



Item 8.3: Commercial Markets Update

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Reliability and Markets Committee Meeting

ERCOT Public

August 30, 2023

Overview

- **Purpose**

- Update the Committee on Aggregate Distributed Energy Resource (ADER) Pilot and ERCOT Contingency Reserve Service (ECRS).
- Provide initial analysis on Summer Pricing.

- **Voting Items / Requests**

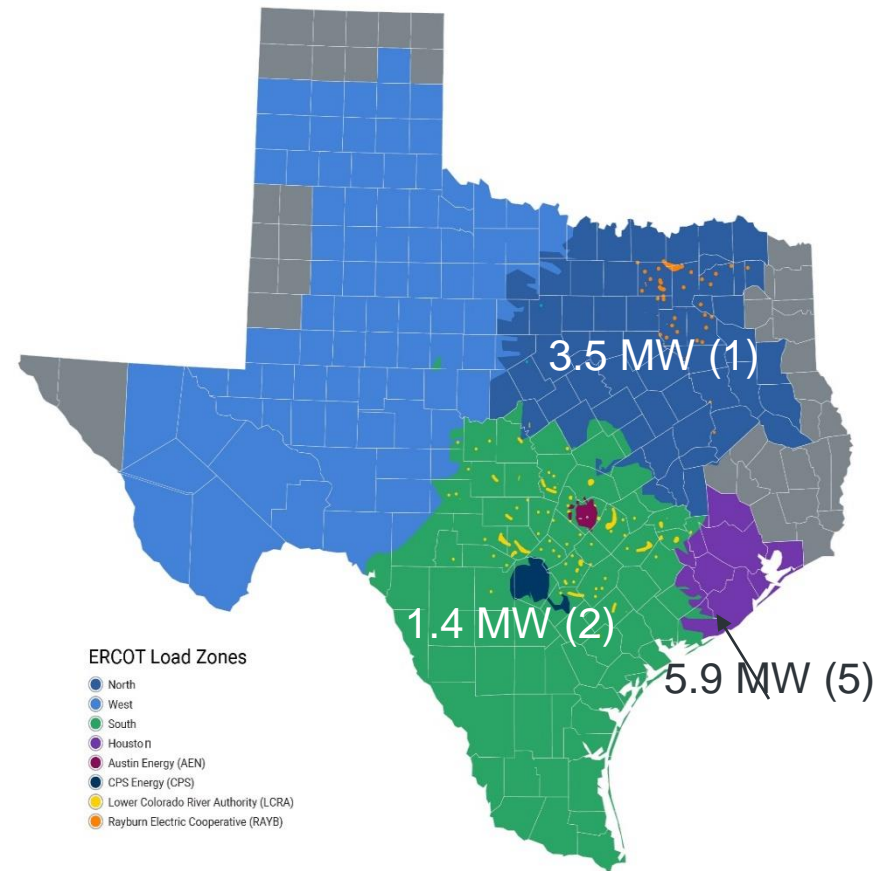
No action is requested of the R&M Committee or Board; for discussion only.

- **Key Takeaways**

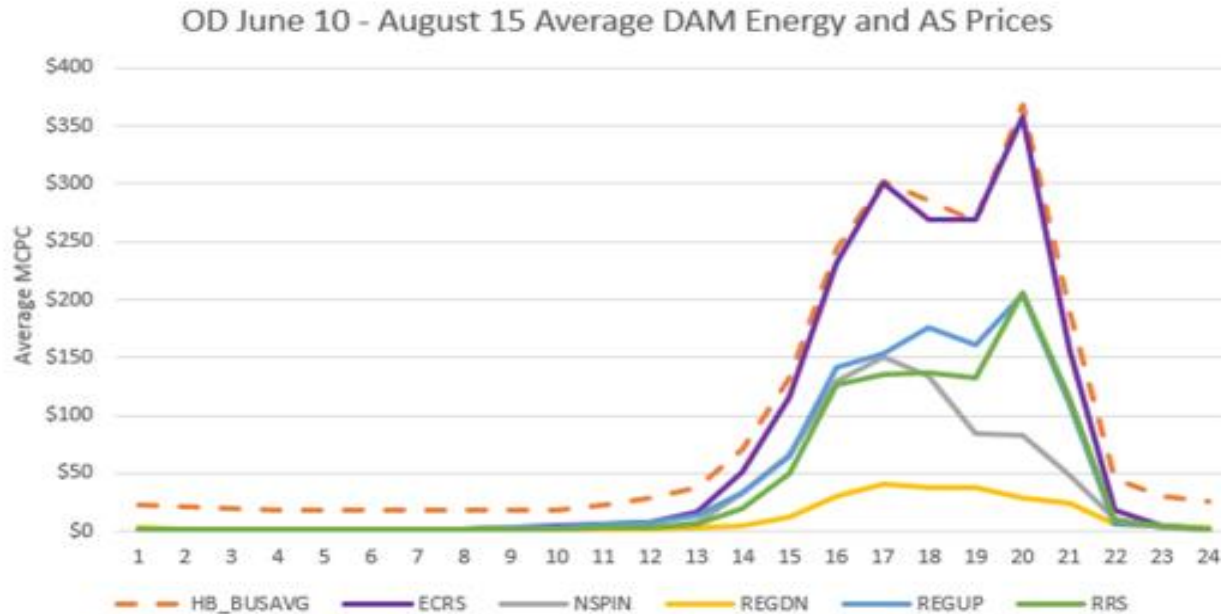
- Currently 2 ADERs have their telemetry qualified.
- ECRS has been utilized to manage the grid during difficult times.
- Summer prices are high relative to the reserves on the system.

Aggregate Distribution Energy Resource (ADER) pilot participation as of August 18, 2023

- Details of the Aggregation forms have now been accepted by ERCOT for 8 ADERs:
 - Aggregated devices include synchronous generators, stationary batteries, and HVAC systems.
 - ERCOT-Wide Energy: **10.8 MW**
 - ERCOT-Wide Non-Spin: **3.5 MW**
- 5 ADERs are now in the ERCOT Network Model, with **2** ADERs looking to finalize telemetry validation and qualification for Real-Time Market participation shortly.
- One item that needs attention in the short-term.
 - Improvements are required for the metric used to perform telemetry validation when devices are relatively idle.
 - While there remains a path forward today, this metric should be improved through amendments to the governing document for the pilot.



ERCOT Contingency Reserve Service (ECRS)



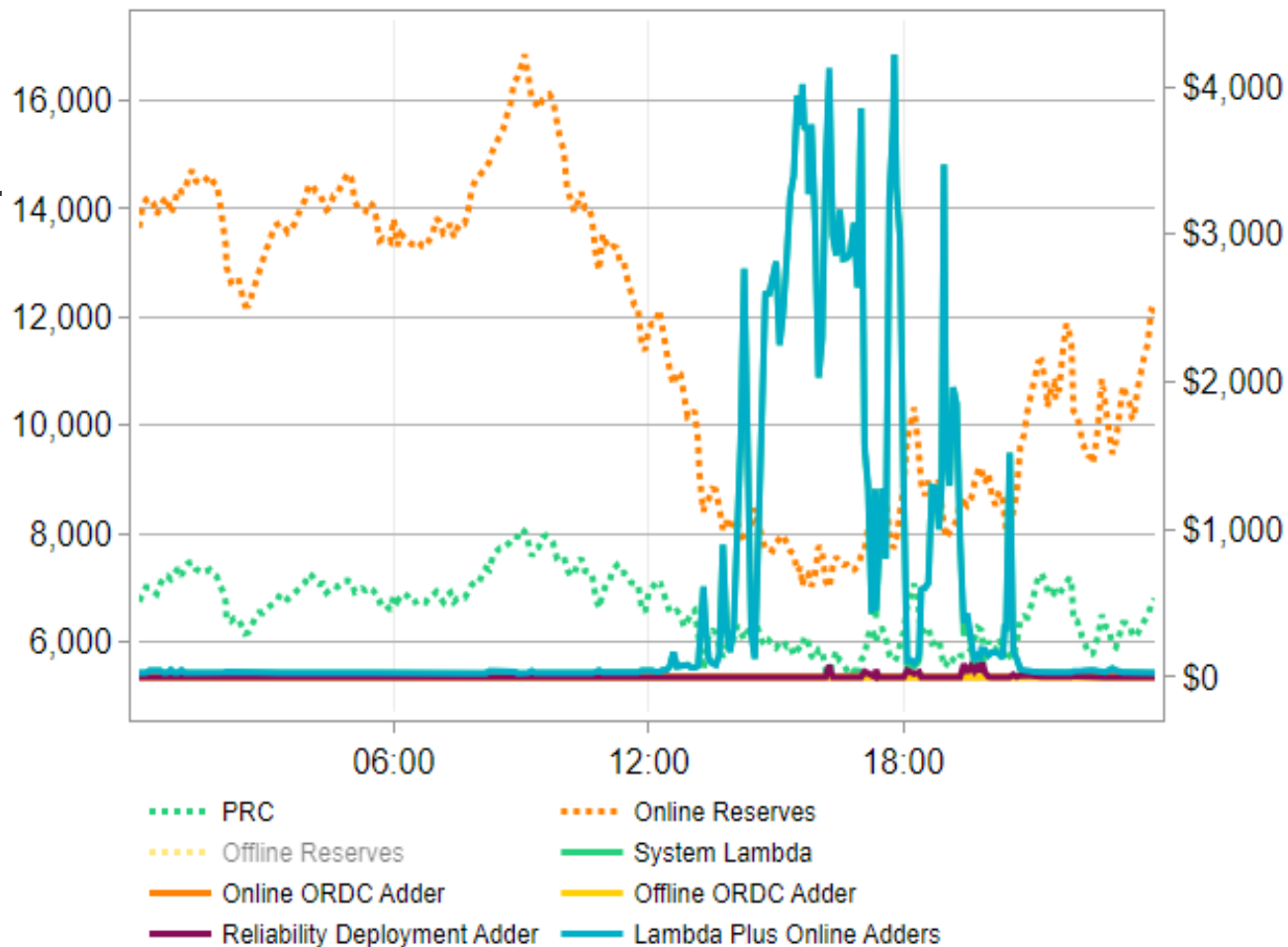
• Key Takeaways

- ECRS has been deployed on 18 days to primarily manage ramping issues, especially in the evenings as the sun sets.
- ECRS prices are clearing at a premium above other ancillary services.

Summer Pricing – August 10

High prices even though reserves are relatively high.

ORDC adders are small.

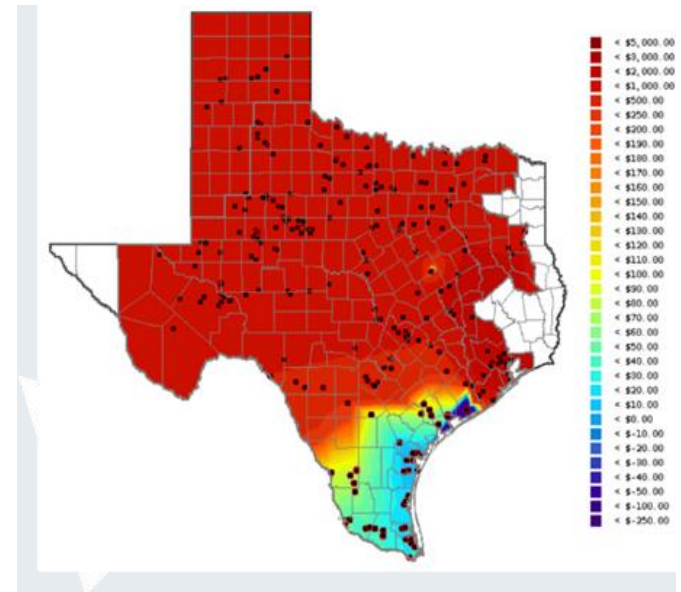


Summer Pricing

During very high system demand, two factors create circumstances where there is less energy available for Security Constrained Economic Dispatch (SCED).

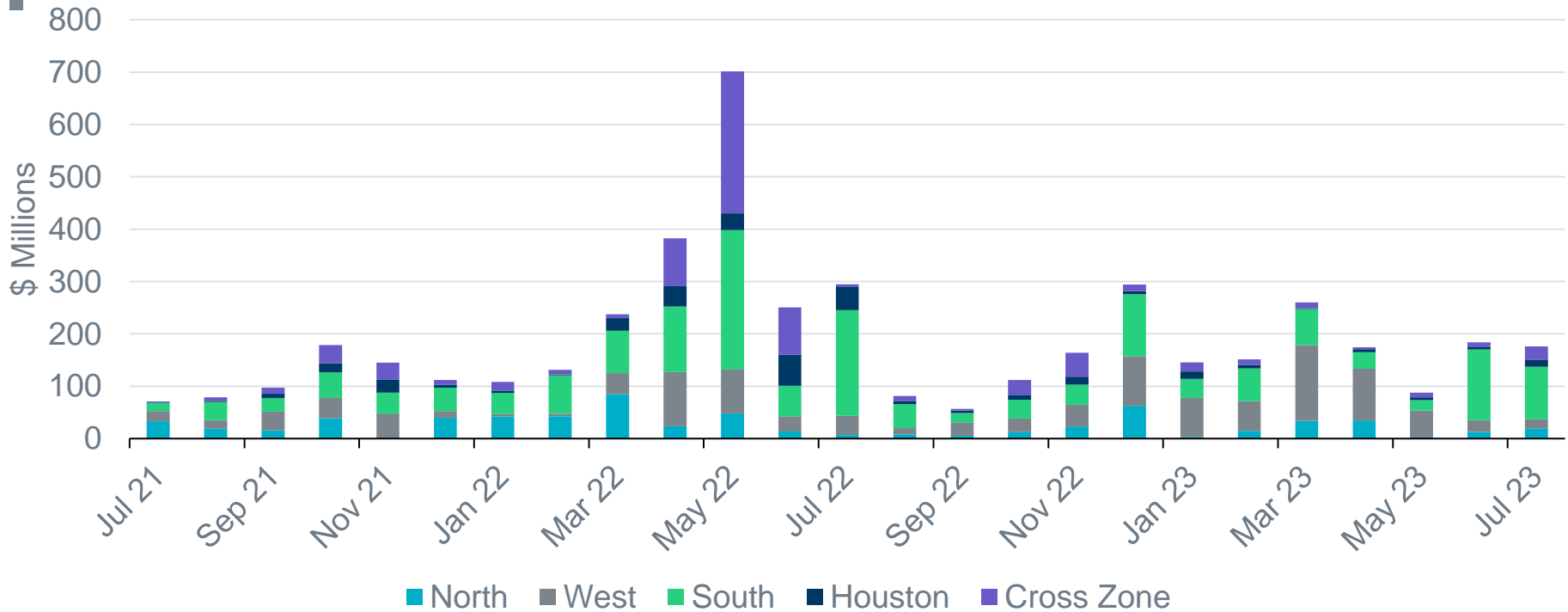
- Congestion restricting energy flows from the South and the coast of Texas.
- More capacity is held aside until for operator dispatch as part of ECRS.

Less energy available for SCED means that more expensive units are left to clear the market.



Appendix

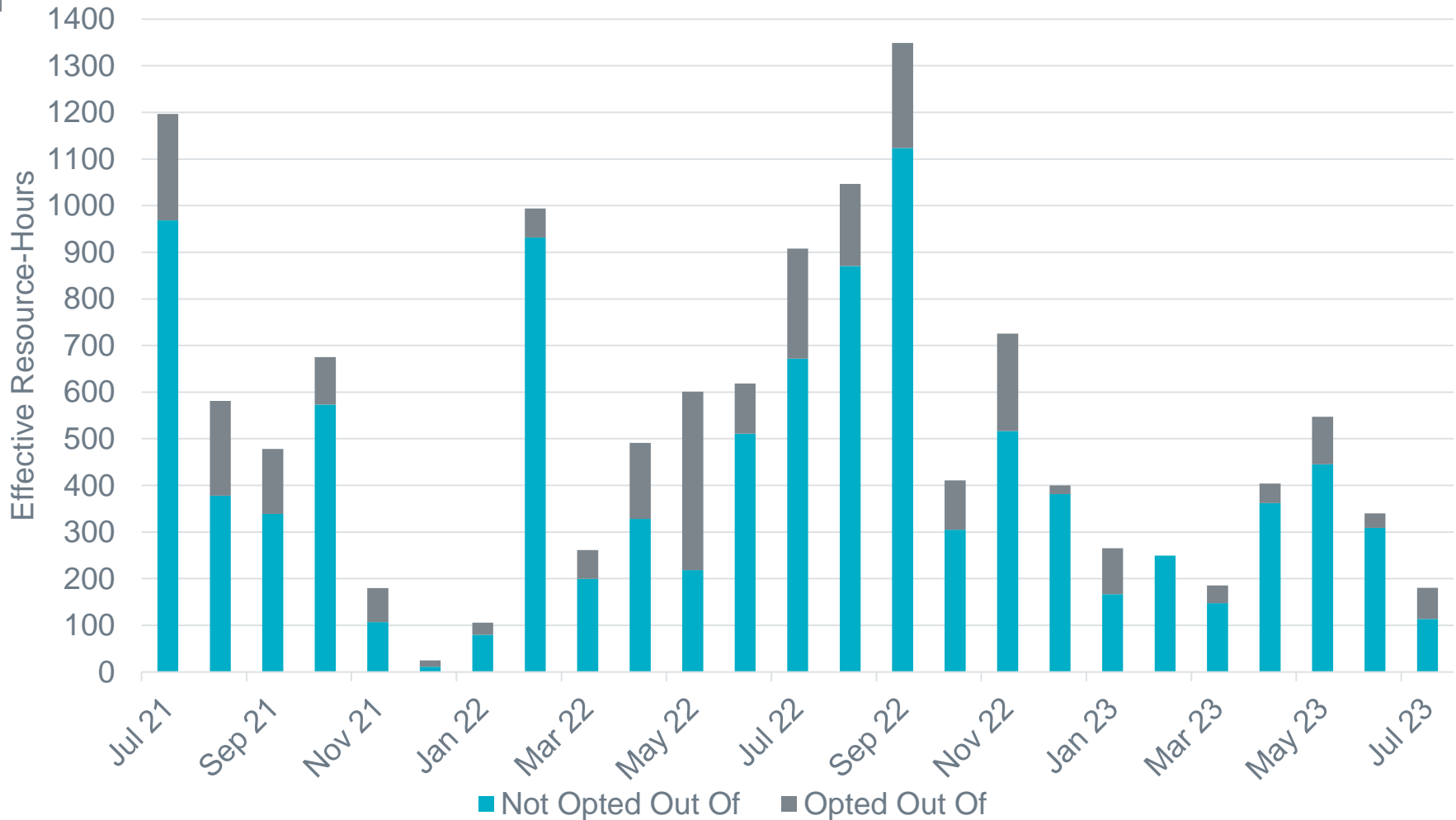
Real-Time Congestion Rent by Zone



- Overall, monthly congestion rent decreased slightly for July compared to June.
- The two zones with the highest congestion rent were the South and Cross Zones.
 - Congestion rent in the South Zone was primarily driven by the loss of the double circuit 345 kV contingency from Elm creek to San Miguel Gen overloading the 345 kV transmission line from Pawnee Switching Station to Calaveras.
 - Congestion rent in the Cross Zone was primarily driven by the loss of the double circuit 345 kV contingency from Whaley and Wolf to WA Parish overloading the 345 kV transmission line from South Texas Project to WA Parish.
- Congestion Rent is determined using the shadow prices and MW flows for individual constraints in SCED as well as the length in time of SCED intervals.
- The “Cross Zone” category consists of cases in which the substations on either end of the constraint are in different zones.



Twenty Resources were Committed in July for Capacity



“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.

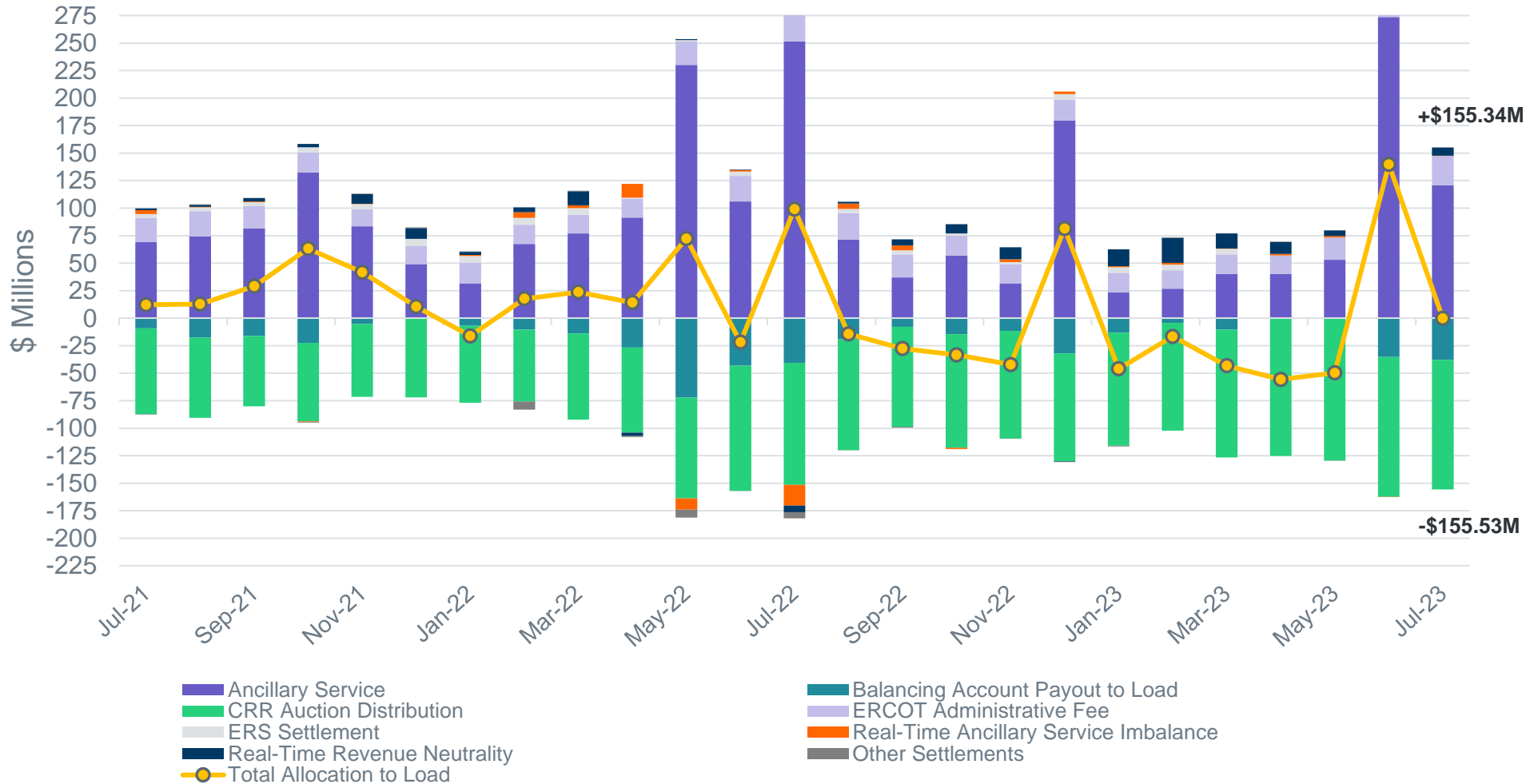


Twenty Resources were Committed in July for Capacity

Resource #	Effective Resource-hours	Non-Opt Out (Effective Hours)	Opt Out (Effective Hours)
1	1.0	0.0	1.0
2	20.7	5.7	15.0
3	12.0	12.0	0.0
4	2.9	2.9	0.0
5	2.0	2.0	0.0
6	1.0	1.0	0.0
7	17.0	5.0	12.0
8	23.9	8.0	15.9
9	24.0	8.0	16.0
10	7.9	7.9	0.0
11	2.0	0.0	2.0
12	5.0	1.0	4.0
13	1.0	1.0	0.0
14	6.8	6.8	0.0
15	13.8	13.8	0.0
16	18.2	18.2	0.0
17	12.7	12.7	0.0
18	3.9	3.9	0.0
19	0.9	0.0	0.9
20	4.0	4.0	0.0
Total	180.8	113.9	66.8



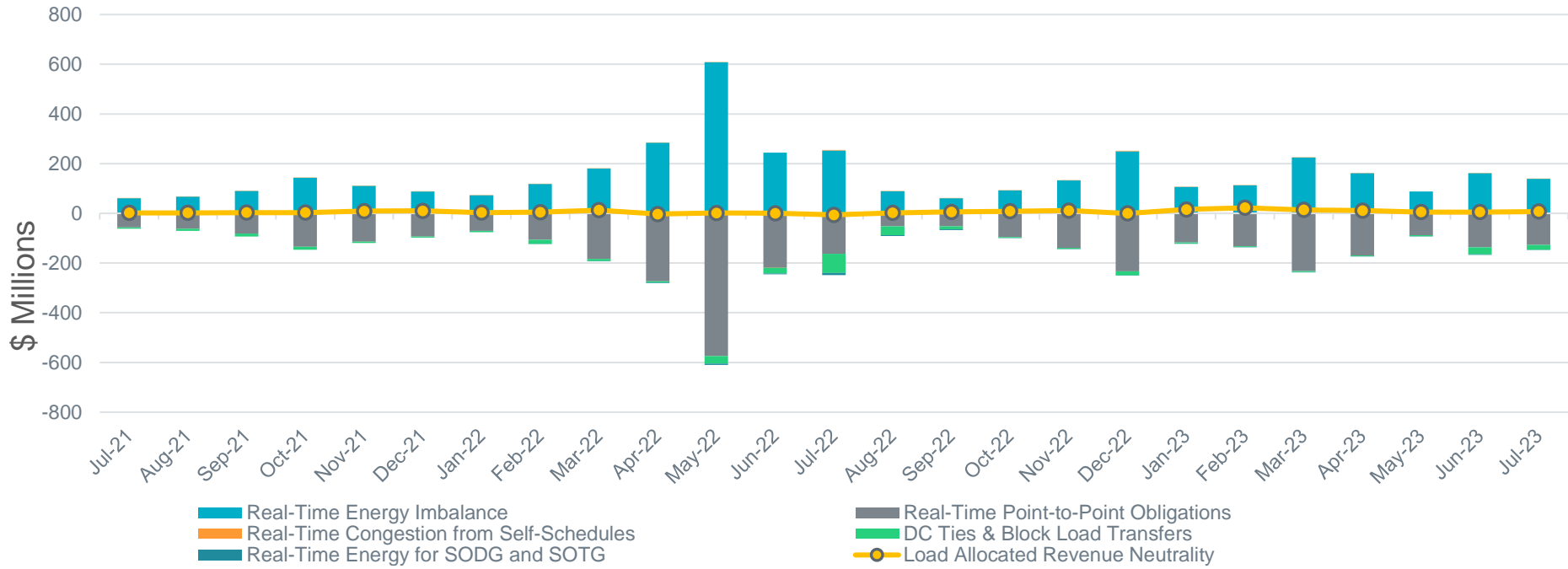
Net Allocation to Load in July 2023 was (\$0.19) Million



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



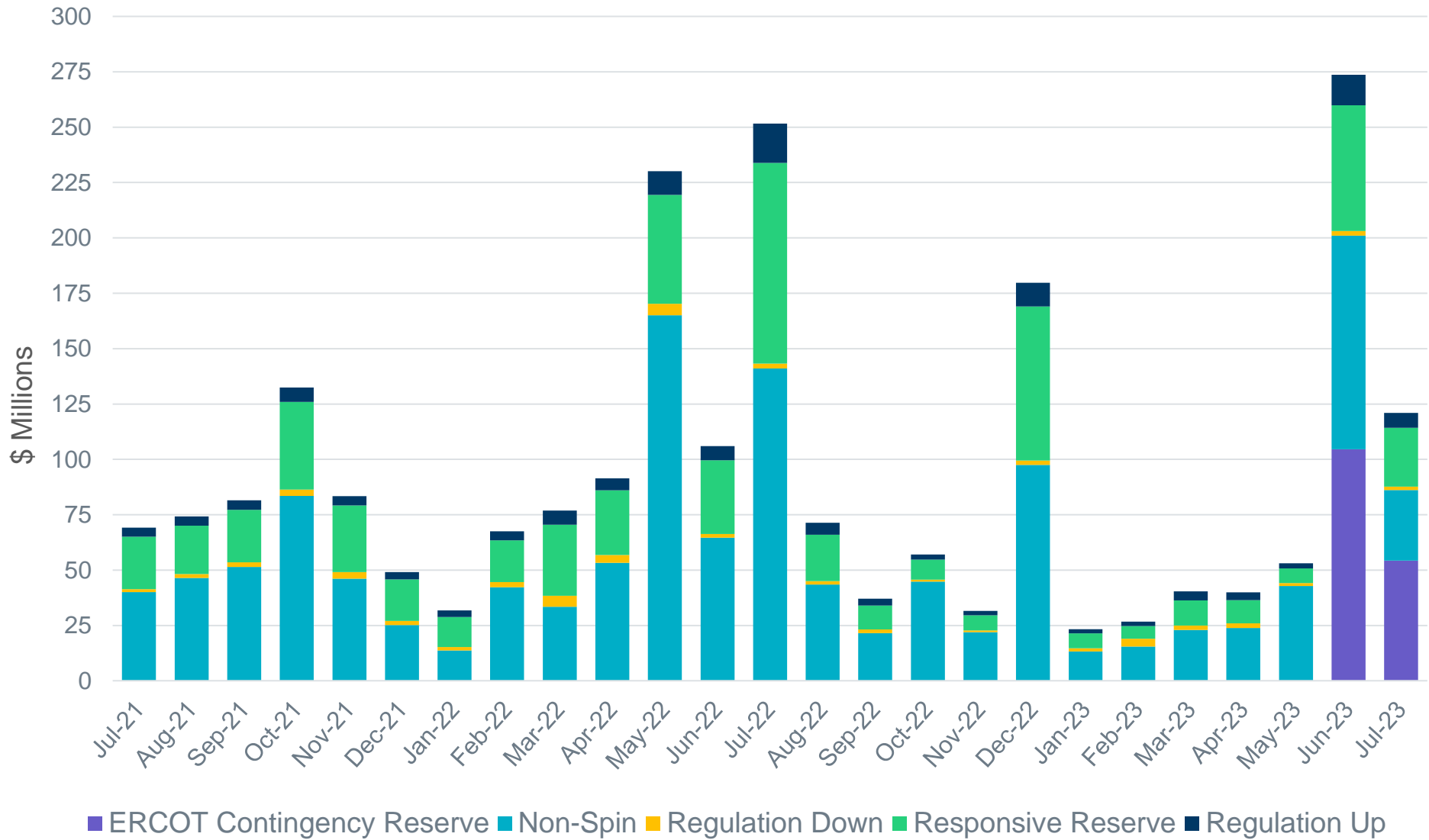
Real-Time Revenue Neutrality Allocated to Load was \$7.50M for July 2023



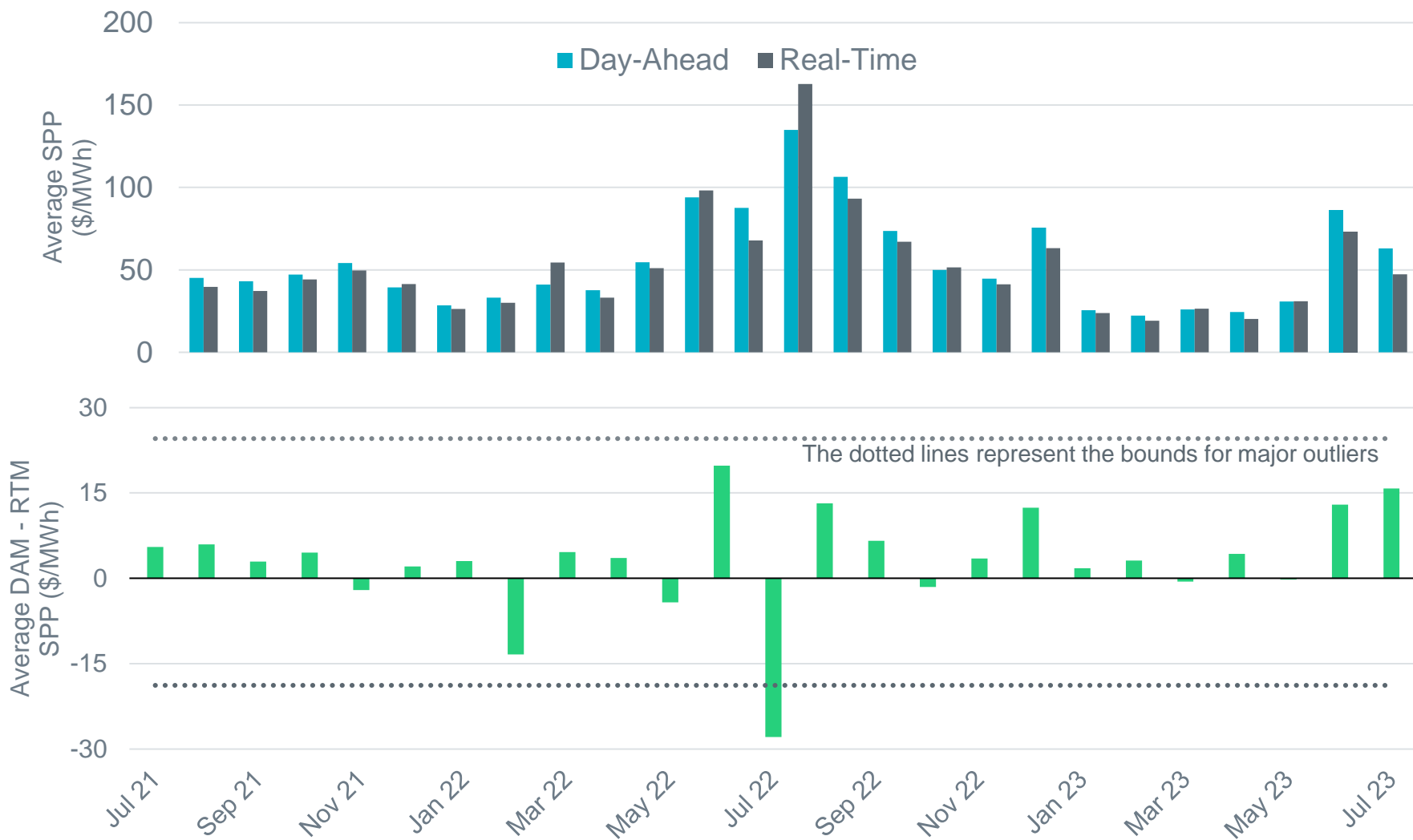
	July 2023 (\$M)
Real-Time Energy Imbalance	\$138.92
Real-Time Point-to-Point Obligation	(\$127.15)
Real-Time Congestion from Self-Schedules	\$1.40
DC Tie & Block Load Transfer	(\$19.24)
Real-Time Energy for SODG and SOTG	(\$1.44)
Load Allocated Revenue Neutrality	\$7.50



Ancillary Services for July 2023 totaled \$120.94M



Day-Ahead and Real-Time Market Price Differences

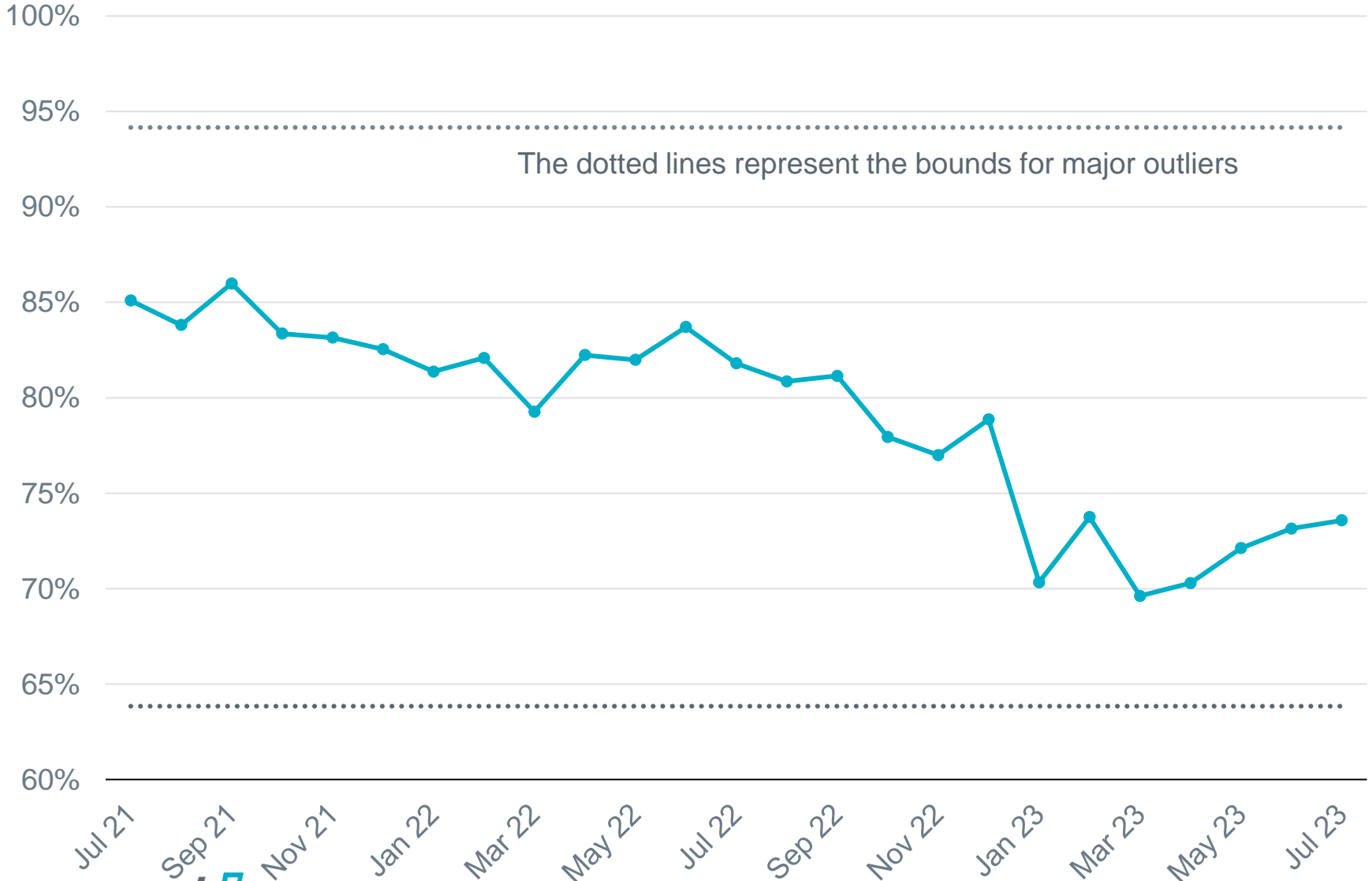


The dotted lines represent the bounds for major outliers

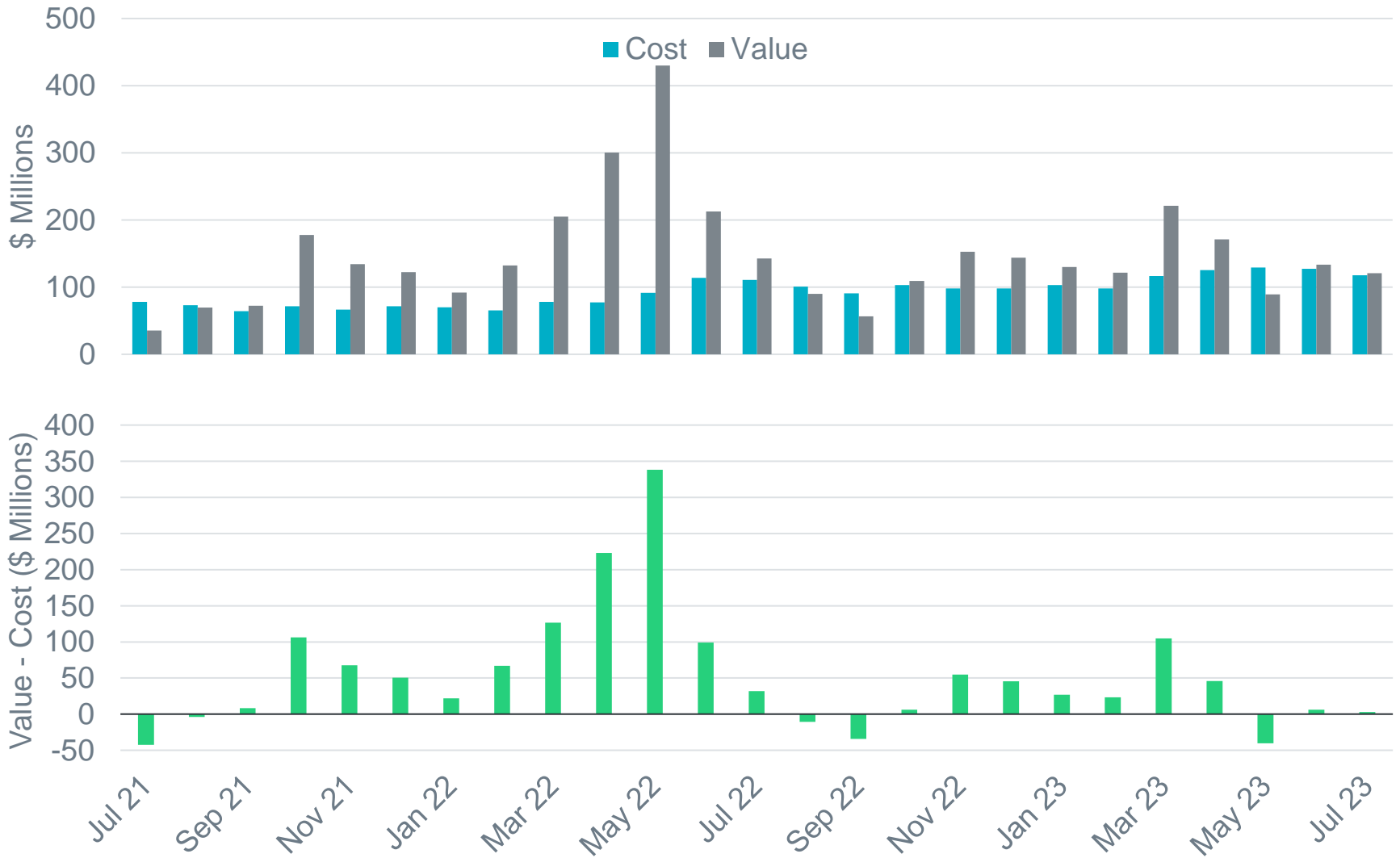
*Averages are weighted by Real-Time Market Load



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



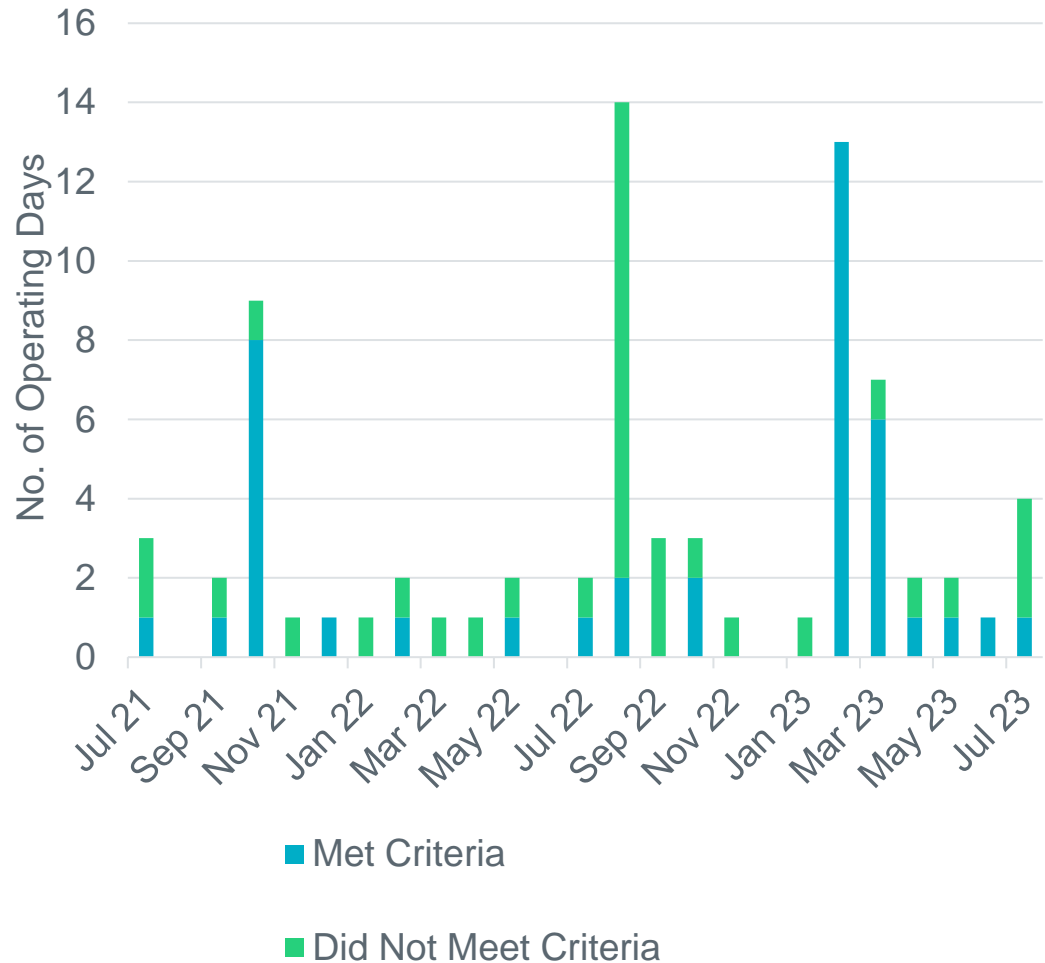
CRR Value and Cost Differences



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 two categories:

- 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 Price Corrections Review

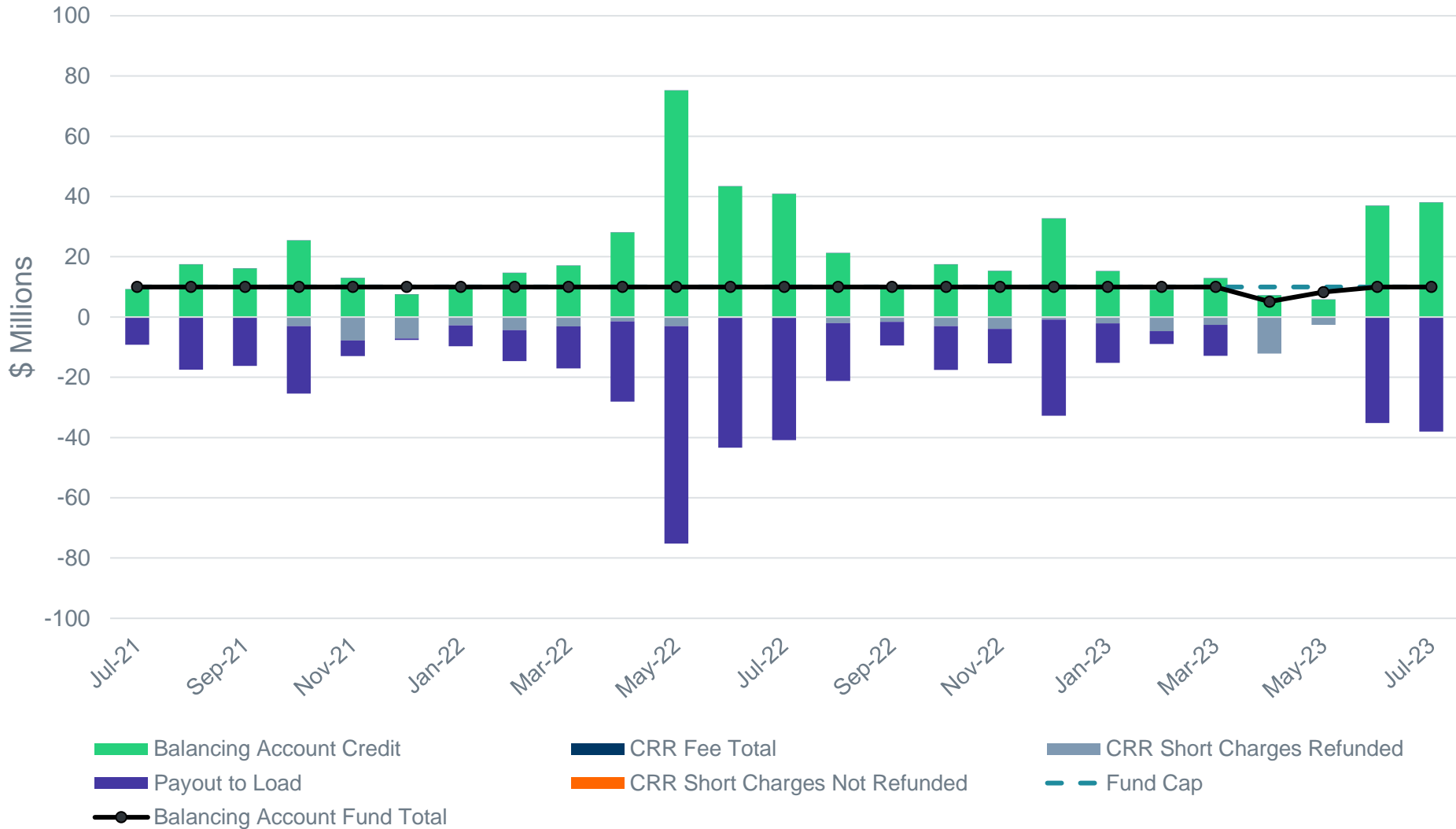
Operating Day Meeting Significance Criteria

- On July 27, 2023, during a planned deployment of the Market Management System, Emergency Basepoints were activated between 15:47 and 16:02. Upon completion of the impact analysis, ERCOT determined that criteria was met for price correction with the estimated total dollar impact to Real-Time Metered Prices (RTRMPRs) being approximately \$635.

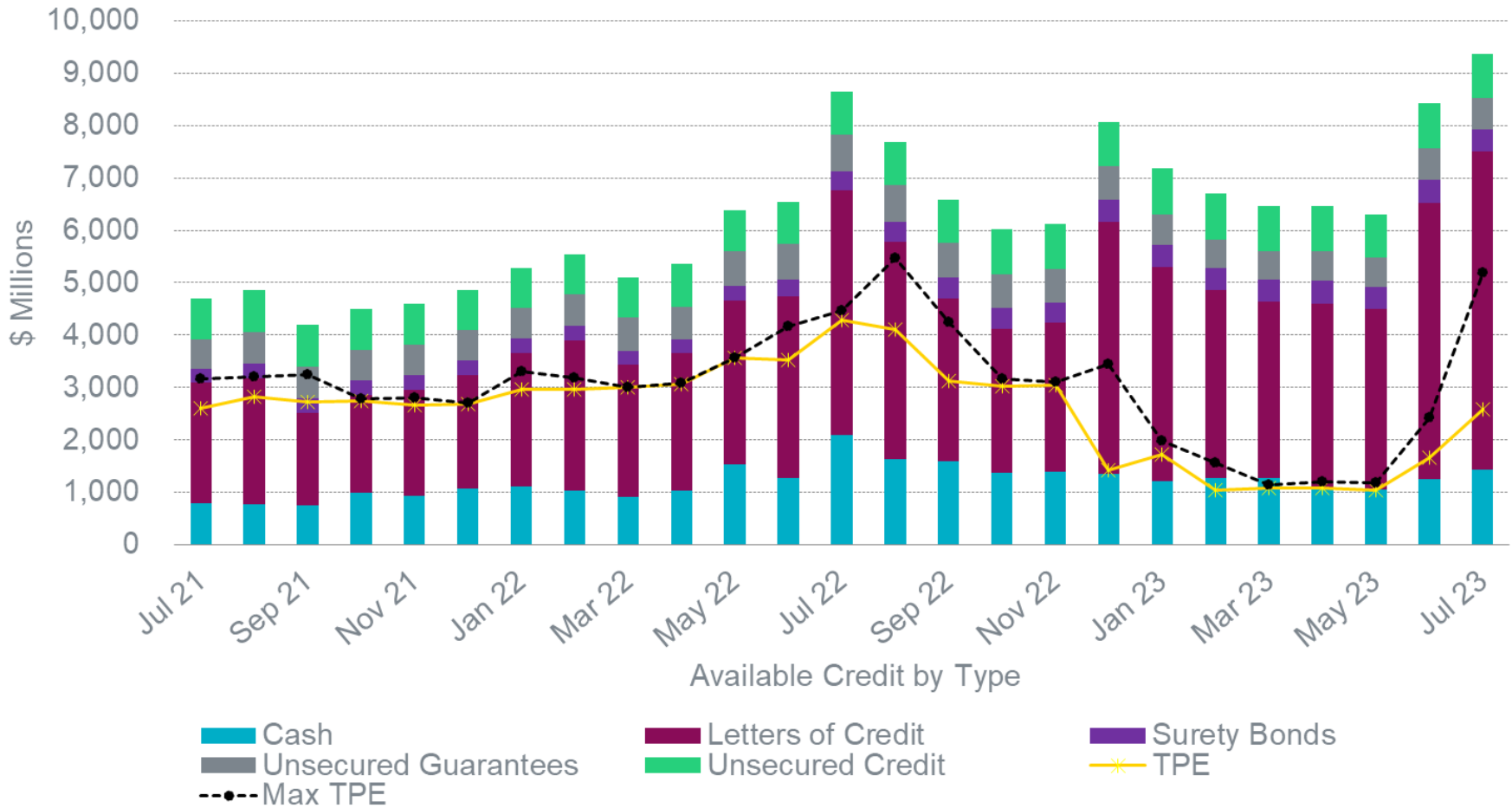
Operating Days Not Meeting Significance Criteria

- On July 3, 2023, and July 5, 2023, Emergency Basepoints were activated during planned failovers. The resulting impact would have only affected RTRMPRs. Analysis showed that neither day met criteria for price correction, with estimated total dollar impacts of \$24.19 and \$6.24, respectively.
- On July 26, 2023, incorrect Real-Time Meter mapping for a single Energy Storage Resource (ESR) occurred during the weekly model load. Once the mapping was corrected and an impact analysis was performed, it was found that the impact did not meet criteria for price correction, with an estimated total dollar impact of \$0.00.

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



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



*Numbers are as of month end except for Max TPE



Retail Transaction Volumes – Summary – July 2023

Transaction Type	Year-To-Date		Transactions Received	
	July 2023	July 2022	July 2023	July 2022
Switches	668,654	782,568	95,134	96,502
Acquisitions	0	0	0	0
Move - Ins	1,819,348	1,767,450	266,689	277,038
Move - Outs	817,167	800,784	122,910	120,453
Continuous Service Agreements (CSA)	283,142	456,553	29,940	43,980
Mass Transitions	0	24,463	0	1,028
Total	3,588,311	3,831,818	514,673	539,001