ERCOT Monthly Operational Overview
(May 2024)

ERCOT Public
June 18, 2024

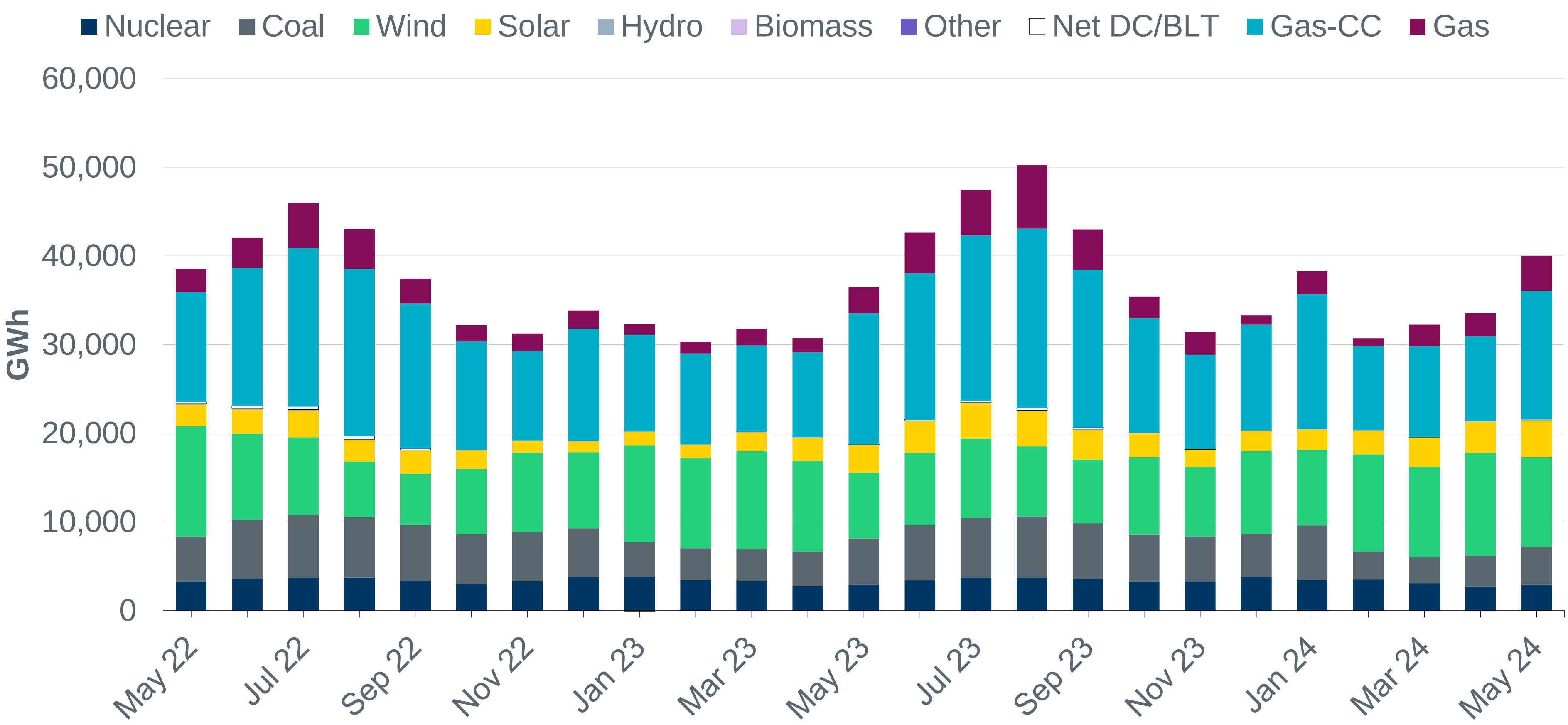
Highlights, Records and Notifications

- ERCOT's maximum peak demand for the month of May was 77,122 MW* on 5/27/2024; this is 8,963 MW more than the May 2023 peak demand of 68,159 MW set on 5/05/2023.

- ERCOT issued 40 notifications
  - 3 OCNs - AAN due to a possible future Emergency Conditions of reserve capacity deficiency.
  - 2 OCNs - Predicted Extreme Hot Weather event for the ERCOT Region.
  - 1 Advisory - Issued for the South Texas Import Interface.
  - 12 Advisories - Geomagnetic disturbance of [K-7].
  - 9 Advisories - Geomagnetic disturbance of [K-8].
  - 2 Advisories - Geomagnetic disturbance of [K-9].
  - 1 Watch - Projected reserve capacity shortage with no market solution available.
  - 1 Transmission Emergency Notice - Issued for the South Texas Import Interface.
  - 1 DC Tie Curtailment Notice - DC_N requested by SPP due to overschedule.
  - 4 DC Tie Curtailment Notice - DC_R due to a planned or unplanned outage.
  - 1 DC Tie Curtailment Notice - DC_R requested by CENACE due to Reliability.
  - 3 DC Tie Curtailment Notice - DC_L due to a planned or unplanned outage.

* Preliminary value from June Demand and Energy 2024 report.

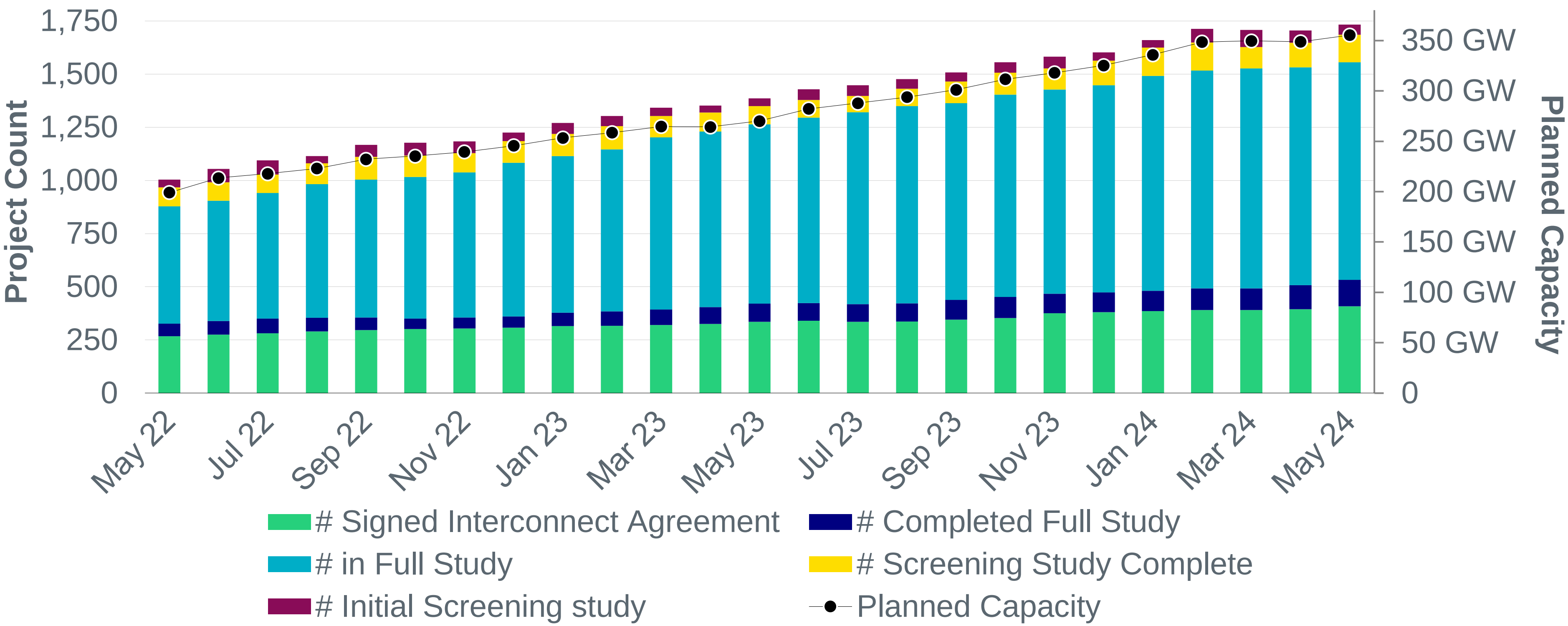
Monthly energy generation increased by 9.6% year-over-year to 39,971 GWh in May 2024, compared to 36,462 GWh in May 2023



Data for latest two months are based on preliminary settlements.

Generation Interconnection activity by project phase

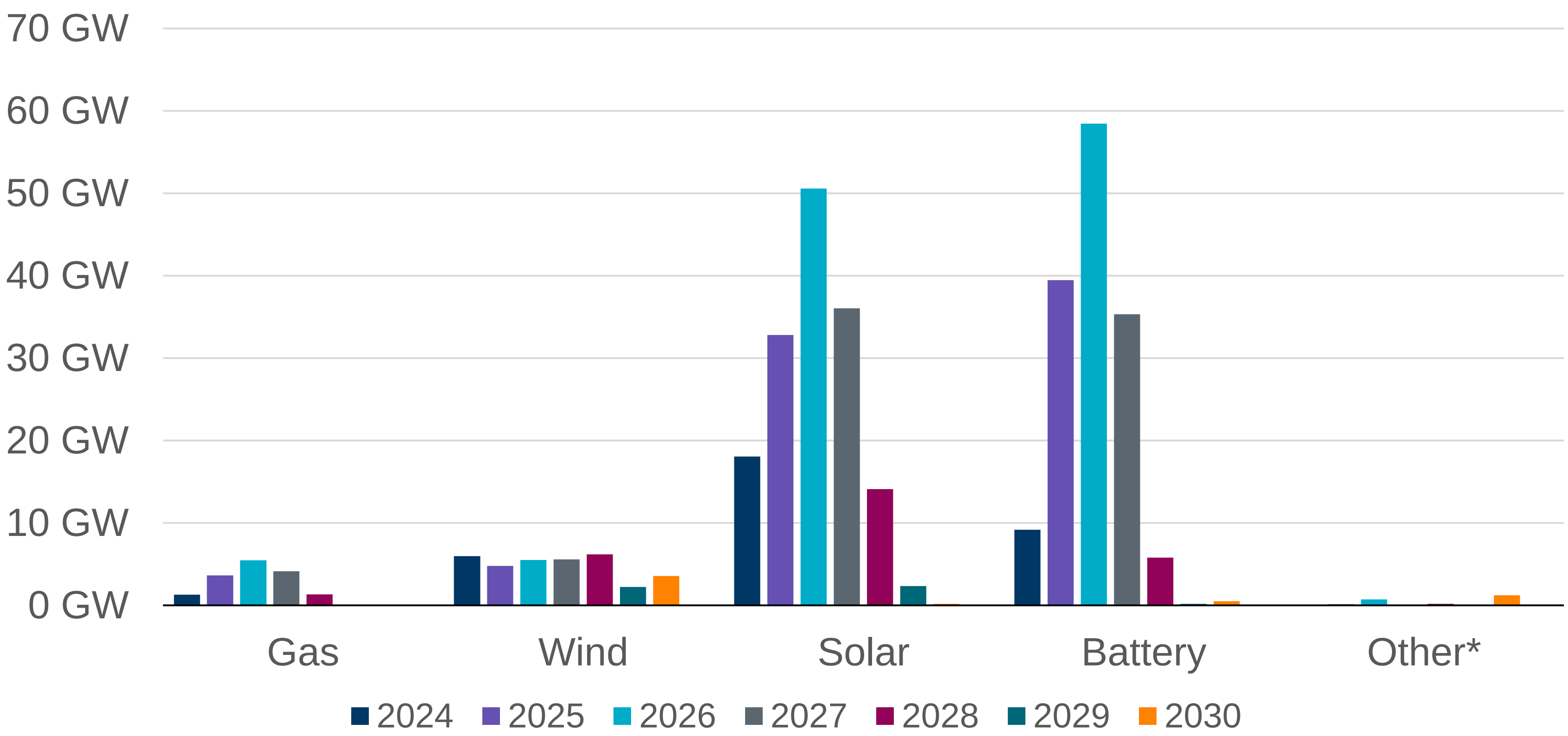
(Excludes capacity associated with projects designated as Inactive per Planning Guide Section 5.7.6)



- There are an additional 41 "Small Generator" projects totaling 385 MW that are going through the simplified interconnection process.
- A break-out by fuel type can be found in the monthly Generator Interconnection Status (GIS) reports available on the ERCOT Resource Adequacy Page: http://www.ercot.com/gridinfo/resource

Interconnection Queue Capacity by Fuel Type

Queue totals: Solar 154 GW (43.4%), Wind 34 GW (9.5%), Gas 16 GW (4.5%), Battery 149 GW (41.9%)
(Excludes capacity associated with projects designated as Inactive per Planning Guide Section 5.7.6)



A break-out by zone can be found in the monthly Generator Interconnection Status (GIS) reports available on the ERCOT Resource Adequacy Page: http://www.ercot.com/gridinfo/resource

* Other includes petroleum coke (pet coke), hydroelectric, fuel oil, geothermal energy, other miscellaneous fuels reported by developers, and fuel cells that use fuels other than natural gas.

Planning Summary

- ERCOT is tracking 1,813 active generation interconnection requests totaling 355,383 MW as of May 31. This includes 154,225 MW of solar, 33,887 MW of wind, 149,002 MW of battery, and 15,938 MW of gas projects; 92 projects were categorized as inactive, up from 89 inactive projects in April 2024.

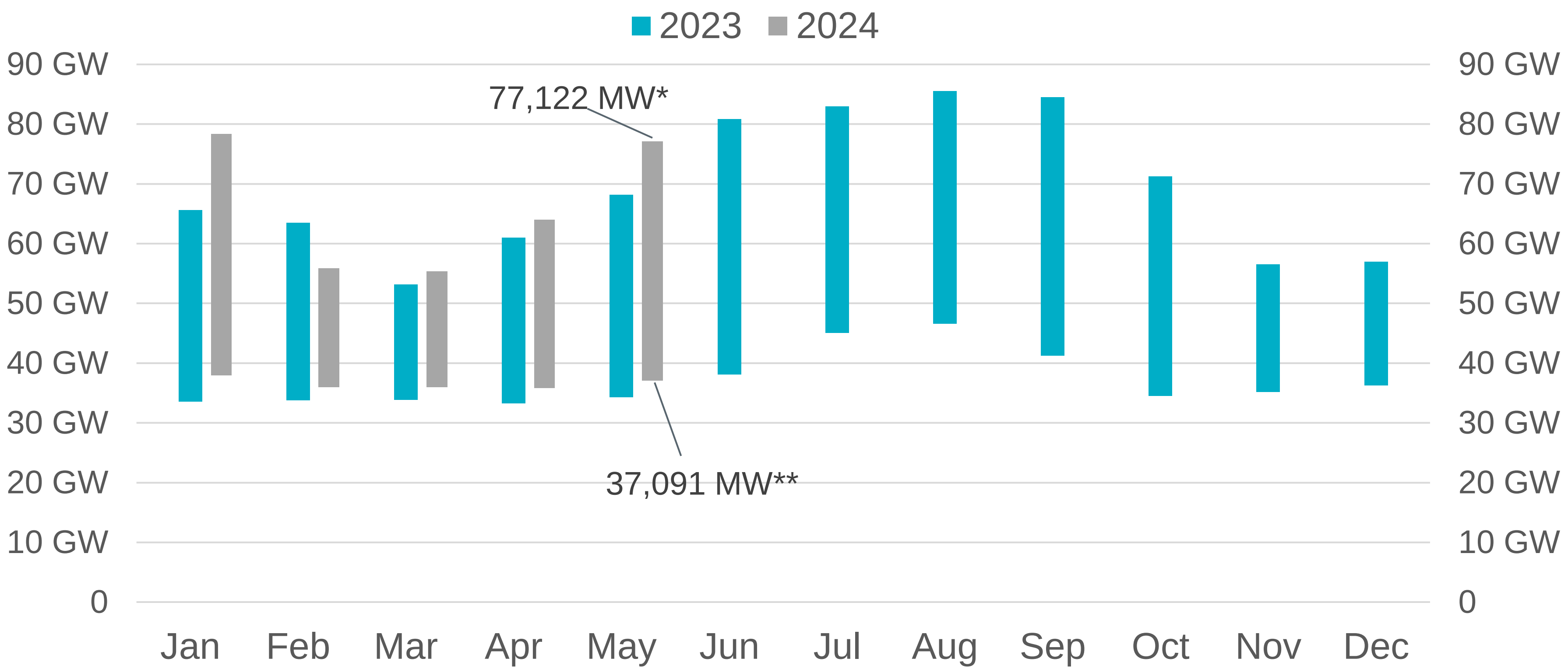
- ERCOT is currently reviewing proposed transmission improvements with a total estimated cost of $2.831 billion as of May 31, 2024.

- Transmission Projects endorsed in 2024 total $1.125 billion as of May 31, 2024.

- All projects (in engineering, routing, licensing and construction) total approximately $13.933 billion as of February 1, 2024.

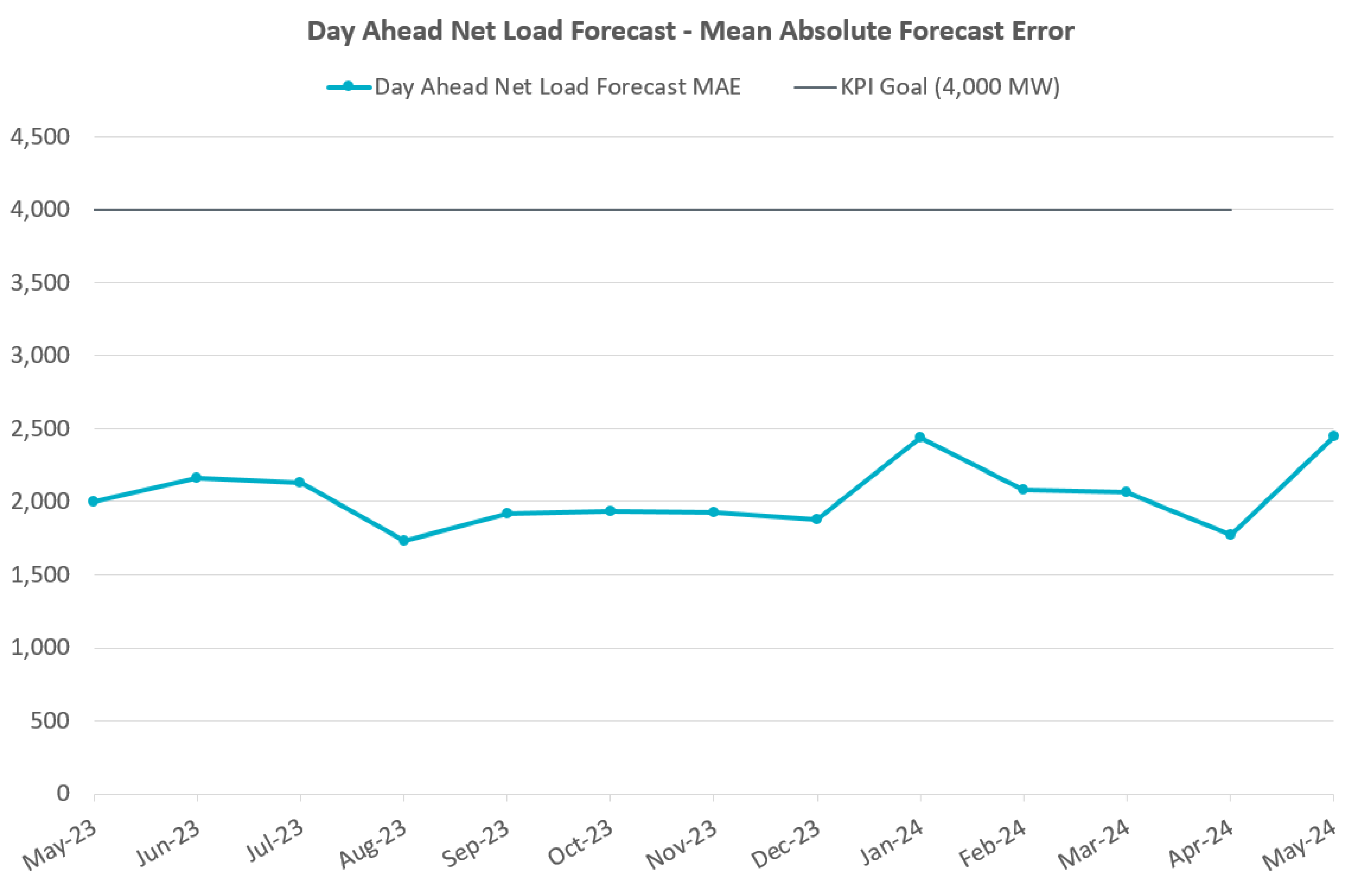
- Transmission Projects energized in 2024 total approximately $789.5 million as of February 1, 2024.

ERCOT set a new record of 77,122 MW* for the month of May on 5/27/2024; This is 8,963 MW more than the May 2023 demand of 68,159 MW.

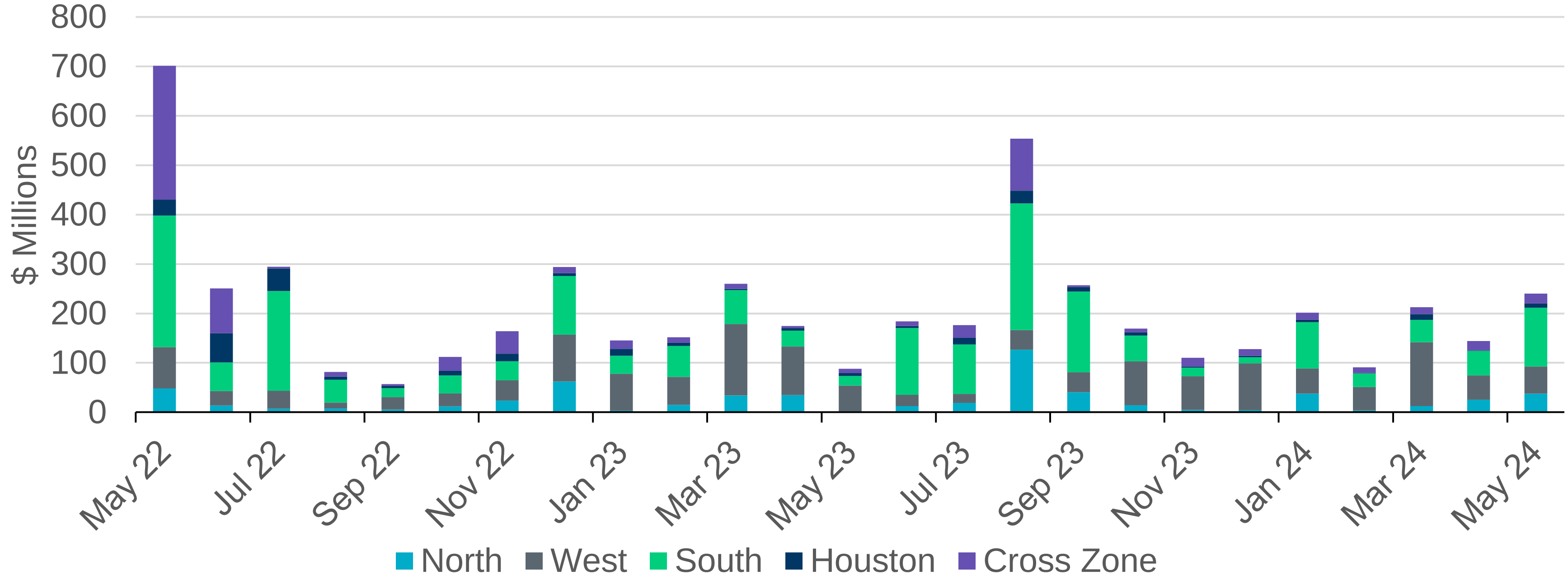


*Based on the maximum net system hourly value from the May 2024 Demand and Energy report.
**Based on the minimum net system 15-minute interval value from the May 2024 Demand and Energy report.
Data for latest two months are based on preliminary settlements.

Net Load Forecast Performance



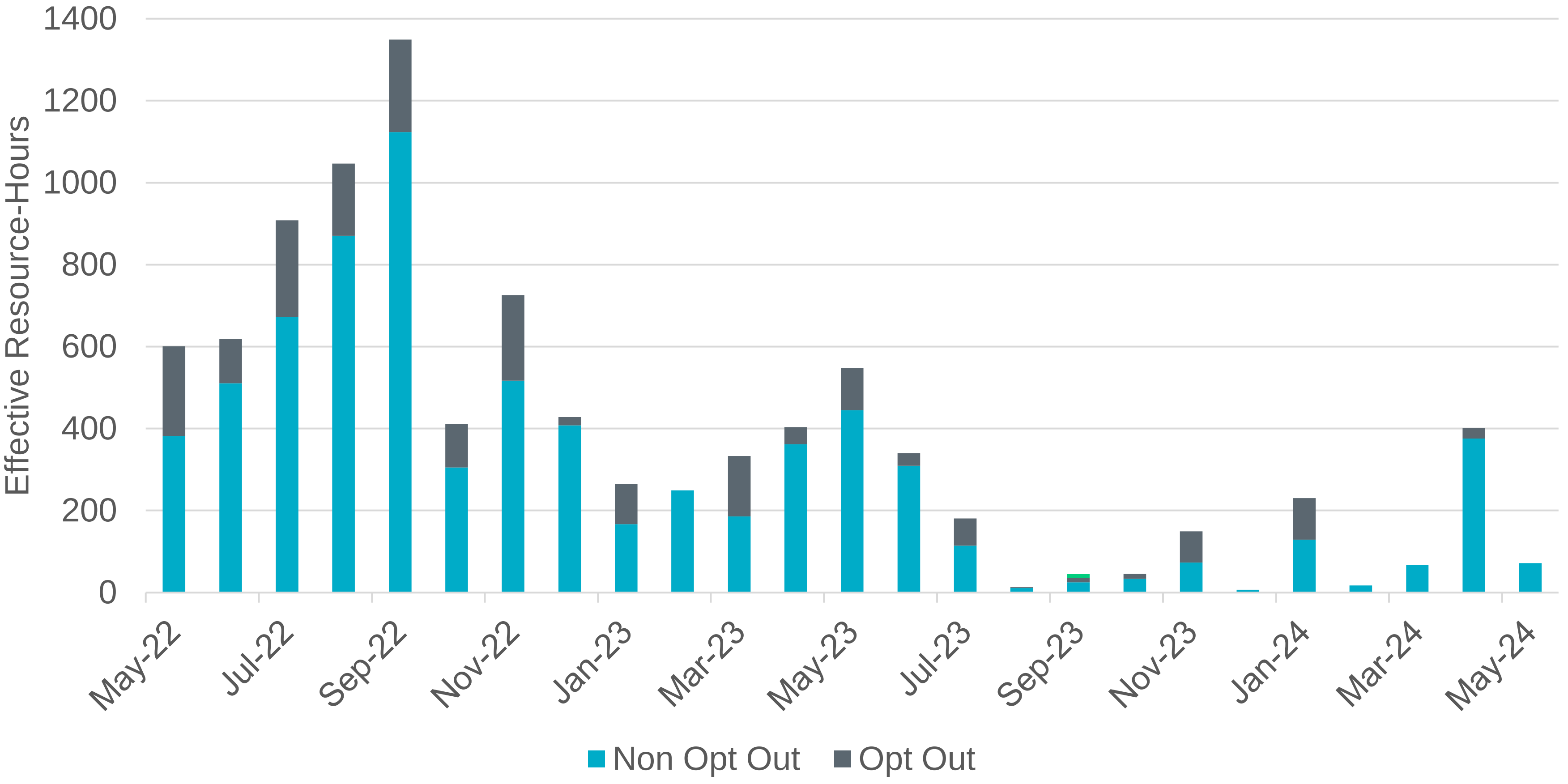
Real-Time Congestion Rent by Zone



- 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 May, total Real-Time congestion rent increased compared to April, with the highest congestion rent observed in the West and South Zones.
  - South Zone congestion rent was due to overloads on the Burns Sub - Rio Hondo 138kV line, caused by the manual double circuit contingency for North Edinburg-Bonilla 345kV.
  - West Zone congestion rent was caused by the contingency for Morgan Creek to Consavvy Switch 345 kV, leading to overloads on the Morgan Creek to Navigation 138 kV line.

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

Nine Resources were Committed in May for Capacity and Congestion

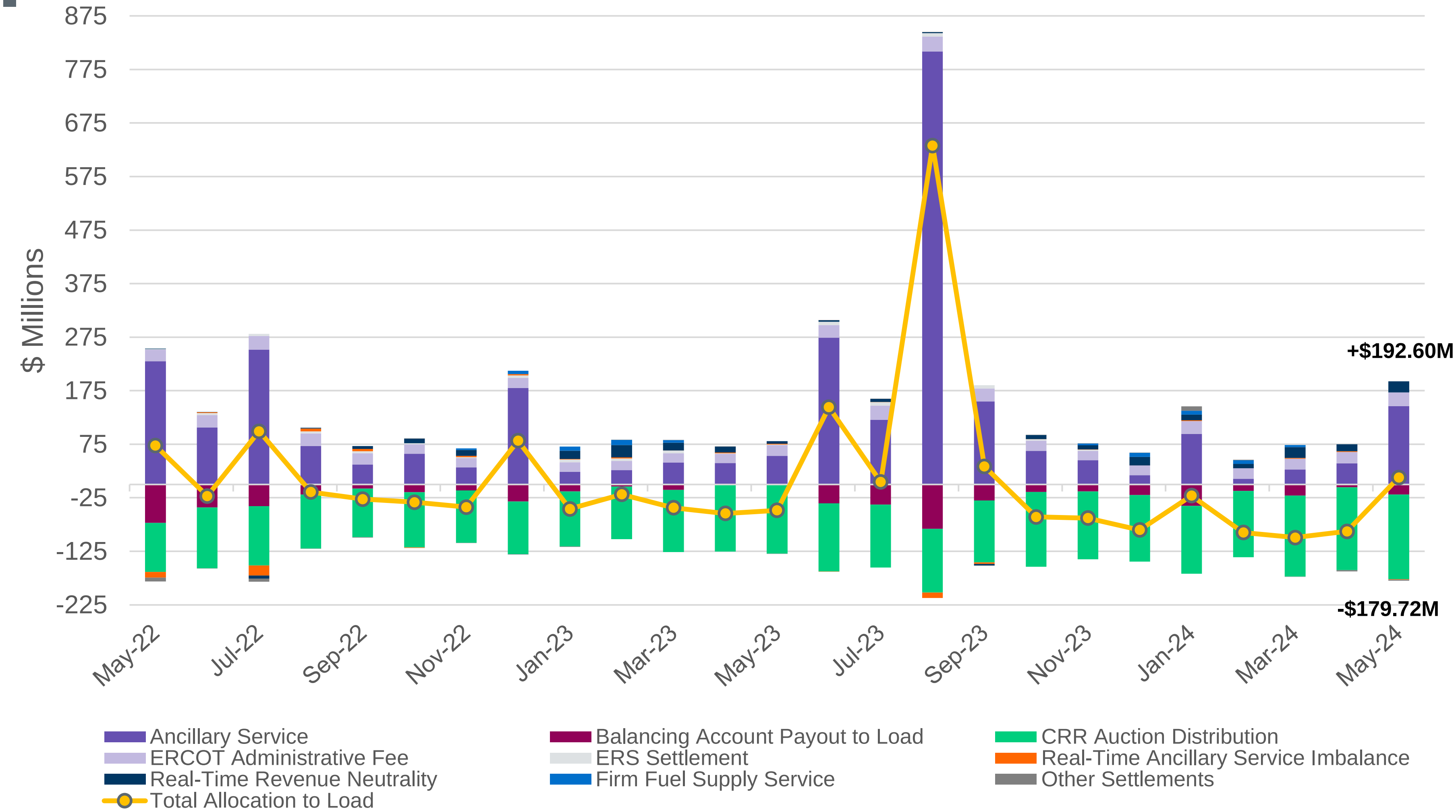


"Effective Resource-Hours" excludes any period during a Reliability Unit Commitment hour when the RUC-committed Resource was starting up, shutting down, off-line, or otherwise not available for dispatch by SCED.

Nine Resources were Committed in May for Capacity and Congestion

Resource #	Effective Resource-hours	Non-Opt Out (Effective Hours)	Opt Out (Effective Hours)
1	12.0	12.0	0.0
2	9.0	9.0	0.0
3	9.3	9.3	0.0
4	7.6	7.6	0.0
5	9.4	9.4	0.0
6	9.2	9.2	0.0
7	5.9	5.9	0.0
8	5.0	5.0	0.0
9	4.0	4.0	0.0
SUM	**71.4**	**71.4**	**0.0**

Net Allocation to Load in May 2024 was $12.88 Million

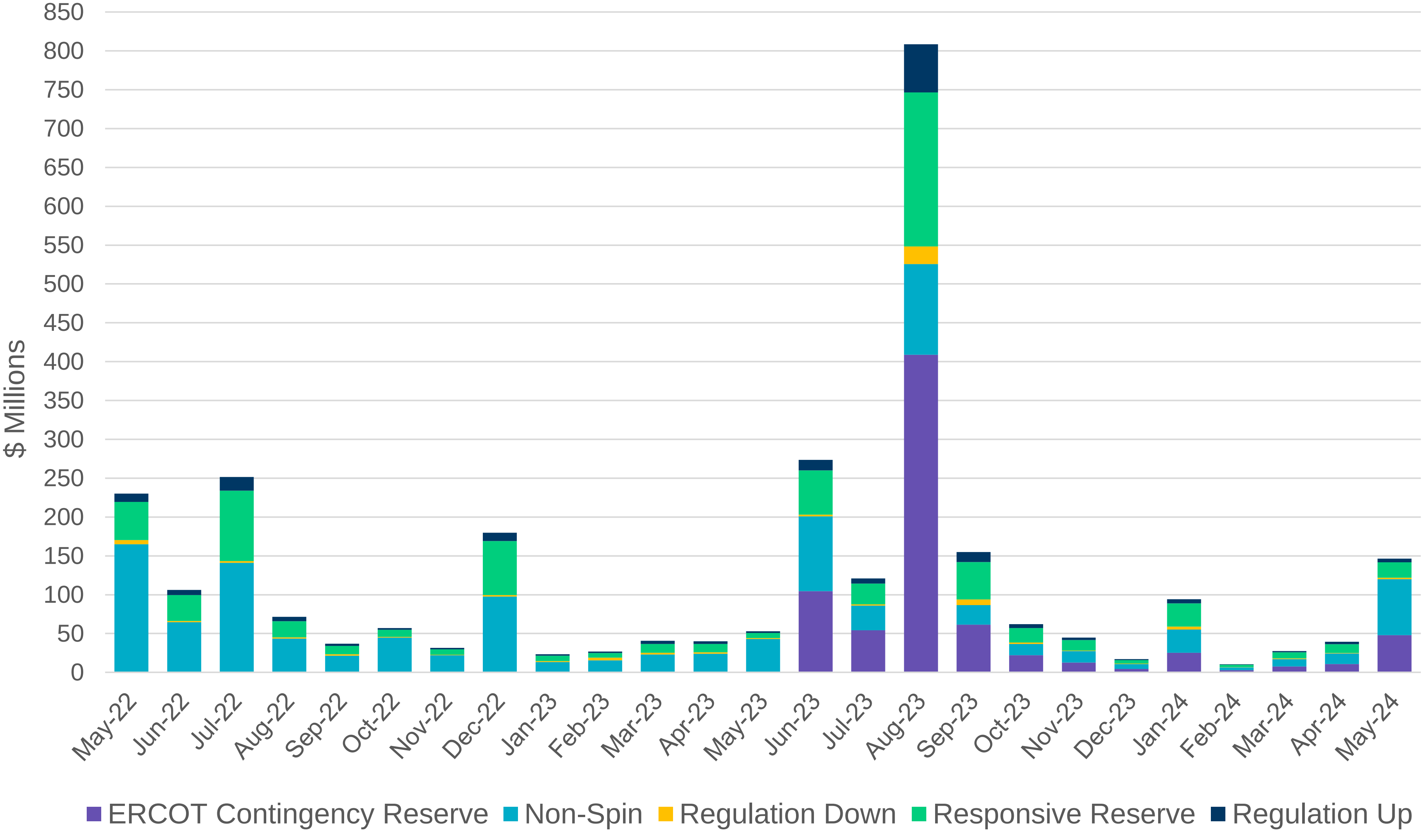


This information is available in tabular form in the Settlement Stability Report presented quarterly to the [Wholesale Market Subcommittee]

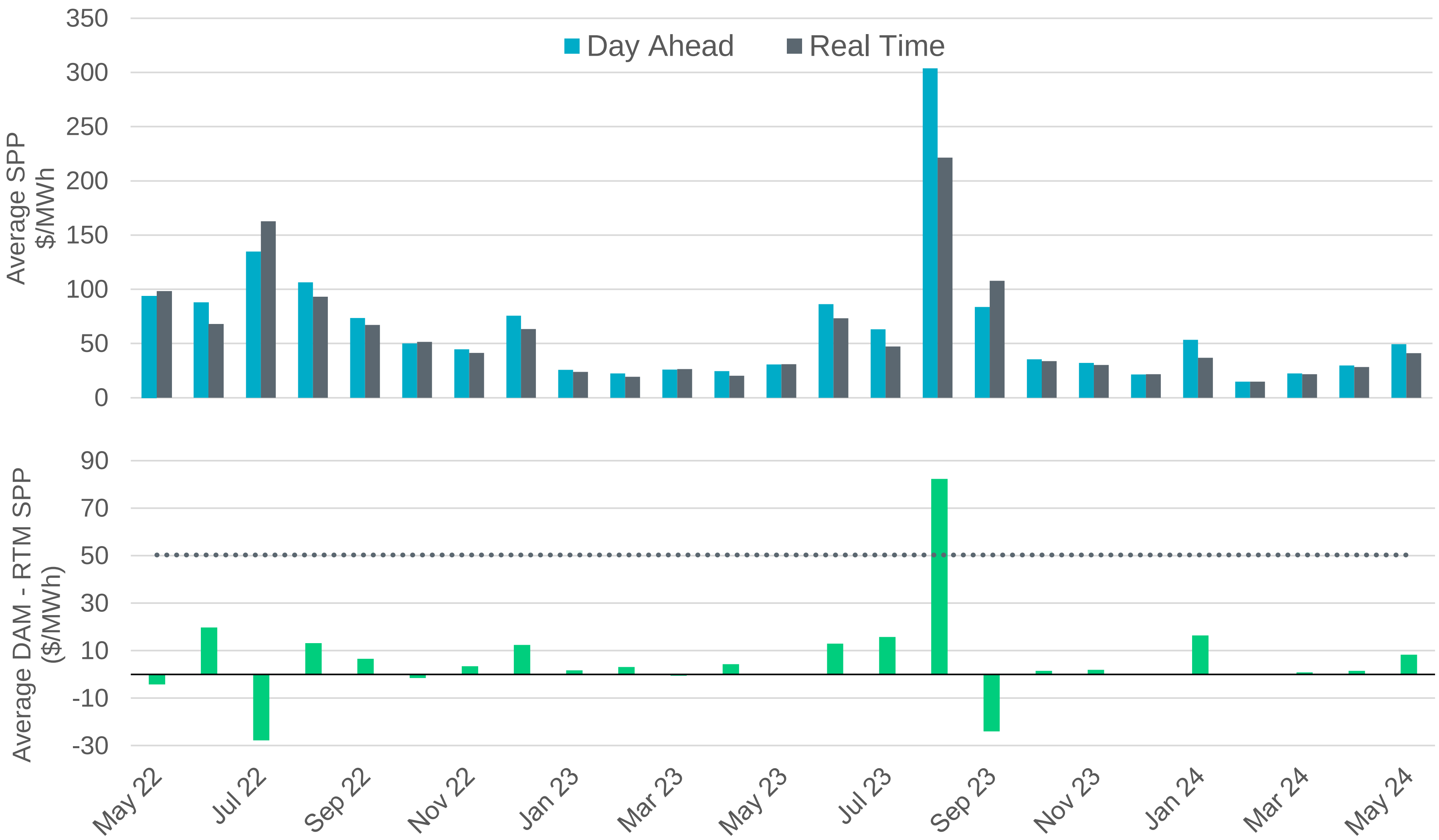
Real-Time Revenue Neutrality Allocated to Load was $20.95M for May 2024

	May 2024 ($M)
Real-Time Energy Imbalance	$240.76
Real-Time Point-to-Point Obligation	($256.75)
Real-Time Congestion from Self-Schedules	$1.61
DC Tie & Block Load Transfer	($5.03)
Real-Time Energy for SODG and SOTG	($1.53)
Load Allocated Revenue Neutrality	**$20.95**

Ancillary Services for May 2024 totaled $146.39M

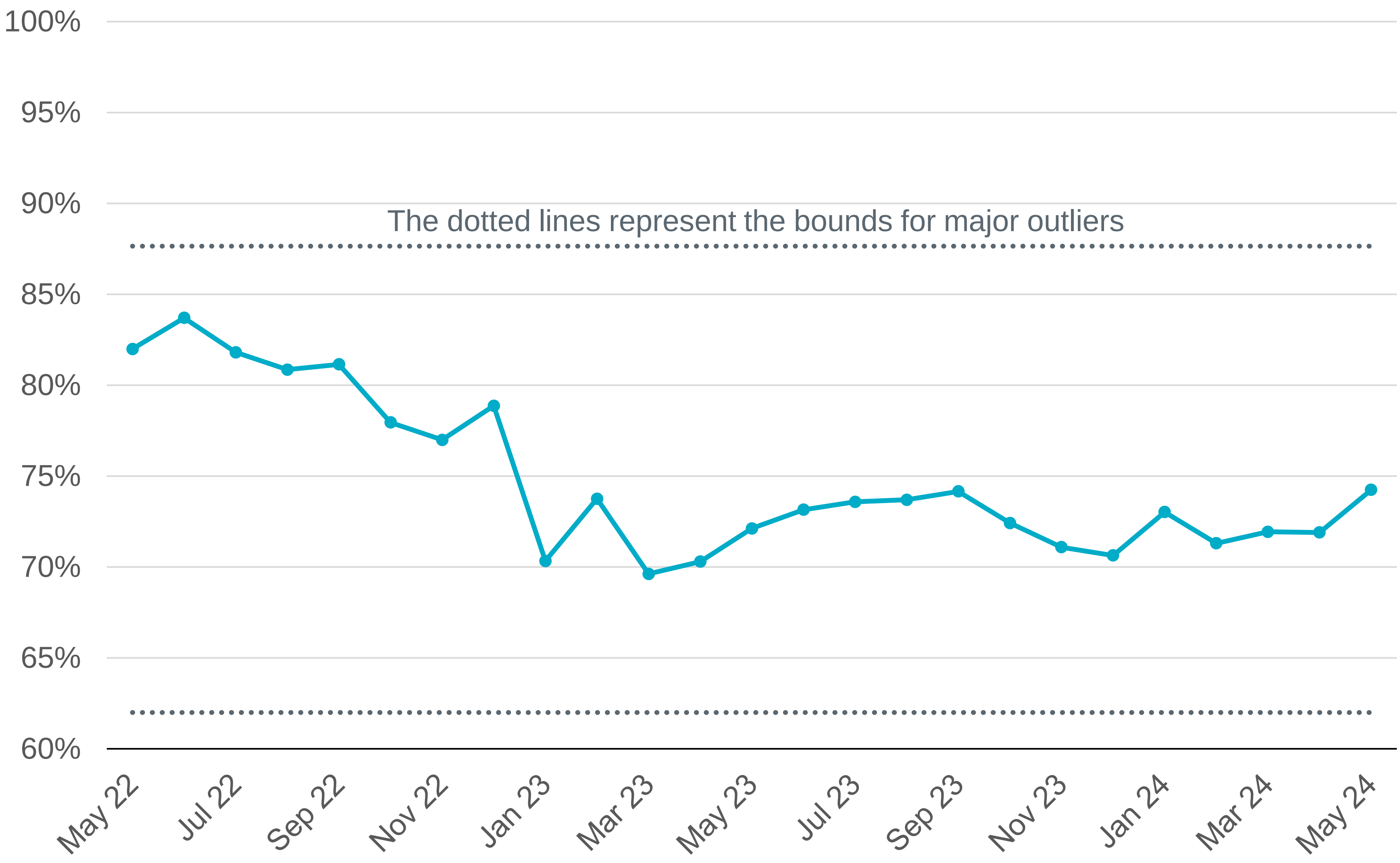


Day-Ahead and Real-Time Market Price Differences



*Averages are weighted by Real-Time Market Load

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

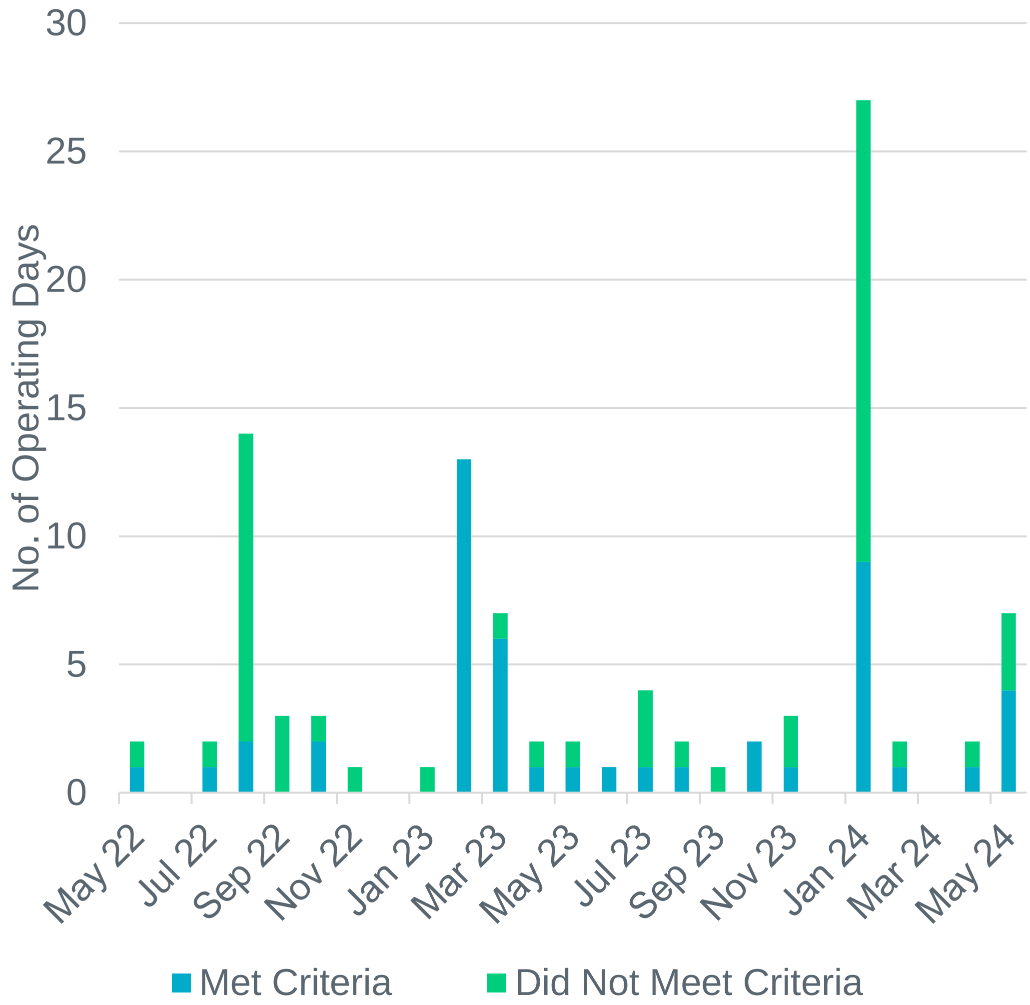


CRR Value and Cost Differences

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 three 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.



Price Corrections Review – Issue 1

On May 9, 2024, ERCOT became aware of an issue with Real-Time Market (RTM) prices in which the Real-Time On-Line Reserve Price Adder (RTORPA) was not being included. This was observed following a planned operating system upgrade project deployed on April 29, 2024. After the deployment, RTORPAs were not being successfully populated in downstream data tables. On May 13, 2024, ERCOT implemented a fix to ensure RTORPAs were being applied correctly.

Operating Days Meeting Significance Criteria

- Of the affected Operating Days (ODs), May 8, May 10, May 11, and May 13 met criteria for significance before their prices became final and were able to be corrected.

Operating Days Not Meeting Significance Criteria

- ODs April 29, May 2, and May 7 were past the 2-day deadline for correction when their prices became final. Further analysis was performed, and it was determined than none of the ODs meet the criteria for significance needed to bring prices to the ERCOT Board of Directors for review. Of the Counter-Parties with an impact of 2% or greater, the largest absolute dollar impact was approximately $0.20.

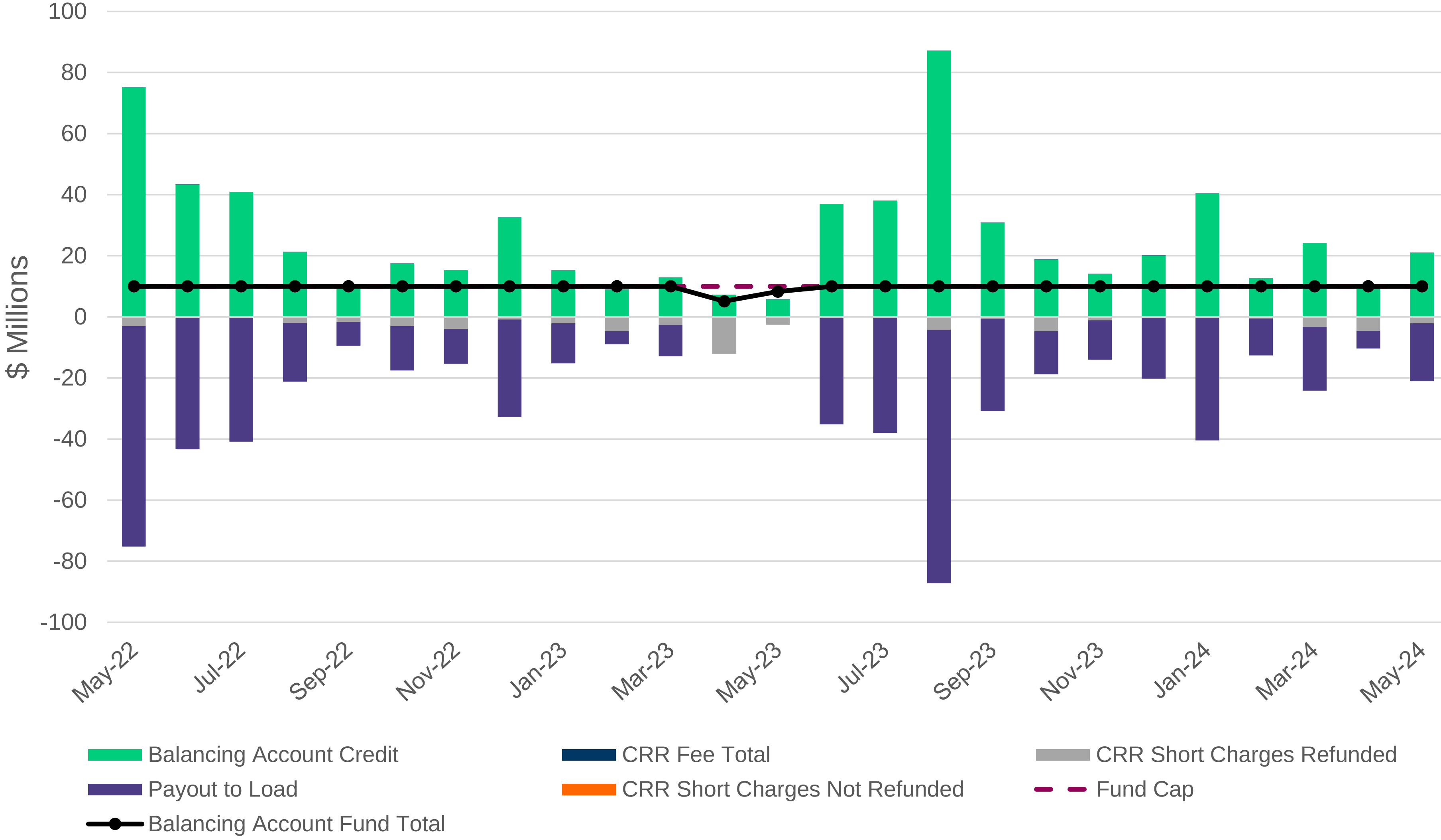
Price Corrections Review – Issue 2

On May 9, 2024, ERCOT became aware of another issue with Real-Time Market (RTM) prices in which the Real-Time On-Line Reserve Price Adder (RTORPA) floor of $20 was being enforced when System Lambda was nearing the Value of Lost Load (VOLL), $5000. System Lambda + RTORPA should not exceed VOLL. This is done by ensuring that the RTORPA is never more than the difference between System Lambda and VOLL.

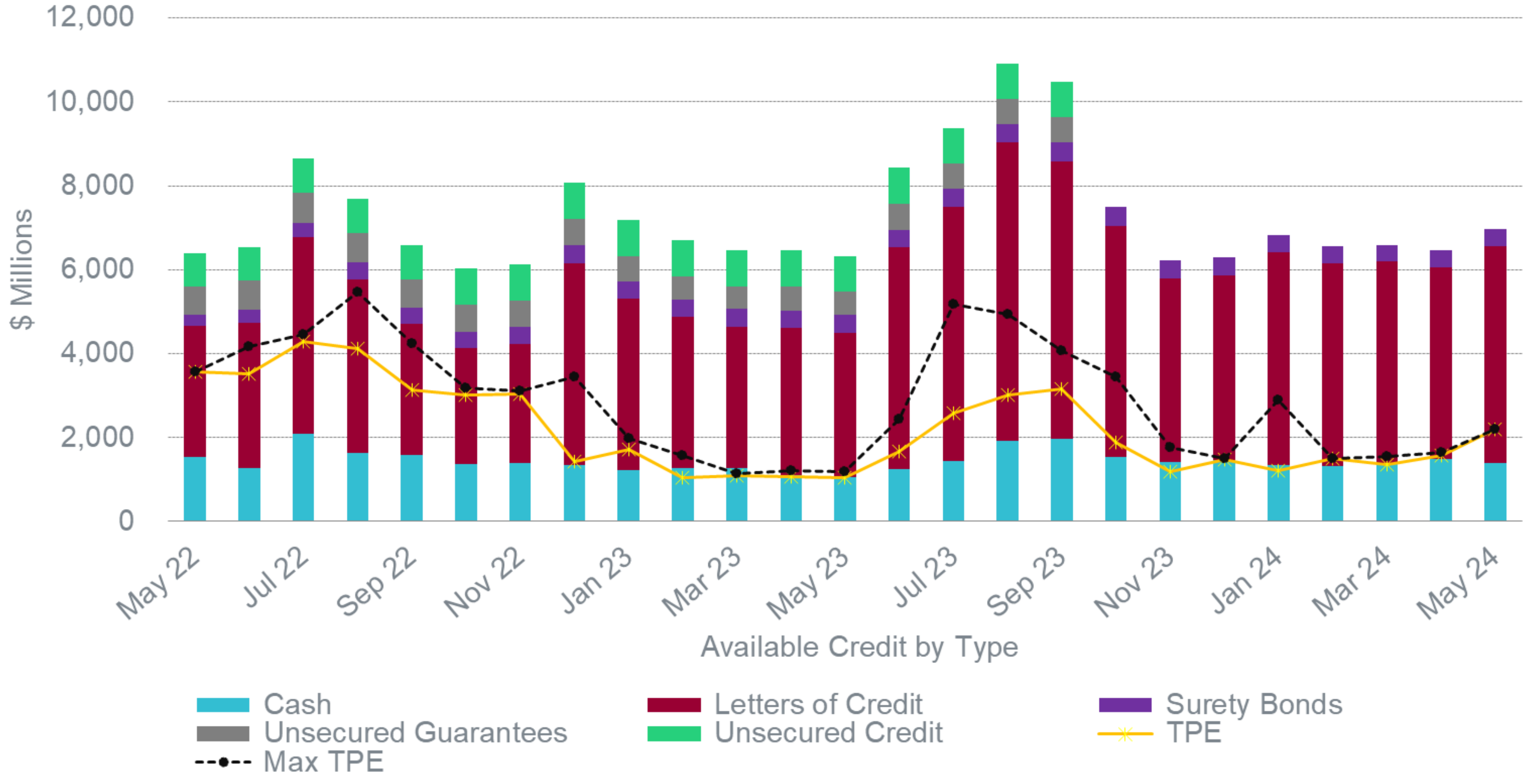
The only affected Operating Day was May 8th, which experienced prices nearing VOLL. Two SCED intervals (20:10 and 20:15) had a difference in System Lambda and VOLL below $20, which should have resulted in the RTORPA going below $20. A price correction was performed before prices became final on May 10 at 4:00PM.

ERCOT implemented an emergency fix on May 13, 2024.

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 – May 2024

	Year-To-Date		Transactions Received	
Transaction Type	**May 2024**	**May 2023**	**May 2024**	**May 2023**
Switches	541,175	474,563	89,974	92,186
Acquisitions	0	0	0	0
Move - Ins	1,353,175	1,279,405	253,661	267,939
Move - Outs	579,254	567,390	125,701	130,836
Continuous Service Agreements (CSA)	161,605	193,323	40,232	50,707
Mass Transitions	0	0	0	0
Total	**2,635,209**	**2,514,681**	**509,568**	**541,668**