Congestion Revenue Rights Enhancements

Straw Proposal on

Auction Efficiency and Revenue Adequacy

June 1, 2026

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1. Executive Summary

This straw proposal proposes a phased approach to the Congestion Revenue Rights Enhancements initiative moving forward. Phase 1 would consist of expedited changes designed to be in place in time for the 2027 annual CRR process. Phase 1 enhancements would consist of modeling improvements under the existing tariff, expanded authority to model loop flow in the annual CRR process, and a minimum bid and price in the CRR auction. This straw proposal does not suggest a single value for the bid and price floor, but seeks stakeholder feedback on a range of options in the context of historical CRR notional values and auction clearing prices. Phase 2, which would run into calendar year 2027, would consider more comprehensive reforms that require more time to fully develop and would include updates to product definition. Together, this phased approach is designed to achieve immediate improvements in revenue adequacy and auction efficiency while allowing more complex enhancements time for full consideration.

2. Introduction

The ISO's Congestion Revenue Rights (CRR) Enhancements initiative has identified revenue adequacy, auction efficiency, and product definition as the three priority areas for CRR market reform.[1] This straw proposal addresses revenue adequacy and auction efficiency through a two-phase framework that is designed to build off the goals and problem statements developed by the working group during the scoping phase of the initiative.[2] The second phase of the proposed design would also expand on the Issue Paper and Straw Proposal on Product Definition published December 12, 2025.

Revenue adequacy and auction efficiency have improved since the ISO implemented the previous round of policy changes in 2019. Revenue adequacy improved from an average of 75% in the five years preceding the changes to 79% from 2019 through June 2025.[3] Auction efficiency improved from 50% in the two years preceding the changes to 67% from January 2019 through June 2025.[4] Nonetheless, the CAISO CRR market still faces persistent revenue adequacy and auction efficiency challenges. The improved 79% average system-level revenue adequacy from 2019 through June 2025 reflects a total shortfall of approximately $856 million, or about $114 million per year.

The CAISO's February 2025 root cause analysis identified three structural drivers of revenue inadequacy: missing power flow contributions from injections below the 2% shift factor threshold, loop flows consuming transmission capacity without contributing to congestion rent collection, and divergence

[1] The full record for this initiative, including all papers, presentations, stakeholder comments, and recordings of working group meetings, can be found on the initiative's webpage: California ISO - Congestion revenue rights enhancements.
[2] The scoping phase of the initiative took place from November 2024 through December 2025. It concluded with publication of the Updated Discussion Paper containing the final goals and problem statements in December 2025: https://stakeholdercenter.caiso.com/InitiativeDocuments/Discussion-Paper-Congestion-Revenue-Rights-Enhancements-Dec-03-2025.pdf.
[3] Issue Paper on Revenue Adequacy and Auction Efficiency Enhancements, page 10, January 14, 2026.
[4] Id. at 18.

between the CRR network model and the day-ahead market, particularly from outage timing misalignment.

The working group also identified auction efficiency as a priority area with significant variation in stakeholder perspectives. Some load-serving entities, the ISO Department of Market Monitoring, and the CPUC Energy Division conjectured that the low auction efficiency stemmed from an auction design that allows participants with limited congestion risk exposure to acquire CRRs at prices consistently below their realized day ahead value. Financial market participants and marketers advocated that auction efficiency metrics fail to capture significant value streams and that improving revenue adequacy by reducing the uncertainty would organically improve auction prices and efficiency.

To drive further improvement in all three key areas, this straw proposal recommends a sequenced two-phase structure. Phase 1 is focused in achieving incremental improvements as quickly as possible while Phase 2 is designed for comprehensive consideration of more complex potential reforms.

Phase 1 targets 2027 implementation for two immediate reforms. First, a minimum price and bid floor helping to remedy the auction efficiency challenges where CRRs are consistently purchased at a discount to their actual day-ahead congestion. Second, additional alignment between the CRR and day-ahead market to develop more accurate assumptions to relieve revenue inadequacy challenges.

Phase 2 pursues larger structural redesign continuing in 2026. We plan to continue considering options already discussed with stakeholders and reflected in stakeholder comments. This may include combining a minimum price floor with other changes, taking into account considerations like ensuring access to the transmission system via CRRs is available at a reasonable rate, providing participants access to hedging instruments, and providing participants a venue to resell allocated rights that don't best fit their hedging needs. Phase 2 also expands on the Product Definition Straw Proposal with updated time-of-use structures and storage sink flexibility.

Modeling improvements would continue in Phase 2 with examination of solutions including potentially incorporating EDAM Congestion Revenue Allocation information to inform loop flow modeling and outage timing reforms, including whether outage information received after the start of the allocation process should be included in auction runs.

Several factors must be accounted for in this policy development phase. The ongoing evolution of the Extended Day-Ahead Market (EDAM) CRA could affect the congestion revenue the ISO has available to fund CRR obligations, and any changes developed here must be compatible with the EDAM framework. Also, the ISO upgraded the CRR software platform in July 2025 and additional modeling improvements may be achievable under existing tariff authority using this new platform.

The ISO is committed to working with stakeholders to develop policy changes that advance the goals and address the problem statements identified by the working group. This straw proposal does not seek to resolve all of the questions the working group identified but seeks to establish a specific two-phase direction, identify where further analysis is needed, and invite stakeholder comment on the design details that remain open.

3. Stakeholder Process

In the scoping phase of this initiative, the working group identified five goals for the initiative across two key CRR market functions. These goals represent the outcomes that changes to the CRR market design should achieve and will guide policy development throughout this initiative.

CRR Market Function: Fair allocation of transmission revenues to customers paying the embedded costs of the transmission system:

- **Goal 1**: CRRs in the auction should be priced at a reasonable approximation of their costs and the expected payout of congestion rent in the day-ahead market.
- **Goal 2**: Customers paying the costs for the CAISO transmission grid should receive approximately commensurate value for payouts made to CRR rights purchased in the auction when considering all demonstrated value provided by entities purchasing CRRs in the auction.

CRR Market Function: Allow hedging costs of congestion in the context of a day-ahead energy market:

- **Goal 3**: The CRR market's products and processes should facilitate the ability for participants to obtain effective hedging tools and maintain the hedging value of CRRs to the extent possible, including by minimizing divergence between the CRR model and the day-ahead market model.
- **Goal 4**: Day-ahead energy market participants exposed to congestion risk should be able to hedge that risk efficiently.
- **Goal 5**: The CRR market structure should support open access to the CAISO transmission system, in keeping with FERC Order 888.

The working group also identified five problem statements to guide the policy development phase. The straw proposal in the chapters that follow is structured to address each of these problem statements, particularly numbers 1 through 4.

1. **Auction revenue adequacy**: Since adoption of the 2019 policy changes, the ratio of auction revenue per dollar of CRR payout has improved from 50 cents to 68 cents. However, many load-serving entities have expressed that the benefits from the auction mechanism still do not fully justify the cost to them in foregone congestion rent allocation. Questions remain whether the auction mechanism justifies the cost to customers that pay the costs for the CAISO transmission grid in foregone congestion revenue.
2. **Participant contribution to fair allocation**: Based on market results, it is unclear to what extent all CRR auction participants contribute to the fair allocation of transmission revenues. Particular focus of reforms should consider whether the congestion revenues received from different types of auction participants are commensurate with (A) their funding of the transmission system, (B) their payments for auction CRRs, and (C) other hedging value received by physical market participants.
3. **Model divergence and revenue inadequacy**: Divergence between monthly CRR modeling outcomes and day-ahead market outcomes contributes to revenue inadequacy that reduces the

value of CRRs as a hedging tool. CAISO should evaluate and where feasible adopt measures for reducing this divergence, including those related to loop flows, shift factors, and transmission outages. Reform measures should align with Congestion Revenue Allocation methodologies and consider the most accurate information of transmission use from neighboring balancing authorities.

4. **Shortfall allocation methodology**: The method for allocating revenue shortfalls should strike the best balance practicable between allocating congestion revenue back to transmission customers and maintaining the hedging value of CRRs, while recognizing the evolving congestion revenue allocation on external constraints. Allocation of revenue shortfalls should be guided by cost causation principles.
5. **Evolving hedging needs**: Hedging needs are evolving alongside the composition of the ISO BAA's generation fleet. The products available in the CRR market and the processes by which they are distributed should be updated to match evolving hedging needs. This could include revisiting time-of-use periods, developing measures to facilitate hedging of congestion risk associated with storage charging load, and revisiting the auction schedule.

4. Straw Proposal: Phase 1 CRR Enhancements

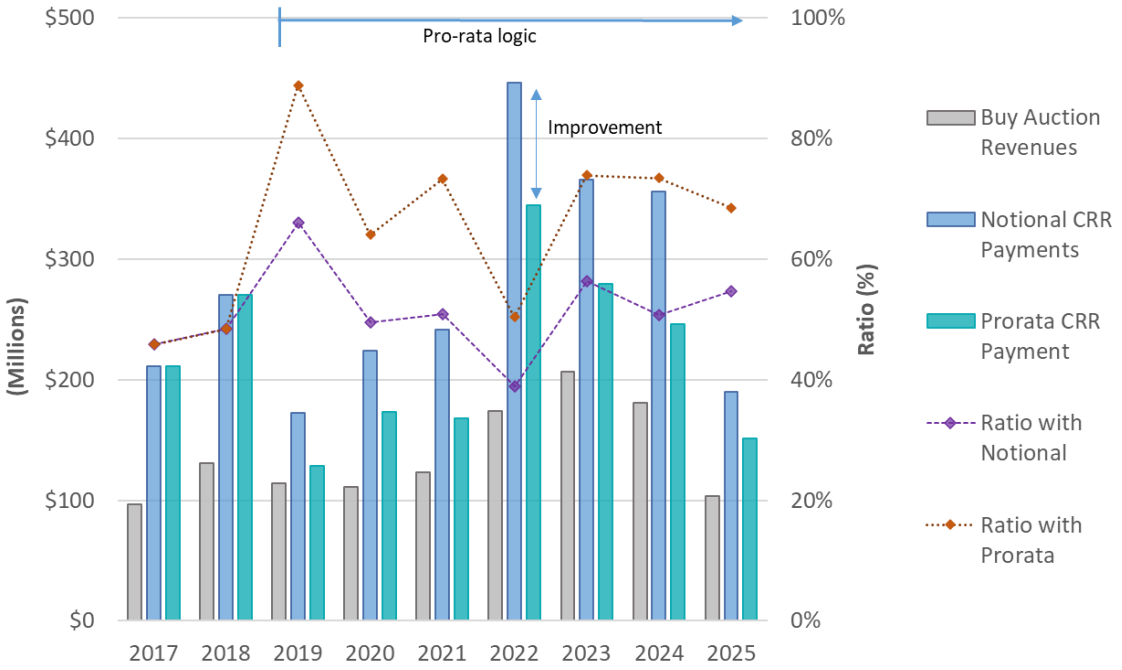
4.1. Background

Historical Auction Efficiency Outcomes

CRR auction efficiency averaged about 67% from 2019 through June 2025, an improvement from pre-2019 auction efficiency of 50%.[5] The pro-rata revenue shortfall allocation methodology implemented in 2019 reduced payouts by over $530 million, improving auction efficiency by driving down the difference between revenues and payments. Excluding the shortfall allocation, auction efficiency averaged 50% over the same time period, similar to the pre-2019 results. These efficiency outcomes highlight underlying auction efficiency questions that will be in scope for this initiative. Additionally, over time, CRR purchasers may better predict the pro-rata logic's revenue impacts and compensate by bidding less for CRRs, reducing the auction efficiency.

[5] Issue Paper on Revenue Adequacy and Auction Efficiency Enhancements, page 18, January 14, 2026

Figure 1: Auction Efficiency from 2019-2025



Historical Revenue Adequacy Outcomes

Congestion rents collected in the day-ahead market have been consistently below the notional value of the CRRs allocated and auctioned by the ISO. From 2019 through June 2025, system-level revenue adequacy averaged 79%, with a total shortfall of $856 million, or approximately $114 million per year. Prior to 2019, revenue inadequacy was allocated to measured demand (load-serving entities and exports). Since the 2019 policy changes, revenue inadequacy has been allocated to CRR rights holders via the CRR1b methodology on a pro-rata, constraint-by-constraint basis.

Revenue adequacy has varied significantly across different constraints. In our previously shared analysis, three constraints with the largest documented shortfalls are the Moss Landing–Las Aguilas 230 kV constraint, the San Bernardino–Devers 230 kV constraint, and the Palo Verde intertie constraint.[6] Together they account for more than $174 million in shortfall as documented in the root cause analysis for the 2019–2024 period.

The Moss Landing–Las Aguilas 230 kV constraint recorded a $70.3 million deficit on $302.9 million in notional CRR value from 2019–2024, reflecting only 76.8% revenue adequacy despite being among the most consistently congested paths in the system. The San Bernardino–Devers 230 kV constraint achieved only 44.5% adequacy over a concentrated four-month outage episode that drove a $53.0

[6] CAISO Root Cause Analysis presentation, slide 88, February 27, 2025.

million deficit. The Palo Verde intertie constraint had a $50.9 million deficit attributable primarily to outages submitted after the applicable CRR auction deadline.

These outcomes translate directly into pro-rata haircuts on CRR positions ranging from 14% to 72% — and in tail cases exceeding 100%, resulting in settlement reversals that transform CRR revenue streams into payment obligations. Approximately 4% of all CRR payments system-wide result in reversals, with the distribution highly concentrated on specific chronically inadequate constraints.

Root Cause Analysis Findings on Revenue Inadequacy

In February and March 2025, the ISO shared with the working group a root cause analysis of the contributors to revenue inadequacy in the CRR market since the 2019 policy changes. The analysis identified three leading structural causes.

Shift Factor Threshold

The ISO's day-ahead market uses a 2% shift factor threshold: injections whose shift factors on a given constraint fall below this threshold are not modeled. The CRR model does not use a shift factor cutoff. This asymmetry causes the settlement process to exclude injections that collectively contribute substantial flow to binding constraints, systematically understating congestion contribution in the settlement calculation.

Stakeholders broadly agreed that the shift factor threshold is a high-priority area for reform. However, the ISO's market AC powerflow optimization and timing limitations limit the ability of the ISO to adopt near term solutions in these areas.

Loop Flows (or parallel flow)

Loop flows use transmission capacity without contributing to congestion rent collection. If not adequately accounted for in the simultaneous feasibility test, loop flows can cause the ISO to release more CRRs than can be funded by congestion revenue. The ISO currently indirectly accounts for loop flows through the global derate factor applied in CRR processes. The global derate factor is fixed while loop flow patterns have significantly different impacts on specific CRR paths. Stakeholder comments in the working group broadly supported enhanced loop flow modeling with more granular assessment in the monthly and annual processes of expected loop flow impacts. We note as well that the amount, impact, and patterns of loop flow could change either as the EDAM footprint expands or as CRA enhancement are finalized. The Phase 1 enhancements described in the following section will include increased authority for the ISO to consider loop flow in the annual CRR process.

Model Differences Between the CRR and Day Ahead Markets

Any differences between the CRR and day ahead markets can also contribute to revenue adequacy. For example, transmission outages that occur in the day-ahead market after the relevant CRR auction has already cleared can reduce available transmission capacity below the level the CRR model assumed. These differences directly affect the resource adequacy of the allocated and auctioned CRRs. Reducing

divergence between the CRR model and the day ahead market outcomes will be a focus of both proposed phases of the proposed initiative structure.

4.2. Stakeholder Feedback

Stakeholders provided feedback on the idea of a phased approach in their comments on the April 22nd stakeholder meeting. Overall, most stakeholders supported a phased approach with varying priorities for which items should be accelerated.

The largest group of stakeholders noted product definition topics as their top priority. CalCCA, CDWR, DC Energy, WPTF, TEA, and Vistra all listed Time-of-Use (TOU) period changes and/or changes to storage eligibility as their preference for acceleration.

Another group argued that an accelerated track should focus on revenue adequacy improvements. Appian Way Energy Partners, Boston Energy Trading and Marketing, Calpine, and the Financial Markets Coalition recommended revenue adequacy improvements and measures to reduce divergence between the CRR model and day-ahead market as the top priority.

A third group focused on auction structure and efficiency. The CPUC Energy Division suggested considering a minimum bid on an expedited basis while noting past interest in this option from the Market Surveillance Committee (MSC). Similarly, SDG&E noted that a minimum bid could make a reasonable starting point for expedited improvements while continuing to consider other options. Six Cities and BAMx both also prioritized auction structure changes but preferred BAMx's proposal to limit auction participation to physical energy market participants.

PG&E and SCE prioritized their previous request for additional data analysis on the root causes of revenue inadequacy, especially that which they argue is caused by the auction. TransAlta Energy Marketing U.S. recommended the expedited track consist of changes possible within existing tariff authority. The Alliance for Retail Energy Markets (AReM) focused on minimizing implementation risk through a measured rollout of any changes. The ISO Department of Market Monitoring (DMM) did not comment on the idea of an accelerated track but offered a revised version of its willing seller design for consideration.

Finally, many stakeholders noted the importance of ongoing collaboration between this initiative and the Congestion Revenue Allocation (CRA) initiative[7] that is considering changes to the EDAM-wide congestion revenue allocation framework.

[7] For the initiative record see here: California ISO - Extended day-ahead market

4.3. Straw Proposal: Phase 1 Enhancements

Phase 1 is targeted for CRR year 2027 implementation and addresses and is designed to make meaningful and quick action to address auction inefficiency and revenue inadequacy. The ISO proposes three components as part of Phase 1.

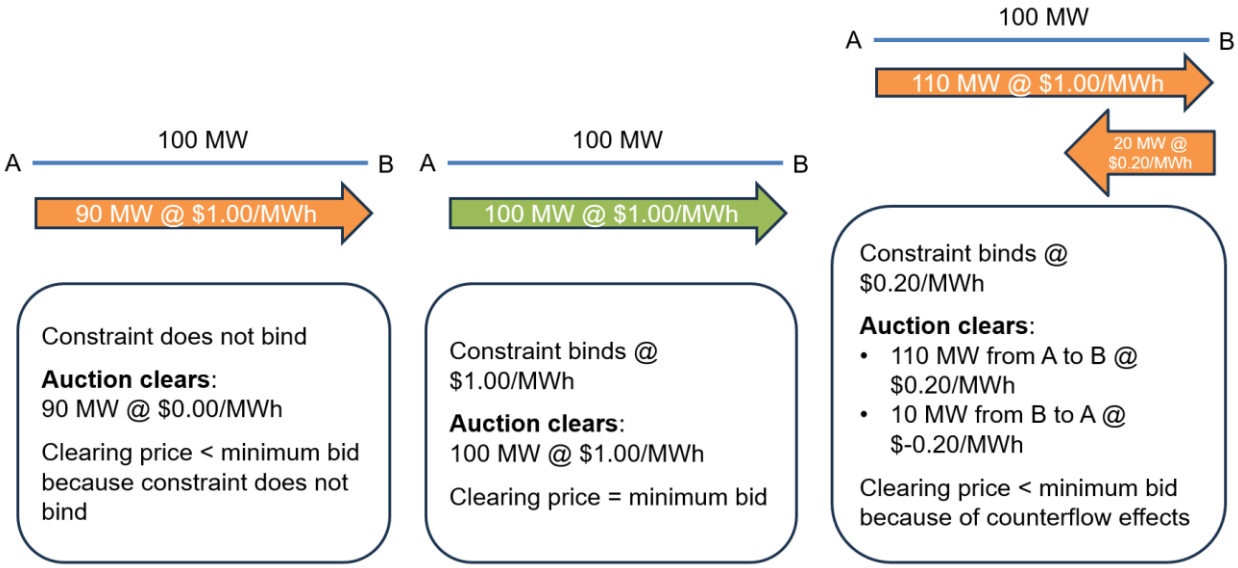
Minimum Bid and Price Floor

The CRR auction currently imposes no effective floor on the price at which the ISO releases transmission capacity. Some CRRs on paths with substantial expected day-ahead congestion value have routinely cleared at low prices, with auction revenues that are a fraction of the associated day-ahead settlement payments. As discussed in previous working group meetings, a minimum bid floor could directionally improve this by helping ensure CRRs are not made available in the auction at very low prices.

If the ISO were to institute a bid floor, there are two uncertainties that must be accounted for. The first is how a minimum bid might affect auction participation and liquidity. A minimum bid would increase auction revenue for the same set of CRRs and thus increase auction efficiency if participants simply raise bids to the minimum. However, that is not the only possible outcome. Rather than raising their bids to the minimum, some auction participants who have historically bid below the floor may opt to bid on different paths where they expect higher value, or to exit the auction entirely. If this happens, overall liquidity in the auction and especially on lower-value paths could decrease.

Secondly, a minimum bid does not guarantee a minimum clearing price. As Figure 2 shows via simplified scenarios, there are several ways in which CRRs could still clear the auction at prices lower than the minimum bid. One, shown at left, is if a given constraint does not bind. Constraints that do not bind in the auction SFT clear at $0/MWh even if all bids on that path are at or above the minimum bid. Another is if counterflow bids increase the capacity that can clear in the prevailing direction at a marginal price that is lower than the minimum bid. In both cases, CRRs would clear in the auction at prices below the minimum bid.

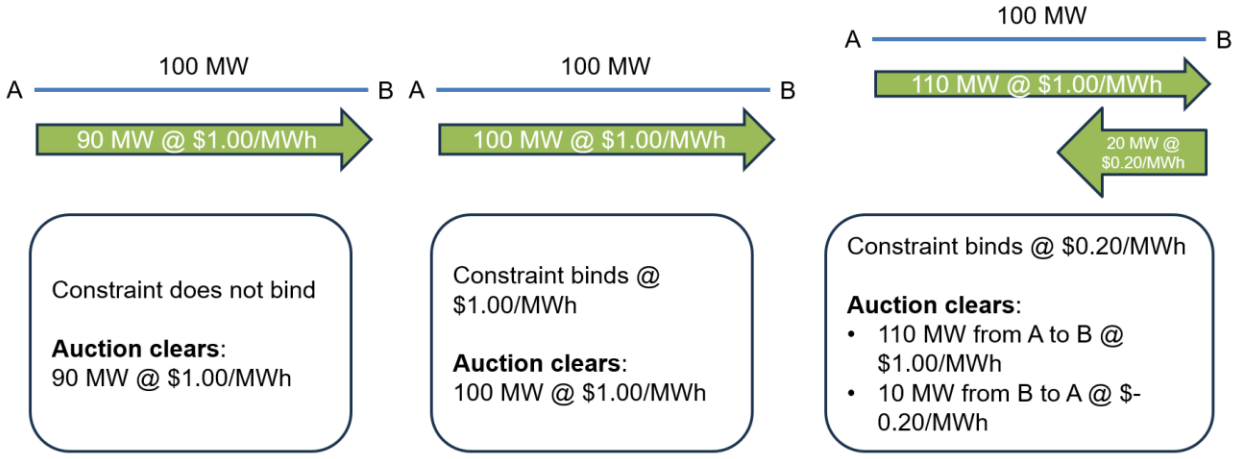
Figure 2. Simplified example of how CRRs can clear below a hypothetical $1.00/MWh minimum bid



The interaction of these two uncertainties may also be significant for auction efficiency. If auction participation decreases due to a minimum bid, this could lead to fewer constraints binding in the auction SFT. If fewer constraints bind, that means more constraints will clear at zero. This could lead to an overall decrease in auction revenue and thus auction efficiency, the opposite of a minimum bid's intended effect.

One way to mitigate this risk is to use a minimum price instead for positive valued CRRs. A minimum clearing price sets a floor on how low a path can clear rather than on how low an auction participant can bid. As shown in Figure 3 below, under a minimum price the same three scenarios used in Figure 2 would now all clear at the minimum price.

Figure 3. Simplified example of three scenarios under a hypothetical $1.00/MWh minimum price



A minimum price could still impact participation and liquidity. It is difficult to anticipate by how much, and auction outcomes would need to be monitored carefully to see whether the price floor needs adjusting. But a minimum price would prevent more paths from clearing at $0/MWh while a minimum bid would not.

Figure 3 demonstrates one additional nuance that would need to be accounted for under a minimum price. As already discussed, a minimum bid allows CRRs to clear at prices below what participants bid if the constraint does not bind or if there is counterflow. A minimum price is the opposite. If a participant bids on a path at a value below the minimum clearing price and the bid clears, they will be charged the minimum clearing price, i.e., a higher price than their bid. To prevent this, a minimum price could be paired with a minimum bid of the same value. Doing both could achieve the effect of a minimum price while preventing participants from being charged more than they bid.

The ISO therefore proposes establishing a minimum bid for non-counterflow CRRs as well as a minimum price, set at the same value. The floors would be based on a path-specific analysis but establish a single value for all paths that varies by season and Time-Of-Use (TOU) period.

If a minimum bid and price are to be established, the next question is how to choose the value. Setting a bid floor requires balancing the goal of improving auction efficiency against the risk of impairing hedging. A floor set too high makes it uneconomic to buy CRRs on paths with genuine hedging demand, while a floor set too low would fail to address the underpricing problem.

Assessing options for a floor suggests an administrative price applied across all paths. Establishing constraint-specific floors for every path is not feasible. Moreover, there is no quantitative methodology that can derive a single, “ideal” floor. Selecting a floor requires a judgement call on how best to balance the goals of improving auction efficiency and preserving ability to hedge in the context of the relevant data. To that end, we review two relevant data sets below and seek stakeholder feedback on several options for the pricing floor for positively priced CRRs. CRRs with negative clearing prices, i.e., counterflow CRRs, are discussed separately at the end of the section.

The first relevant data set is notional values. The notional value of a CRR is defined as the difference in marginal congestion cost (MCC) at the sink node of a CRR minus the MCC at the source node, summed across all hours of a CRR’s tenure (a month or season). For comparability between seasonal and monthly CRRs and to other metrics, the total notional value can be divided by the number of hours in the CRR’s tenure to express it in $/MWh units. Notional value is important for setting the auction price and bid floors because it describes the value of the revenue stream CRR auction participants are eligible to receive for the price they pay in the auction. A price floor set too high above the historical notional value of CRRs may make participation in the auction uneconomic. Table 1 shows the notional value distribution of the top 1000 most-traded CRR paths by frequency from January 2023 through May 2026. The top 1,000 paths represent about 25% of CRR auction volumes for this period. These data suggest there is enough notional value difference between on-peak and off-peak TOU periods to justify TOU-specific price and bid floors.

Table 1. Notional value distribution for the 1,000 most-traded CRR paths by frequency, by Time-of-Use period and season, $/MWh

metric	Season 1 off-peak	Season 1 on-peak	Season 2 off-peak	Season 2 on-peak	Season 3 off-peak	Season 3 on-peak	Season 4 off-peak	Season 4 on-peak
n	1000	1000	1000	1000	1000	1000	1000	1000
min	(2.66)	(10.56)	(2.13)	(9.77)	(0.86)	(5.28)	(2.84)	(8.75)
p5	(0.06)	(0.15)	(0.26)	(0.66)	(0.16)	(0.37)	(0.16)	(0.06)
p10	0.00	0.08	(0.03)	0.03	(0.02)	0.04	0.01	0.16
p15	0.03	0.16	0.02	0.22	0.01	0.13	0.05	0.32
p20	0.05	0.35	0.06	0.39	0.03	0.39	0.07	0.46
p25	0.08	0.60	0.06	0.53	0.07	0.62	0.09	0.61
p30	0.14	0.92	0.08	0.69	0.08	0.76	0.11	0.74
p35	0.17	1.21	0.09	0.86	0.10	0.80	0.14	1.00
p40	0.27	1.45	0.11	1.03	0.13	0.83	0.17	1.10
p45	0.36	1.59	0.15	1.14	0.15	0.96	0.21	1.39
p50	0.39	2.07	0.16	1.29	0.17	1.08	0.25	1.60
p55	0.44	2.27	0.20	1.38	0.22	1.23	0.29	1.76
p60	0.48	2.53	0.27	1.53	0.29	1.76	0.32	1.92
p65	0.57	2.90	0.37	1.86	0.30	2.04	0.38	2.15
p70	0.79	3.44	0.54	2.21	0.38	2.37	0.44	2.43
p75	0.96	4.71	0.72	2.82	0.82	3.14	0.50	2.68
p80	1.06	6.93	1.12	3.41	1.19	4.28	0.64	3.00
p85	1.21	7.85	1.58	4.67	1.80	6.07	0.93	3.46
p90	1.52	8.65	2.56	7.87	2.60	8.44	1.93	5.10
p95	2.06	9.52	3.50	14.30	5.10	11.58	2.72	10.09
max	28.14	36.90	34.00	41.66	35.28	55.00	28.58	30.61

The second relevant dataset is historical CRR auction prices. A price floor that will be effective at improving auction efficiency will necessarily be higher than some historical clearing prices. However, a floor set too high may increase the risk of decreased auction liquidity and impair hedging access. Figures 4 through 7 below show the distribution of annual and monthly clearing prices in the CRR auctions from 2019 through 2024.

Figure 4. Annual auction price distribution for the on-peak Time-of-Use period, $/MWh

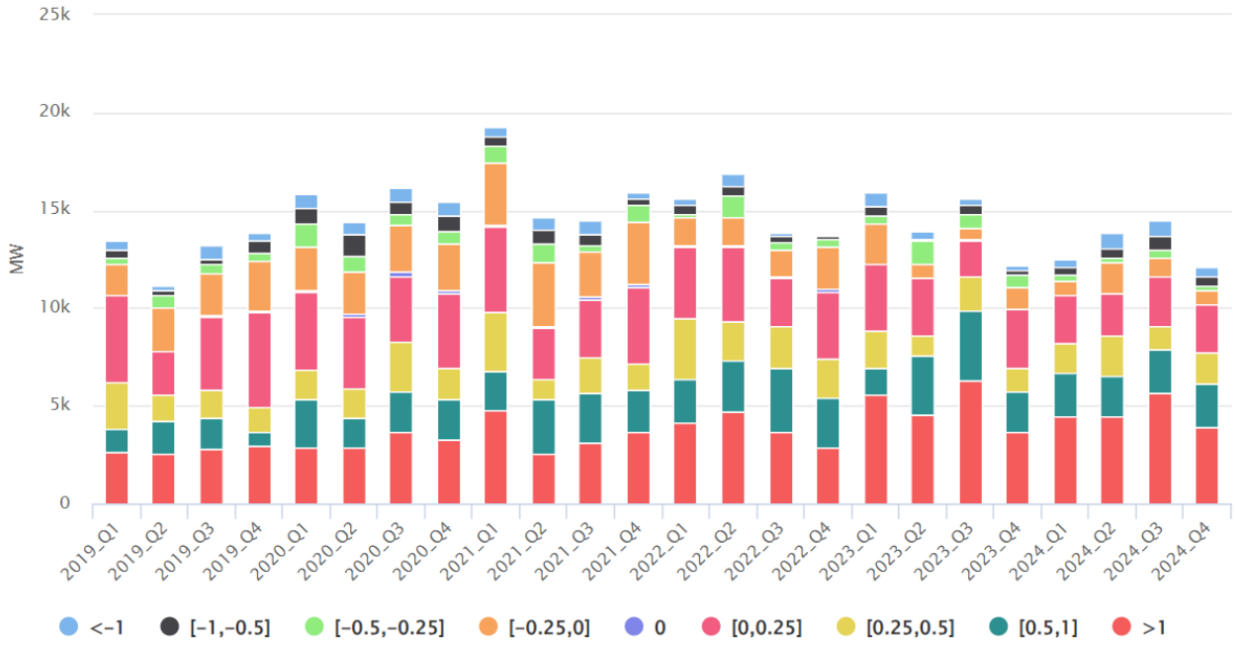


Figure 5. Monthly auction price distribution for the on-peak Time-of-Use period, $/MWh

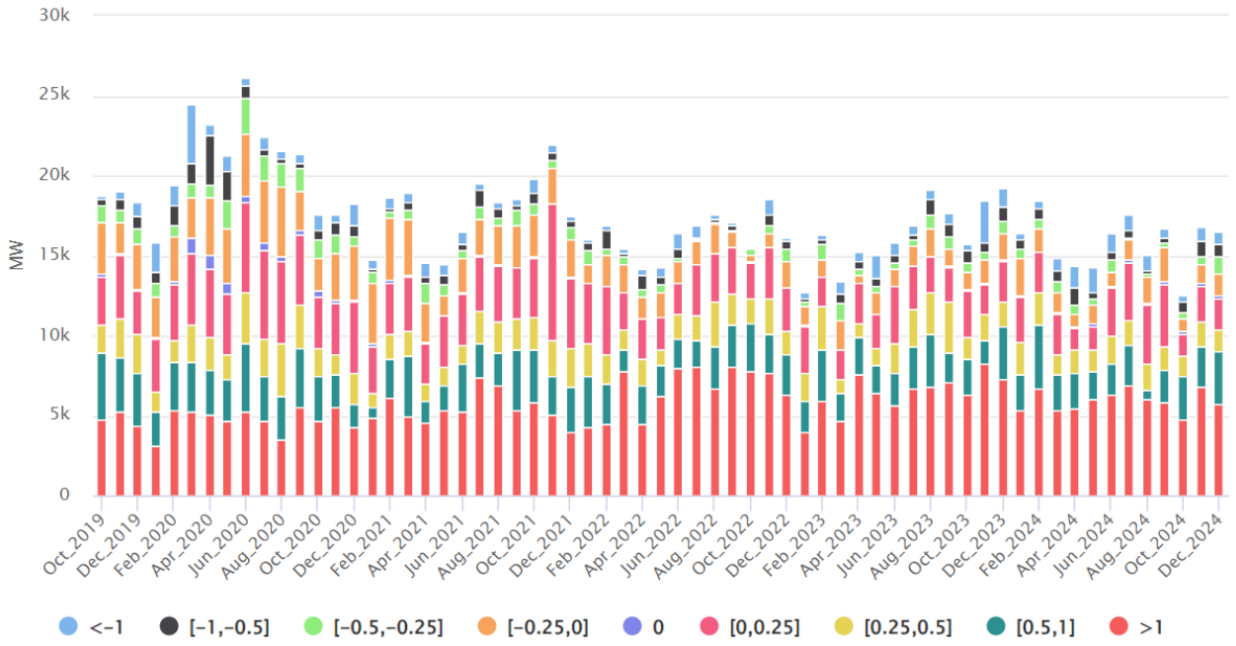


Figure 6. Annual auction price distribution for the off-peak Time-of-Use period, $/MWh

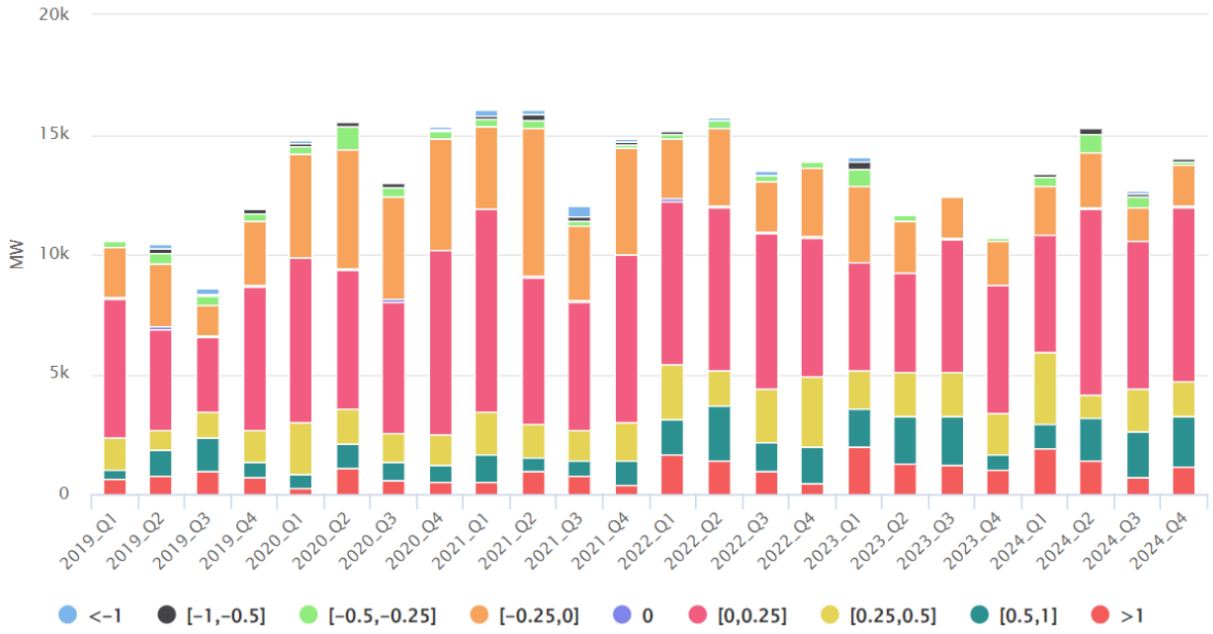
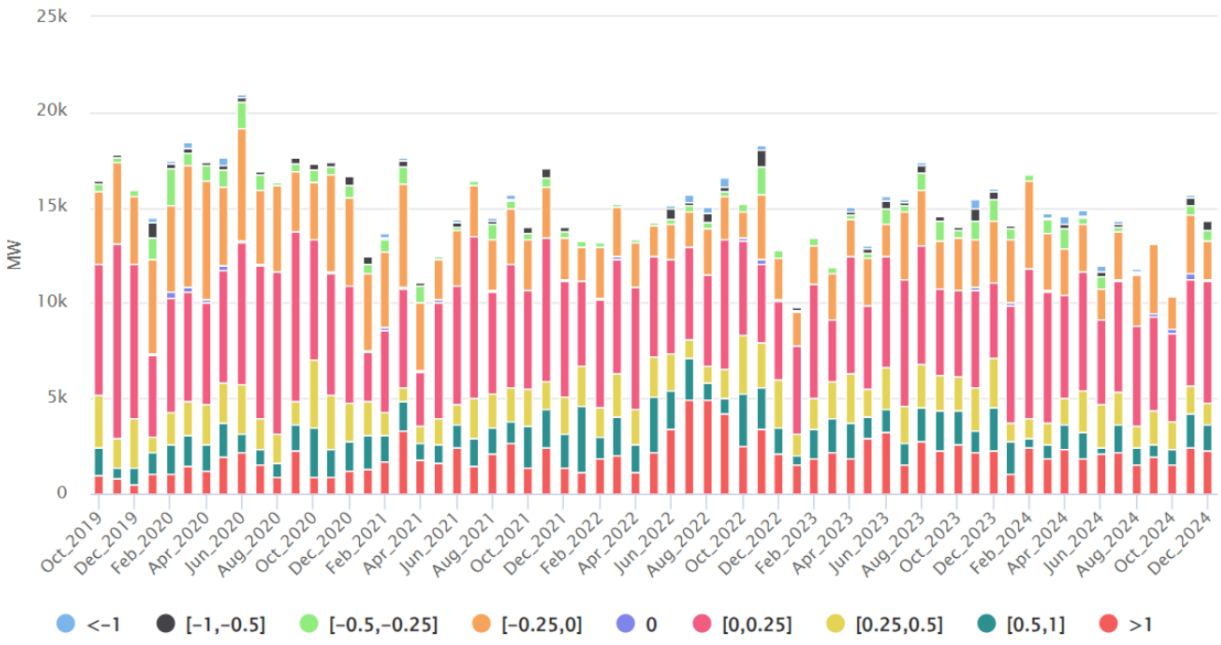


Figure 7. Monthly auction price distribution for the off-peak Time-of-Use period, $/MWh



Additionally, Figure 8 and Figure 9 show the profitability of auctioned CRRs for the same 2019-2024 period. Profitability is defined here as the payout of the CRRs in each auction price category minus the

amount paid for them in the auction. These figures demonstrate that there is not a consistent pattern of any one price category being more profitable than the others.

Figure 8. CRR payout minus auction revenues for seasonal CRRs, $/MWh

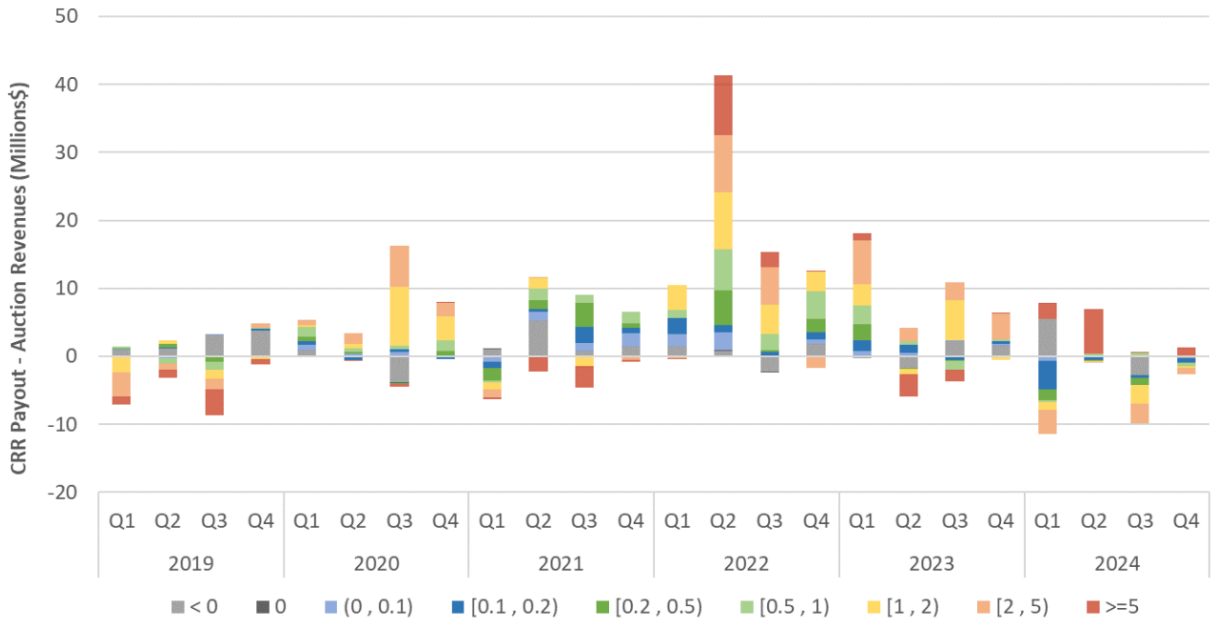
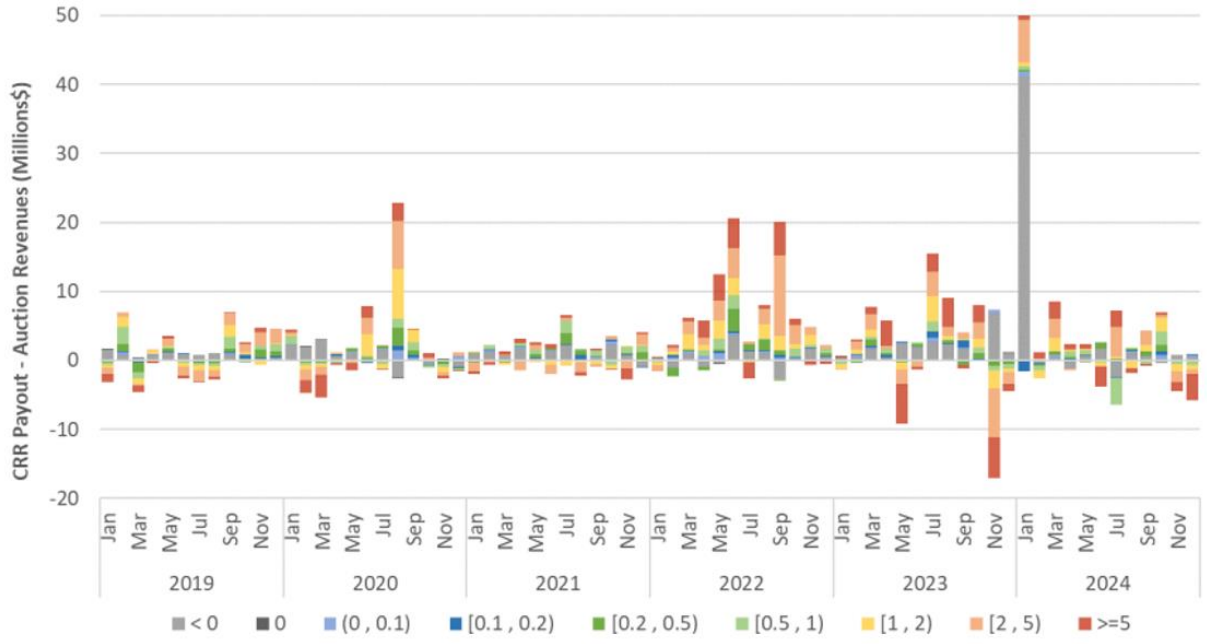


Figure 9. CRR payout minus auction revenues for monthly CRRs, $/MWh



In light of these data, the ISO seeks stakeholder feedback on the following options for setting matching bid and price floors for CRRs with prices above zero.

Starting with the on-peak TOU period, the ISO proposes the following options as a starting point: $0.25/MWh, $0.50/MWh, and $1.00/MWh. Starting from the highest option, $1.00/MWh falls in the 35th to 50th percentile of the notional value distribution depending on the season. $0.50/MWh falls near the 25th percentile of the distribution for all four seasons, and $0.25/MWh is closer to the 15th to 20th percentile. Each of these options would eliminate a percentage of historical cleared bids, progressively eliminating the pink, yellow, and green bars of the price distributions in Figures 4 and 5 as the floor moves from $0.25/MWh to $0.50/MWh to $1.00/MWh.

As a point of comparison, if improving auction efficiency and avoiding underpricing were prioritized above other goals, a $2.00/MWh floor would land in the 50th to 70th percentiles of the notional value distribution. While this might have merit from a notional value perspective, it would render auction prices that exceed the expected congestion cost on a significant number of paths, i.e., it may render hedging uneconomic on those paths. This in turn may mean more market participants carrying more risk exposure to unexpected outcomes, where e.g., an extreme weather event may drive congestion costs to be much higher than expected. The ISO is concerned that a floor this high could impact auction liquidity enough to impair auction participants' ability to hedge congestion risk at reasonable cost and sell allocated positions efficiently, but seeks feedback on whether stakeholders agree and which of the above options would be the most appropriate starting point.

Moving to the off-peak period, the ISO seeks feedback on a similar set of increasing floor options: $0.05/MWh, $0.10/MWh, and $0.25/MWh. $0.25/MWh falls in the 40th to 60th percentiles of notional value depending on the season. $0.10/MWh falls in the 30th to 40th percentiles, and $0.05/MWh falls in the 20th to 25th percentiles. Comparison to historical auction price information is less convenient than for the on-peak period given that prices are lower overall so all three floor options fall in the same price category in Figure 6 and Figure 7. Similar to the $2.00/MWh comparison for the on-peak period, a $0.50/MWh floor in the off-peak period would fall in the 65th to 75th percentile of the notional value distribution but eliminate most historical auction activity and render a significant share of hedging opportunities uneconomic.

Finally, the ISO recognizes the importance of continuing to allow counterflow CRRs to be transacted in the auction. Counterflow positions that improve transactability in CRRs should be allowed. To prevent $0 CRR from be purchased the ISO proposes a *de minimus* "maximum" bid of -$0.10/MWh.

Modeling Enhancements for Improved Revenue Adequacy

The ISO proposes to continue improving our modeling to the extent current tariff allows while making a targeted improvement to loop flow modeling capabilities.

The ISO has already begun modeling improvements that are supported by the existing tariff and facilitated by the ISO's move to an updated software platform in 2025. The 4/22/26 stakeholder meeting in this initiative and the 4/27/26 Market Performance and Planning Forum both discussed how the ISO began applying the Global Derate Factor to contingency constraints in the CRR model in March 2026.

While a single month is too small a sample to draw definitive conclusions, March saw a revenue adequacy surplus of $1.6 million, the first monthly surplus in the last three years.[8] The ISO will look for additional ways to improve its modeling accuracy within existing tariff authority and, as with this measure, keep stakeholders apprised.

The ISO also proposes a tariff change to enhance the ISO's loop flow modeling capabilities. Section 36.4.1.2(vii) currently directs the ISO to consider "adjustments for possible unscheduled flow at the Interties" among other factors when determining the quantity of CRRs to release each month, known as the Monthly Available CRR Capacity.[9] The ISO proposes to add this same language to the previous tariff section, which details the factors to consider when determining the Seasonal Available CRR Quantity in the annual CRR process.[10] Since the most accurate loop flow estimations can be made in the monthly process, this difference in authority between the annual and monthly processes has not historically kept the ISO from accounting for major relevant information. However, the ISO sees merit in explicitly including loop flow in the factors that can be considered in the annual process in order to maximize loop flow modeling capacity and flexibility in the future.

5. Governance Classification

CAISO staff believe that this initiative should be presented only to the CAISO Board of Governors (the Board) for decision, because any proposed tariff amendments will be limited to CAISO's balancing authority area's Congestion Revenue Rights rules.

The Western Energy Markets Governing Body has primary authority over any proposal to change or establish any CAISO tariff rule(s) applicable to the Extended Day Ahead Market (EDAM) or Western Energy Imbalance Market (WEIM) Entity balancing authority areas, EDAM or WEIM entities, or other market participants within the EDAM or WEIM Entity balancing authority areas. This scope excludes from primary authority, without limitation, any proposals to change or establish tariff rule(s) applicable only to the CAISO balancing authority area or to the ISO-controlled grid per charter for WEIM and EDAM Governance § 2.2.1. None of the tariff rule changes contemplated in this initiative would be "applicable to WEIM/EDAM Entity balancing authority areas, WEIM/EDAM Entities, or other market participants within WEIM/EDAM Entity balancing authority areas, in their capacity as participants in the WEIM/EDAM." Rather, the proposed tariff rules would be applicable "only to the ISO balancing authority area or to the ISO-controlled grid." Accordingly, the matters scheduled for decision fall outside the scope of primary authority.

While the WEM Governing Body "may provide advisory input over proposals to change or establish tariff rules that would apply to the real-time market but are not within the scope of primary authority," no aspects of this initiative would establish or modify rules of the day-ahead or real time market. Accordingly, this initiative falls outside of the WEM Governing Body's advisory role as well.

[8] See slide 47 of the MPPF presentation: MarketPerformance-PlanningForum-Apr-27-2026
[9] Tariff Section 36.4.1.2(vii): section-36-congestion-revenue-rights-as-of-aug-3-2024.pdf
[10] Tariff Section 36.4.1.1: section-36-congestion-revenue-rights-as-of-aug-3-2024.pdf

This proposed classification reflects the current state of this initiative and could change as the stakeholder process moves ahead. Stakeholders are encouraged to submit a response in their written comments to the proposed classification as described above, particularly if they have concerns or questions.

6. Next Steps

Stakeholder feedback in response to this paper is requested at the June 2, 2026, stakeholder meeting and via written comments due June 16, 2026.