Analysis of interim EDAM congestion revenue allocation using 15-minute market data

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1 Summary

Under the interim Extended Day-Ahead Market (EDAM) Congestion Revenue Allocation (CRA), the California ISO will transfer congestion rent between balancing authority areas. This transfer allows the receiving area to pay holders of firm transmission scheduling rights for congestion costs incurred from constraints located in other areas. To receive CRA payments, these rights holders must self-schedule energy in the EDAM. The CRA payments therefore create incentives to self-schedule energy rather than submit price-sensitive bids. As the ISO Market Surveillance Committee has noted, this incentive to self-schedule can, and in other markets did, result in significant market disruption and dysfunction. This analysis is meant to gauge the potential for the EDAM CRA to create incentives to self-schedule in the EDAM.

This analysis finds that the EDAM CRA would likely create incentives to self-schedule. While these incentives may not be as large in the initial market footprint at EDAM go-live, these incentives are substantive and may grow significantly as the market footprint expands. Therefore, a replacement to the interim CRA should be developed to remove these potential incentives as soon as possible.

More specifically, this analysis uses data from the Western Energy Imbalance Market going from 2023 through 2025 to estimate when resources could have profitably received payments by self-scheduling under the interim CRA rules. About 17 percent of participating generation schedules across the five areas studied could have profitably received CRA payments by self-scheduling. The CRA payment per megawatt hour of potential self-schedules varied across areas. Nevada Power had the highest average payment per megawatt hour over the period at $7.22. Idaho Power averaged $3.08 per megawatt hour, PacifiCorp East $2.25, Portland General $1.07, and PacifiCorp West $0.98.

These estimates are not meant to be a counterfactual of what would have happened if the interim CRA rules had been applied to the Western Energy Imbalance Market and are not an estimate of what would happen in the EDAM. These estimates also do not represent potential overall congestion costs for one balancing area from constraints in other areas because they specifically exclude the congestion payments a balancing area would receive from other areas. However, the estimates are designed to view this historical congestion data in a way that reflects how the CRA might create incentives to self-schedule. This view of the congestion data shows that the interim CRA does have the potential to create self-scheduling incentives that warrant changing the CRA. The ISO is currently undertaking changes to the CRA in an ongoing policy initiative.[1]

[1] *Extended Day-Ahead Market (EDAM) Congestion Revenue Allocation - Phase 2 Design*, California ISO, February 23, 2026: https://stakeholdercenter.caiso.com/InitiativeDocuments/Presentation-Extended-Day-Ahead-Market-Congestion-Revenue-Allocation-Phase-2-Feb-23-2026.pdf

2 Background

The original Extended Day-Ahead Market (EDAM) design, approved by FERC in December 2023, allocated congestion rent to the balancing authority area (BAA) where the constraint generating the rent was located. This maintained the allocation design already used in the real-time Western Energy Imbalance Market (WEIM).[2] The intent of using the WEIM allocation was to develop the core EDAM design first and then develop and transition to an alternative congestion rent allocation design following a stakeholder process after the initial EDAM go-live.

However, following the 2025 Congestion Revenue Allocation (CRA) stakeholder process responding to stakeholder concerns, the ISO decided to change the allocation.[3] These 'Phase 1' CRA changes are an interim measure and will be replaced after the EDAM CRA Phase 2 stakeholder initiative. Under the interim CRA, the ISO will transfer congestion rent between BAAs when firm transmission scheduling rights holders, either point-to-point or network integrated transmission service rights, submit balanced energy self-schedules in the EDAM (and a valid contract reference number) that incur congestion charges (or payments) from transmission constraints in other balancing areas.[4] Rent not allocated based on self-schedules from firm rights holders will remain allocated to the BAA where the constraint is located.

This change allows EDAM BAAs to refund firm transmission rights holders for congestion charges incurred when self-scheduling their rights. Because power flows depend on the physical transmission network and are not affected by BAA boundaries, congestion charges at a location can come from constraints across multiple balancing areas. If a BAA only has rent from constraints within its own area, it would not have the rent to pay for congestion charges from constraints in neighboring areas. With the interim CRA approach, the ISO will transfer the rent from the neighboring areas so the BAA can pay the rights holders without uplifting costs to ratepayers in the BAA.

But the interim CRA is not designed to be a long-term solution. As discussed in detail by the California ISO's Market Surveillance Committee, one of the chief problems with the interim CRA is that it creates incentives to self-schedule energy to receive CRA payments rather than submit price sensitive bids.[5] Such self-scheduling is inefficient on its own and could also increase congestion prices, thereby increasing the incentive for others to self-schedule. Additional self-scheduling could further increase congestion prices and potentially start a vicious circle resulting in severe market dysfunction and—in worst case scenarios—the collapse of price sensitive bid submissions to the market.

Because of these concerns, the Western Energy Markets Governing Body and California ISO Board asked the Department of Market Monitoring (DMM) to support the ISO and stakeholders with analysis to assess the potential extent of these self-scheduling incentives. The ISO recently published a detailed analysis providing significant context on the effects of transmission constraints on congestion across

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2 For incremental WEIM schedules. Base schedules are not settled and therefore pay no congestion charges.

3 *Final Proposal: EDAM Congestion Revenue Allocation*, California ISO, June 6, 2025: https://stakeholdercenter.caiso.com/InitiativeDocuments/FinalProposal-EDAMCongestionRevenueAllocation-June62025.pdf

4 And submit a valid Contract Reference Number (CRN).

5 *Opinion on Extended Day-Ahead Market (EDAM) Congestion Revenue Allocation*, Market Surveillance Committee, June 16, 2025: https://www.caiso.com/documents/market-surveillance-committee-opinion-extended-day-ahead-market-congestion-revenue-allocation-jun-13-2025.pdf

Congestion Rent Allocation, Harvey, Scott, Market Surveillance Committee, May 2, 2025: https://www.caiso.com/documents/presentation-congestion-rent-allocation-harvey-may-02-2025.pdf

BAAs in the WEIM.[6] The purpose of this analysis by DMM is to gauge the extent to which the interim CRA may create incentives to submit self-schedules.

[6] *Congestion Revenue Allocation: Stage 1 of Analysis*, California ISO, December 2025: https://stakeholdercenter.caiso.com/InitiativeDocuments/Stage-1-Analysis-Extended-Day-Ahead-Market-Congestion-Revenue-Allocation-Dec-11-2025.pdf

Congestion cost analysis from historical WEIM performance, California ISO, March 6, 2026: https://www.caiso.com/documents/presentation-congestion-cost-analysis-from-historical-weim-performance-mar-06-2026.pdf

3 Methodology

3.1 Overview of methodology

This analysis estimates which schedules could have profitably received CRA payments from self-scheduling under the interim CRA rules based on the actual congestion prices in the Western Energy Imbalance Market (WEIM). These hypothetical estimates assume that resources submitted self-schedules in all resource-intervals where the resource could profitably obtain CRA payments based on offer prices and 15-minute market (FMM) prices at each resource and load sink. Resources that would be charged by the interim CRA are assumed to not be charged (i.e., assumed to not submit both a self-schedule and contract reference number). While it is not realistic that resources could optimize self-schedules in this manner, these estimates allow one to use the WEIM congestion data to get an idea of the potential for the interim CRA to create incentives to submit self-schedules.

3.2 Congestion price differences that create a CRA payment

A resource would have an incentive to self-schedule if congestion price differences would result in a CRA payment, and the CRA payment plus the energy price was greater than the cost of generating. The CRA payment is based on the difference in congestion prices between a generation location and a load location from constraints outside the BAA where the resource is located. Congestion prices are referred to in the ISO as MCC, or marginal cost of congestion. To find the CRA payment, the locational marginal price (LMP) congestion component can be separated into congestion from constraints within the BAA where the resource is located, and congestion from constraints in other BAAs (other BAA MCC), as in Figure 1 below.

Figure 1 Price components

$$LMP_i = MEC^{BAA} + MCC_i^{BAA} + \boldsymbol{MCC_i^{other\ BAA}} + Loss_i$$

From constraints in same BAA where "i" is located

From constraints in other BAAs where "i" is not located

The CRA allocates congestion rent to balanced self-schedules based on the difference in other BAA MCCs between the load and resource locations. That is, the difference in congestion prices between the load and resource locations coming from constraints in other BAAs (BAAs where the load and the resource are not located). This analysis assumes the load is located at the EIM load aggregation point (ELAP) for the same BAA as the resource. Because there are two PacifiCorp BAAs, for resources in PacifiCorp the analysis is first run using the ELAP whose BAA the resource is in. The analysis is also run for resources in PacifiCorp East using the PacifiCorp West ELAP. This additional scenario reflects DMM's understanding that resources in PacifiCorp East may be scheduled to serve load in PacifiCorp West.

The CRA payment (or charge) will be the difference in the other BAA MCCs between the ELAP and the resource location. For resources in one of the PacifiCorp BAAs, the other BAA MCC excludes congestion from both PacifiCorp BAAs. When the difference in other BAA MCC between the ELAP and resource is positive (i.e., ELAP minus resource is positive), the resource can receive CRA payments by self-scheduling (and submitting a contract reference number). Table 1 shows examples of when a self-schedule would receive a CRA payment or charge based on other BAA MCCs at the ELAP and at the resource.

Table 1 CRA payment or charge examples

Case	MCC from Other BAA Constraints ELAP	MCC from Other BAA Constraints Resource	Rent Allocation per MWh	CRA Payment or Charge?
1	$1.00	$2.00	-$1.00	Charge
2	-$3.00	-$4.50	$1.50	Payment
3	$4.75	$3.00	$1.75	Payment

3.3 Incentive to self-schedule

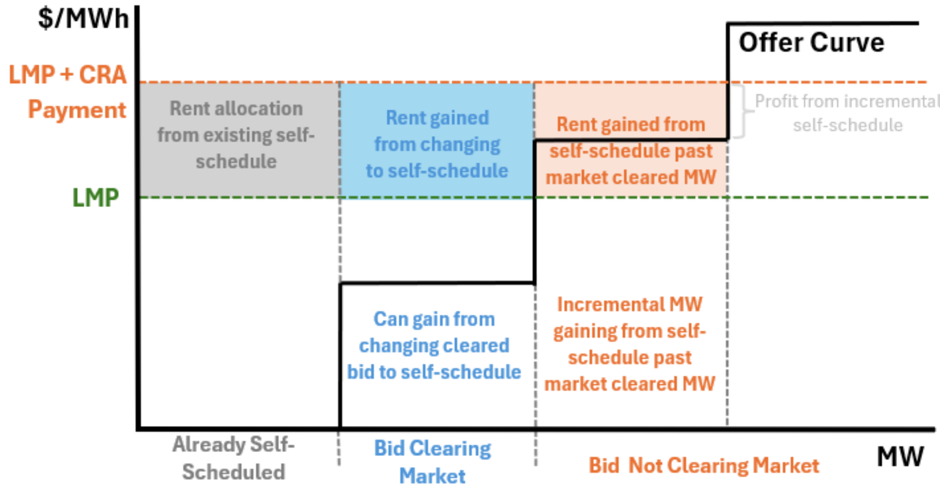
When there is a CRA payment from self-scheduling, the payment increases the effective price paid to the resource above the market clearing locational marginal price (LMP). This increase in effective price creates an incentive to self-schedule to receive CRA payments. Figure 2 shows this increase in effective price overlayed on a resource's offer curve. This figure also shows three types of megawatts with an incentive to self-schedule to receive CRA payments.

First, resources already submitting a self-schedule would be paid the other BAA MCC difference per MWh (the difference in the MCCs from their ELAP to their location coming from constraints located in other BAAs). The total CRA payment would equal the grey box. The data used for the analysis is from the WEIM 15-minute market. Self-schedules in this market may be the result of day-ahead economic trading and scheduling that would have been made by the market optimization under EDAM. Therefore, the CRA payment to these megawatts could still be creating an incentive to self-schedule megawatts that would otherwise submit price-based offers into the EDAM.

Second, economically bid megawatts that cleared the market based on the LMP would have an incentive to self-schedule rather than submitting price-based offers. The CRA payment would be the blue box.

Third, economically bid megawatts that did not clear based on the market LMP, but whose increase in costs from self-scheduling is less than the CRA payment, would also have an incentive to self-schedule. The CRA payment for these megawatts would be the orange box.

Figure 2 CRA payment increases the effective price above the market LMP



The analysis calculates the hypothetical CRA payments associated with these three boxes, and their associated MWh, using the actual 15-minute market cleared schedules, prices, offers, and self-schedules in the WEIM.

3.4 Key limitations

Several key limitations from the data analysis are:

1. The analysis assumes that all generators can submit contract reference numbers (CRNs) for firm transmission rights. There are a minority of these generators who may not have firm rights that would qualify for CRA payments.

2. Congestion prices are fixed at the actual historical WEIM 15-minute market prices.

3. Congestion is only from constraints binding in the WEIM 15-minute market. Different transmission constraints may be enforced in the EDAM.

4. Submitted offers are used. Actual costs may differ from submitted offers.

5. Commitment is fixed at the actual market commitments. No values are calculated from off-line resources, or from configurations that a multi-stage generator was not already in.

6. Non-participating, battery storage, intertie, and demand response resource data are excluded. (Sensitivity cases are run including non-participating resources.)

Point two is important. The analysis does not attempt to model how congestion prices might change if more resources self-scheduled because of the CRA. Additional self-schedules would tend to increase congestion prices, which could increase the incentive to self-schedule, which in turn could increase congestion prices even more—potentially creating a vicious cycle resulting in severe market dysfunction and, in worst case scenarios, the collapse of price sensitive bid submissions to the market. Further, there could be situations that did not occur in the data that could create significant, or potentially irresistible, pressure for entities to self-schedule resources to receive CRA payments and avoid high congestion costs.

The analysis also only estimates resources as having an incentive to self-schedule when it would be profitable based on submitted bids and FMM prices at the resource and ELAP. However, the CRA will apply to the day-ahead market. Resources will not need to generate in real-time—and incur production costs—to receive the CRA payments. Therefore, it is possible that resources with costs higher than the market price plus CRA payments could still profitably self-schedule in the day-ahead market to receive CRA payments while economically bidding in FMM—if the CRA payments were greater than the day-ahead price minus the real-time price. Because there are no day-ahead data for WEIM balancing areas, the analysis cannot attempt to estimate how many schedules would fall into this category.

3.5 Historic WEIM data may not be representative of changing transmission system

In addition to WEIM FMM congestion prices differing from a day-ahead market, future changes to the transmission system going forward can limit the applicability of historic congestion data to the EDAM. The cross-BAA congestion effects are likely to be more relevant as more BAAs join EDAM, as Nevada Energy wrote:

> *Importantly, NV Energy's proximity to Path 15 and Path 26 (referred to by CAISO at the April 23, 2025 stakeholder meeting as "well known bottlenecks"), as well as Path 61 may result in more significant impacts than those likely to be experienced by PacifiCorp and Portland at the outset of EDAM.*[7]

These congestion effects may change as additional transmission projects are brought on-line. Upcoming projects such as the Greenlink West, Greenlink North, and SWIP North can affect flows across and between the EDAM BAAs. Because the north-south capacity will significantly increase across Nevada, this may reduce the parallel flows from schedules in Nevada over the north-source constraints in California such as Path 15—though modeling of future power flows would be needed to investigate this. Rather than using historical data alone, forward looking modeling would be required to estimate congestion patterns as new transmission is added.

[7] *Comments of NV Energy on the Draft Final Proposal - EDAM Congestion Revenue Allocation*, Nevada Energy, May 1, 2025: https://stakeholdercenter.caiso.com/Common/DownloadFile/8ed80965-2c5b-4aa6-ac6b-1d91939d9749

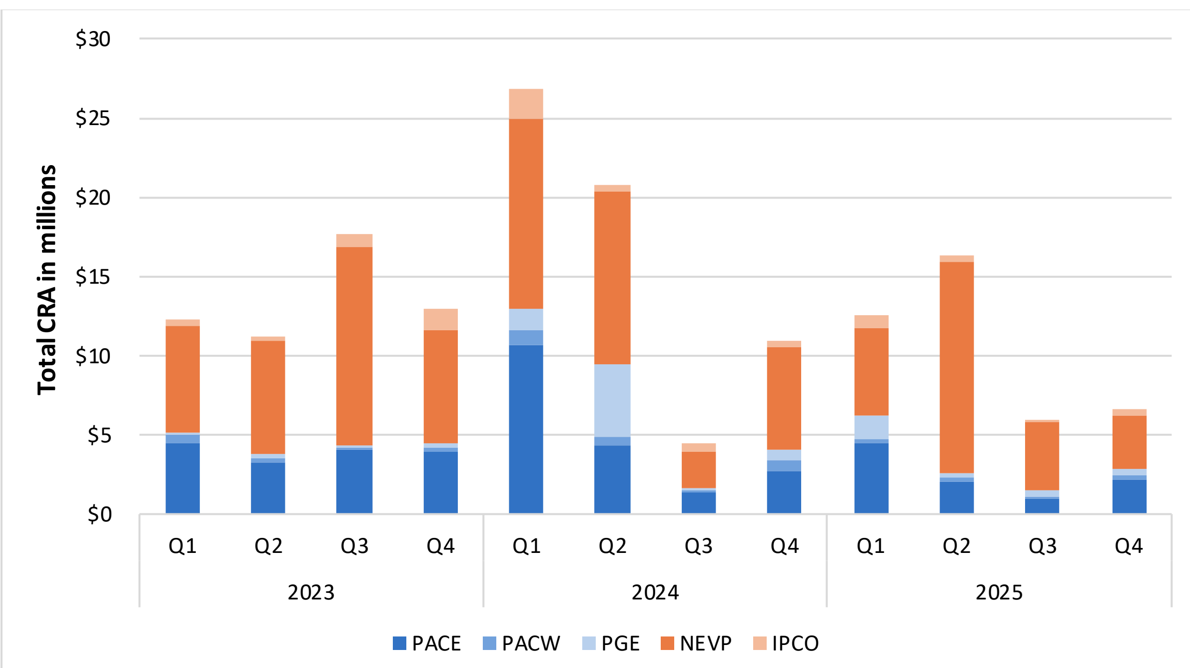
4 Data analysis of the five balancing areas

This data analysis creates hypothetical estimates from the WEIM 15-minute market data as if the CRA were in effect and generation would have self-scheduled in intervals where self-scheduling would have resulted in resources profitably receiving CRA payments from other BAAs. The data are estimated from five BAAs: PacifiCorp East (PACE), PacifiCorp West (PACW), Portland General Electric (PGE), Idaho Power (IPCO), and Nevada Power (NEVP). This section shows only estimates for resources in a BAA using that same BAA's ELAP prices. Section 5 shows the estimates for resources in PACE using the PACW ELAP prices.

4.1 Congestion revenue paid to potential self-schedules

Figure 3 shows the estimated total CRA payments for each quarter from 2023 through 2025 considering only WEIM participating resources. The combined total estimated CRA payments to the five BAAs would have averaged $13 million per quarter and ranged between $4 million and $27 million.[8] The largest potential revenues would have been in the NEVP balancing area averaging $8 million per quarter. PACE averaged $4 million, PGE $0.9 million, IPCO $0.7 million, and PACW $0.4 million. As a sensitivity analysis, we also created estimates using only base schedules, and including non-participating resources. Comparisons are shown in Table 2.

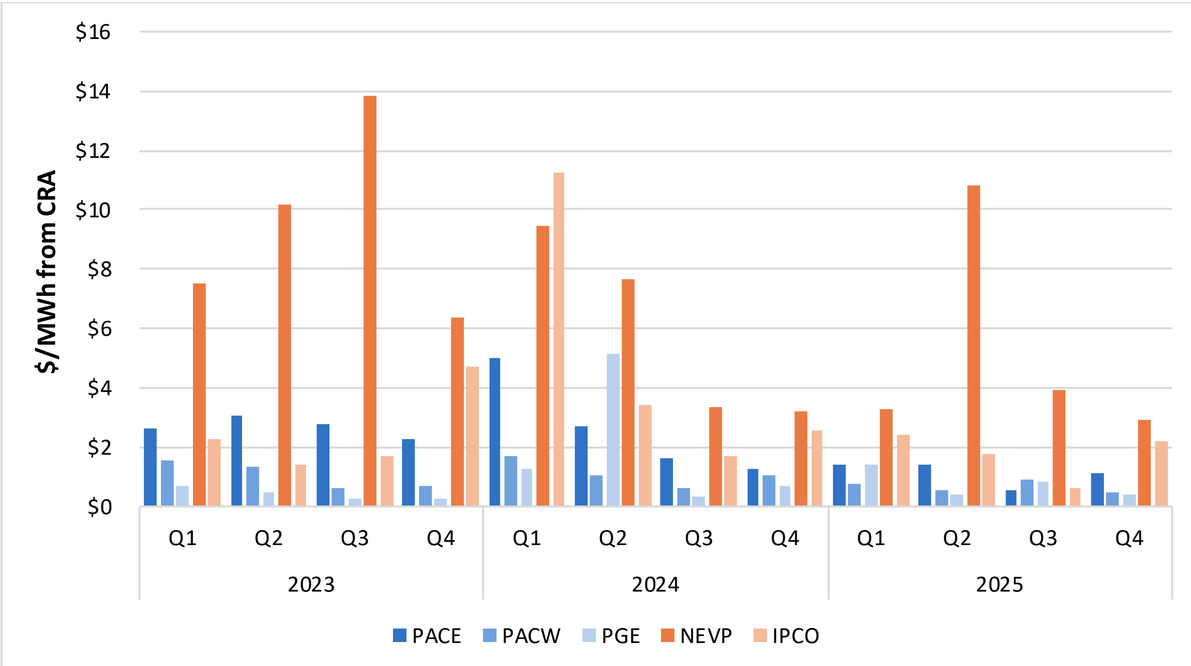
Figure 3 Quarterly congestion revenue allocation payments for participating WEIM resources



[8] The first quarter of 2024 corresponds to the January 2024 cold snap, which produced significant congestion impacts.

Figure 4 shows the average potential revenue allocation per megawatt hour that would have benefited from self-scheduling under the CRA considering only WEIM participating resources. NEVP's average of $6.87/MWh was consistently higher than the other BAAs. IPCO averaged $3.00/MWh, PACE $2.16/MWh, PGE $1.01/MWh, and PACW $0.93/MWh. Table 3 compares the sensitivity case of using only base schedules and including non-participating resources.

Figure 4 Average congestion revenue allocation payment per MWh for participating WEIM resources



4.2 Generation schedules with incentives to self-schedule

Figure 5 shows the quarterly megawatt hours that would receive CRA payments if self-scheduling, as a percentage of the total market dispatched WEIM participating generation by BAA. These data are broken out by megawatt hour that were already self-scheduled, economically dispatched, or incremental to actual dispatch in the WEIM FMM (as shown in Figure 2 above).

The percentage of WEIM participating generation that would have benefited from self-scheduling across the whole period was 21 percent in NEVP, 18 percent in PACW, 16 percent in PACE, 15 percent in PGE, and 11 percent in IPCO. The percentage of CRA benefiting megawatt hours was consistent across estimates that include only base schedules and include non-participating WEIM resources, as shown in Table 4. IPCO's self-schedules are nearly exclusively associated with non-participating WEIM resources.

Figure 5 Participating WEIM resource MWh benefiting from self-scheduling as a percentage of total cleared MWh from participating resources

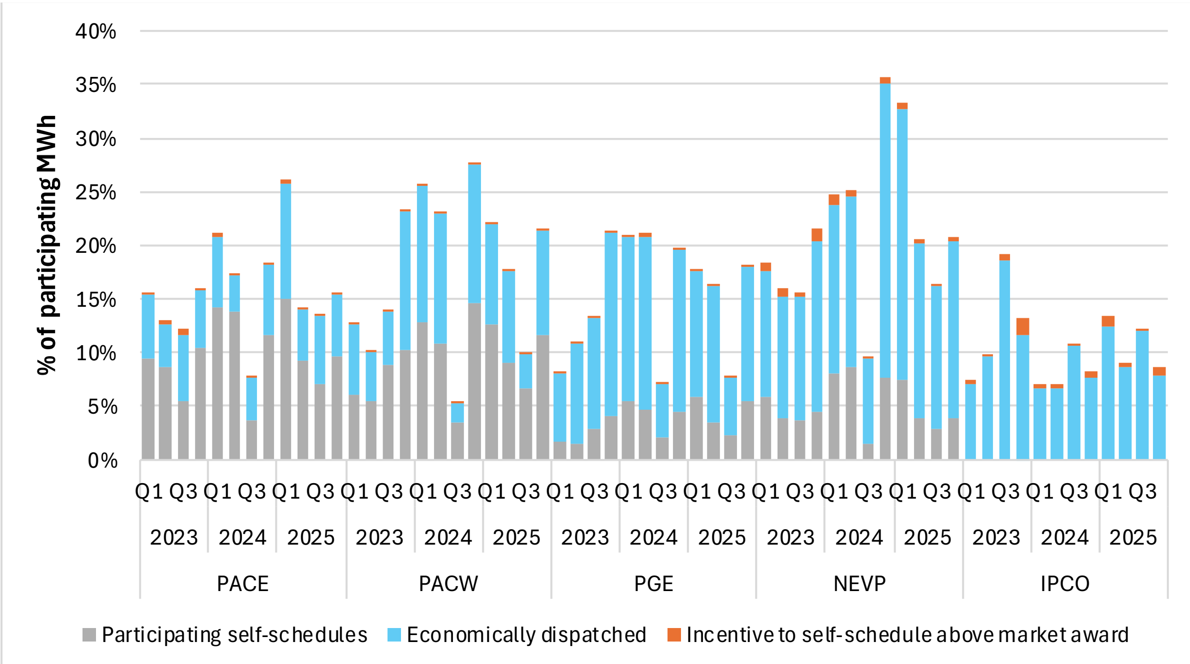


Figure 6 WEIM participating schedule segments as a percentage of MWh benefiting from self-scheduling

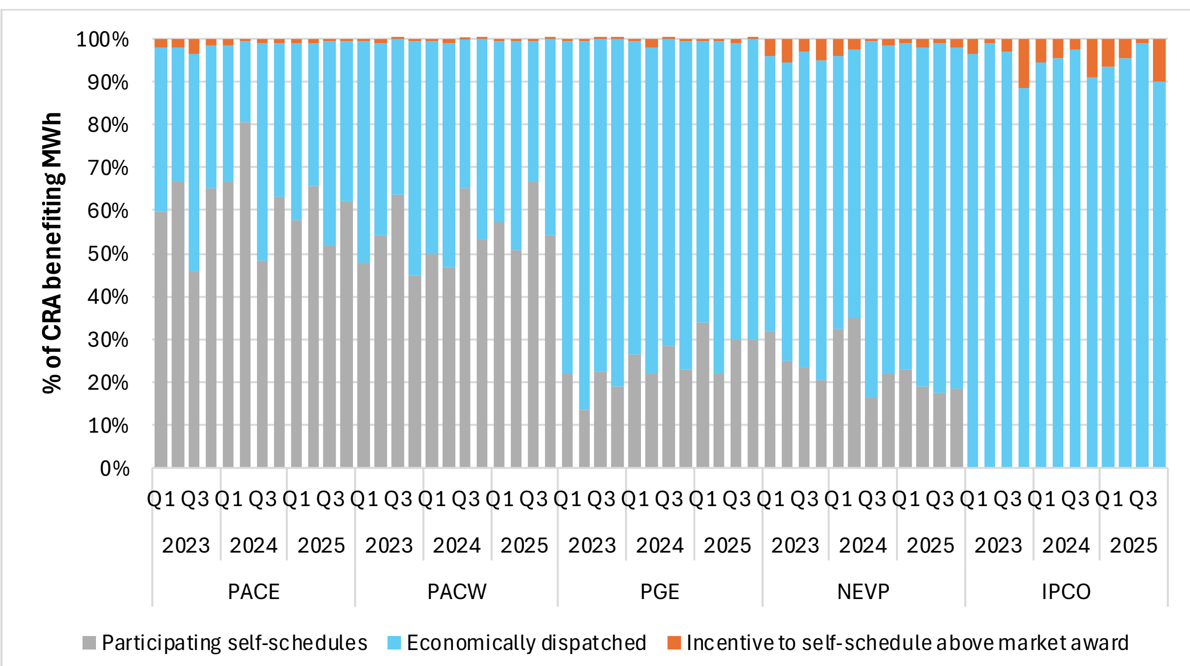


Table 2 Quarterly average CRA payments (millions)
Comparison of alternative estimates

Balancing area	Participating	Participating (base schedules)	Participating and non-participating	Participating and non-participating (base schedules)
PACE	$3.7	$3.6	$4.6	$4.5
PACW	$0.4	$0.4	$0.7	$0.7
PGE	$0.8	$0.7	$1.3	$1.2
NEVP	$7.6	$6.9	$13.4	$12.6
IPCO	$0.7	$0.7	$1.1	$1.1
Total	$13.2	$12.4	$21.0	$20.1

Table 3 Quarterly average CRA ($/MWh)
Comparison of alternative estimates

Balancing area	Participating	Participating (base schedules)	Participating and non-participating	Participating and non-participating (base schedules)
PACE	$2.16	$2.06	$2.16	$2.08
PACW	$0.93	$0.91	$1.23	$1.21
PGE	$1.01	$0.88	$1.38	$1.24
NEVP	$6.87	$6.99	$6.90	$6.96
IPCO	$3.00	$2.88	$2.28	$2.27

Table 4 Quarterly average MWh benefiting from CRA as a percentage of generation
Comparison of alternative estimates

Area	Participating	Participating (base schedules)	Participating and non-participating	Participating and non-participating (base schedules)
PACE	16%	16%	16%	16%
PACW	18%	19%	17%	18%
PGE	15%	15%	15%	15%
NEVP	21%	21%	23%	22%
IPCO	11%	11%	12%	12%

5 PacifiCorp East to PacifiCorp West data

This section applies the framework from above to generation in PacifiCorp East (PACE) but using the PacifiCorp West (PACW) ELAP as the load location, limited by the transfer capacity from PACE to PACW. This accounts for the potential to schedule resources located in PACE to serve load in PACW. In addition to the framework and assumptions described above we assume:

- A static maximum 1,200 MW transfer capacity from PacifiCorp East to PacifiCorp West.
- When the 1,200 MW limit is binding, the 1,200 MW with the highest CRA payments per megawatt hour are used in the analysis.

Further, this analysis is conducted in isolation from the above analysis of separate balancing authority areas. The analysis above in Section 4 does not include, nor does it 'net out', the data estimated in this section. The data in this section also do not include or consider the data estimated in the section above.

5.1 Congestion revenue paid to potential self-schedules

Figure 7 shows the estimated total CRA payments for each quarter from 2023 through 2025 for PACE, due to the price differential between WEIM participating PACE resources and the PACW ELAP. The values in the figure are capped at a 1,200 MW limit per 15-minute interval. The total estimated CRA payments to PACE would have averaged $10 million per quarter and ranged between $1.4 million and $36 million. The results for the first quarter of 2024 are largely attributable to the price separation between the PacifiCorp regions during the January 2024 cold snap. As a sensitivity analysis, Table 5 compares the average quarterly CRA allocation for specifications using all schedules and bid or only base schedules, and including or excluding WEIM non-participating resources.

Figure 7 Quarterly congestion revenue allocation payments for WEIM participating resources from intra-PacifiCorp price differences

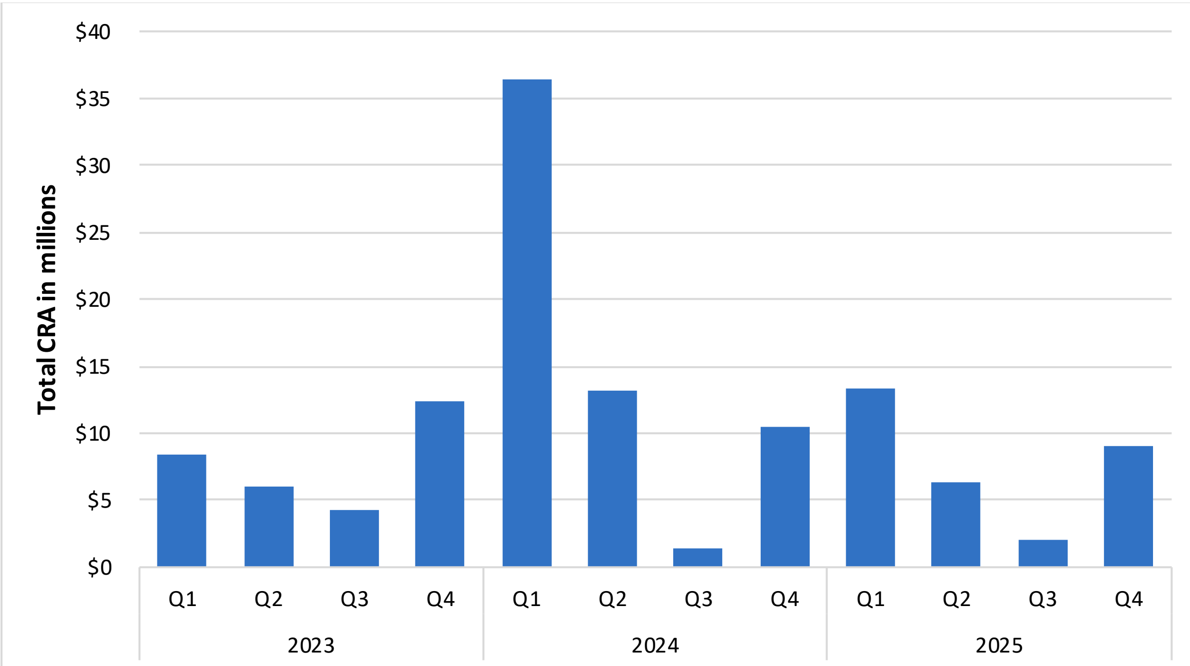
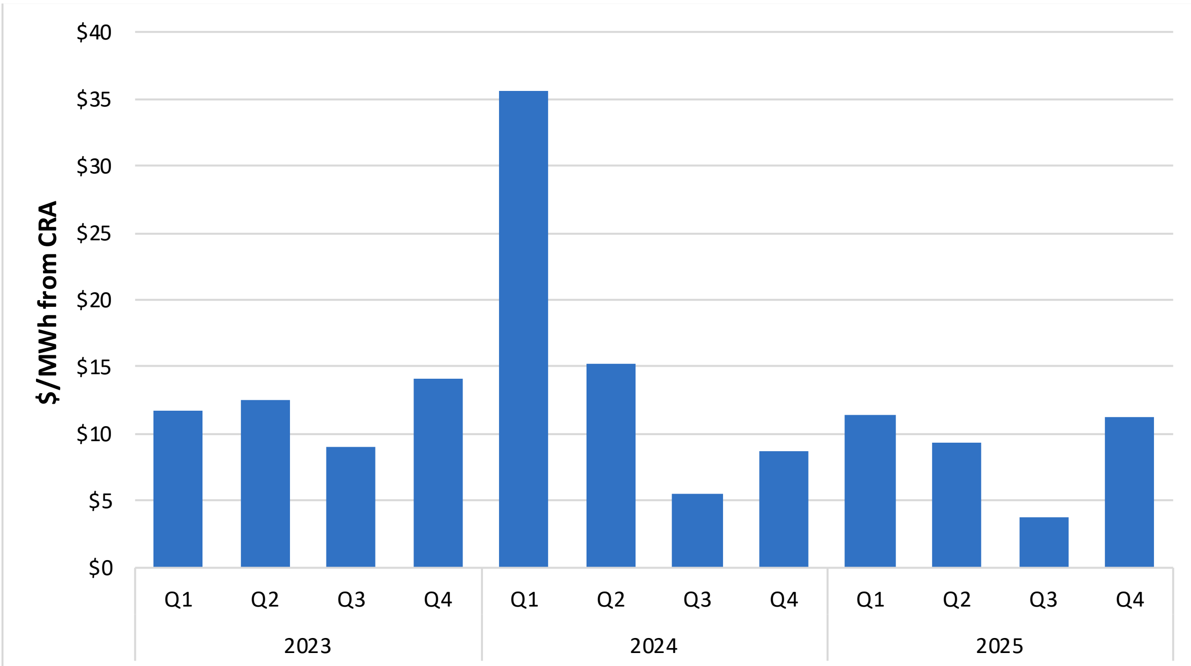


Figure 8 shows the average potential revenue allocation per megawatt hour from PACE resources that would have benefited from self-scheduling under the CRA when load was in the PACW ELAP (constrained by the 1,200 MW transfer limit). PACE resources averaged $12.36/MWh over the period analyzed. Appendix B contains charts showing the distribution of hypothetical $/MWh of congestion rent benefiting megawatt hours due to intra-PacifiCorp price differentials. Table 5 shows the average $/MWh for estimates that use base schedules for both WEIM participating and non-participating resources.

Figure 8 Average congestion revenue allocation payments per WEIM participating MWh from intra-PacifiCorp price differences



5.2 Generation schedules with incentives to self-schedule

Figure 9 shows the quarterly PACE to PACW megawatt hours with potential incentives to self-schedule from the interim CRA within the 1,200 MW transfer limit as a percentage of the total actual PACE participating generation. This data is broken out by megawatt hours that were already self-scheduled, economically dispatched, or incremental to actual dispatch in the WEIM (as shown in Figure 2 above).

The average percentage of PACE's WEIM participating generation that would have benefited from self-scheduling to serve load in PACW was 7 percent across the whole period. The majority of megawatt hours that would benefit from self-scheduling are from already self-scheduled megawatt hours, as highlighted in Figure 10. The average percentage of generation for alternative specifications of our estimate are presented in Table 5.

Figure 9 WEIM participating PACE resource MWh benefiting from self-scheduling due to intra-PacifiCorp price differences as a percentage of total cleared MWh

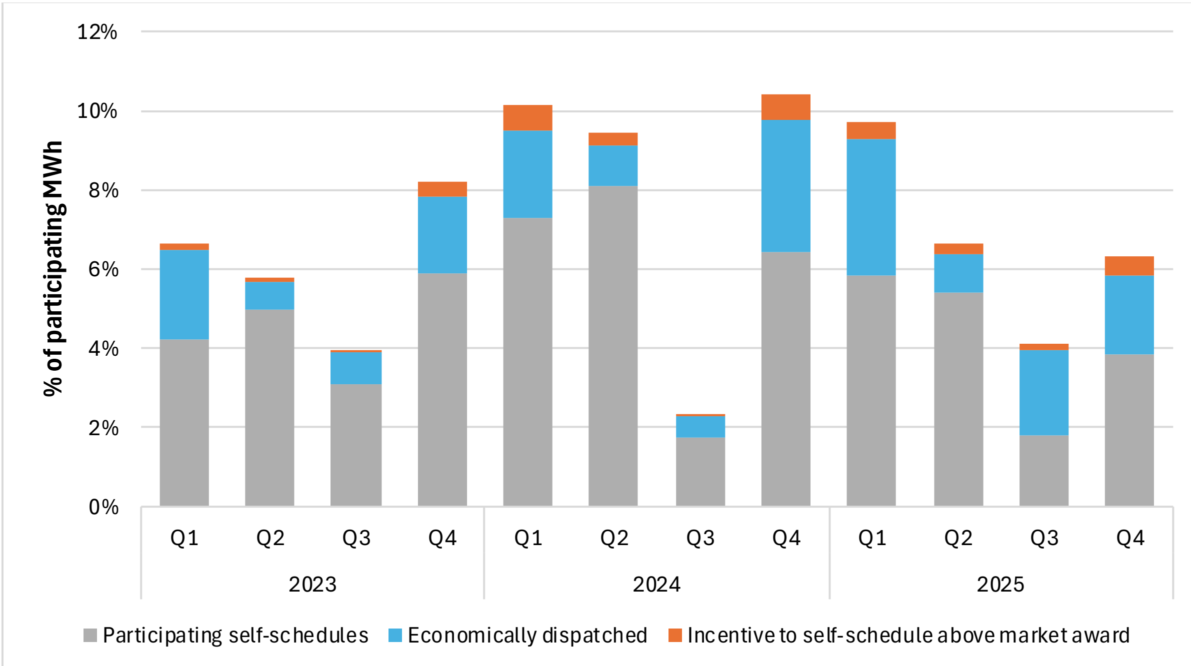


Figure 10 WEIM participating PACE resource schedule segments as a percentage of MWh benefiting from self-scheduling due to intra-PacifiCorp price differences

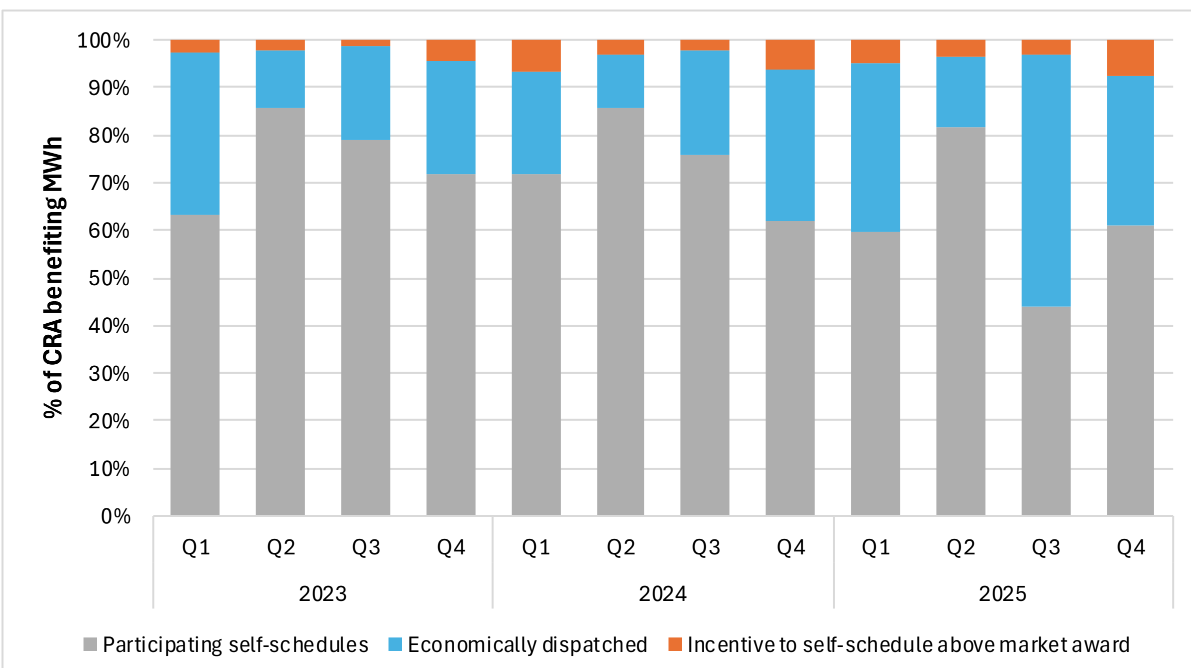


Table 5 Quarterly average PACE to PACE CRA metrics under alternative specifications

Metric	Participating	Participating (base schedules)	Participating and non-participating	Participating and non-participating (base schedules)
CRA payments	$10.3m	$10.3m	$10.5m	$10.4m
CRA per MWh	$12.36	$12.32	$12.54	$12.51
Percent of gen	7%	7%	6%	6%

6 Comparisons to ISO data

DMM's results can be compared to the analysis the ISO did for the PacifiCorp BAAs.[9] Table 6 shows the within BAA estimates from DMM and the ISO are generally very similar. However, Table 7 shows that DMM's estimates are about 45 percent lower than the ISO estimates for the 1,200 MW transfer capacity level of the cross PacifiCorp BAA (PACE to PACW) case.

DMM's lower estimate is the result of methodology differences. The ISO appears to have used an average payment rate and scaled up their estimates by the potential transfer capacity. DMM's estimates are lower for two reasons. First, because DMM's estimates start with highest payments per megawatt hour schedules and continues to lower payments per megawatt hour schedules until the transfer limit is met, the average CRA payment rate falls as the transfer capacity increases. Second, even though the transfer limit is assumed to be 1,200 MW, the amount of schedules with FMM congestion prices that would create self-schedule incentives is often lower than 1,200 MW.

Table 6 Comparison of estimated PacifiCorp CRA payments for 2024-25 (millions)

	Department of Market Monitoring Estimates				
Year	Participating	Participating (base schedules)	Participating and non-participating	Participating and non-part. (base sheds)	ISO Estimates
2024	$21.3	$20.4	$28.0	$27.0	$26.4
2025	$10.6	$10.7	$14.0	$14.0	$13.2
Total	$31.9	$31.1	$42.0	$41.0	$39.6

Table 7 Comparison of estimated PacifiCorp CRA payments for 1,200 MW transfers from PACE to PACW for 2024-25 (millions)

	Department of Market Monitoring Estimates				
Year	Participating	Participating (base schedules)	Participating and non-participating	Participating and non-part. (base sheds)	ISO Estimates
2024-25	$92.3	$92.0	$93.8	$93.6	$167.0

[9] *Congestion Revenue Allocation Stage 2 of Analysis*, California ISO, April 14, 2026: https://stakeholdercenter.caiso.com/InitiativeDocuments/Stage-2-Analysis-Paper-Extended-Day-Ahead-Market-EDAM-Congestion-Revenue-Allocation-Apr-14-2026.pdf

7 Conclusion

This analysis finds that the CRA would likely create incentives to self-schedule. While these incentives may not be as large in the initial market footprint at EDAM go-live, the potential will grow significantly as the market footprint expands. Therefore, a replacement for the interim CRA should be developed to remove these potential incentives as soon as possible.

Appendix A CRA payment per MWh distribution by balancing area

The following charts depict the distribution of megawatt hours across a range of per megawatt hour CRA payments by BAA and by year. The volume of megawatt hours was calculated by summing megawatt hours across all resources in a BAA on an hourly basis. A BAA's per megawatt hour CRA payment was calculated by summing total CRA payments in an hour and dividing by total megawatt hours of estimated self-schedules. Note that the per megawatt hour bins do not have a uniform width, though the same bins are used across all BAAs.

Figure 11 Distribution of MWh by congestion revenue allocation per MWh in PACE

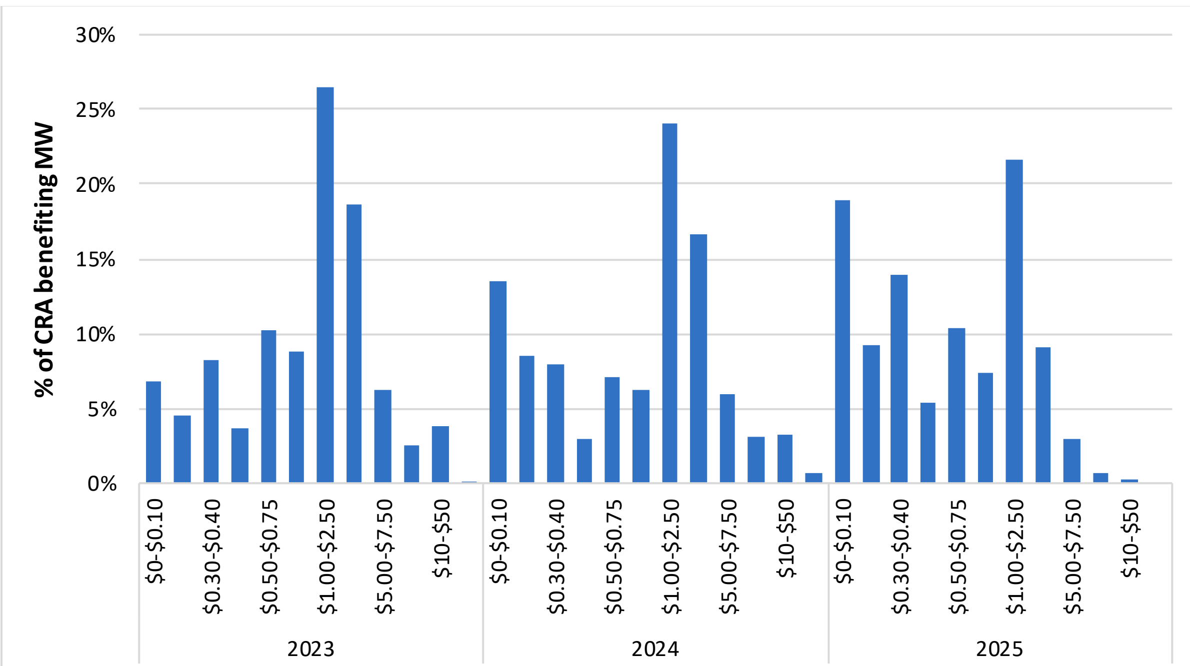


Figure 12 Distribution of MWh by congestion revenue allocation per MWh in PACW

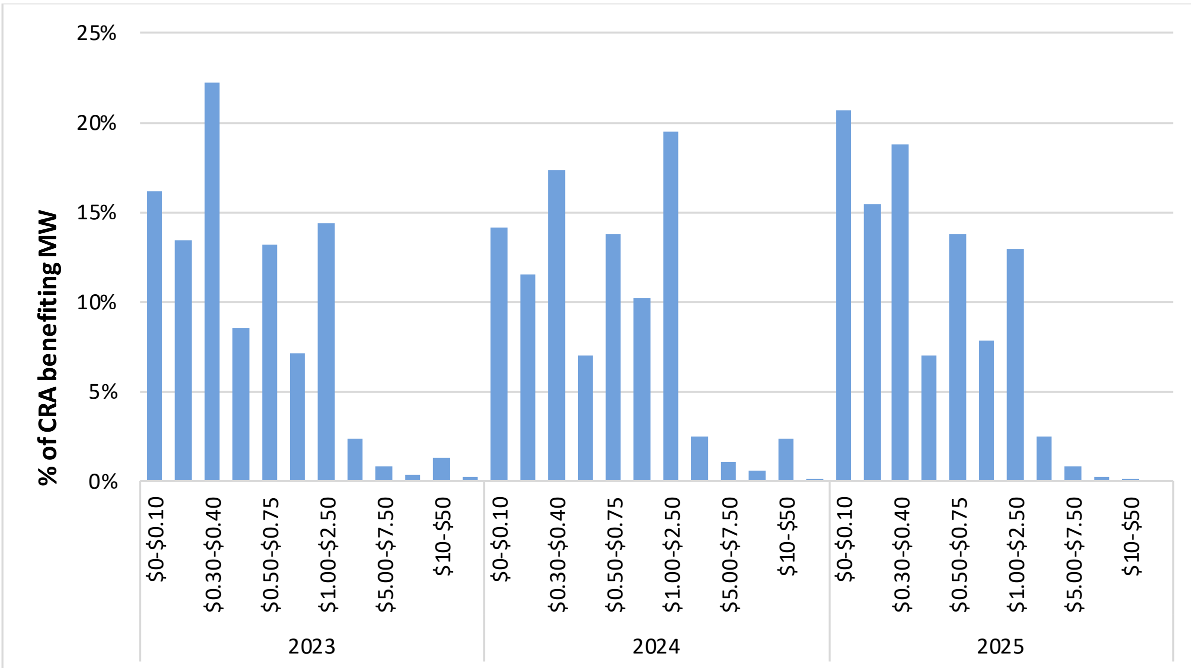


Figure 13 Distribution of MWh by congestion revenue allocation per MWh in PGE

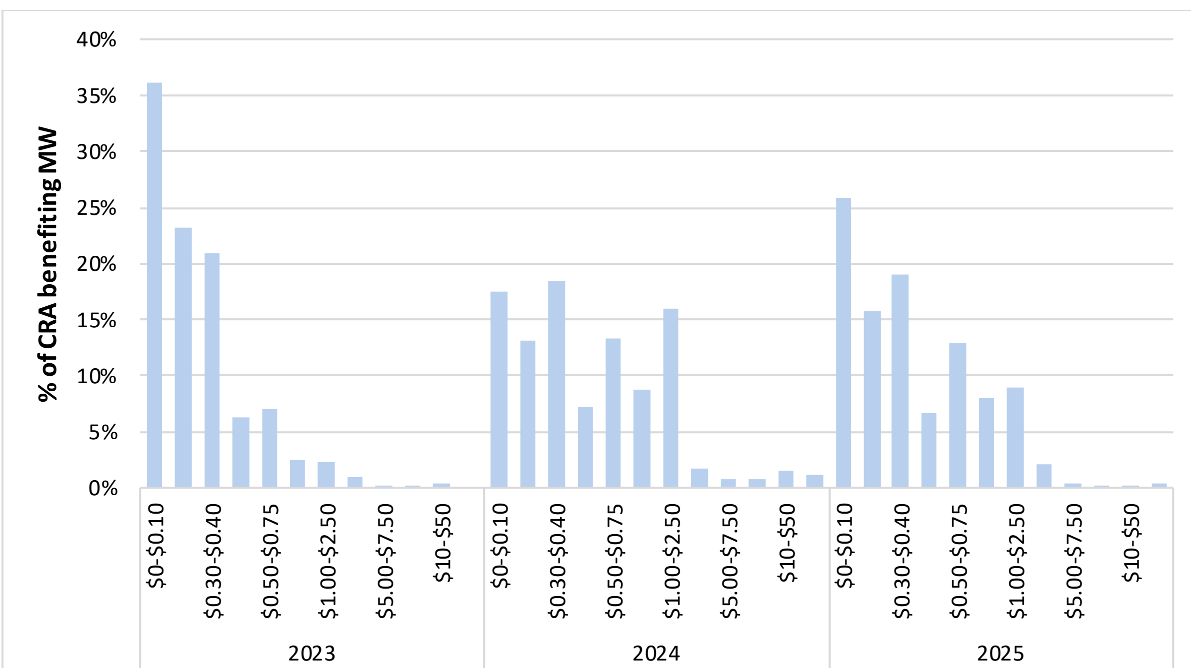


Figure 14 Distribution of MWh by congestion revenue allocation per MWh in NVE

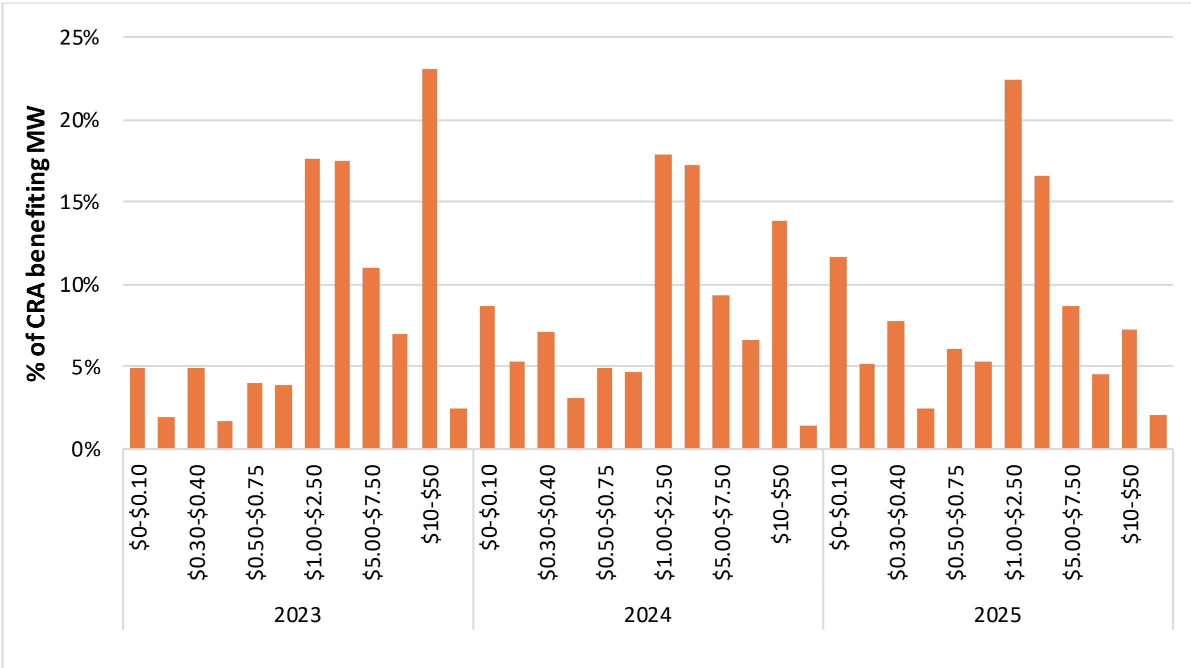
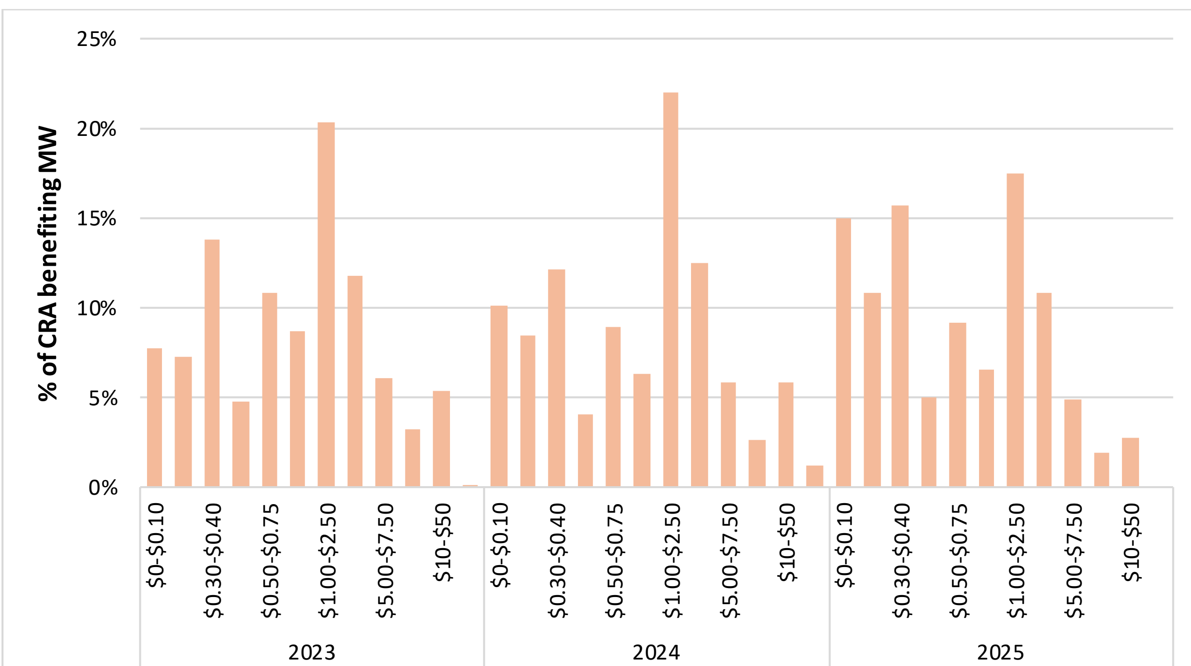


Figure 15 Distribution of MWh by congestion revenue allocation per MWh in IPCO



Appendix B PACE to PACW $/MWh CRA distribution

Figure 16 shows the distribution of megawatt hours across a range of per megawatt hour CRA payments PACE resources received when using the PACW ELAP as the load sink considering only WEIM participating generation. The volume of megawatt hours was calculated by summing megawatt hours across all resources in PACE on an hourly basis. The per megawatt hour CRA payment is the total CRA payment divided by the total estimated self-scheduled megawatt hours calculated on an hourly basis. Note that the per megawatt hour bins do not have a uniform width.

Figure 16 Distribution of MWh by congestion revenue allocation per MWh for PACE to PACW