



## **Item 9.3: Commercial Markets Update**

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Reliability and Markets Committee

ERCOT Public

December 2, 2024

# Overview

- **Purpose**

- Update on current market observations and trends
- Update on key market reports and initiatives

- **Voting Items / Requests**

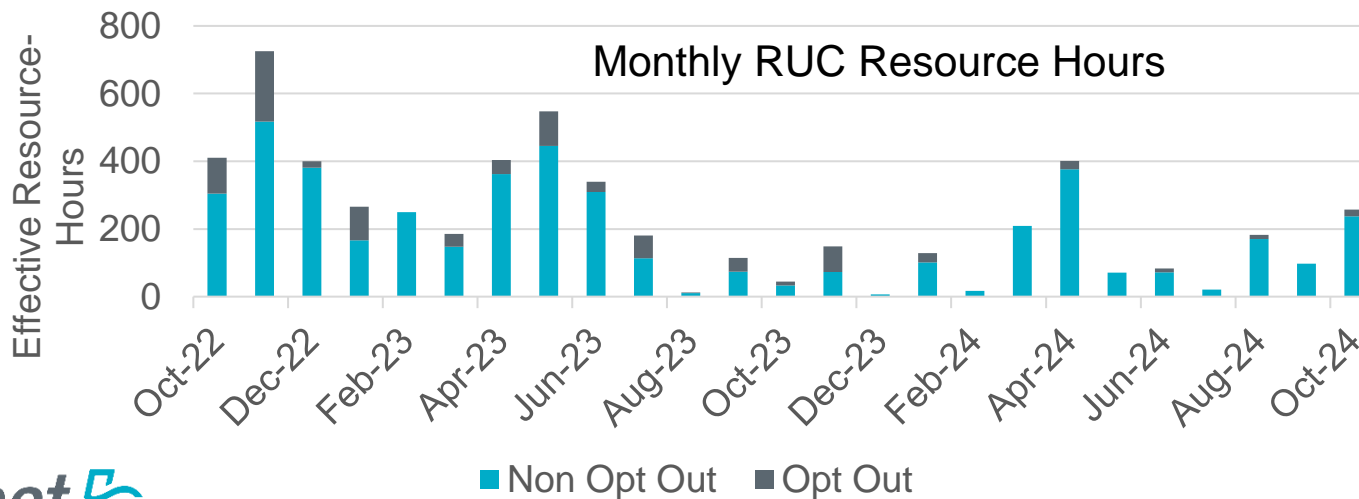
- No action is requested of the Reliability and Markets (R&M) Committee or Board; for discussion only

- **Key Takeaways**

- Increase in Reliability Unit Commitment (RUC) during shoulder season to ensure sufficient capacity to meet solar ramp down
- 2024 Operating Reserve Demand Curve (ORDC) Report indicates ORDC design working as intended; other market signals contributed to higher On-Line Reserves and increased self-commitment
- ERCOT is working with stakeholders on a mitigation framework for Energy Storage Resources (ESRs) under NPRR 1255

# We have observed a recent uptick in Reliability Unit Commitment (RUC)

- October saw an increase in RUC activity over previous months and previous year, driven predominantly by the need for additional capacity to meet net load during solar resource ramp down hours
  - Twenty-five Resources were committed in October for Capacity and Congestion
  - RUC activity can increase during shoulder periods with lower reserve margins due to seasonal outages
- Historically high seasonal temperatures in October also contributed to the need to commit additional capacity



# The biennial ORDC report was published in November

- ERCOT published its biennial Operating Reserve Demand Curve (ORDC) report on November 1, 2024
  - The report analyzes the ORDC’s efficacy, utilization, related cost, and contribution to grid reliability from October 1, 2022 – September 30, 2024
- Design changes since the previous biennial report in 2022 (covering 2020-2022) were limited but included:
  - ERCOT Contingency Reserve Service (ECRS) in June 2023, which increased requirements for On-Line Reserves
  - A Multi-Step On-Line Reserve Price-Adder Floor on November 1, 2023
- Key findings of the report were shared at the PUC Open Meeting in November

# The ORDC performed in line with expectations based on the current design

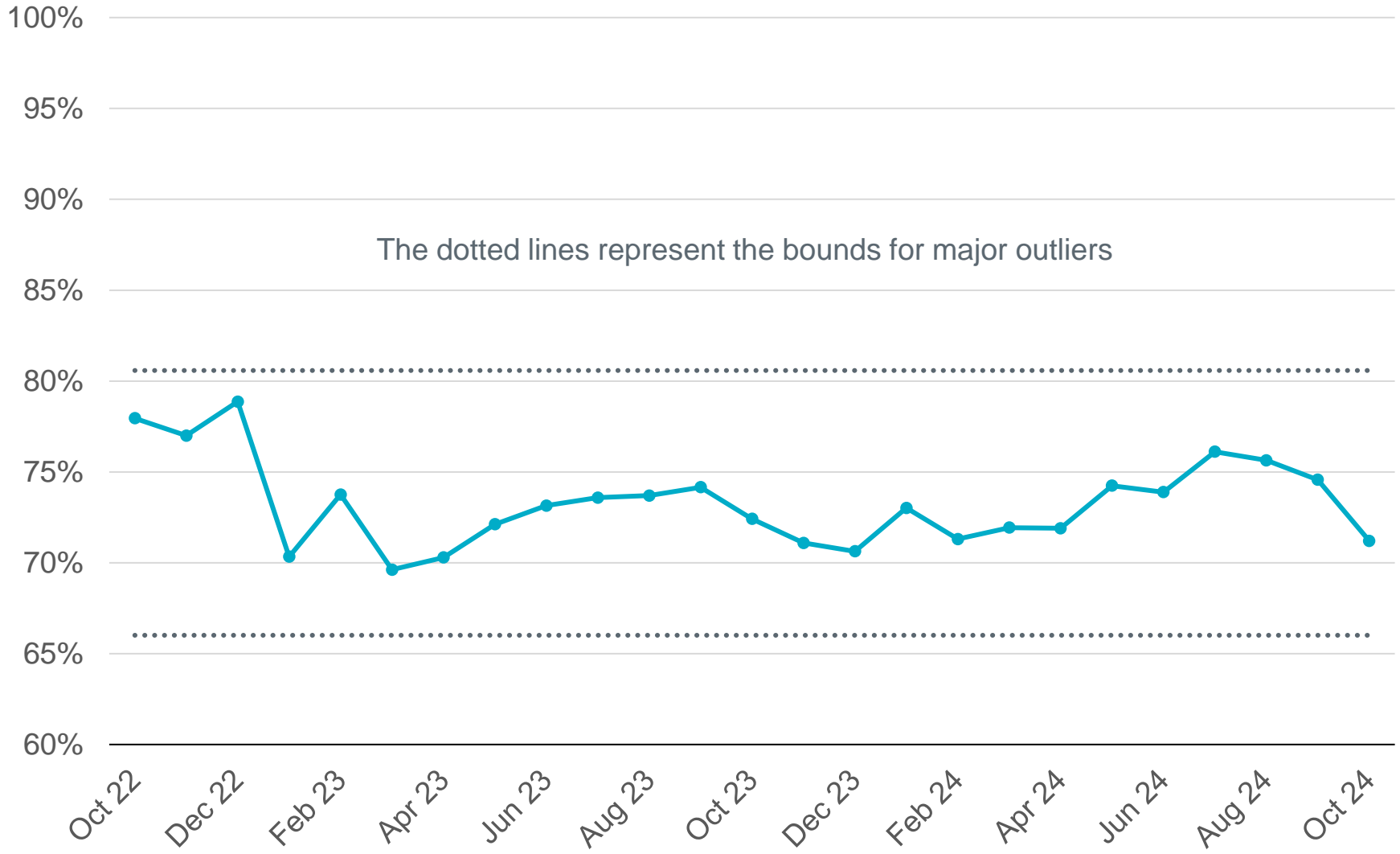
- Higher ancillary service requirements, tighter conditions and lower natural gas prices all contributed to an increase in On-Line Reserves and a significant reduction in RUC commitment compared to the previous study.
  - These factors limited the frequency and magnitude of ORDC price adders but provided a strong market signal to self-commit resources based on future price expectations.
  - Incidence of On-Line Reserve Price-Adder Floors was limited due to these factors, but during intervals in which these floors were in effect, approximately 85% of generation output was from dispatchable resources.
- The ORDC will be replaced by Ancillary Service Demand Curves (ASDCs) with the implementation of Real-Time Co-Optimization in December 2025. ASDCs are being discussed at RTC+B Task Force.

# Discussions are underway regarding a mitigation framework for Energy Storage

- ERCOT introduced NPRR 1255 which proposes a new mitigation framework for Energy Storage Resources (ESRs);
  - Mitigation is important in addressing market power in the presence of transmission congestion
  - Current protocols set the mitigated offer cap (MOC) of ESRs at the System-Wide Offer Cap (SWCAP)
  - Under NPRR 1255, when an ESR is flagged for mitigation, its MOC will be a function of the maximum shadow price, its relationship to the constraint, and the system price
  - This design avoids the risk of over-mitigation while allowing the real-time market software to use these resources to help manage congestion and reduce the need for out-of-market actions
  - Work on this design change began in fall 2023 and the NPRR was introduced this past October
  - While the NPRR is currently tabled at the Protocol Revision Subcommittee (PRS), we hope to bring this NPRR to the Board in 2025

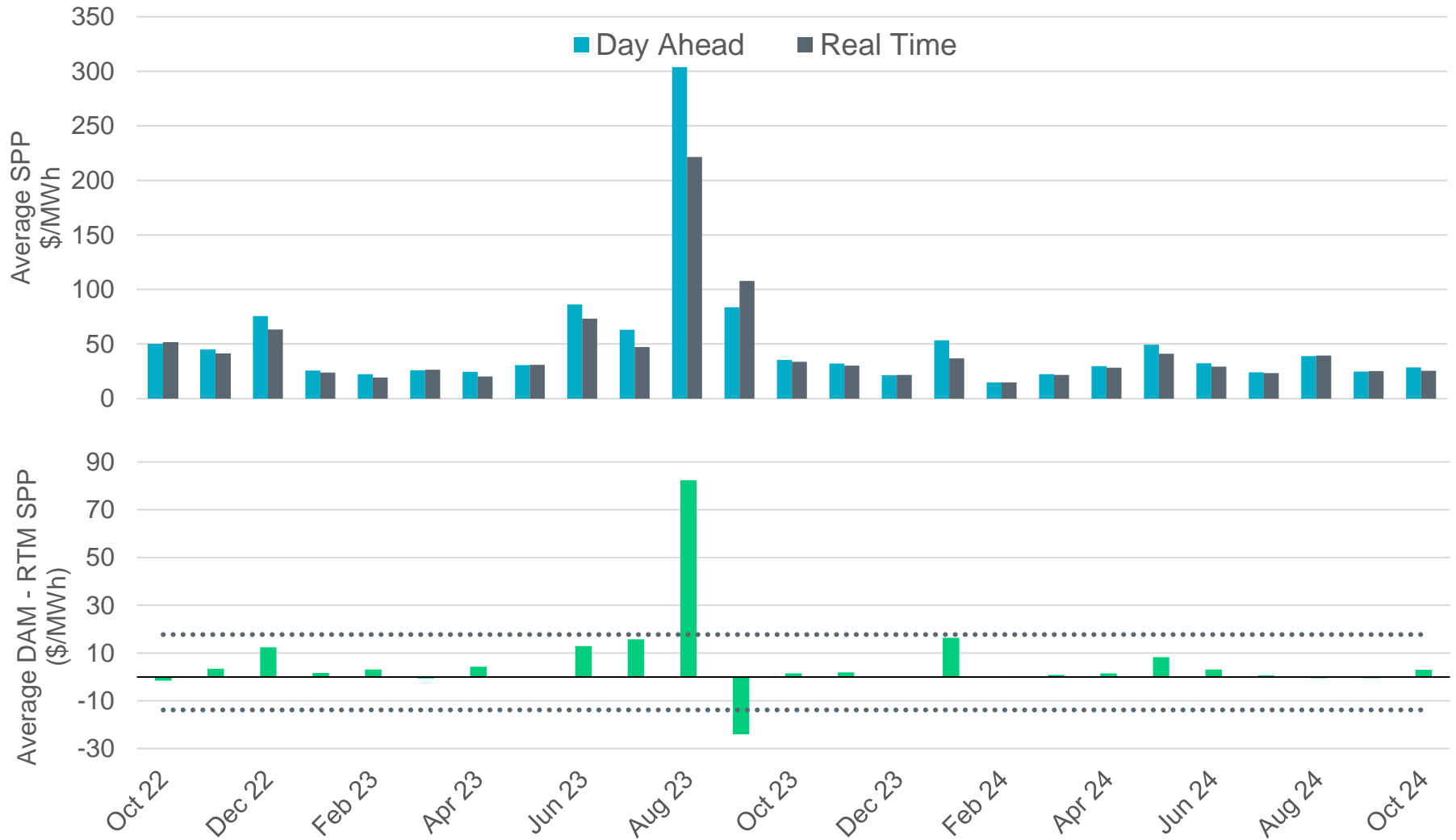
# Appendix

# Percentage of Real-Time Load Transacted in the Day-Ahead Market





# Day-Ahead and Real-Time Market Price Differences

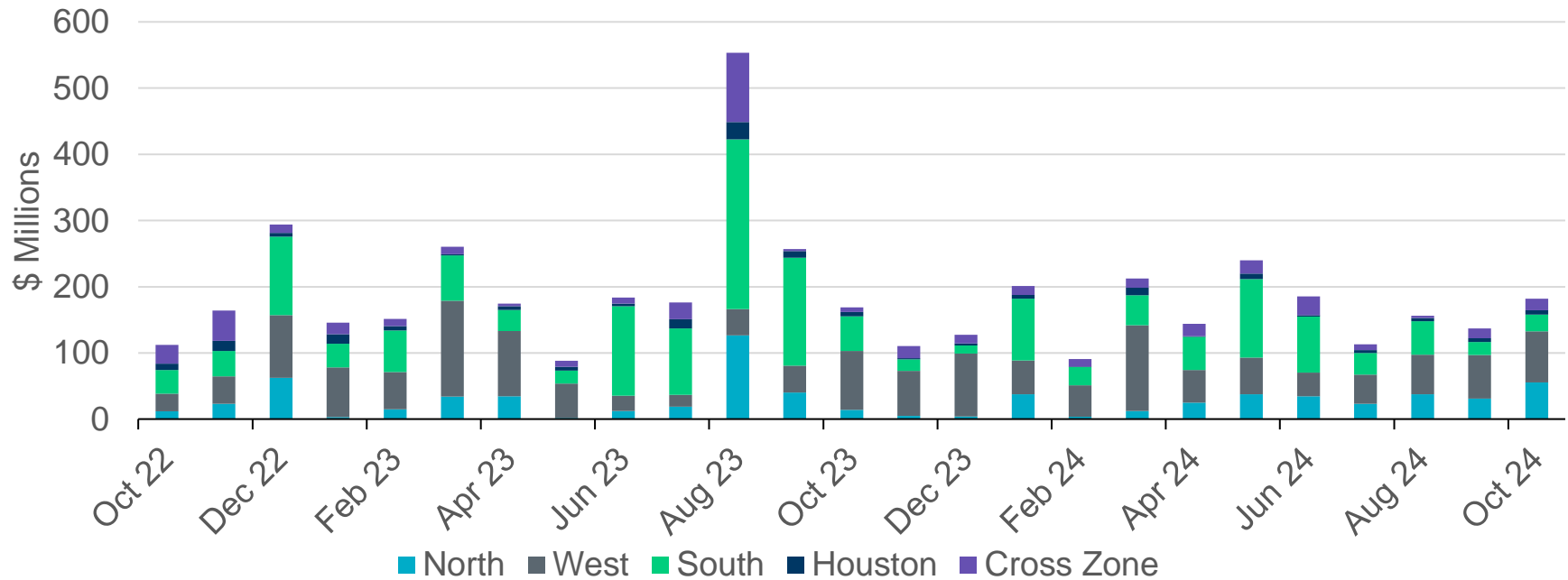


\*Averages are weighted by Real-Time Market Load

# Congestion Revenue Right (CRR) Value and Cost Differences



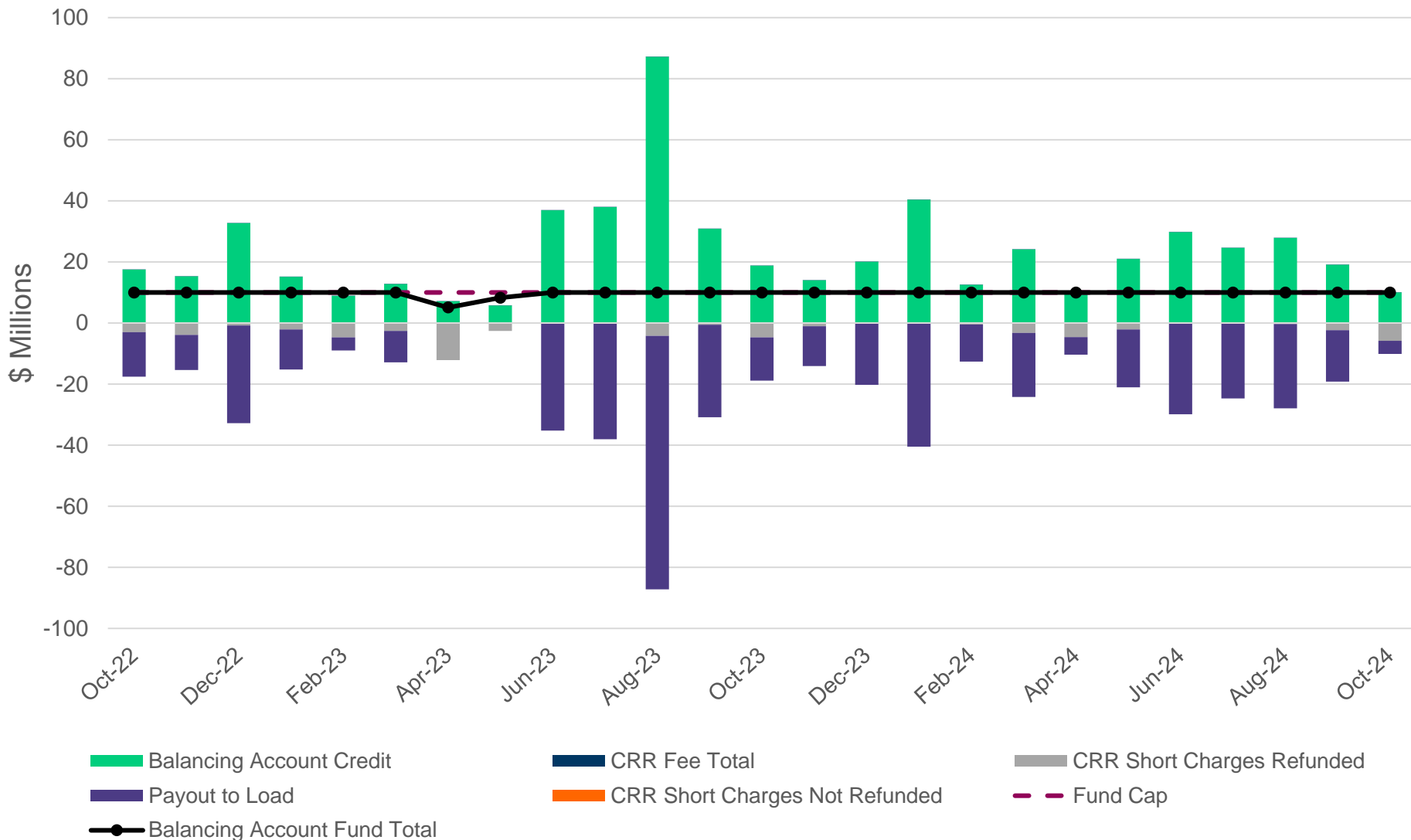
# Real-Time Congestion Rent by Zone



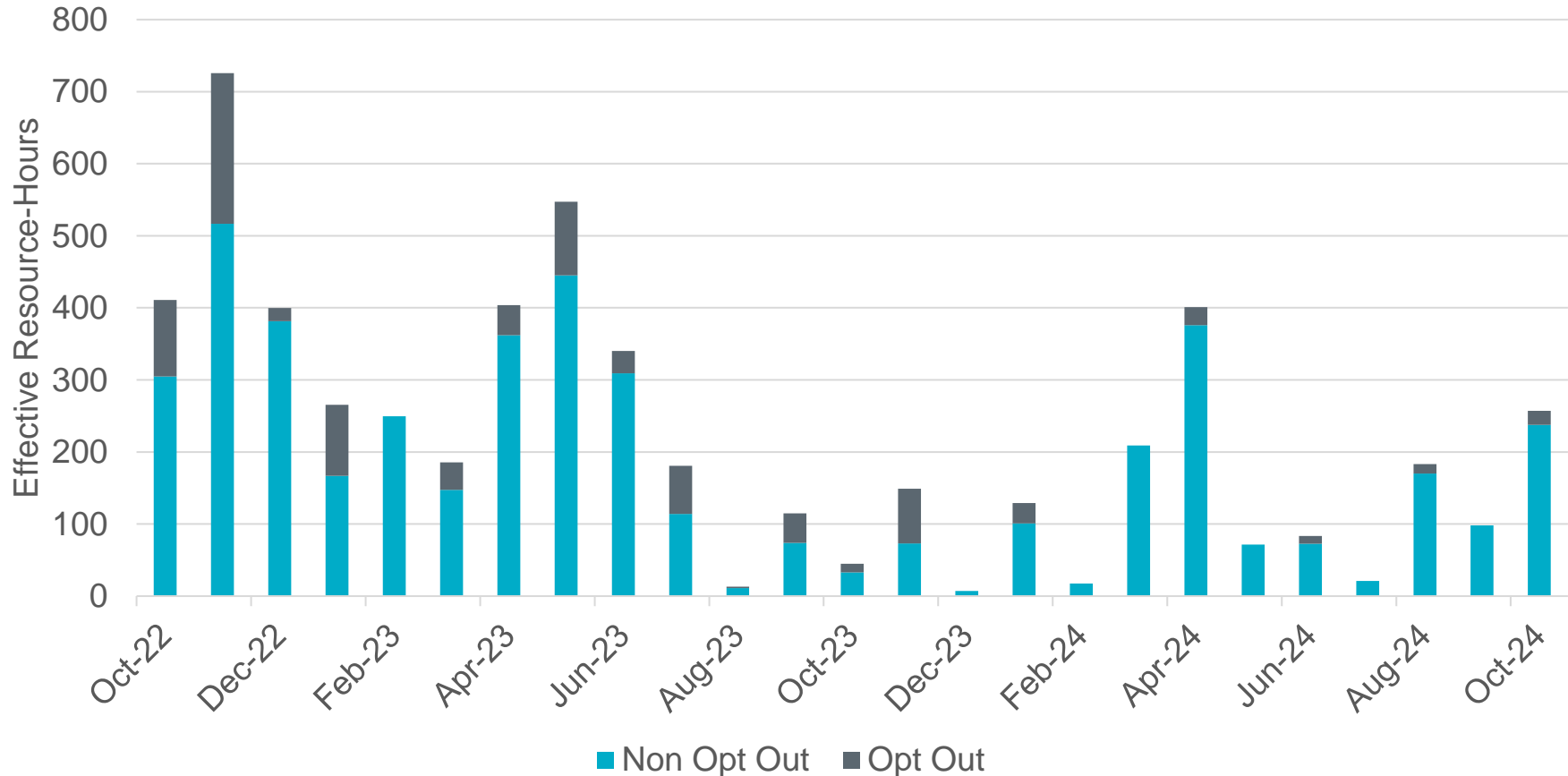
- Congestion Rent is determined using the shadow prices and MW flows for individual constraints in SCED as well as the duration of congested SCED intervals.
- In October, total Real-Time congestion rent increased compared to September, with the highest congestion rent observed in the West and North Zones.
  - North Zone congestion rent was primarily driven by the loss of the double circuit 345kv line from Salado Switch to Knob Creek Switch and the 138kv line from Temple Switch to Bell County which overloads the 138kV line from Temple Switch to Temple Southeast.
  - West Zone congestion rent was primarily driven by the loss of the 345kV double circuit from Wolf Switching Station to Moss Switch, which overloads the 138kV line from Odessa EHV Switch to Yarbrough Sub.

Note: The “Cross Zone” category consists of cases in which the substations on either end of the constraint are in different zones.

# The CRR Balancing Account was fully-funded and excess amounts were allocated to Load



# Twenty-five Resources were Committed in October for Capacity and Congestion



“Effective Resource-Hours” excludes any period during a Reliability Unit Commitment hour when the RUC-committed Resource was starting up, shutting down, off-line, or otherwise not available for dispatch by SCED.

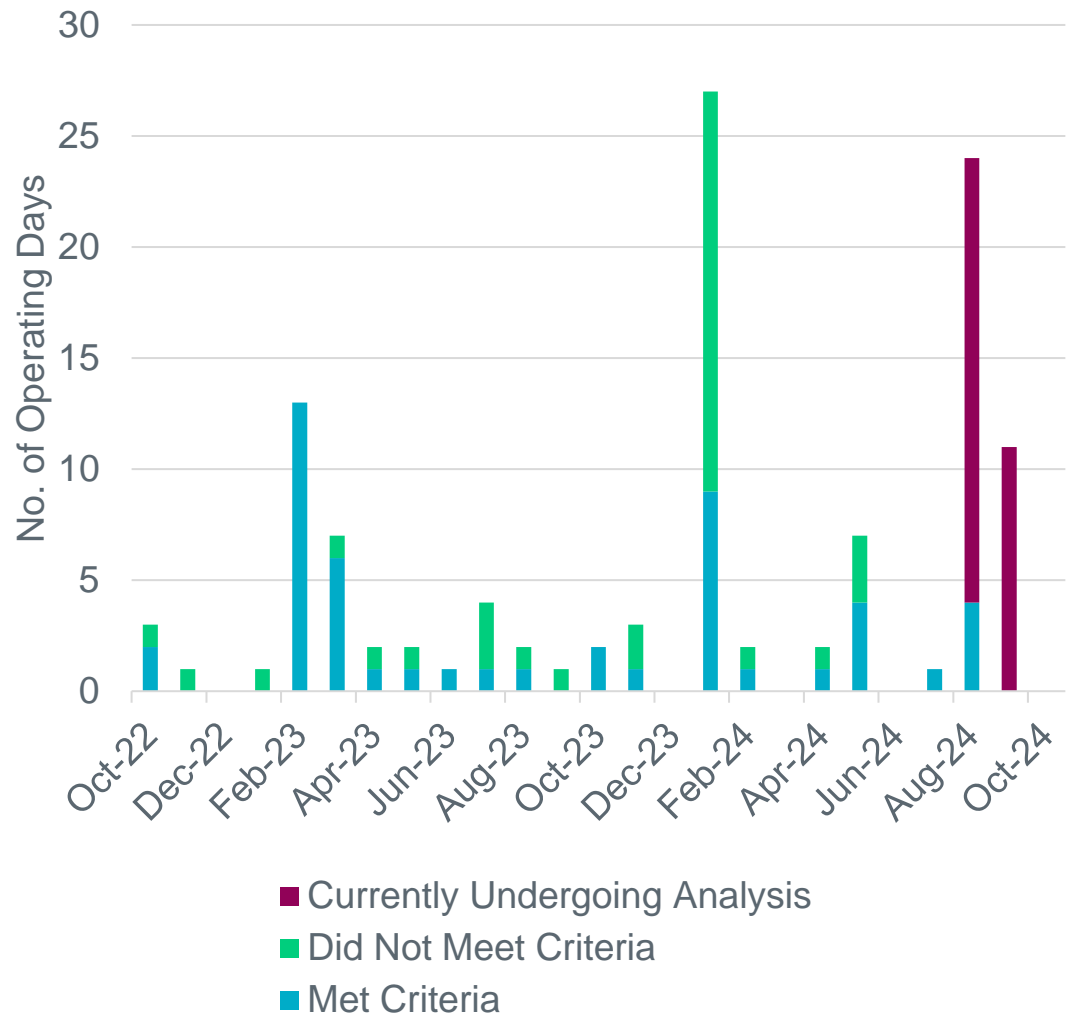
# Twenty-five Resources were Committed in October for Capacity and Congestion

Resource #	Effective Resource-hours	Non Opt Out (Effective Hours)	Opt Out (Effective Hours)
1	6.0	6.0	0.0
2	24.0	24.0	0.0
3	8.0	8.0	0.0
4	6.0	6.0	0.0
5	6.0	0.0	6.0
6	18.0	18.0	0.0
7	5.0	5.0	0.0
8	2.0	2.0	0.0
9	4.0	4.0	0.0
10	8.0	8.0	0.0
11	7.9	0.0	7.9
12	15.9	15.9	0.0
13	24.8	24.8	0.0
14	15.8	15.8	0.0
15	14.2	14.2	0.0
16	5.7	0.0	5.7
17	2.0	2.0	0.0
18	2.0	2.0	0.0
19	25.7	25.7	0.0
20	10.7	10.7	0.0
21	22.5	22.5	0.0
22	10.7	10.7	0.0
23	3.0	3.0	0.0
24	5.0	5.0	0.0
25	4.0	4.0	0.0
<b>SUM</b>	<b>257.0</b>	<b>237.5</b>	<b>19.6</b>

# Price Issues and the Impact of Nodal Protocol Revision Request (NPRR) 1024 on Price Corrections

This graph looks at the recent history of price issues in the RTM or DAM and breaks the impacted Operating Days into three categories:

- Days that are currently undergoing impact analysis to determine if criteria is met;
- Days that met the criteria for “significance” under NPRR1024 and were corrected; and
- Days that were not corrected because they did not meet the criteria for “significance” under NPRR1024.

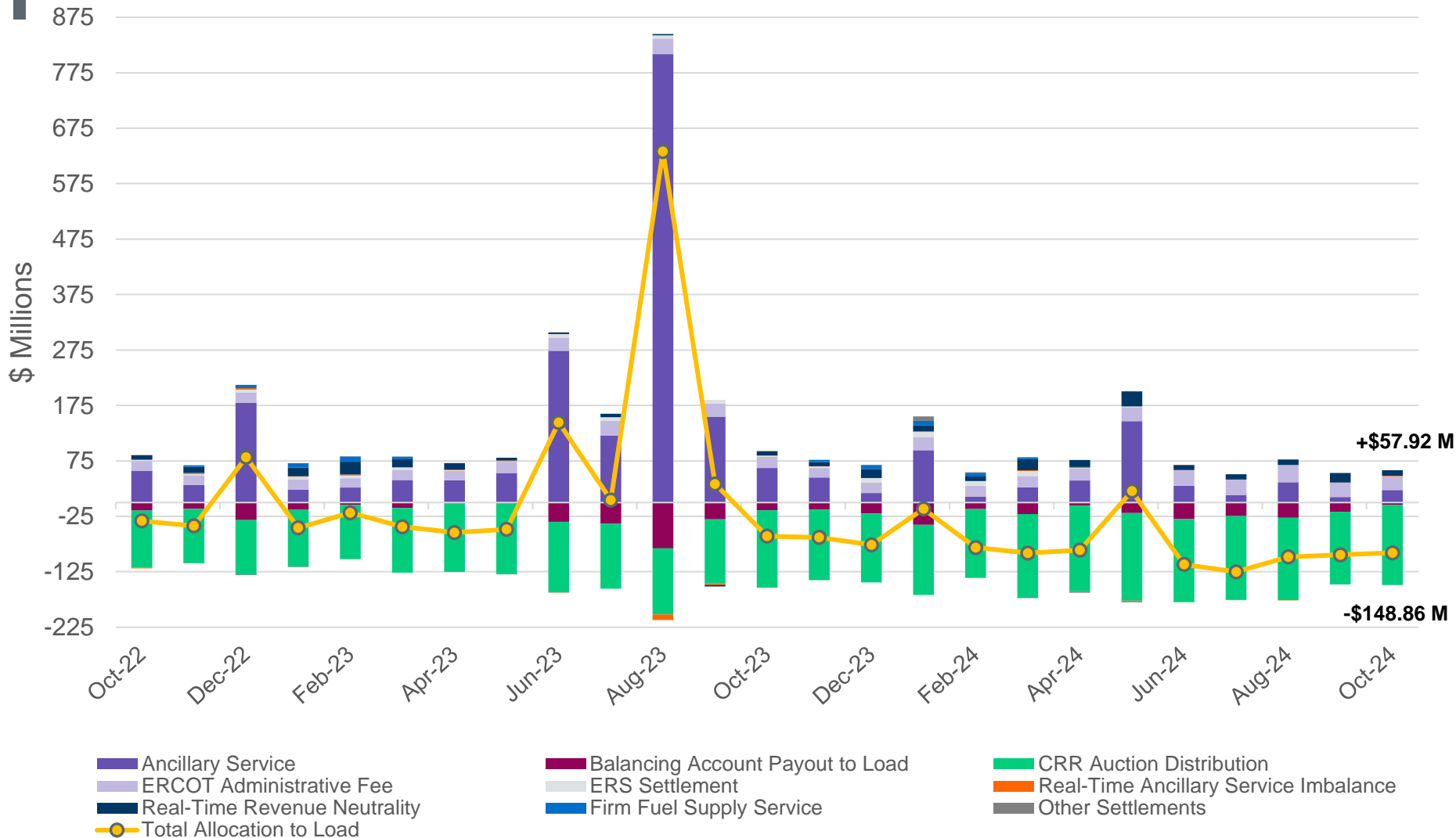


# Details for Pricing Impact Review

- On September 5, 2024, ERCOT discovered a software defect that affected a Resource's megawatt value when its data quality was suspect. The megawatt value is used in the calculation of a transmission constraint's mathematical limit (See Market Notice [M-A091124-01](#)). ERCOT is currently performing an impact analysis for Operating Days (ODs) 30 days prior to the issued Market Notice, Aug. 12 – Sept. 11, 2024. Once the impact analysis is complete, ERCOT will notify market participants if any of the ODs meet the criteria to seek review of prices by the ERCOT Board of Directors.
- There were no Operating Days in October that required price correction.

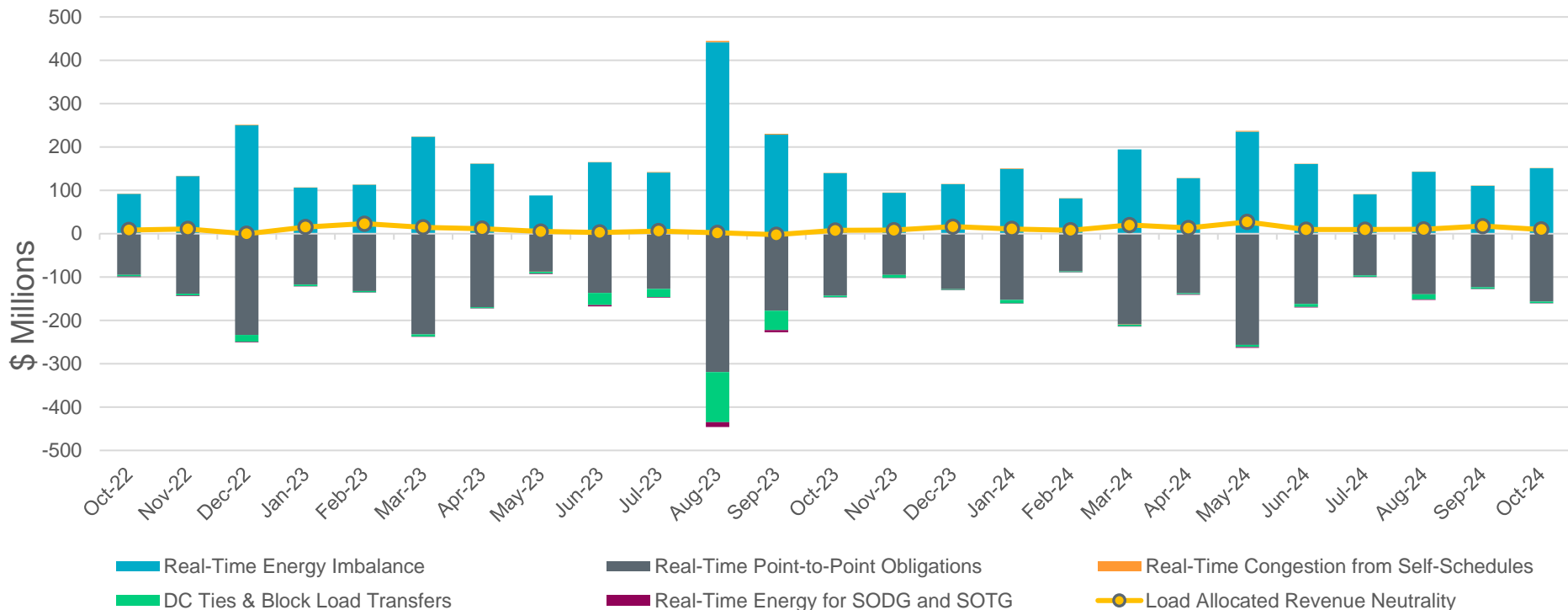


# Net Allocation to Load in October 2024 was (\$90.94) Million



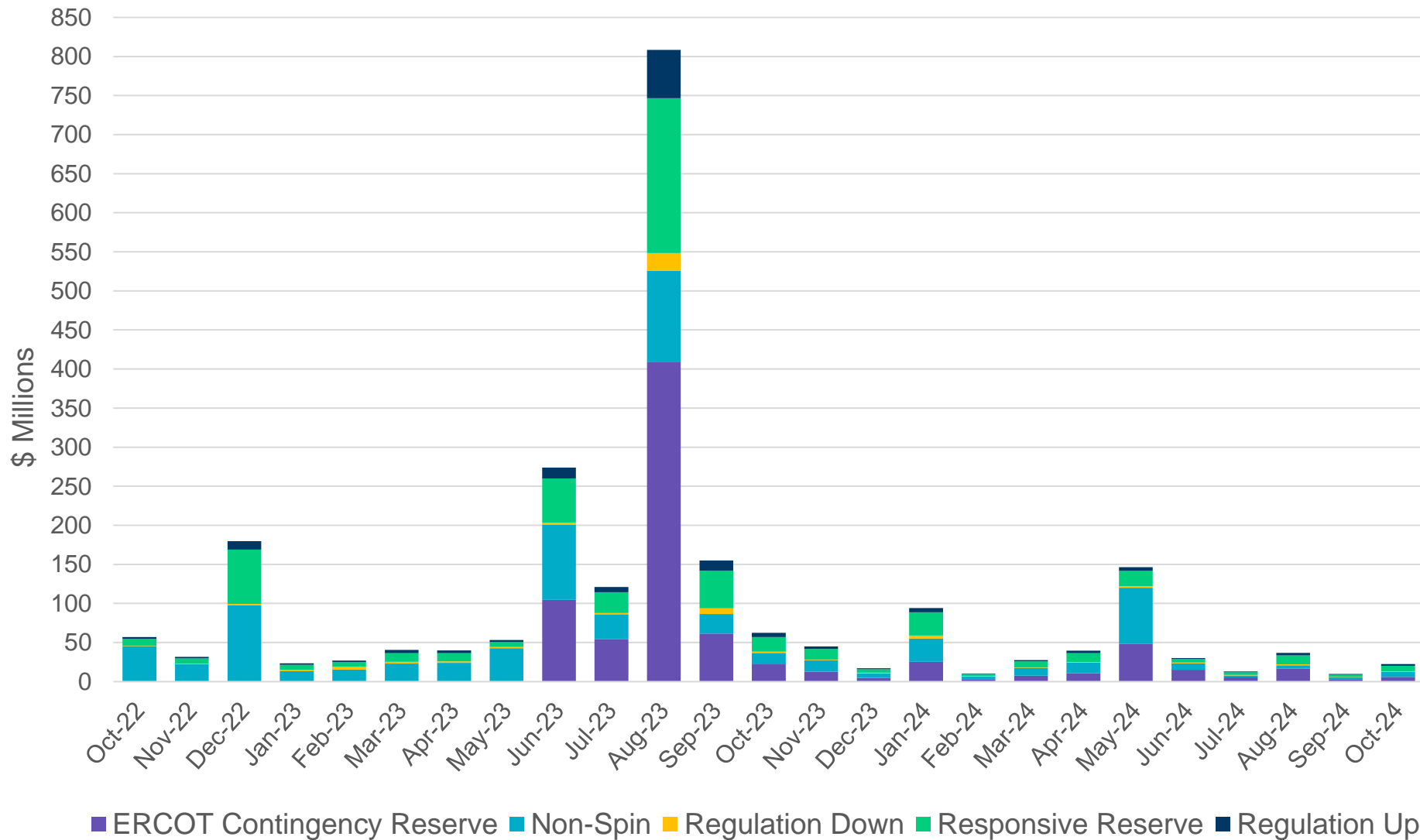
This information is available in tabular form in the Settlement Stability Report presented quarterly to the [Wholesale Market Subcommittee](#)

# Real-Time Revenue Neutrality Allocated to Load was \$9.77M for October 2024

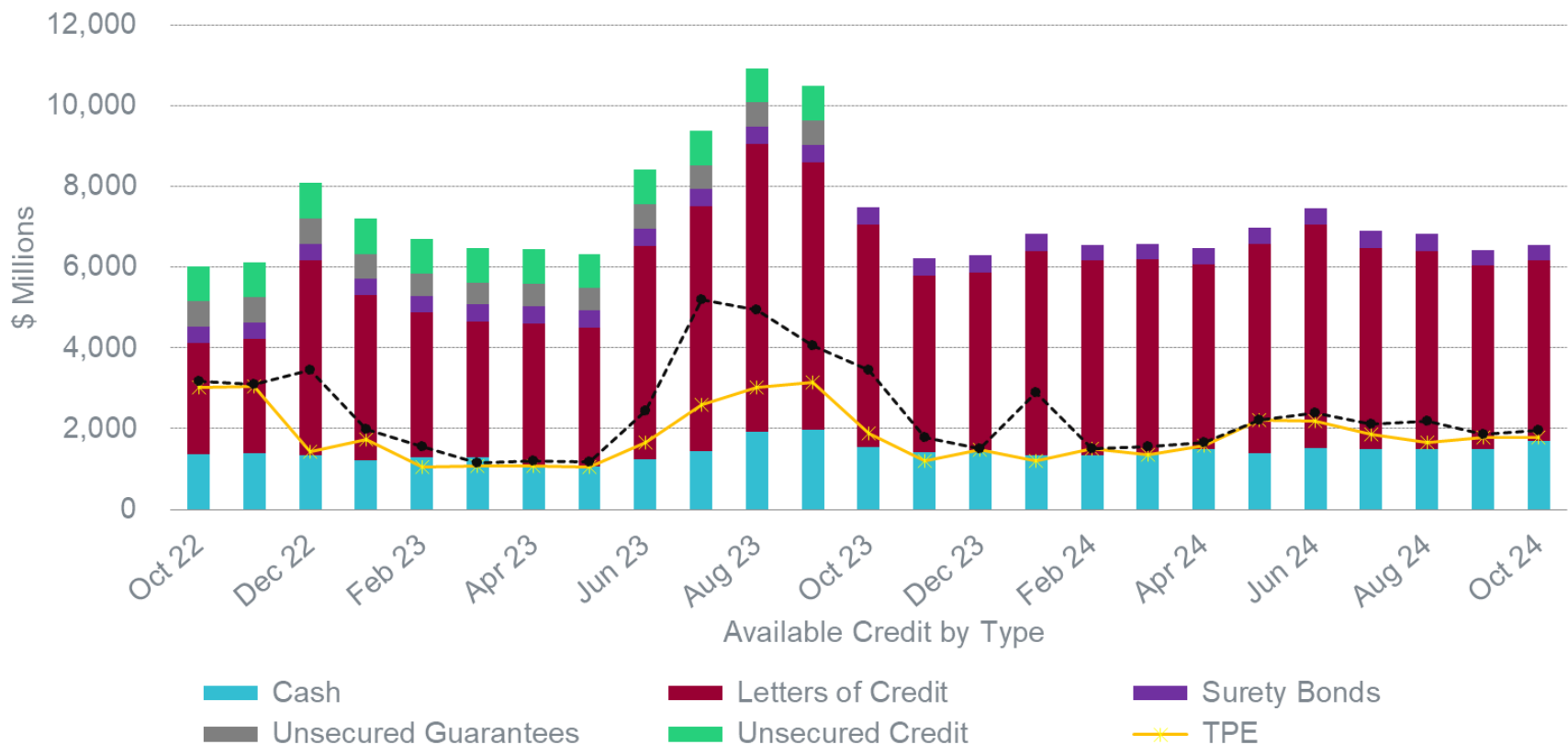


October 2024 (\$M)	
Real-Time Energy Imbalance	\$150.87
Real-Time Point-to-Point Obligation	(\$156.71)
Real-Time Congestion from Self-Schedules	\$0.20
DC Tie & Block Load Transfer	(\$3.59)
Real-Time Energy for SODG and SOTG	(\$0.54)
<b>Load Allocated Revenue Neutrality</b>	<b>\$9.77</b>

# Ancillary Services for October 2024 totaled \$22.4M



# Available Credit by Type Compared to Total Potential Exposure (TPE)



\*Numbers are as of month end except for Max TPE

# Retail Transaction Volumes – Summary – October 2024

Transaction Type	Year-To-Date		Transactions Received	
	October 2024	October 2023	October 2024	October 2023
<b>Switches</b>	1,051,226	957,294	86,198	91,334
<b>Acquisitions</b>	0	0	0	0
<b>Move - Ins</b>	2,693,988	2,635,493	270,801	262,154
<b>Move - Outs</b>	1,227,470	1,195,975	133,996	126,436
<b>Continuous Service Agreements (CSA)</b>	368,242	378,125	45,654	31,771
<b>Mass Transitions</b>	0	0	0	0
<b>Total</b>	<b>5,340,926</b>	<b>5,166,887</b>	<b>536,649</b>	<b>511,695</b>