




Storage Bid Cost Recovery (BCR) and Default Energy Bid (DEB) Enhancements

Initial Workshop
July 8, 2024

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 - Please remember to state your name and affiliation before making your comment.
- You may also send your question via chat to either **Brenda Corona** or to all panelists.

Today's Agenda

Time	Topic	Presenter
1:00 – 1:05	Welcome and today's agenda	Brenda Corona
1:05 – 1:45	Background on Storage BCR and DEB Enhancements	Sergio Dueñas Melendez
1:45 – 2:15	Initiative Scope and Schedule	Sergio Dueñas Melendez
2:15 – 3:15	Initiative Workshop	ISO and other presenters
3:15 – 3:55	Open stakeholder discussion	
3:55 – 4:00	Next steps	Brenda Corona

CAISO Policy Initiative Stakeholder Process

PROPOSAL DEVELOPMENT

Issue paper and working groups

↳ Straw proposal

Draft final proposal

Draft business requirement specification

Draft tariff and business practice manual revisions

Final proposal

DECISION

ISO Board

EIM Governing Body

Tariff filing

FERC

IMPLEMENTATION

Business practice manual

Training

Market simulation

Go Live

Stakeholder input

This represents the typical process, and often stages of the process run in parallel.

We are here

Background on Storage BCR and DEB Enhancements

Initiative Motivation

- Concerns have been raised about storage BCR provisions generally, and in relation to recent changes relative to FERC Order No. 831, which allow for higher bids by storage resources
 - DMM published a [special report in July 2023](#), identifying that there are a number of situations where batteries may receive inappropriate or inefficient BCR. Additionally, DMM noted this could be exacerbated by the recent changes.
 - MSC recommended a review and restructuring of current BCR for batteries in light of the recent modifications
 - In the Transmittal Letter relative to bidding above the soft energy bid cap, the ISO stated:
 - “Because the concerns about unwarranted bid cost recovery payments to storage exist regardless of the changes proposed in this memorandum, Management is initiating a stakeholder process to consider enhancements to bid cost recovery as it applies to storage resources.”

Initiative Motivation

- In the Tariff Amendment to Prevent Unwarranted Bid Cost Recovery Payments to Storage Resources pursuant to the Ancillary Services State-of-Charge Constraint ([the ASSOC filing](#)), which limited BCR in narrow circumstances, the ISO stated it would initiate a stakeholder process to discuss other longer-term enhancements to address BCR concerns
 - “Management will also initiate a stakeholder process after the FERC filing to assess whether other potential changes may be more appropriate to address [the BCR] issue.”

Initiative Motivation

- This is aligned with recommendations to enhance bid cost recovery rules for storage resources to consider state-of-charge limitations and other attributes unique to storage resources
 - In the Order accepting the tariff revisions associated with the ASSOC Constraint, FERC noted:
 - “While we find the instant proposal just and reasonable for the reasons described herein, we nonetheless note that CAISO has offered to monitor the impacts of the bid cost recovery provisions to electric storage resource settlements and continue to engage with stakeholders to examine whether any other longer-term enhancements might be made to the Tariff to address this issue.”

Initiative Motivation

- The ISO is committed to address issues related to BCR design for storage resources in an expeditious manner, so as to minimize the risk of unwarranted BCR payments for said assets

BCR Background

- Bid Cost Recovery (BCR) is the CAISO settlements process through which Eligible Resources recover their bid costs
 - Bid costs include Start-Up Bid Cost, Minimum Load Bid Cost, Energy Bid Cost, Transition Bid Cost, Pump Shut-Down Cost, Pumping Cost, Ancillary Services Bid Cost, and RUC Availability Payment
- BCR was initially designed around conventional assets

BCR Background

- As noted in the ASSOC filing, and recognized in FERC's order accepting said filing, BCR under the CAISO tariff is designed to provide uplift payments to a resource when revenues from the sale of energy and ancillary services do not cover the resource's start-up, minimum load, and energy bid costs over the course of a day
 - Without BCR, resources would have an incentive to add a risk premium to their offers, leading to inefficient market outcomes, with higher overall costs for energy
- In the order accepting the ASSOC filing, FERC acknowledged that storage resources have neither start-up costs nor minimum load costs and generally have fast ramp rates, thus lacking the conventional drivers for BCR, although they may have other opportunity costs

Storage BCR Issues

- It has been noted that some BCR payments to storage resources have materialized despite not being aligned with the intent of BCR, specifically those related to the buy- and sell-back of Day-Ahead schedules
 - A buy-back of a discharge DA schedule can occur when a storage asset's real-time SOC is too low to support it.
 - A sell-back of a charge DA schedule can occur when a storage asset's real-time SOC is too high to support it.
- This dynamic creates incentives that are not aligned with the intent of BCR, as assets might be incented to bid and operate in the RT market in a manner that would trigger buy or sell backs of their DA energy schedules in order to capture outsized BCR payments

Storage BCR Issues

- To address this issue, the ISO seeks to work with stakeholders to identify the cases where BCR should be paid by developing a robust set of provisions that recognize the unique characteristics of storage resources
- The ISO is actively monitoring storage BCR impacts to ensure unwarranted payments do not increase to untenable levels following the dissemination of the aforementioned example

Storage BCR and DEB Enhancements Scope and Schedule

Initiative Scope: Two Tracks

- Track 1 – Addressing Unwarranted Storage BCR
 - Refining Bid-Cost Recovery (BCR) provisions for energy storage in standalone configurations
- Track 2 – Co-located BCR and Storage DEB Enhancements
 - BCR provisions for energy storage in co-located configurations
 - Enhance the estimation of opportunity costs within the DEBs applicable to energy storage assets
 - Develop a DEB applicable to hybrid resources

Track 1 Timeline: Expedited Consideration*

Milestone	Time
Workshop issue slides posted	July 1, 2024
Stakeholder workshop on issue	July 8, 2024
Workshop stakeholder comments due	July 11, 2024
Straw proposal posted	July 17, 2024
Stakeholder meeting on straw proposal	July 22, 2024
Straw paper stakeholder comments due	July 25, 2024
Revised straw proposal (RSP) posted	July 31, 2024

**All dates are tentative until confirmed through a notice in the ISO's Daily Briefing.*

Track 1 Timeline: Expedited Consideration (Cont.)*

Milestone	Time
Stakeholder meeting on RSP	August 5, 2024
RSP stakeholder comments due	August 8, 2024
Draft final proposal posted	August 14, 2024
Stakeholder meeting on DFP	August 19, 2024
DFP stakeholder comments due	August 22, 2024
Final proposal published	August 29, 2024
Final proposal comments due	September 5, 2024
Joint Board of Governors and Governing Body Meeting	September 26, 2024

**All dates are tentative until confirmed through a notice in the ISO's Daily Briefing.*

Workshop Topics

Track 1 proposes refining BCR provisions for standalone storage resources

- Staff is exploring reclassifying energy associated with binding state of charge constraints as non-optimal due to physical limitations, thus excluding it from BCR settlement
- Staff seeks to work with stakeholders through this initiative to develop a robust set of provisions that recognize the unique characteristics of storage resources

Track 2 proposes addressing co-located BCR and enhancing storage default energy bids (DEBs)

- Enhance BCR provisions for co-located resources
 - Consider means to represent aggregate capability and grid charging constraints for the purposes of BCR
- Enhance storage opportunity cost approximation by:
 - Updating reasonableness scalar (from the current 110%) based on the observed difference between DA and RT prices; and/or
 - Considering another opportunity cost proxy (e.g., the highest DA price, as opposed to the fourth-highest)

Track 2 proposes addressing co-located BCR and enhancing storage default energy bids (DEBs)

- Develop DEB for hybrid resources
 - After development of Order No. 831 changes, stakeholders requested similar provisions for hybrid resources
 - Since hybrid resources do not have a DEB, developing one is a necessary first step

Next Steps

Next steps

- Workshop comments are due by end of day **July 11, 2024.**
- Upcoming milestones:
 - 07/11: Due date for workshop stakeholder comments
 - 07/17: ISO publishes Track 1 straw proposal
 - 07/22: Stakeholder call to discuss Track 1 straw proposal

**All dates are tentative until confirmed through a notice in the ISO's Daily Briefing.*

For reference

- Visit initiative webpage for more information:
<https://stakeholdercenter.caiso.com/StakeholderInitiatives/storage-bid-cost-recovery-and-default-energy-bids-enhancements>
- If you have any questions, please contact Brenda Corona at ISOStakeholderaffairs@caiso.com



REGISTRATION IS OPEN

2024 STAKEHOLDER SYMPOSIUM

Welcome reception - Oct. 29
at Kimpton Sawyer Hotel, Sacramento, CA

Symposium program - Oct. 30
SAFE Credit Union Convention Center
Sacramento, CA

Visit the event website: www.reg.eventmobi.com/2024stakeholdersymposium

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