

August Meeting

Chair: Hayley Williamson

Chair, Public Utilities Commission of Nevada

Vice-Chair: Gabriel Aguilera

Commissioner, New Mexico Public Regulation Commission

Staff: Bonnie Lamond, Chris Zawora

Western Interstate Energy Board

August 9, 2024

Agenda

- 1) Opening Remarks and Announcements
- 2) West-Wide Governance Pathways Initiative
- 3) Storage Bid Cost Recovery & Default Energy Bid Enhancements Policy Initiative

Step 2 Update

West-Wide Governance Pathways Work Group Updates

There are 6 Work Groups dedicated to the development of Step 2:

1. CAISO Issues
2. Tariff Analysis
3. Regional Organization (RO) Formation
4. RO Governance
5. Stakeholder Process
6. **Public Interest**

West-Wide Governance Pathways Work Group Updates

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CAISO Issues

- Developing a recommendation for the relationship between the RO and CAISO including staffing, financing, oversight, and other topics
- Work Group meets weekly on Fridays
- Public Workshop held jointly with Tariff Analysis Work Group on 8/5
- Comments due 8/19

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Tariff Analysis

- Determining what sections of the CAISO tariff apply solely to CAISO's BA or markets services and what sections may implicate both, and determining how the RO and CAISO handle those sections in the development and launch of the RO
- Work Group meets weekly on Thursdays
- Public Workshop held jointly with CAISO Issues Work Group on 8/5
- Comments due 8/19

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RO Formation and Governance

- RO Formation determining the corporate structure, state of incorporation, location of principal place of business, among other items
- RO Governance determining how the RO Board and CAISO Board will convene under shared authority tariff rules, the RO Board specifications: seats, qualifications, nominating process, etc.
- RO Governance Work Group meets weekly on Fridays
- Comments due 8/8

West-Wide Governance Pathways Work Group Updates (cont.)

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Stakeholder Process Workgroup

- Developing a recommendation for the RO stakeholder process and how it will interact with CAISO
- Work Group meetings are held weekly on Tuesdays
- ~~7/11 Public Workshop~~
- ~~7/24 Public Workshop~~
- ~~8/2 Public Workshop~~
- 8/28 Public Workshop
- Comments due 8/16

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Public Interest Workgroup

- Developing a recommendation for the role of the States, Consumer Advocates and Public Power
- Work Group meetings are held weekly on Wednesdays
- **8/15 Public Workshop**
- Comments due 8/29

West-Wide Governance Pathways

Future BOSR Engagement Opportunities

1. Pathways Step 2 Draft Final Proposal

- Written comments to Pathways on the Step 2 Final Proposal by 10/25

2. CAISO Step 2 Evaluation

- Timing and process is TBD but likely November 2024 – Q1 2025
- Written comments to CAISO and/or WEM Governing Body

3. Phase 3 Formation Committee

- Timing is TBD but most likely January 2025 – December 2025
- Tasked with developing and implementing Phase 3 activities
- Formation Committee Framework: 6 Launch Committee members, 1 BOSR representative, 1-2 WEM Governing Body members
- BOSR to select representative for Formation Committee
- **Pathways Launch Committee is seeking DOE funding for Phase 3 development and implementation, and is seeking a letter of intent, commitment or acknowledgment from BOSR on the Phase 3 Formation Committee to execute Phase 3 and guide the transition of the BOSR to the new States Committee (FOA Application due August 22)**

Storage Bid Cost Recovery and Default Energy Bids Enhancements

Governance Classification: Joint Authority

Storage Bid Cost Recovery and Default Energy Bids Enhancements

Background

Bid cost recovery (BCR) – A post-market settlement process through which resources receive payments to cover the bid costs generated by their commitment by CAISO throughout the day. Bid costs include: commitment costs (start-up costs, minimum load costs, multi-stage generator resource transition costs), energy costs, and ancillary services cost. BCR payments cover the difference between a resource's daily total bid costs and daily total revenues. These payments are passed on to load.

Default energy bid (DEB) – A bid approximating a resource's variable costs calculated by CAISO for each day using each resource's operating parameters. They are used in:

- Market power mitigation - Resources deemed to have market power have their bid set to their DEB.
- Offer caps – Resources can bid up to the maximum of their DEB and the soft offer cap (\$1,000/MWh).

Storage Bid Cost Recovery and Default Energy Bids Enhancements

Initiative began in July 2024 and is currently split into two tracks:

- Track 1 (expedited) focus areas: Unwarranted BCR payments to storage resources
- Track 2 focus areas:
 - Development of a DEB for hybrid resources
 - Improving the opportunity cost component of storage DEBs
 - Adapting BCR to the growth of co-located resource configurations (e.g., a storage and variable energy resource at a single point of interconnection)

Storage Bid Cost Recovery and Default Energy Bids Enhancements

Track 1 – Additional BCR Process Details

How BCR Works

- In calculating BCR, the net difference between a resource's bid costs and revenues is calculated separately for the Integrated Forward Market, the Residual Unit Commitment process, and the Real-Time Market.
- If the difference between the total bid costs and the market revenues is positive in a given market interval, then the net amount represents a shortfall. If the net amount over the entire trading day is positive (a shortfall), then the resource receives a BCR uplift payment equal to the shortfall.

Why BCR Exists

- Without BCR, resources would have additional uncertainty as to whether their revenue from energy awards would cover their commitment costs. This uncertainty would generate an incentive for resources to add a risk premium to their energy offers, leading to inefficient market outcomes, with higher overall costs for energy.

Storage Bid Cost Recovery and Default Energy Bids Enhancements

Track 1 – Issue Statement

- The BCR construct does not adequately consider storage resource attributes such as state of charge (SOC) constraints, which determine whether an asset can support its awards and schedules in real-time.
- This results in materially different treatment with regards to conventional generators.
 - If a conventional thermal asset is unable to fulfill its day-ahead (DA) schedule due to unavailability (i.e., an outage), it is not eligible for BCR and will pay to buy back its DA schedule in real-time.
 - In contrast, when a storage resource is unable to meet its DA schedule due to physical limitations, such as having no SOC, the resource buys back its DA schedule in real-time **and** is eligible to receive a BCR payment. The BCR payment could cover, or even exceed, the cost of buying back the DA schedule.
- The treatment of storage in the BCR process creates several concerns:
 - Storage assets are not exposed to real-time prices when they deviate from DA schedules.
 - There is a possibility for storage assets to strategically bid in real-time to generate BCR payments in excess of their buy-back costs and, therefore, generate additional revenues for themselves and additional costs for load.
 - These dynamics can generate reliability risks when storage resources are not available at net-peak hours.

Storage Bid Cost Recovery and Default Energy Bids Enhancements

Track 1 – Examples

In practice, the real-time (RT) BCR calculation uses the following formula per interval:

$$(\text{RT dispatch} - \text{DA schedule}) * (\mathbf{RT bid} - \text{RT LMP})$$

Note: By changing their real-time bid, resources modify their BCR payments.

Consider a storage resource with a DA schedule to inject energy near net-peak hours (HE 17). Due to its real-time bids and the real-time conditions, it gets dispatched earlier in the day at HE 13 and enters HE 17 with no charge.

For HE 13 the resource would receive revenue from injecting energy. For HE 17 the resource would face the cost of buying back its DA schedule.

If the resource's bid for HE 17 was less than the HE 17 LMP, then the resource would be eligible for BCR payments for that interval. If the resource bid strategically and set its **RT bid** for HE 17 at the bid floor (-\$150), then it could gain revenues well beyond the cost of buying back its DA schedule.

Storage Bid Cost Recovery and Default Energy Bids Enhancements

Track 1 – CAISO's Proposed Solution

Solution: If a storage resource is unable to meet its DA schedule due to physical limitations, like having a SOC that cannot support the schedule, it will no longer be eligible for BCR in those intervals.

Meeting discussions have focused on the following **benefits** of the solution:

- Exposes storage resources to real-time prices, increasing pricing efficiency
- Removes the risk of strategic bidding to maximize BCR payments (prevents additional cost passed onto load)

Meeting discussions have also focused on the following **risks** of the solution:

- May overly incentive storage resources to hold to their DA schedules and not adapt bids to RT conditions
- May be too blunt and prevent warranted BCR payments to storage resources to cover opportunity costs when DA schedules are not met.

Storage Bid Cost Recovery and Default Energy Bids Enhancements

Track 2 Planned Topics

Development of a DEB for hybrid resources: Hybrid resources do not currently have default energy bids which prevents them from bidding above the soft offer cap of \$1,000/MWh.

Improving the opportunity cost component of storage DEBs: Stakeholders have raised concerns that the opportunity cost used to calculate storage DEBs is based on day-ahead prices and may not be a sufficient proxy for real-time opportunity costs on days that differ significantly from what was considered when the day-ahead market was run.

Adapting BCR to the growth of co-located resource configurations (e.g., storage and variable energy resource at a single point of interconnection): Like with storage resources, BCRs were not designed with co-located resources in mind so this topic will examine how co-located resource constraints interact with BCR.

Storage Bid Cost Recovery and Default Energy Bids Enhancements

Table 1. Track 1 Expedited Timeline ⁷

Milestone	Date
Workshop issue slides posted	July 1, 2024
Stakeholder workshop on issue	July 8, 2024
Workshop stakeholder comments due	July 18, 2024
Second Stakeholder workshop on issue	July 22, 2024
Issue Paper & Straw Proposal (IPSP) posted	July 25, 2024
Stakeholder meeting on IPSP	August 5, 2024
IPSP stakeholder comments due	August 8, 2025
Draft Final Proposal (DFP) posted	August 14, 2024
Stakeholder meeting on DFP	August 19, 2024
DFP stakeholder comments due	August 23, 2024
Final Proposal (FP) published	August 30, 2024
FP comments due	September 6, 2024
Joint Board of Governors and Governing Body Meeting	September 26, 2024

Upcoming Meetings

BOSR Monthly Meeting

Friday, September 13, 2024 at 10:00 AM MDT / 9:00 AM PDT

Save the Date

California ISO Stakeholder Symposium

October 29-30, 2024 in Sacramento, CA

Fall 2024 Body of State Regulators Meeting

Tuesday, October 22, 2024 in San Diego, CA

Appendix

Storage Bid Cost Recovery and Default Energy Bids Enhancements

Example 1 – Static Bidding

A given resource has a DA schedule to inject 10 MW during HE 17.

In the RT market, the resource injects 10 MW during HE 13, leaving it unable to inject power during HE 17.

Assuming: RT Bid = \$25; RT LMP at HE 13 = \$35; RT LMP at HE 17 = \$100

- The calculation for HE 13 results in a surplus of \$100 $(10 - 0) * (\$25 - \$35) = (10) * (-\$10) = -\100
- The calculation for HE 17 results in a shortfall of \$750 $(0 - 10) * (\$25 - \$100) = (-10) * (-\$75) = \750

Assuming no other awards or schedules for simplicity, the calculations above result in a net shortfall over the trading day of \$650.

$$\text{BCR formula} = (\text{RT dispatch} - \text{DA schedule}) * (\text{RT bid} - \text{RT LMP})$$

Storage Bid Cost Recovery and Default Energy Bids Enhancements

Example 2 – Strategic Bidding

Now let's assume the resource bids strategically to maximize the shortfall:

RT Bid at HE 13 = \$25; RT LMP at HE 13 = \$35

RT Bid at HE 17 = -\$150; RT LMP at HE 17 = \$100

- The calculation for HE 13 results in a surplus of \$100 $(10 - 0) * (\$25 - \$35) = (10) * (-\$10) = -\100
- The calculation for HE 17 results in a shortfall of \$2,500 $(0 - 10) * (-\$150 - \$100) = (-10) * (-\$250) = \$2,500$

Assuming no other awards or schedules for simplicity, the calculations above result in a net shortfall over the trading day of \$2,400.

$$\text{BCR formula} = (\text{RT dispatch} - \text{DA schedule}) * (\text{RT bid} - \text{RT LMP})$$