) Variable Cost Option, (2) Negotiated Rate Option, (3) LMP Option will be applied. For the first ninety (90) days after changes to resource status and MSG Configurations as specified in Section 27.8.3, including the first ninety (90) days after the effective date of Section 27.8.3, the Default Energy Bid option for the resource is limited to the Negotiated Rate Option or the Variable Cost Option. Scheduling Coordinators for storage resources participating as Non-Generator Resources also may rank the storage resource option among their options. If no rank is specified for a storage resource participating as a Non-Generator Resource, then the default rank will be (1) Variable Cost Option, (2) storage resource option, (3) Negotiated Rate Option, and (4) LMP Option. Scheduling Coordinators for storage resources participating as Non-Generator Resources must provide the data necessary for determining the storage

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resource option, Variable Cost Option, or the Negotiated Rate Option if that option is the first in rank order.

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**39.7.1.8 Storage Resource Option**

As detailed in the Business Practice Manual, for storage resources participating as Non-Generator Resources, the storage resource option will calculate the Default Energy Bid by selecting the maximum of (1) the sum of the expected energy cost and the variable storage operation cost and, **in the RTM**, (2) the storage opportunity cost. The calculation is completed by adding ten percent (10%) to the value. To calculate the Default Energy Bid, the CAISO will use the PMin, PMax, Run Times, and other charging and discharging parameters registered in the Master File.

The expected energy cost represents the average cost to procure the amount of energy needed to charge the resource during the lowest-priced continuous block of time such that the resource can discharge completely, accounting for the resource's charging duration and round-trip efficiency, and excluding losses. To calculate this component in the Day-Ahead Market, the CAISO will use the average price of Energy during the lowest priced hours based upon the final Energy Supply Bids from the MPM process at the relevant PNode, **not to be below \$0/MWh**. To calculate this component in the Real-Time Market, the CAISO will use the average price of Energy during the lowest priced hours based upon the LMP from the IFM at the relevant PNode on the Trading Day, **not to be below \$0/MWh**.

The variable storage operation cost represents the variable costs of operating a storage resource beyond its designed daily cycling range, submitted by the Scheduling Coordinator in \$/MWh. The CAISO will validate the storage operation cost based on manufacturer warranty, available data, and supporting documentation submitted by the Scheduling Coordinator.

The storage opportunity cost represents the opportunity cost of being dispatched during lower-priced **RTM** intervals, equal to the cost of Energy the resource could discharge during the highest-priced continuous **RTM** block, accounting for the resource's discharge duration. **To calculate this component in**

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the Day Ahead Market, the CAISO will use the average price of Energy during the highest priced hours based upon the LMP at the relevant PNode from the IFM on the previous Trading Day, scaled based on the ratio of the previous IFM LMP Trading Day to the current Trading Day's published electric price index at the applicable electric pricing hub. The CAISO Business Practice Manual will list the applicable pricing hub and index for each geographic area. On Trading Days for which there are no relevant published electric price indices at the applicable pricing hub, the CAISO will use the LMP from the previous IFM Trading Day only. To calculate this component in the Real-Time Market, the CAISO will use the average price of Energy during the highest priced hours based upon the LMP from the IFM at the relevant PNode on the Trading Day.