



California ISO

Market Performance and Planning Forum

Q1

March 11, 2024

CAISO PUBLIC

Housekeeping Forum Reminders:

- This quarterly forum that engages stakeholders in review of market performance issues and in high level dialogue on release planning, implementation and new market enhancements. This is intended to foster open dialogue and sharing of ideas and perspectives
- This call is being recorded for informational and convenience purposes only. Any related transcriptions should not be reprinted without ISO's permission.
- Please keep comments brief and refrain from repeating any comments previously made.

Questions

- In-person attendees:
 - Please raise your hand. To ensure the virtual participants hear your question, please use a microphone.
 - Please state your name and organization when asking your question.
- Virtual attendees:
 - Please raise your hand using the “raise hand” feature in Webex, or submit your question through the chat.
 - Please state your name and organization when asking your question.

Instructions to ask a question

- Select the raise hand icon 🙋 located in the lower tool bar. You will hear a beep tone when you are un-muted; at that time please state your name, and question.
- Phone only use #2 when dialed into the meeting.
 - Please remember to **state your name and affiliation** before making your comment.
- If you need technical assistance during the meeting, please send a chat to the event producer.
- Do not mute yourself until you have completed your question or comment. WebEx platform will LOCK and mute you if you mute yourself once you have finished your question.

Objective: Enable dialogue on implementation planning and market performance issues

- Review key market performance topics
- Share updates to 2024-2025 release plans, resulting from stakeholders inputs





Market Performance and Planning Forum

Agenda – Mar 11, 2024

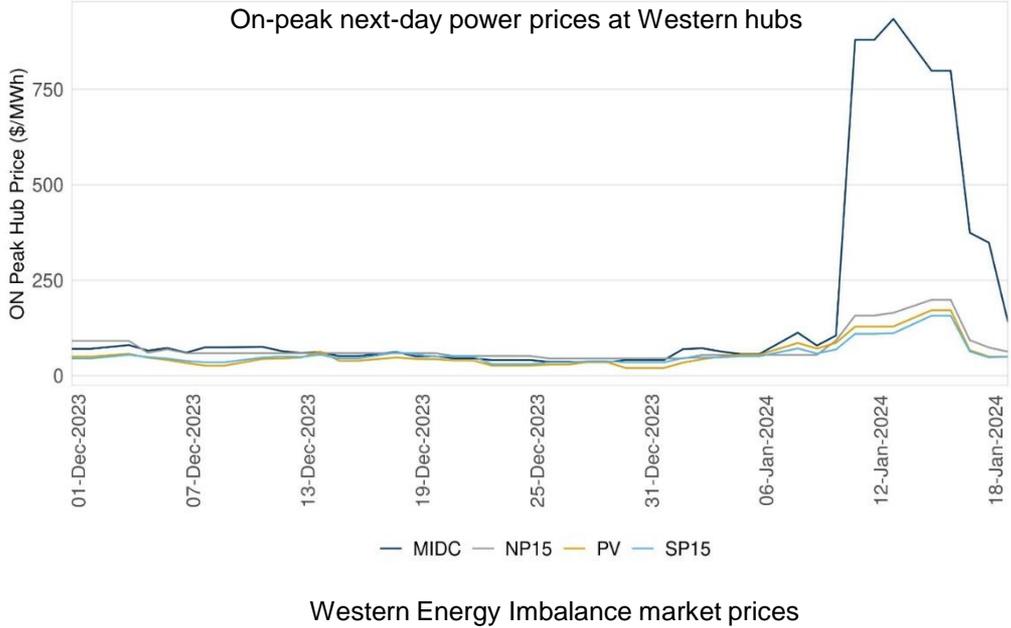
9 a.m. – 12 p.m. (PST)

Time:	Topic:	Presenter:
9:00 – 9:05	Introduction, Agenda	Brenda Corona, Stakeholder Affairs
9:05 – 10:45	<ul style="list-style-type: none"> • Winter Market Performance report • Transmission Service and Forward Scheduling Priorities • Storage Resources • Flexible Ramping Product • Gas Conditions • General Market Performance 	Market Performance and Advanced Analytics Short-Term Forecasting
10:45 – 11:15	Policy Update	Gillian Biedler, Market Strategy and Governance
11:15 – 11:45	Release Update	Trang Vo, Project Management

Winter Report

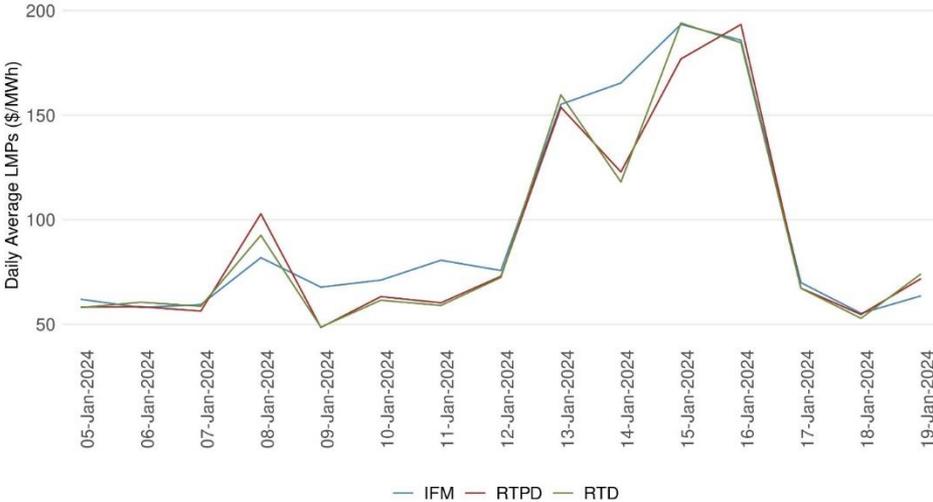
Winter event highlights the value of organized markets

- Severe winter weather with record-setting cold in the Pacific Northwest
- Grid conditions were strained, five balancing authority areas called energy emergency alerts
- Bilateral prices reflected regional conditions with high prices in the Pacific Northwest
- High day-ahead Malin and western energy imbalance market prices also reflected the regional conditions



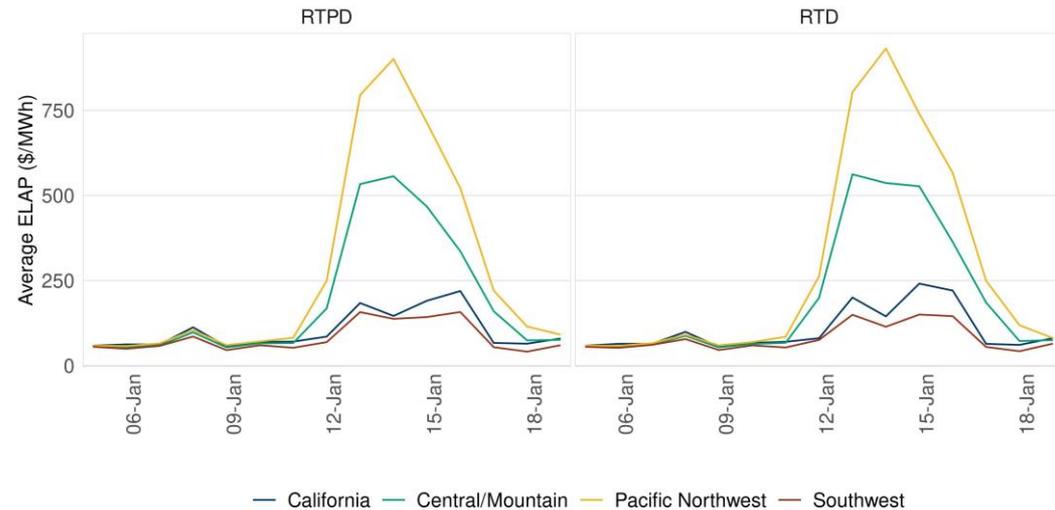
Date	EEA-Watch	EEA-1	EEA-2	EEA-3
13-Jan	2	3		1
14-Jan	2	3		
15-Jan		1		
Total	4	7	0	1

Day-ahead and real-time market prices reflected regional conditions during the long weekend



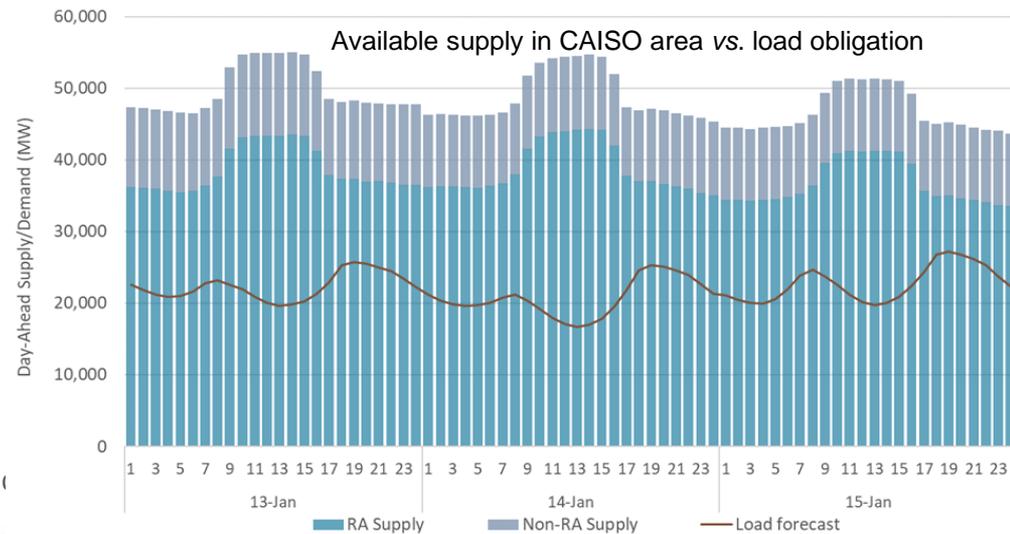
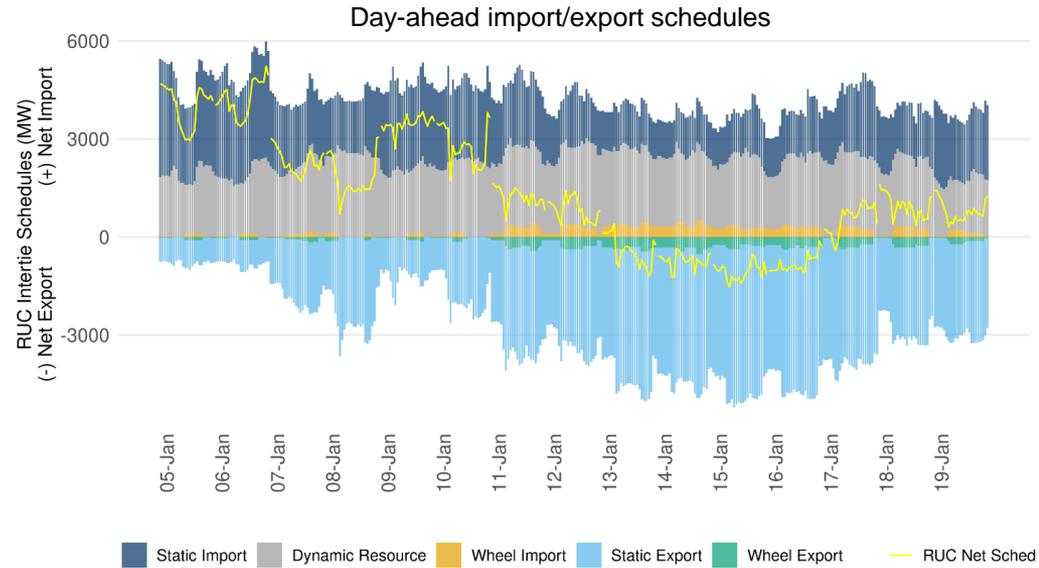
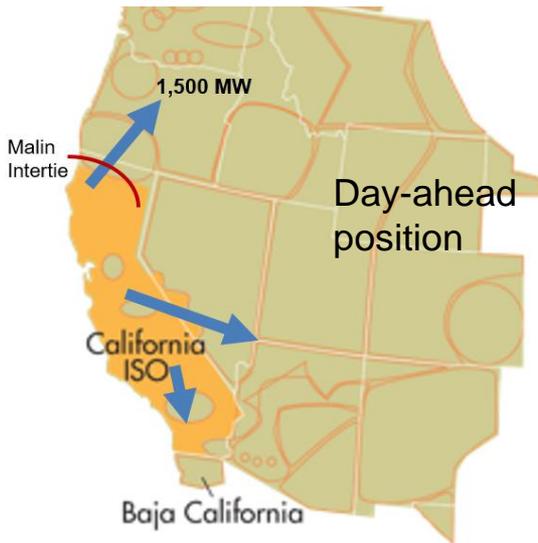
CAISO's prices increased during the long weekend reflecting supply and congestion conditions

Real-time prices saw the steep increases in the Pacific Northwest while remaining relatively low in the Southwest and California



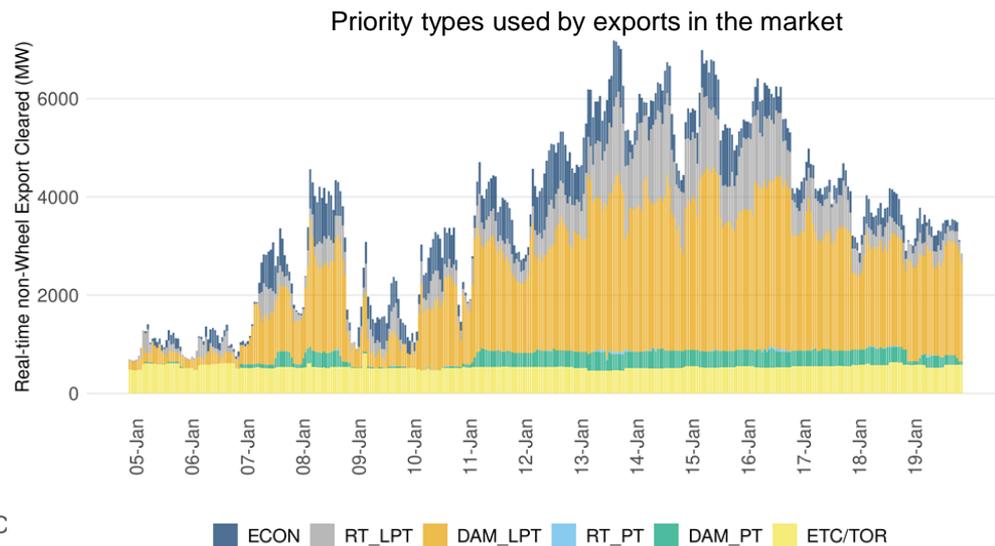
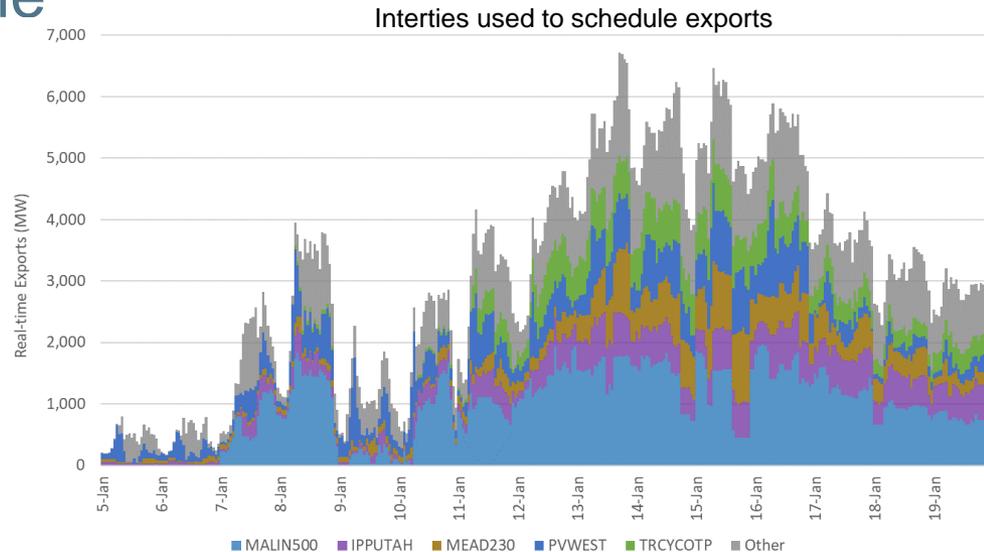
The day-ahead market cleared over 6 GW of exports during the long weekend

- CAISO area had sufficient supply available to meet its own demand needs and support exports
- Exports were greater than imports in the day-ahead market
- CAISO was a net exporter for all hours of the long weekend in the day-ahead market



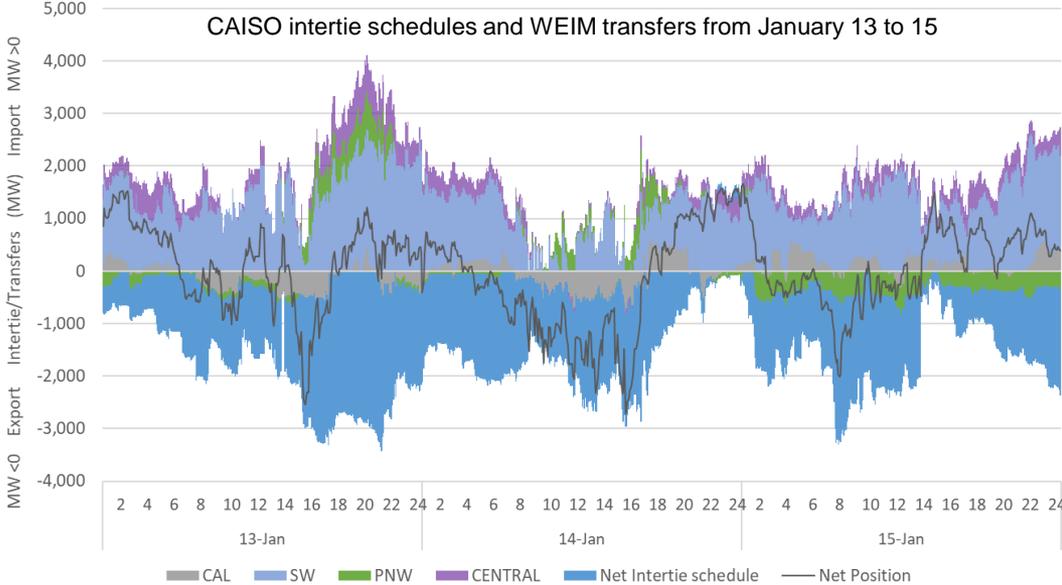
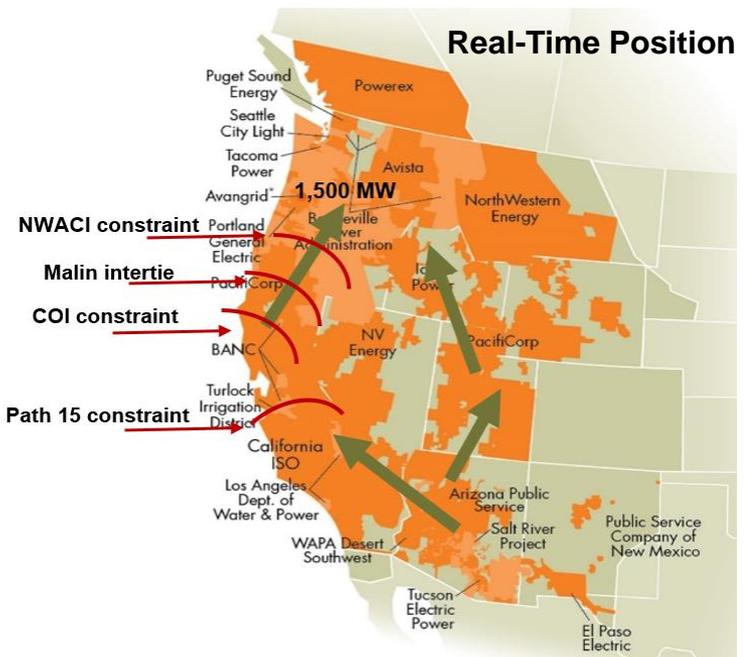
In the real-time, about 31% of exports cleared in the market were flowing through the Malin intertie

- Additionally, 14% of exports were on Palo Verde, 11% on IPPUTAH, 10% on Mead and 9% on Tracy COTP
- The majority of exports cleared in real-time were already awarded in day-ahead, providing more certainty towards real-time
- Malin intertie was fully used and no additional exports could flow to the Northwest



The real-time market economically rebalanced supply across the wider footprint to meet demand and manage congestion

From day-ahead to real-time, WEIM transfers economically displaced CAISO generation to meet exports while managing congestion on key transmission elements



What supply is used to meet demand and where it's located matters for congestion management

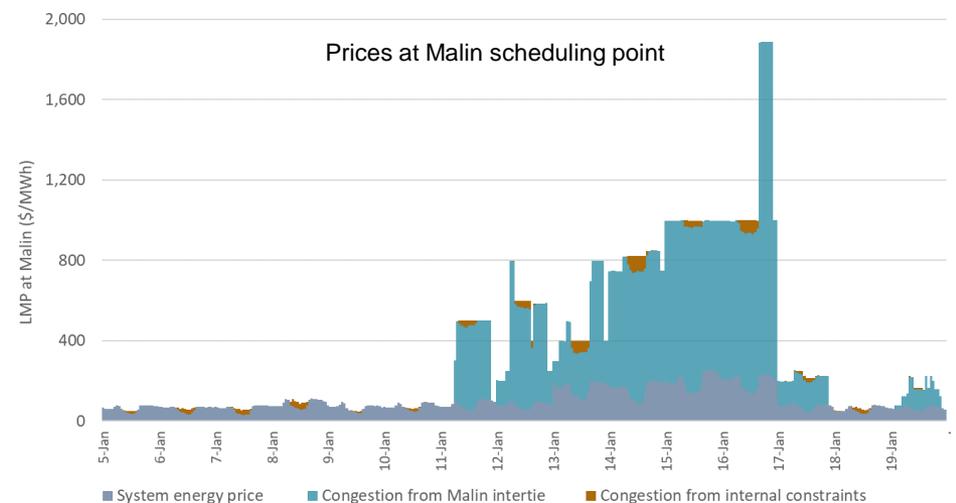
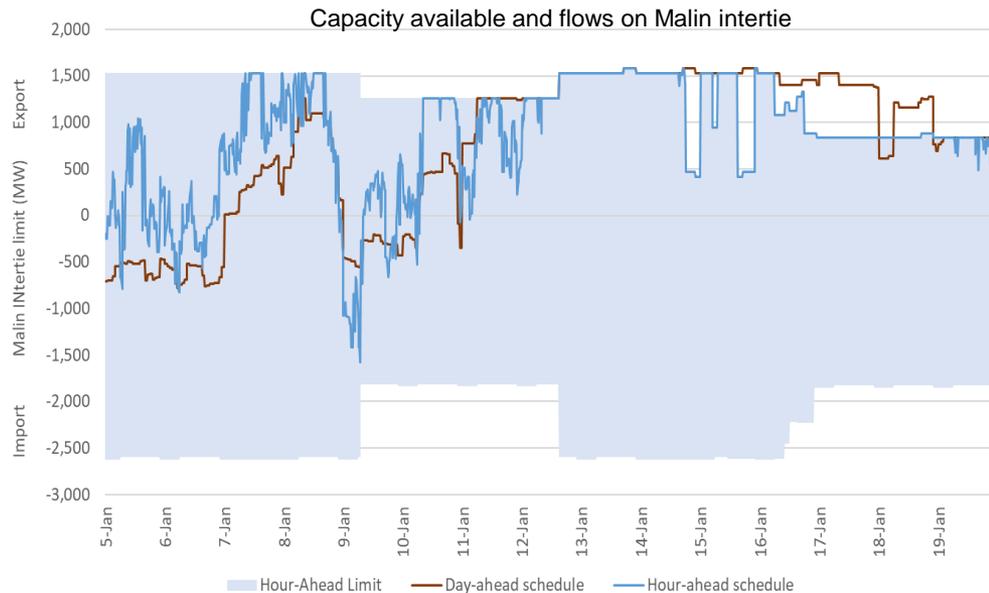
As conditions evolved in real time, CAISO area was net exporting through hour 16 to then start net importing

All available power that could flow from CAISO to Northwest was used as much as the markets could clear

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Congestion restricted the level of exports that could flow to the Pacific Northwest

- No exports could flow on the Nevada-Oregon Border (NOB) intertie due to a forced outage in an AC element
- Exports requested above available Malin intertie capacity caused northbound congestion
- Weather-related transmission outages in the Pacific Northwest disrupted northbound flow, causing
 - additional export reductions to the Malin intertie in real-time market
 - congestion on constraints of the California-Oregon border for both California and the Bonneville Power Administration areas
- Congestion on CAISO internal constraints, such as COI and Path 15, further limited the northbound flow of supply



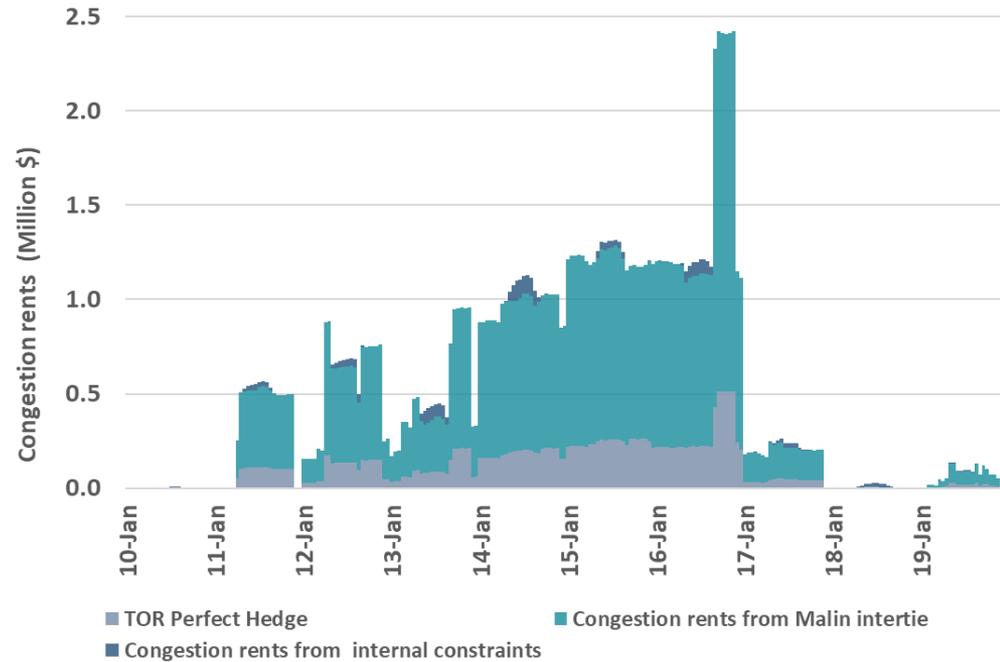
CAISO is the only day-ahead market in the West that is used to manage congestion in the ISO system

- Absent a wider market, CAISO reflects limitations in the market within its own BAA to avoid exceeding transmission limitations
- Congestion to Malin resulted from scheduling exports up to the intertie limit
- Rights to day-ahead congestion rents are allocated or can be purchased in auctions
- Over 900 MW of congestion revenue rights were purchased in the auctions for January



Congestion revenue rights are allocated to load serving entities (internal or external to the CAISO BAA) or can be directly purchased in auctions by any entity

- During the long weekend, exports to the Northwest fully utilized available capacity to the Malin interface
- High demand for exports increased prices at Malin, reaching \$1,800/MWh
- Congestion rents accrued on Malin were about \$101 million
- Congestion rents are distributed to congestion revenue right holders, any surplus revenue above congestion entitlements is allocated to demand, which includes internal metered demand and exports



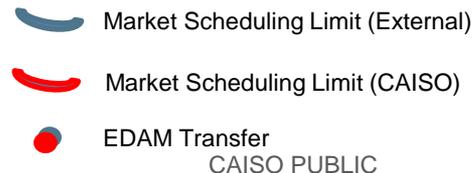
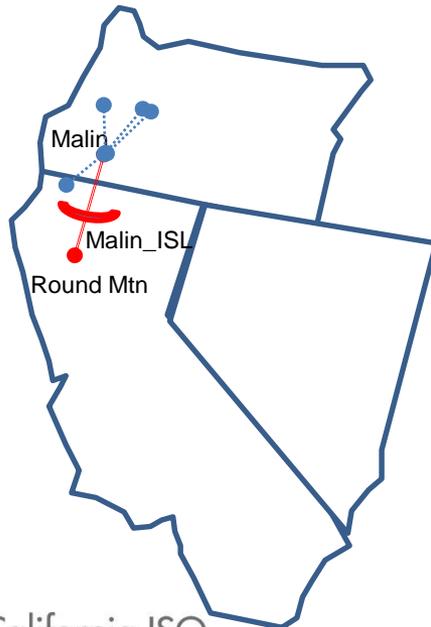
Holders of long-term transmission ownership rights were naturally hedged from \$25 million of Malin congestion. These are not congestion rents

Extended day-ahead market allows for sharing of congestion rents through integrated congestion management

Current:

CAISO's MALIN_ISL scheduling constraint limit must coordinate to avoid over-scheduling market schedules.

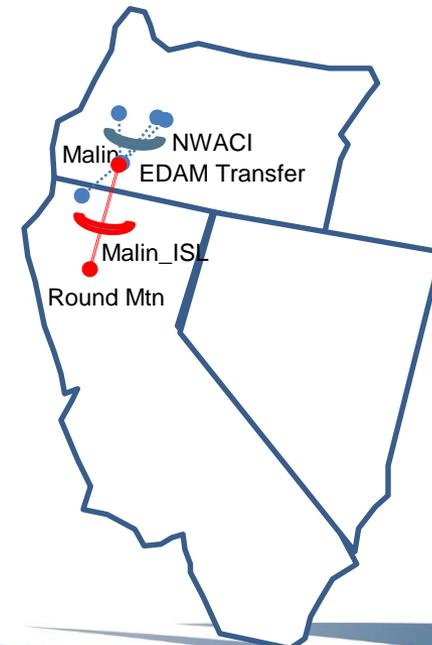
- If MALIN_ISL binds congestion rent allocated via CAISO CRR holders



Potential under EDAM:

MALIN_ISL scheduling constraint and NWACI can be enforced separately.

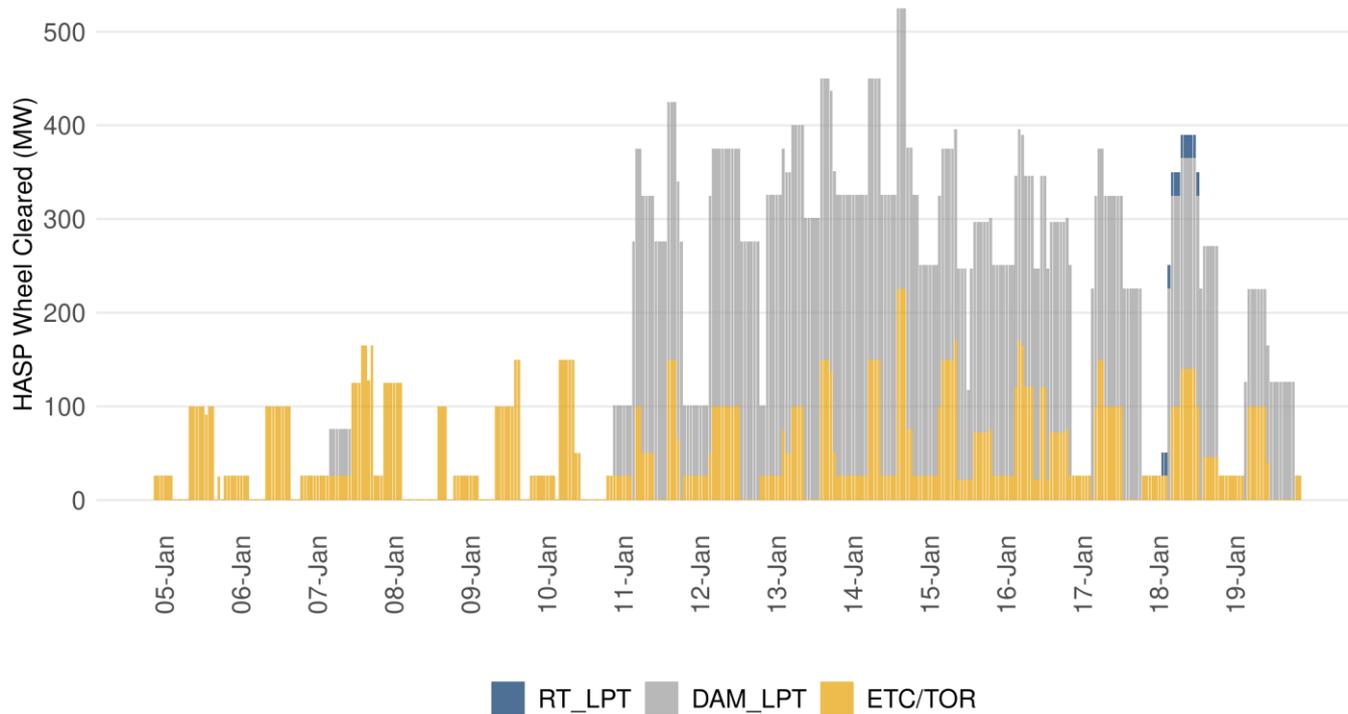
- If MALIN_ISL binds congestion rent allocated via CAISO CRR holders
- If NWACI binds congestion rent allocated by respective Balancing Areas/Transmission Owners
- EDAM Transfer constraint rent split 50/50



EDAM provides an effective FERC-approved allocation of congestion rents in a wider market

- Day-ahead congestion rents will be allocated to each BAA to distribute as they determine to be appropriate under their FERC-approved tariffs
- Congestion rents on constraints between EDAM BAAs (i.e. when reaching scheduling limits) will be shared between the BAAs (50/50)
 - Allocated by those BAAs, not allocated to transmission owners directly
- On its system, CAISO will allocate accrued congestion rents to rights holders, as they do today
 - These rights are available to load serving entities outside of CAISO
 - The release of these rights complies with intertie and transmission limits

CAISO's market facilitated up to 300 MW of wheel-through transactions

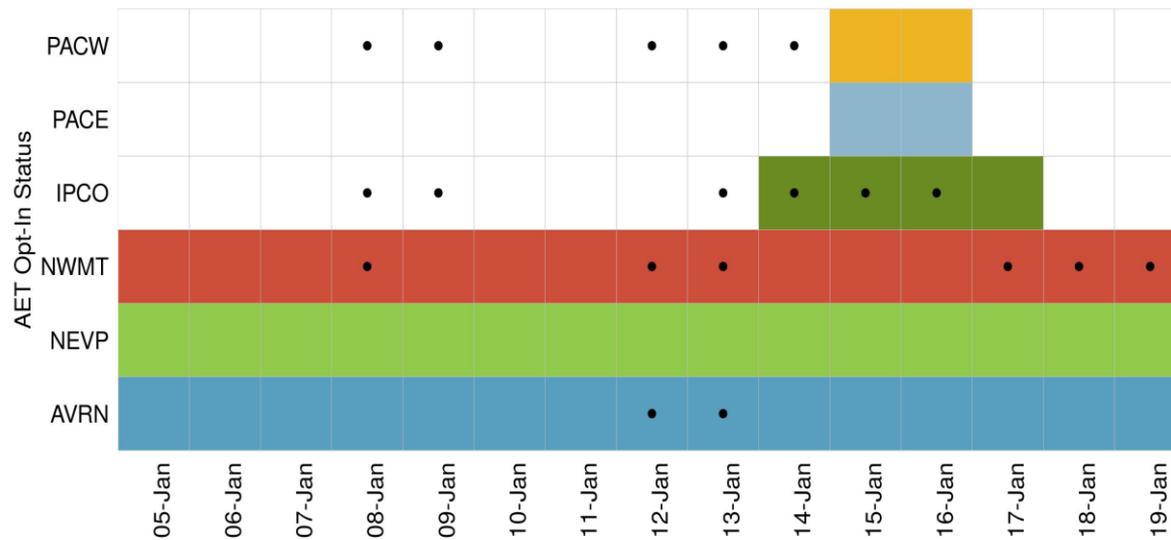


Wheel-through transactions were scheduled in the day-ahead market and carried over to real-time

These transactions were to wheel power from the south to the north of the system

The WEIM allowed Northwest balancing areas to access assistance energy transfers

- Six WEIM balancing areas opted into the assistance energy transfer (AET) program
- This allowed them to receive energy transfers when they could not meet resource sufficiency requirements
- Two Pacific Northwest areas received as much as 176 MW of AETs
- This energy would not have been available without the AET program



Transmission Service and Market Scheduling Priorities

New process for establishing wheeling through priority

- FERC approved a new process for establishing wheeling through priority across the ISO system effective for June 1, 2024 and beyond.
- *Transmission Service and Market Scheduling Priorities (TSMSP)* design approved by FERC on October 30, 2023.
- Introduces calculation of Available Transfer Capability (ATC) on the interties that can be reserved to establish wheeling through priority.
- Commenced manual implementation in January 2024 calculating monthly ATC values and managing submission of requests for ATC during monthly request windows.

Reserving ATC to establish wheeling through priority

Two rounds of monthly ATC requests have been processed establishing wheeling through priority:

- January ATC request window:
 - Received 7 request: 6 were fully awarded and 1 was partially awarded

	Jun	Jul	Aug	Sep
Source	MW	MW	MW	MW
MALIN500	72	77	97	0
NOB	153	328	328	200

- February ATC request window:
 - Received 2 request, both were awarded in full.

	Jun	Jul	Aug	Sep
Source	MW	MW	MW	MW
NOB	225	50	50	50

New Process for Wheel Through Priority

Some useful reports

- ATC available for priority wheeling reservations:
<https://www.caiso.com/Documents/AvailableTransferCapacityForWheelingThroughPriorityReservations.xlsx>
- Priority wheel through awards:
<https://www.caiso.com/Documents/PriorityWheelingThroughTransactionsData.xlsx>
- Monthly request windows:
<https://www.caiso.com/Documents/2024MonthlyWheelingThroughPriorityRequestDueDates.pdf>

Energy Storage Performance after Fall Enhancements

Energy storage enhancements Track 2 was activated on November 1, 2023

- The original state of charge equation

$$SOC_{i,t} = SOC_{i,t-1} - \left(EN_{i,t}^{(+)} + \eta_i EN_{i,t}^{(-)} \right) \frac{\Delta T}{T_{60}}$$

$$\underline{SOC}_{i,t} \leq SOC_{i,t} \leq \overline{SOC}_{i,t}$$

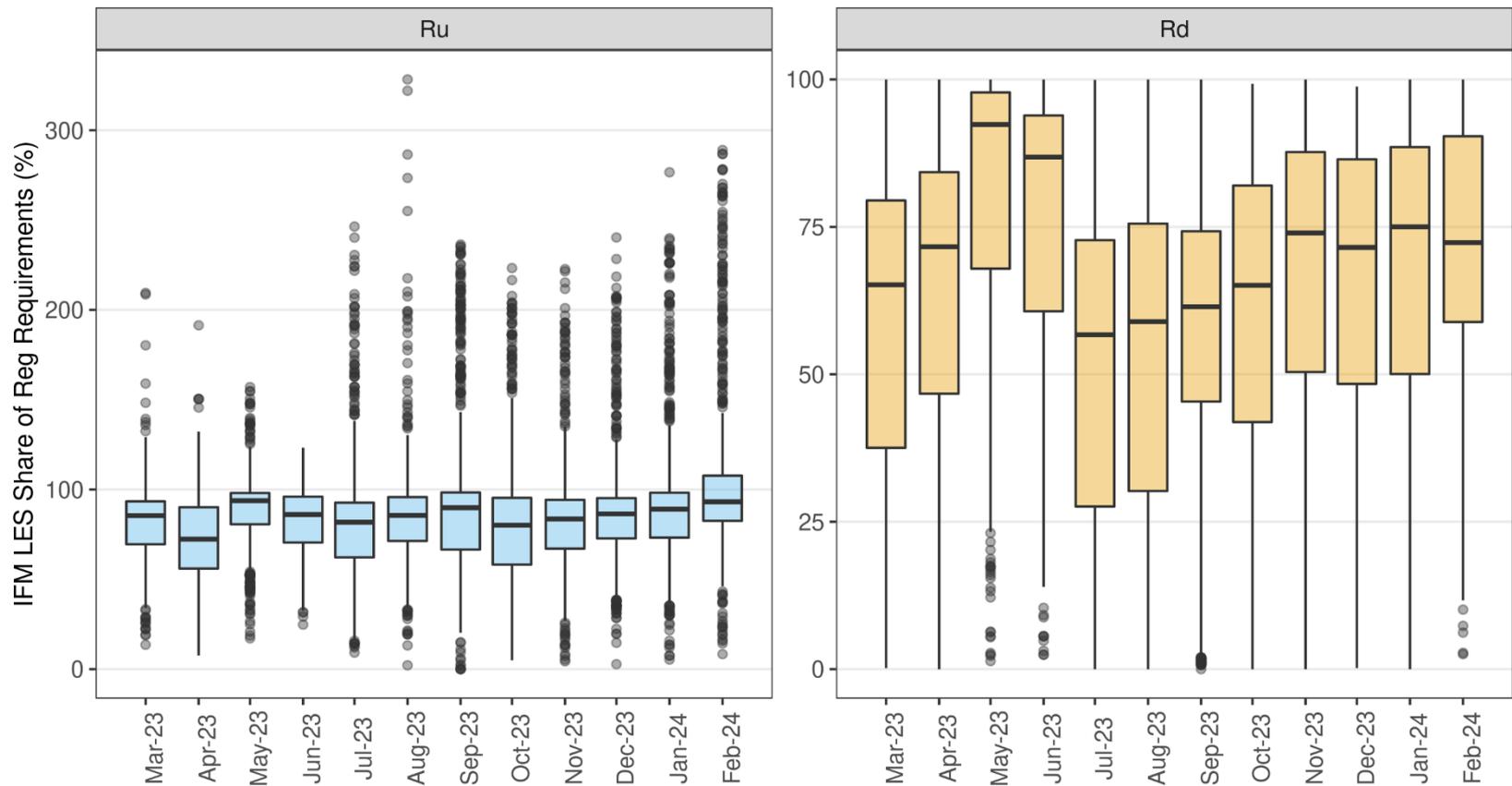
(SOC: original SOC with energy impact only)

- A new set of constraints is introduced

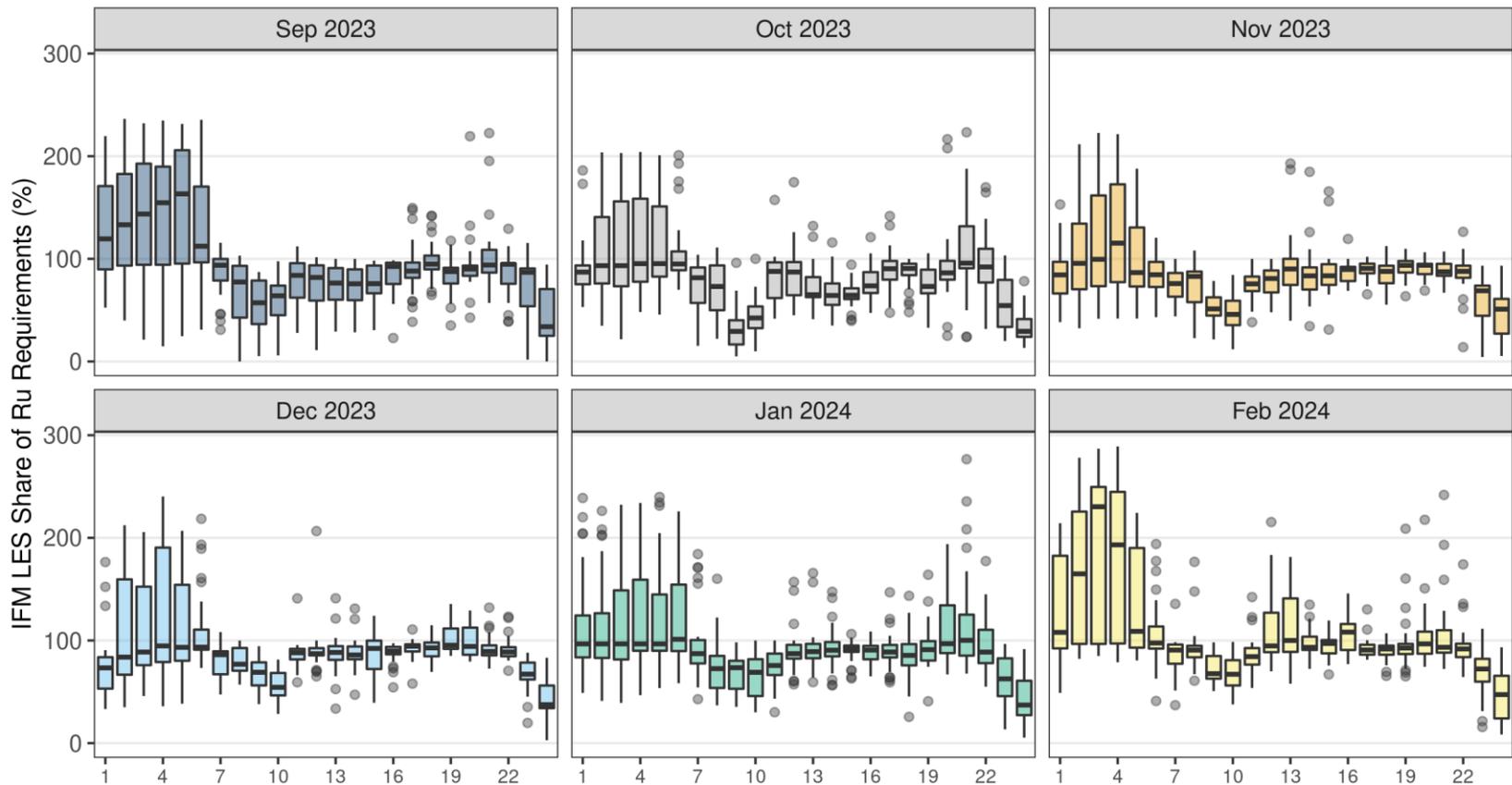
$$SOC_{i,t}^{AT} = SOC_{i,t-1}^{AT} - \left(EN_{i,t}^{(+)} + \eta_i EN_{i,t}^{(-)} + \mathbf{ATRU}_t RU_{i,t} - \mathbf{ATRD}_t \eta_i RD_{i,t} \right) \frac{\Delta T}{T_{60}}$$

(SOC^{AT} : SOC with attenuation factors)

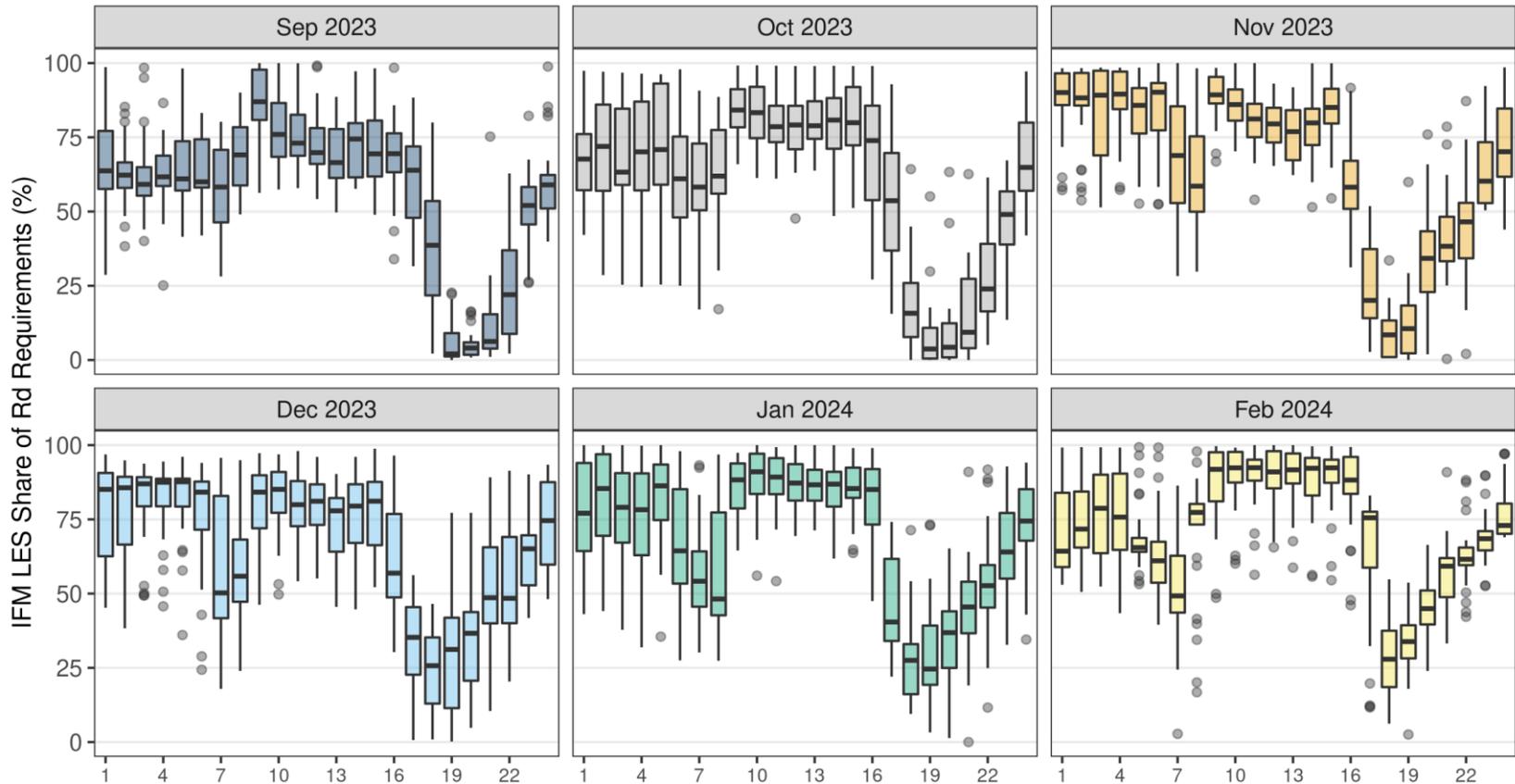
There is no material change in the share of regulation requirement supported by storage resources



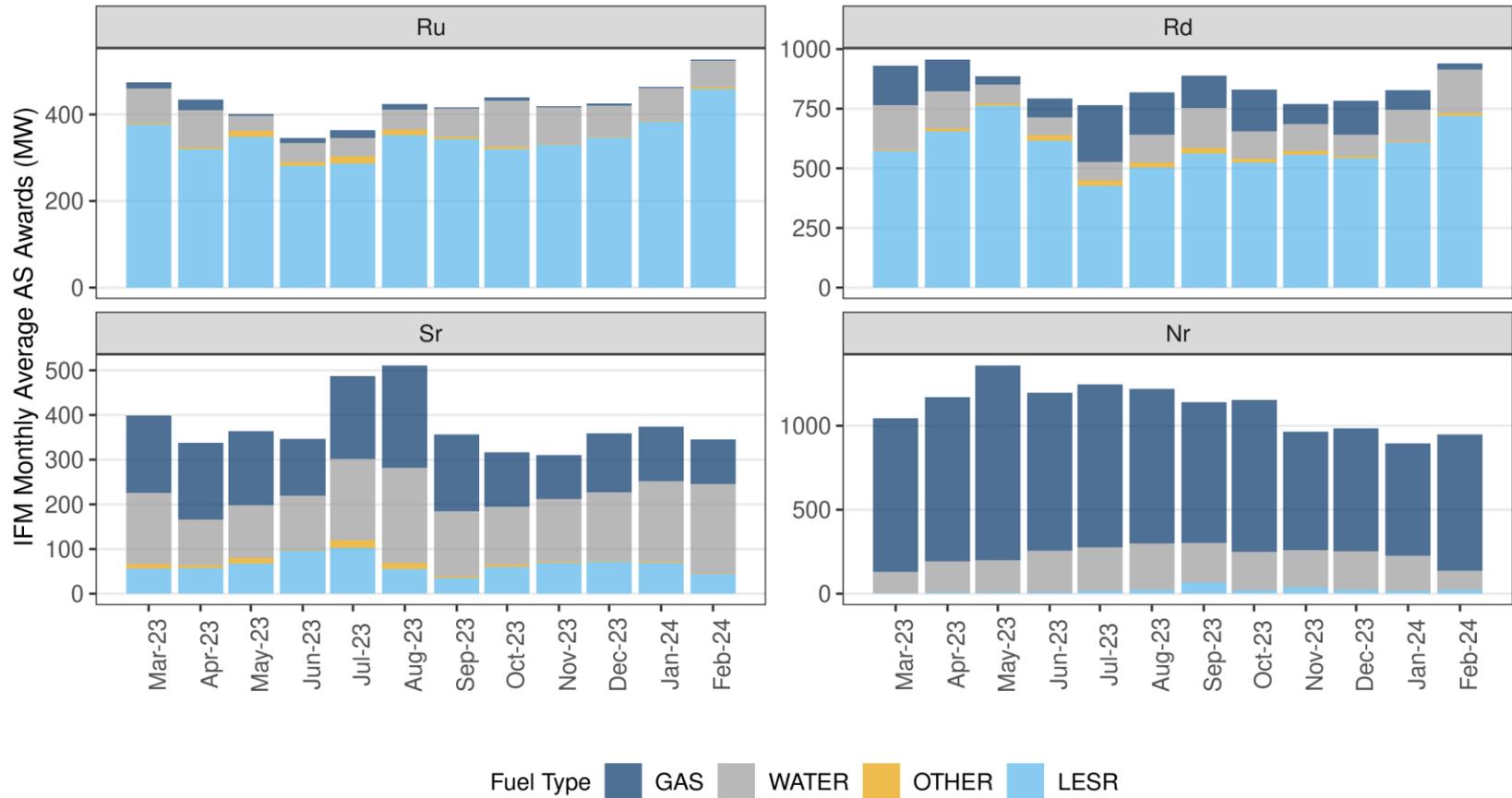
No material change in the hourly profile of the LESR percentage share of the Ru requirement after implementation of enhancements



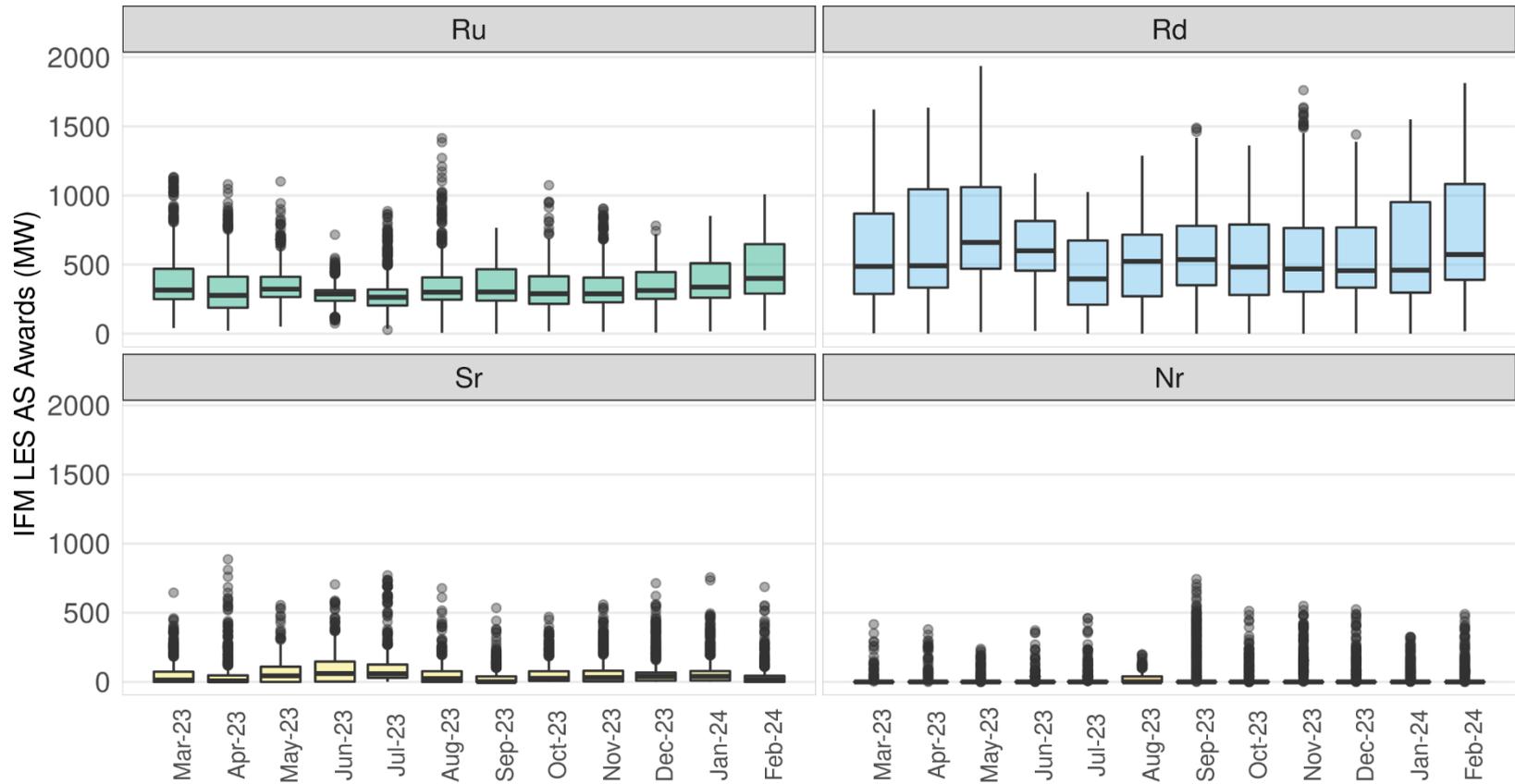
No material change in the hourly profile of the LESR percentage share of the Rd requirement



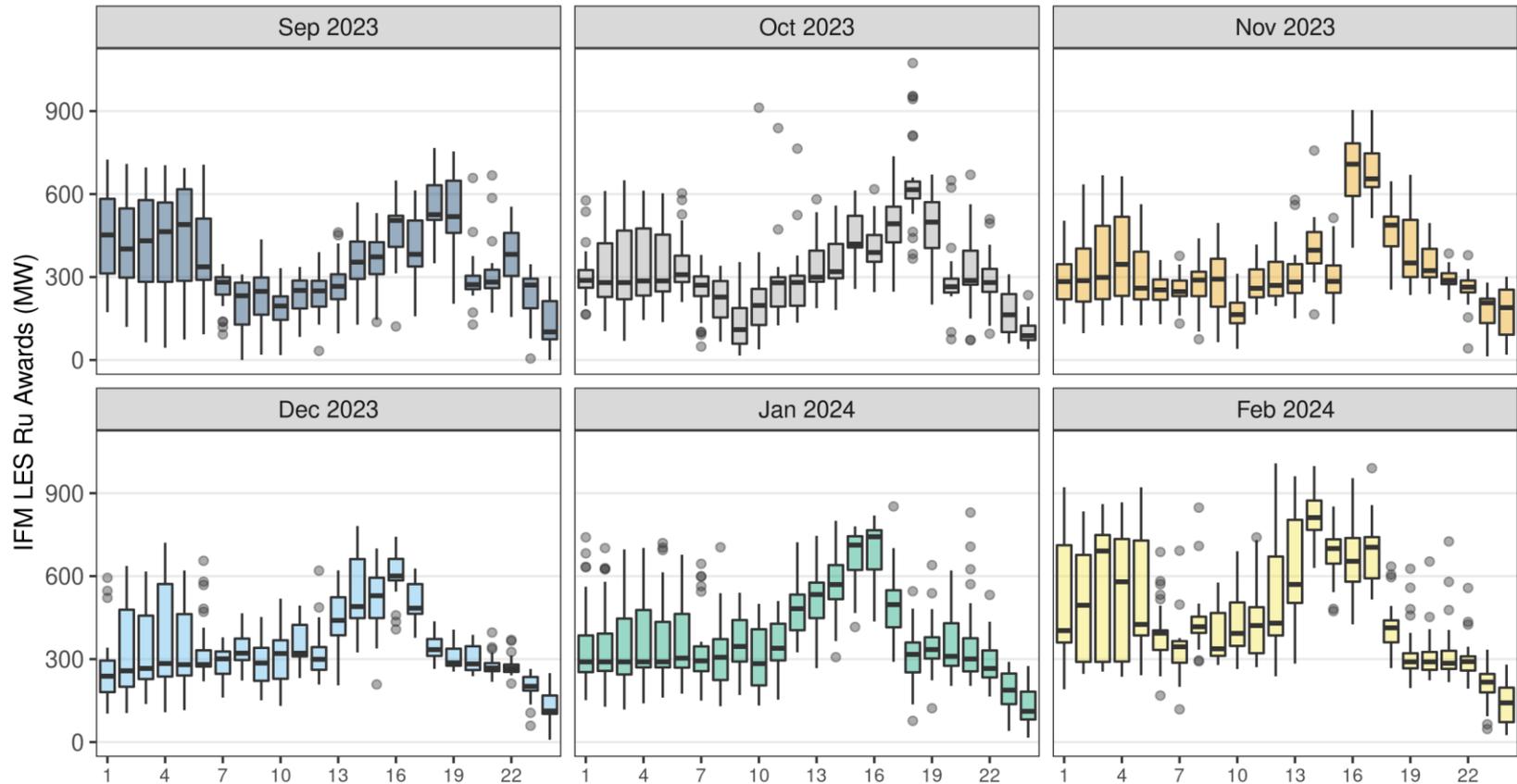
Monthly average IFM AS awards shows no significant change in pattern



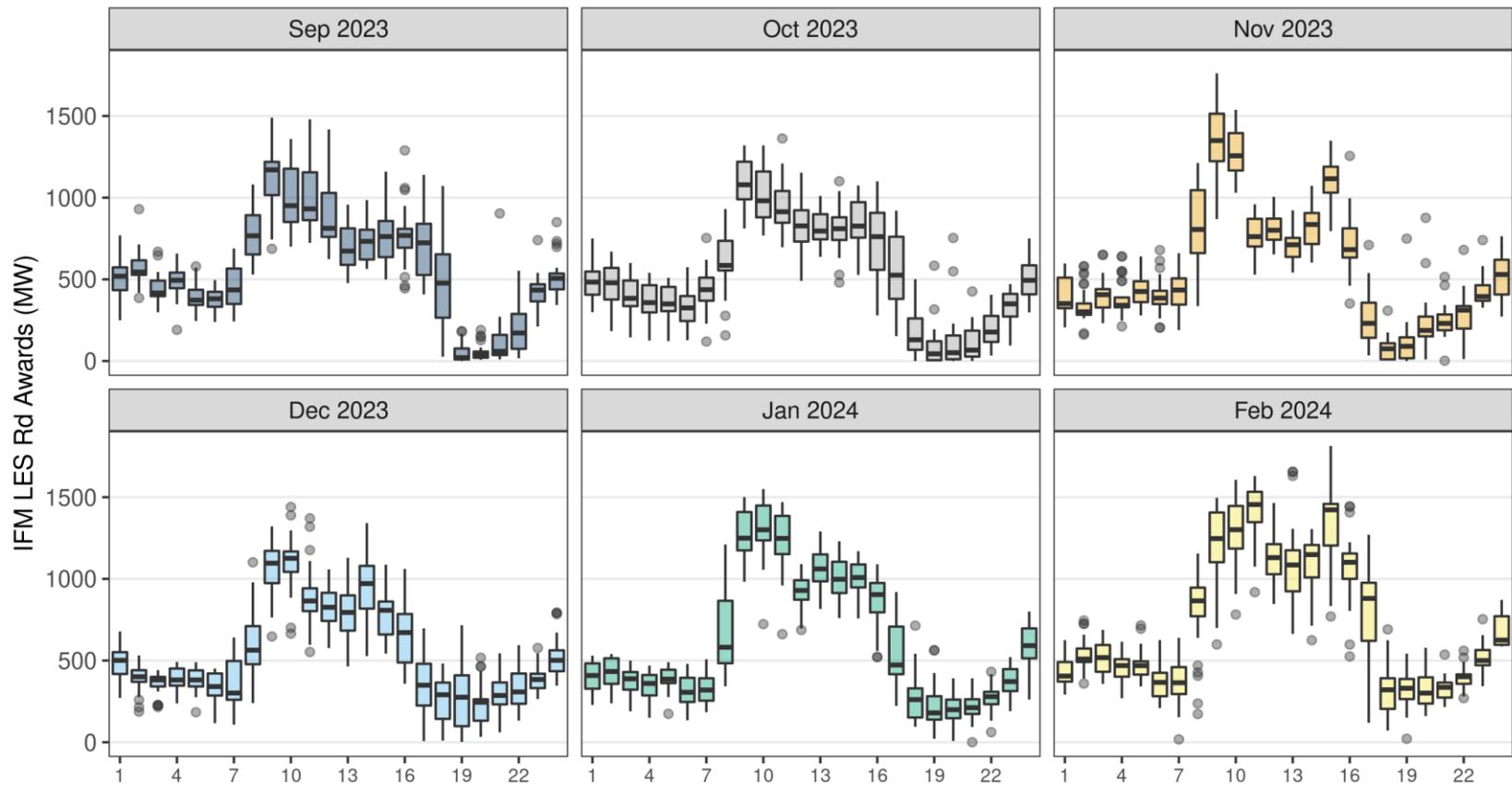
Monthly IFM AS market awards show no significant change in pattern



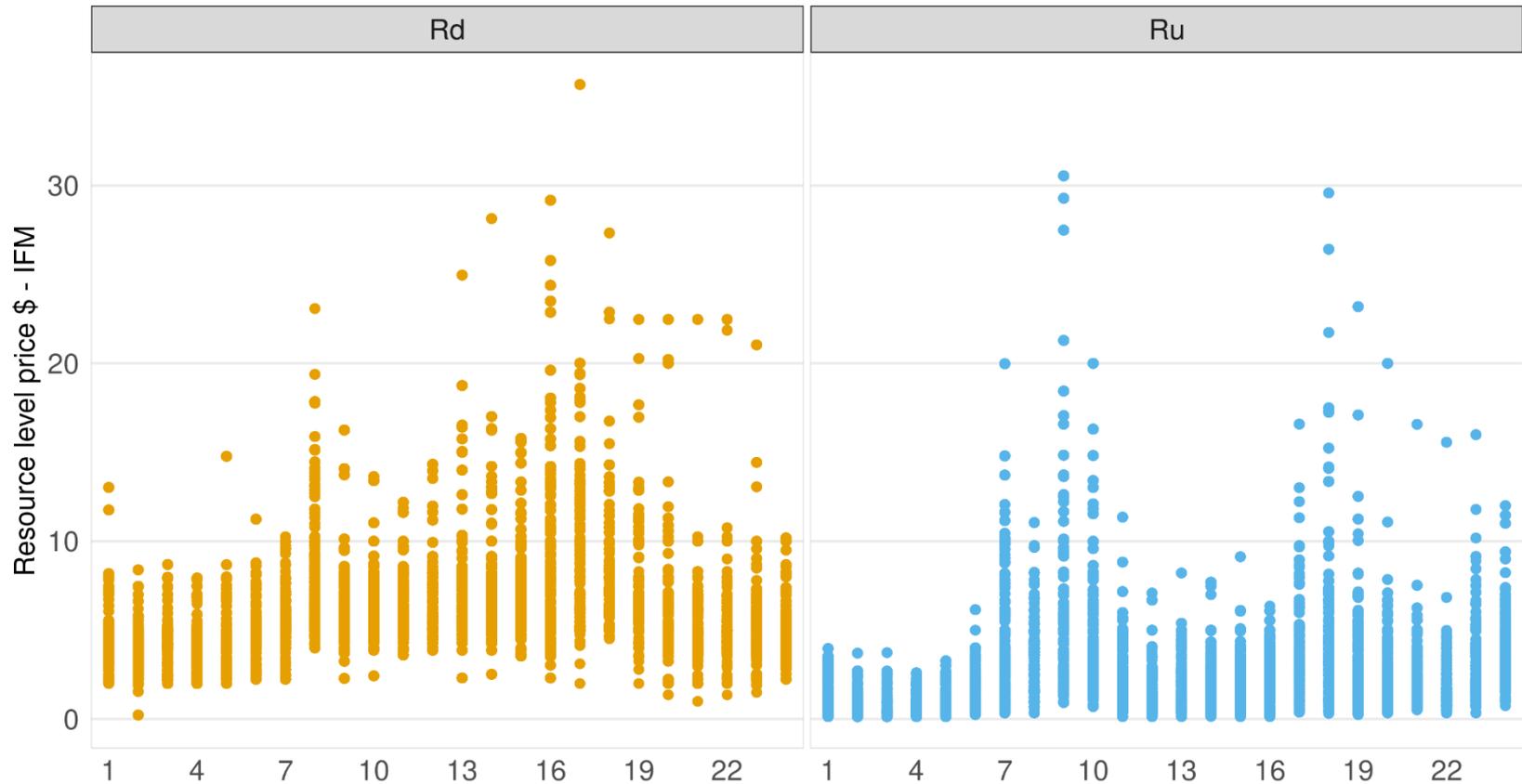
Regulation up awards in the day-ahead market have not seen a material change in trend



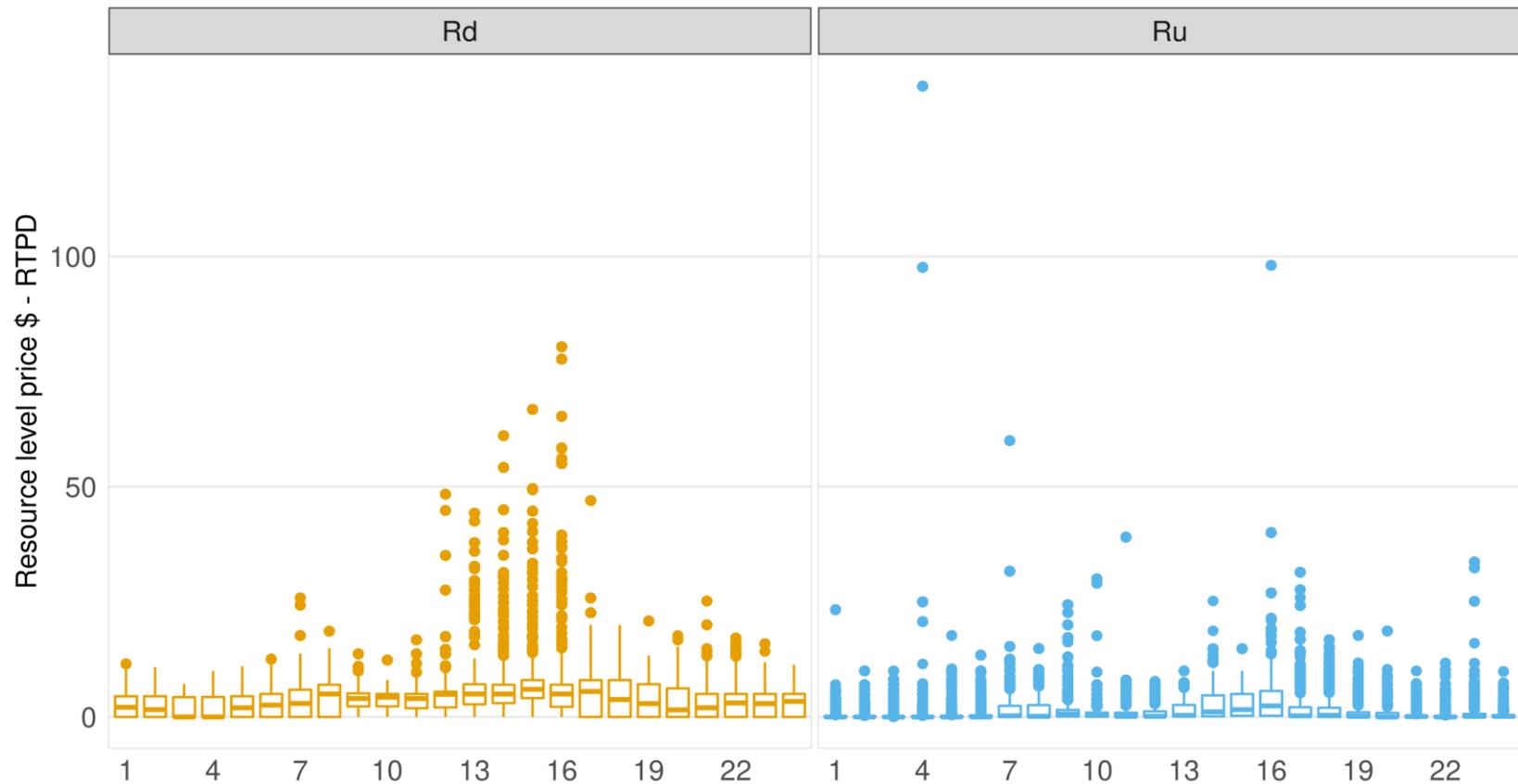
Regulation down awards in the day-ahead market have not seen a material change in trend



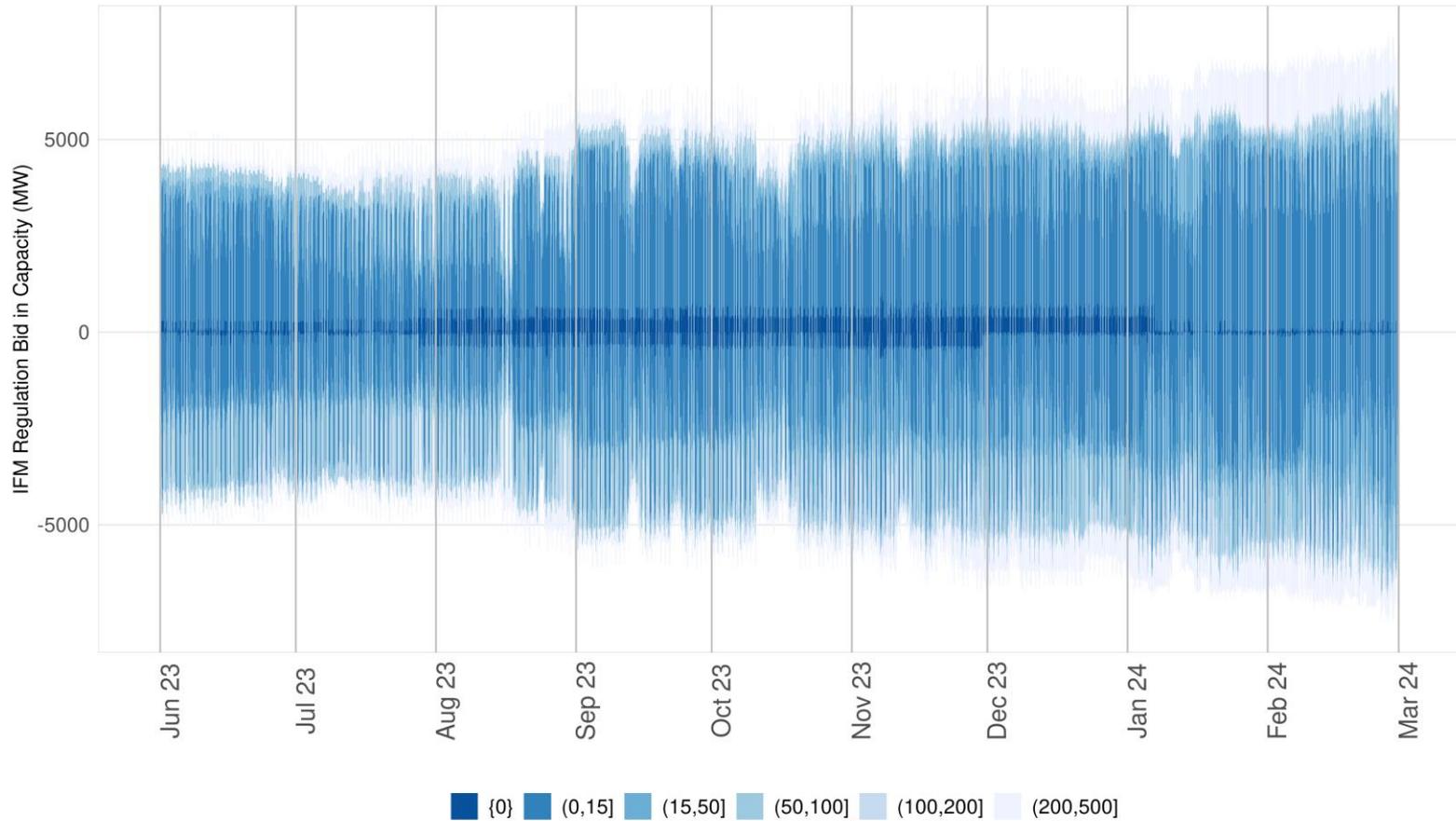
IFM Resource level regulation prices have not seen negative prices since the implementation of the enhancements



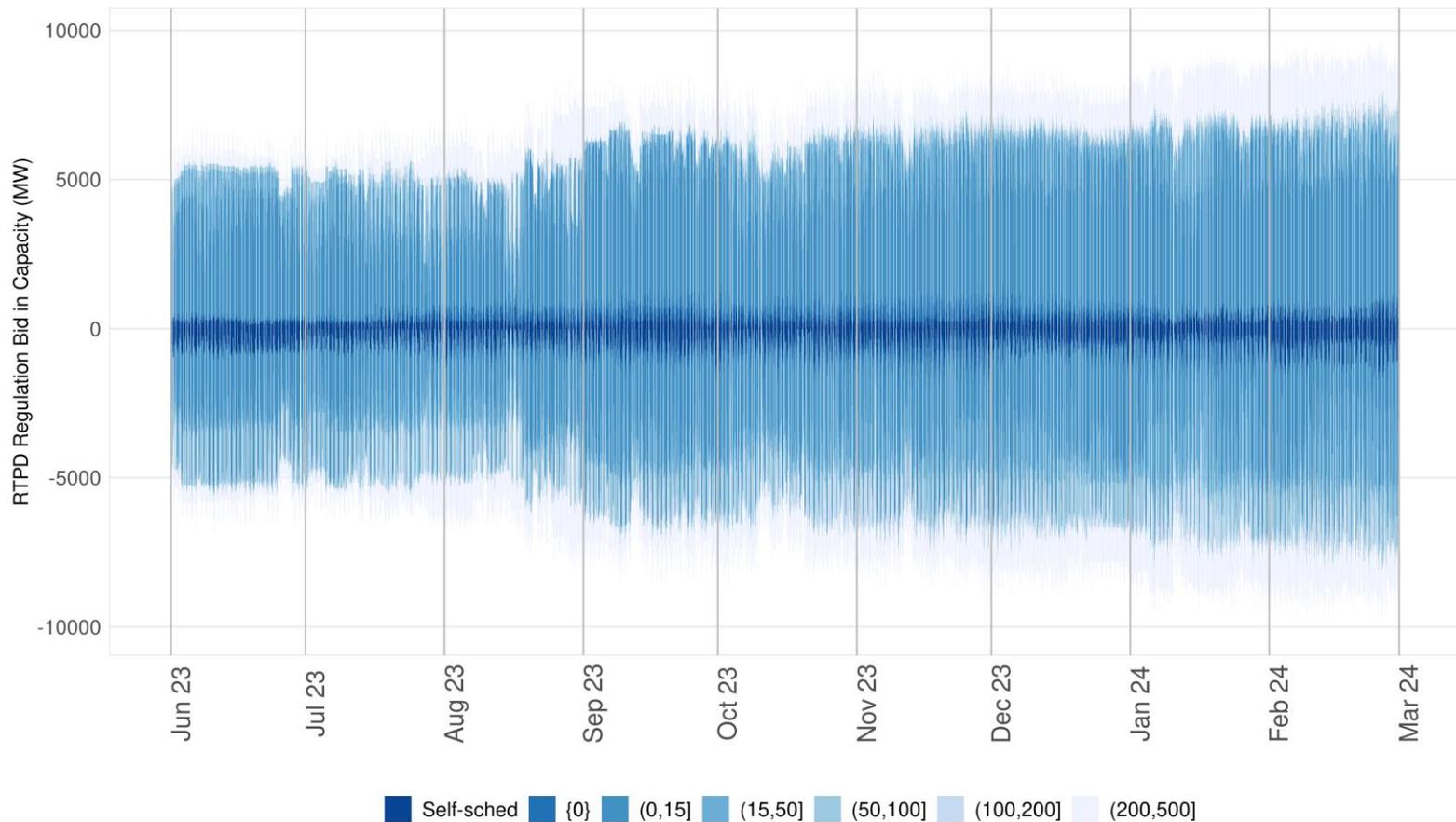
Real-time resource level regulation prices have not seen negative prices since the implementation of the enhancements



IFM regulation bid in capacity show no significant change after the implementation of enhancements



Real-time regulation bid-in capacity shows no significant change after the implementation of enhancements

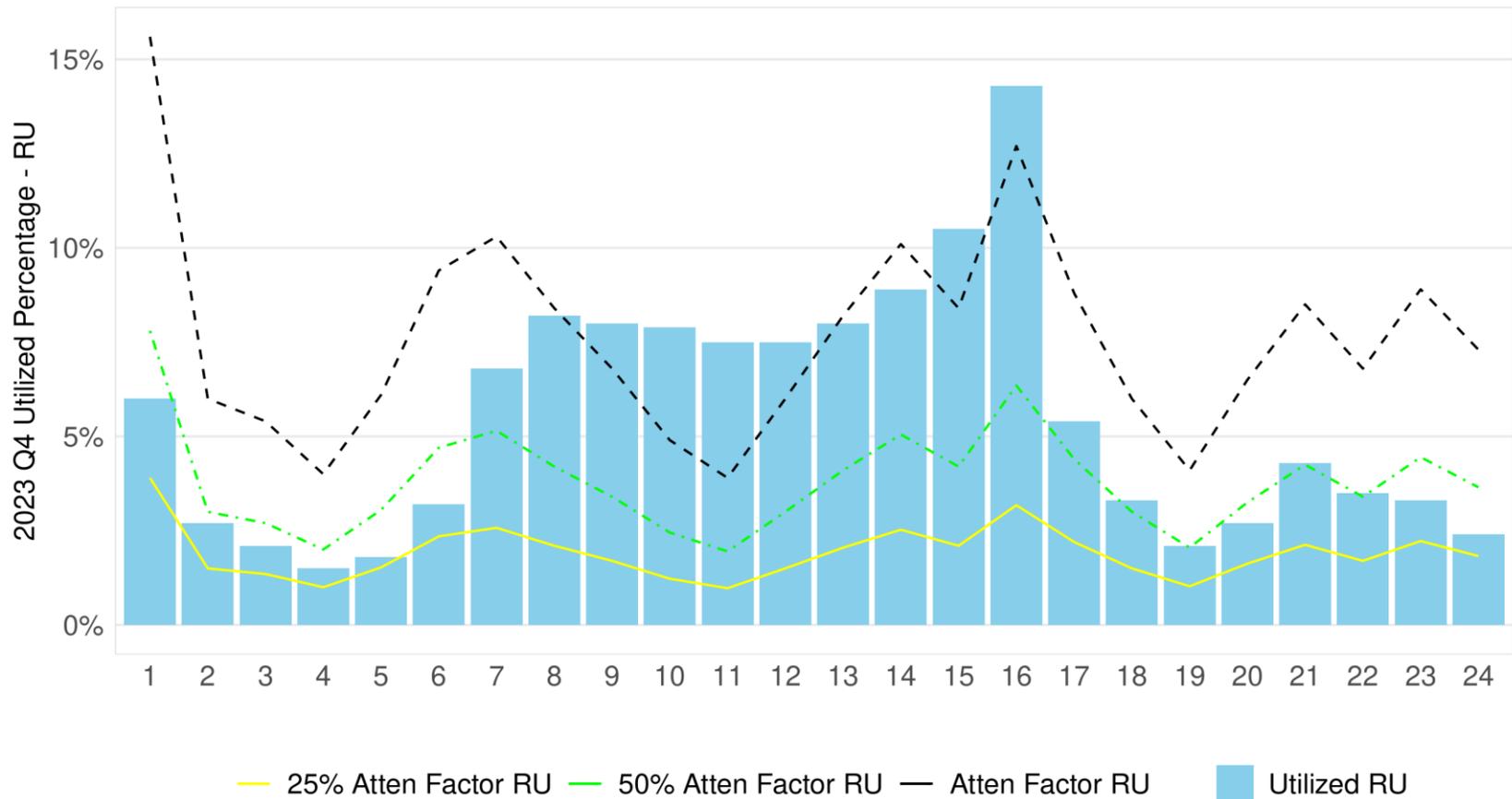


As part of the storage enhancements, CAISO estimates attenuation factors for each calendar season

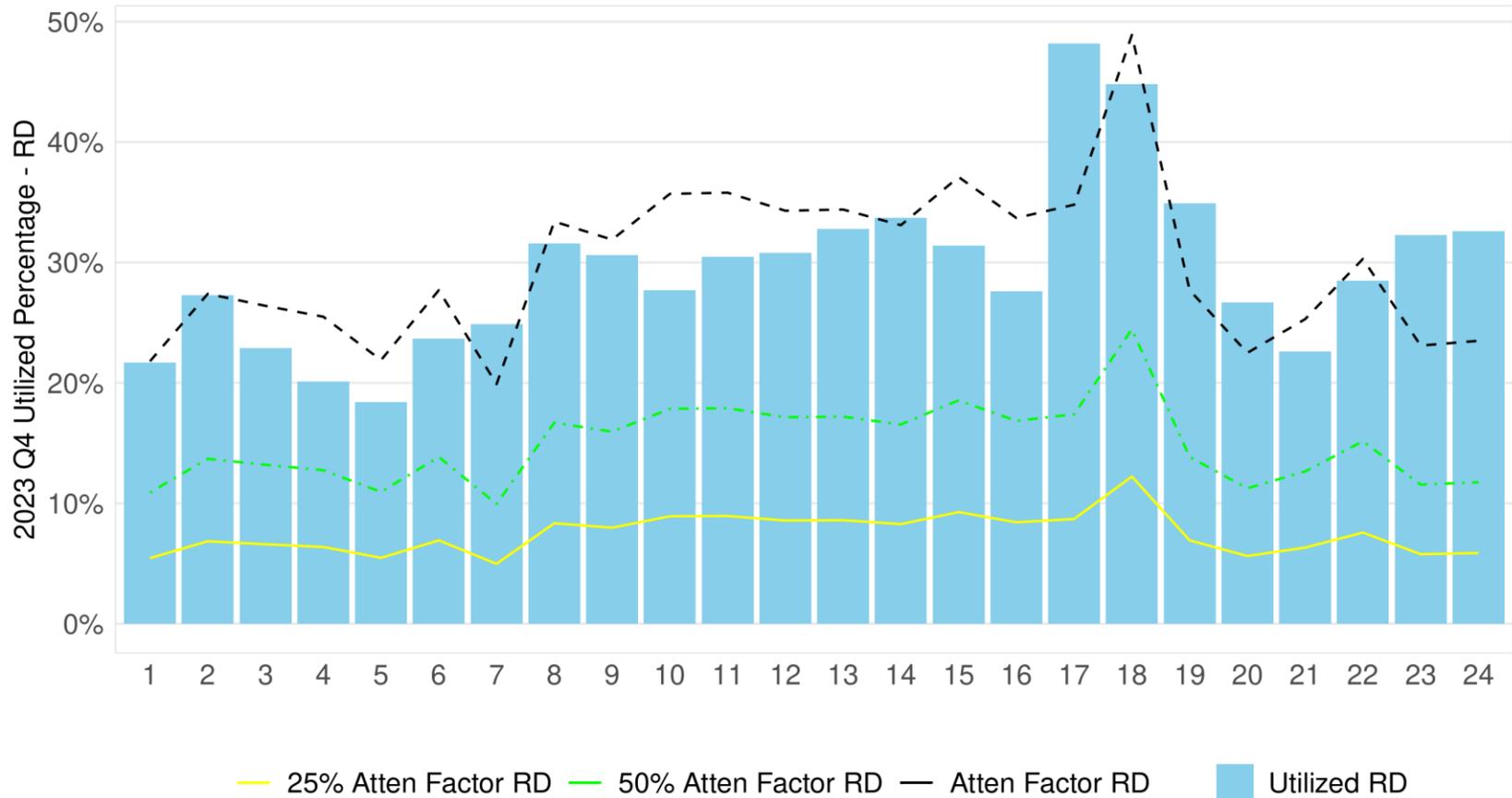
- Estimating the actual utilization of regulation
- Data: the corresponding quarter from the prior year
- Metric:
 - a) Data source: resource level AGC setpoint vs. DOP
 - b) Reference: RTPD regulation awards
 - c) System aggregated percentages

$$\text{Percentage utilization } Ru(Rd) = \frac{\text{Total utilized } Ru(Rd)}{\text{Total } Ru(Rd)\text{awards}}$$

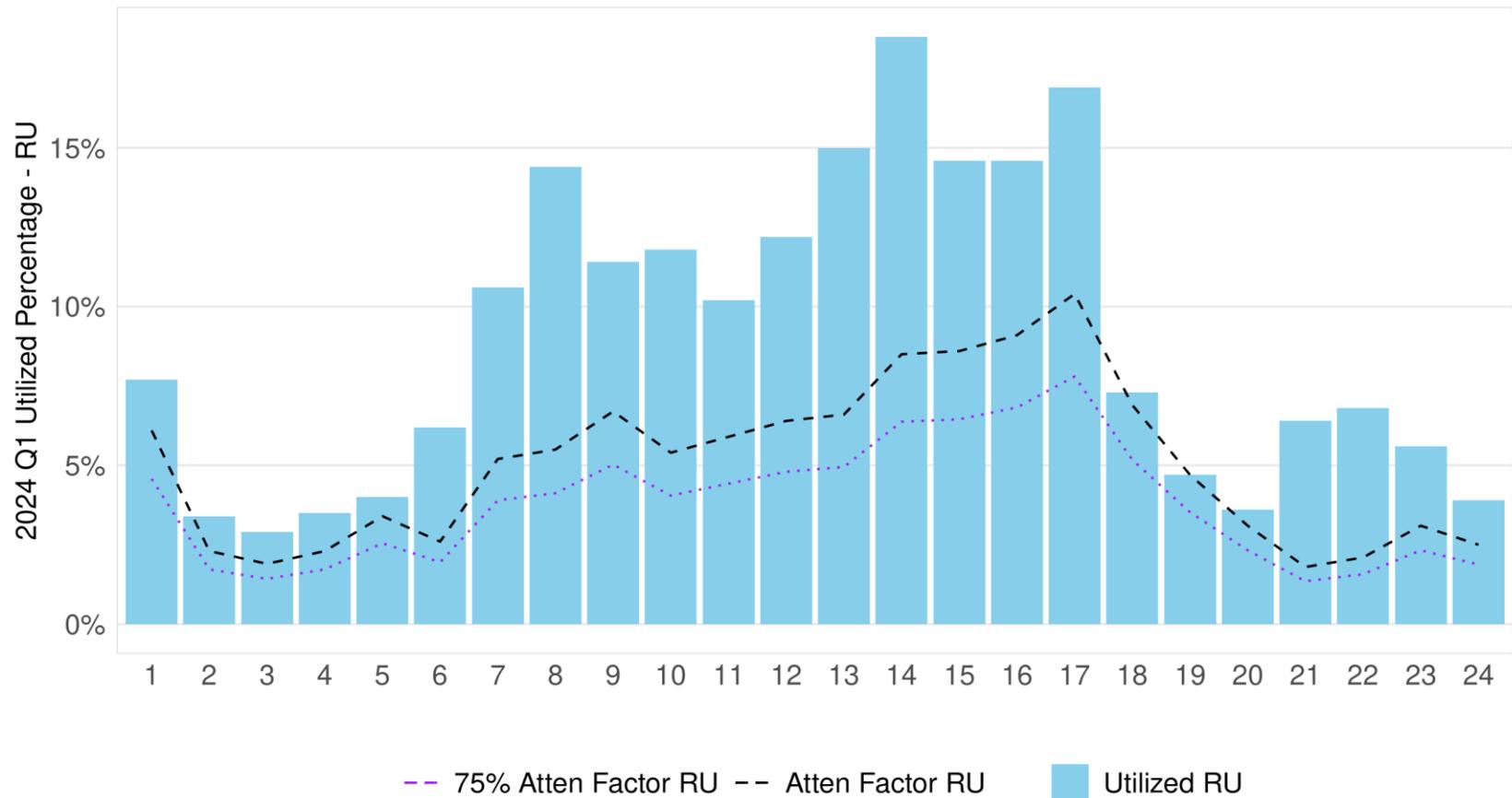
With the implementation of the enhancements, CAISO introduced the use of attenuation factors gradually in steps of 25%.
 2023 Q4 (Nov, Dec) Regulation Up utilization



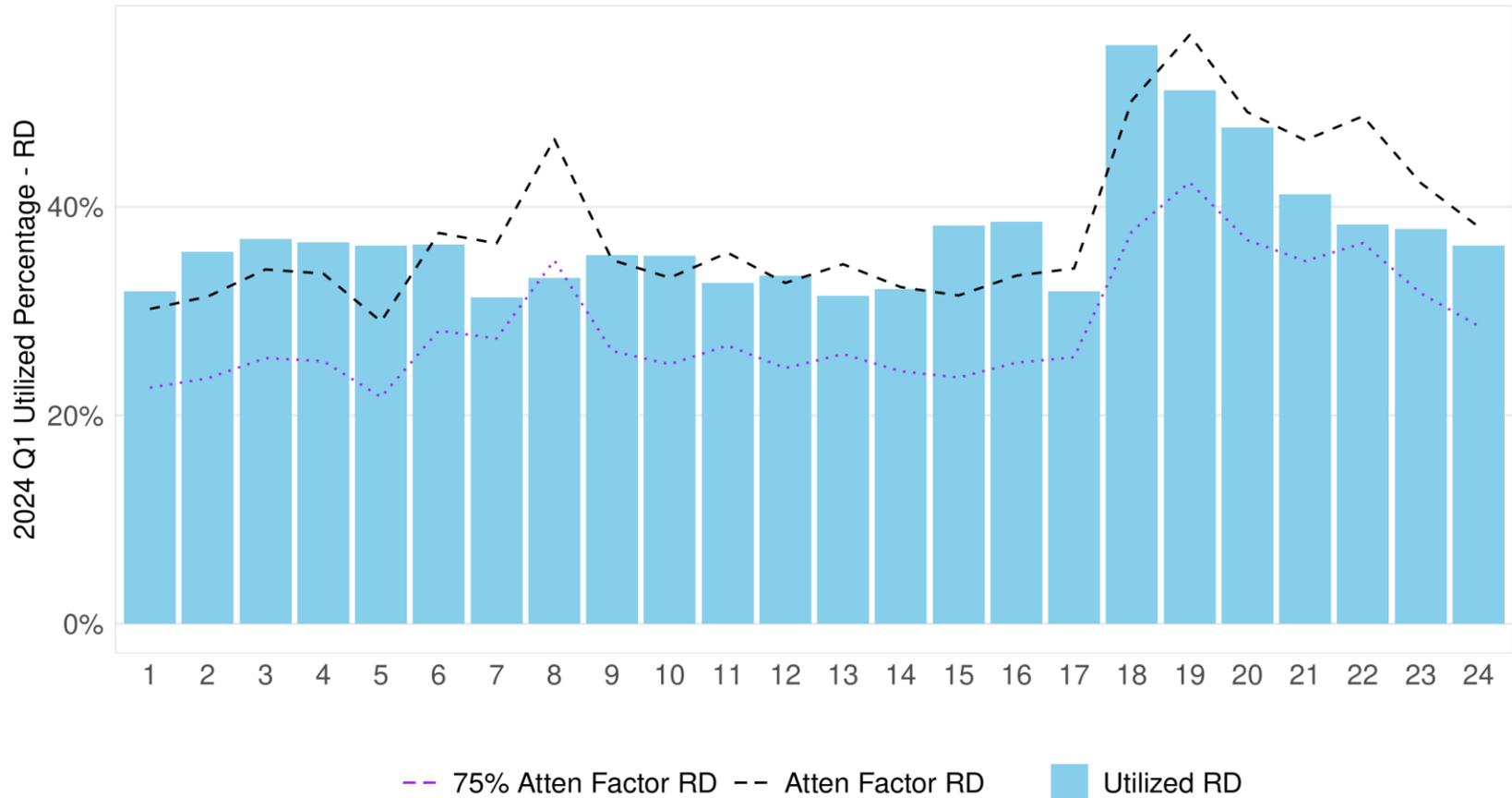
With the implementation of the enhancements, CAISO introduced the use of attenuation factors gradually in steps of 25%.
 2023 Q4 (Nov, Dec) Regulation Down utilization



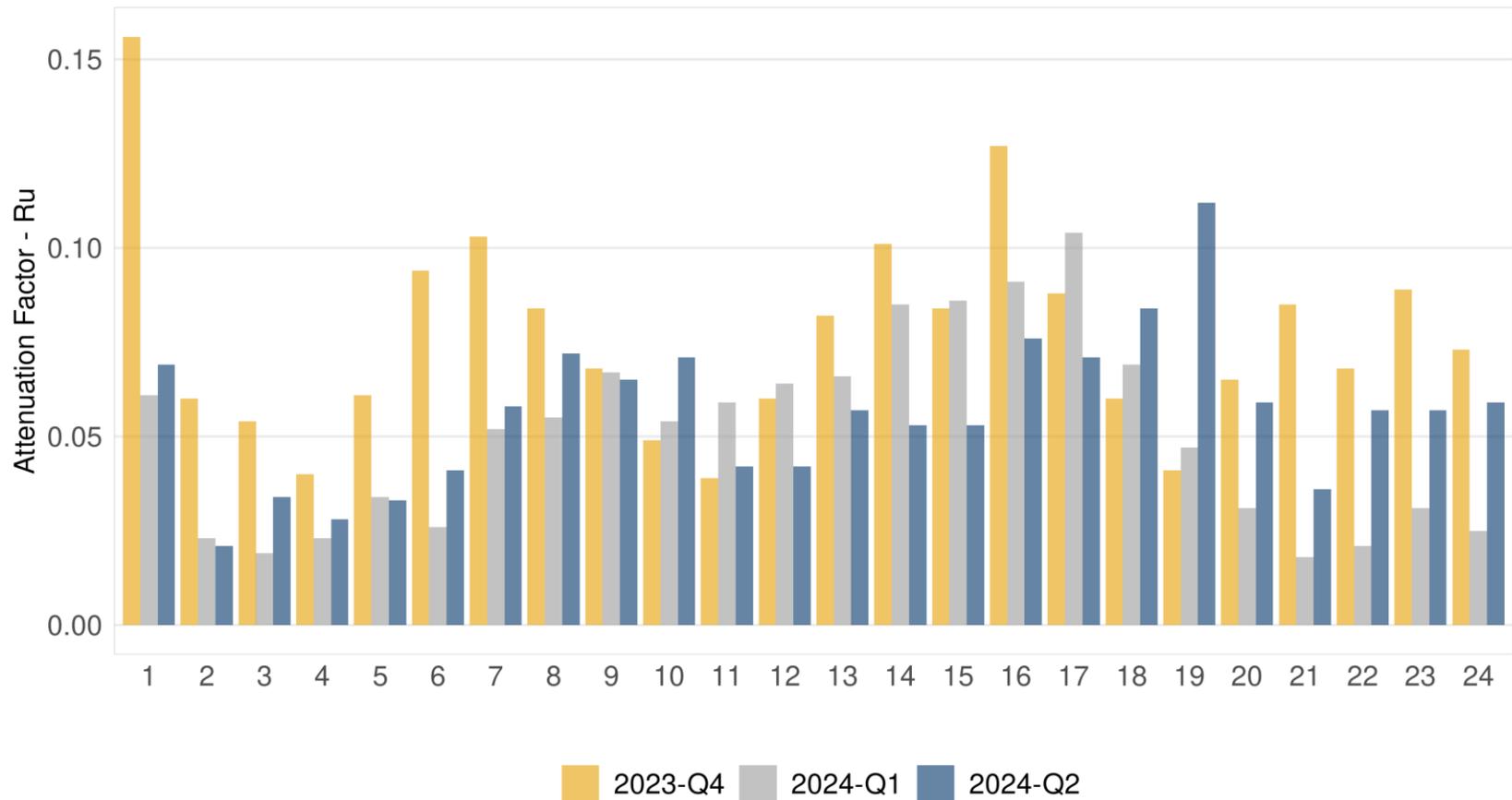
2024 Q1 (Jan, Feb) Regulation Up Utilization



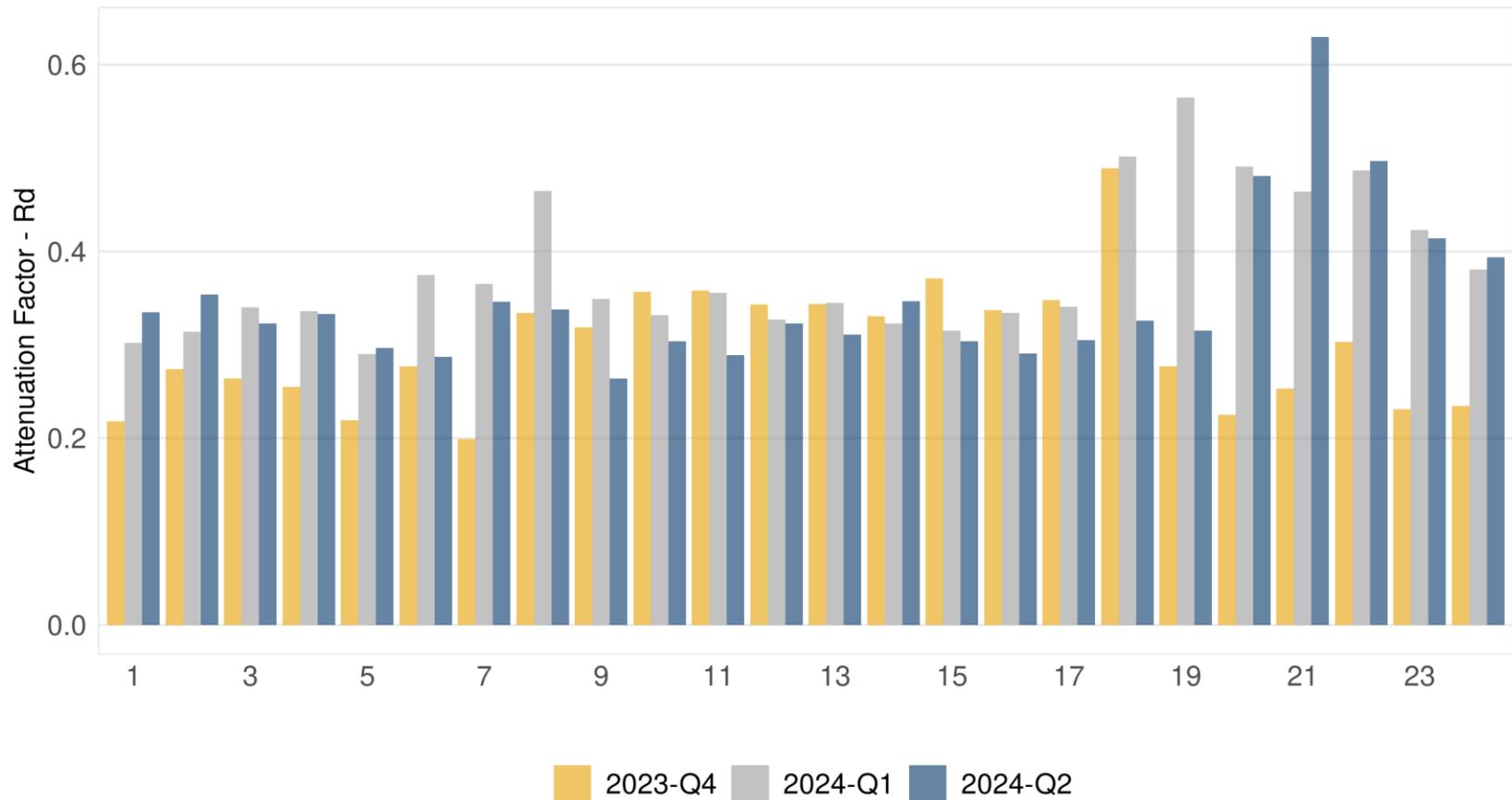
2024 Q1 (Jan, Feb) Regulation Down Utilization



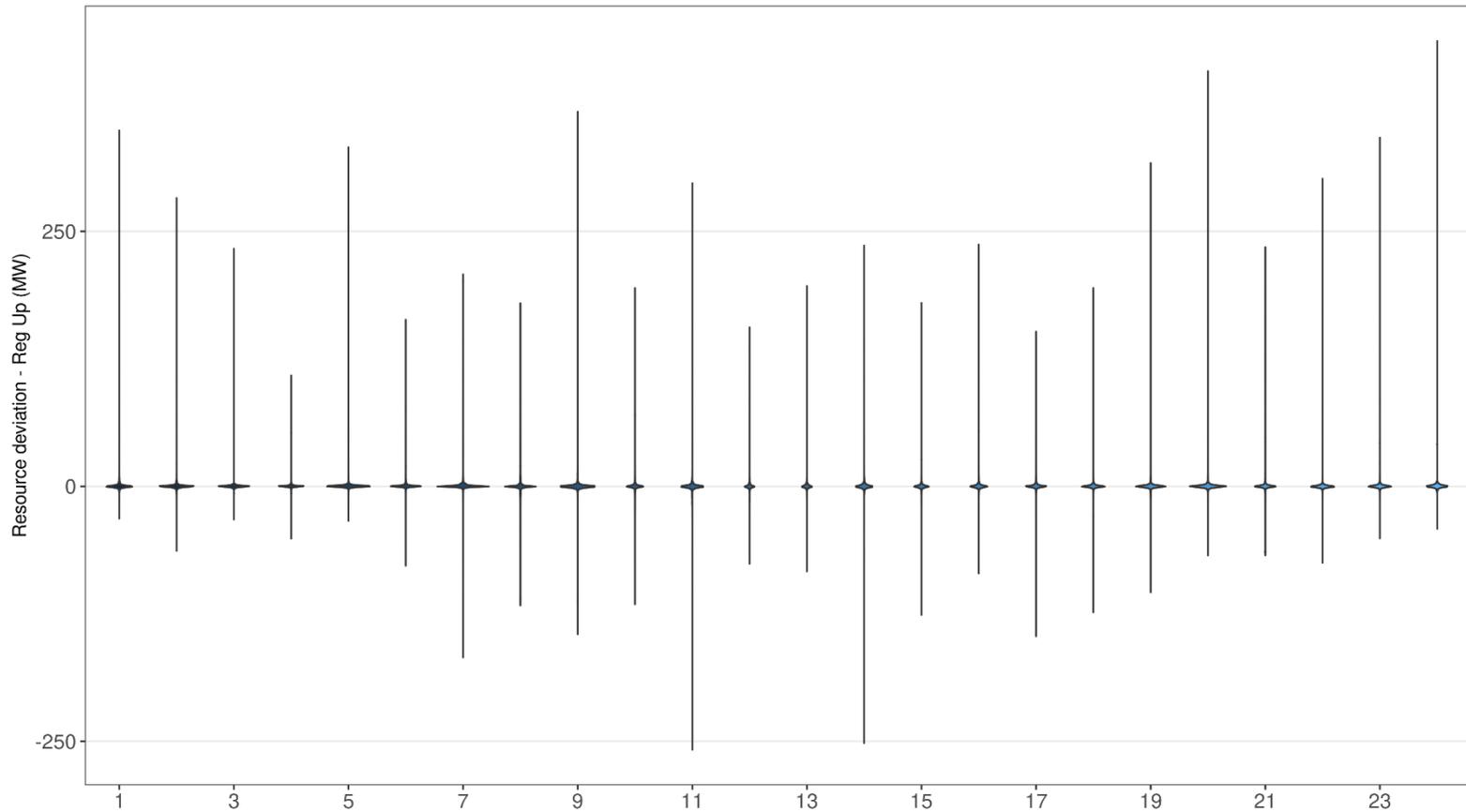
Attenuation factors comparison – Regulation up 2023-Q4, 2024-Q1, 2024-Q2



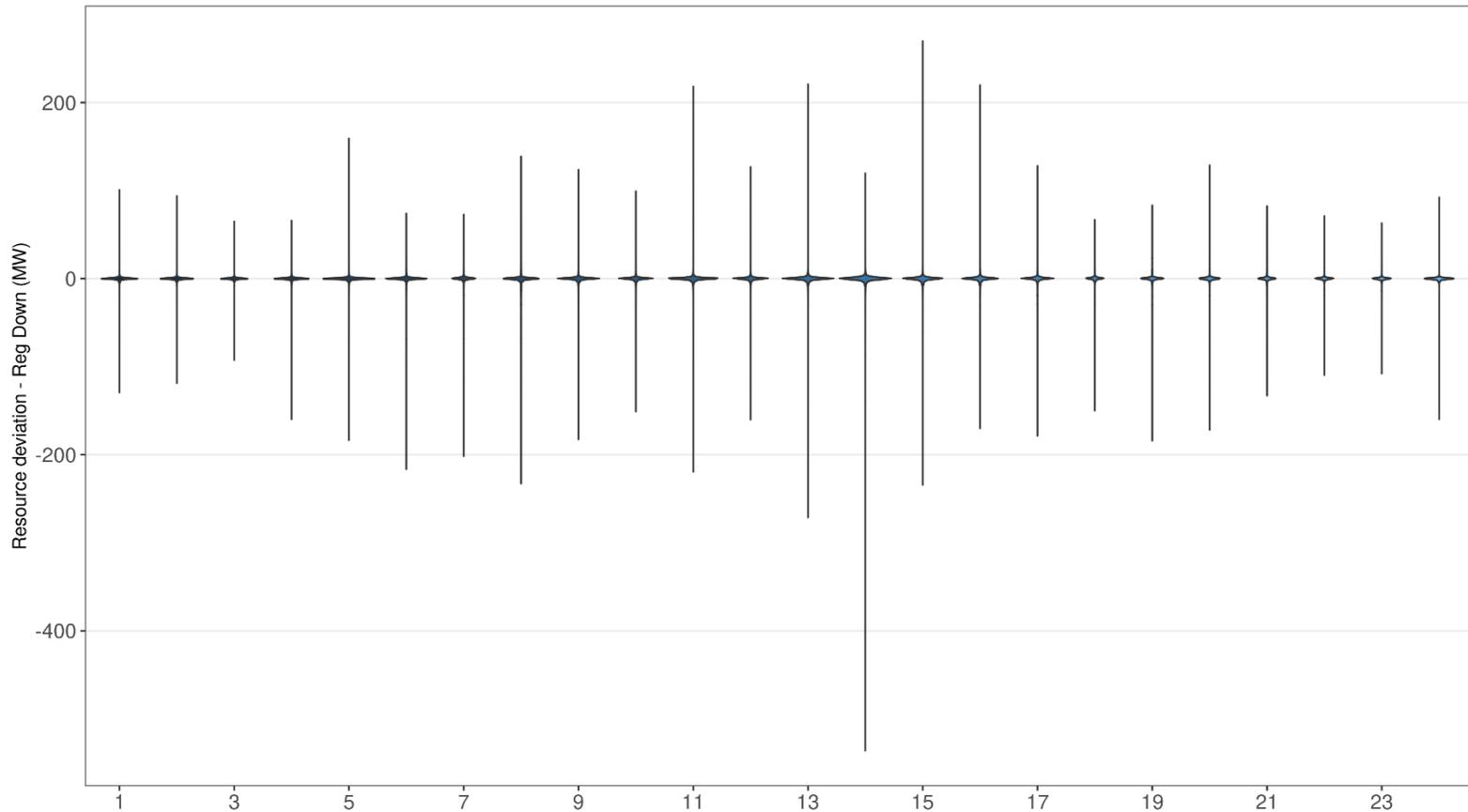
Attenuation factors comparison – Regulation down 2023-Q4, 2024-Q1, 2024-Q2



Resource deviation when Ru was dispatched November 2023 – February 2024

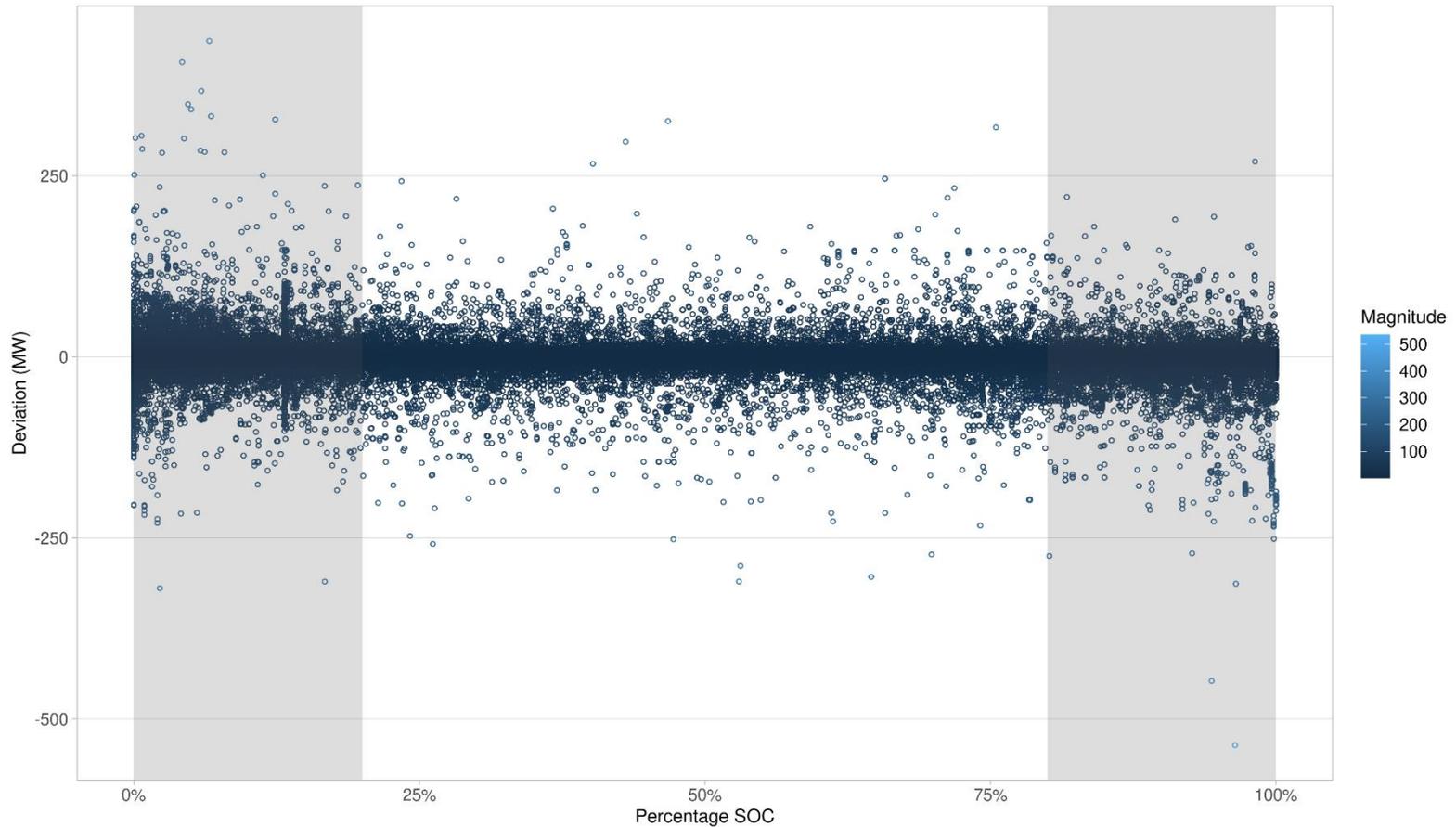


Resource deviation when Rd was dispatched November 2023 – February 2024

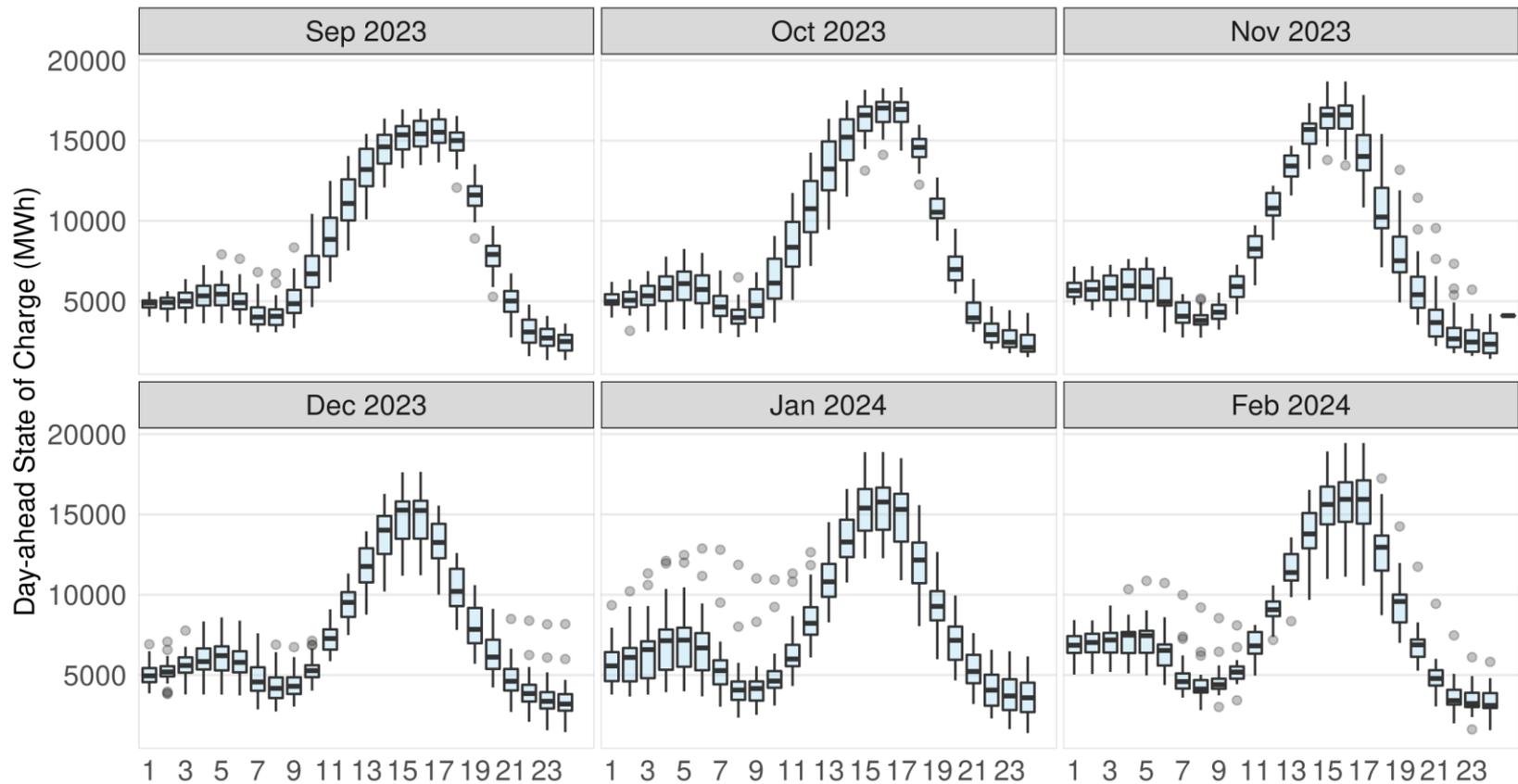


Resource deviation vs. SOC percentage

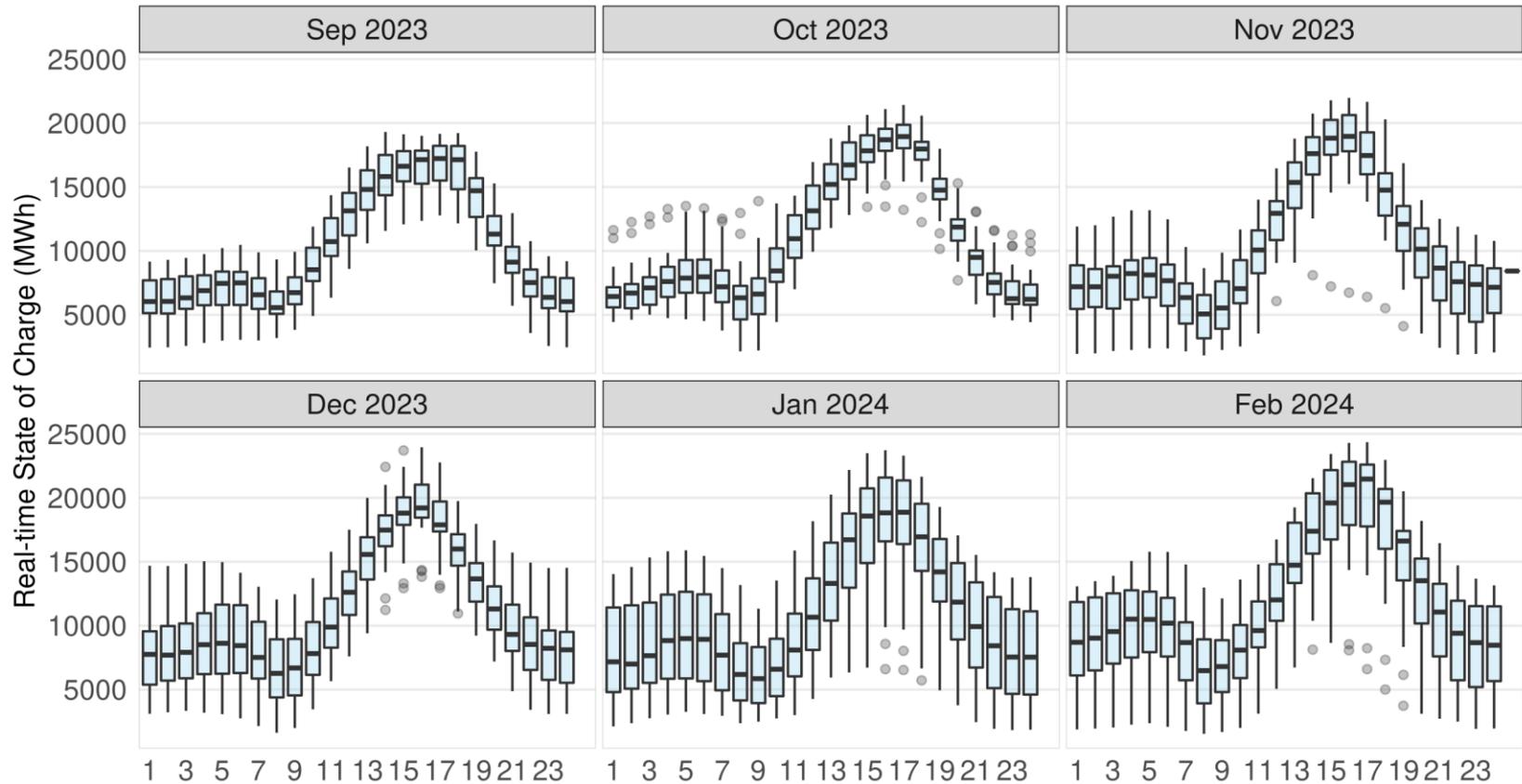
November 2023 – February 2024



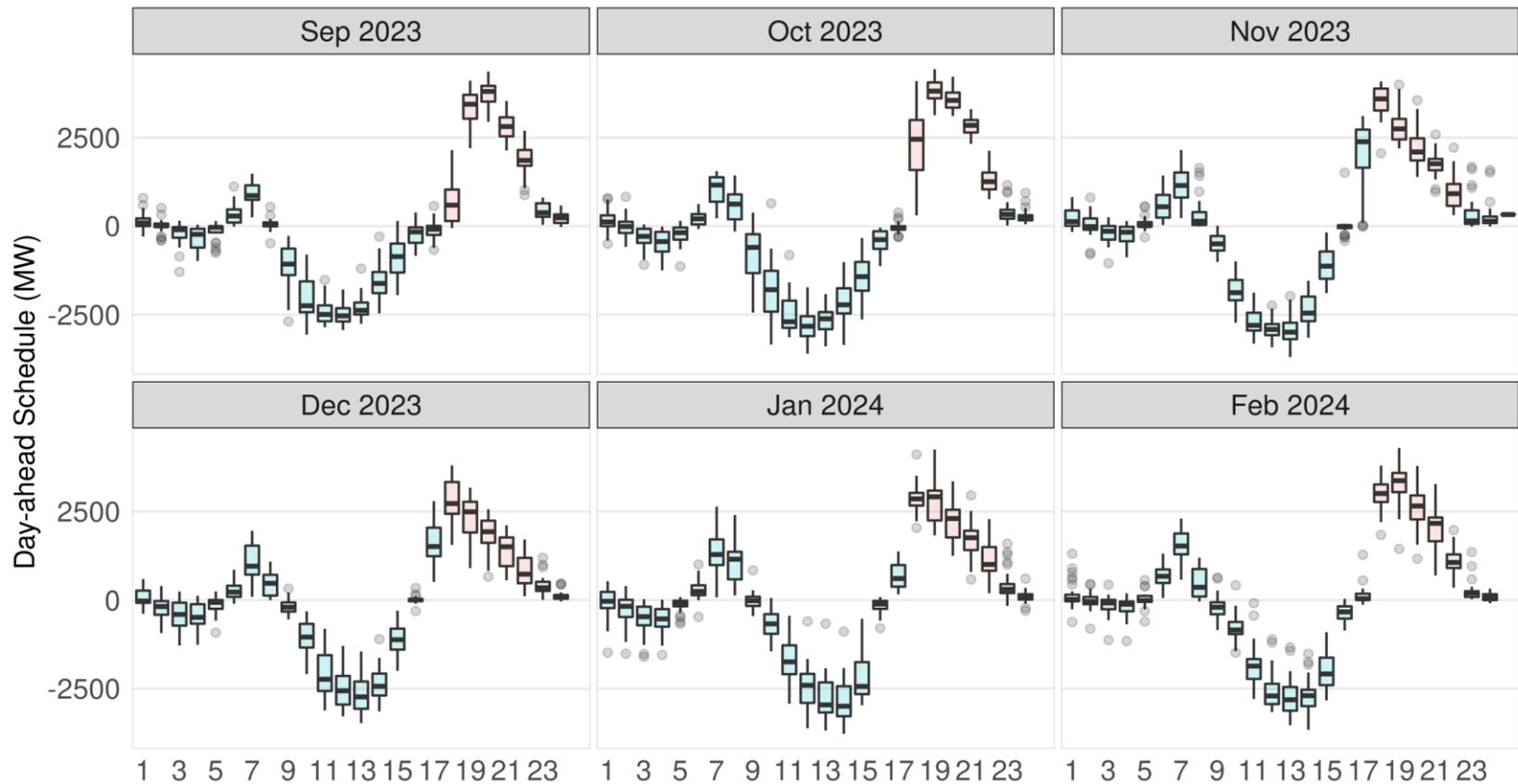
Day-Ahead state of charge for storage resources was the highest in hour ending 14 through 17



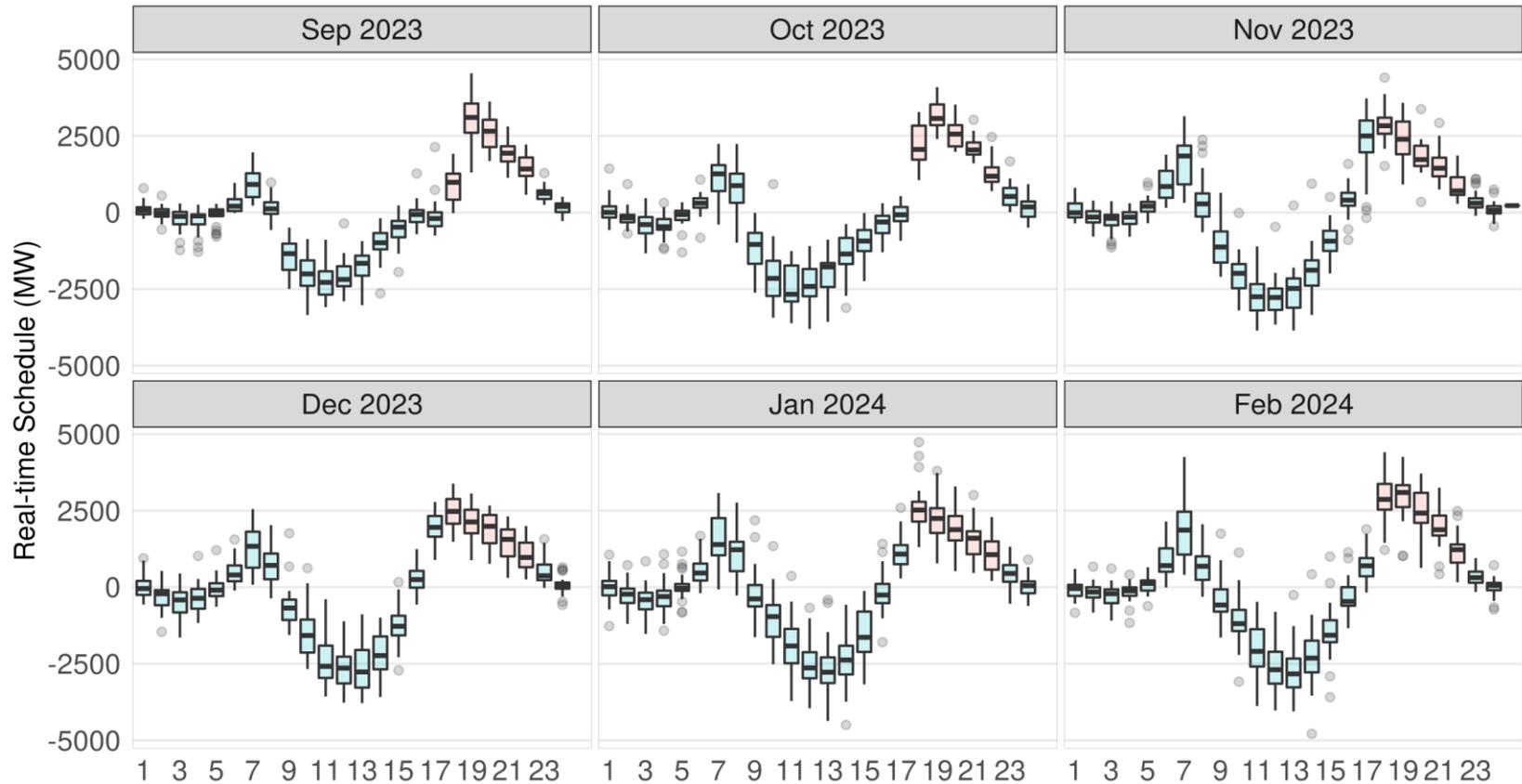
Real-Time State of charge for storage resources was in line with the day-ahead state of charge



Storage resources were consistently charging during solar hours and discharging during net load peaks

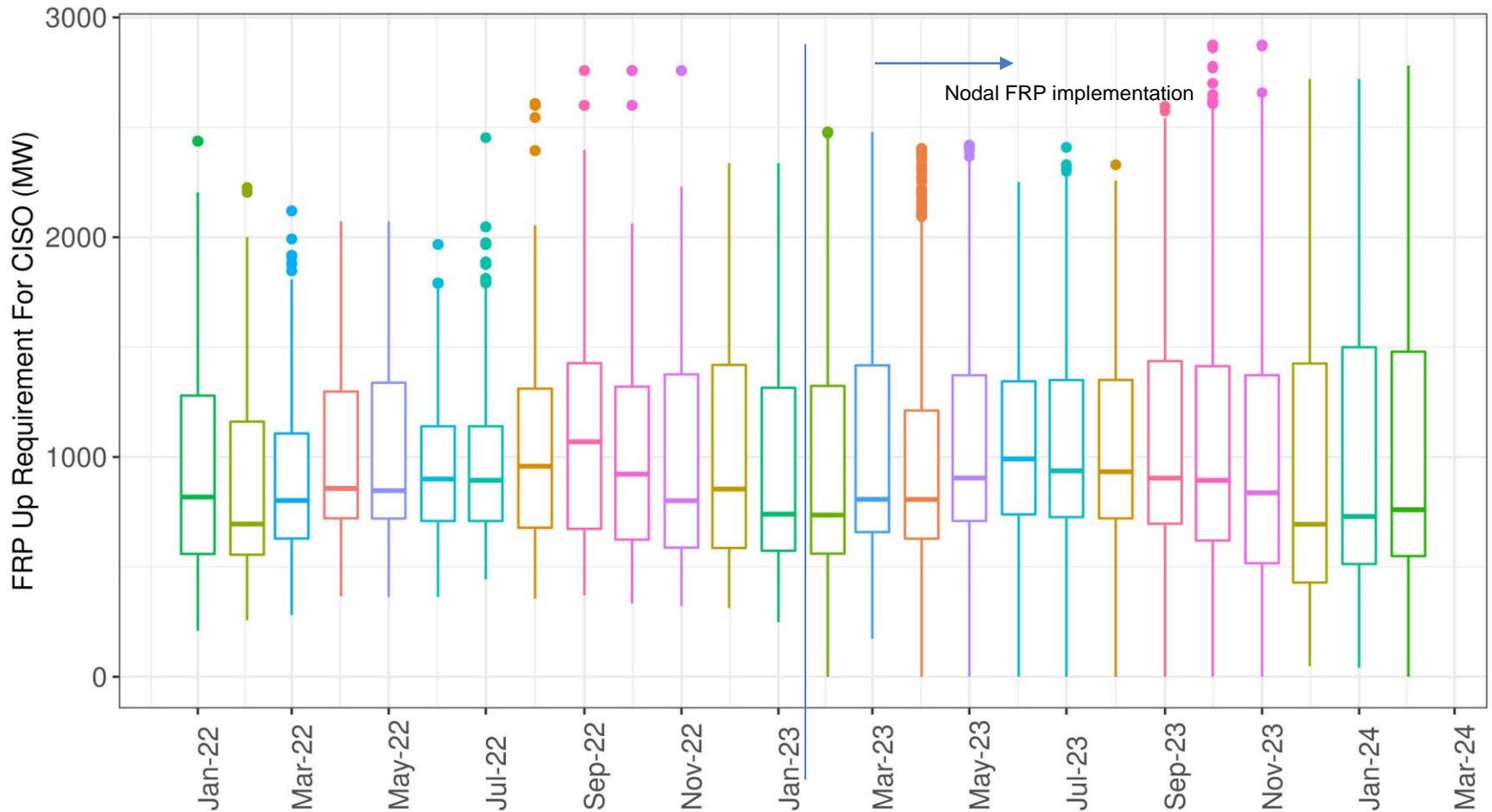


Storage resources were consistently charging during solar hours and discharging during net load peaks

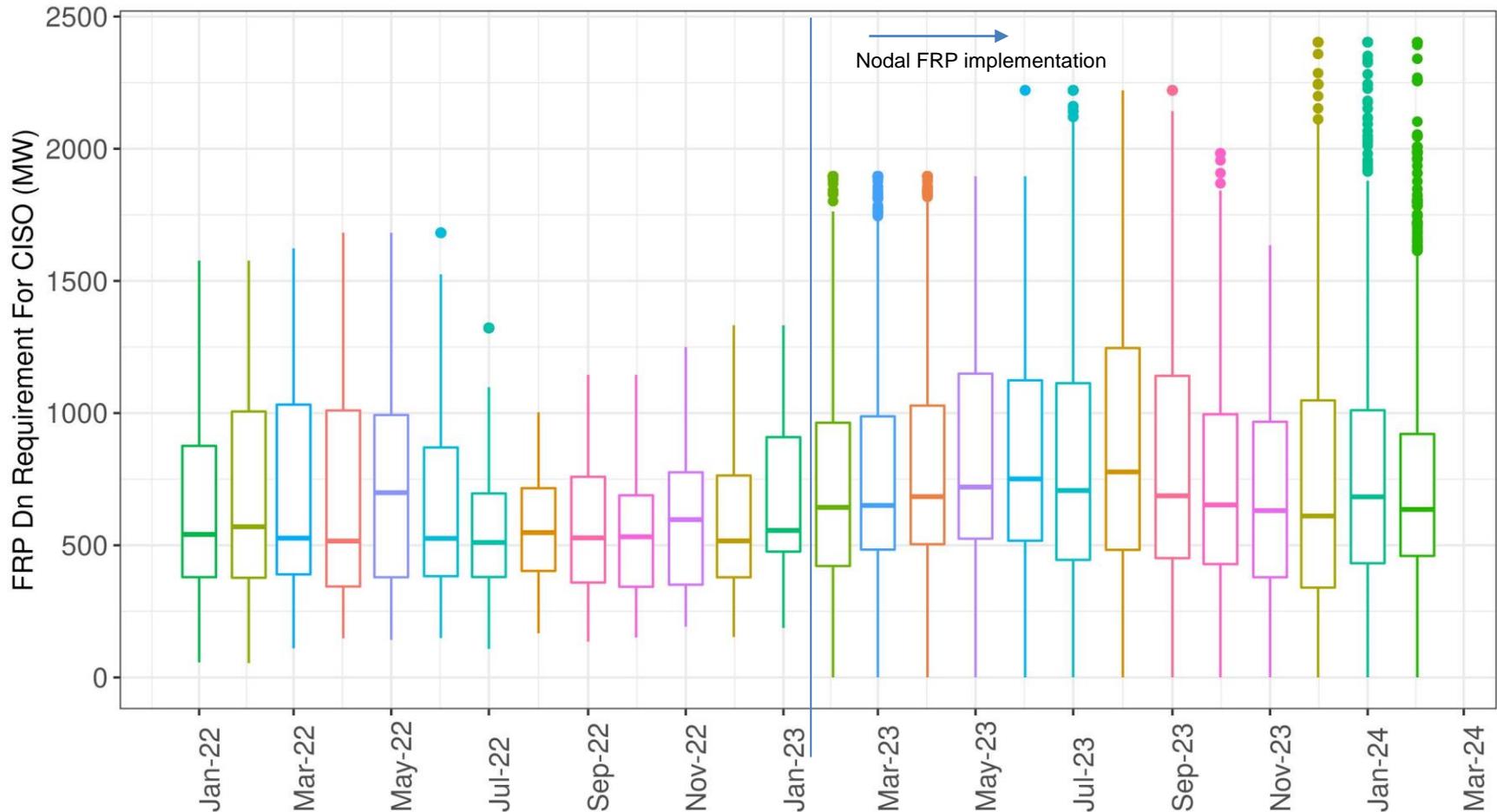


FRP Update

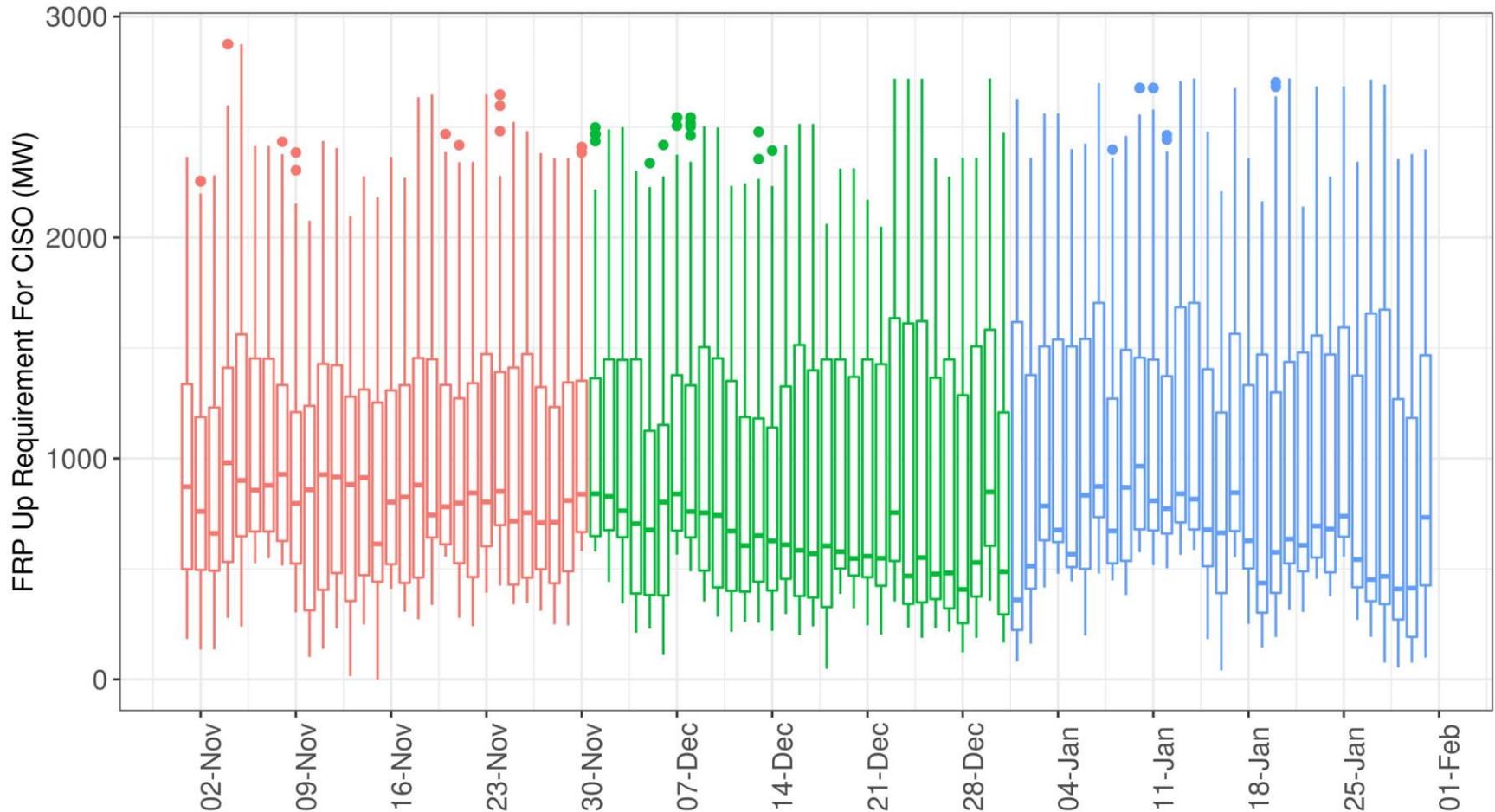
FRP Up Requirement for CAISO area remain within typical ranges



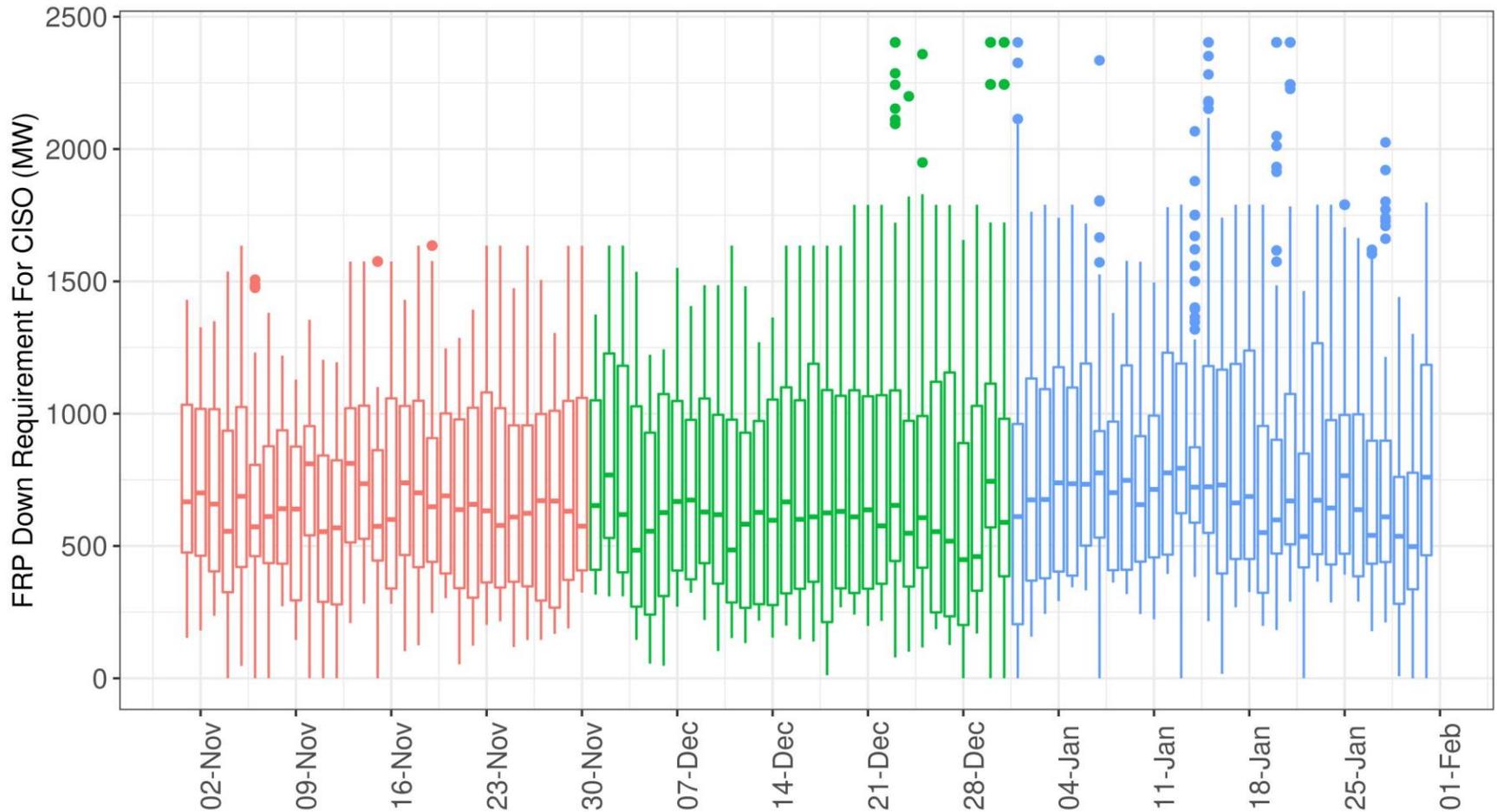
FRP Down Requirement for CAISO area remain within typical ranges



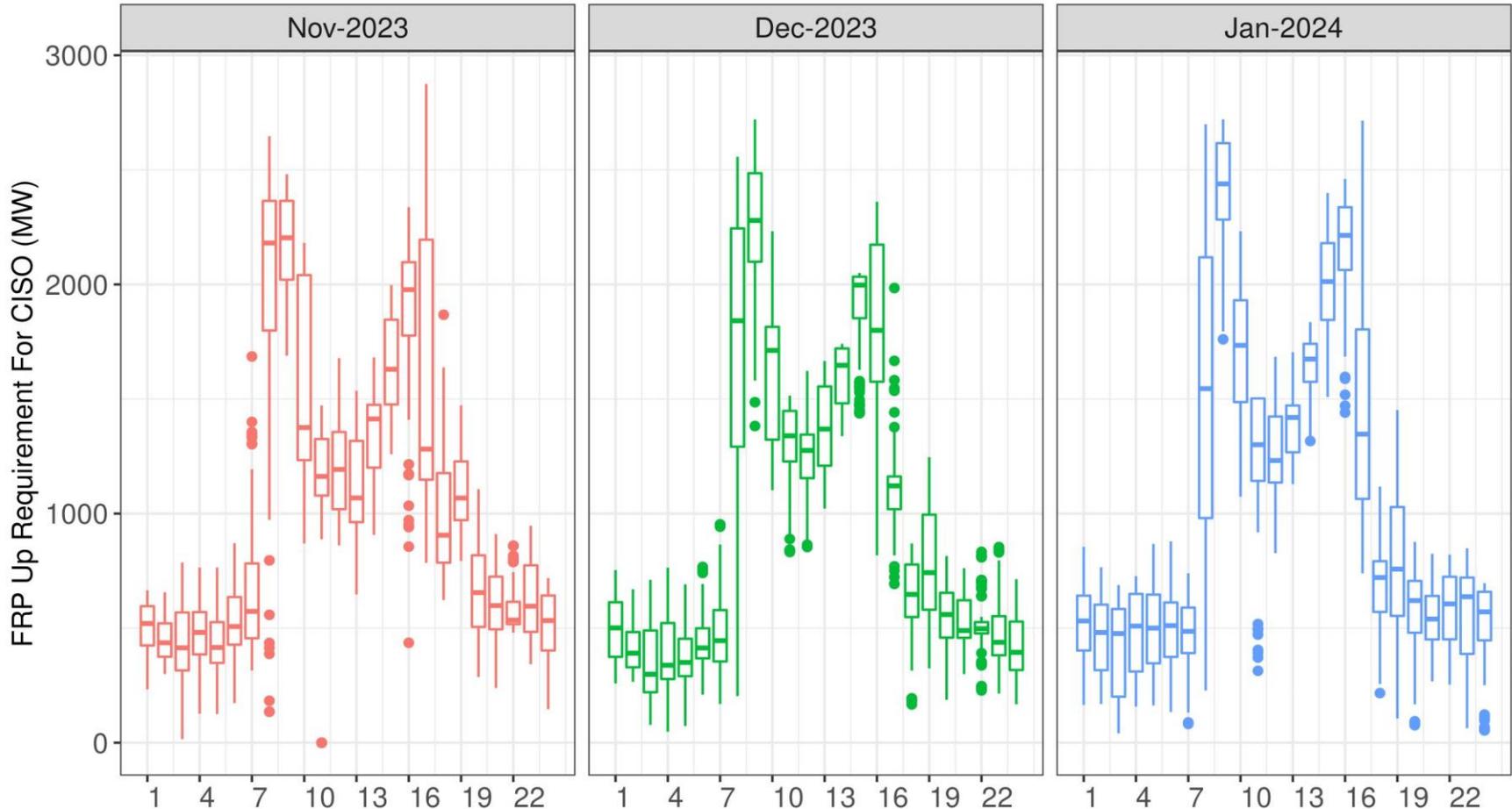
The daily distribution of FRP Up requirement in the last 3 months for CAISO area exhibit a steady trend



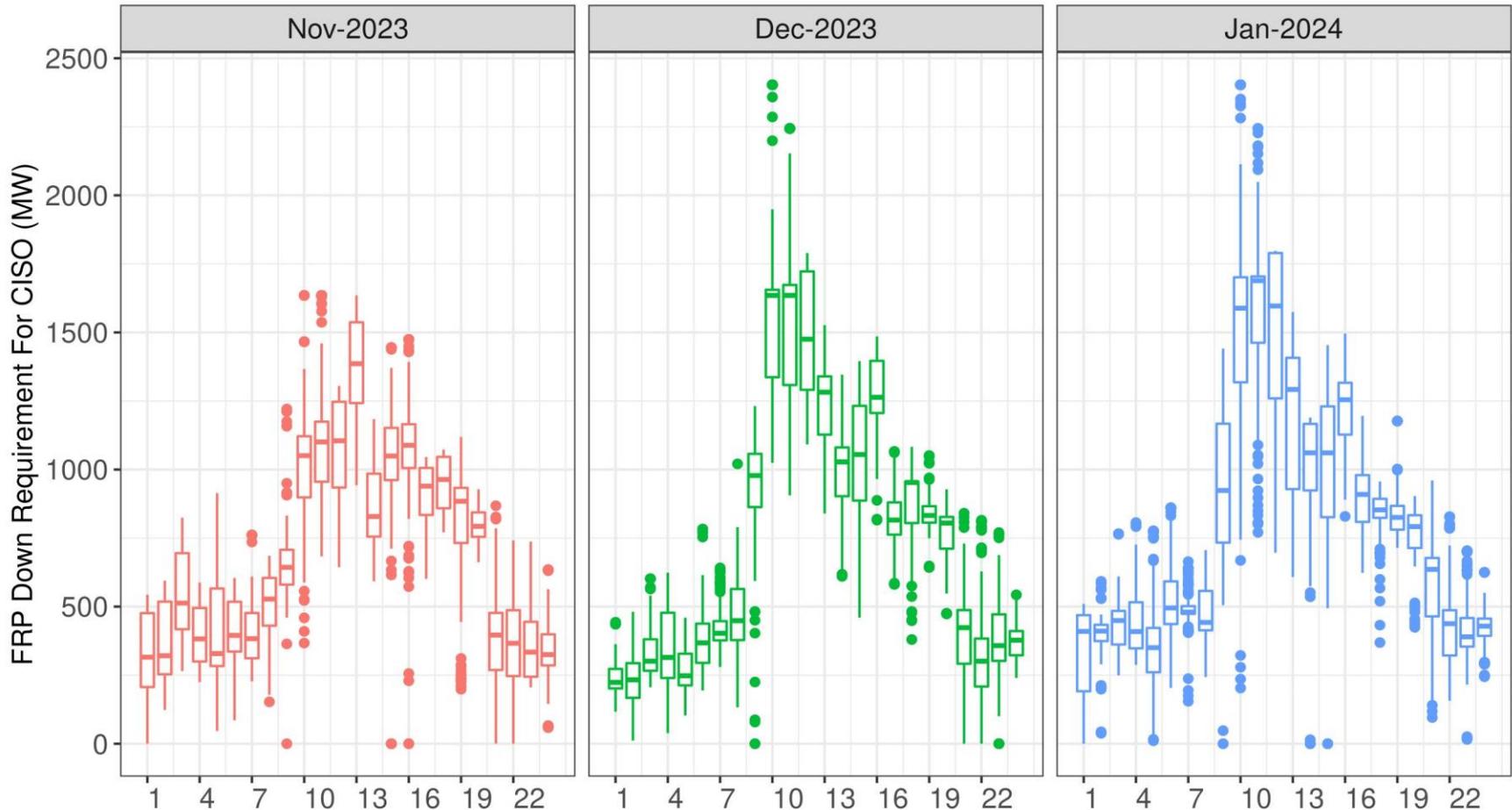
The daily distribution of FRP Down requirement in the last 3 months for CAISO area exhibit a steady trend



The hourly profile of upward FRP tends to follow a pattern of morning and evening peaks

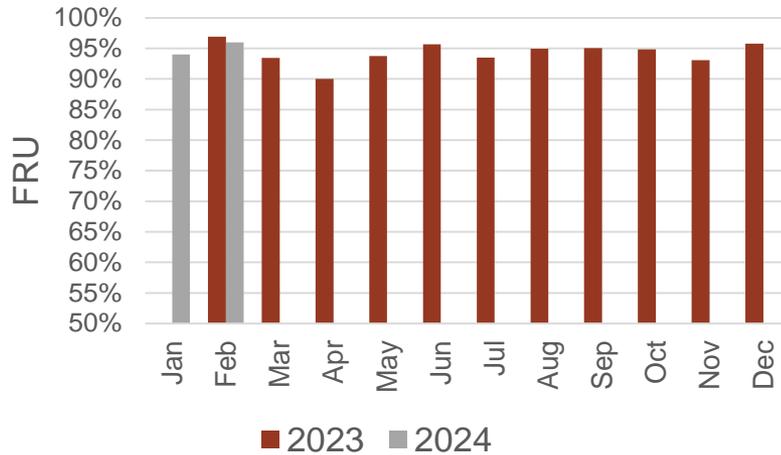


The hourly profile of downward FRP tends to follow a complementary pattern to the upward FRP, with higher

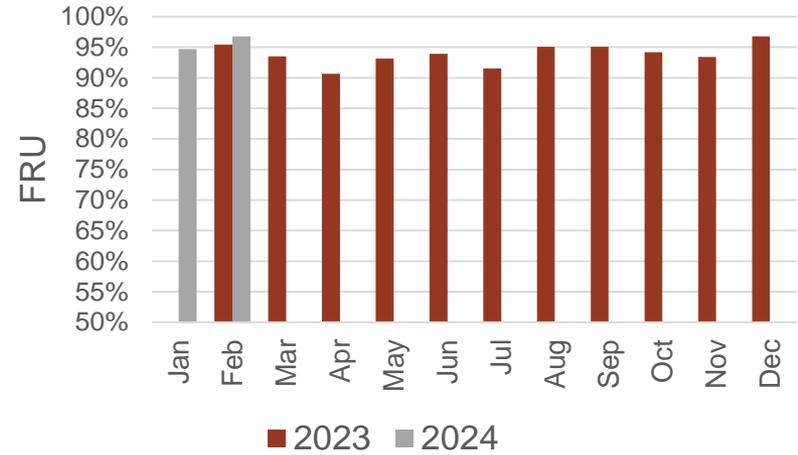


FRP Coverage

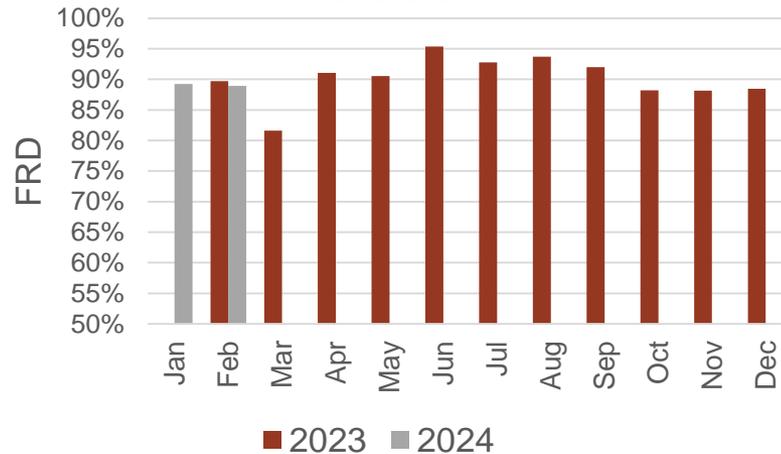
CAISO



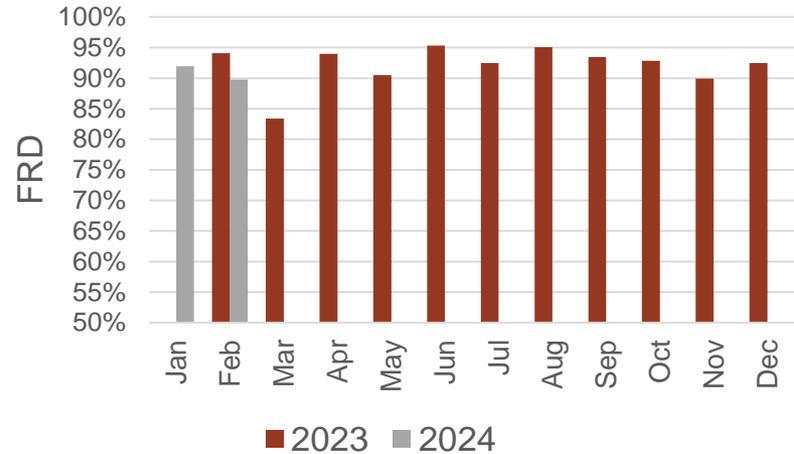
WEIM AREA



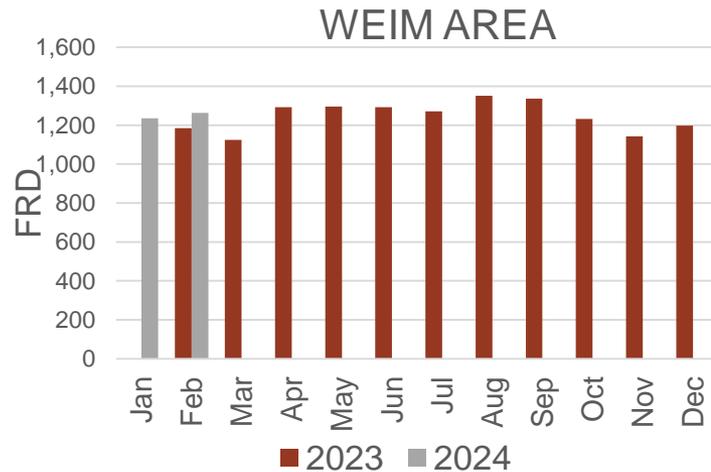
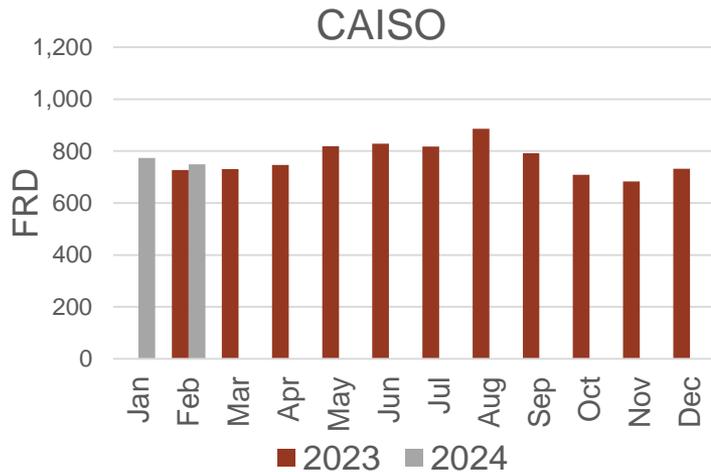
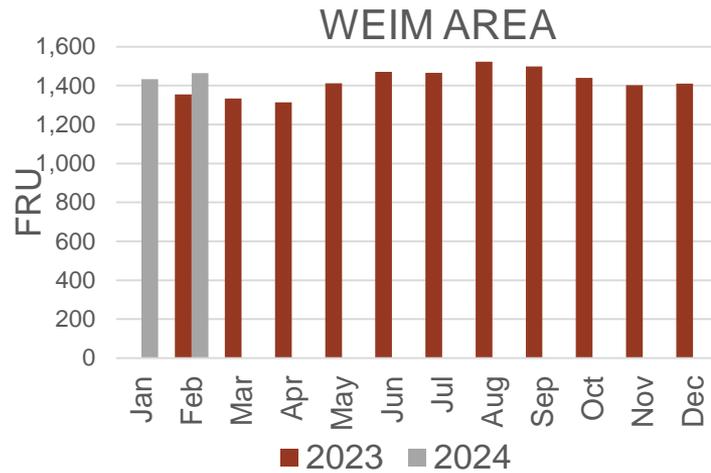
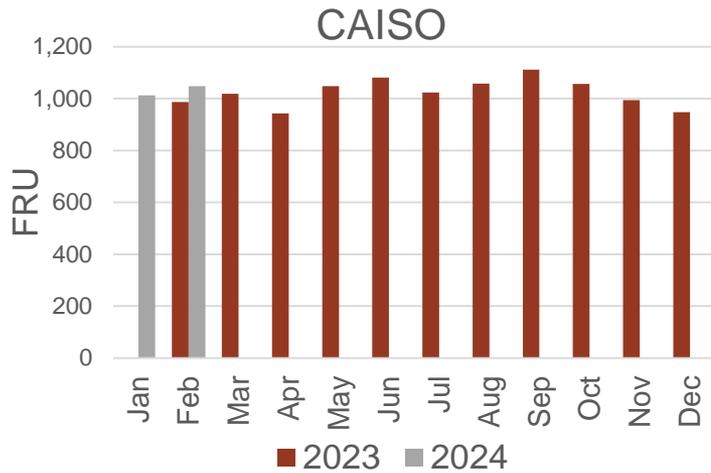
CAISO



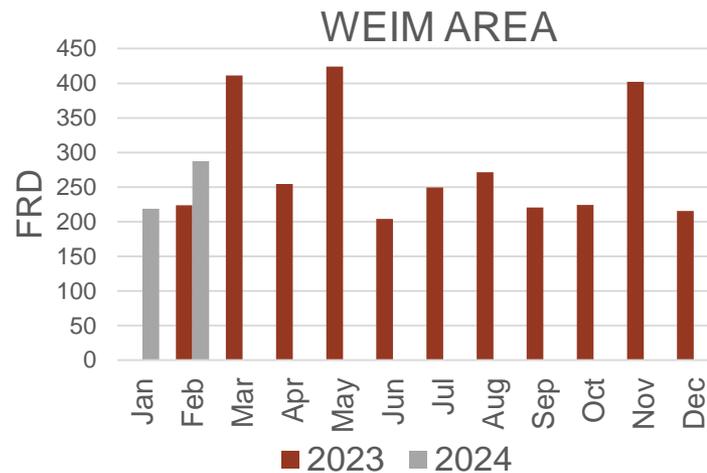
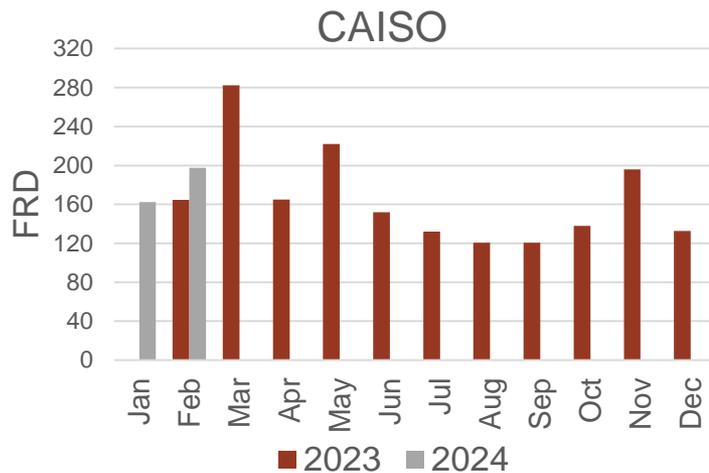
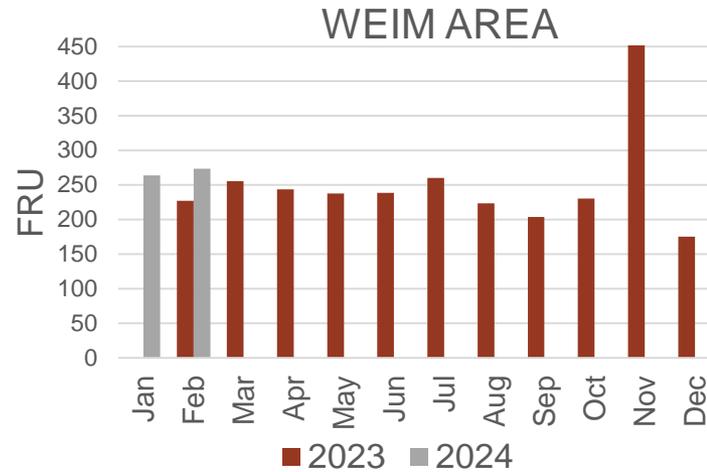
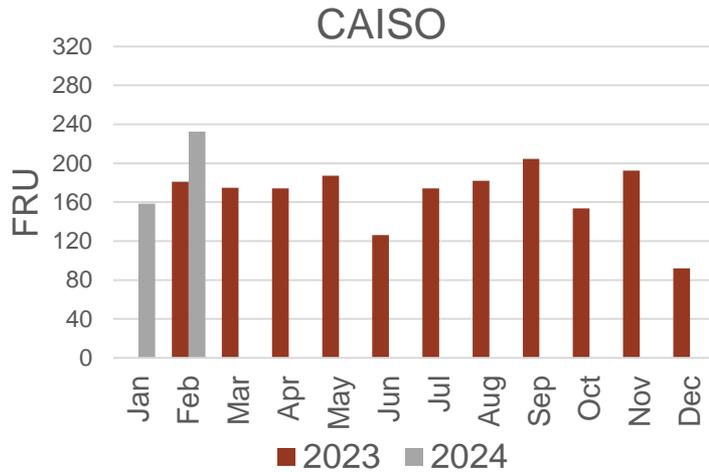
WEIM AREA



FRP Requirement



FRP Exceedance

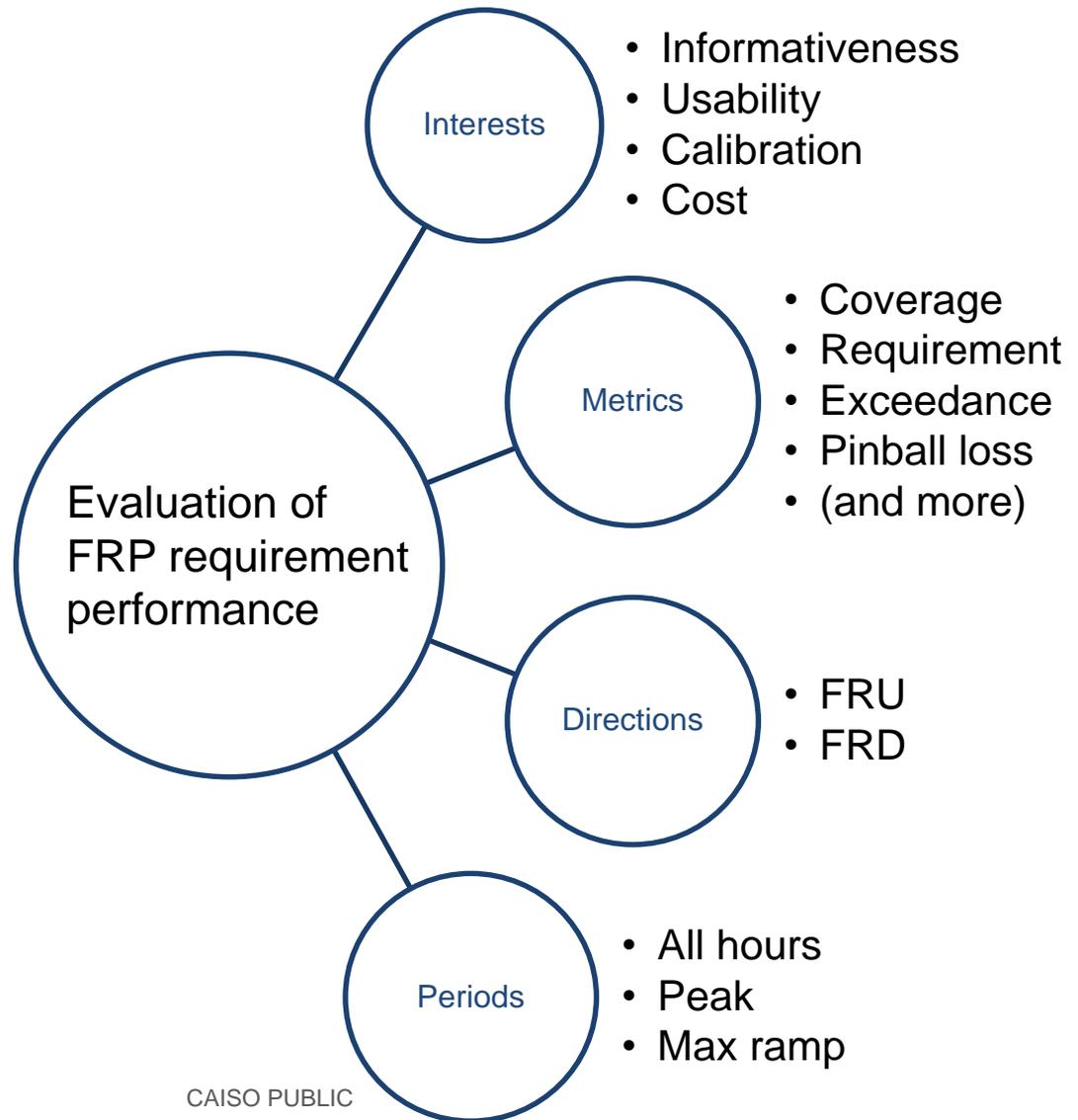


The ISO is working to update the tracking metrics as discussed in the November 29th, MSC.

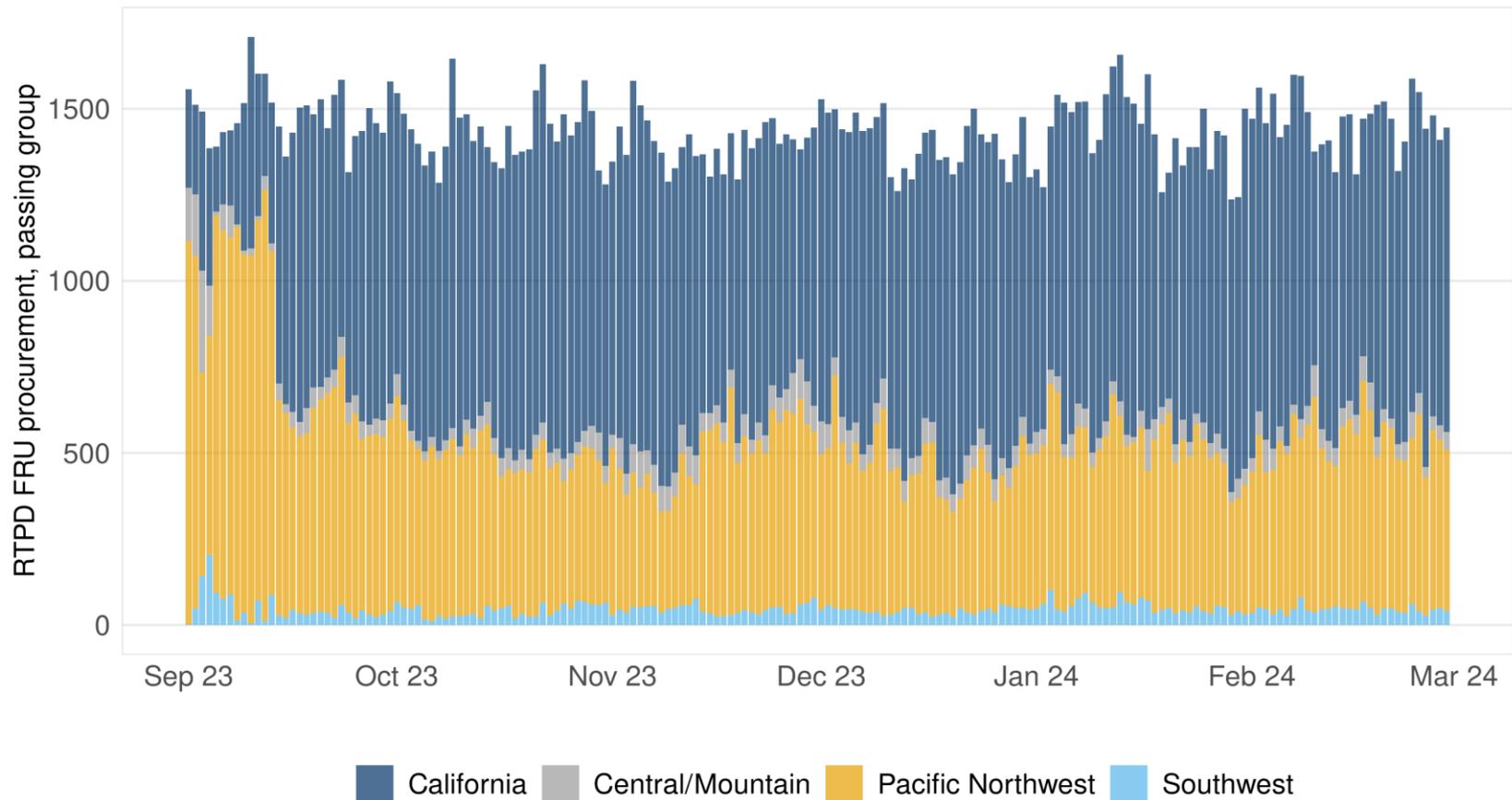
FRP requirement metrics to become more comprehensive

Multiple layers of consideration and priority make identification and definition of optimal model performance difficult.

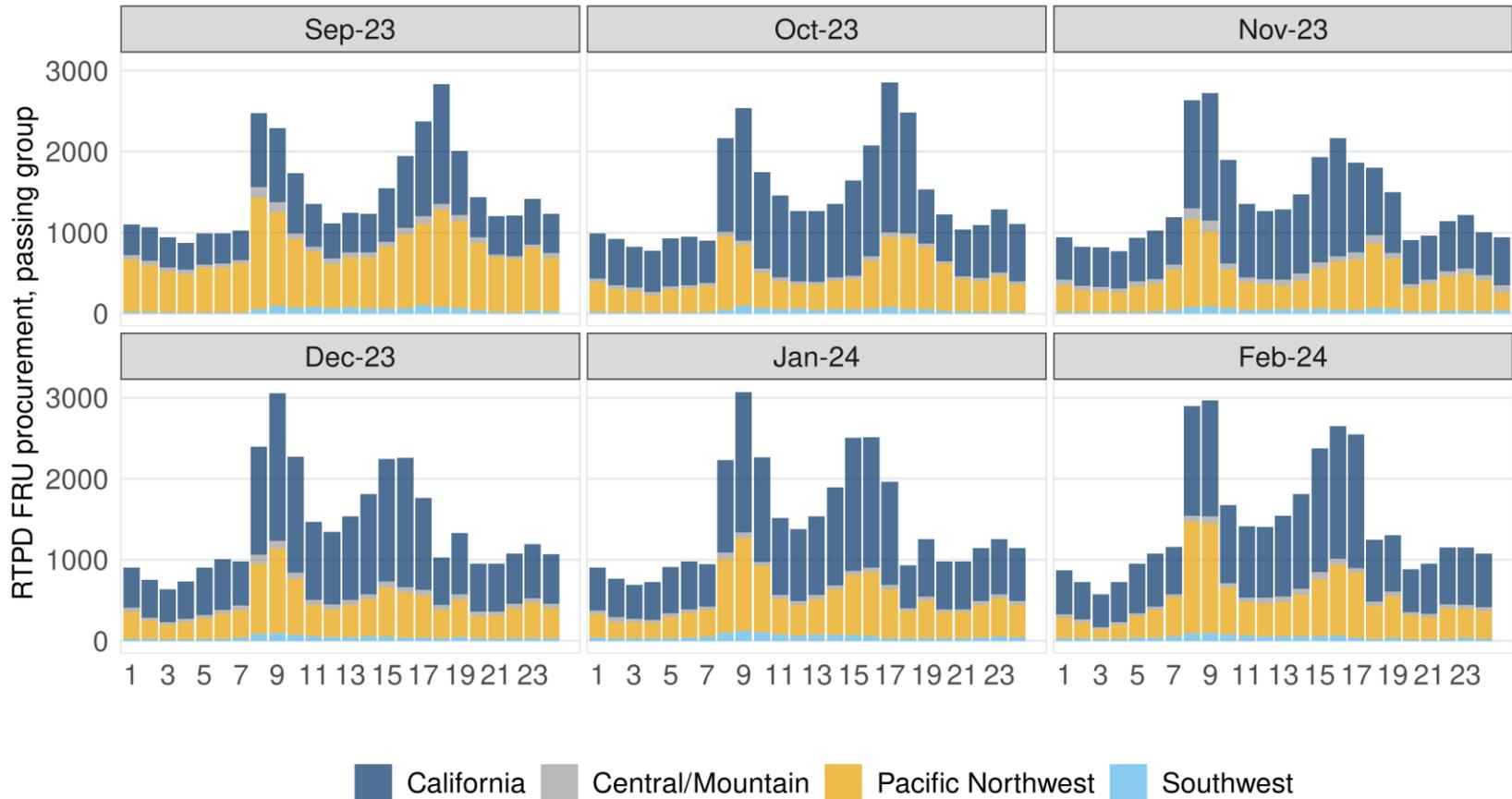
The ISO is updating the evaluation of FRP requirements toward a more directly comprehensive metric to encompass these multiple layers of interest.



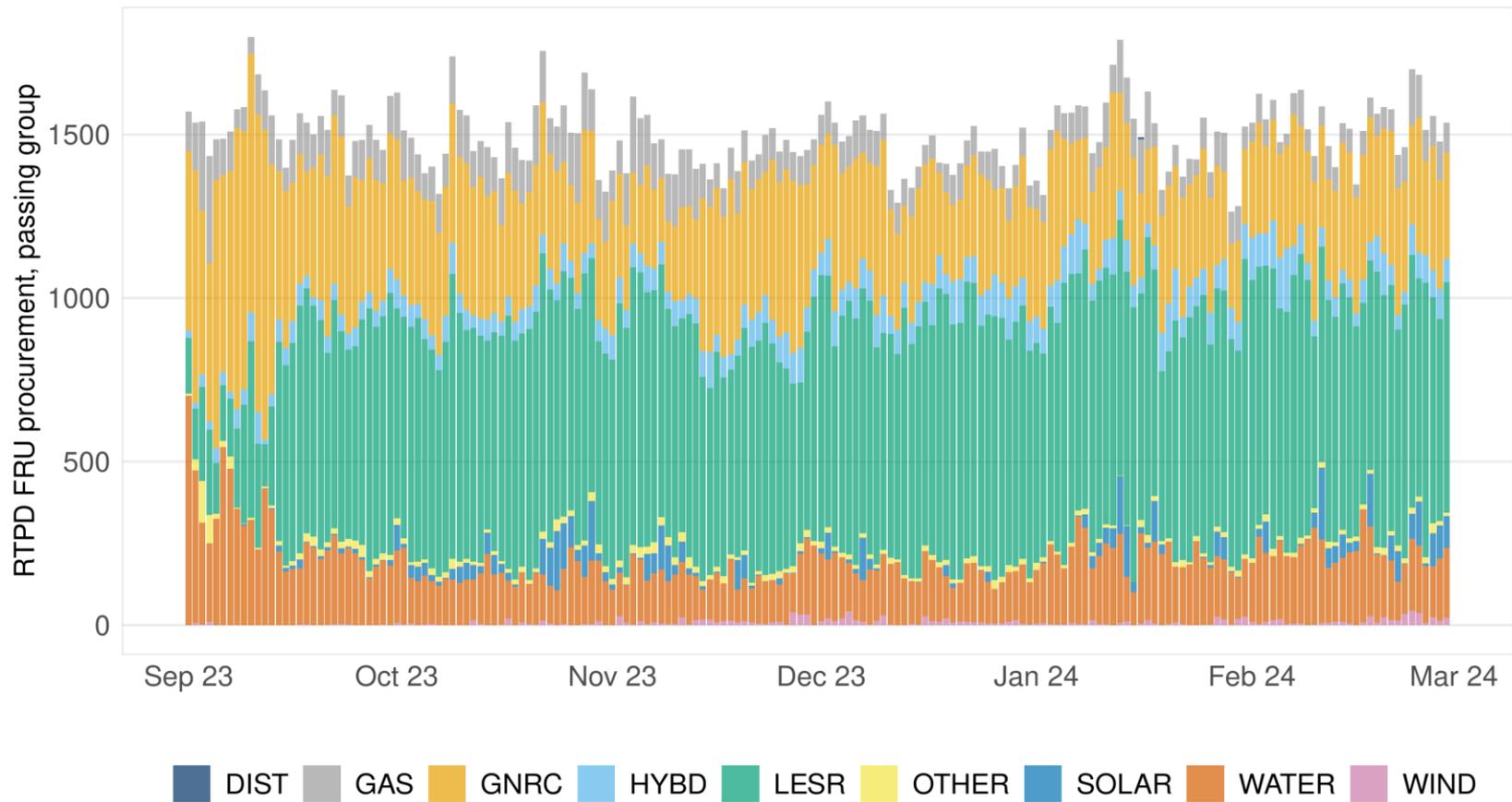
Upward FRP is largely procured from areas in the Pacific Northwest and California



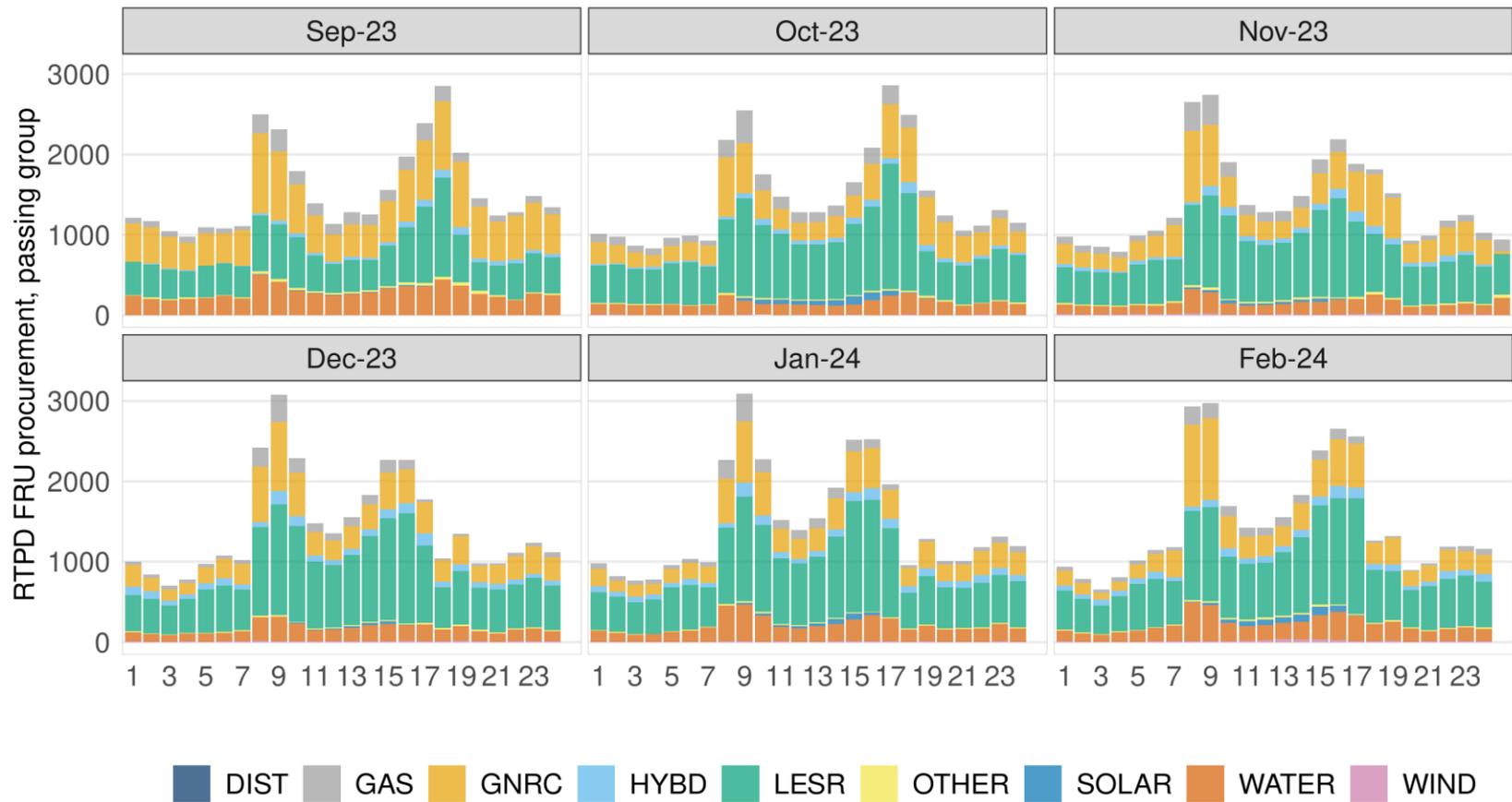
Upward FRP procurement from CAISO area is largely occurring in the peak hours



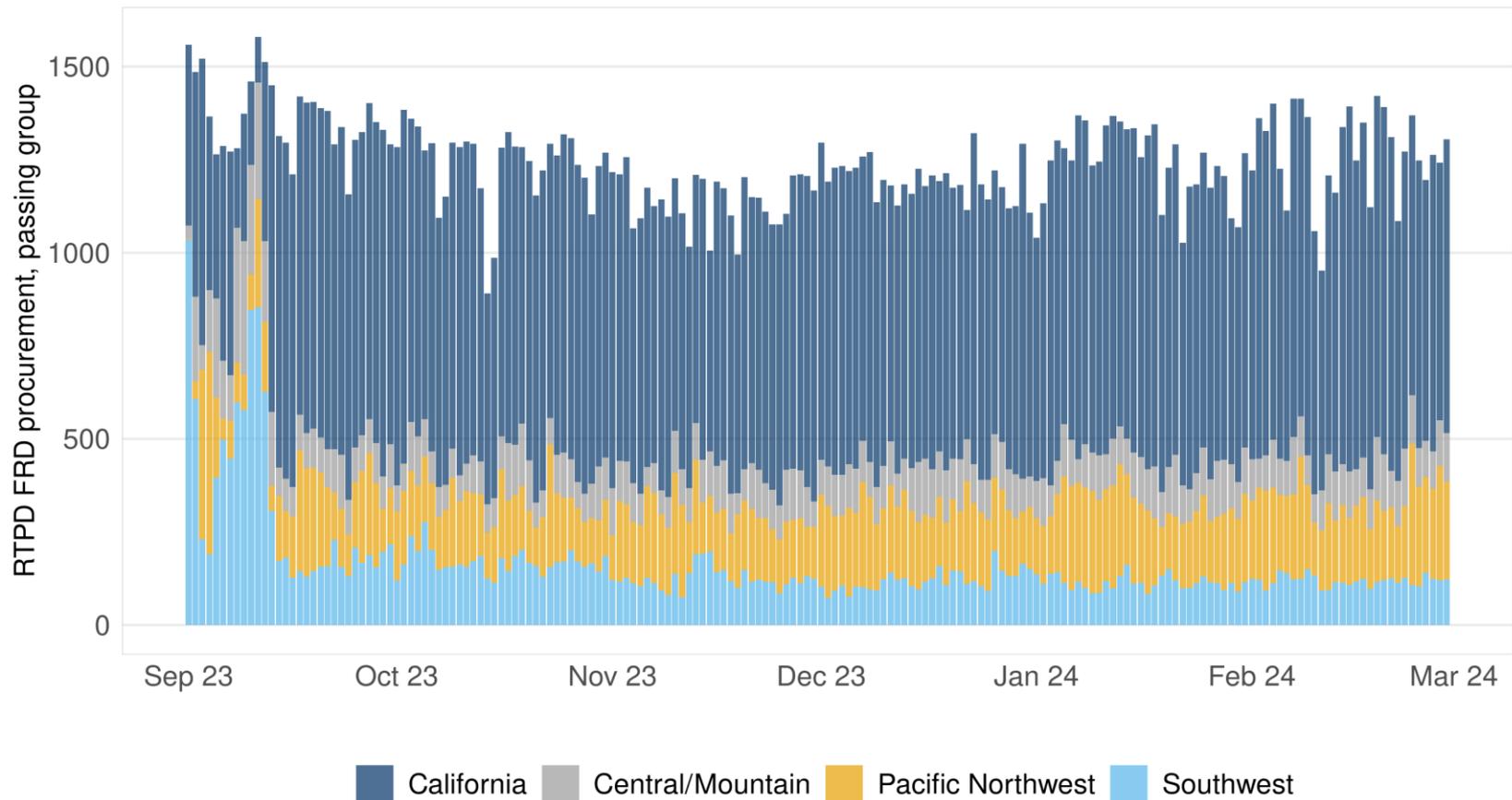
Upward FRP procurement is supported by various types of technologies



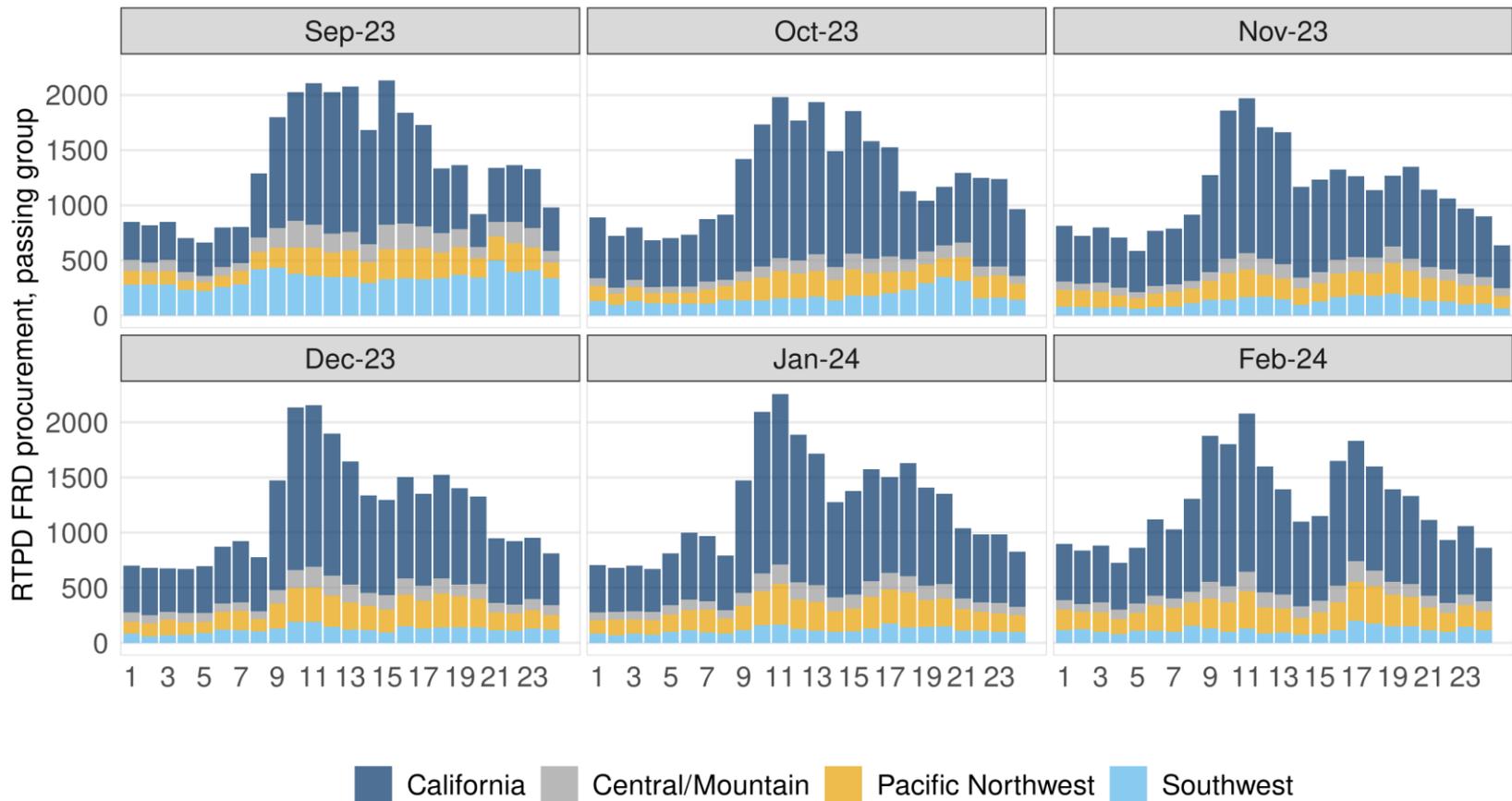
Storage resources tend to support upward FRP procurement for evening ramping hours



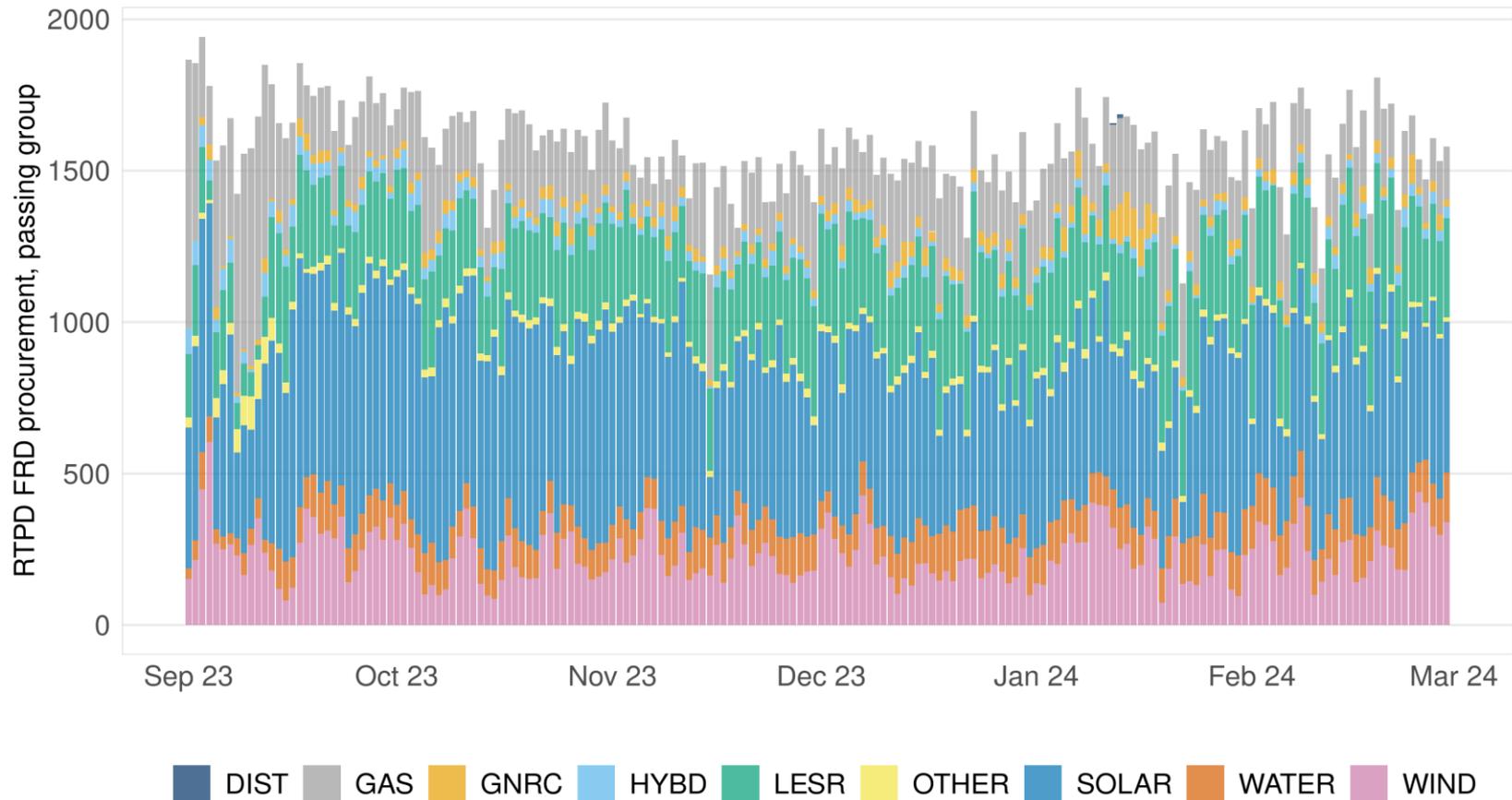
Downward FRP is largely procured from areas in the Southwest, California, and Pacific Northwest



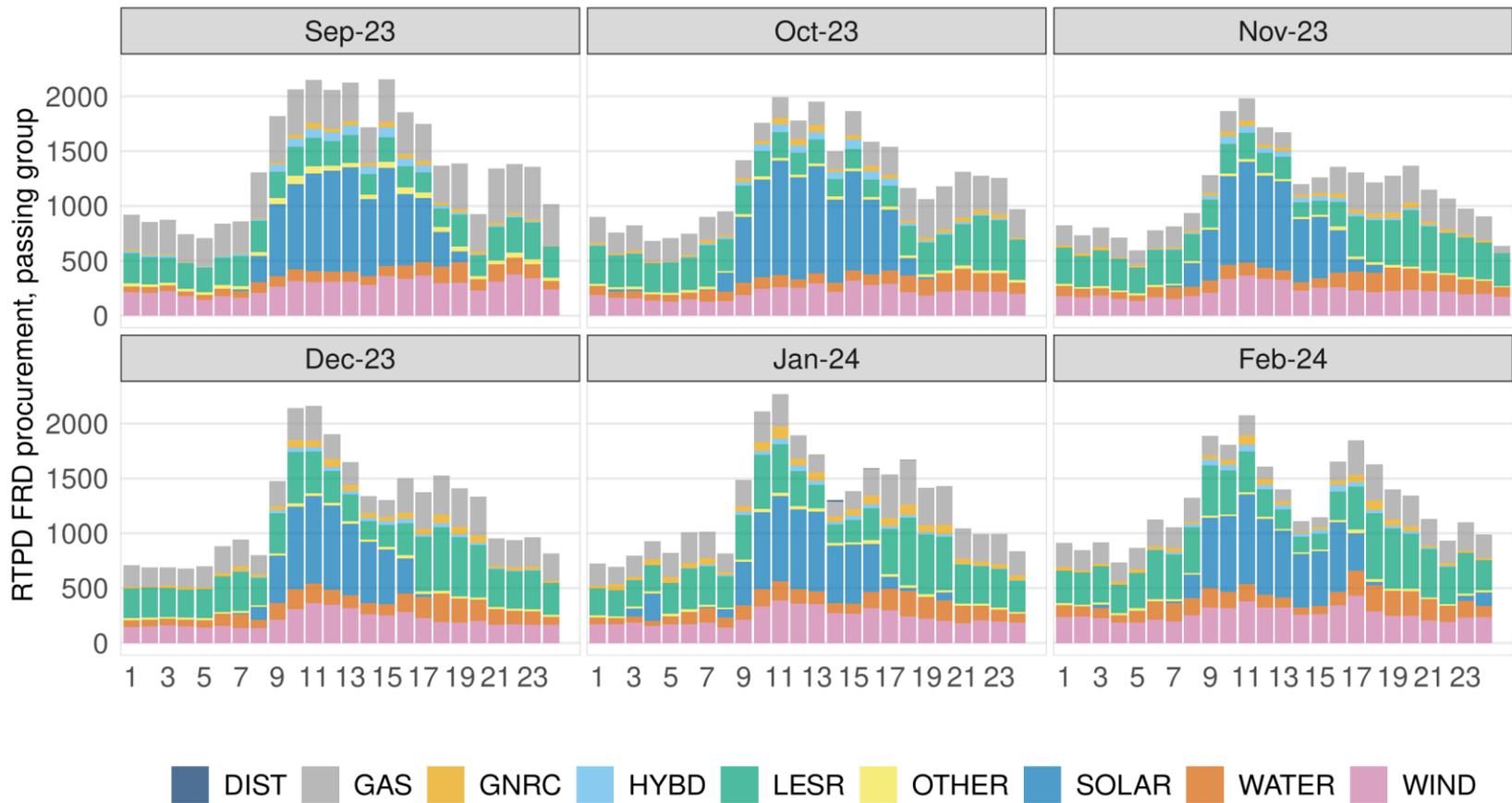
Downward FRP procurement from CAISO area is largely occurring in midday hours when solar production is plentiful and months with modest demand level



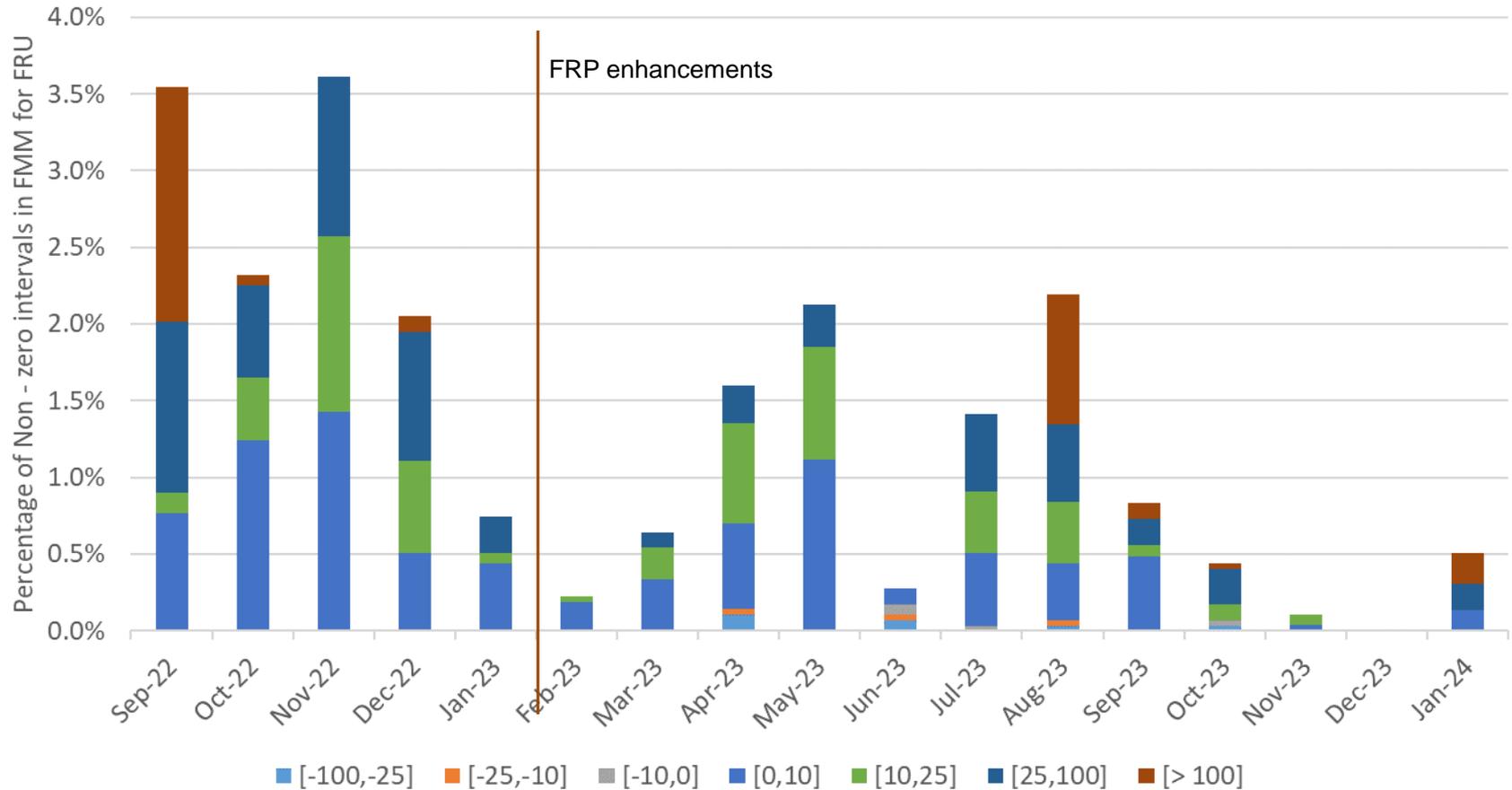
Downward FRP procurement is supported by various types of technologies



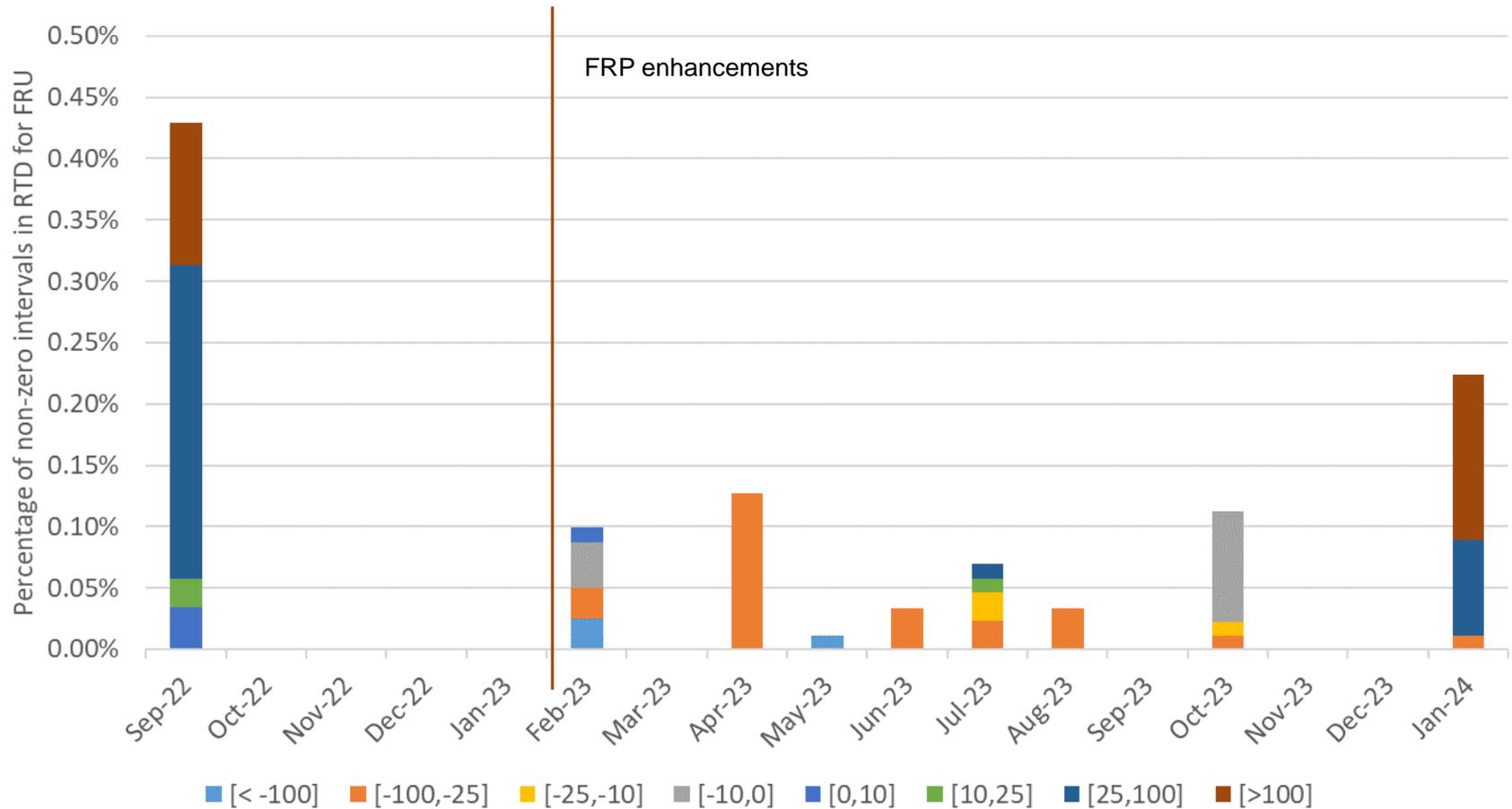
Solar resources tend to support midday hours in the downward direction



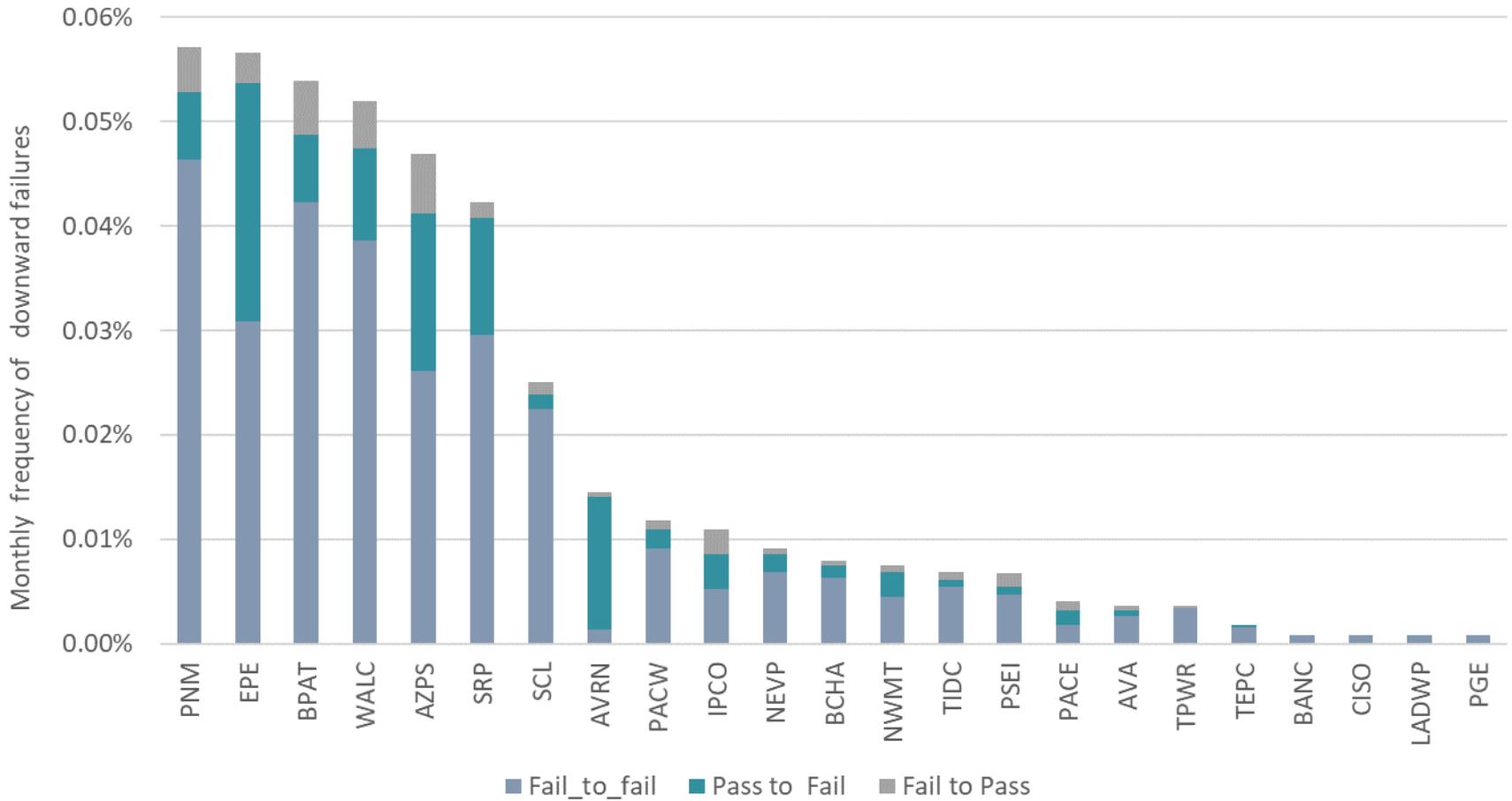
Frequency of intervals with non-zero FMM prices for upward FMM continues to be low after nodal implementation



Frequency of intervals with non-zero RTD prices for upward FRP continues to be low after nodal implementation

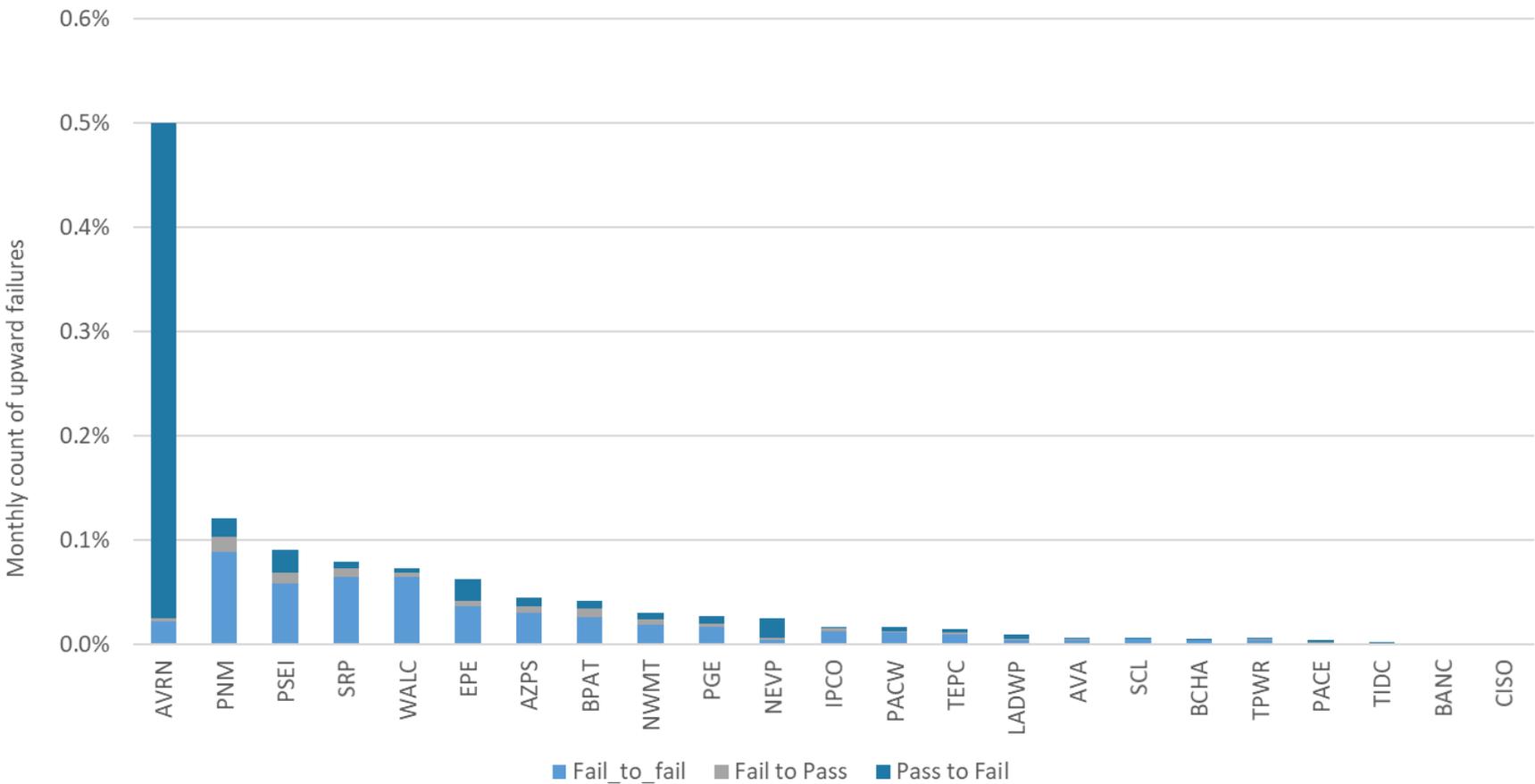


Use of Histogram- or Mosaic-based requirements result in a relatively small different set of downward failures



Pass to Fail means entity passed the test with current Mosaic requirements and would fail if Histogram requirement were used

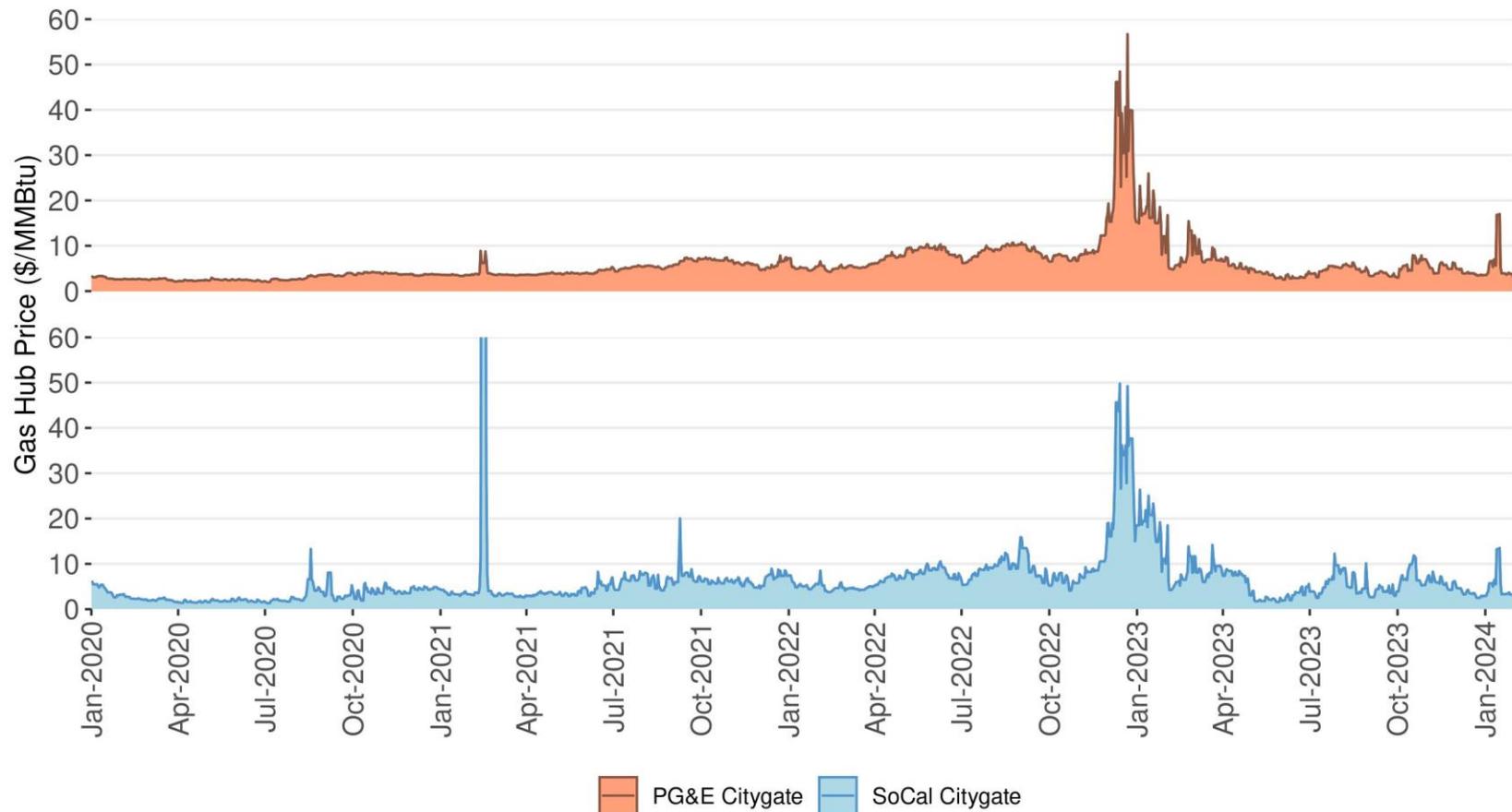
Use of Histogram- or Mosaic-based requirements result in a relatively small different set of upward failures



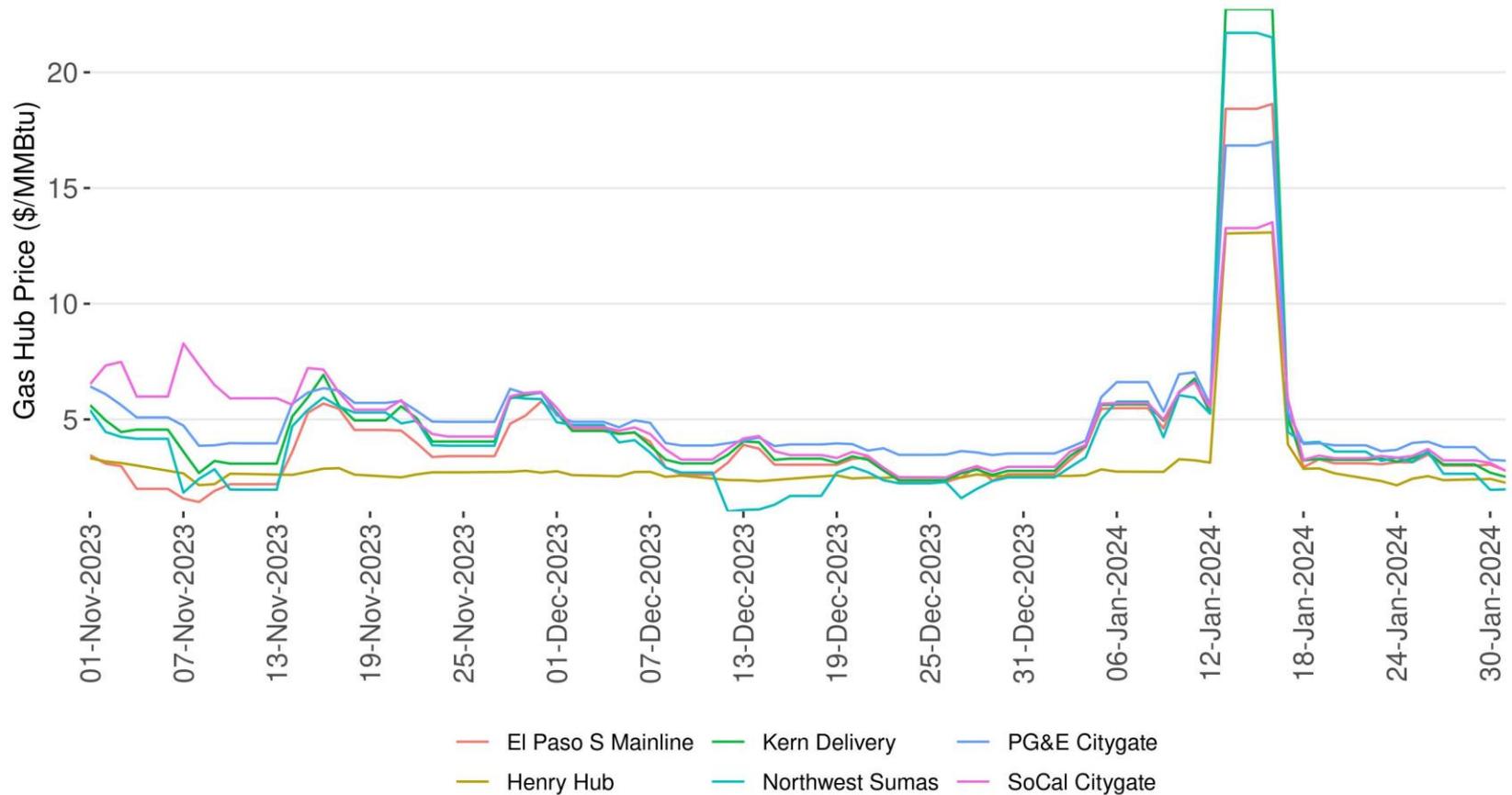
Pass to Fail means entity passed the test with current Mosaic requirements and would fail if Histogram requirement were used

Gas and Power Index Prices CAISO Market Costs

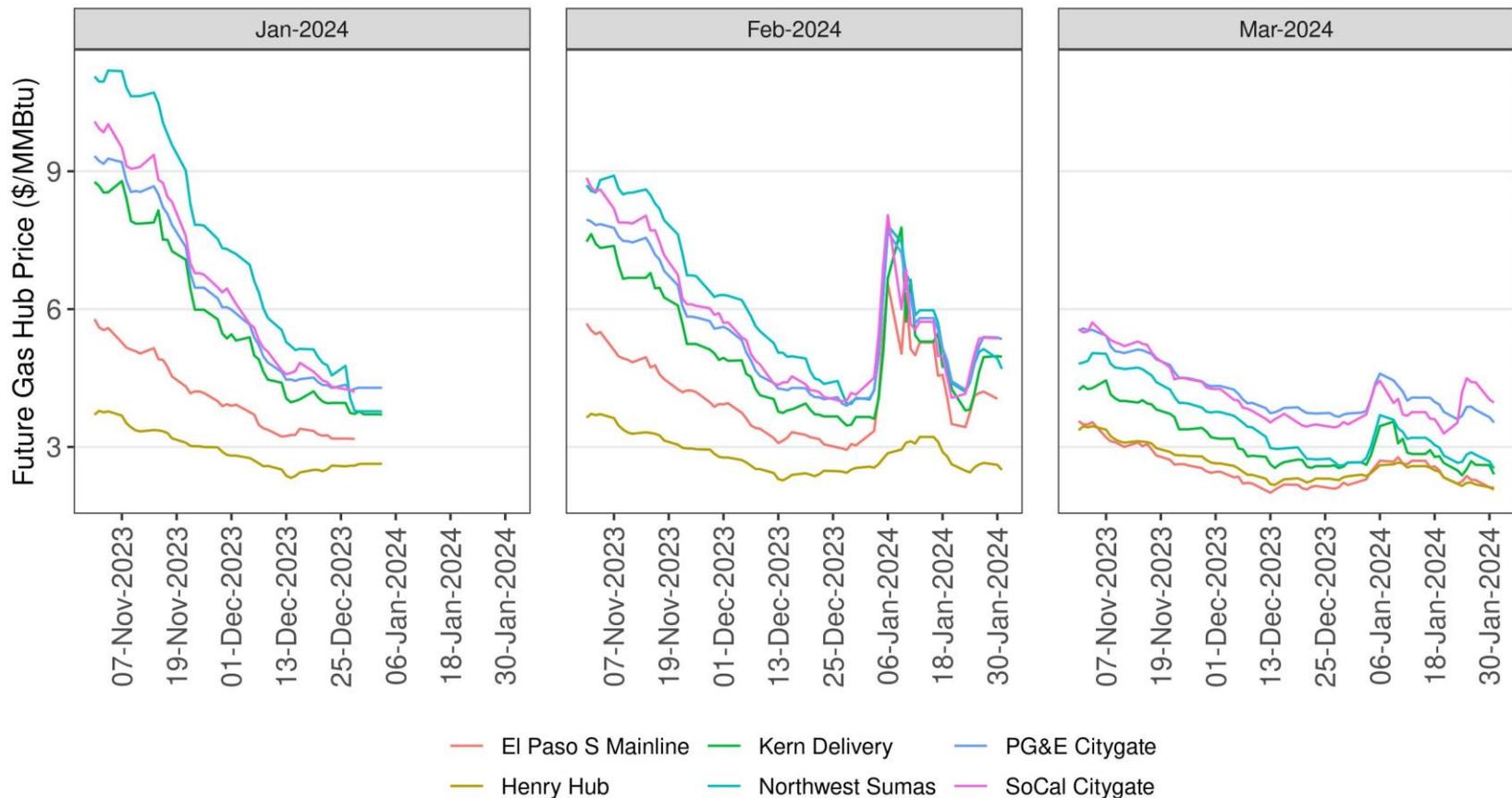
California next-day gas prices saw lower levels in winter 2023 trading compared to winter 2022



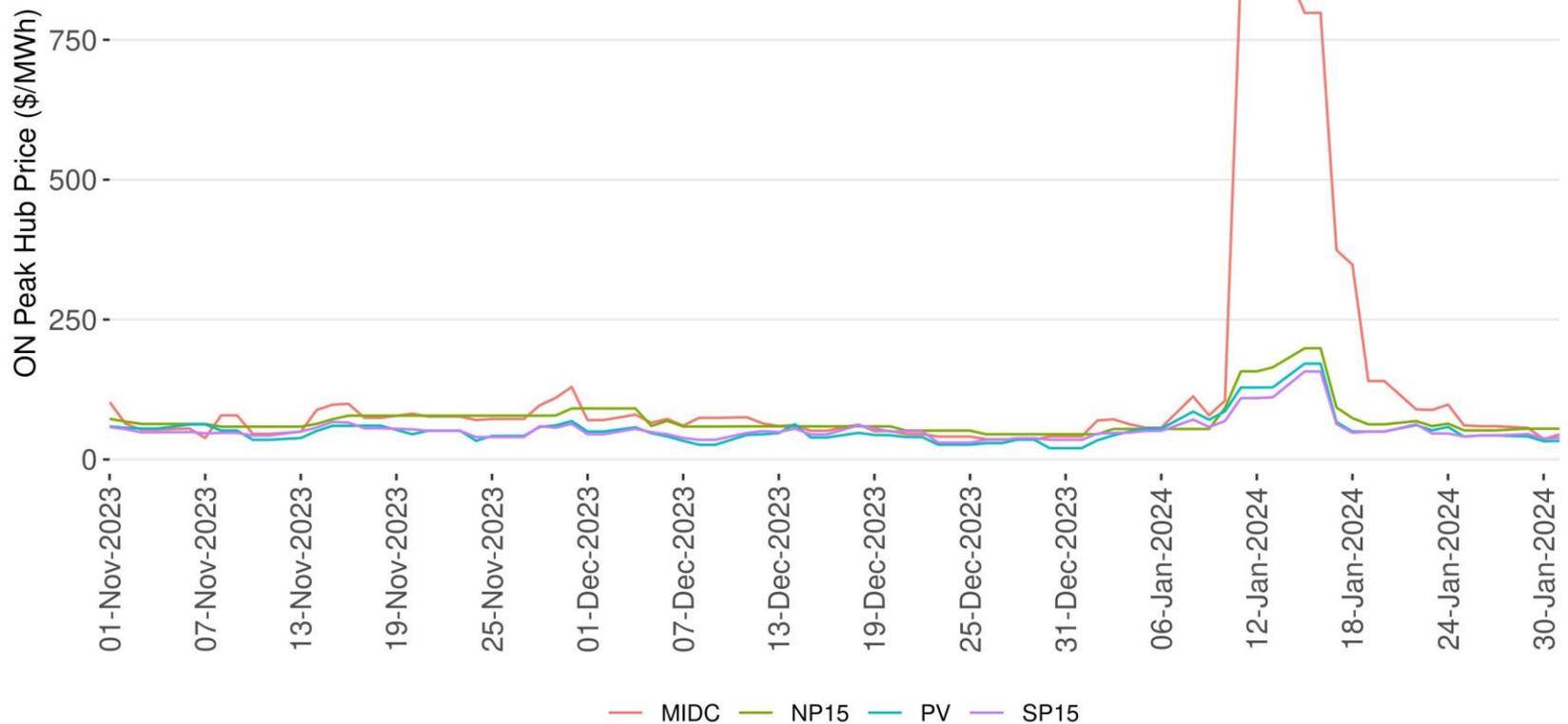
Western next-day gas prices reached elevated levels in mid-January 2024 on par with summer levels



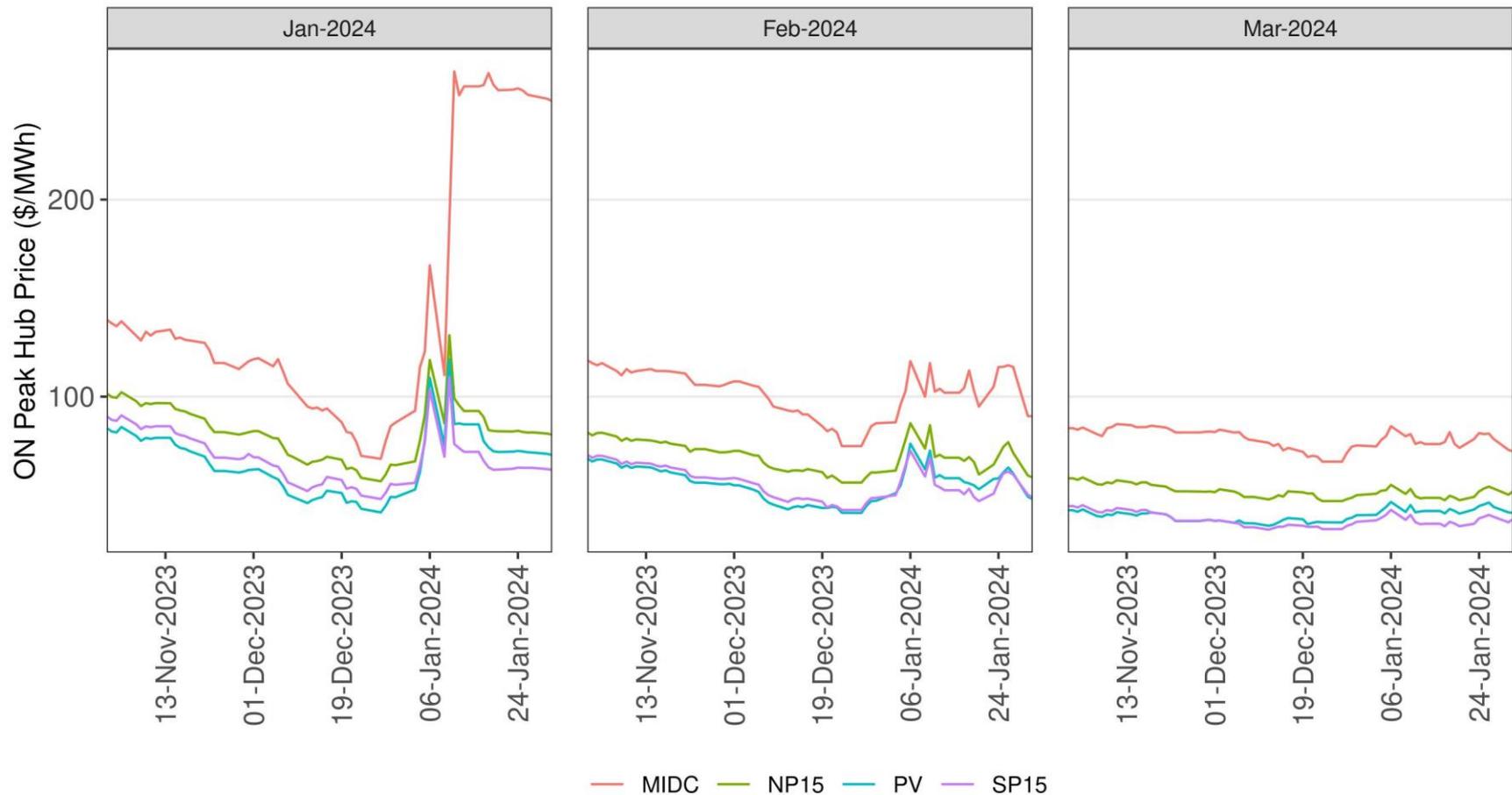
Future gas prices for winter 2024 declined during year-end trading but spiked in mid-January 2024, corresponding to the cold snap



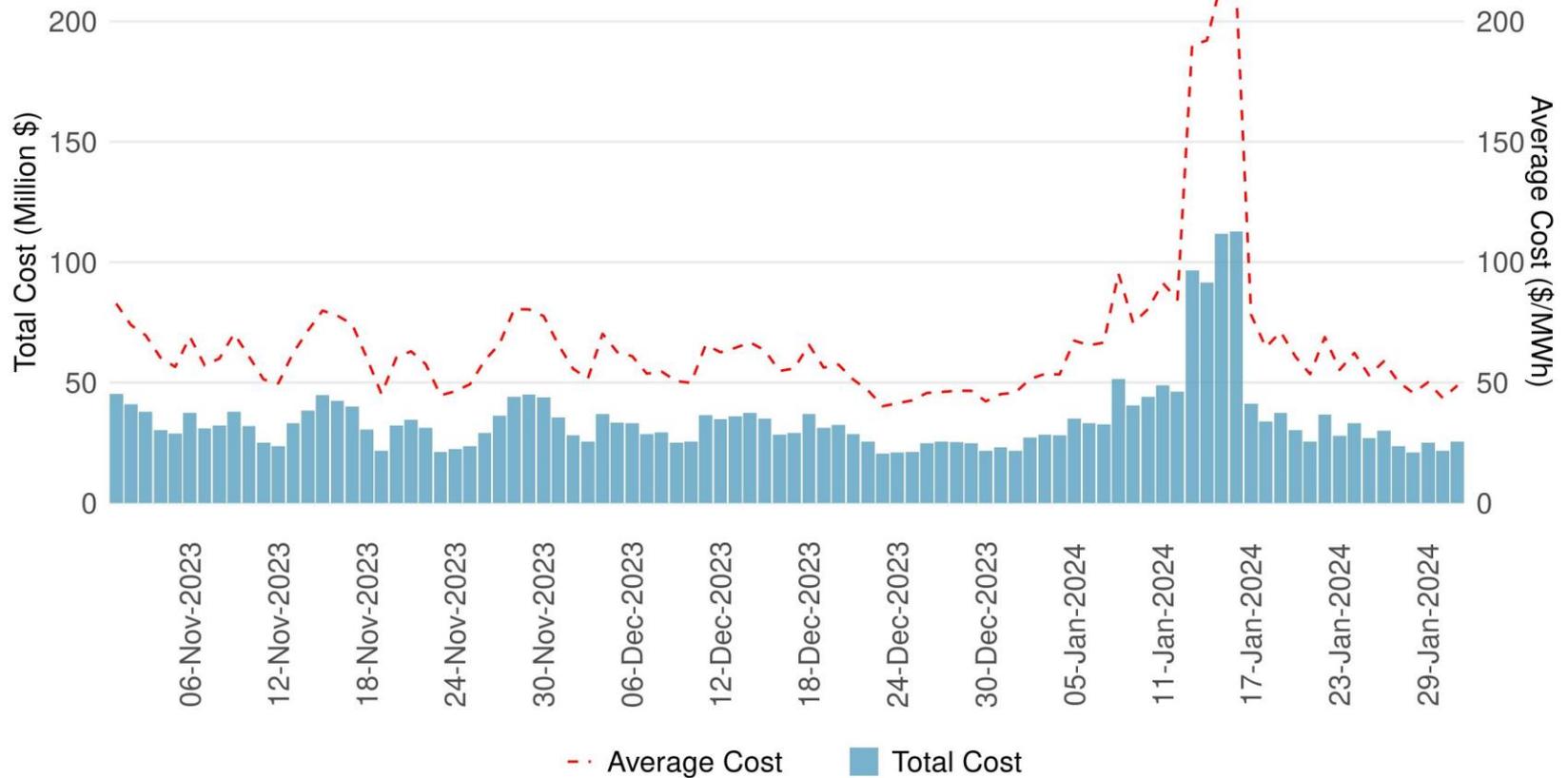
Next-day on-peak bilateral power prices were also responsive to the mid-January cold snap, spiking above \$750/MWh at the Mid-C hub



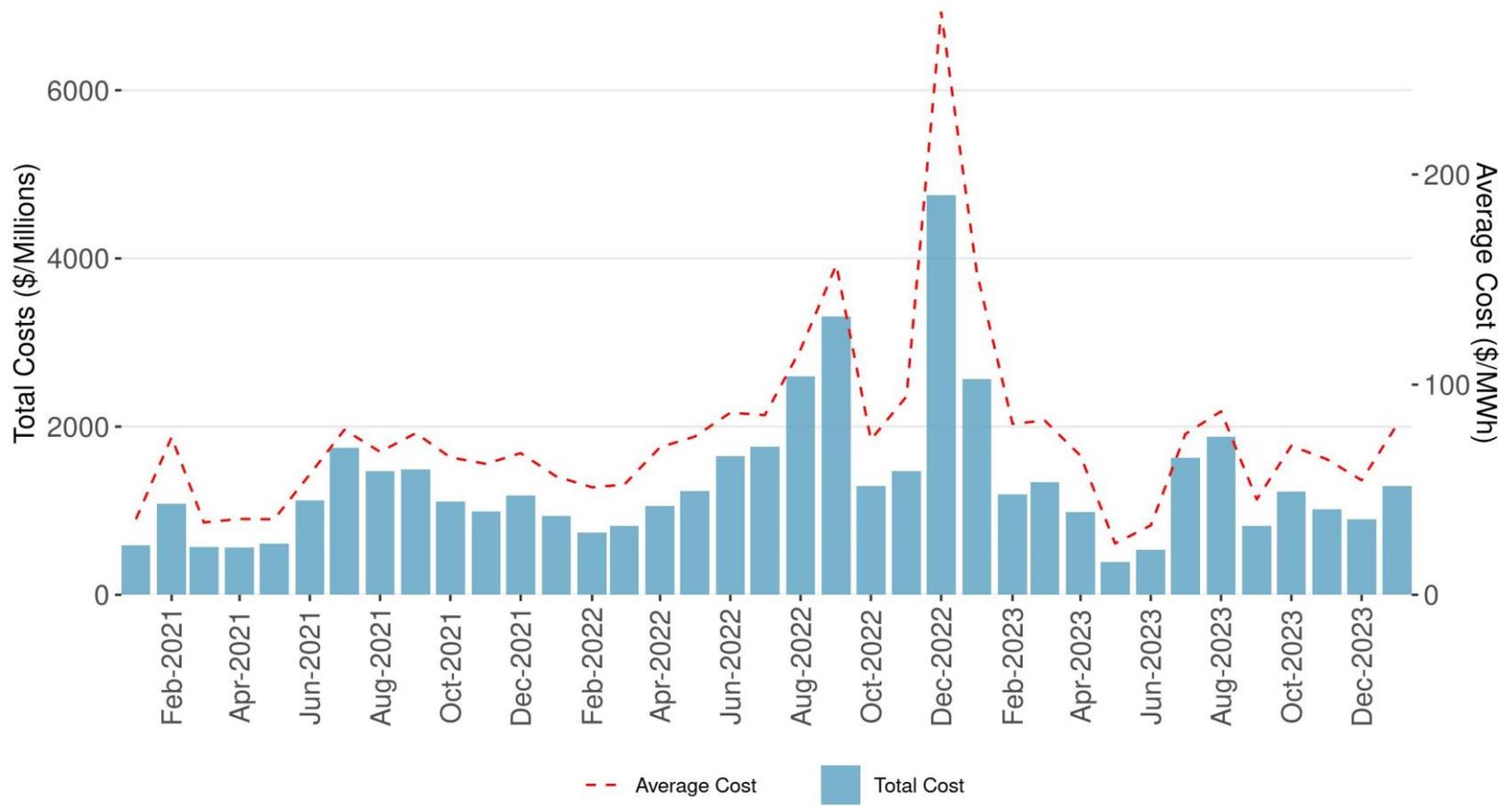
Future on-peak bilateral power prices for January 2024 were reactive to cold snap conditions, but traded fairly lower for other winter 2024 future months



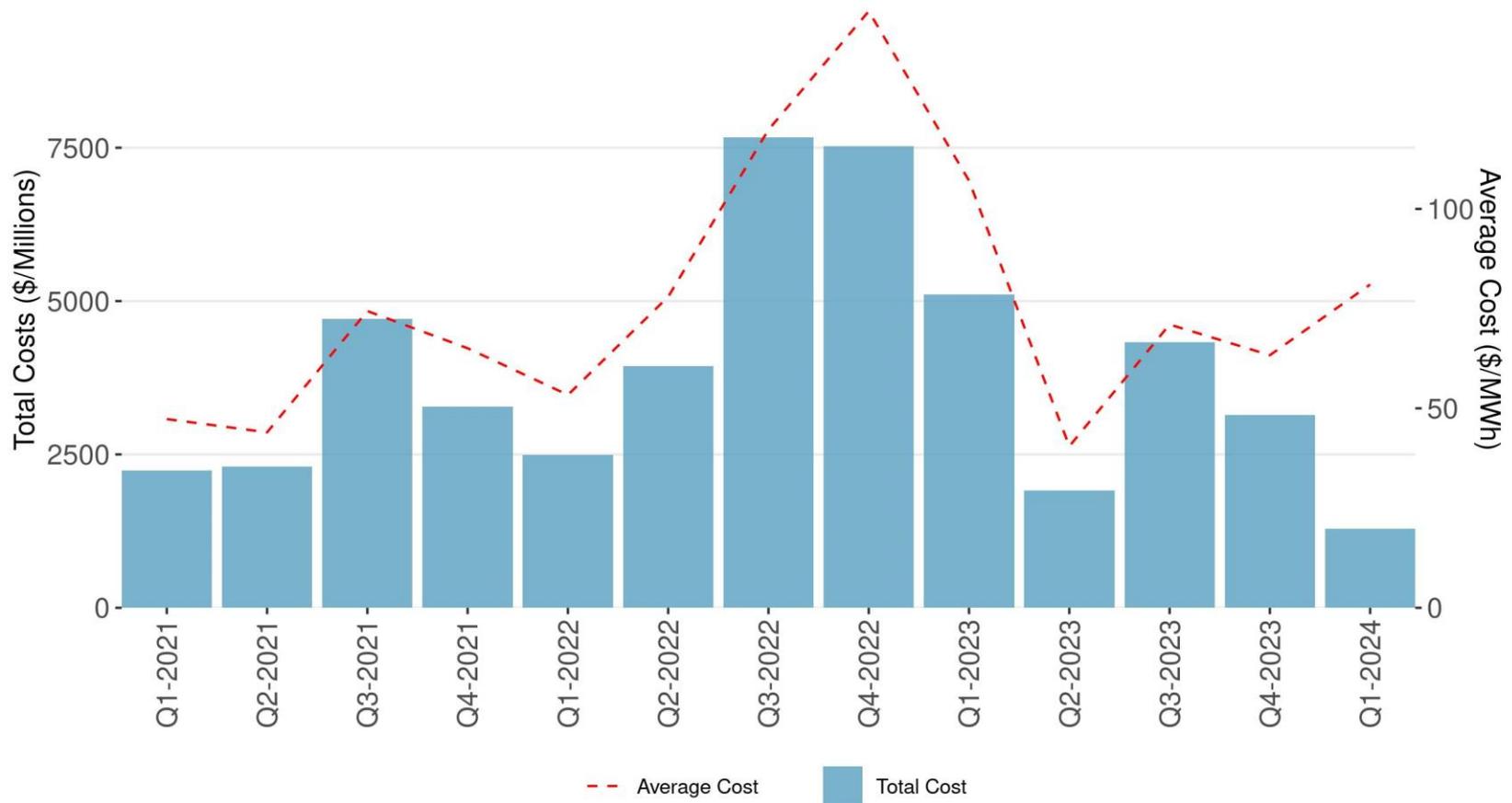
Daily market costs remained lower at the start of winter but increased during the January 2024 cold snap



Monthly totals for November 2023 through January 2024 remained low compared to the previous year

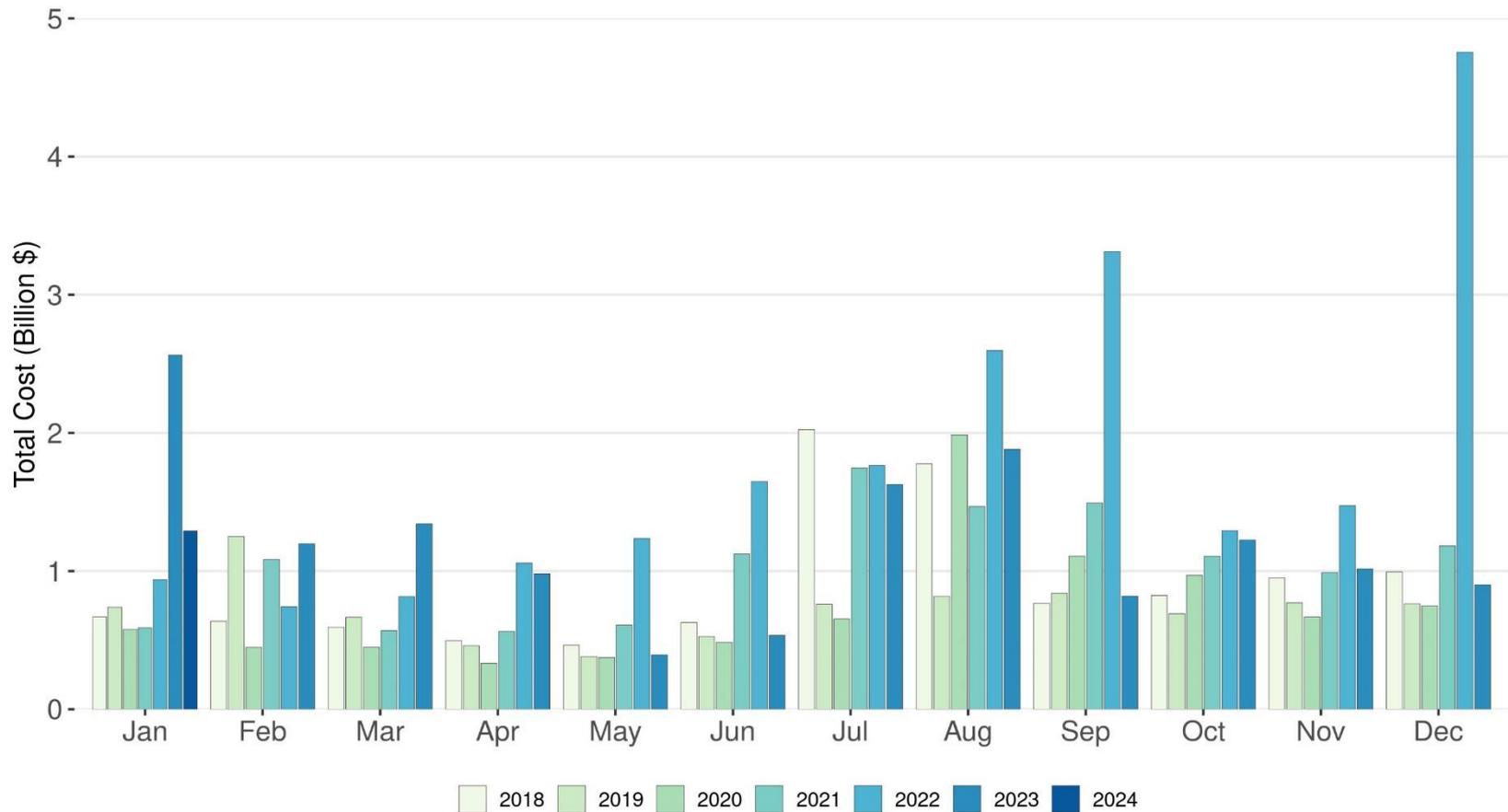


Q4 2023 total costs are \$4B lower than Q4 2022 total costs, or \$86.26/MWh lower on average



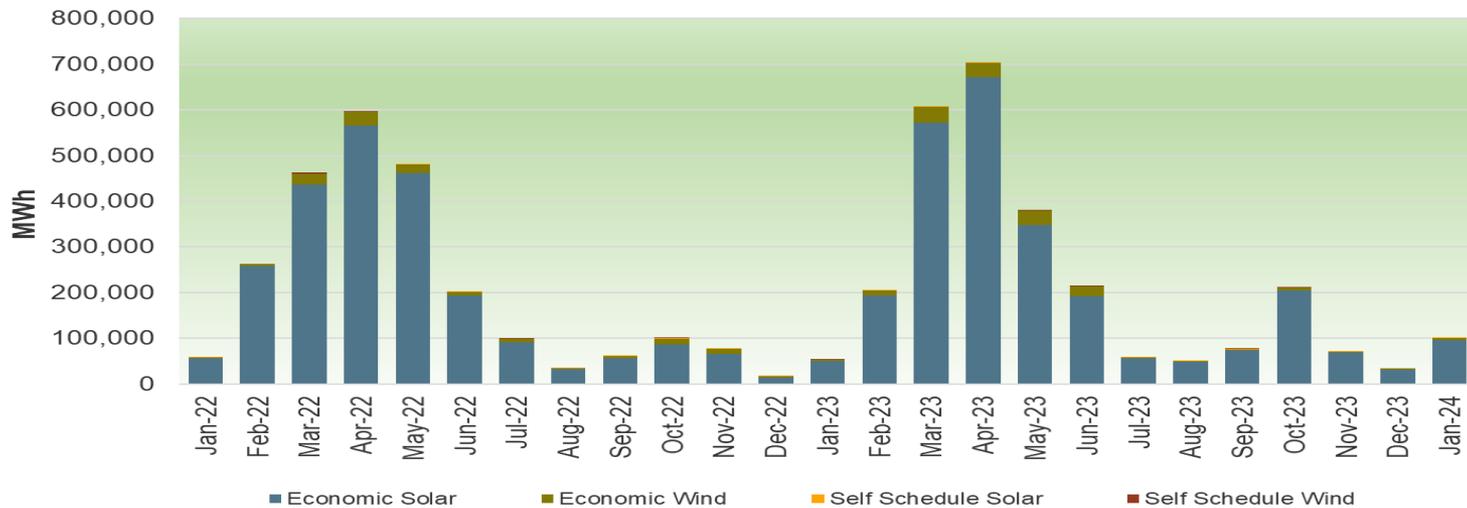
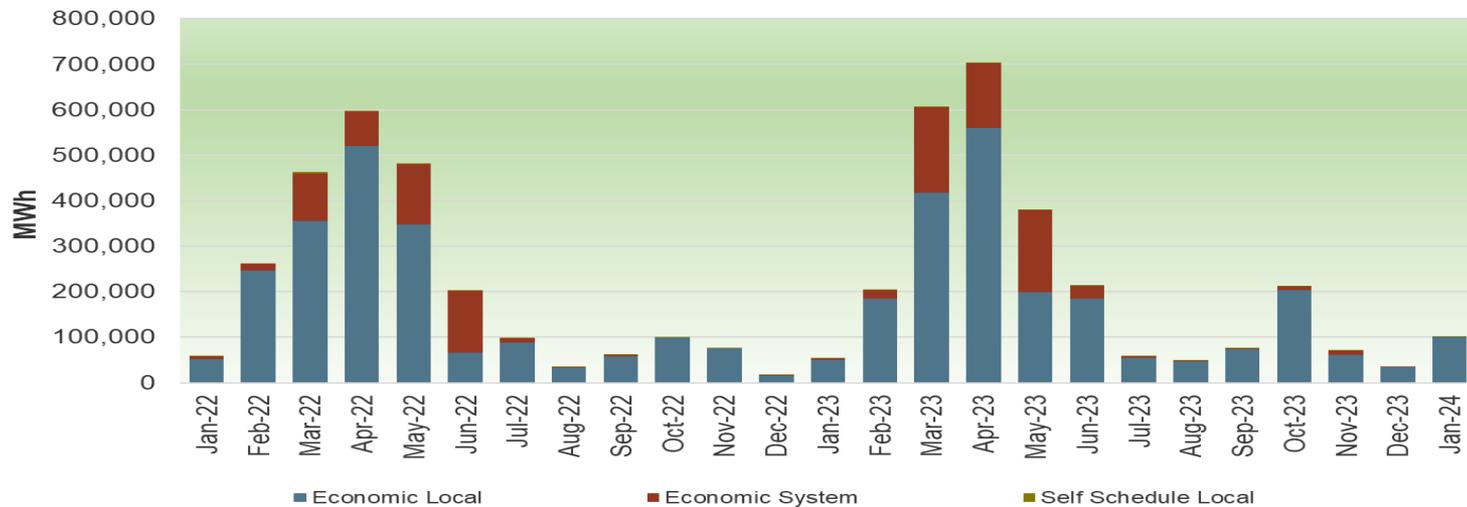
Note: Q1 2024 includes data for January only

Monthly totals for November 2023 through January 2024 months remained lower than monthly totals from the previous year

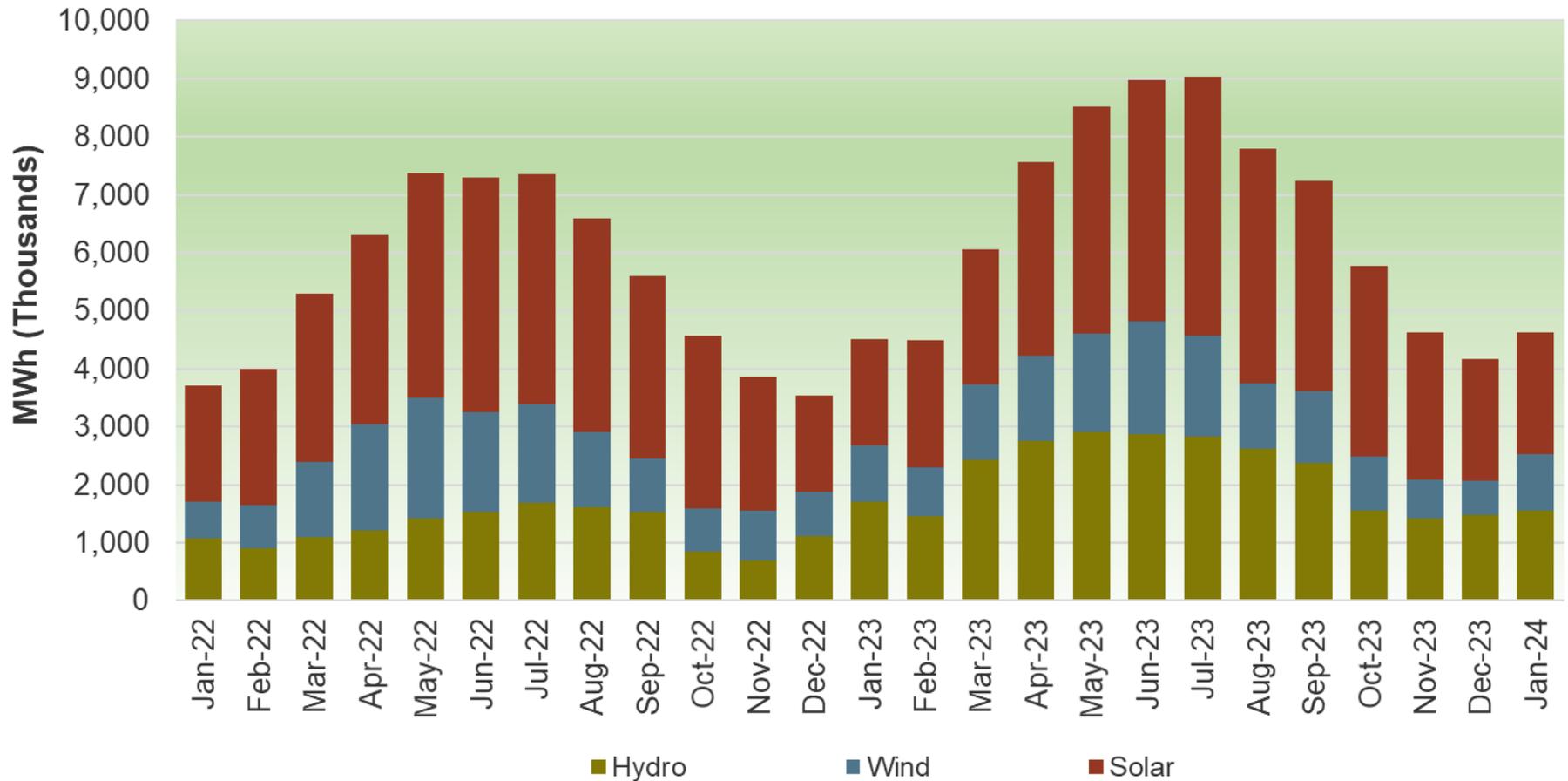


Market Performance Metrics

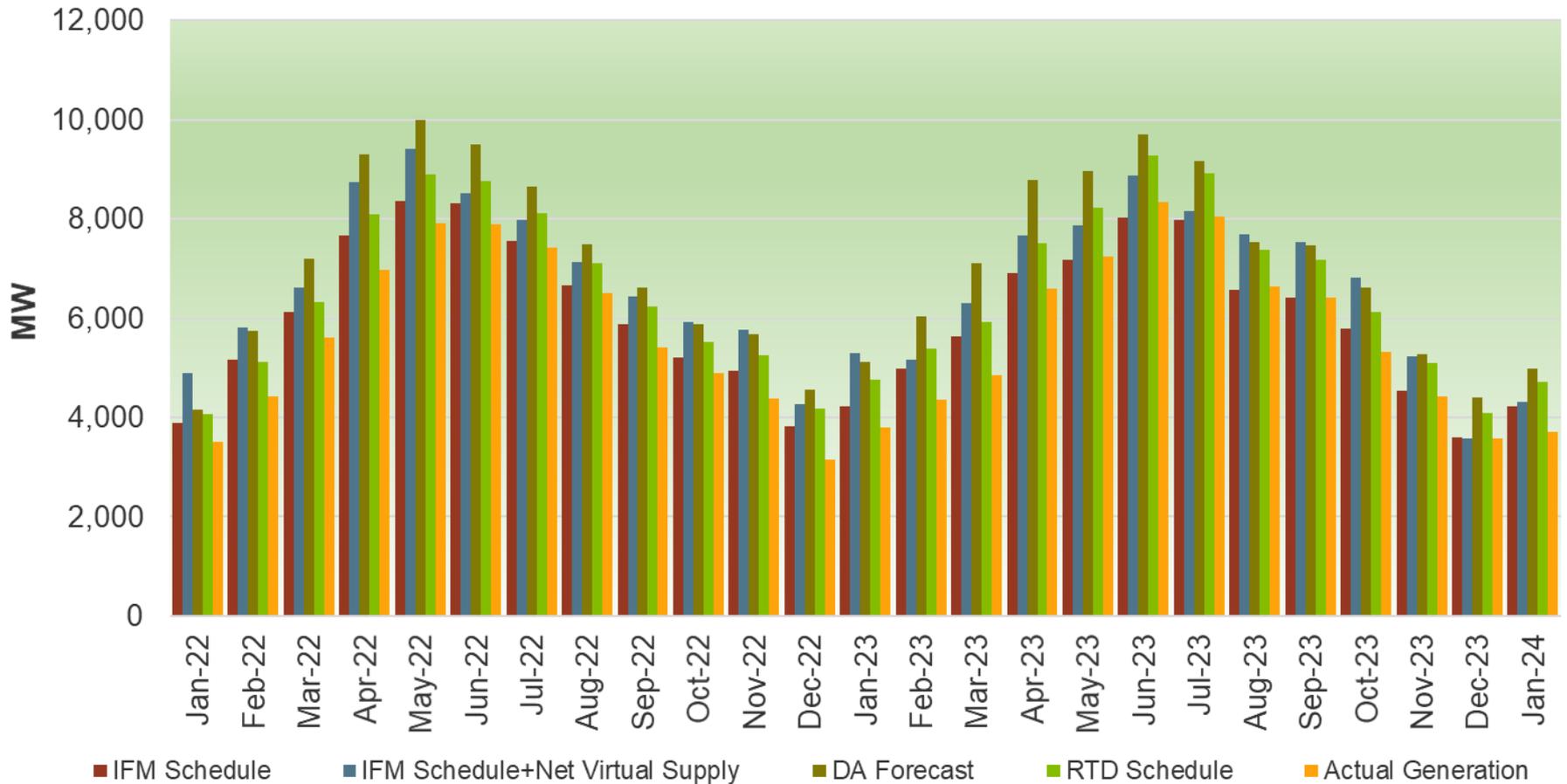
RTD renewable (VERs) curtailment fell since October



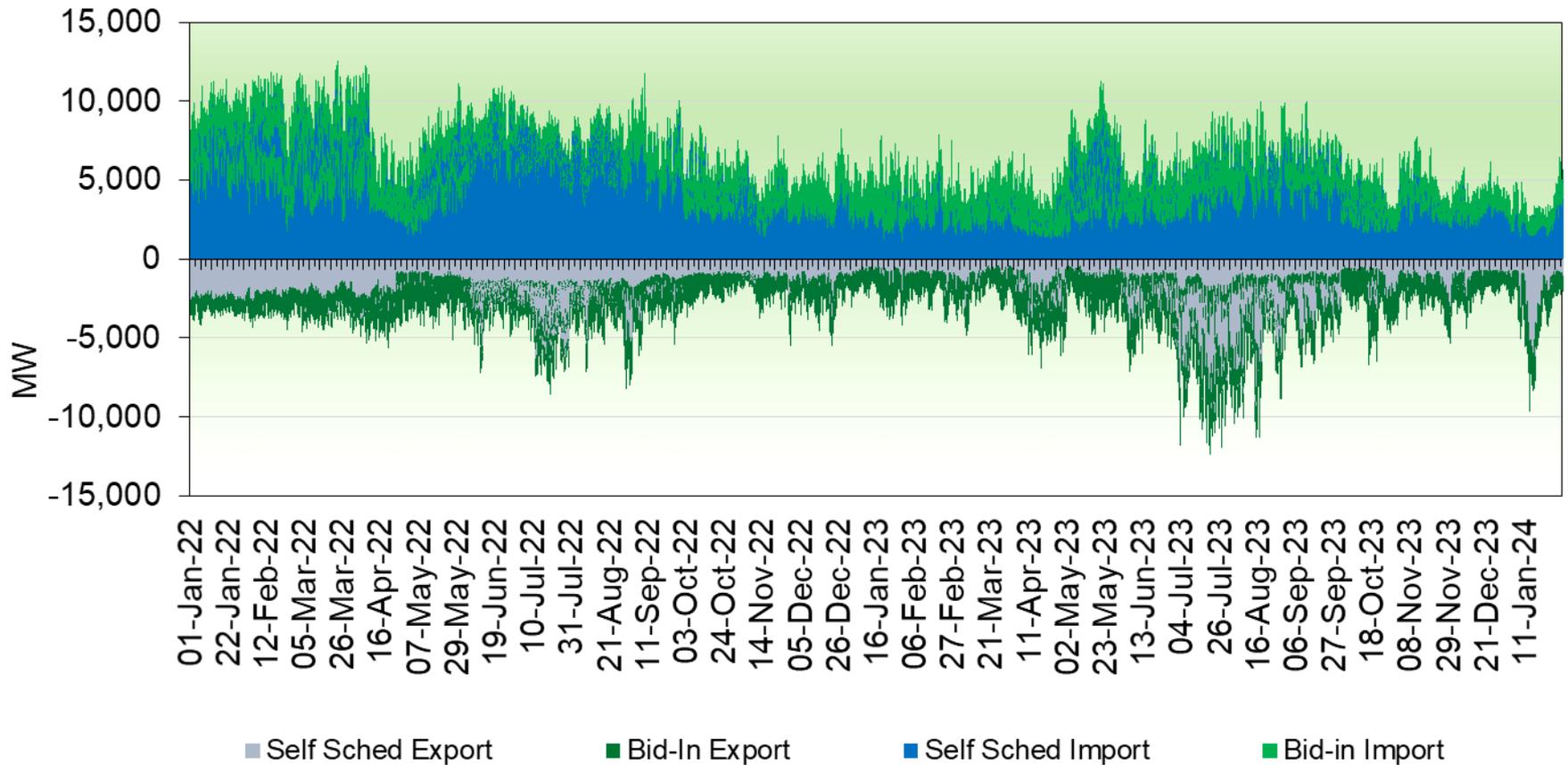
Hydro production higher than previous years



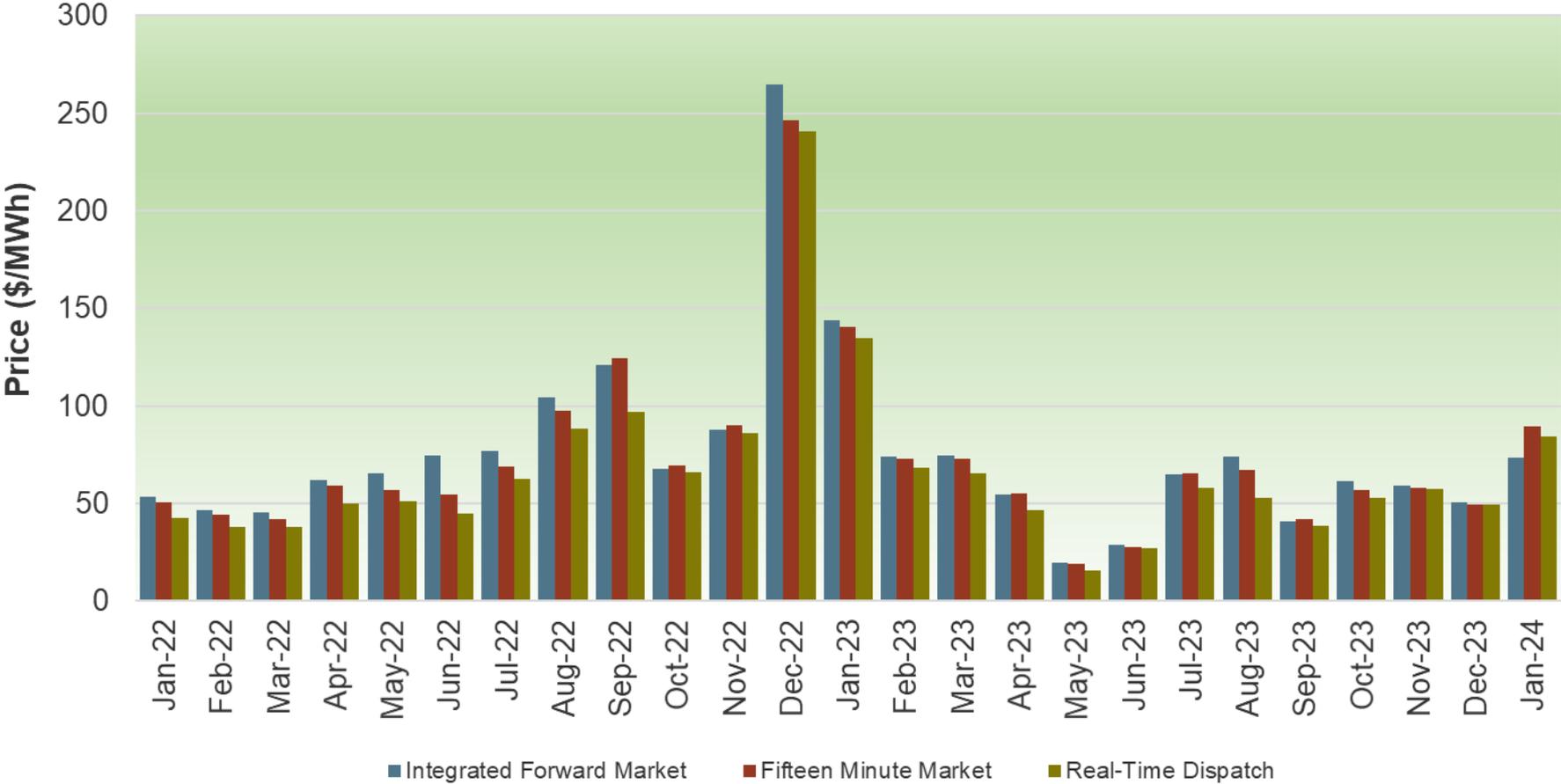
ISO total monthly VERS schedules and forecasts compared to actuals



Self scheduled exports increased in January

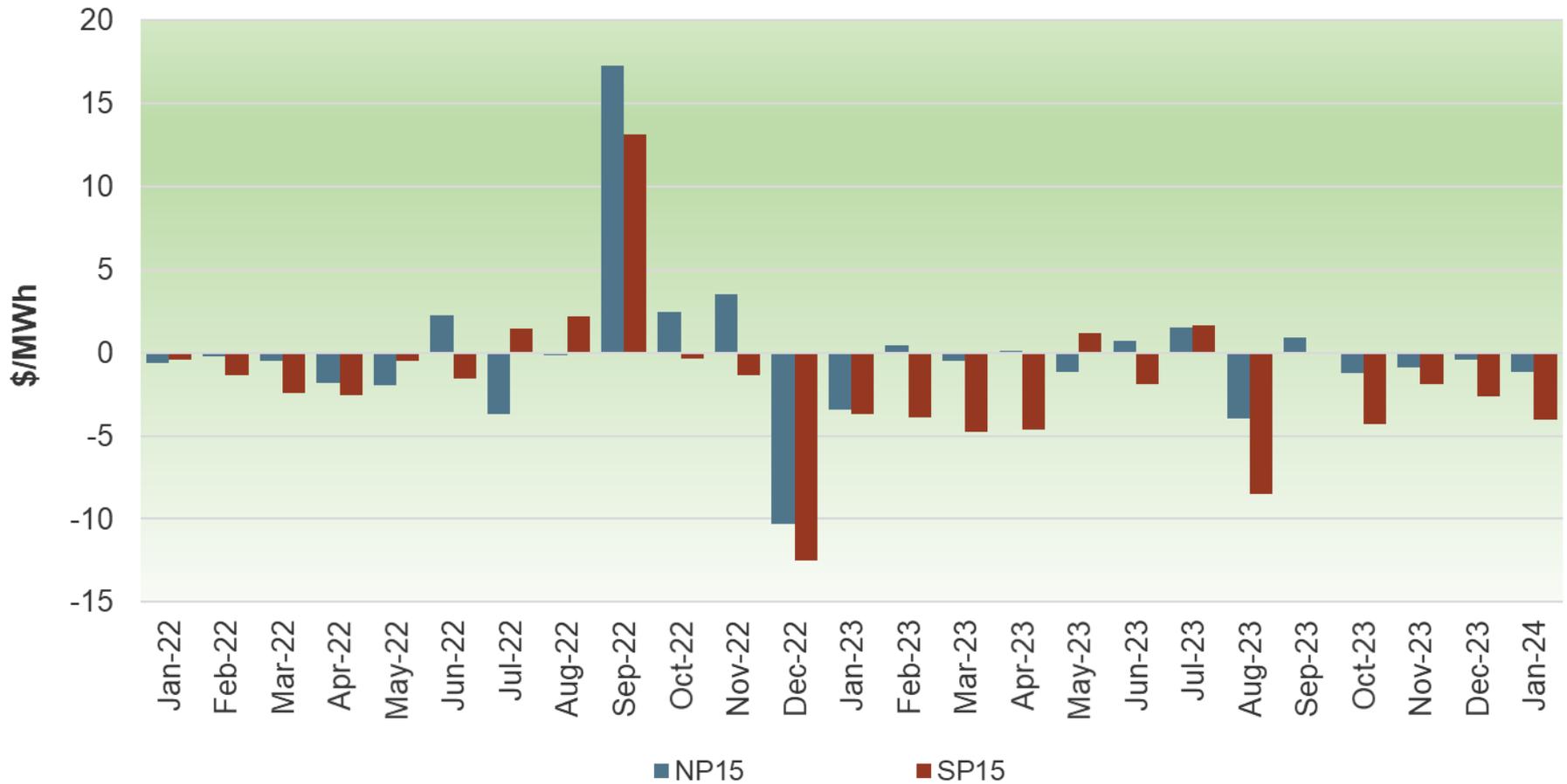


Prices increased in January due to high gas prices

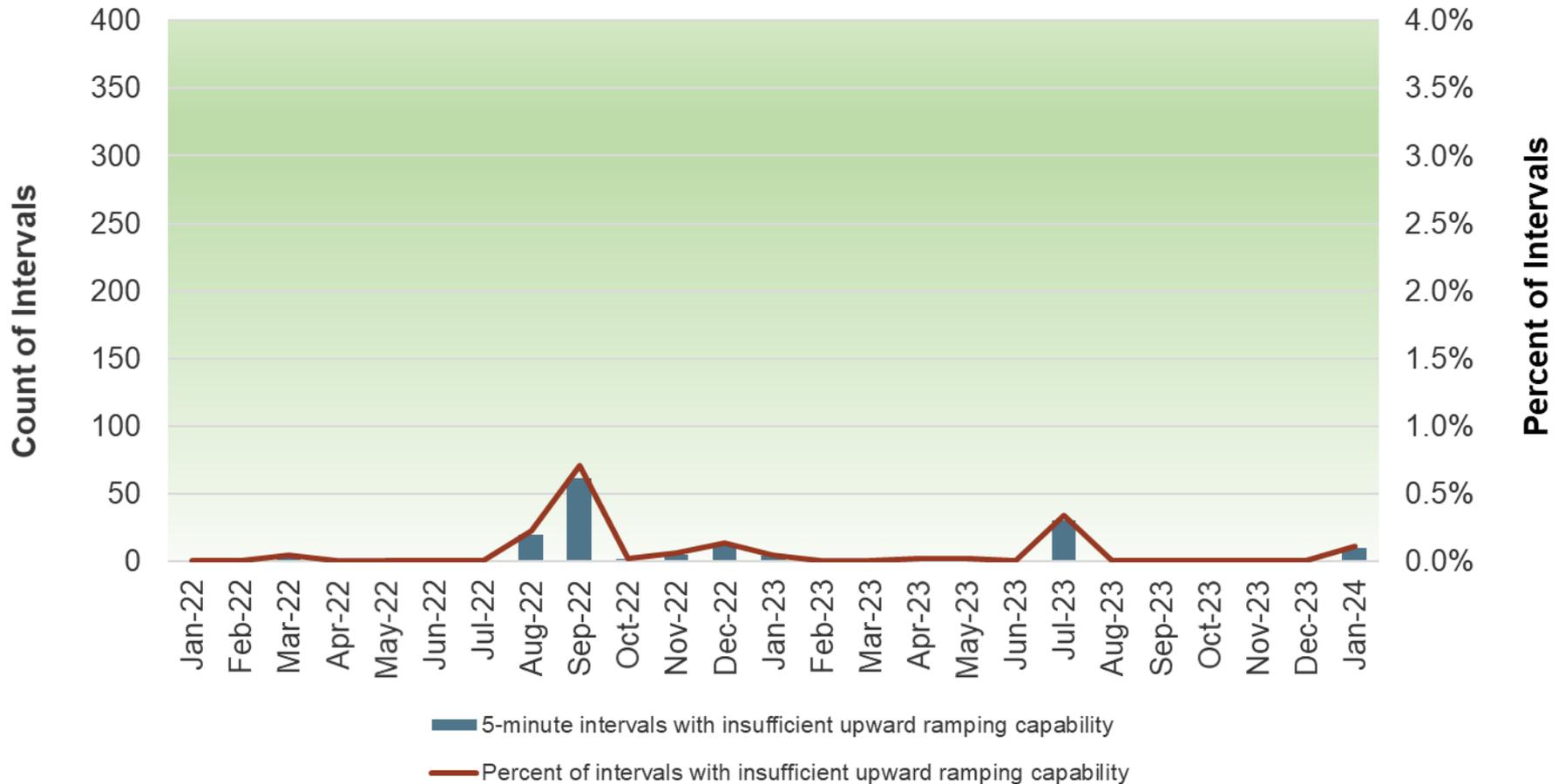


Note: Metric Based on System Marginal Energy Component (SMEC)

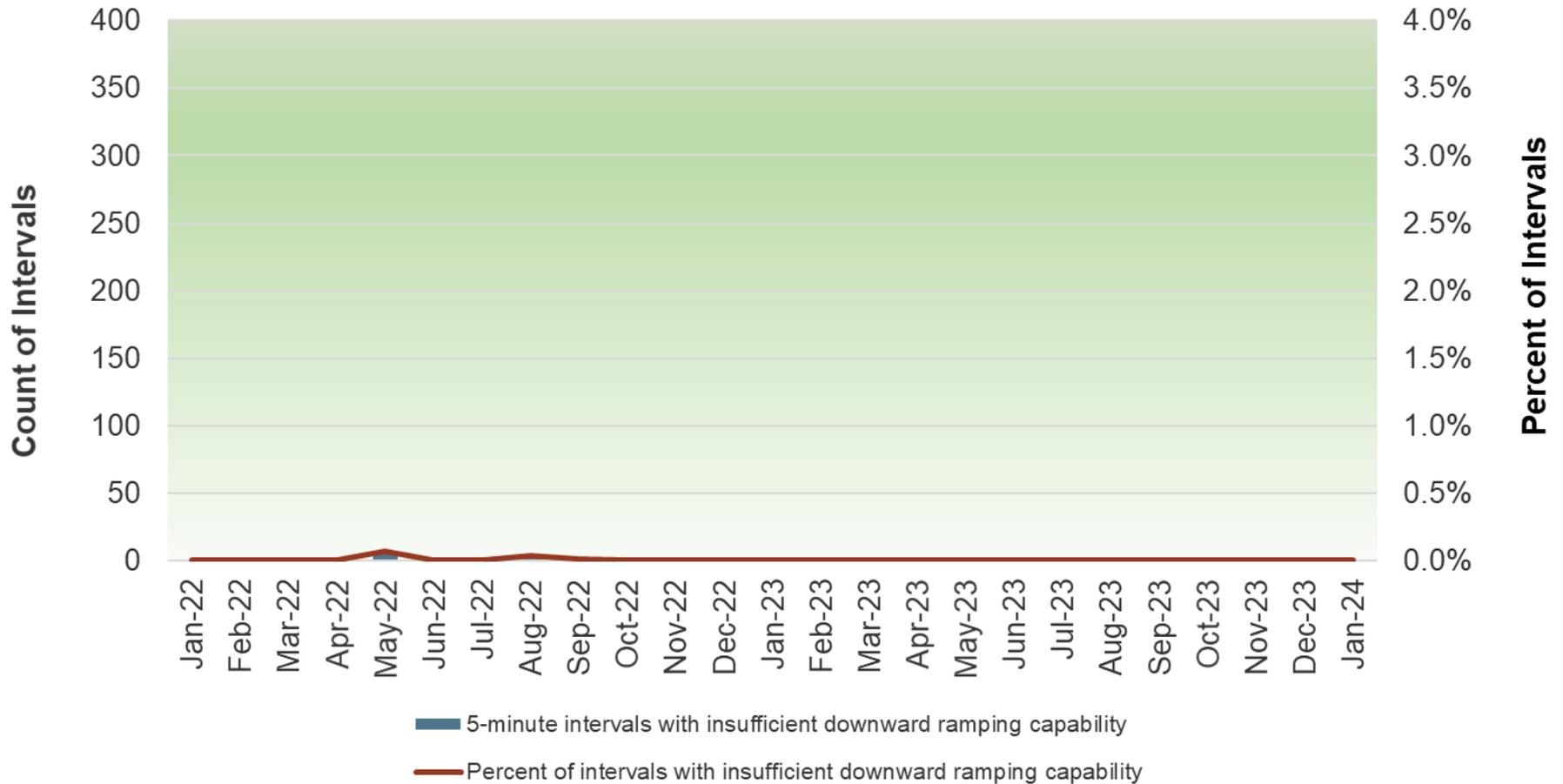
Real-time prices lower than day-ahead prices for both NP15 and SP15 since last October



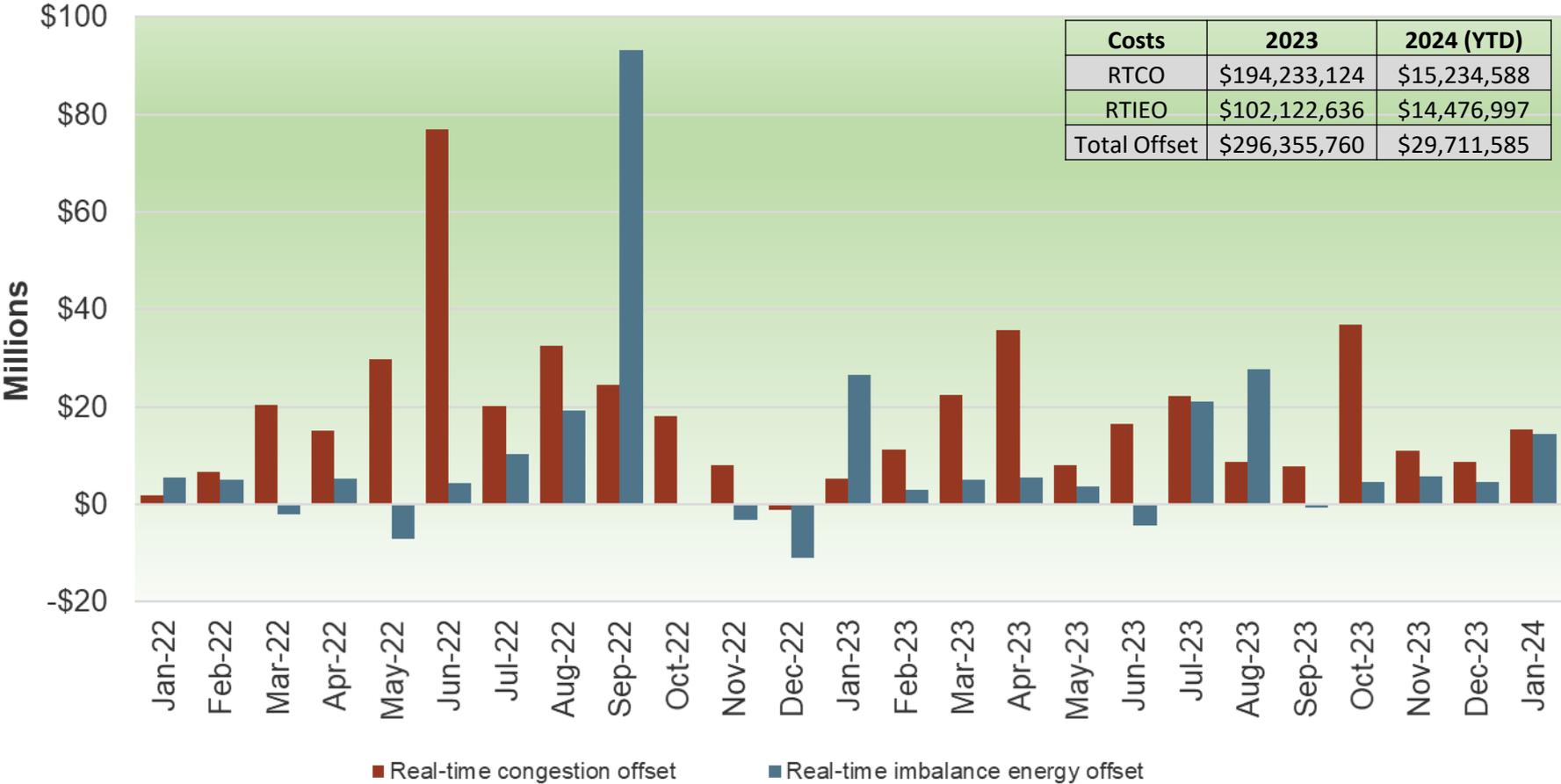
Insufficient upward ramping capacity in ISO real-time remained at low levels



Insufficient downward ramping capacity in real-time stayed low



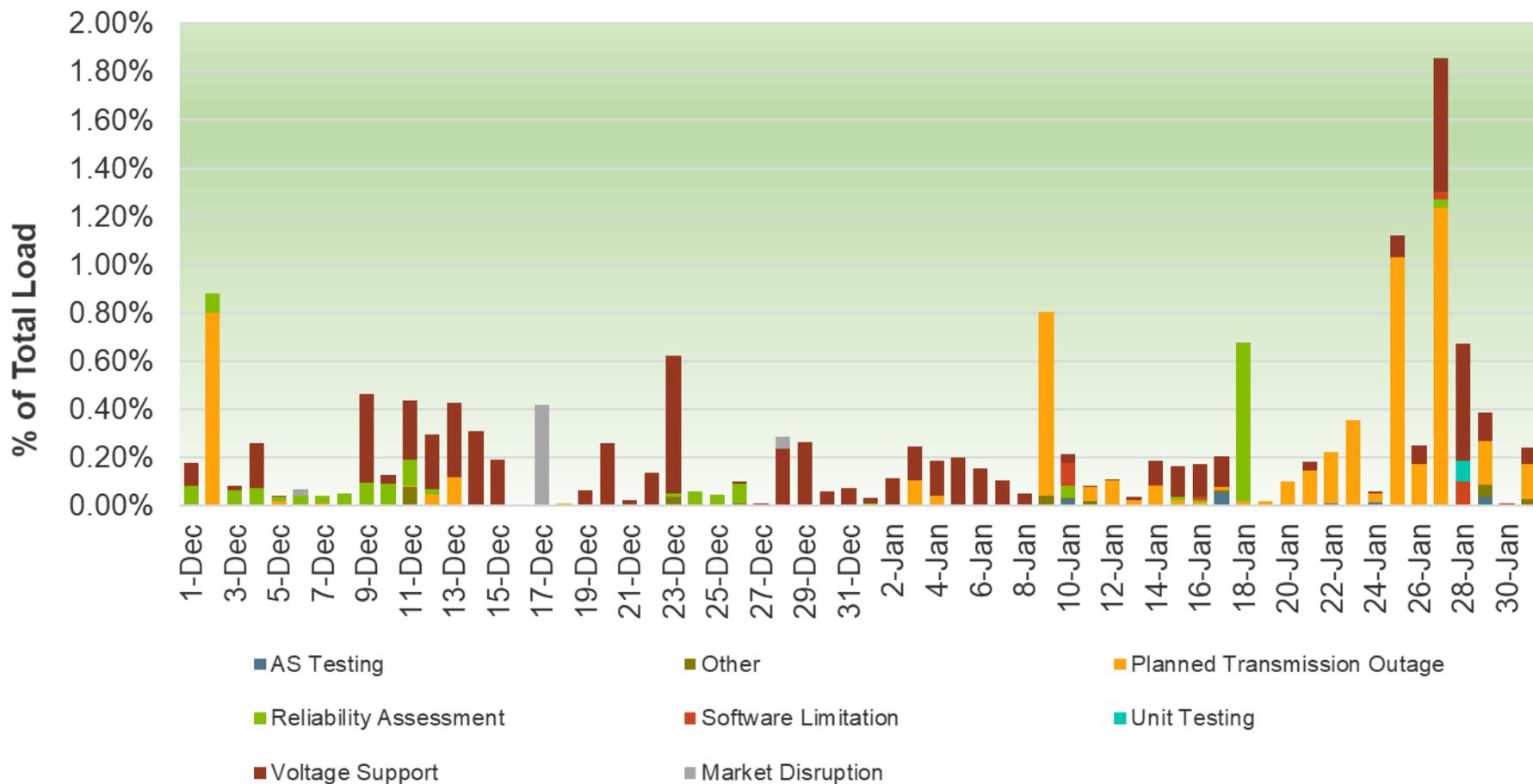
ISO area real-time congestion and energy offset rose in January



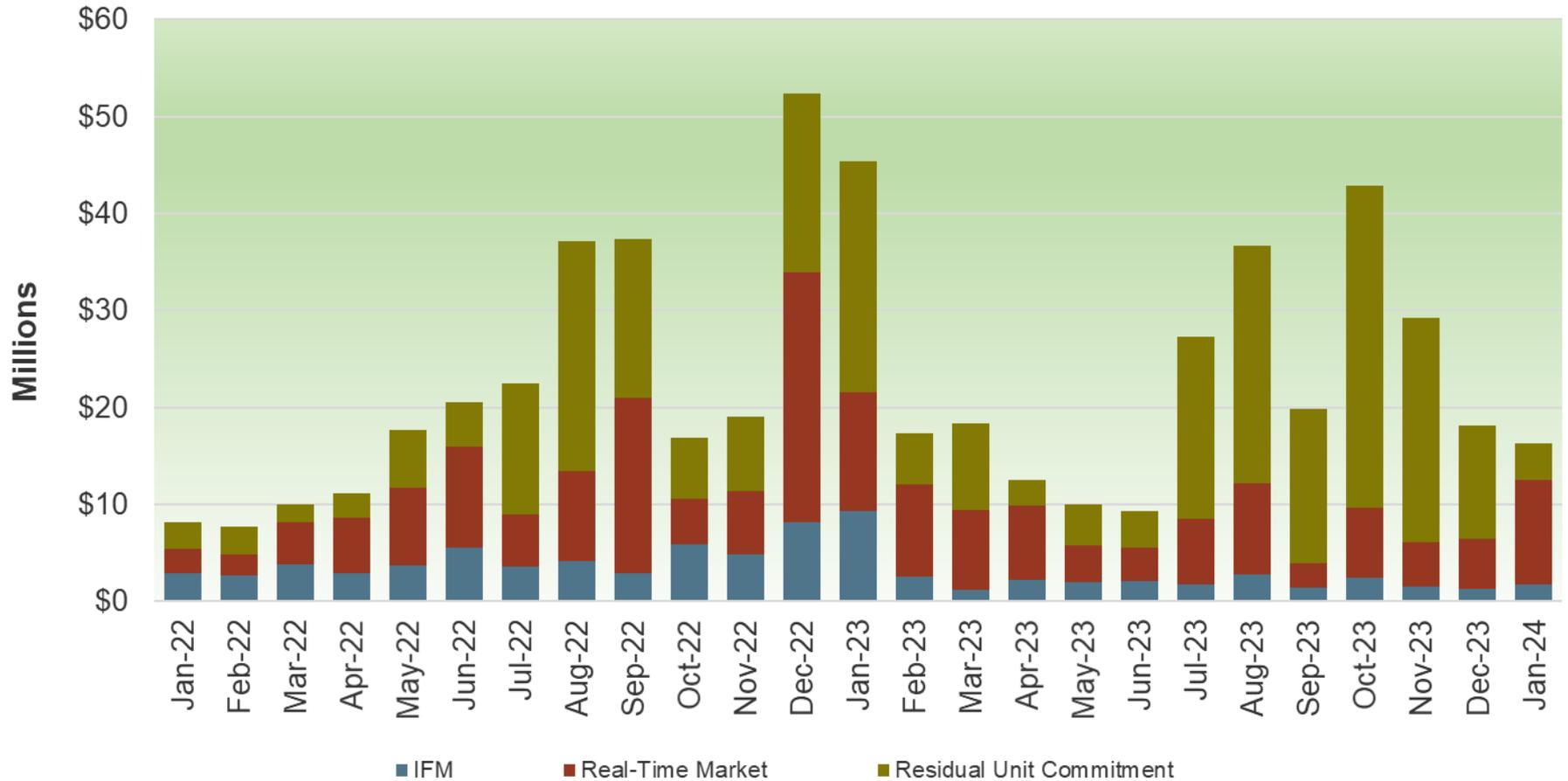
Exceptional dispatch volume in the ISO area are at low levels



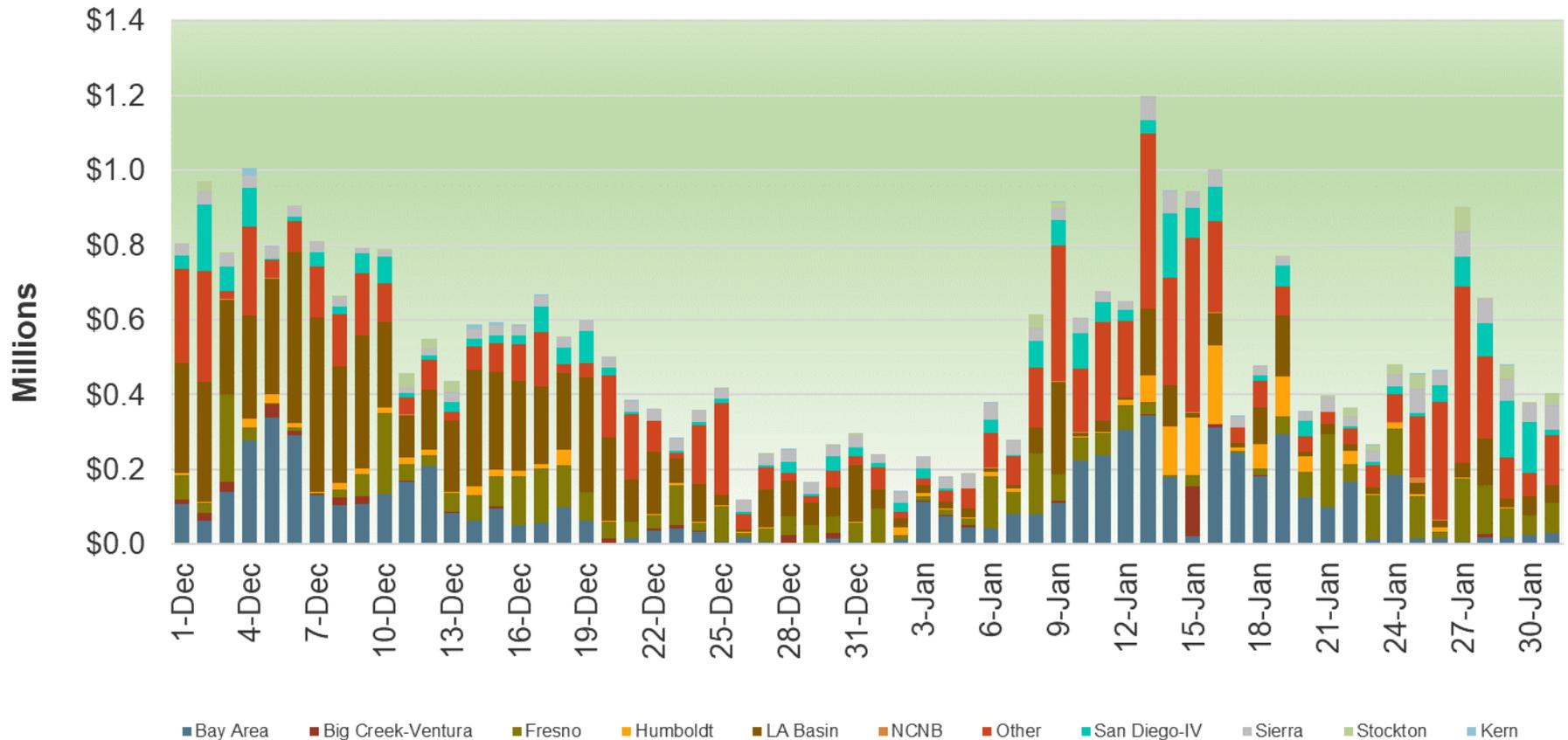
Exceptional dispatches volume driven by a variety of reasons



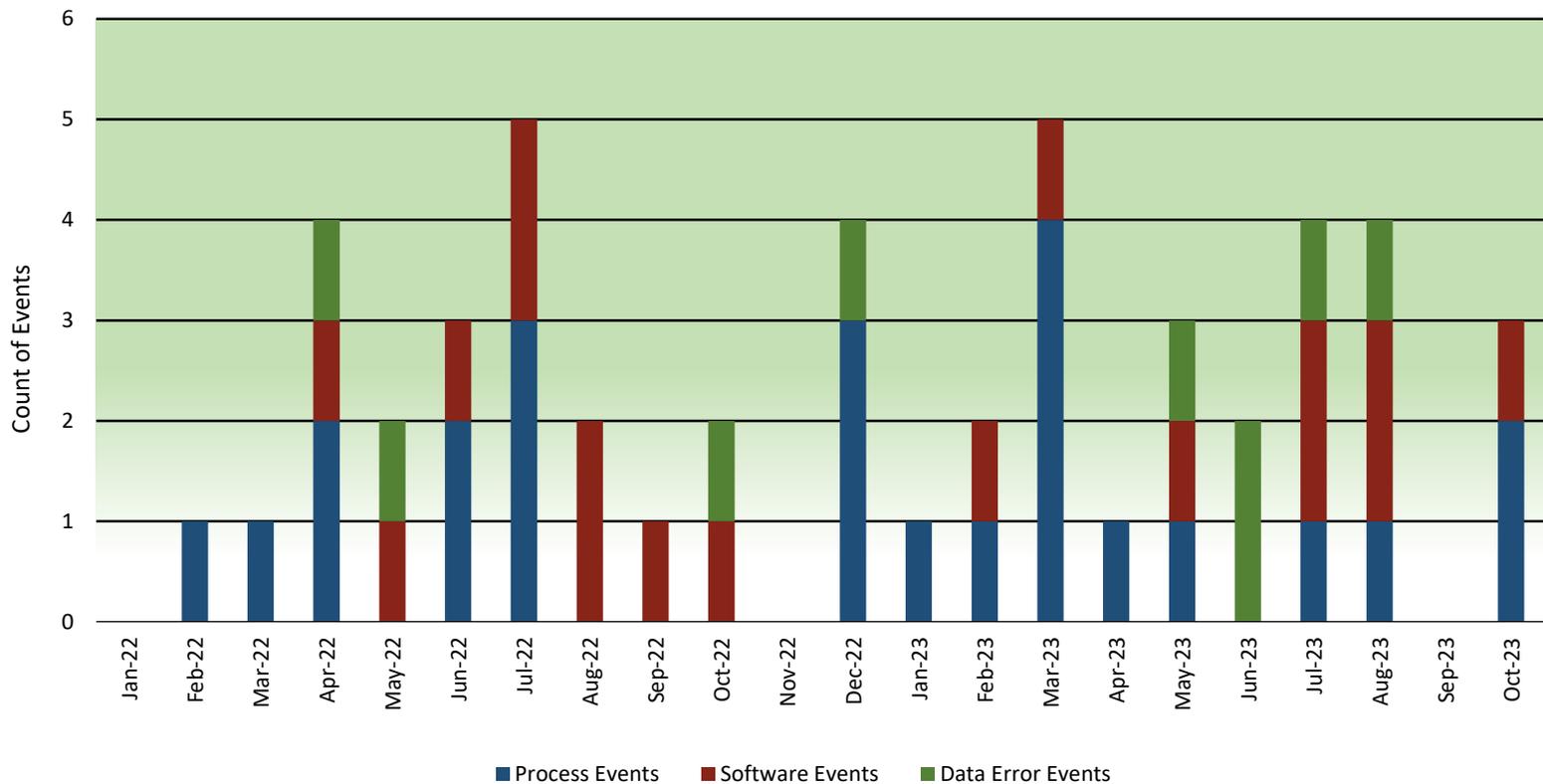
Bid cost recovery in RUC declined since last October



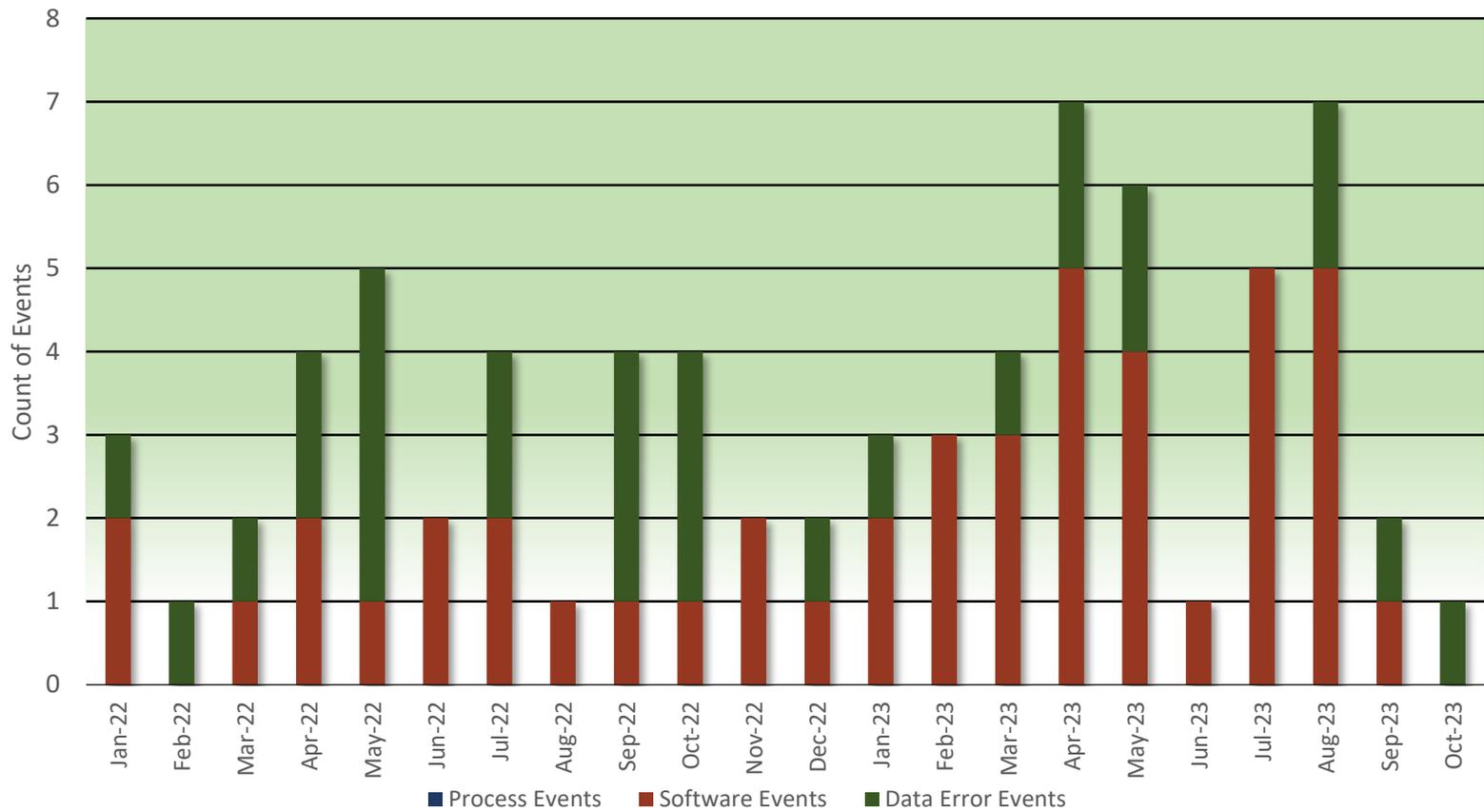
Bid cost recovery (BCR) by Local Capacity Requirement area



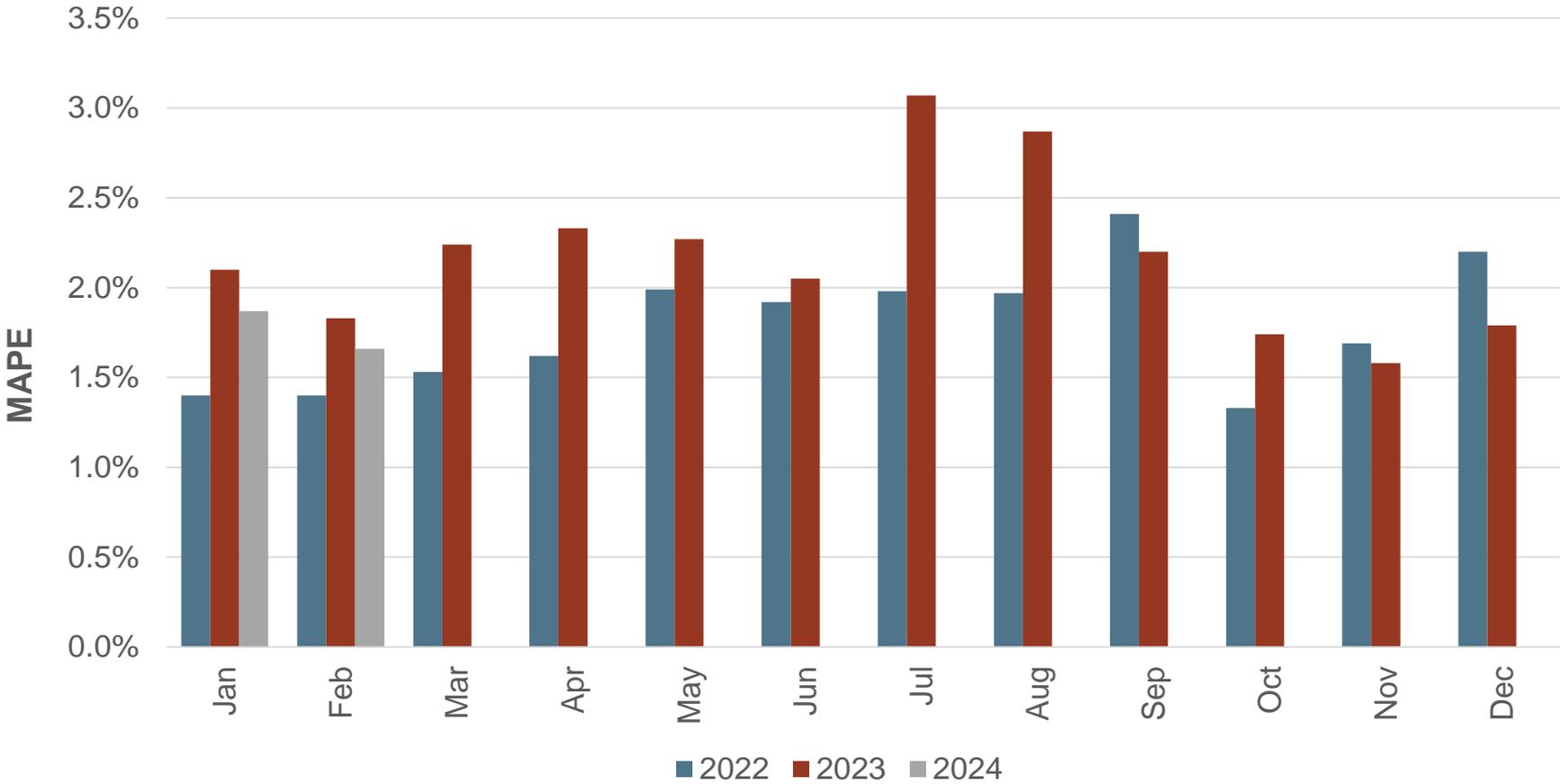
CAISO price correction events increased in October



EIM-related price corrections decreased in September and October



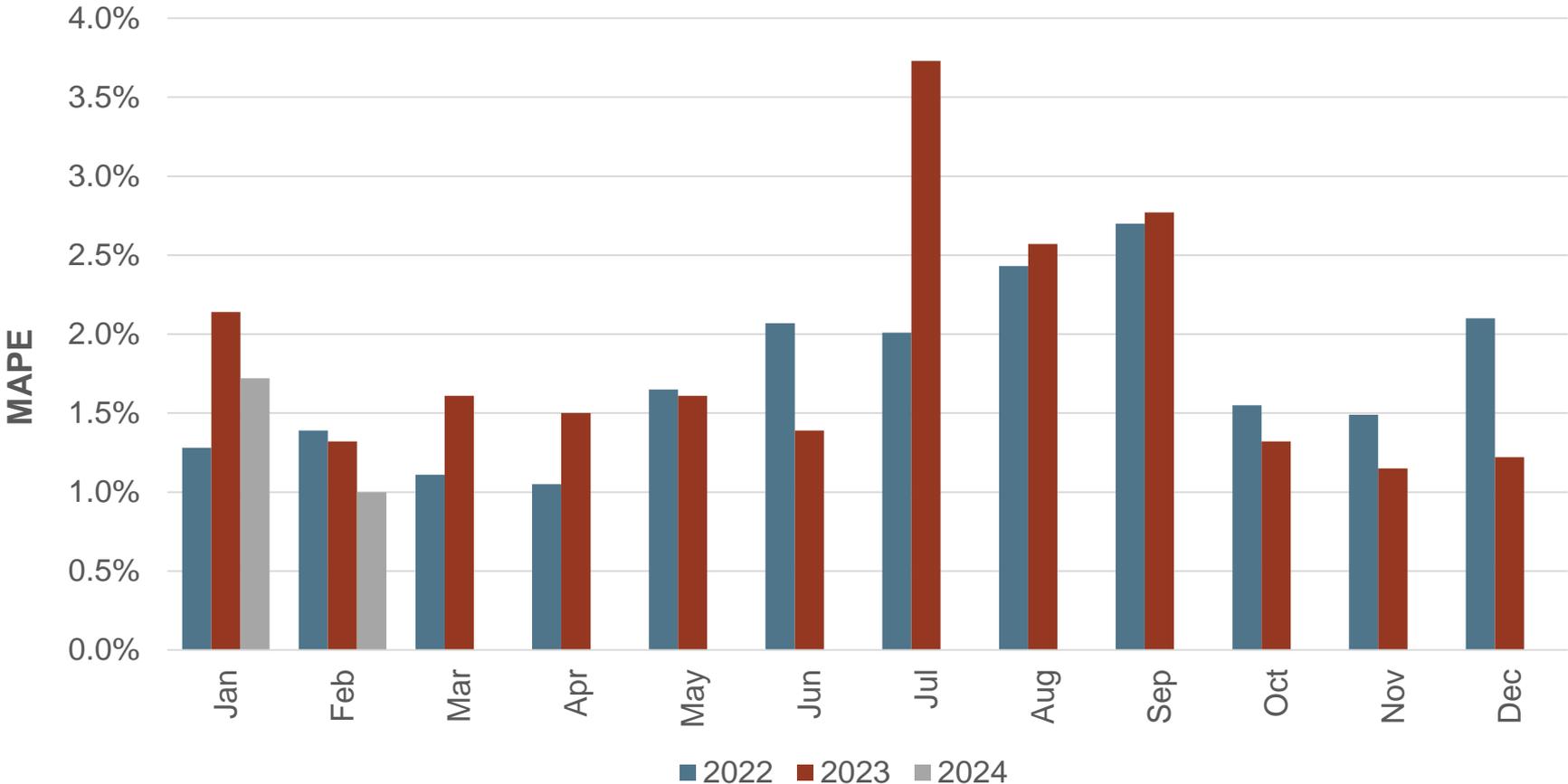
Day-ahead load forecast



*MAPE = abs(Forecast - Actual)/Actual

**Feb 2024 values shown for 2/1/24 - 2/27/24

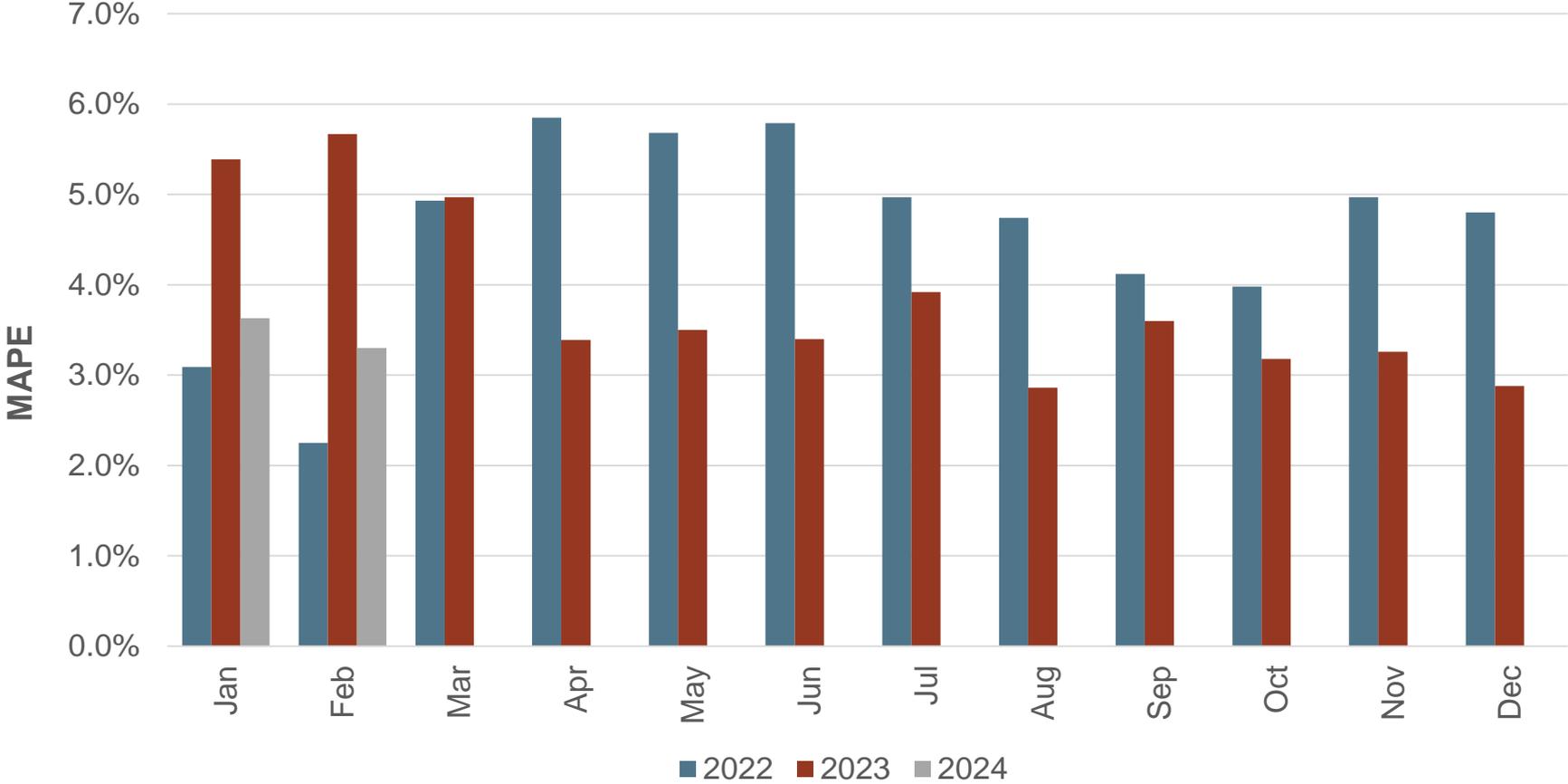
Day-ahead peak forecast



*MAPE = abs(Forecast - Actual)/Actual

**Feb 2024 values shown for 2/1/24 - 2/27/24

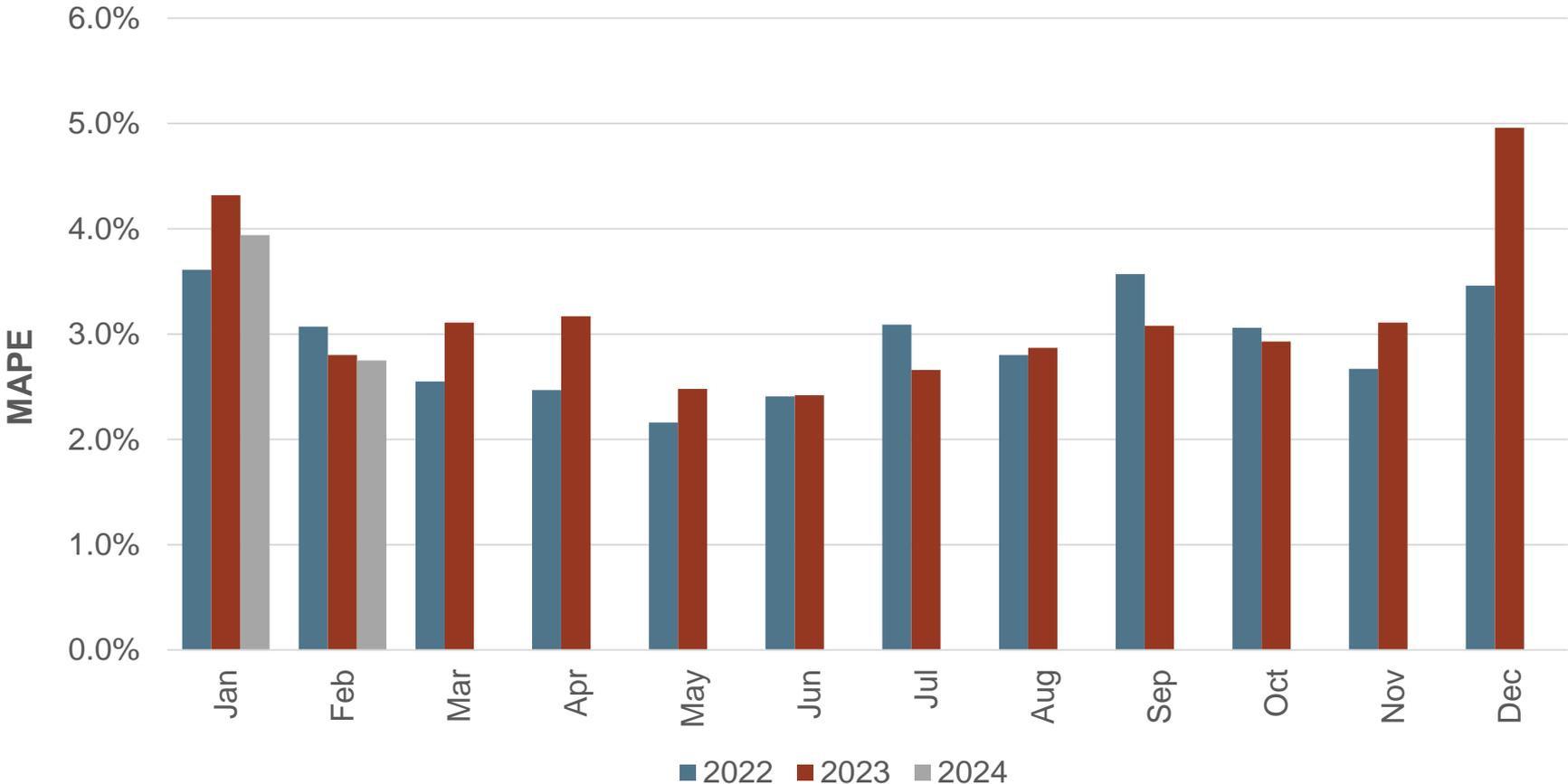
Day-ahead wind forecast



*MAPE = abs(Forecast – Actual)/Actual

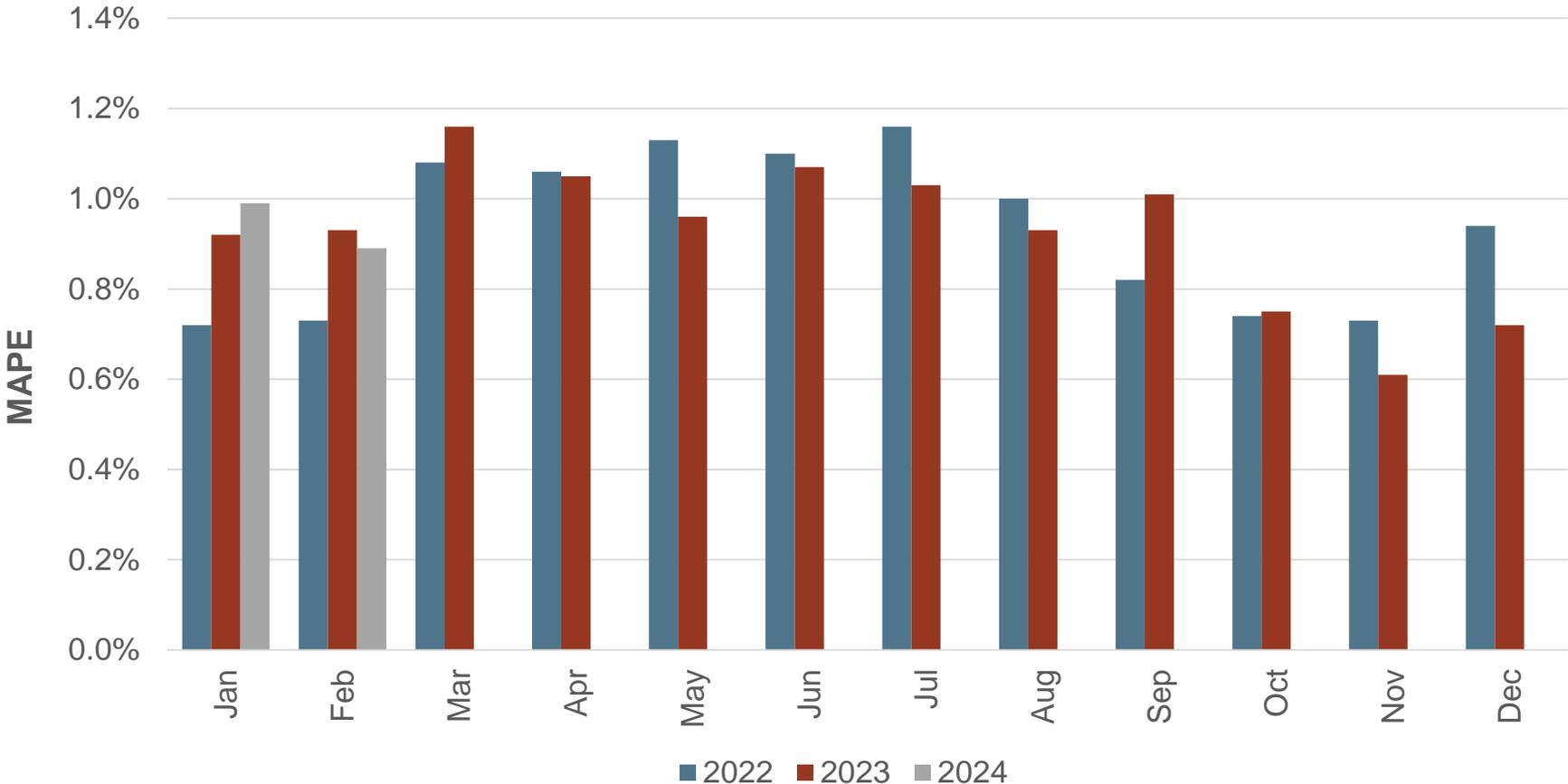
**Feb 2024 values shown for 2/1/24 – 2/27/24

Day-ahead solar forecast



*MAPE = abs(Forecast - Actual)/Actual
 **MAPE only calculated for intervals where Forecast > 0
 ***Feb 2024 values shown for 2/1/24 - 2/27/24

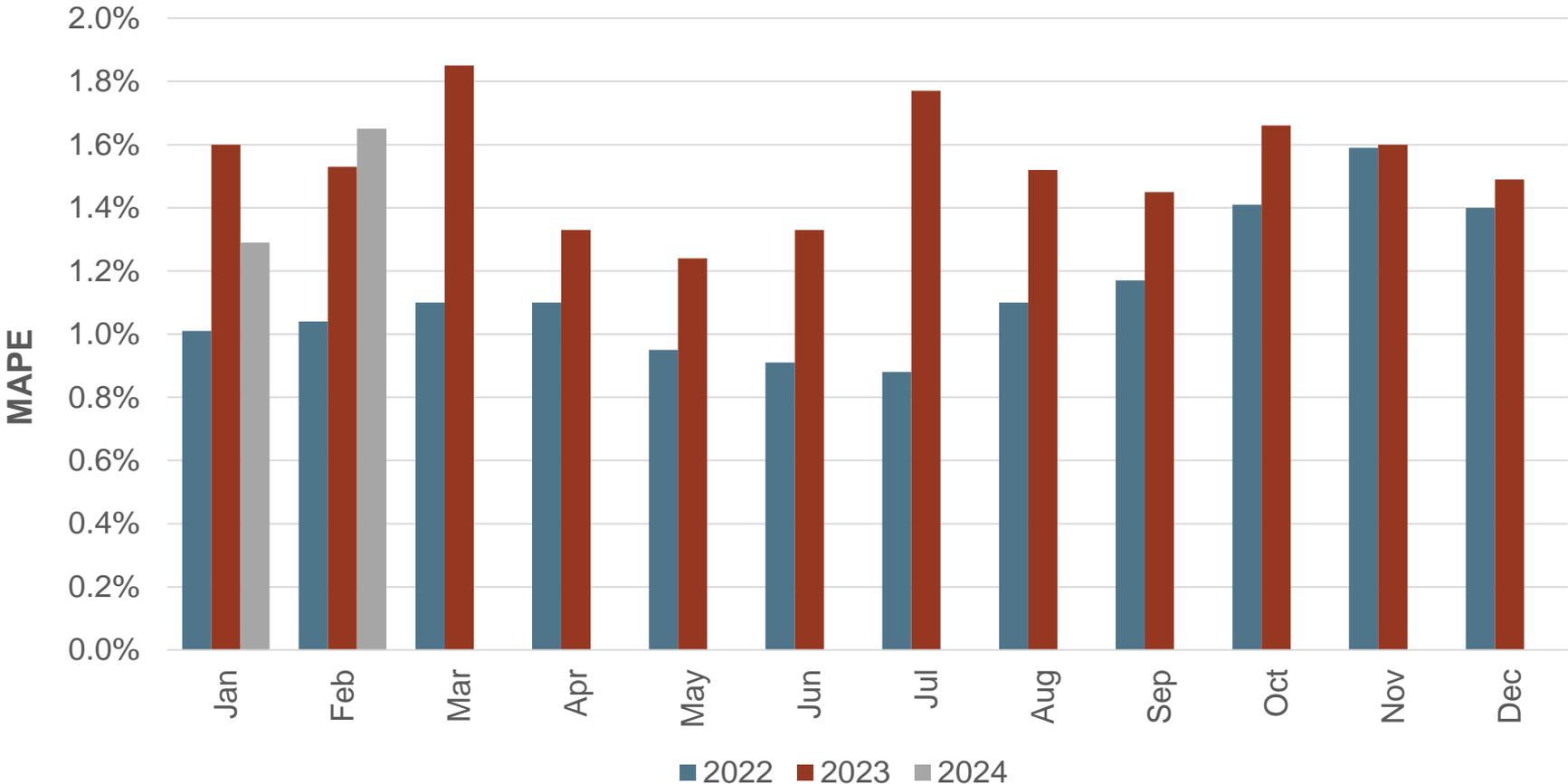
Real-time wind forecast



*MAPE = abs(Forecast – Actual)/Actual

**Feb 2024 values shown for 2/1/24 – 2/27/24

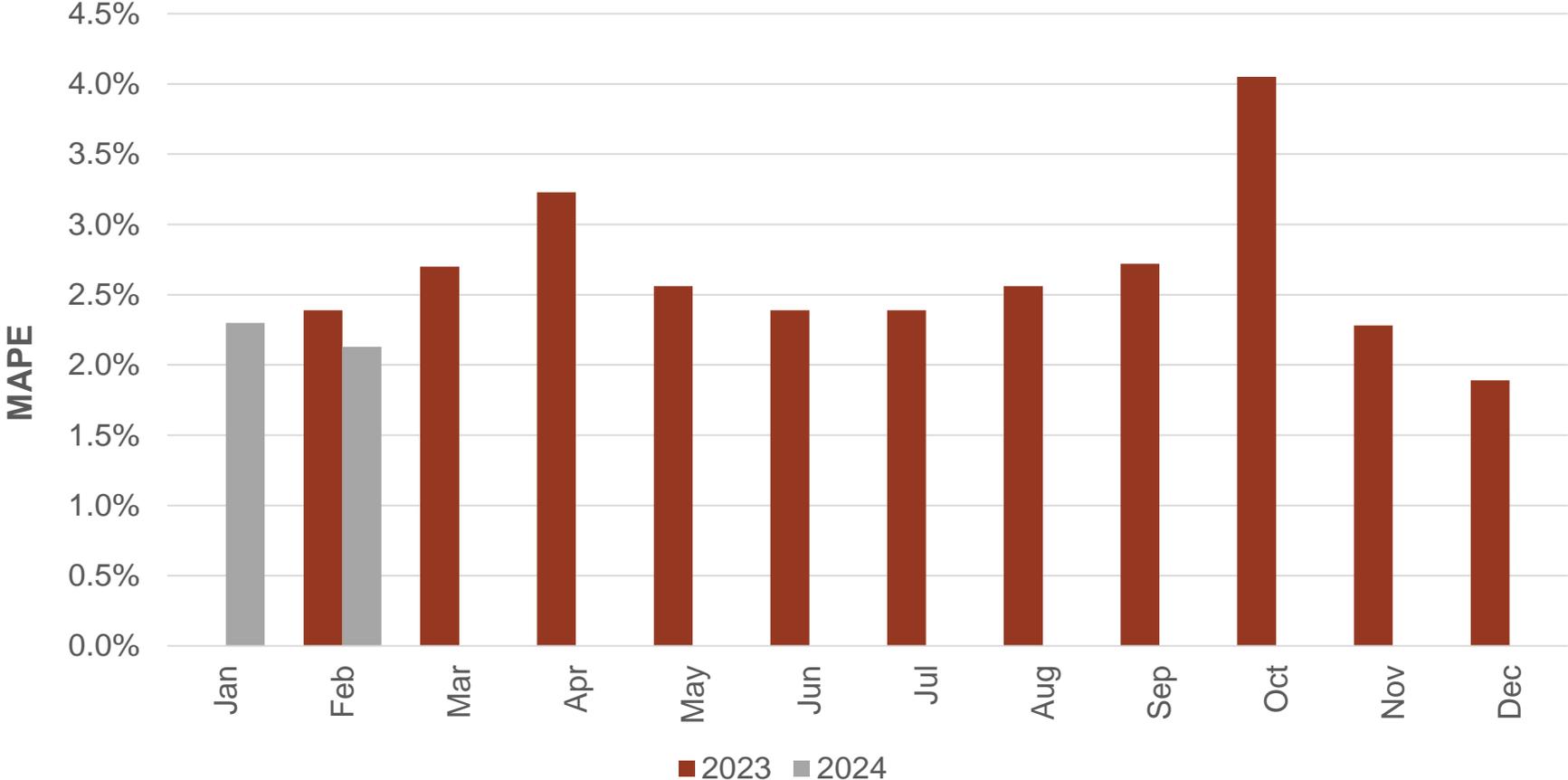
Real-time solar forecast



*MAPE = abs(Forecast – Actual)/Actual
 **MAPE only calculated for intervals where Forecast > 0
 ***Feb 2024 values shown for 2/1/24 – 2/27/24

Real Time Solar Hybrid Performance

*Comparison of DOT to MW Production

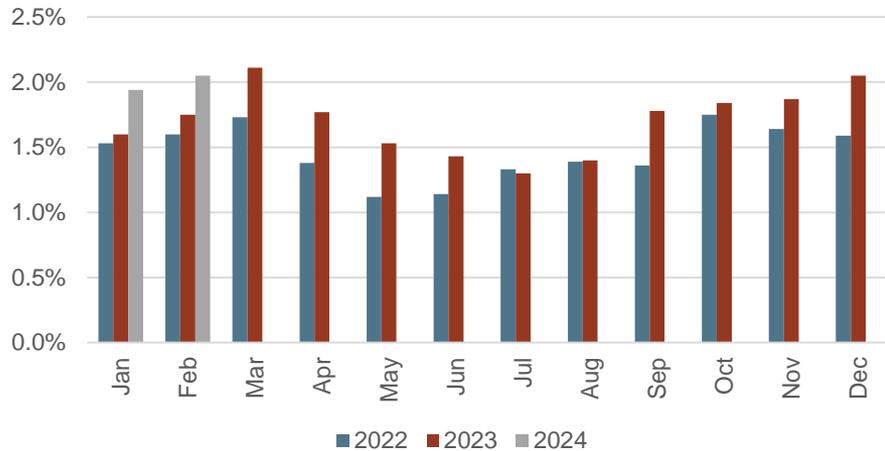


*MAPE = $\frac{\text{abs}(\text{DOT} - \text{Actual})}{\text{Capacity}}$

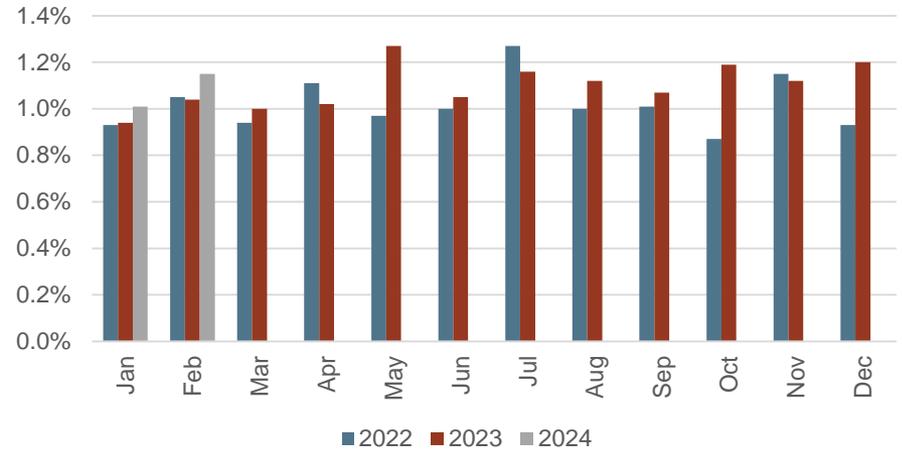
**Feb 2024 values shown for 2/1/24 – 2/27/24

EIM T-60 forecast

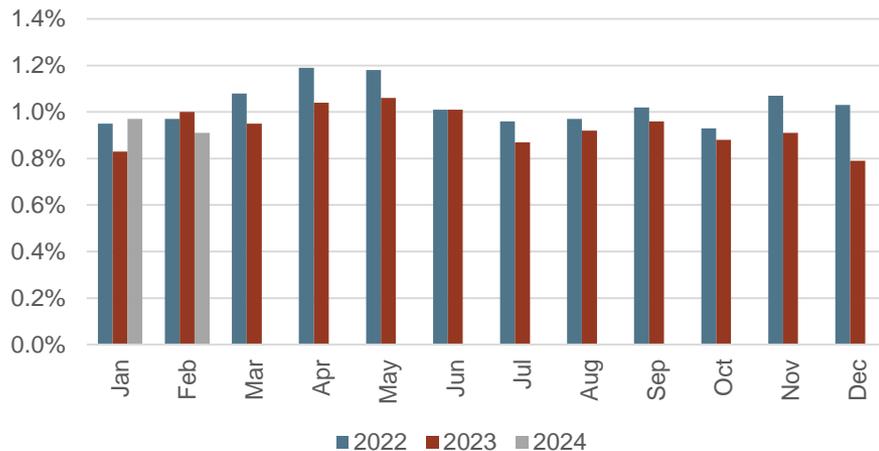
AZPS T-60 Forecast



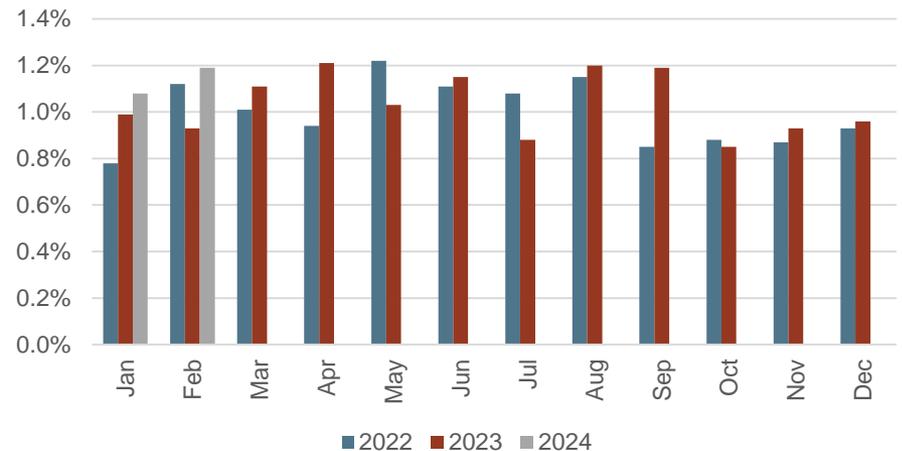
IPCO T-60 Forecast



PGE T-60 Forecast

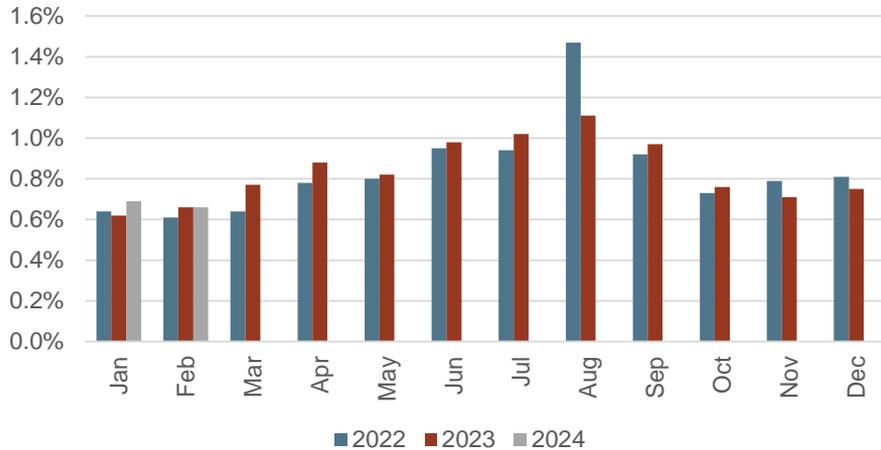


NVE T-60 Forecast

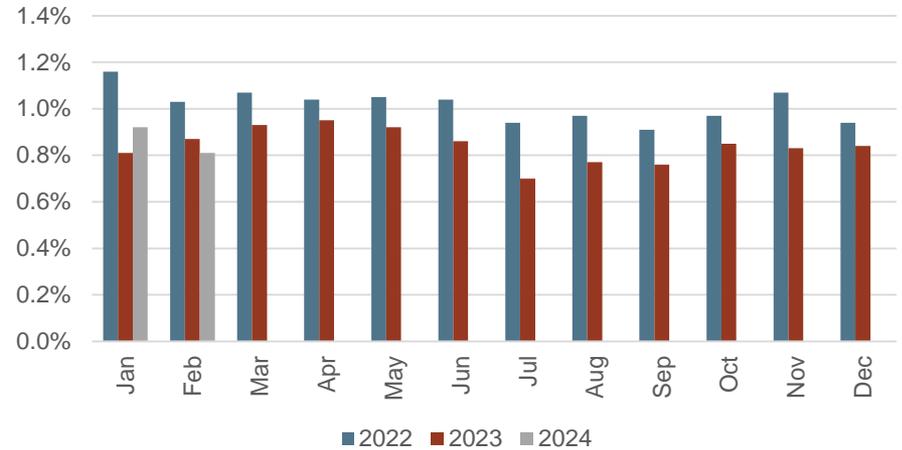


EIM T-60 forecast

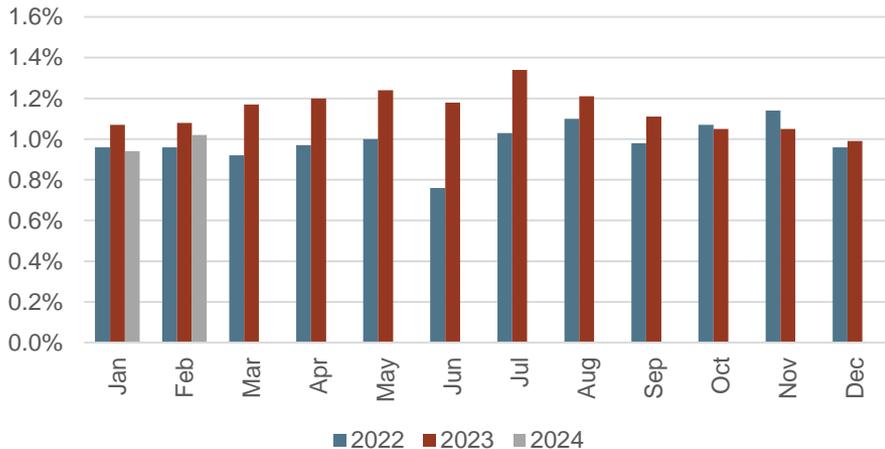
PACE T-60 Forecast



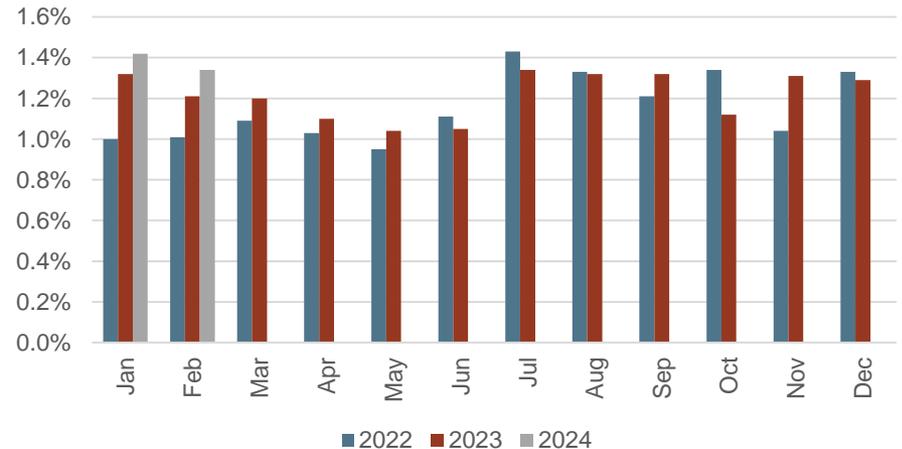
PACW T-60 Forecast



PSE T-60 Forecast

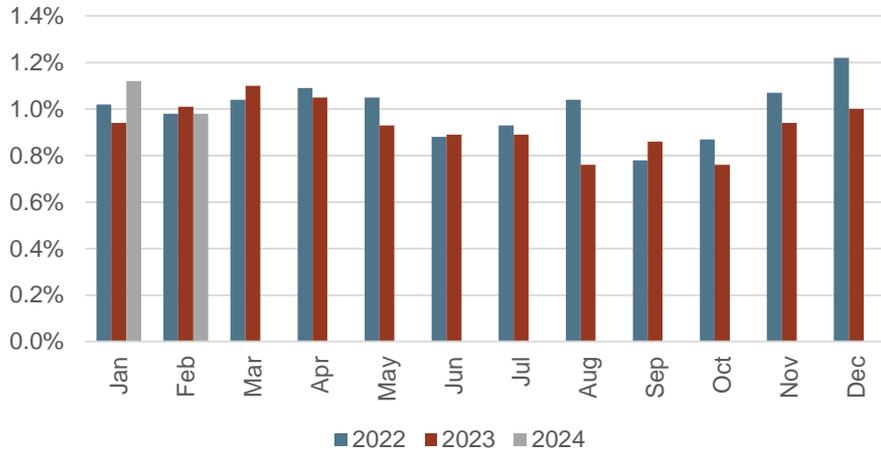


SRP T-60 Forecast

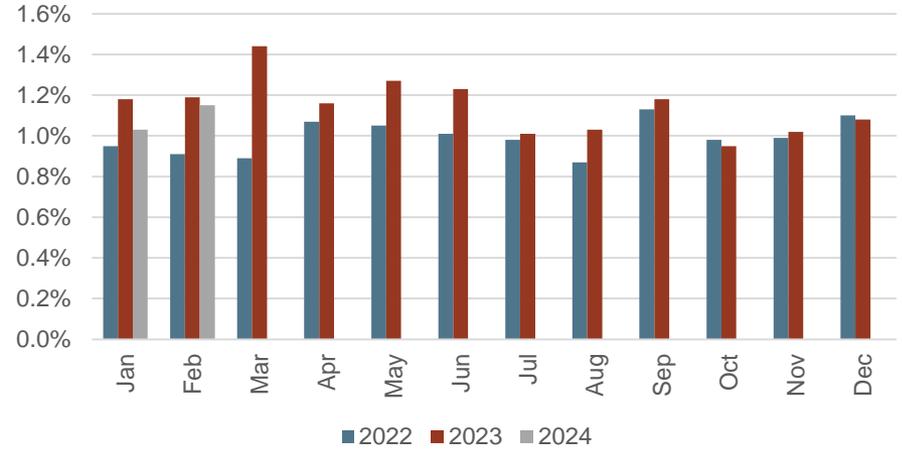


EIM T-60 forecast

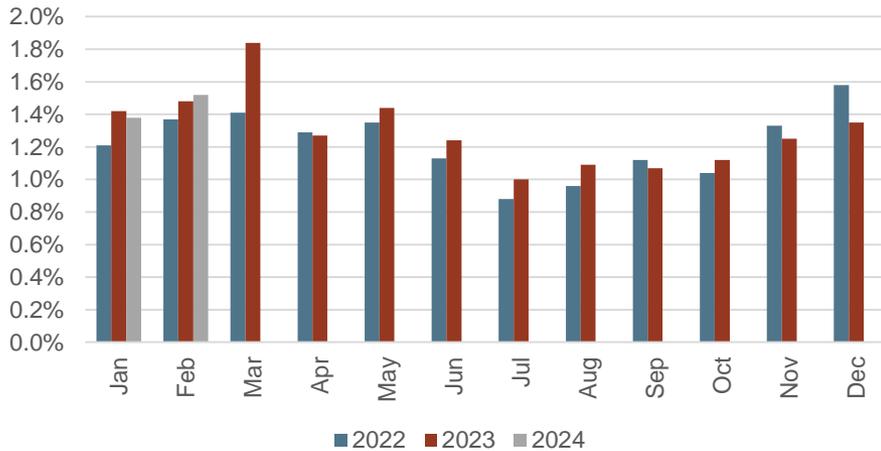
SCL T-60 Forecast



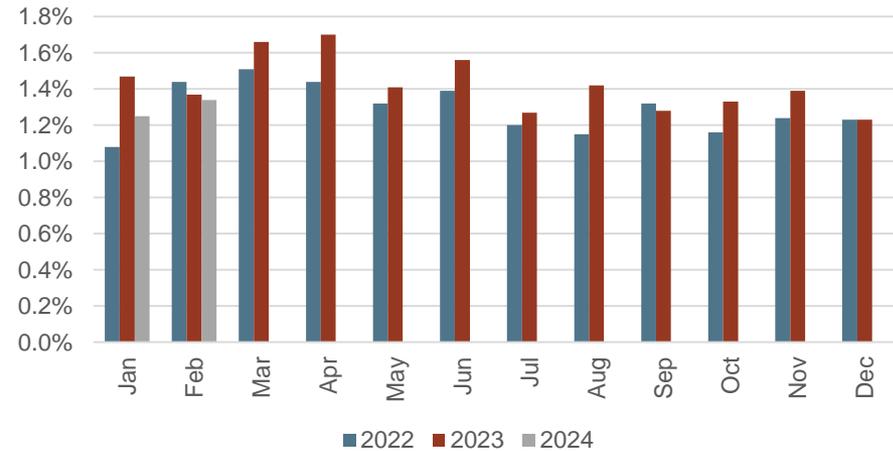
LADWP T-60 Forecast



TIDC T-60 Forecast

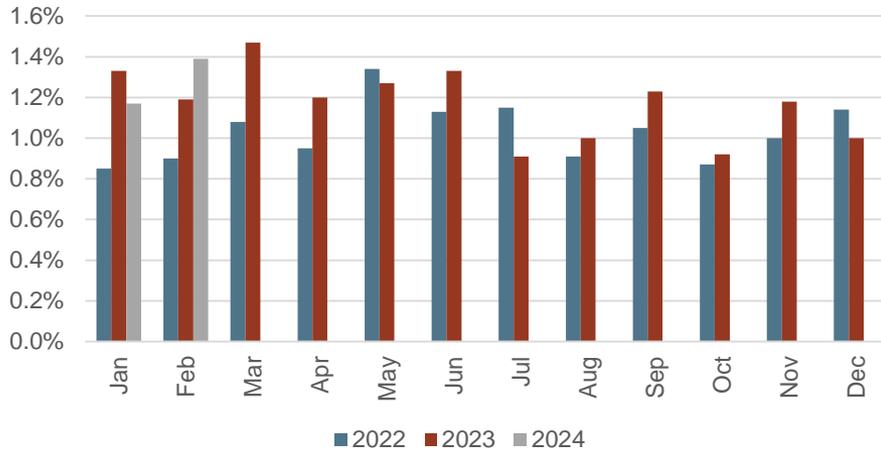


PNM T-60 Forecast

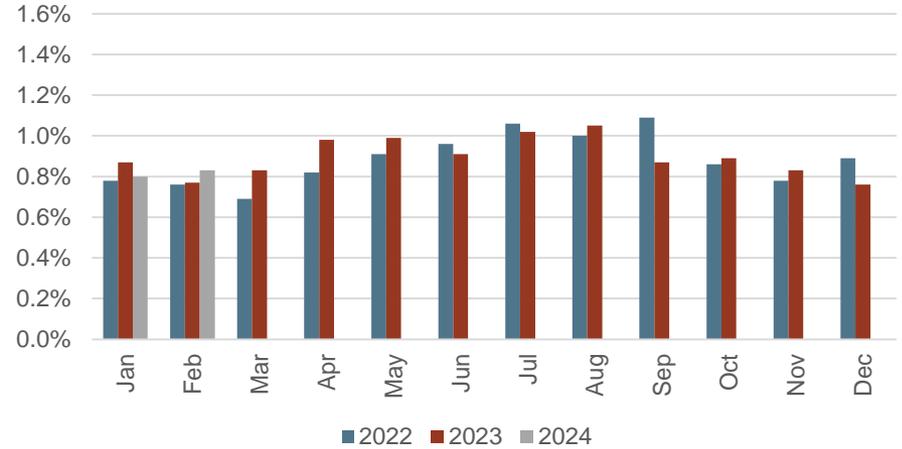


EIM T-60 forecast

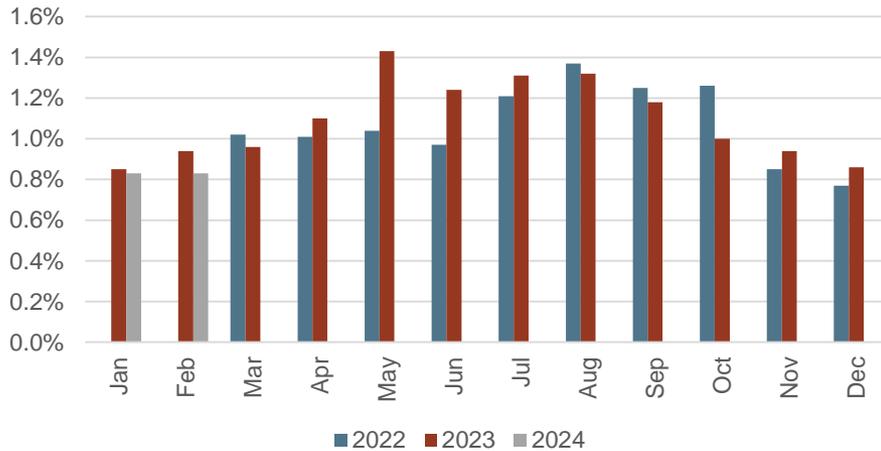
BANC T-60 Forecast



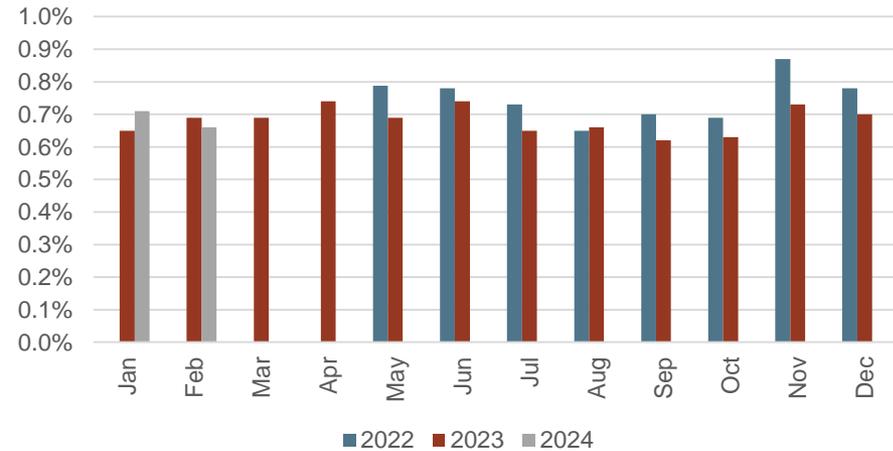
NWMT T-60 Forecast



AVA T-60 Forecast

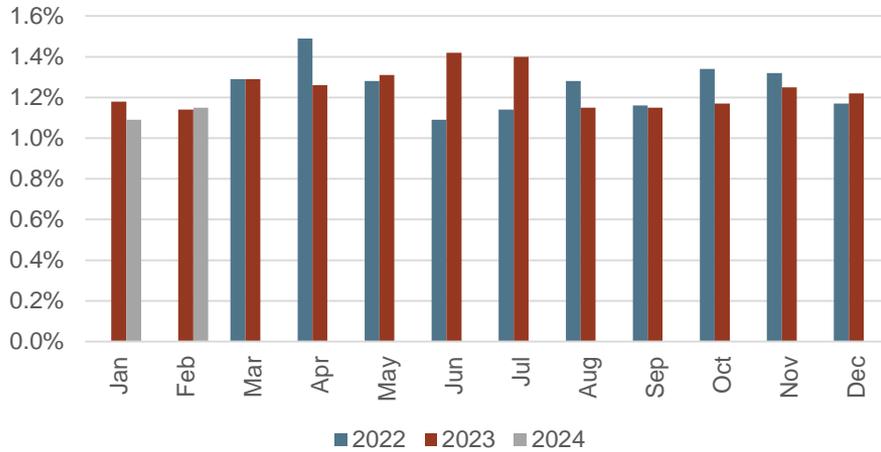


BPA T-60 Forecast

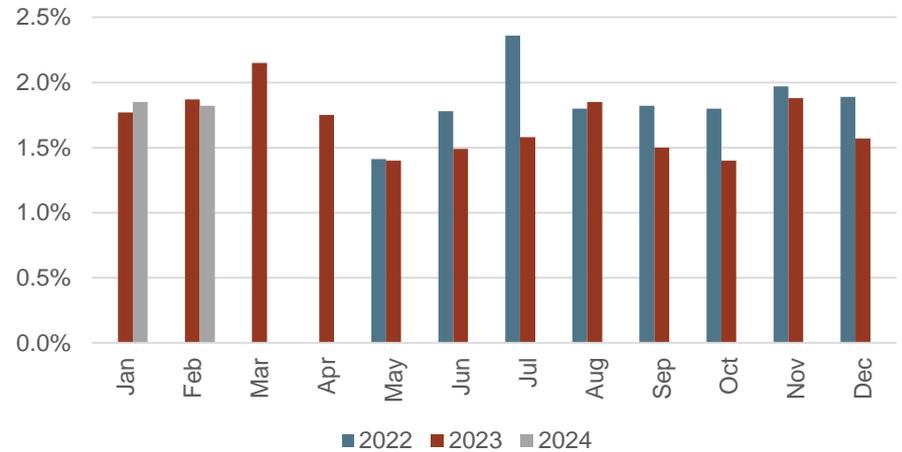


EIM T-60 forecast

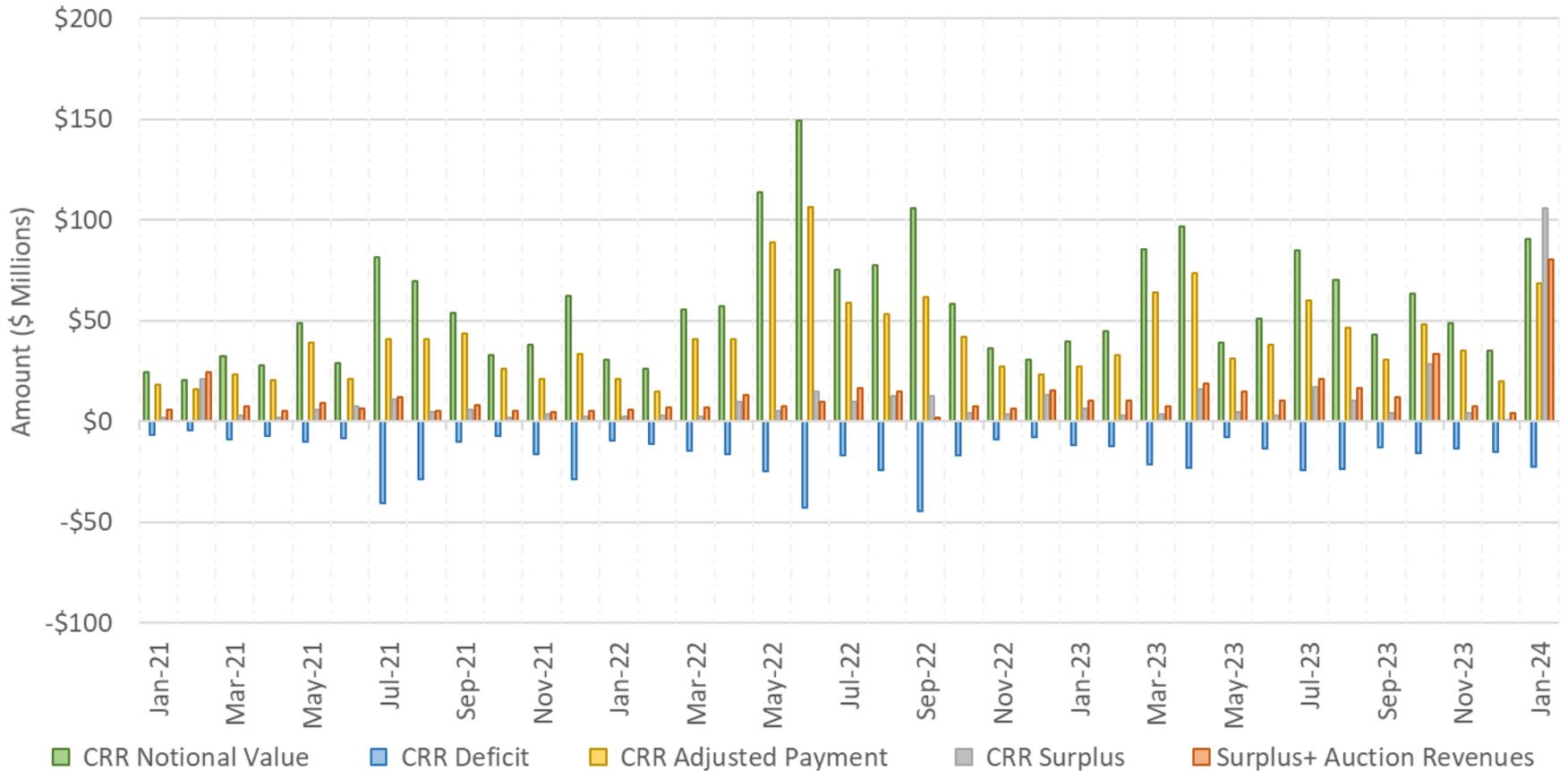
TPWR T-60 Forecast



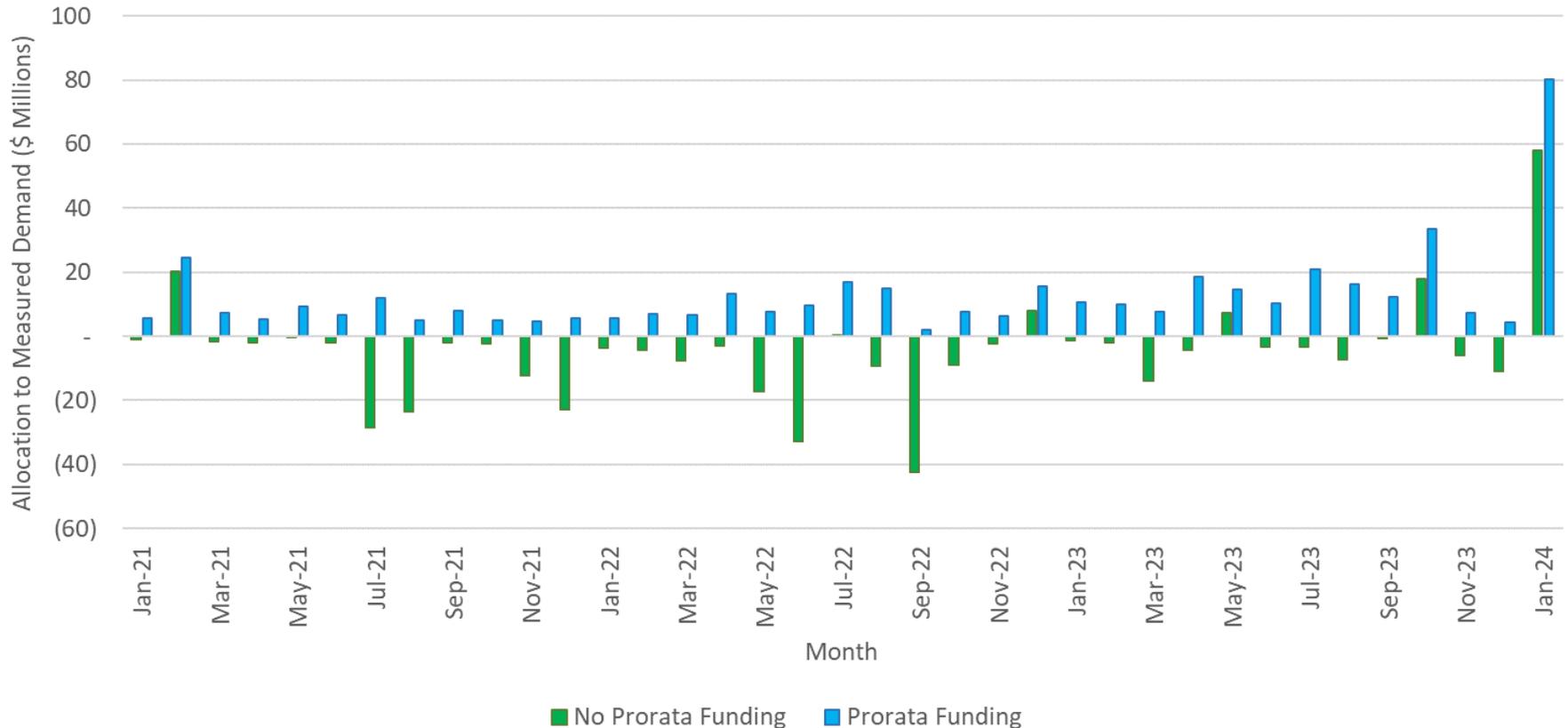
TEP T-60 Forecast



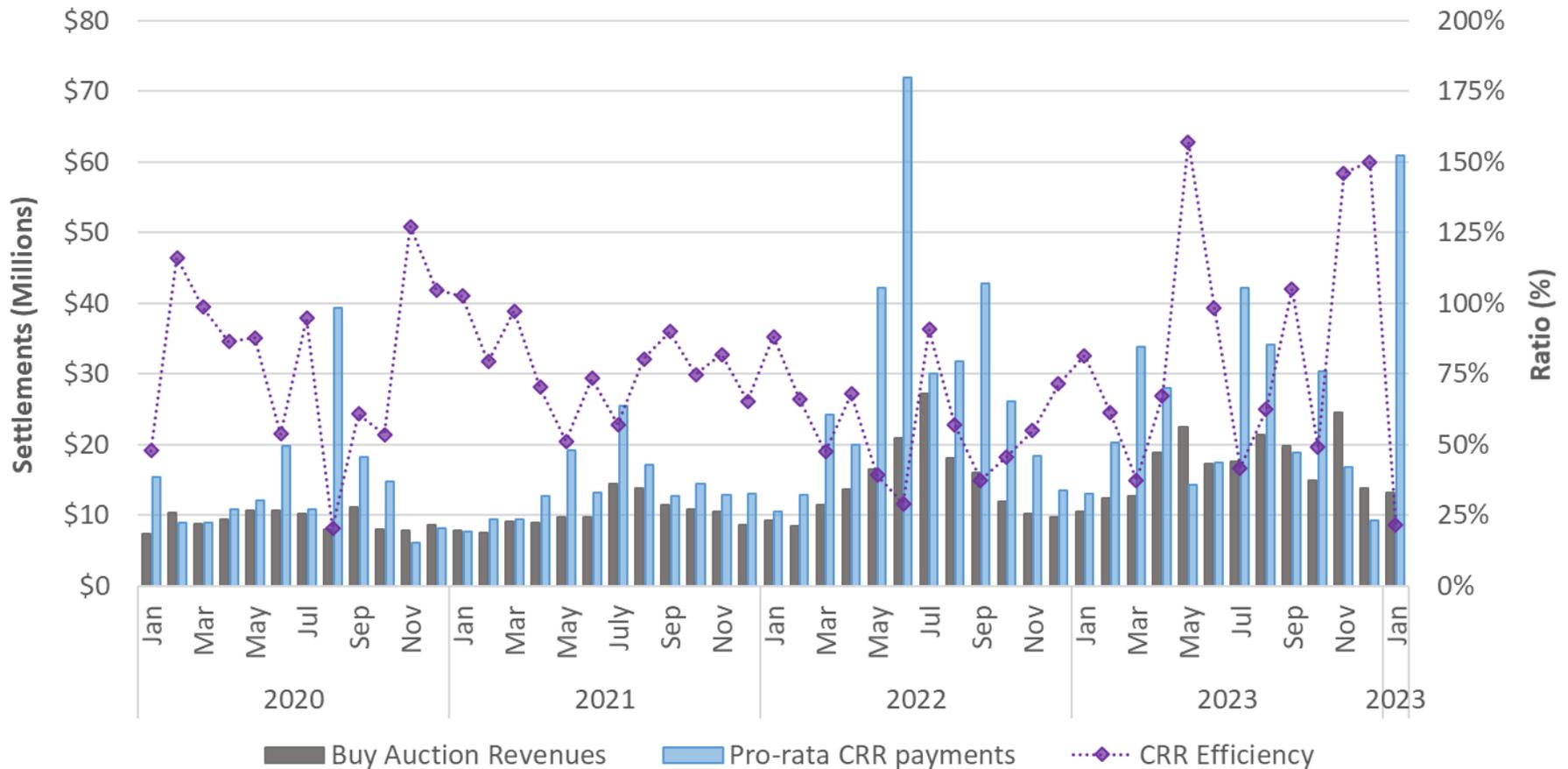
The magnitude of the overall CRR settlements has decreased after summer



Implementation of pro-rata funding continues to improve revenue adequacy in 2022



Auction efficiency has been fairly variable based on level of congestion observed



Policy Update

Gillian Biedler

Policy Integration and Governance Manager

Extended Day-Ahead Market and Day-Ahead Market Enhancements

- On February 16th, ISO filed narrow compliance filings requested by FERC.
 - Tariff language focuses on imbalance reserve deployment factors and EDAM market power mitigation tariff language.
- The ISO continues internal EDAM implementation activities, including continued engagement with prospective participants
 - LADWP Oversight board voted in February to authorize beginning of preparations to join EDAM
 - PacifiCorp and Balancing Authority of Northern California (BANC) have indicated their intent to participate in EDAM
- Planning and preparations for DAME implementation working groups underway and expected to begin in Fall 2024
- EDAM go-live is targeted for Spring 2026 to support implementation and readiness of participating entities

Transmission Services and Market Scheduling Priorities

- On October 30, FERC issued an order approving the filed TSMSP phase 1 tariff amendments effective June 2024.
- Commenced manual implementation activities in January to support establishment of wheeling through priority for June 2024 and beyond.
 - Calculated ATC manually on the interties and opened request submission windows in January and February.
 - Provided awards of wheeling through priority for upcoming summer based on submitted requests.
- TSMSP phase 2, focused on the study and expansion process for establishing wheel through priority on a long-term basis, is being evaluated in light of Order No. 2023 interconnection process enhancements and FERC targeted guidance.

Energy Storage Enhancements

- Scope: Market enhancements to efficiently dispatch storage resources in alignment with operational needs
 - Ancillary services enhancements
 - Enhancements to the co-located resource model
- Decisional Classification: Joint WEIM Governing Body/CAISO Board
- Status:
 - ESE track 2 software successfully implemented
 - State-of-charge exceptional dispatch functionality and settlement
 - Co-located resource aggregated capability constraint
 - State-of-charge consideration of regulation; implemented in phased approach through February 2024

Ancillary Service State of Charge Constraint

- **Scope:**
 - Follow-up to CAISO's September 19, 2022 tariff amendment regarding the ancillary service storage state of charge requirement and related uplift payments
 - Initiative will consider potential additional revisions
- **Decisional Classification: Joint WEIM Governing Body/CAISO Board**
- **Status:**
 - In process internally

EDAM ISO BAA Participation Rules

- Scope: ISO BAA-specific elements required for EDAM participation.
 - Settlement of transfers that result from the EDAM optimization, as well as transfer revenue that accrues from congestion between participating balancing areas
 - Allocation of historical transmission revenue recovered amounts
 - Settlement for revenues and surcharges associated with the EDAM resource sufficiency evaluation
 - The ISO balancing area's use of the EDAM net-export constraint
- Decisional Classification: CAISO Board
- Status:
 - Approved by Board of Governors during September 2023 meeting
 - Filed with FERC in November 13, 2023
 - Planned PRR initiation to further define usages of EDAM net export constraint in 2024

Resource Sufficiency Evaluation Enhancements - Phase 3

- Scope: Enhancements to further improve WEIM participation mechanisms
 - Consideration of net-load uncertainty with WEIM RSE
 - Enhancements to Assistance Energy Transfer product; including ability to cure oversupply conditions
 - Exploration of HASP and advisory base schedule interaction and results
- Decisional Classification: Joint Authority
- Status:
 - CAISO is conducting analysis, including recent winter events, prior to a Q2 2024 expected launch

Day-Ahead Sufficiency

- Scope: daily processes to ensure the CAISO BAA is on track to meet its EDAM resource sufficiency evaluation (RSE) obligations
 - Advisory RSE results and complementary information
 - Accounting for reliability demand response resources
 - Accounting for strategic reliability reserve resources
 - Curing remaining upward RSE shortfalls
 - Incentives for tagging day-ahead imports
- Decisional Classification: CAISO Board
- Status:
 - Issue paper published on December 5, 2023
 - Stakeholder meeting on December 18, 2023 to discuss issue paper

Rules of Conduct Enhancements

- Track 1 Scope: Meter data penalties and process improvements
- Status: Awaiting FERC order -- Requested by March 22, 2024
 - Implementation target: April 1, 2024

Penalty Enhancements: Demand Response, Investigation, Tolling

- Scope
 - Define submission timeline and penalty for DR monitoring data
 - Streamline Rules of Conduct investigative process
 - Update penalty tolling process
 - Discuss meter data penalty stakeholder concerns
- Status:
 - Straw Proposal: March 28, 2024 (tentative)
 - WEIM/BOG meeting: September 2024 (tentative)
- Decisional Classification: Joint Authority

Reliability Demand Response Resource (RDRR) minimum on time (MOT)

The California ISO has decided to move the RDRR MOT initiative to inactive.

- The initiative explored tariff and system changes needed to extend RDRRs allowable minimum on time beyond the existing one (1) hour limitation.
- Through the initiative process, it was discovered that the proposed change would not fully meet stakeholder objectives without addressing other RDRR modeled optimization limitations.
 - This could not be accomplished through the narrowly scoped expedited initiative by summer 2024
- As a result, pursuit of the RDRR MOT change proposed ended and the initiative subsequently inactivated.
 - Stakeholders were requested to submit their desire for broader RDRR policy and participation model design enhancements into the 2024 Annual Policy Initiatives Roadmap Process

Generation Deliverability Methodology Review

- Scope: New initiative to respond to industry concerns with access to deliverability for resources seeking to compete in procurement processes
- Decisional Classification: Complete
- Status:
 - Straw proposal posted August 29
 - Draft final proposal posted November 13
 - Stakeholder meeting November 13
 - Final proposal posted January 4, 2024
 - Stakeholder meeting January 11, 2024

Interconnection Process Enhancements Track 2

- Scope: Enhancing the CAISO's generator interconnection and deliverability allocation procedures
 - Track 2: Focuses on targeted modifications to the interconnection process.
- Decisional Classification: CAISO Board only
- Status:
 - IPE 2023 Track 2
 - December 12 Revised Straw Proposal posting
 - February 8, 2024 Draft Final Proposal posting
 - March 29, 2024 Final proposal posting
 - Note: April 3, 2024 FERC Order No. 2023 compliance deadline
 - May 2024 Board of Governors meeting

Greenhouse Gas (GHG) Coordination Working Groups

The GHG Coordination Working Group is focused on continuing to evaluate and evolve the ISO's GHG accounting design.

Stakeholders have prioritized the following topics :

- Emissions tracking, analysis, and accounting to support market participants
- Market consideration of diverse state GHG reduction policies
- Review of market operations as well as the WEIM and EDAM GHG accounting design

The Working Group's effort will culminate in a GHG Action Plan report to inform a policy initiative.

Our next working group meeting is March 14th. Please email inicosia@caiso.com if you are interested in presenting.

Gas Resource Management Working Groups

The Gas Resource Management (GRM) Working Group is a holistic review of issues related to gas resource market participation to ensure policy accommodates the diversity of regional participant needs.

Topics identified by stakeholders fall into three categories:

1. Certainty for advance fuel procurement
2. Accuracy of gas market information used in ISO market processes
3. Accessibility of resource-specific cost adjustments

Status:

- July – Oct 2024: Problem Statement development
- Dec 2023 – Feb 2024: Problem statement data analysis, identify and benchmark feasible solutions
- March 2023: Issue Paper/Straw Proposal

Resource Adequacy Working Groups

- The ISO has hosted four RA working group meetings covering topics including: 1. Modeling 2. Resource Accreditation 3. Availability and Performance Incentives
 - Related to these efforts, the ISO has facilitated two workshops on interoperability with the CPUC's Slice of Day
- The goal of the RA working group is to align on principles, problem statements and prioritization —culminating in recommendations that bridge the working group effort to policy development and sequence necessary RA reforms.
- Our next working group meeting is March 13th focused on Outage and Substitution challenges. If you would like to **present**, please email pmalvadkar@caiso.com.

Price Formation Enhancements Working Groups

- Scope:
 - Phase 1
 - Scarcity pricing enhancements
 - BAA-level market power mitigation
 - Analysis of fast-start pricing in the CAISO markets
 - Phase 2
 - Review of market pricing to incentivize and appropriately compensate flexible resources (fast-start pricing, extended FRP horizon)
 - Phase 3
 - Review of multi-interval optimization impact on storage resources
 - Market changes to facilitate real-time co-optimization of ancillary services
- Status:
 - 14 working group meeting held to date. Next working group meeting March 12, 2024.
 - Phase 1 Straw proposal expected in 2024

Update to Policy Catalog and Roadmap processes

- Scope:
 - The ISO has a new policy catalog and roadmap process which allows stakeholders to propose discretionary initiatives and to participate in prioritizing these for the catalog.
[California ISO - Annual policy initiatives roadmap process - 2024 \(caiso.com\)](https://www.caiso.com/annual-policy-initiatives-roadmap-process-2024)
- Status:
 - Comments are posted:
 - Regional issues round table March 15
 - Stakeholder call and draft catalog expected April

- **January** – ISO holds level-setting stakeholder workshop
- **February** – Stakeholders submit potential discretionary initiatives
- **March** – Regional Issues Forum holds prioritization roundtable, ISO hosts stakeholder prioritization workshops
- **April** – ISO publishes draft Catalog for stakeholder comment
- **May** – ISO publishes final Annual Catalog
- **September** – ISO publishes draft Roadmap for stakeholder comment
- **December** – Present final Roadmap to ISO Board and WEIM Governing Body

Release Plan Update

Trang Vo
Release Manager,
Project Management

Release Plan Summary

Summer 2024 Release

Transmission Service & Market Scheduling Priorities Phase 2 (Monthly & Daily)
Transmission Exchange Agreement
ASSOC Retroactive Enhancement - Settlements

Independent 2024 Releases

WEIM Resource Sufficiency Evaluation Enhancements Phase 2 Track 2 – Post HASP Curtailments
URL & IP Changes (& AUP Changes) – Application Delivery Resiliency
✓ Transmission Register System Upgrade February 28, 2024
Hybrid Resources Phase 2C – RIMS October 1, 2024
Congestion Revenue Rights System Upgrade Q3-Q4 2024
FERC 881 – Managing Transmission Line Ratings Track 1 – Real-Time Reliability Applications April 1, 2024
FERC 881 – Managing Transmission Line Ratings Track 2 – Operational/EMS Model Data & Applications Q4 2024
Highest Emergency Rating

Spring 2026 Release

Day-Ahead Market Enhancements Activation
EDAM ISO BAA Participation Rules Track A
Extended Day-Ahead Market Activation
EDAM Onboarding Pacificorp & BANC
WEIM BHE Montana

Summer 2024 Release

Summer 2024 – Transmission Service & Market Scheduling Priorities Phase 2

Project Information	Details
High Level Business Need	<p>Presents a long-term, durable framework to establish wheeling through scheduling priorities in the ISO markets that can further evolve with operational experience. It does not focus on, nor does it change, the processes for wheeling out or exporting from the ISO BAA.</p> <p>This project introduces a design to identify Available Transfer Capability (ATC) that can be allocated to Priority-Wheeling-Through (PWT) across the ISO system. This project also provides opportunity for external entities to drive transmission upgrades across the ISO system to support a wheeling-through . Will result in updates to the Wheel Export Quantity PC. The Original Wheeling Priority SC should be charged WAC for the Maximum of Wheeling Priority Quantity and scheduled export. If a resale should occur the purchaser of the resale Wheeling Priority Quantity should be assessed WAC on the maximum of schedule export less purchased Wheeling priority MW and zero.</p>
High Level Project Scope	<p>The following are the key design elements for Priority-Wheeling-Through (PWT) :</p> <ul style="list-style-type: none"> • Calculating PWT Available Transfer Capability (ATC) • Awarding PWT ATC to PWT Requests • Using PWT Awards in Market Operations • Settling PWT Awards and Schedules • Transmission Planning for PWT Capacity
BPM Changes	<ul style="list-style-type: none"> • Market Instruments – MF & SIBR Changes • Market Operations – ITS, DAM, RTM Changes • Reliability Requirements – Internal System Changes • Settlements and Billing – Settlements Changes • Transmission Planning Process – Impact for long term ATC • Generator Interconnection and Deliverability Allocation Procedures – Impact for long term ATC
Tariff Changes	<ul style="list-style-type: none"> • §23.1, §23.2, §23.3, §23.4, §23.5, §23.6, §23.7 • §26.1.4.5 • §30.5.1 • §34.12.3 • §Appendix A • §Appendix L • §Appendix DD • § New Appendix GG Long-Term Transmission Service & Market Scheduling Priorities
Impacted Systems	<ul style="list-style-type: none"> • AIM • CIRA • MF • New system for ATC calculation, access, and reservation • SIBR • RTM • Settlements • OASIS • RIMS

Summer 2024 – Transmission Service & Market Scheduling Priorities Phase 2

Milestone Type	Milestone Name	Dates	Status
Board Approval	Obtain Board of Governors Approval	Feb 01, 2023	✓
External BRS	Post External BRS	Jan 31, 2024	✓
Settlements	Tech Doc	Feb 12, 2024	✓
Config Guides	1st Draft Config File & Release Component Summary	March 4, 2024	✓
Tech Spec	Create ISO Interface Specifications – OASIS	Jan 12, 2024	✓
Tariff	Filed ER23-2510 for Wheeling Through	Jul 28, 2023	✓
	FERC Acceptance of ER 23-2510 (calculation of available transfer capability (ATC) and the process for establishing market scheduling priority for wheeling through the ISO transmission system)	Oct 30, 2023	✓
	Compliance Filing	Nov 29, 2023	✓
	Track 2 DTL	Jul 14, 2023	✓
	Track 2 Revised DTL	Oct 05, 2023	✓
	Track 2 Final DTL	Dec 19, 2023	✓
	File Track 2 (study and expansion process for establishing wheel through priority on a long-term basis)	Q1 2024	
BPMs	Draft BPM changes – Market Instruments Draft BPM changes – Market Operations (PRR1548) Draft BPM changes – Market Operations (Automation) Draft BPM changes – Reliability Requirements Draft BPM changes – Settlements and Billing Draft BPM changes – Transmission Planning Process Draft BPM changes – Generator Interconnection and Deliverability Allocation Procedures	Jan 16, 2024	✓
Market Sim	Publish Market Simulation Scenarios	Feb 16, 2024	✓
Training	Training (Monthly) Training (Daily)	Feb 27, 2024 Apr 2024	✓
Production Activation	Implementation of wheeling through priority process supports load service planning for Summer 2024		
	ISO begin implementation thru manual processes		
	- Publication of Monthly ATC values for June 2024 to January 2025 (13-month horizon) - Request window opened (Submit via CIDI) - Results communicated	Jan 16, 2024 Jan 18 – Jan 31, 2024 Feb 5, 2024	✓ ✓ ✓
	New automation functionality available to support reservation of Monthly and Daily ATC in June 2024 and beyond	Apr 17, 2024	
	Transmission Service & Market Scheduling Priorities Phase 2 – Activate daily and long-term increment calculations	Jun 01, 2024	
	2024 Monthly Wheeling Through Priority Request Due Dates		

Summer 2024 – Transmission Service & Market Scheduling Priorities Phase 2

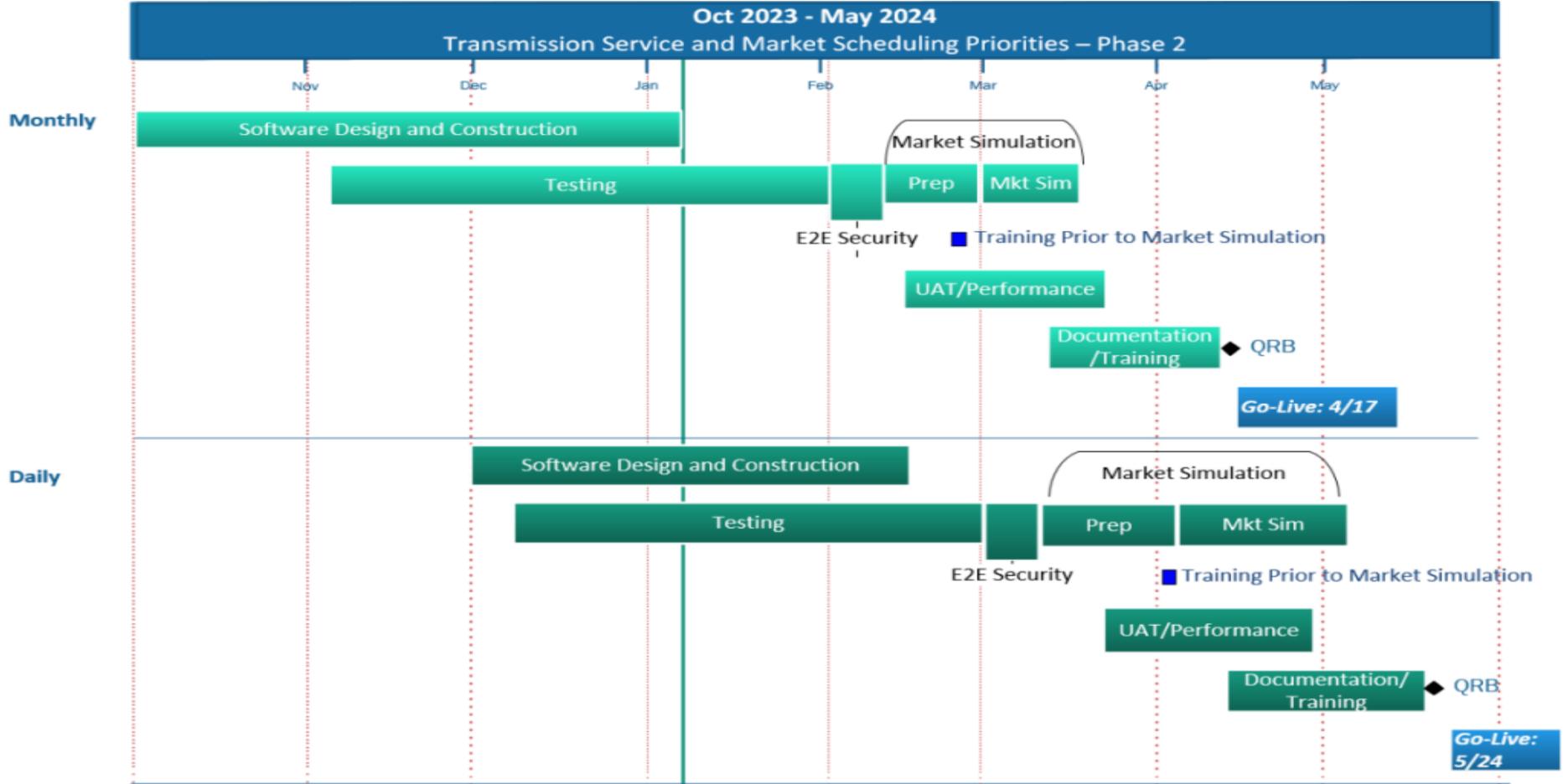
Implementation Key Milestones

Item	Date
Monthly:	
Market Simulation prep	
Training prior to Market Sim	February 27
Market Simulation	March 4 to March 22 MAPSTAGE OUTAGE 3/11-3/15
Go-Live	April 17
Daily	
Market Simulation prep	
Training prior to Market Sim	Week of April 1
Market Simulation	April 8 – May 3
Go-Live	May 24 (earliest date) for June 1

****Market Simulation Settlements Trade Dates Tuesdays & Thursdays thru Market Simulation Windows for Daily Process***

Summer 2024 – Transmission Service & Market Scheduling Priorities Phase 2

Automated Functionality Implementation Timeline



Summer 2024 – Transmission Service & Market Scheduling Priorities Phase 2

2024 Monthly Wheeling Through Priority Request Due Dates

Target Monthly ATC Period	Request Submission Start Date	Request Submission End Date
Jun/2024 – Jan/2025	01/18/2024	01/31/2024
Jun/2024 – Feb/2025	02/18/2024	03/02/2024
Jun/2024 – March/2025	03/19/2024	04/01/2024
Jun/2024 – April/2025	04/19/2024	05/02/2024
Jun/2024 – May/2025	05/19/2024	06/01/2024
Jul/2024 – June/2025	06/19/2024	07/02/2024
Aug/2024 – Jul/2025	07/20/2024	08/02/2024
Sep/2024 – Aug/2025	08/19/2024	09/01/2024
Oct/2024 – Sept/2025	09/19/2024	10/02/2024
Nov/2024 – Oct/2025	10/19/2024	11/01/2024
Dec/2024 – Nov/2025	11/19/2024	12/02/2024
Jan/2025 – Dec/2025	12/20/2024	01/02/2025

<https://www.caiso.com/Documents/2024MonthlyWheelingThroughPriorityRequestDueDates.pdf>

Summer 2024 – Transmission Exchange Agreement

Project Information	Details/Date
High Level Business Problem or Need	<p>The ISO is committed to develop a process or system that allows Western Area Power Administration – Sierra Nevada Region (“WAPA”) to resell some or all of their 400 MW ownership rights on the PACI#1 line to other SCIDs and retain the perfect hedge and scheduling priority to further contract negotiations to extend the term of the Transmission Exchange Agreement.</p> <p>The Transmission Exchange Agreement (“TEA”) with WAPA-SNR, PG&E and ISO is scheduled to expire 9/30/2024. A term of the original agreement executed in 2004, was that the ISO would develop a system that allowed WAPA to sell their unused capacity on their line. This project provides solution to the scheduling issue which needs to be in place by June 2024 to ensure that the ISO has solved the problem and support filing an amendment and extension of the TEA at FERC.</p>
High Level Project Scope	<ul style="list-style-type: none"> • WAPA needs functionality to sell their TOR to other parties on their OASIS. • If the TOR rights are sold then WAPA will notify the CAISO to provide the purchaser the hedging and scheduling priority opportunity provided all ETCs/TORs. • The market and settlement systems need to be able to “move” the Contract Reference Number (“CRN”) from the WAPA CRN to the purchaser SCIDs so that the settlement to the purchaser SCID reverses the costs of the transmission access charge and congestion (aka the perfect hedge) and provides a high scheduling priority in the IFM and RTM. • WAPA will not take on the obligation to settle with their purchaser. • WAPA can sell any increments of MWs up to their 400 MW ownership rights. Therefore, the solution needs to be flexible enough to allow the “existing” TORs to vary the MWs capabilities. [Note: The MW increments to be sold can be no less than 5 MW.] • WAPA’s functionality allows them to schedule between Malin and Round Mountain, Malin and PG&E DLAP, and Malin and Tracy. This would be the source and sink that that functionality needs to provide. • If there are outages on the line, the curtailment should be consistent with current practice.
BPM Changes	Settlements Configuration Guides
Tariff Changes	N/A
Impacted Systems	AIM, MF, CMRI

Summer 2024 – Transmission Exchange Agreement

Milestone Type	Milestone Name	Dates	Status
External BRS	Post External BRS	NA	
BRS	Provide to WAPA	Jan 23, 2024	✓
Settlements Config Guides	Tech Doc	Feb 12, 2024	✓
	1st Draft Config File & Release Component Summary	Mar 04, 2024	✓
Tech Spec	<p>Create ISO Interface Specifications – CMRI</p> <p>UI: The current CMRI CRN report is not being changed. WAPA will be able to see Sub CRNs mapped to its own Parent CRN.</p> <p>API: System external CRN Report API shall include the added “CRN Amount” data element to its payload. Add new CRN Amount data element (MW entitlements).</p> <ul style="list-style-type: none"> - RetrieveContractUsage_CMRIv2 - RetrieveContractUsage_CMRIv2_DocAttach 	Mar 2024	
Tariff	NA	NA	
BPMs	Draft BPM changes – Settlements & Billing	Yes	
Market Simulation	Market Simulation – WAPA	Apr 08 – May 17, 2024	
Production Activation	Transmission Exchange Agreement Renegotiation	Jul 1, 2024	

Summer 2024 Settlements Release – ASSOC Flag Enhanced Logic

- **Presented in [SUG 2024](#)**
- Upstream systems are making an enhancement to indicate when the (potentially uneconomical) energy schedule of the storage resource in the financially-binding interval might be driven (in part) by binding AS SOC constraints in any advisory interval due to AS obligations. This information is communicated to Settlements for BCR Shortfall evaluation.
- Upstream systems will validate AS Awards driving AS SOC binding condition. Settlement configuration will no longer check whether AS Awards are present in the same interval as AS SOC flags in RTM_NET_AMT_PC so ResourceASSOCConASRevenueAmount rmdhcif will be removed.
- Allow for corrections of AS SOC flags from 1 to 0, or 0 to 1.
- Retro-active corrections from TD 07/01/2023 onwards will require corrected AS SOC flags and Settlement to re-process them
- The “Market Operations” BPM has been updated to reflect this change. Please refer to PRR 1547.
- There will be an associated “Settlements & Billing” BPM PRR forthcoming
- In Market Simulation with Summer Release – target start 4/8

Independent 2024 Releases

WEIM Resource Sufficiency Evaluation Enhancements Phase 2 Track 2

Project Information	Details
High Level Project Scope	<ul style="list-style-type: none"> • Track-2 <ul style="list-style-type: none"> • Item2A – Clarification of Post-HASP Block Hour Low-Priority Export <ul style="list-style-type: none"> • Operator-Driven Low-Priority Export Curtailment <ul style="list-style-type: none"> • CAISO operator’s ability to initiate pro-rata curtailment based on identified MW, given the following priority order: <ul style="list-style-type: none"> • RTECON (RT economic hourly block export schedules that clear HASP). • RTLPT (RT Self-Schedule hourly block export schedules not backed by Generation from non-RA Capacity and cleared HASP). • Non-high-priority DA export [i.e. DAECON (DA economic hourly block export schedules that clear both RUC and HASP), or DALPT (DA hourly block export schedules not backed by Generation from non-RA Capacity that also cleared both RUC and HASP and are protected Self-Schedules)] • CAISO operator’s ability to identify/filter exports by market priority types as well as “Firm Provisional Energy (G-FP)” eTag identifier. • Publish resource-specific market priority types and their associated MW data to ADS. • Item2B – Develop MF resource identification Capacity Test Failed-to-Start Rule Exemption flag to allow SCs of WEIM and CISO short start units that start with non-positive telemetry to identify specific resources that will be exempted from this functionality in RSE Capacity test. (Implemented in Phase 1 – enhancements needed)
BPM Changes	WEIM, Market Instruments, Market Operations
Tariff Changes	Yes
Impacted Systems	MF, Market, ITS, ADS

WEIM Resource Sufficiency Evaluation Enhancements Phase 2 Track 2

System	High Level Changes
MF	<ul style="list-style-type: none"> • Definition and Submission of Resource-Specific Capacity Test Failed-to-Start Rule Exemption Flag via GRDT • Make Resource-Specific Capacity Test Failed-to-Start Rule Exemption flag accessible to downstream systems.
ITS	<ul style="list-style-type: none"> • Clarification of Post-HASP Block Hour Low-Priority Export • Consume DAM Resource-Specific Market Priority Types and Resource-specific RUC Energy Awards from RUC. • Consume All Resource-Specific Market Priority Types from RTM. • SCs shall be required to submit Misc Info field Prior Type attribute for “Firm Provisional Energy (G-FP)” e-tags to identify RTECON, DAECON, RTLPT, DALPT. • SCs shall be required to submit Misc Info field Prior Type attribute for “Firm Energy (G-F)” e-tags to identify RTPT, DAPT. • Validate submitted export e-Tags against data received from RUC and RTM to approve/deny and adjust (if warranted) the submitted e-Tags.
Market	<ul style="list-style-type: none"> • Access Resource-Specific Capacity Test Failed-to-Start Rule Exemption flag from MF. • Exempt Specific Resources from Capacity Test Failed-to-Start Rule/Functionality. • Clarification of Post-HASP Block Hour Low-Priority Export • Broadcast All Resource-specific market priority types to ITS (from RTM).
ADS	<ul style="list-style-type: none"> • Clarification of Post-HASP Block Hour Low-Priority Export <ul style="list-style-type: none"> • Consume Resource-Specific Market Priority Types and their Associated MW Data from RTM. • Publish Resource-Specific Market Priority Types and their Associated MW Data. • Include Resource-Specific Market Priority Types in ADS Query Functionality.

WEIM Resource Sufficiency Evaluation Enhancements

<https://www.caiso.com/Documents/resource-sufficiency-evaluation-enhancements-phase-2-track-2-implementation-workshop-on-31124.html>

Phase 2 Track 2

Resource Sufficiency Evaluation Enhancements Phase 2 Track 2 Implementation workshop on 3/11/24

MESSAGE

The California ISO has scheduled a stakeholder implementation virtual workshop on March 11, 2024, to discuss proposed enhancements to the Resource Sufficiency Evaluation Enhancements Phase 2 Track 2 (RSEE2T2) proposed enhancements to the implementation. The ISO encourages participation from all stakeholders.

The ISO has revised the proposed enhancements to the implementation of the RSEE2T2 initiative in response to stakeholder feedback. Details of the implementation changes related to Low Priority Transaction (LPT) exports will be presented.

The proposed enhancements affect the tagging practices of:

- Groups or individuals that prepare and submit e-tags for LPT exports from the ISO Balancing Authority Area
- Organizations that rely on ISO LPT exports for your organization, including WEIM entities

The presentation related to the RSEE2T2 revised implementation informational web conference will be available prior to the workshop on the [Release Planning webpage](#).

This workshop will be recorded and the video file will be posted on the Release Planning webpage for a limited time. The recording is for informational and convenience purposes only and any related transcriptions should not be reprinted with the ISO's permission.

Meeting details

Date: March 11, 2024

Time: 3 p.m. - 4 p.m. Pacific Time

[Add to calendar](#)

Participation information

Step 1: [join web conference](#); access code: 2491 508 2740

Step 2: connect audio by selecting computer audio or selecting call me and enter your phone number

CONTACT INFORMATION

Please contact Trang Vo at tvo@caiso.com with any questions.

WEIM Resource Sufficiency Evaluation Enhancements

Milestone Type	Milestone Name	Dates	Status
Board Approval	Obtain Board of Governors Approval WEIM Governing Board Approval	Dec 14, 2022	✓
External BRS	Post External BRS	Mar 10, 2023	✓
	Post External BRS v1.1	Mar 31, 2023	✓
	Post External BRS v1.2	Jun 27, 2023	✓
	Post External BRS v1.3	Sep 05, 2023	✓
	Post External BRS v1.4	Sep 20, 2023	✓
	Post External BRS v1.41	Sep 21, 2023	✓
Settlements Config Guides	NA	NA	
Tech Spec	ADS	Aug 10, 2023	✓
	CMRI	Aug 10, 2023	✓
	MFRDT Tech Spec	Aug 10, 2023	✓
	MFRDT File Draft	Aug 22, 2023	✓
	RDT Definitions Draft	Aug 29, 2023	✓
Tariff	Tariff (NA, and NA for activation change from Fall 2023 Release to 2024)	NA	
BPMs	Draft BPM changes – Market Instruments PRR 1531	Aug 23, 2023	✓
	Draft BPM changes – WEIM PRR 1532	Aug 24, 2023	✓
	Draft BPM changes – Market Operations PRR 1533	Aug 24, 2023	✓
	Draft BPM changes – Market Instruments PRR 1537	Aug 25, 2023	✓
	Draft BPM changes – Market Operations PRR 1536	Aug 24, 2023	✓
Training	Training	Sep 13, 2023	✓
	Low Priority Transaction (LPT) Export E-tagging Training	Feb 14, 2024	✓
	Refresher Training (includes LPT Export E-tagging)	Mar 14, 2024	
Market Sim Scenarios	Market Sim Scenarios	Jul 28, 2023	✓
		Aug 23, 2023	✓
		Sep 08, 2023	✓
Market Sim	Market Sim Window	Sep 25, 2023 – Oct 13, 2023	✓
	Market Sim – Pro Rata Curtailment	Mar 18, 2024 – Apr 05, 2024	
Production Activation	Resource Sufficiency Evaluation Enhancements Phase 2 Track 2	Pending Market Simulation	

URL & IP (& AUP) Changes – Application Delivery Resiliency: Weekly Forum for Production Transition

- Dedicated forum with increased focus on ADR to continue to engage with and support customers thru the Production Transition to new User Interface (UI) and Application Programming Interface (API) URLs, IP addresses, and infrastructure, including associated Acceptable Use Policy (AUP) updates
- Weekly on Wednesdays 1400-1500 PT starting, January 24, 2024
 - <https://caiso.webex.com/caiso/j.php?MTID=ma49ce28a3ddca64e2d501f899778f620>
 - Presentations & Recordings:
<https://www.caiso.com/informed/Pages/ReleasePlanning/Default.aspx#Independent2024>
- Increase awareness of ADR implementation/cutover status and timelines
- Provide guidance for users on their transitions to the new URLs
- Communicate known issues as applicable
- Review user feedback

UI & API URL & IP Changes (Application Delivery Resiliency)

- UI:
 - All new UI URLs available now
 - TR new URL was made available after 2/28 maintenance for TR upgrade
 - Old UI URLs decommissioned 2/6/24 except BAAOP/BSAP UIs
 - Old UI URLs for BAAOP/BSAP to be decommissioned TBD
- API:
 - All new API URLs available now
 - Old API URLs to be cutover TBD

2024 – Hybrid Resources 2C RIMS

Project Information	Details/Date
<p>High Level Business Problem or Need</p>	<p>The ISO launched this stakeholder initiative to identify new or enhanced market rules and business processes needed to accommodate hybrid resources, resources that consist of two sets of market rule changes that will facilitate mixed-fuel type (hybrid and co-located resources) project participation in the ISO markets.</p> <p>Prior to this initiative, Phase 1 identified a first set of modifications generally concerned with setting up and operating co-located resources.</p> <p>Building on phase 1, Phase 2 focuses on modifications that will explore how hybrid generation resources can be registered and configured to operate within the ISO market. The initiative will further develop solutions allowing developers to maximize the benefits of their resource’s configuration. Additionally, hybrid resource configurations also raise new operational and forecasting challenges that the ISO plans to address during this initiative.</p>
<p>High Level Project Scope</p>	<p>With this initiative, there’s an opportunity to increase storage and the number of hybrid resources that can connect to the ISO grid. Currently the interconnection queue includes more than 24,000 MW of mixed fuel projects and nearly 20,000 MW of storage which represents roughly half of all generation in the current interconnection queue.</p>
<p>BPM Changes</p>	<p>Settlements & Billing</p>
<p>Impacted Systems</p>	<p>Summer 2023: Settlements Fall 2023: Metered Quantities for Hybrids Independent 2024: RIMS Completed: Today’s Outlook, ISO Today Mobile Application, Reports</p>
<p>Requirements</p>	<p>http://www.caiso.com/Documents/BusinessRequirementsSpecifications-HybridResourcesPhase2.pdf</p>

2024 – Hybrid Resources 2C RIMS

Milestone Type	Milestone Name	Dates	Status
External BRS	Publish External BRS Revision – Add 4 Market Simulation Business Requirements	Jan 31, 2023 Jan 04, 2024	✓ ✓
Settlements Config Guides	NA for RIMS	NA	
Tech Spec	Create and Publish ISO Interface Spec (Tech Specs)	NA	
Market Sim	Market Sim Window – RIMS	Yes	
Production Activation	Hybrid Resources 2C – RIMS	Oct 1, 2024	

2024 - Congestion Revenue Rights (CRR) Upgrade

Project Information	Details/Date
High Level Project Scope	<p>The Congestion Revenue Rights (CRR) system was implemented by CAISO in 2008 as part of the Market Redesign and Technology Upgrade (MRTU) implementation. The current CRR system is at its end of life, does not have the flexibility to accommodate future policy changes and requires the ISO to calculate data and run processes manually outside the current system to produce a successful CRR Auction.</p> <p>The CAISO has decided on a significant upgrade of the existing CRR system and adopt the latest technology stack aligned with CAISO's technology standards, consolidate all CRR related functions, minimize human errors, reduce processing time, eliminate manual workarounds, and positions the system to accommodate policy changes down the road.</p> <p>Congestion Revenue Rights (CRR) system replacement project scope is the roll-out of a:</p> <ul style="list-style-type: none"> • Brand new user-interface (UI) system with an updated new look-and-feel, to replace the existing legacy system implemented during the MRTU 2008 go-live and brought up to current ISO technology standards • Set of application-programming interfaces (APIs) to enable integration between ISO and market participant systems <p>Overall, to support the following in one consolidated CRR external-facing system:</p> <ul style="list-style-type: none"> • Annual/Monthly Auction and Allocation market participant bid submission and results retrieval • Load data submission by CRR LSEs, CEC • Load migration data submission by CRR UDCs • Secured "Congestion Revenue Rights Full Network Model" information access • Private and public access of CRR market input and output information
BPM Changes	<p>Congestion Revenue Rights</p> <ul style="list-style-type: none"> • Enhancements made to the new CRR product. • Automatic publishing of CRR market results. • Automatic CRR notification. • New CRR schedule calendar. • New CRR FNM access. • New CRR data submission and download interface UI/API. • New CRR market results interface. • Load Migration
Tariff Change	<p>No</p>
Impacted Systems	<p>CRR, AIM, CMRI, OASIS, CTS, Market Clearing, EMMS, IFM/RTN, MQS, Master File, MPP, Settlements, WebOMS, ETCC.</p>

2024 - Congestion Revenue Rights (CRR) Upgrade

System	High Level Changes
CRR	<p>Significant system upgrade including:</p> <ul style="list-style-type: none"> • Enhancements made to the new CRR application. • Automatic publishing of CRR market results. • Automatic CRR notification. • New CRR schedule calendar. • New CRR FNM access. • New CRR data submission and download interface UI/API. • Other TBDs identified through BRS development.
AIM	<ul style="list-style-type: none"> • New users and roles to support new CRR functionality
CMRI	<ul style="list-style-type: none"> • Full and incremental Payload publishing • Publish CRR Awards payload on event-driven, ad-hoc or scheduled basis • Publish CRR Awards payload on event-driven, ad-hoc or scheduled basis
OASIS	<ul style="list-style-type: none"> • Publish CRR Calendar, and all available CRR market names, and credit margin information, 3 year historical expected value.. • Allow authorized users to publish CRR inventory payloads • Broadcast the following: set aside values, the results of all CRR markets, retired pnode/anode mapping, binding constraints, initial and updated CRR source and sink list for each CRR market,
CTS	<ul style="list-style-type: none"> • Broadcast
EMMS	<ul style="list-style-type: none"> • CRR will consume data from EMMS
IFM/RTN	<ul style="list-style-type: none"> • CRR will consume data from IFM/RTN
MQS	<ul style="list-style-type: none"> • MQS will consume and process SCID in a new format • MQS will consume ownership payload in bulk
Master File	<ul style="list-style-type: none"> • Master File will be modified as needed to support the new CRR functionality
MPP	<ul style="list-style-type: none"> • CRR will provide pre-configured external reports
Settlement	<ul style="list-style-type: none"> • Settlements will be modified as needed to support the new CRR functionality
WebOMS	<ul style="list-style-type: none"> • CRR will consume data from WebOMS
ETCC	<ul style="list-style-type: none"> • CRR will consume data from ETCC

2024 - Congestion Revenue Rights (CRR) Upgrade

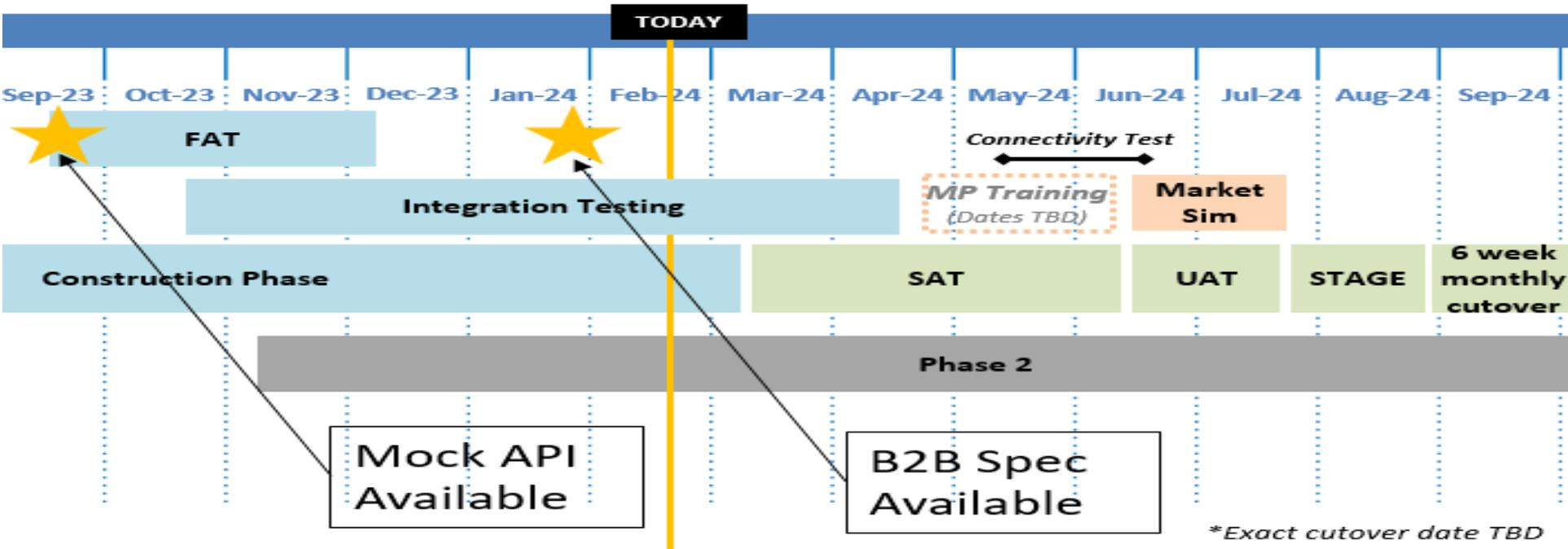
Milestone Type	Milestone Name	Dates	Status
Board Approval	Obtain Board of Governors Approval	NA	
External BRS	Publish External BRS BRS Revision v1.3	Nov 16, 2022 Mar 29, 2023	✓ ✓
Config Guides	Post Draft Config Guides	Yes	
Tech Spec	Publish Technical Specification	Feb 24, 2023	✓
Deployment Plan	Draft Deployment Plan	Yes	
Training	Training	Yes	
Market Sim	Market Sim	May 2024 – Jun 2024	
Go Live	Target go live in August to start 6 week monthly-cycle cutover for October 2024 allocation and auction markets 2025 Annual Cycle - working on cutover plan	Aug 2024	
Customer Partnership Group	Last CPG	Feb 22, 2024	✓
	Next CPG (Now on Thursdays)	Mar 28, 2024	

2024 - Congestion Revenue Rights (CRR) Upgrade

Updated February 2024

- Reviewed technical slides at last TUG meetings regarding Business-to-Business (B2B) Specs
 - Mock services have been available for Market Participant testing since September 2023
 - Market Participants to confirm that they've been able to access the mock services
- Issues found during integration testing will need to be fixed to ensure a quality product
- The issues will be fixed soon, however the start of Site Acceptance Testing (SAT) will be delayed which will likely delay the start date for Market Sim
- CAISO is working to re-baseline the schedule and will announce an updated schedule at next month's CPG call

Schedule from January 2024 CPG call:



2024 - CRR System Upgrade – Get Connected

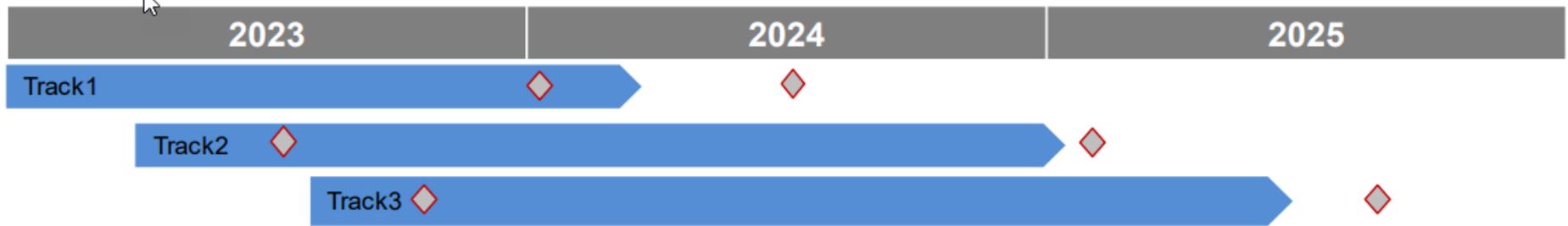
- CRR meetings:
 - **Bi-weekly Technical User Group (TUG)** Tue 10 AM, alternates with RUG.
 - Meetings available on the CAISO calendar on www.caiso.com
 - Meeting details and presentation materials are available on the CAISO Developer site at www.developer.caiso.com , which requires an account to be setup for access
 - **CRR Customer Partnership Group**
 - **Last CPG Feb 22, 2024; [recording available](#)**
 - **Next CPG meeting is *Thursday, Mar 28, 2024***
 - Monthly – ***now on Thursdays***
 - Meetings available on the CAISO calendar on www.caiso.com
 - Meeting details and presentation materials are available on www.caiso.com > Stay Informed > Meetings & Events > Customer Partnership Groups

2024 – FERC 881 – Managing Transmission Line Ratings

Project Information	Details/Date
High Level Project Scope	<p>This initiative will address the California ISO’s compliance with FERC Order No. 881 in establishing new transmission line rating requirements</p> <p>Order No. 881 establishes new transmission line rating requirements for public utility transmission providers</p> <ul style="list-style-type: none"> • Establish and use ambient-adjusted ratings and seasonal ratings for all transmission lines unless excepted <ul style="list-style-type: none"> • Use AARs for near-term transmission service requests • Use seasonal rating for long-term transmission service requests • RTOs/ISOs must implement systems and procedures to allow transmission owners to electronically update transmission line ratings at least hourly • Use uniquely determined emergency ratings for contingency analysis in the operations horizon and in post-contingency simulations of constraints • Implement transparency reform

Milestone Type	Milestone Name	Dates	Status
Tariff	Draft Tariff Language	May 20, 2022	✓
	Revised Draft Tariff Language	Jun 23, 2022	✓
	FERC Filing ER22-2362	Jun 16, 2022	✓
	FERC Acceptance ER22-2362	Apr 20, 2023	✓
	FERC Acceptance Tariff Revisions	Dec 13, 2023	✓
BRS	Publish BRS	Jan 30, 2024	✓
Market Simulation	Market Simulation	NA	
Production	Track 1 Real-Time Reliability Applications	Apr 1, 2024	
	Track 2 Operational/EMS Model Data & Applications	Q4 2024	

FERC 881 Timelines by Track



- **Track 1 – Real Time Reliability Applications**
 - Minor delays in application deliver timeline with FAC-11 additions to the project
 - Estimated - Target Capability to be ready by Q2 2024
- **Track 2 – Operational/EMS Model Data and Applications**
 - July 2023 - Complete Business Requirements
 - OATI Webliner product will be utilized for receiving Look ahead ratings.
 - Estimated - Target Capability to be ready in 2024
- **Track 3 – Market Application and Look Ahead Applications**
 - Requirements phase will be started in Jan 2024.
 - Based on requirements gathering and vendor/internal resources constraints potential for delay in some aspects of implementation.
 - Estimated - Target Capability to be ready in Q2 2025.

2024 – Highest Emergency Rating

Project Information	Details/Date
High Level Business Problem or Need	The project aims to primarily improve market robustness, performance, and the technology foundation for system grid reliability by updating functionality and interfaces to reduce workarounds, automating manual processes and addressing minor defects or functionality enhancements identified in by the business units.
High Level Project Scope	<p>This enhancement focuses specifically on internal ISO users and RC Customers having the capability to adjust the HER and ER duration in OMS.</p> <p>Step 1 – HER data cleanup</p> <ul style="list-style-type: none"> • Load HER in EMMS in one of the existing slots • Transfer HER to RTCA during the network model build process <p>Step 2 – Use RTCA to update HER</p> <ul style="list-style-type: none"> • For interim changes to HER in between models, change the data directly in RTCA • Make the ER and HER duration and value fields editable • Include validation to make sure HER is not less than the emergency rating <p>Step 3 – WebOMS changes</p> <ul style="list-style-type: none"> • Work with OATI to include a new field for HER • HER can be updated in WebOMS in between model promotions • Updates to HER will be sent to downstream systems
BPM Changes	Not Impacted
Tariff Changes	Not Impacted
Impacted Systems	webOMS, HANA, Market

Milestone Type	Milestone Name	Dates	Status
Board	Board	NA	
BRS	BRS	Feb 15, 2024	✓
Tech Spec	Present OMS in TUG OMS	Feb 27, 2024 Yes	✓
Market Simulation	Market Simulation	Yes	
Production	Production	2024	

Highest Emergency Rating - OMS

- Three new fields will be added on the current OMS Derate User Interface and user will have capability to adjust the values through UI and API:
 - “Emergency Rating Duration” as integer, set in minutes.
 - “Highest Emergency Rating” as a numeric input.
 - “Highest Emergency Rating Duration” as integer, set in minutes.

The screenshot shows the 'Equipment Picker' interface with the following components:

- Equipment Picker** (Notes, RIMS)
 - Station: [Dropdown]
 - Voltage Level: [Dropdown]
 - Equipment Type: [Dropdown]
 - Equipment: [Text Input]
- Equipment Table**

Station	Name	Voltage	Type	Switch Modeling Complete	Use Facility Model	ID
Use Facility Model						
- Switches Table**

Station	Name	Voltage	Type	Status	Start Date/Time	End Date/Time	ID	Is Trumped
---------	------	---------	------	--------	-----------------	---------------	----	------------
- Equipment Rating Changes Table**

Name	Voltage	Normal Rating (MVA)	Seasonal Normal Rating	Emergency Rating (MVA)	Seasonal Emergency Rating	Start Date/Time	End Date/Time
------	---------	---------------------	------------------------	------------------------	---------------------------	-----------------	---------------

Red arrows point to the following fields in the 'Equipment Rating Changes' table:

- Emergency Rating Duration (points to the 'Emergency Rating (MVA)' column)
- HER (points to the 'Seasonal Emergency Rating' column)
- HER Duration (points to the 'End Date/Time' column)

WebOMS will give validation error if below conditions are not satisfied:

Emergency Rating Duration is a required field for all ERC's.

Highest Emergency Rating should be greater than or equal to active Emergency Rating.

Highest Emergency value (Rating and Duration) are required if any field has a value.

Emergency Rating Duration should be greater than Highest Emergency Duration (HER duration is more limiting than ER duration).

If user want to enter ER greater than the current HER then would first have to adjust HER then update ER.

Emergency Rating (ERC) flows to Market, RTCA, and EMS; and HER only flows to RTCA, and EMS. WebOMS will display a pop-up notification on submitting the ERC or HER through UI, API akin to SUCCESS message.

There will be XSD update on below services :

SubmitTransmissionOutage_v3-Regular and DocAttach

SubmitTransmissionOutageChangeRequest_v3-Regular and DocAttach

RetrieveTransmissionOutage_v3 - Regular and DocAttach

RetrieveTransmissionOutageChangeRequest_v3 - Regular and DocAttach.

Spring 2026 Release

Day Ahead Market Enhancements

Project Information	Details/Date
<p>High Level Business Problem or Need</p>	<p>In recent years, Variable Energy Resource (VER) have gained significant traction in the energy grid, playing a crucial role in achieving renewable energy targets and reducing greenhouse gas emissions. However, their increasing presence has introduced a new challenge energy imbalances between the Day Ahead and Real Time markets.</p> <p>Another reason for the energy imbalance is the day-ahead market operates on hourly time increments, whereas real-time market schedules energy in 15 and 5-minute intervals. This discrepancy in granularity results imbalances since the rea-l-time market schedules fluctuate within the hour while day-ahead market schedules remain fixed for the entire hour.</p> <p>These imbalances necessitates out-of-market interventions by operators, such as forecast biasing and dispatches, to uphold grid reliability. However, this situation presents an opportunity to improve our market software, enabling us to achieve a more efficient and economical solution while addressing the variability and reliability concerns within the market.</p>
<p>High Level Project Scope</p>	<p>Enhance the California ISO's (CAISO's) day-ahead market by:</p> <ul style="list-style-type: none"> • Introducing an imbalance reserve (IRU/IRD) product to provide flexible capacity to account for real-time ramping needs • Enhancing the residual unit commitment process to also ensure there is sufficient downward dispatch capability (RCU/RCD) • Enhancing the day-ahead market to maximize benefits of greater West-wide diversity in the day-ahead optimization for Western Energy Imbalance Market participants
<p>BPM Changes</p>	<p>Settlements and Billing, Market Instruments & Market Operations</p>
<p>Tariff Changes</p>	<p>Sections 27, 31, 34, 39</p>
<p>Impacted Systems</p>	<p>MF, SIBR, DAM, OASIS, CMRI, Settlements & Internal Systems</p>

Day Ahead Market Enhancements

System	High Level Changes
MF	<ul style="list-style-type: none"> Define IRU, IRD, RCU, RCD eligibility for the resource ID in MF.
SIBR	<ul style="list-style-type: none"> IRU,IRD,RCU,RCD bid rules
DAM	<ul style="list-style-type: none"> Calculate IRU/IRD requirements MPM: Market Power Mitigation for IRU/IRD IFM: procure IRU/IRD IRU/IRD deployment scenarios IRU/IRD requirement distribution IRU/IRD in NA-AC power flow Include IRU/IRD in constraints RCU/RCD procurement RUC-MPM pass Impact on RUC performance with additional MPM pass LMP for EN, IRU/IRD, RCU/RCD
OASIS	<ul style="list-style-type: none"> IRU, IRC, RCU,RCD related public reports
CMRI	<ul style="list-style-type: none"> IRU, IRC, RCU,RCD related private reports
Settlements	<ul style="list-style-type: none"> IRU, IRC, RCU,RCD Settlements

Day Ahead Market Enhancements

Milestone Type	Milestone Name	Dates	Status
Board Approval	Board briefing/approval	May 17, 2023	✓
External BRS	Publish External BRS v1.0	Jul 25, 2023	✓
	Publish External BRS v1.1	Dec 22, 2023	✓
	Publish External BRS v1.2	Mar 2023	
Settlements Config Guides	Post Draft Config Guides - First set of charge codes	Jan 16, 2024	✓
	Post Draft Config Guides - Second set of charge codes	Mar 26, 2024	
	Post Draft Config Guides - Third set of charge codes	Aug 26, 2024	
Tech Spec	Publish Technical Specifications - OASIS	Nov 09, 2023	✓
	Publish Technical Specifications – MF Publish MF GRDT v19.0 DRAFT	Nov 21, 2023	✓
	Publish Technical Specifications - SIBR	Nov 28, 2023	✓
	Publish Technical Specifications - CMRI	Dec 15, 2023	✓
Tariff	First Draft Tariff Posting	Jun 02, 2023	✓
	Second Draft Tariff Posting	Jul 11, 2023	✓
	FERC Filing	Aug 22, 2023	✓
	Receive FERC order – Acceptance in part	Dec 20, 2023	✓
	Draft Compliance Filing Posting	Feb 05, 2024	✓
	Compliance Filing	Feb 16, 2024	✓
BPMs	Post Draft BPM – Market Instruments	TBD	
	Post Draft BPM – Market Operations	TBD	
	Post Draft BPM – Settlements and Billing	TBD	
	Post Draft BPM – Definitions and Acronyms	TBD	
External Training	External User Training	May 08, 2025	
Market Sim	Fall 2025 Release Market Simulation Plan	Jan 24, 2024	✓
	Market Sim Scenarios	Aug 04, 2023	✓
	Market Sim Window	Jun 02, 2025 - Aug 22, 2025	
Production Deployment	Day Ahead Market Enhancements (Inactive)	Oct 01, 2025	
Production Activation	Day Ahead Market Enhancements (Financially Binding)	May 01, 2026	

Extended Day Ahead Market (EDAM) Implementation

Project Information	Details/Date
High Level Business Problem or Need	<p>The purpose of this initiative is to create a comprehensive extended day-ahead market that extends over multiple balancing authority areas (BAAs) participating in the Western Energy Imbalance Market (WEIM). EDAM is a voluntary day-ahead electricity market with the potential to deliver significant economic, environmental, and reliability benefits for participants across the West. EDAM will more efficiently and effectively integrate renewable resources and address the significant operational challenges presented by a rapidly changing resource mix, emerging technologies, and the impacts of climate change. EDAM will enable procurement of robust supply and flexible capacity that will position EDAM participants to effectively address changes in conditions from day-ahead to real-time, improving their response to potential reliability challenges. EDAM builds upon the proven ability of the WEIM to increase regional coordination, support state policy goals, and cost effectively meet demand.</p>
High Level Project Scope	<p>The EDAM design leverages existing features of the ISO day-ahead market that are common in other day-ahead markets across the country. The design also considers enhancements proposed in contemporaneous stakeholder initiatives that will harness flexibility across the larger footprint by incorporating an imbalance reserve product that will enhance price formation. EDAM introduces new products, imbalance reserve and reliability capacity, as well as new penalties, and a Resource Sufficiency Evaluation (RSE) surcharge.</p>
BPM Changes	<ul style="list-style-type: none"> Definitions and Acronyms Energy Imbalance Market (EIM) Market Instruments Market Operations Settlements and Billing EDAM
Impacted Systems	<p>MF, ALFS, ALFS-SOA, SIBR, RTSI, RTBS, BSAP, DAM (IFM and RUC), DA-RSE (new), RTM (RTPD and RTD), STUC, MPM, ITS, BARC, GHG Pass (new), Settlements, CMRI, OASIS, ADS, WebOMS, Internal ISO Systems</p>

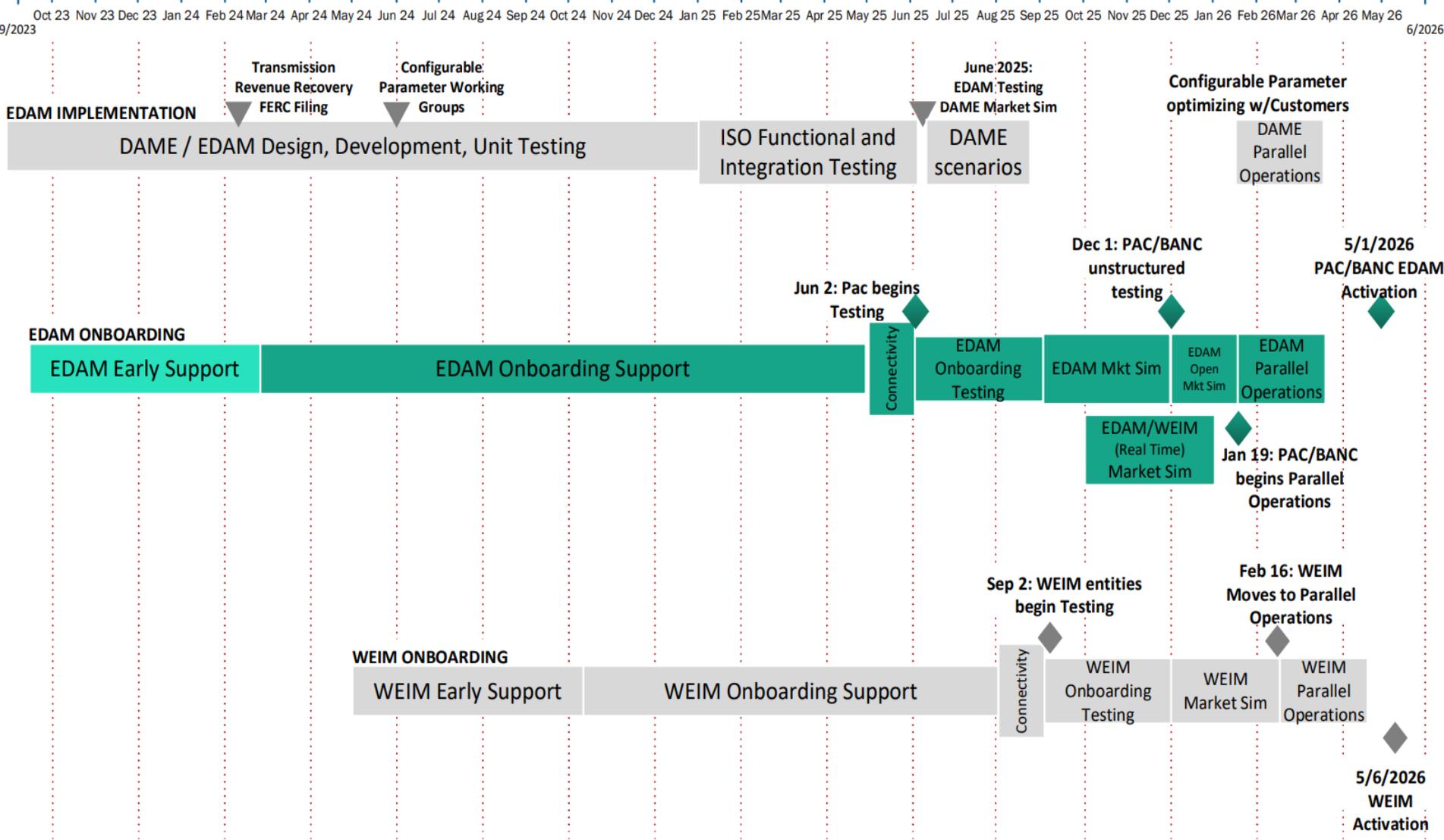
Extended Day Ahead Market (EDAM) Implementation

Milestone Type	Milestone Name	Dates	Status
External BRS	Publish External BRS v1.0	Aug 02, 2023	✓
	Publish External BRS v1.1	Dec 22, 2023	✓
	Publish External BRS v1.2	Mar 2024	
Tariff	Draft Tariff Language	Mar 30, 2023	✓
	Revised Draft Tariff Language	Jun 08, 2023	✓
	Updated Revised Draft Tariff Language	Jul 25, 2023	✓
	FERC Filing	Aug 22, 2023	✓
	Receive FERC order – Acceptance in part	Dec 20, 2023	✓
	Requested effective date for tariff changes for EDAM agreements and onboarding provisions	Dec 21, 2023	✓
Settlements Config Guides	Draft Compliance Filing Posting	Feb 05, 2024	✓
	Compliance Filing	Feb 16, 2024	✓
	Post Draft Config Guides - First set of charge codes	Jan 16, 2024	✓
Tech Spec	Post Draft Config Guides - Second set of charge codes	Mar 26, 2024	
	Post Draft Config Guides - Third set of charge codes	Aug 26, 2024	
	Publish Technical Specifications – RTSI	Dec 5, 2023	✓
	Publish Technical Specifications – MF	Jan 4, 2024	✓
	Publish Technical Specifications – SIBR	Q1 2024	
	Publish Technical Specifications – OASIS	Q1 2024	
	Publish Technical Specifications – CMRI	Q1 2024	
	Publish Technical Specifications – PLC	Q1 2024	
Publish Technical Specifications – ALFS	NA		
Publish Technical Specifications – OMS	NA		
BPMs	Post Draft BPM – Energy Imbalance Market (EIM)	TBD	
	Post Draft BPM – Market Instruments		
	Post Draft BPM – Market Operations		
	Post Draft BPM – Settlements and Billing		
	Post Draft BPM – EDAM		
External Training	Post Draft BPM – Definitions and Acronyms	TBD	
Market Sim	Training	TBD	
	Fall 2025 Release Market Simulation Plan	Jan 24, 2024	✓
	Market Sim Scenarios	Jan 29, 2024	✓
	Market Sim Scenarios v1.1	Feb 15, 2024	✓
Production	EDAM Onboarding Market Sim	Sep 01, 2025 – Jan 16, 2026	
	EDAM Production Deployment - Inactive	Oct 01, 2025	
	EDAM Onboarding (Financially Binding) & Activation (Pacifcorp & BANC)	May 01, 2026	

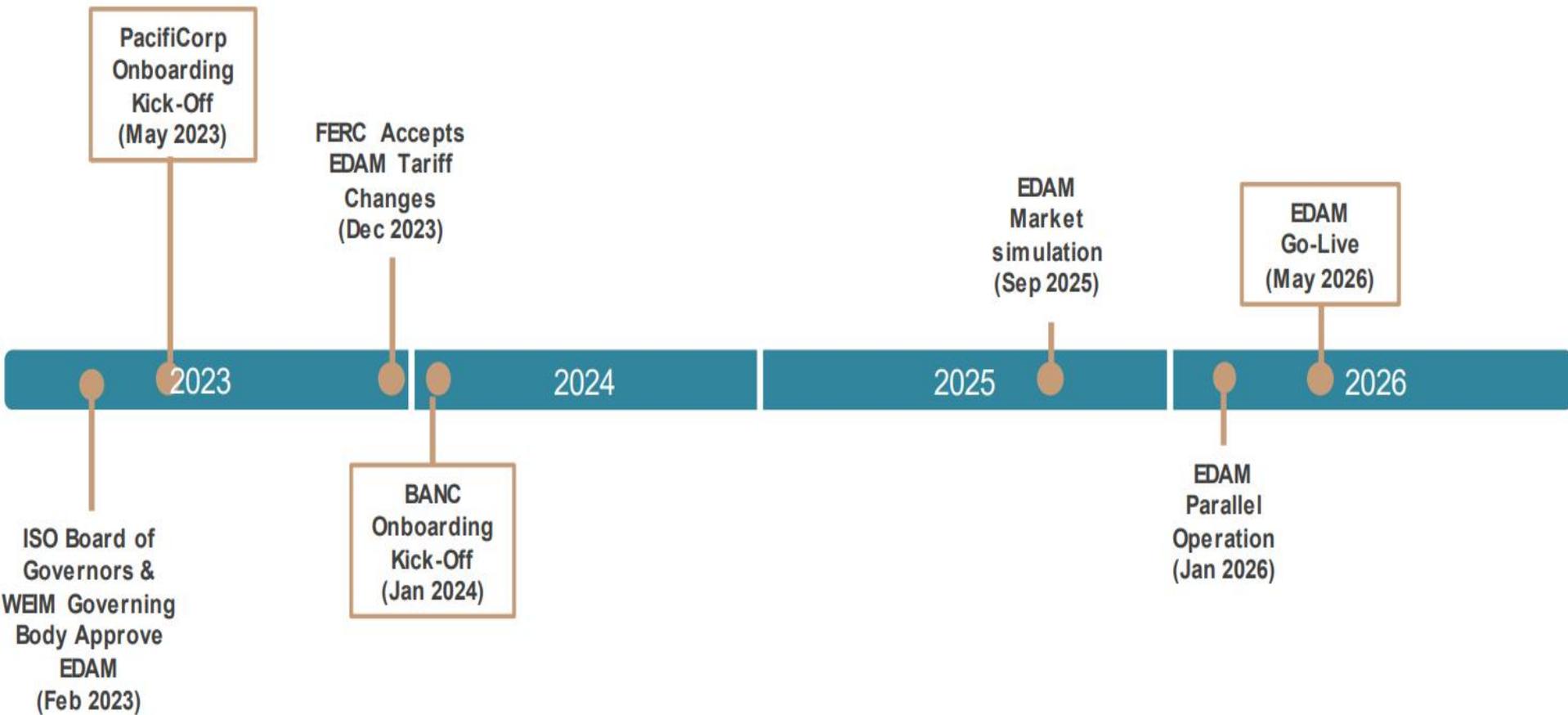
EDAM & DAME Activation May 1, 2026

1/24/2023 EDAM Onboarding Timeline (w/implementation and WEIM) - *proposed*

9/2/2023 - 6/1/2026



Key EDAM Onboarding Milestones to Date



Spring 2026 – EDAM ISO BAA Participation Rules Track A

➤ Project Information	➤ Details/Date
➤ High Level Project Scope	➤ Through this initiative, the ISO will address ISO Balancing Authority Area (BAA)-specific elements required for Extended Day-Ahead Market (EDAM) participation, including how to allocate ISO BAA EDAM resource sufficiency evaluation (RSE) failure surcharges and revenues, and options for curing ISO BAA EDAM advisory RSE shortfalls.
➤ Tariff Changes	<ul style="list-style-type: none"> ➤ First, the CAISO proposes tariff revisions to allow for the settlement of all Transfer System Resources in the CAISO BA. ➤ Second, the CAISO proposes tariff revisions to allow for the settlement of EDAM Transfer revenue allocated to the CAISO BA, inclusive of EDAM Transfer revenue and EIM Transfer revenue. ➤ Third, the CAISO proposes tariff revisions to allow the CAISO to distribute all CAISO BA revenues and surcharges for the EDAM RSE Failure Surcharge. ➤ Fourth, the CAISO proposes tariff revisions to set forth the calculations for the EDAM Historical Revenue Recovery amounts for transmission owners in the CAISO BA. ➤ Fifth, the CAISO proposes tariff revisions to allow the CAISO BA to enable the Net EDAM Export Transfer Constraint, a voluntary, and optional, mechanism that each EDAM Balancing Authority may enable to preserve sufficient supply to meet its projected needs, while managing reliability based on conditions and circumstances anticipated within its balancing area.

Milestone Type	Milestone Name	Dates	Status
Board Approval	Board approval	Sep 21, 2023	✓
Tariff	Draft Tariff Language	Aug 25, 2023	✓
	Revised Draft Tariff Language	Oct 11, 2023	✓
	FERC Filing ER24-379	Nov 13, 2023	✓
Production	Effective Date	Spring 2026	

Spring 2026 – WEIM BHE Montana

Project Info	Details/Date
Application Software Changes	System modifications as needed to accommodate any unique Berkshire Hathaway Energy Montana needs to support their WEIM onboarding.
BPM Changes	WEIM BPM will be updated if needed to reflect changes identified during the onboarding and as required to reflect the unique processes of Berkshire Hathaway Energy Montana.
Market Simulation	December 2025 thru January 2026
Parallel Operations	February 2026 thru March 2026

Milestone Type	Milestone Name	Dates
Market Sim	Market Sim Window	Dec 2025 thru Jan 2026
Parallel Operations	Parallel Operations	Feb 2026 thru Mar 2026
Tariff	File Readiness Certification	Mar 2026
Production	Activation	May 2026

Stay Informed

Ways to participate in releases

- Visit the Release Planning page
 - <http://www.caiso.com/informed/Pages/ReleasePlanning/Default.aspx>
- Attend meetings
 - Release Users Group (RUG) bi-weekly meetings
 - Initiative status updates
 - System change updates on releases
 - Market Simulation calls
 - Visit the ISO calendar at www.caiso.com for meeting dates and times and add events to your calendar
 - Typically held on Mondays and Thursdays
 - Market Performance and Planning Forum
 - Quarterly review of market performance topics
 - High level discussion of release planning, implementation and new market enhancements

What to look for on the calendar

Calendar of Meetings, Training and Events

Month: February Year: 2018 Calendar View List View Print View

Sun	Mon	Tue	Wed	Thu	Fri	Sat
	5 WebbCONF: Market Simulation 2:00pm - 3:00pm	6 Training: Get to Know the ISO - Day 1 9:00am - 4:00pm WebbCONF: Imbalance Conformance Enhancements 10:00am - 12:00pm WebbCONF: Technical User Group 10:00am - 11:00am	7 Deadline: Comments - Interconnection Process Enhancements 2018 - Issue Paper and Meeting Discussion Training: Get to Know the ISO - Day 2 9:00am - 4:00pm Meeting: Flexible Resource Adequacy Criteria Must Offer Obligation Phase 2 - Revised Draft Flexible Capacity Framework 10:00am - 4:00pm WebbCONF: Market Settlement User Group 10:00am - 11:00am	8 Meeting: Audit Committee Teleconference (Executive) 3:30pm - 6:30pm Training: Settlements 101 9:00am - 4:00pm Meeting: 2017-2018 Transmission Planning Process 10:00am - 4:00pm WebbCONF: Market Simulation 2:00pm - 3:00pm	9 Training: Settlements 201 9:00am - 4:00pm	10
11 WebbCONF: Participating Transmission Owner Per Unit Cost Guides 10:30am - 12:00pm WebbCONF: Market Simulation 2:00pm - 3:00pm	12 Meeting: Congestion Revenue Rights Auction Efficiency 10:00am - 4:00pm WebbCONF: Release User Group 10:00am - 11:00am Call: Energy Imbalance Market Governing Body Teleconference (Executive) 11:30am - 12:30pm	13 Deadline: Submissions - April 2018 Monthly Resource Adequacy and Supply Plans Call: Congestion Revenue Rights 11:00am - 11:30am WebbCONF: Outage Management System Customer Partnership Group 2:00pm - 3:00pm	14 Deadline: Comments - Review Transmission Access Charge Structure Straw Proposal and Meeting Discussion Call: Board of Governors Teleconference (General) 3:15pm - 6:00pm Call: Board of Governors Teleconference (Executive) 9:00am - 10:00am Call: Market Update 10:15am - 11:00am WebbCONF: Market Simulation	15	16	17

Market Sim



Market Sim



Release Users Group (RUG)



RUG Calendar 2024

January						
S	M	T	W	T	F	S
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

February						
S	M	T	W	T	F	S
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29		

March						
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					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						

April						
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	1	2	3	4	5	6
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14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30				

May						
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			1	2	3	4
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12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

June						
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2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30						

July						
S	M	T	W	T	F	S
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

August						
S	M	T	W	T	F	S
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

September						
S	M	T	W	T	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30					

October						
S	M	T	W	T	F	S
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

November						
S	M	T	W	T	F	S
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30

December						
S	M	T	W	T	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

 CAISO Holiday

 RUG Forum

Contact

- tvo@caiso.com
- release@caiso.com
- CIDI
 - Functional Environment (Area)
 - “Release”
 - “Market Simulation”

New 'Training' page on Market Participant Portal (MPP)

MPP Home Transmission Planning CRR FNM Market Modeling Data System Integration Discussions EIM Daily Market Performance Reports RC Working Groups **Training**

Applications

- AIM Access and Identity Management
- ADS Automated Dispatch System
- HC Help Center
- CIDI Customer Inquiry Dispute and Information

Welcome to the California ISO Market Participant Portal,
the centralized access point for secure applications and business critical information..



Allows Scheduling Coordinators (SCs) to further their base curriculum knowledge

For any questions or comments please email
CustomerReadiness@caiso.com

New Training Page on Market Participant Portal (MPP)



Training page requires ISO certificate access

Videos are organized by topics

Resources

Scheduling Coordinator Certification Process
High Level Overview of Training Page

Scheduling Coordinator Computer-Based Training

Working with the ISO



Markets and Operations



High Level Overview of Training Page link - <https://www.youtube.com/watch?v=AOmHkoLFTBY>

For reference

Visit user group webpage for more information:

<https://www.caiso.com/informed/Pages/MeetingsEvents/UserGroupsRecurringMeetings/Default.aspx>

- If you have any questions, please contact Brenda Corona at bcorona@caiso.com or isostakeholderaffairs@caiso.com



- *Energy Matters* blog provides timely insights into ISO grid and market operations as well as other industry-related news

<http://www.caiso.com/about/Pages/Blog/default.aspx>.

Read a recent article featured in the blog:



November 27, 2023

Markets

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By Partha Malvadkar, Principal, Resource Adequacy and Market Policy Development

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Upcoming MPPF meeting

The next MPPF is scheduled on June 27, 2024.

User groups and recurring meetings > Market performance and planning forum > 2024