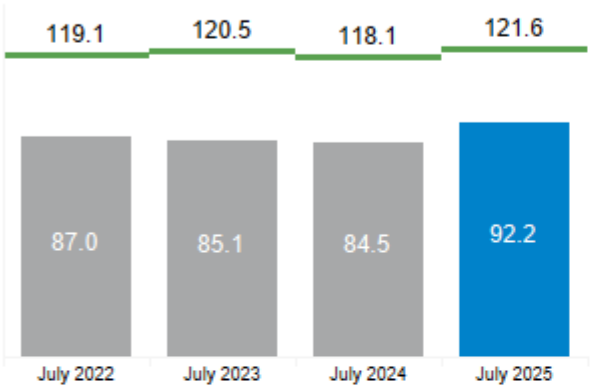
MISO Monthly Operations Report

July 2025

Reliability, markets and operational functions performed as expected in July

AVERAGE & PEAK LOAD (GW)



SYSTEM-WIDE LOAD PEAK

122 GW

July 29, Hour Ending (HE) 17

SOLAR PEAK

13.1 GW

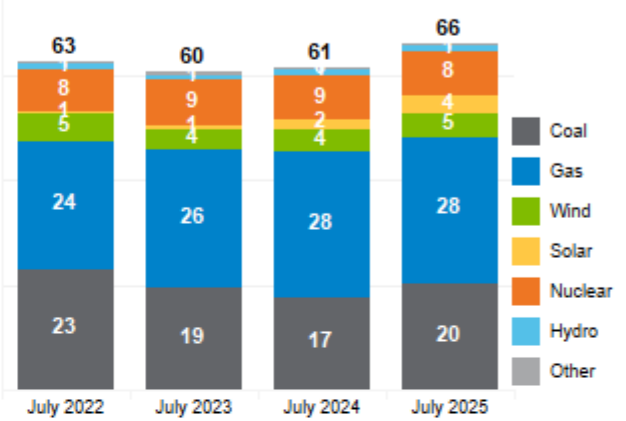
Jul 7, 2025, HE 12

WIND PEAK

15.4 GW

Jul 5, 2025, HE 1

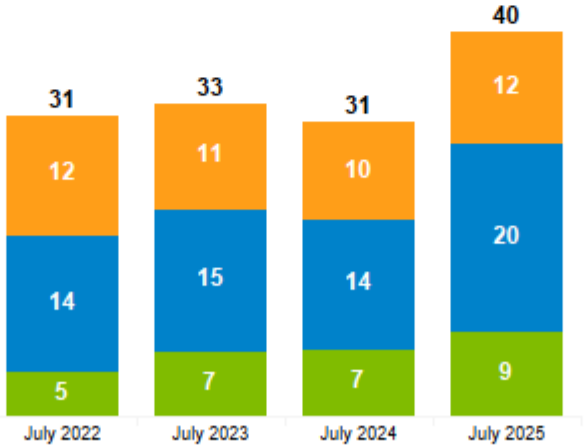
ENERGY FUEL MIX (TWh)



REAL-TIME LMP ($/MWh)

AVERAGE FUEL PRICE ($MMBtu)

AVERAGE DAILY GENERATION OUTAGE (GW)



KEY OPERATING DECLARATIONS

JULY 2025

		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		

07/15 System: *Conservative Operations*
07/16 North: *Severe Weather Alert*
07/18 System: *System Status Level 1*
07/21 – 07/24 System: *Conservative Operations and Hot Weather Alert*
07/28 System: *Max Gen Alert*
07/29 System: *Max Gen Warning*
07/28 N/C: *Severe Weather Alert*
07/28 – 07/29 South: *Local Transmission Emergency*
07/28 – 07/29 System: *Conservative Operations and Hot Weather Alert*
07/29 South: *Transmission Advisory*
07/30 South: *Severe Weather Alert*

- *All-Time Solar Peak: 14.1 GW on Aug 3, 2025, HE 11*
- *All-Time Wind Peak: 25.7 GW on Jan 12, 2024, HE 19*
- *All-Time Load Peak: 127.1 GW on Jul 20, 2011, HE17*

Derated
Unplanned
Planned

Awareness and Weather
Alerts and Warnings
Reliability Actions and Events

Dashboard

Metric	Chart	July 2025	Jun '25	May '25	Apr '25	Metric	Chart	July 2025	Jun '25	May '25	Apr '25
Market Efficiency Metric	D	●	▼	●	●	Unit Commitment Efficiency	H	●	●	●	●
Percentage Price Deviation	A	▼	■	■	■	Day Ahead Wind Generation Forecast Error	K	●	●	●	●
Monthly Average Gross Virtual Profitability	B	●	●	●	●	Day-Ahead Solar Generation Forecast Error	T	●	●	●	●
FTR Funding	C	●	●	●	●	Tie Line Error	L	●	●	●	●
RSG per MWh to Energy Price	E	●	●	●	●	Control Performance – BAAL	M	●	●	●	●
Day Ahead Mid-Term Load Forecast	F	●	●	■	▼	Control Performance – CPS1 and CPS1 12-month rolling	N	●	●	●	●
Short-Term Load Forecast	G	●	●	●	■	ARS Deployment	P	●	●	●	●
Real-Time Obligation fulfilled by Day-Ahead Supply at the Peak Hour	I	●	●	●	●						
System Impact Study Performance	Q	●	▼	●	▼	Settlement Disputes	S	●	●	●	●

● *Expected* ■ *Concern/Monitor* ▼ *Review*

Note: Dashboard metric criteria are reviewed and revised each year and is included in the Appendix.

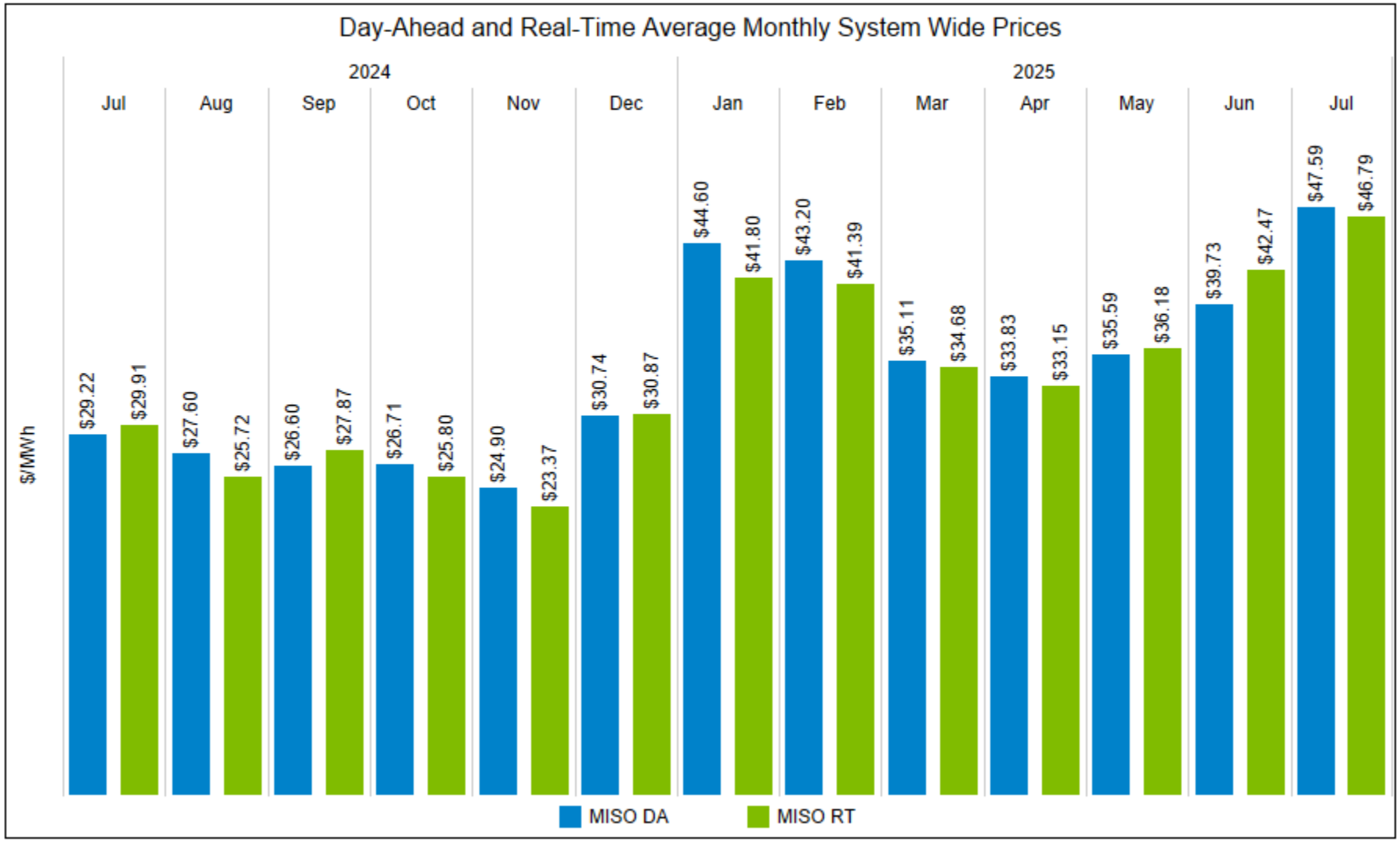
One metric fell outside of the expected range for this month

Metric	Expected Criteria	Actual	Status	Comments
Percentage Price Deviation	Absolute DA-RT price difference divided by DA LMP <=28.6%	37.0%	Review	Periods of congestion, especially on July 28th and July 30th, and Real-Time ancillary service product scarcity pricing throughout the month resulted in some price divergence between the Day-Ahead and Real-Time markets.

Appendix

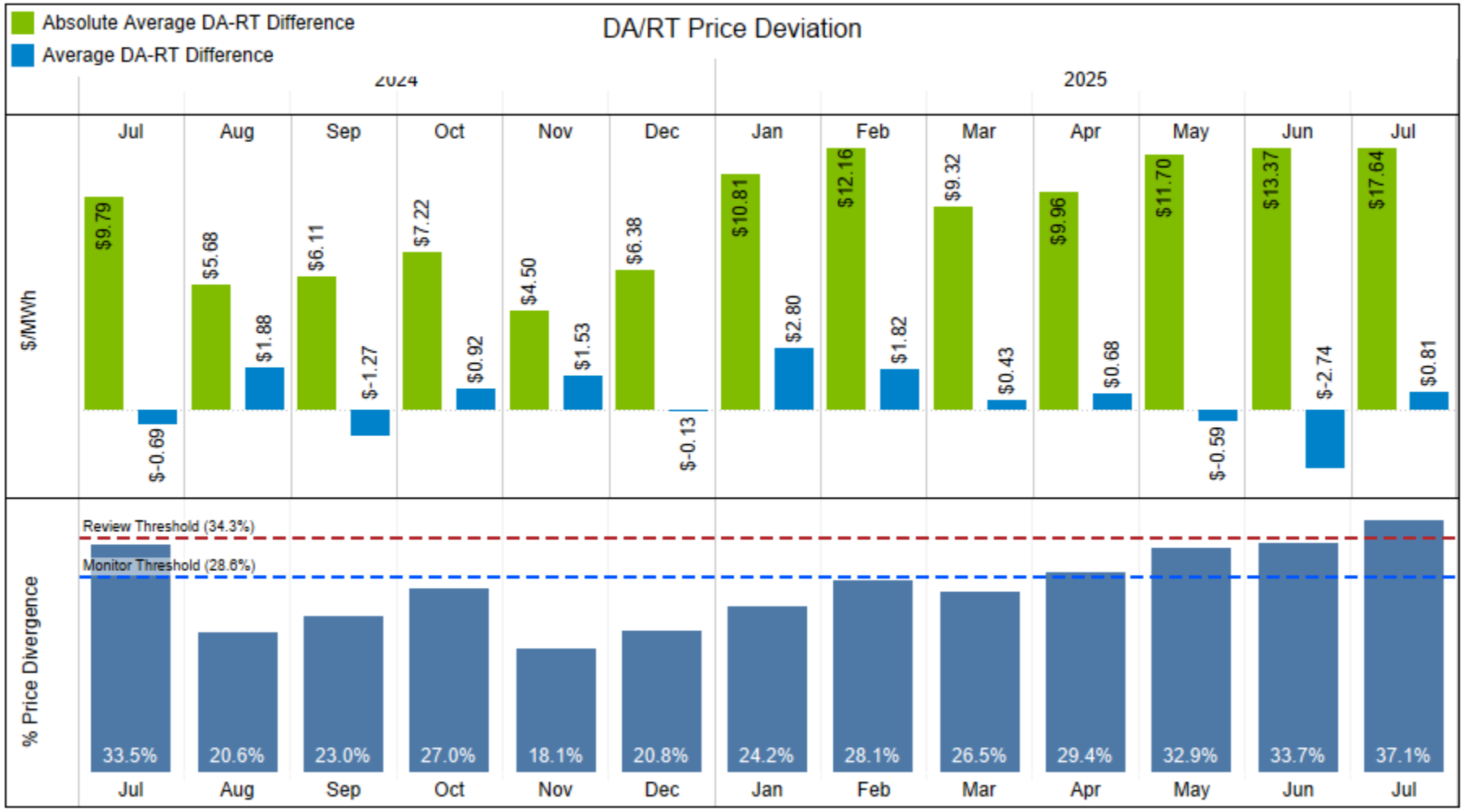
Contents

MISO System-wide Day-Ahead and Real-Time Locational Marginal Pricing



Note: MISO System-Wide price is based on the monthly hourly average of the active hubs
Source: MISO Market and Operations Analytics Department

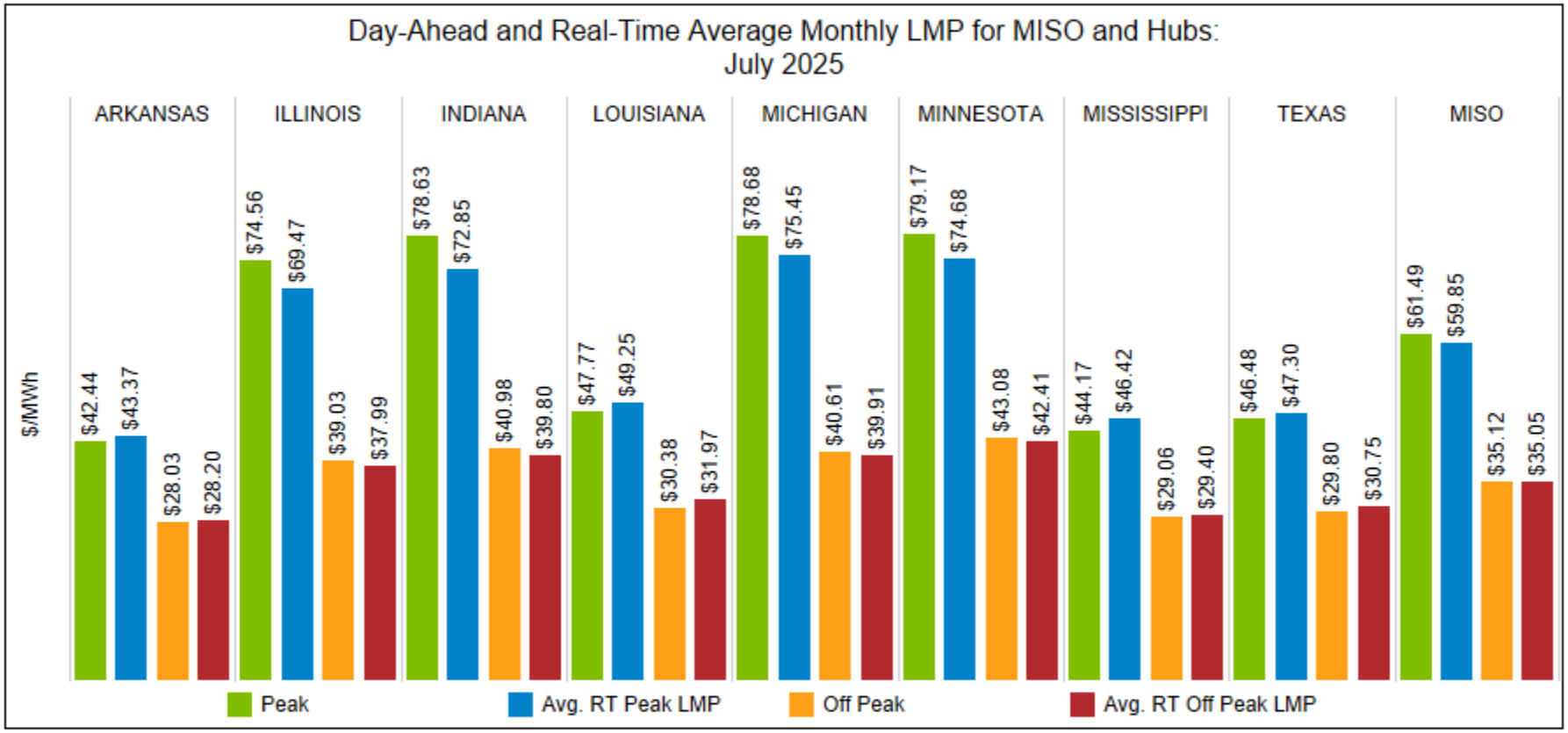
Price Convergence: Day-Ahead and Real-Time Locational Marginal Pricing



**Monthly deviation, expressed as a percent of average DA LMP, is calculated as the average of hourly absolute (DA-RT) price difference divided by the average of hourly DA LMPs for the month*

Note: MISO System-Wide price is based on the monthly hourly average of the active trading hubs
Source: MISO Market and Operations Analytics Department

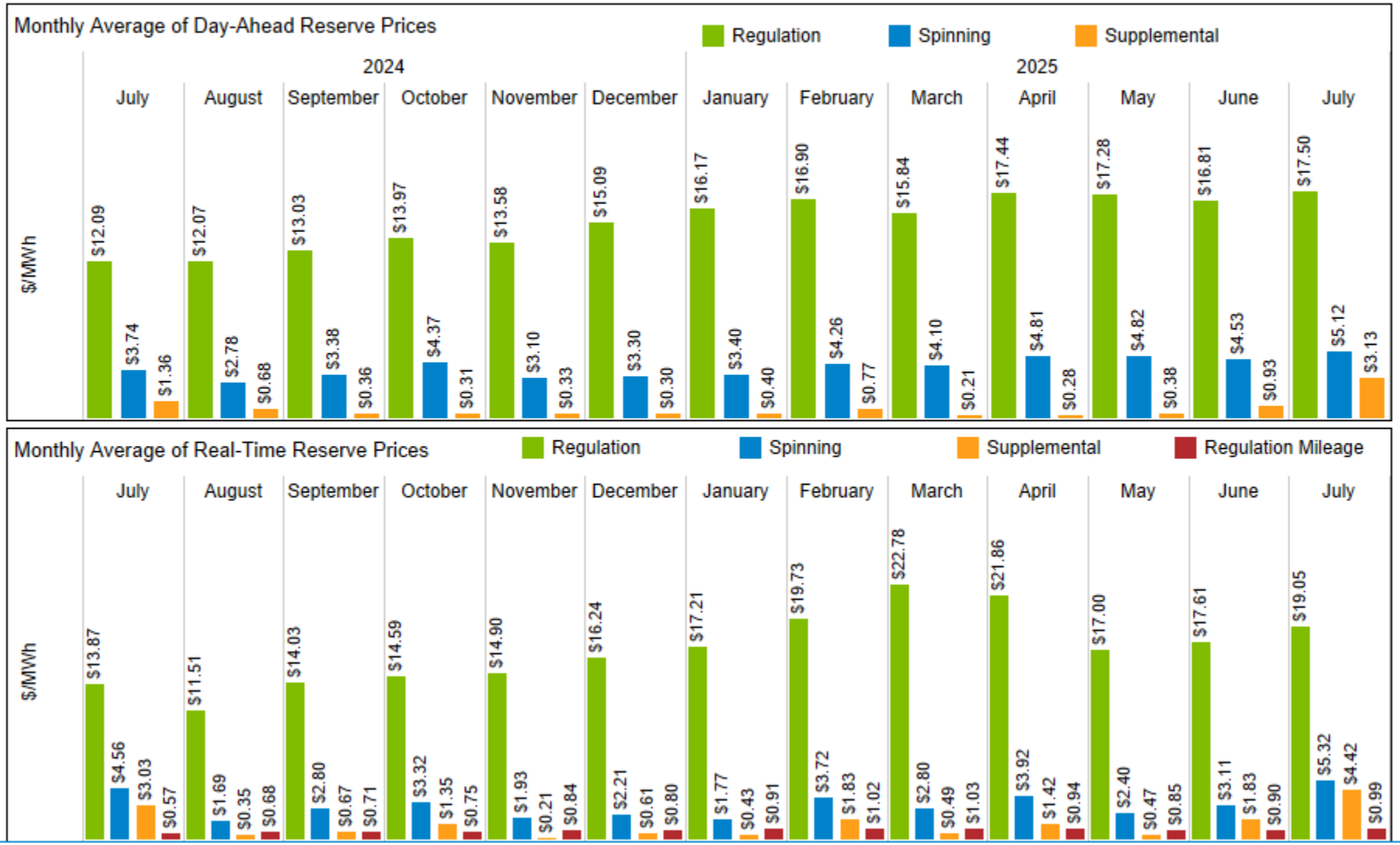
MISO Day-Ahead and Real-Time Hub Locational Marginal Pricing



		ARKANSAS	ILLINOIS	INDIANA	LOUISIANA	MICHIGAN	MINNESOTA	MISSISSIPPI	TEXAS	MISO
Marginal Congestion Component of LMP ($/MWh)	DA Peak	-30.03	-0.48	1.03	-27.70	0.85	4.21	-29.51	-28.40	-13.75
	RT Peak	-24.50	-0.48	0.57	-21.55	2.74	1.98	-22.84	-22.69	-10.85
	DA Off Peak	-9.83	0.05	0.56	-9.27	0.25	3.42	-9.58	-9.37	-4.22
	RT Off Peak	-8.98	-0.23	0.08	-7.17	0.18	3.32	-8.65	-7.91	-3.67

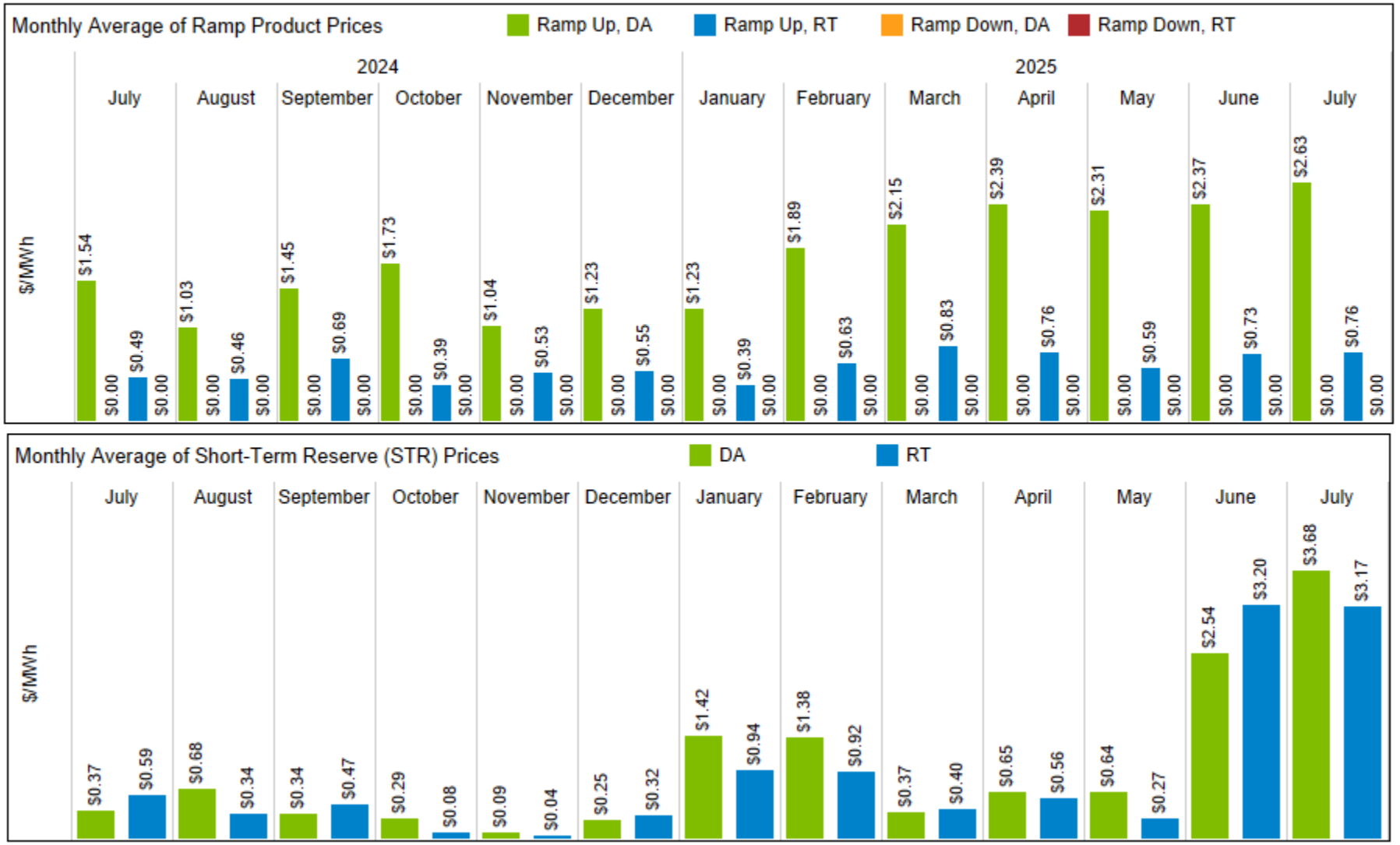
Source: MISO Market and Operations Analytics Department

Ancillary Services - Day-Ahead and Real-Time Market Clearing Prices



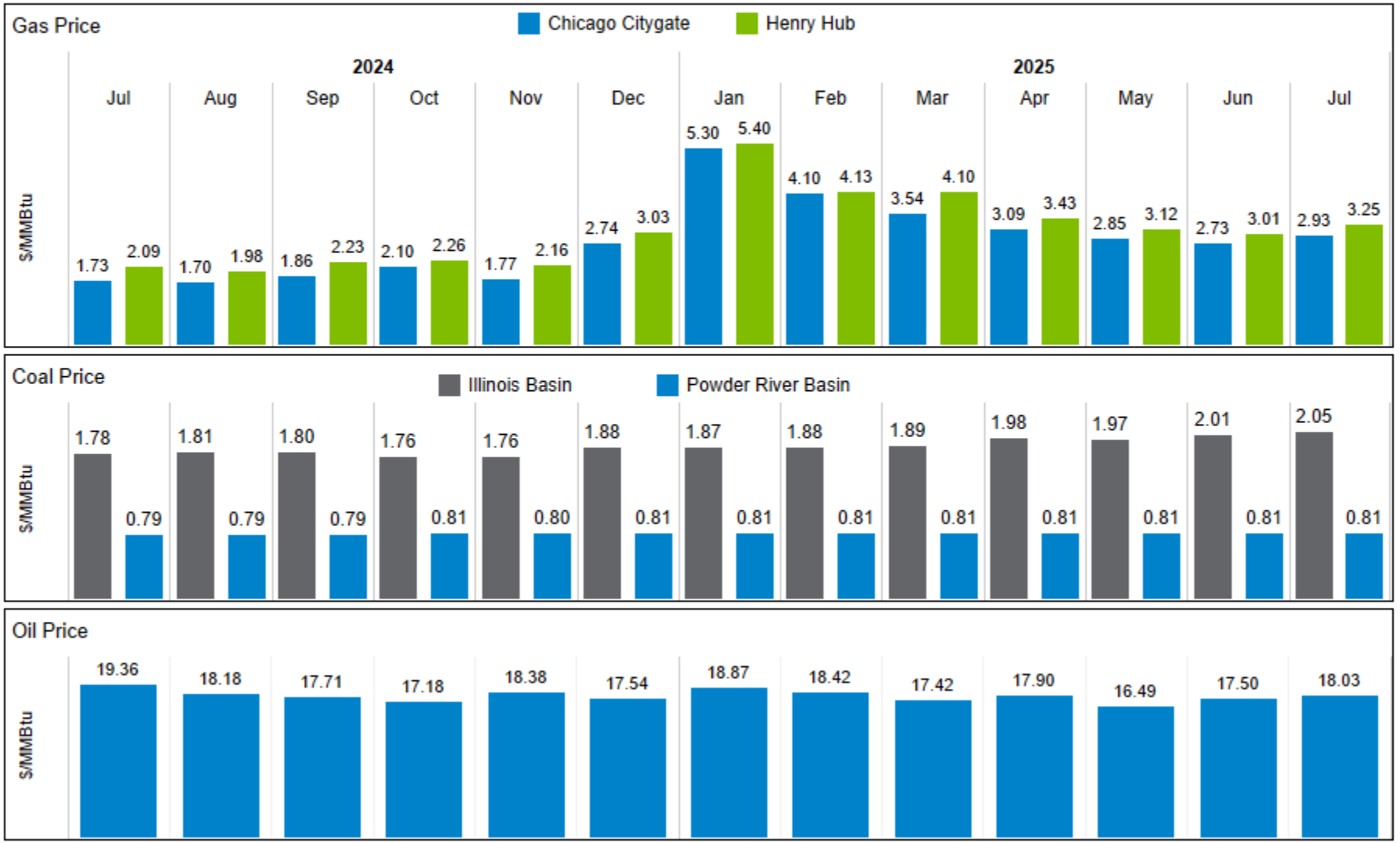
Source: MISO Market and Operations Analytics Department

Ancillary Services - Day-Ahead and Real-Time Market Clearing Prices



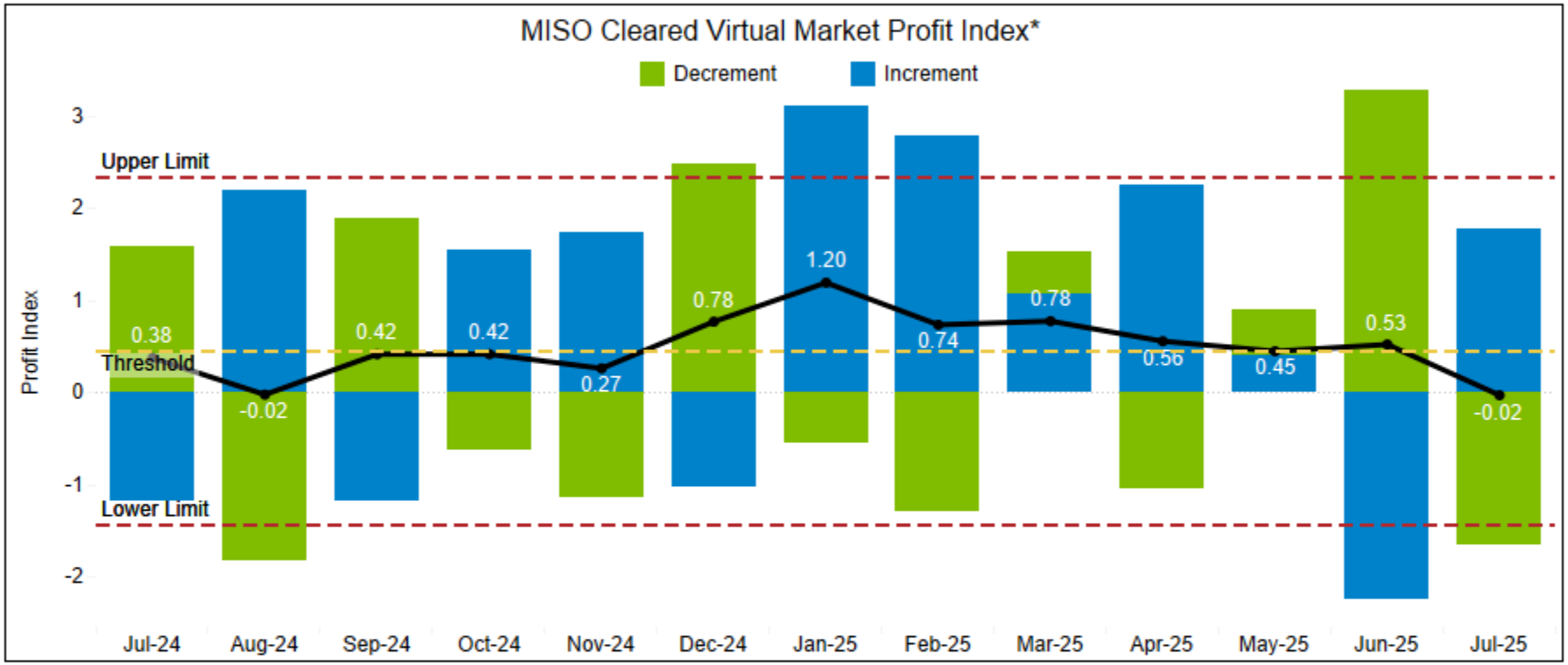
Source: MISO Market and Operations Analytics Department

Nominal Fuel Prices



Monthly oil prices are estimates and subject to change upon finalization
Source: EIA

Monthly Average Gross Virtual Profitability



Monthly Standard Deviation

Jul-24	Aug-24	Sep-24	Oct-24	Nov-24	Dec-24	Jan-25	Feb-25	Mar-25	Apr-25	May-25	Jun-25	Jul-25
2.96	0.86	1.32	1.21	1.74	1.50	2.60	2.21	1.16	1.15	2.04	1.61	2.64

** The virtual profitability market index is defined as the sum of profits/losses for all cleared virtual transactions divided by the volume (MWh) of total cleared transactions.*

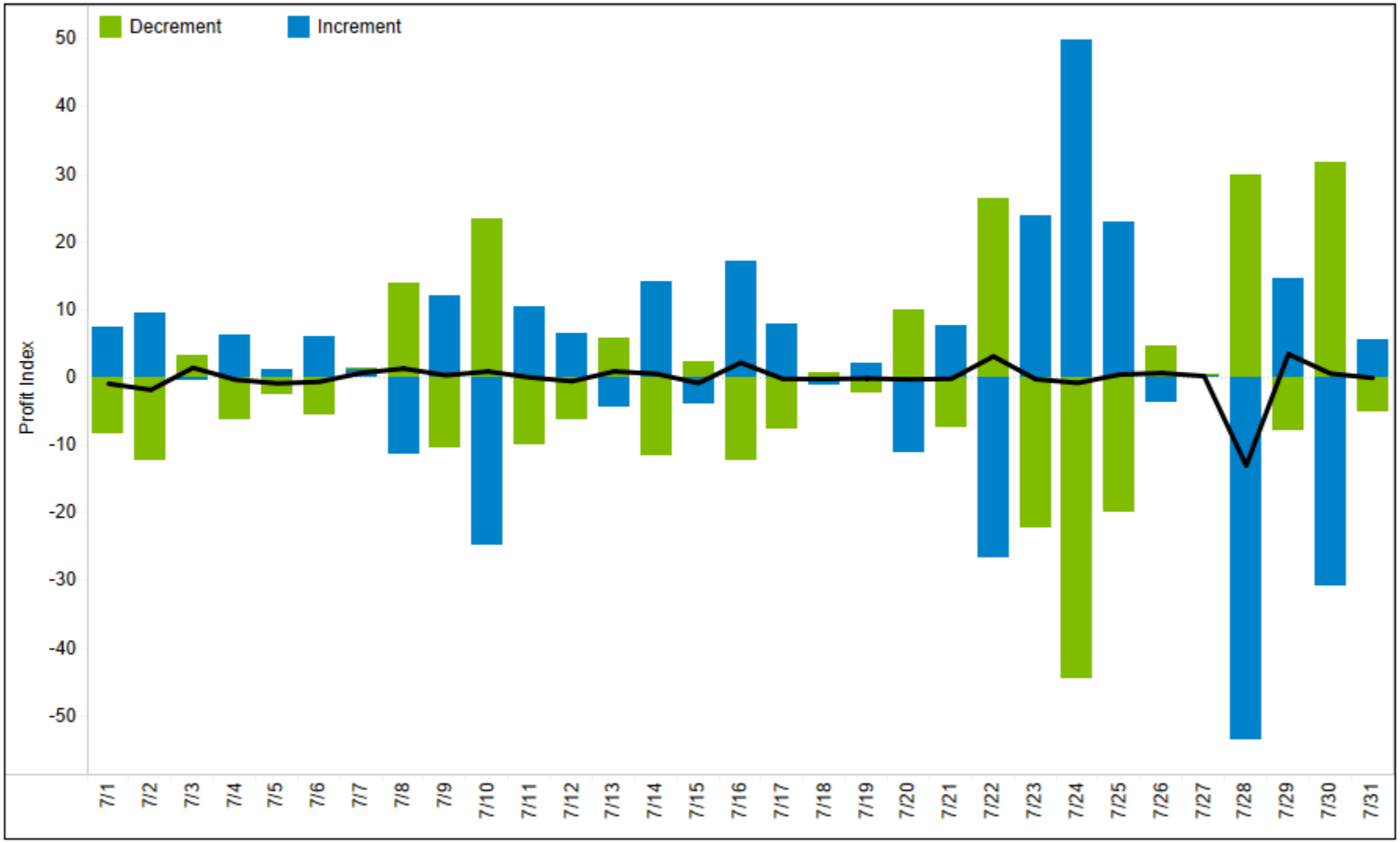
** Virtual profits/losses are calculated by multiplying the cleared virtual MW and the imbalance between RT LMP and DA LMP for a cpnode, then summed across all cpnodes, all hours.*

** Upper Limit is Threshold (average of monthly indices from the previous year) plus Daily Average Standard Deviation for the previous 13 months (current reporting month inclusive)*

** Lower Limit is Threshold (average of monthly indices from the previous year) minus Daily Average Standard Deviation for the previous 13 months (current reporting month inclusi..*

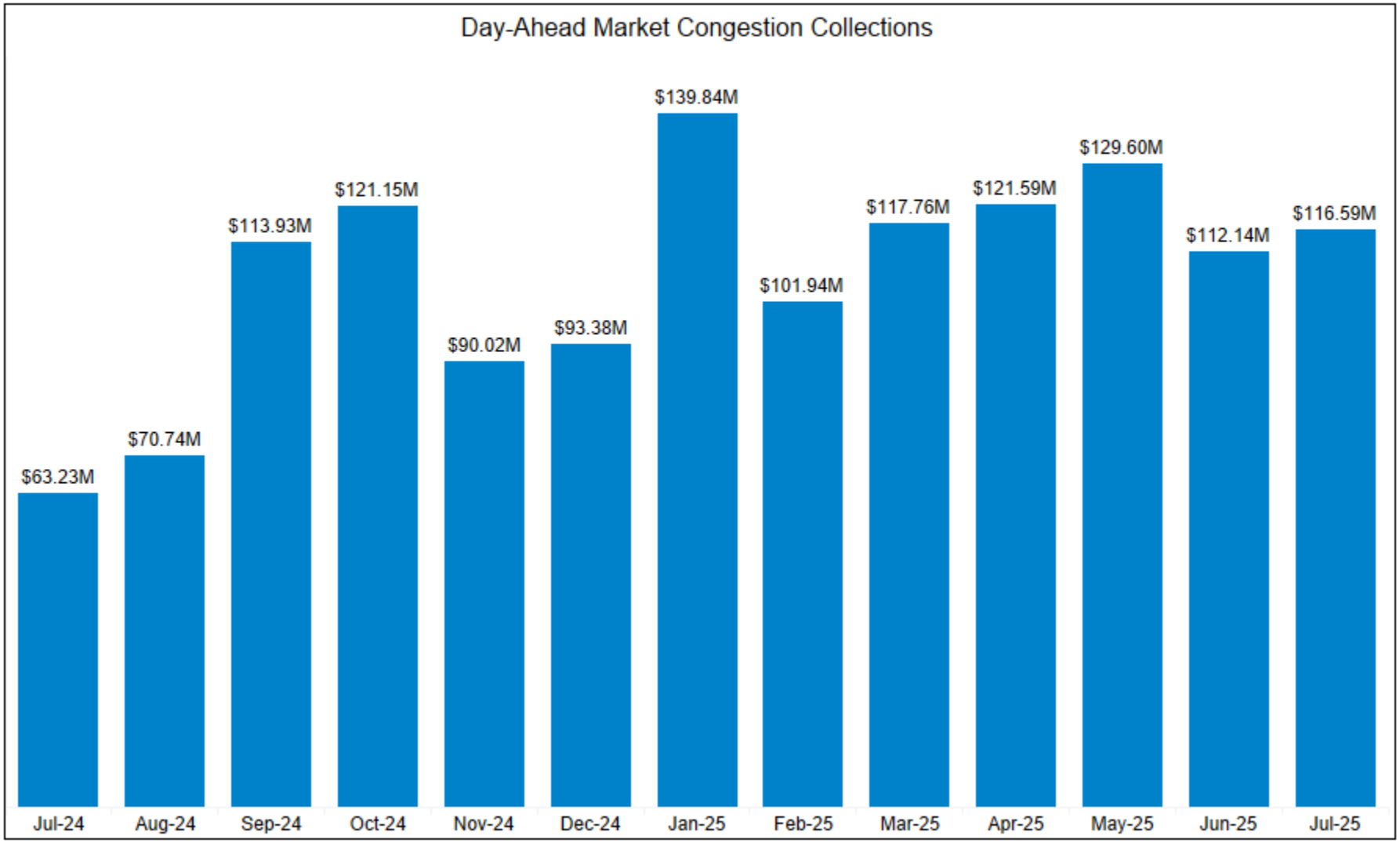
Source: MISO Market and Operations Analytics Department

Daily Gross Cleared Virtual Profitability



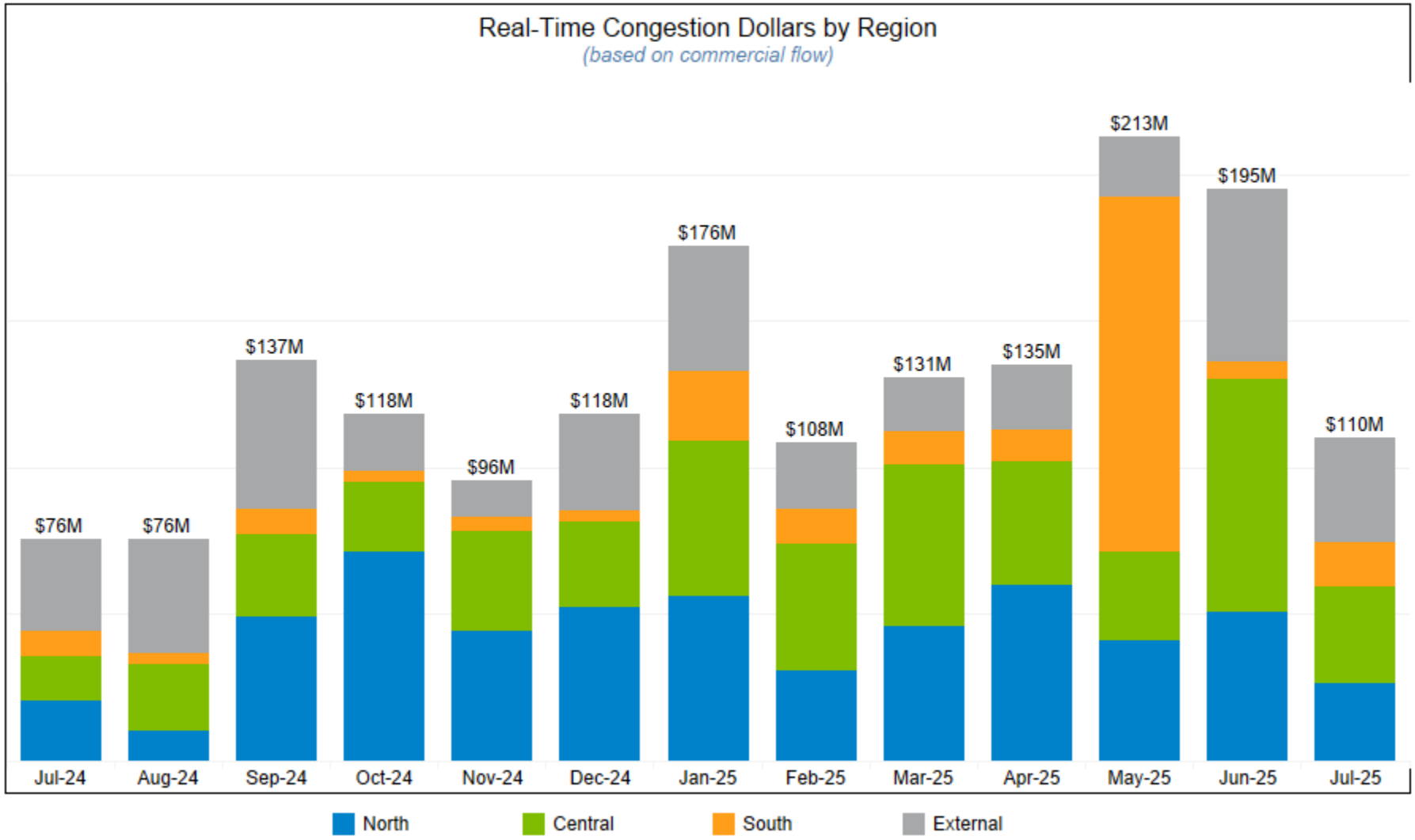
The virtual profitability market index is defined as the sum of profits/losses for all cleared virtual transactions divided by the volume (MWh) of total cleared transactions
Source: MISO Market and Operations Analytics Department

Day-Ahead Congestion Collections



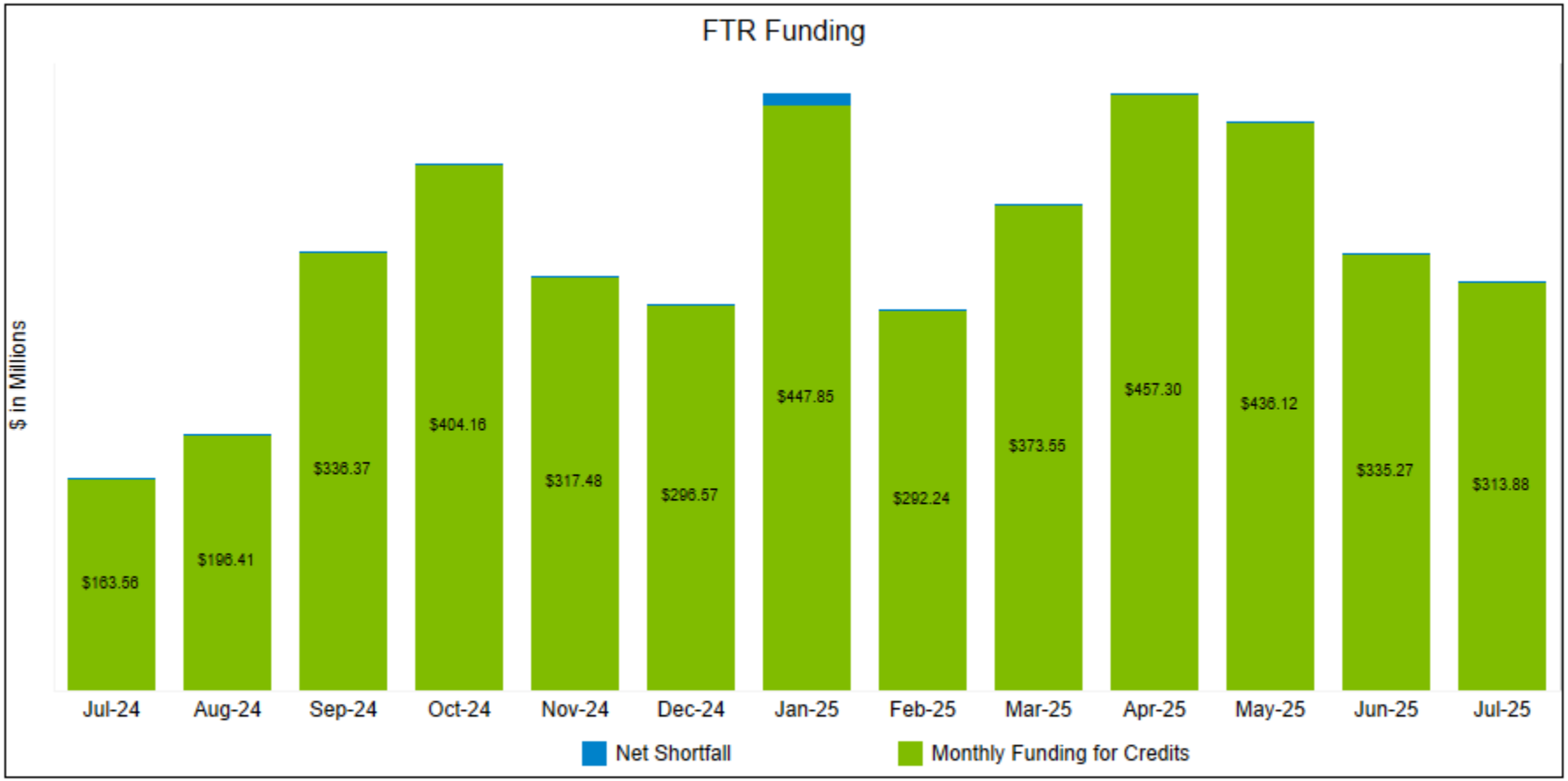
Source: MISO Market and Operations Analytics Department

Real-Time Congestion Dollars by Region



Includes External Constraints
Commercial Flow excludes phase angle regulators and loop flows
Source: MISO Market and Operations Analytics Department

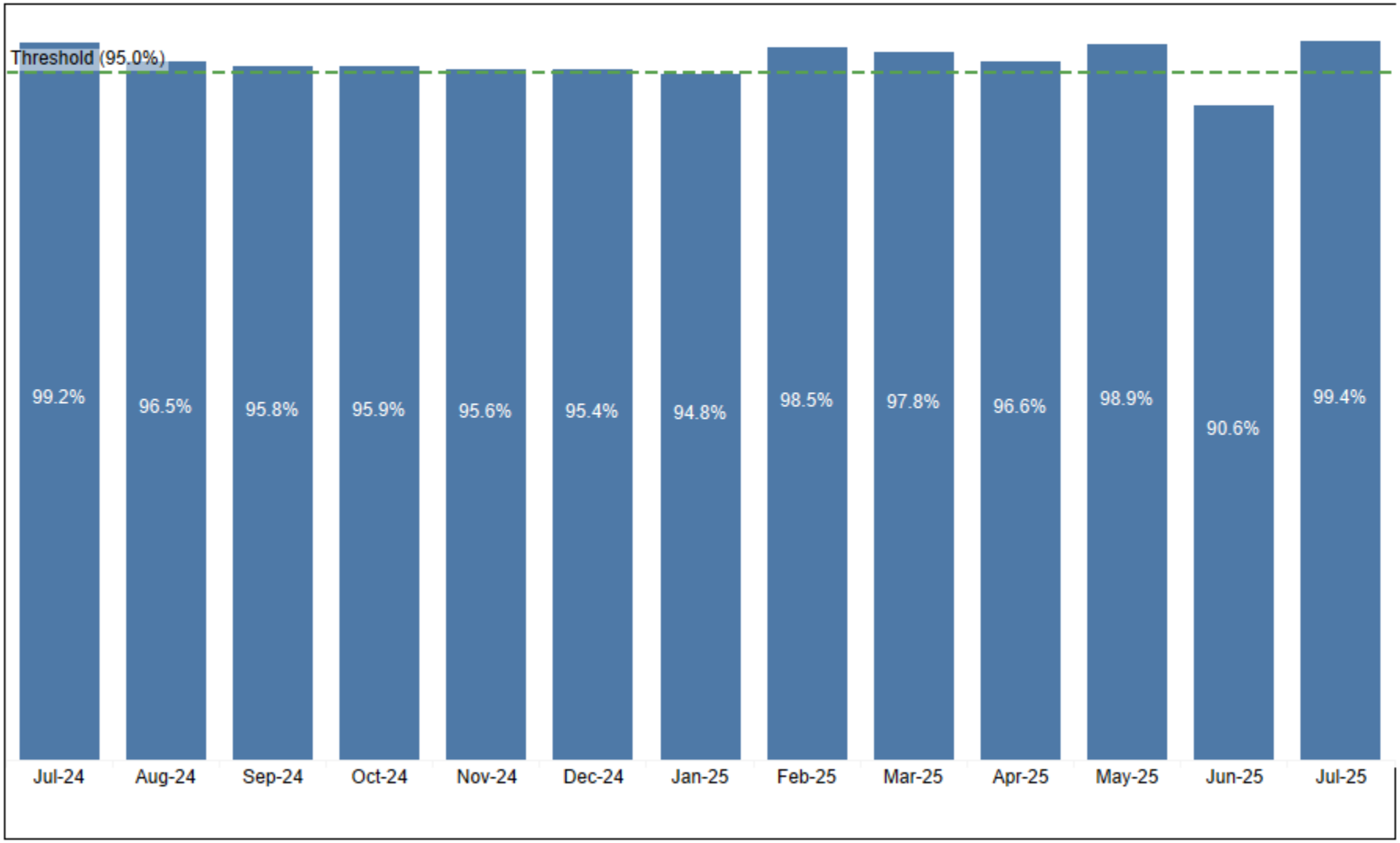
Financial Transmission Rights, Monthly and Rolling Year-to-Date Allocation Funding



	Jul-24	Aug-24	Sep-24	Oct-24	Nov-24	Dec-24	Jan-25	Feb-25	Mar-25	Apr-25	May-25	Jun-25	Jul-25
Monthly FTR Allocation (%)	100.0%	100.0%	99.9%	100.0%	100.0%	100.0%	97.8%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
YTD FTR Allocation (%)	96.3%	96.7%	97.1%	97.5%	97.8%	98.0%	NA	NA	NA	100.0%	100.0%	100.0%	100.0%

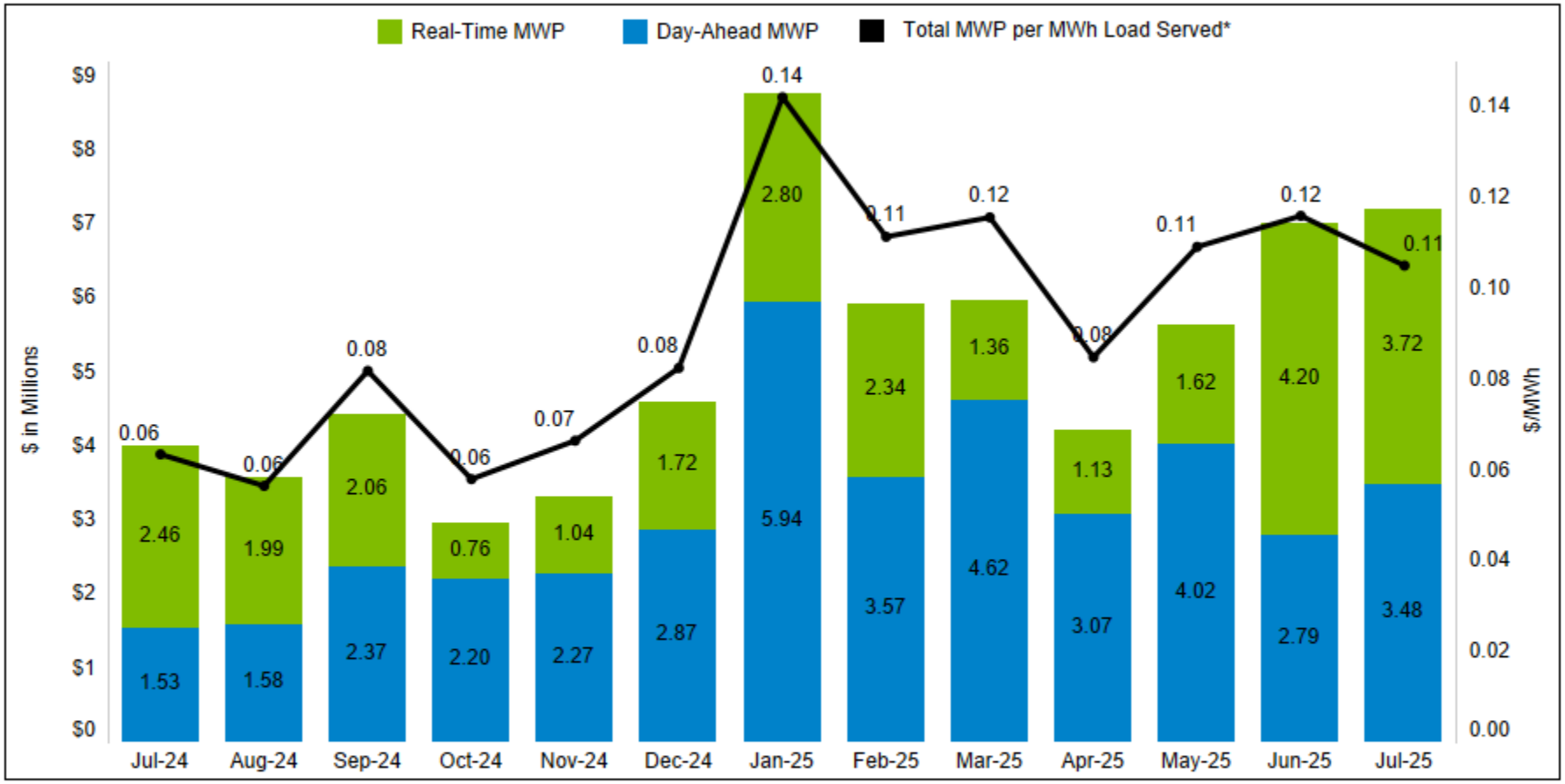
YTD metric is applied beginning April
Values may change due to resettlement
Source: MISO Market ECF Report

Market Funding Efficiency



Values may change due to resettlement
Source: MISO Market ECF Report

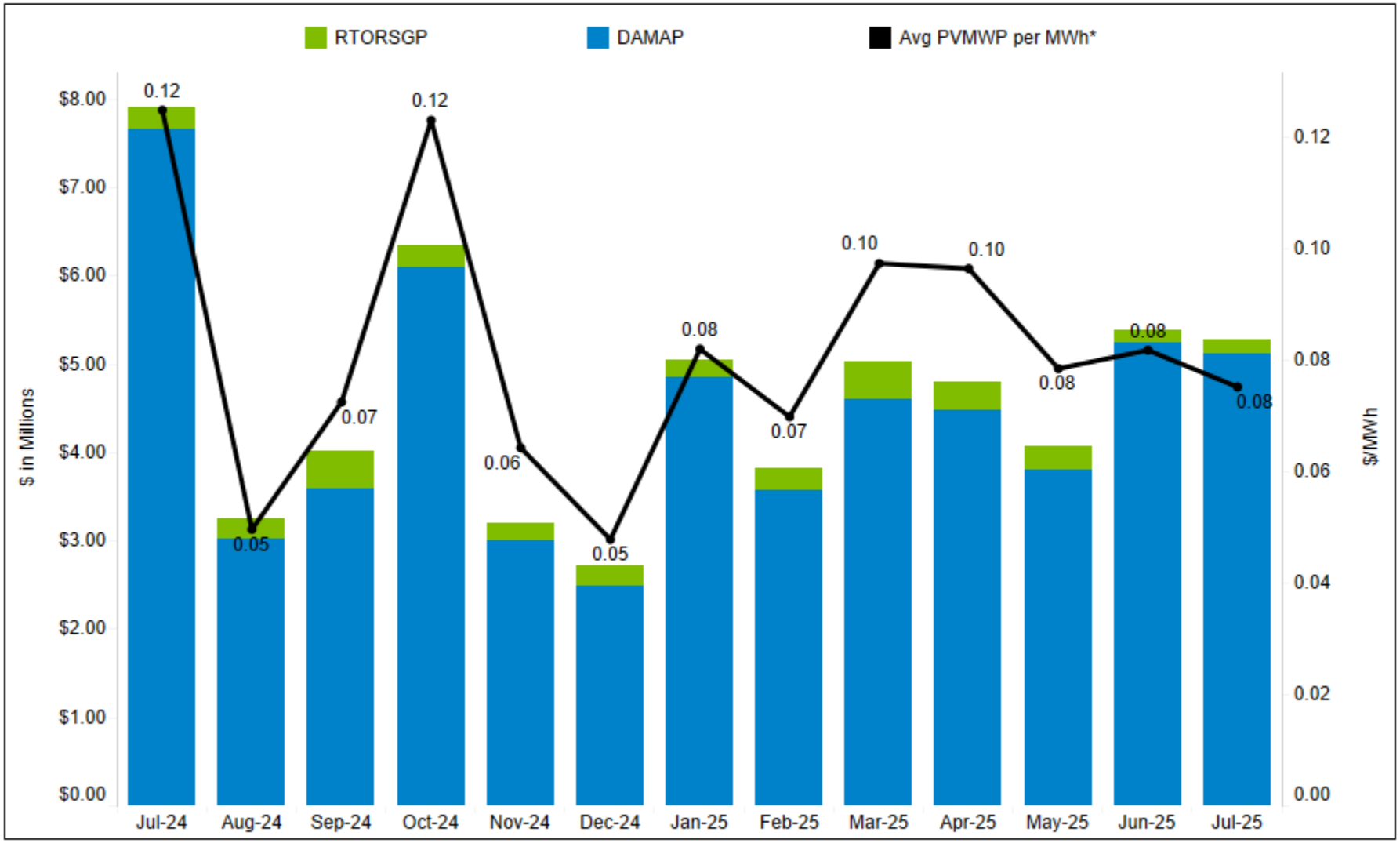
Day-Ahead and Real-Time Revenue Sufficiency Guarantee



	Jul-24	Aug-24	Sep-24	Oct-24	Nov-24	Dec-24	Jan-25	Feb-25	Mar-25	Apr-25	May-25	Jun-25	Jul-25
Chicago Gas Prices ($/MMBtu)	1.73	1.70	1.86	2.10	1.77	2.74	5.30	4.10	3.54	3.09	2.85	2.73	2.93
Henry Gas Prices ($/MMBtu)	2.09	1.98	2.23	2.26	2.16	3.03	5.40	4.13	4.10	3.43	3.12	3.01	3.25
^^RSG Per MWh to Energy Price (%)	0.22	0.20	0.31	0.22	0.27	0.27	0.32	0.26	0.33	0.25	0.31	0.29	0.22

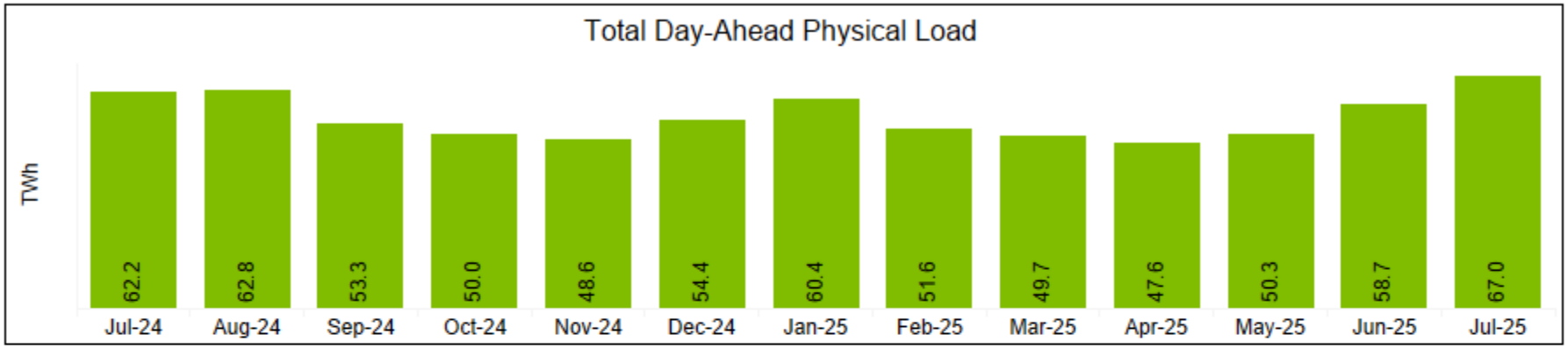
**Based on hourly ICCP Data; ^^metric value*
Values may change due to resettlement
Source: The Web-based Revenue Sufficiency Gurantee Report

Price Volatility Make Whole Payment



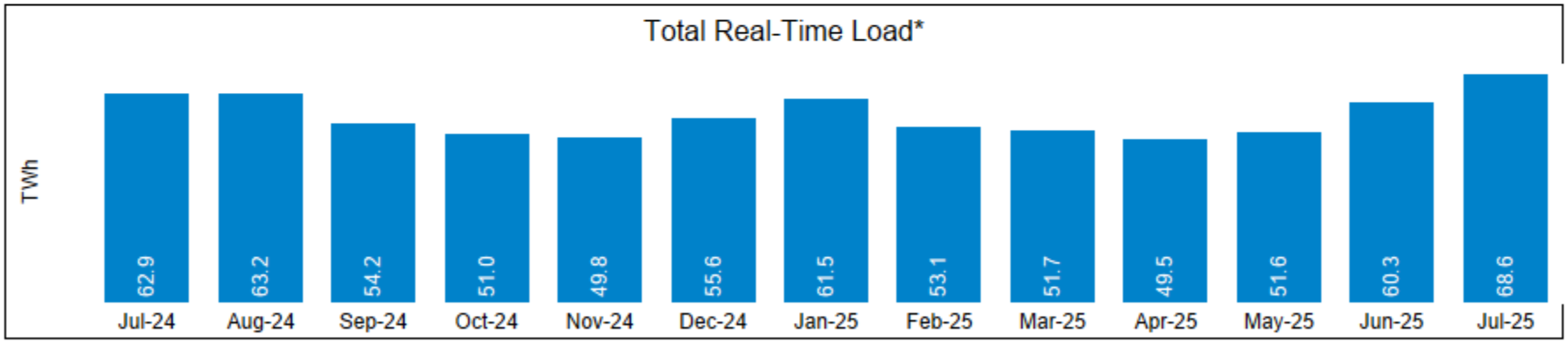
*Hourly ICCP data
Source: Web-based Revenue Neutrality Uplift Report

Day-Ahead and Real-Time Cleared Physical Energy



Day-Ahead Cleared Load Value (including Virtuals)

Jul-24	Aug-24	Sep-24	Oct-24	Nov-24	Dec-24	Jan-25	Feb-25	Mar-25	Apr-25	May-25	Jun-25	Jul-25
$2.37B	$2.20B	$1.74B	$1.57B	$1.44B	$2.06B	$3.20B	$2.68B	$1.93B	$1.87B	$2.14B	$2.97B	$4.17B

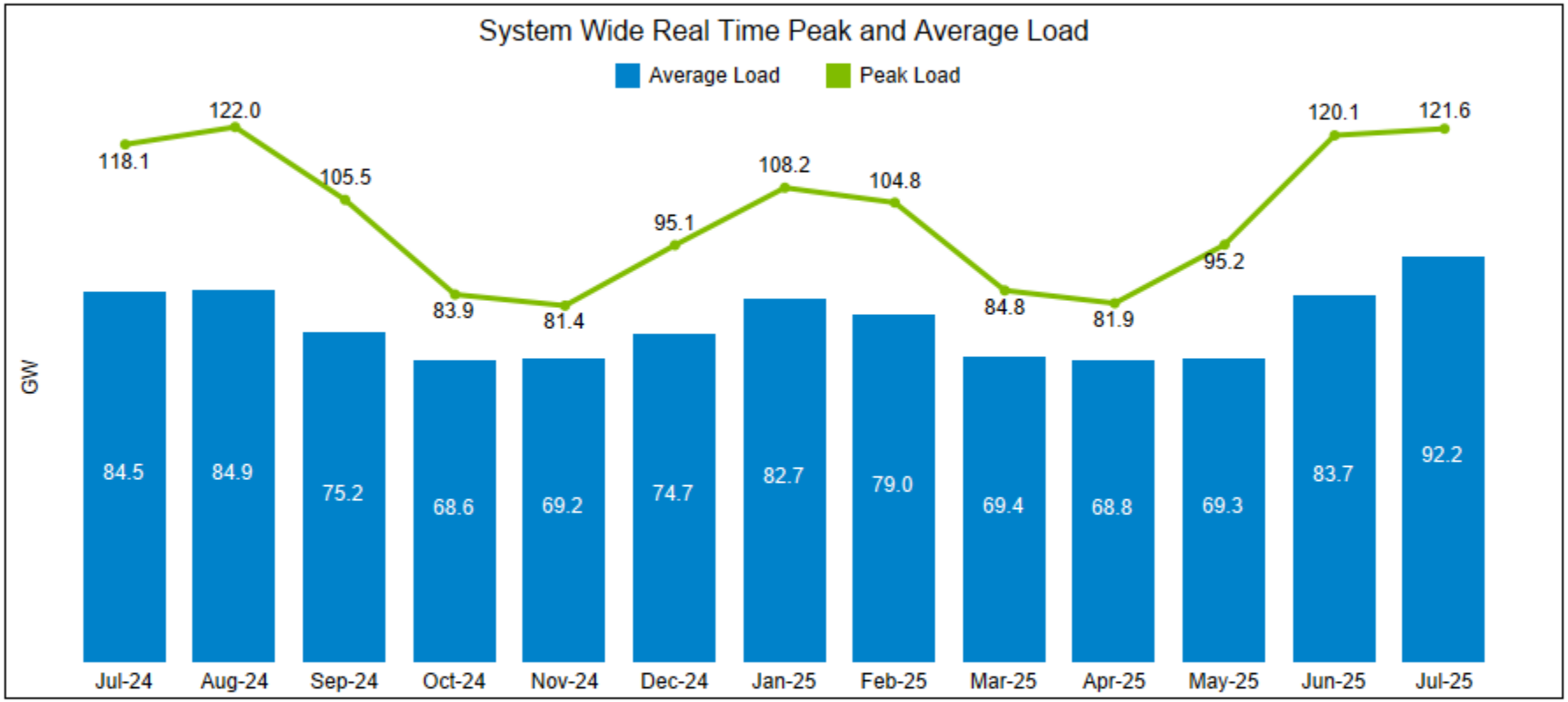


Real-Time Cleared Load Value ($ in Billions)

Jul-24	Aug-24	Sep-24	Oct-24	Nov-24	Dec-24	Jan-25	Feb-25	Mar-25	Apr-25	May-25	Jun-25	Jul-25
$2.14B	$1.81B	$1.63B	$1.29B	$1.18B	$1.83B	$2.64B	$2.21B	$1.65B	$1.55B	$1.95B	$3.00B	$3.68B

**Sum of Hourly ICCP Load Data*
Source: MISO Market and Operations Analytics Department

Monthly System Load and Temperature



System Wide Load Weighted Temperature

	Jul-24	Jun-25	Jul-25
Average	78°F	76°F	81°F
Maximum	98°F	100°F	99°F
Minimum	61°F	52°F	66°F

Load Weighted Heating & Cooling Degree Days

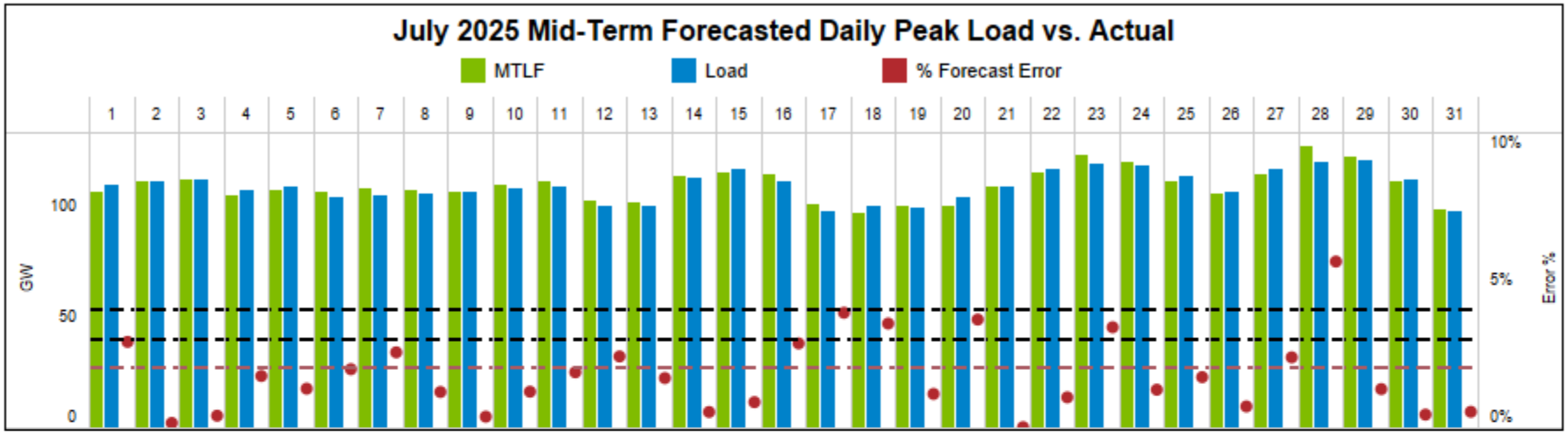
	Average HDD	Std Dev HDD	Average CDD	Std Dev CDD
Jul-25	0.00	0.00	19.19	7.25
Jun-25	0.14	0.94	14.60	8.60
Jul-24	0.00	0.02	16.20	7.34

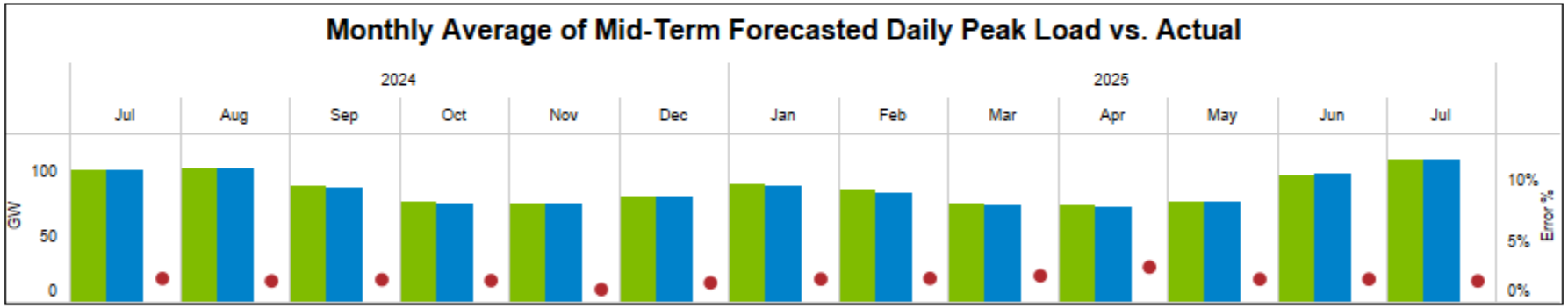
Hours with Load Greater than:

	100 GW	80 GW	60 GW
Jul-25	245	560	744
Jun-25	110	415	709
Jul-24	95	446	744

**Monthly data based on hourly ICCP Load Data; Hourly Integrated Peak Load Hour could differ from the Instantaneous Peak Load Hour.*
Source: MISO Market and Operations Analytics Department

Day-Ahead Mid-Term Load Forecast*



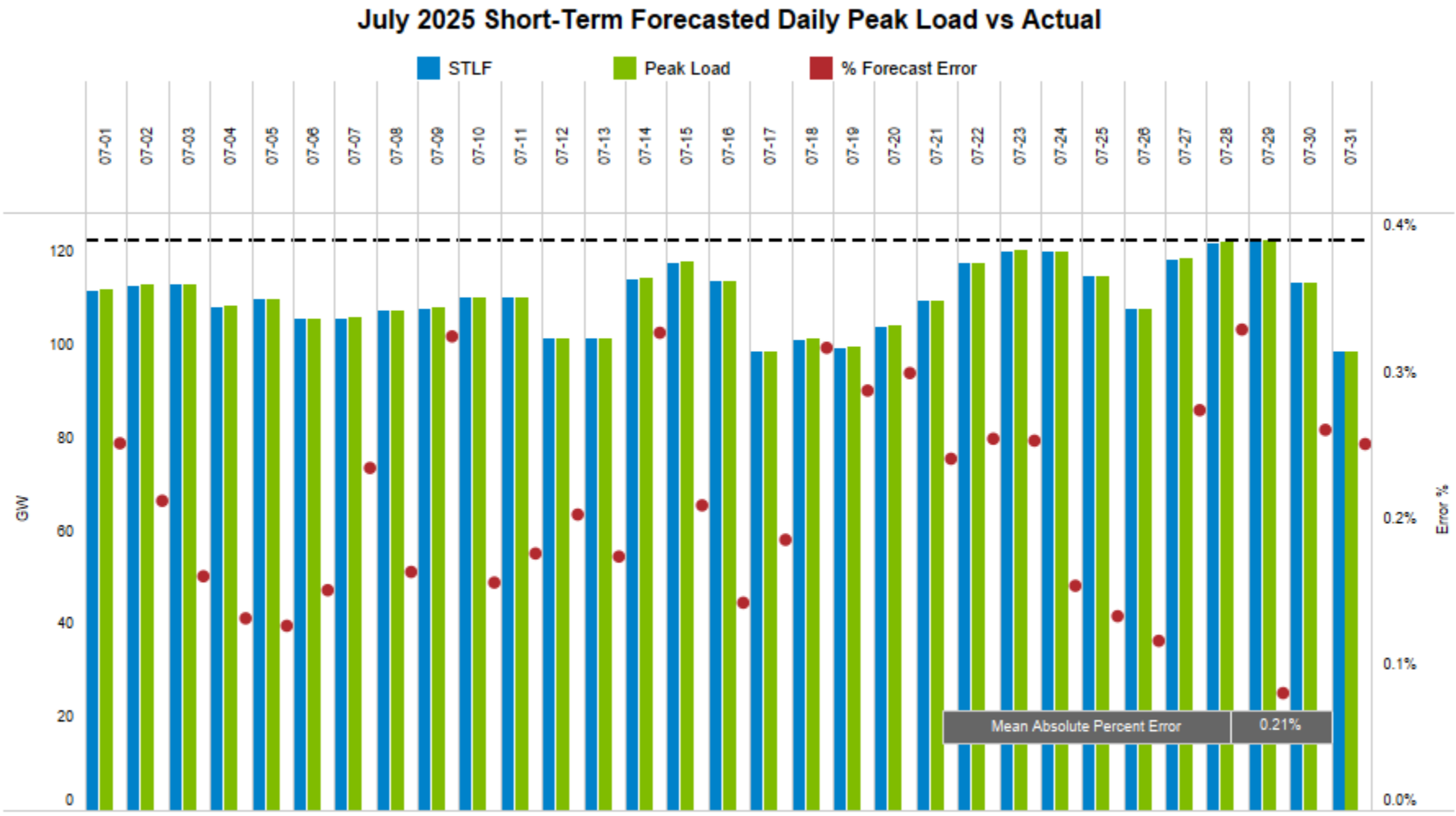


	2024						2025						
	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul
% Std of Error (CV)	76.54	67.80	71.09	68.94	101.98	81.76	77.55	60.87	54.00	40.07	78.67	71.95	75.03
Mean of Error (MW)	1,980	1,845	1,700	1,418	814	1,334	1,742	1,674	1,671	2,191	1,474	1,852	1,950
Std of Error (MW)	1,515	1,251	1,209	978	830	1,090	1,351	1,019	902	878	1,159	1,332	1,463

* Monthly data based on the average of the daily integrated peak hours in the month
* Daily data based on the integrated peak hour of the day
* Peak Day and Hour End based on Hourly Integrated Peak Load Hour

Source: MISO Operations Risk Management

Short-Term Load Forecast*

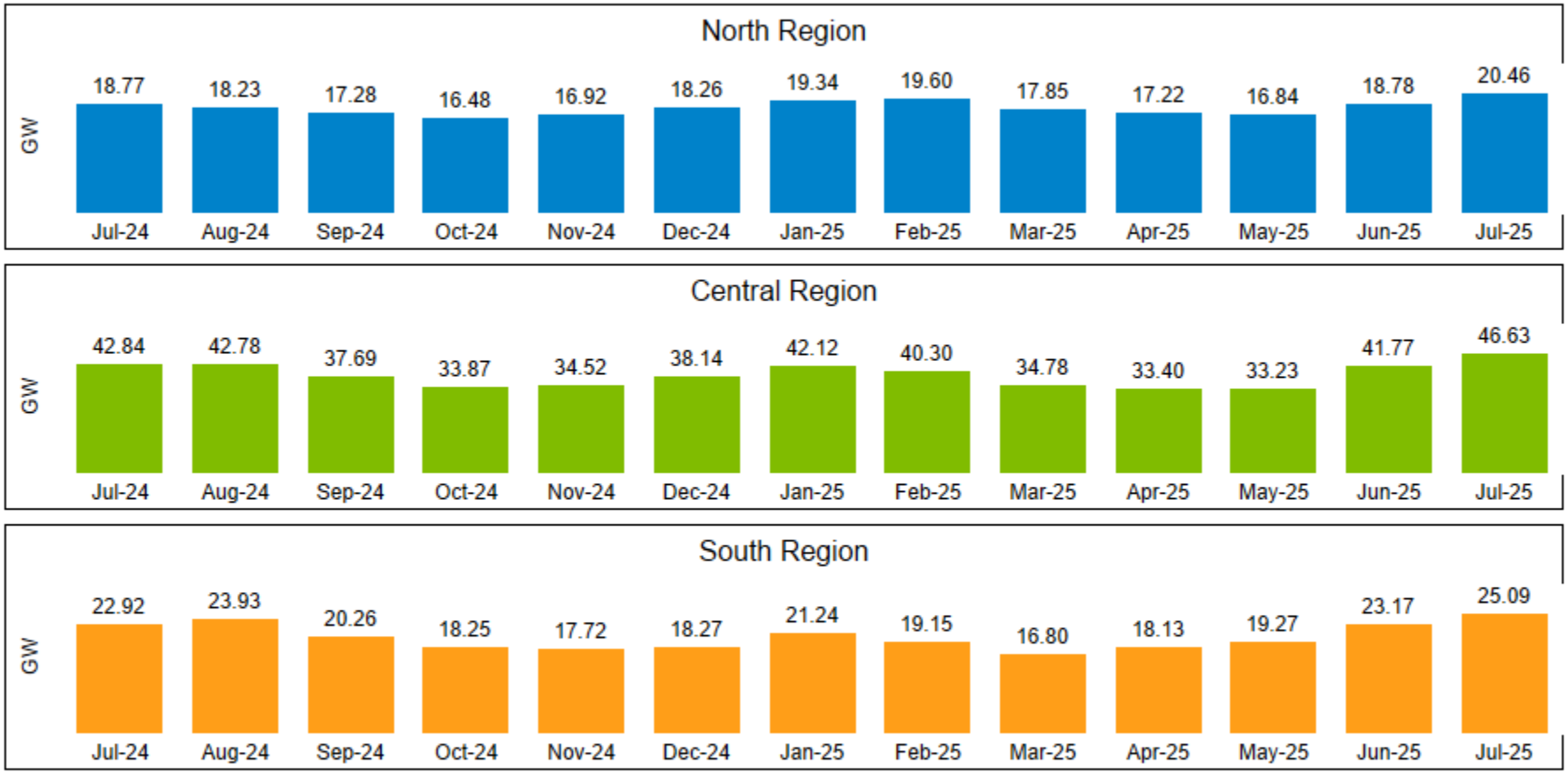


Daily data based on the average of five-minute interval data at the peak hour of the day
Error Threshold calculated as 95% quantile of Forecast Error from Jan-Dec of the previous year

Peak Day and Hour End based on Hourly Integrated Peak Load Hour

Source: MISO Operations Risk Management

Average Load by Region

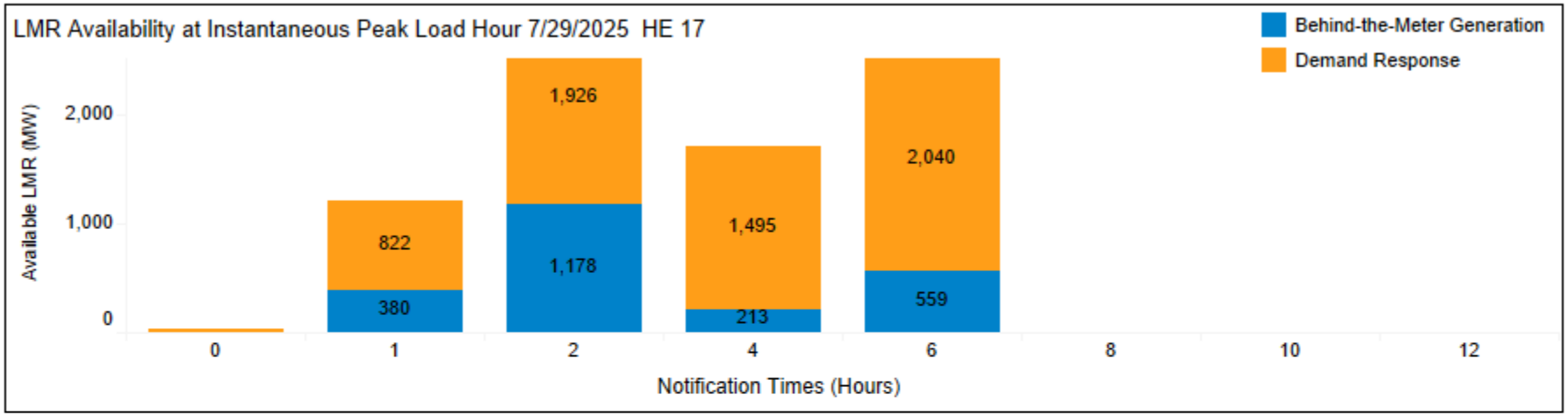


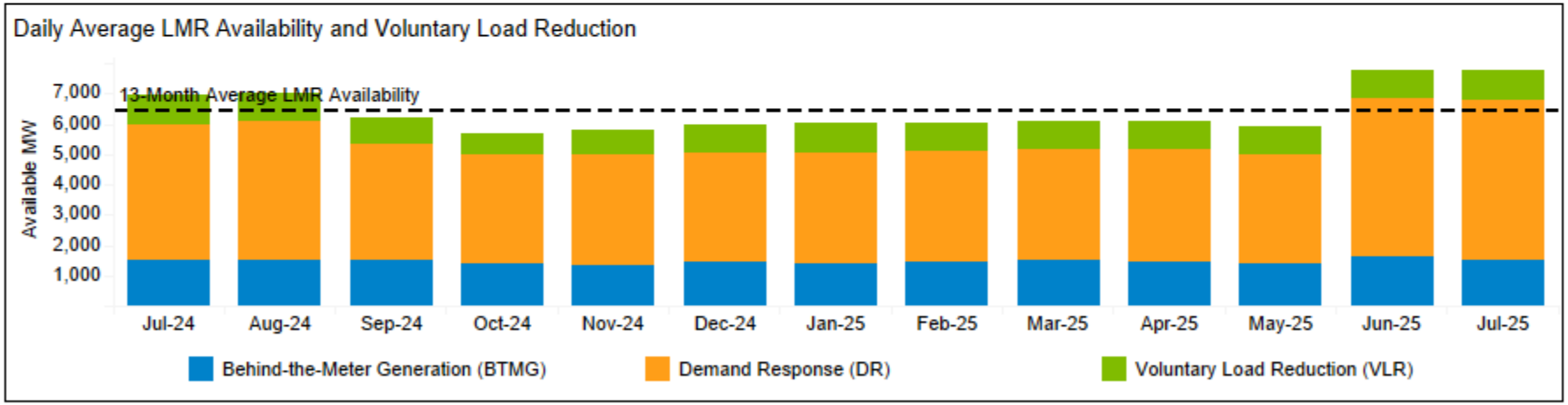
Hourly Integrated System Load Peak Hour Ending: 07/29/2025 17 EST

North	26.22 GW
Central	64.60 GW
South	33.55 GW
MISO	120.94 GW

**Monthly data based on hourly ICCP Load Data; Hourly Integrated Peak Load Hour could differ from the Instantaneous Peak Load Hour.*
Source: MISO Market and Operations Analytics Department

Market Participant entered Load Modifying Resource (LMR) Availabililty

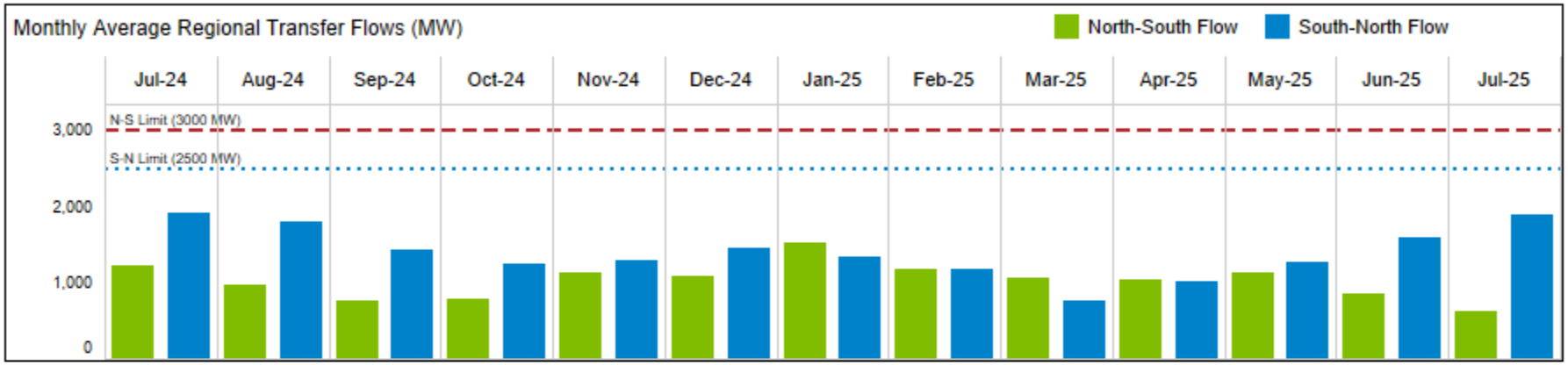




PRA Auction	BTMG (MW)	DR (MW)	Total BTMG and DR (MW)
Summer 2024	4,144	8,109	12,253
Summer 2025	4,283	9,004	13,287

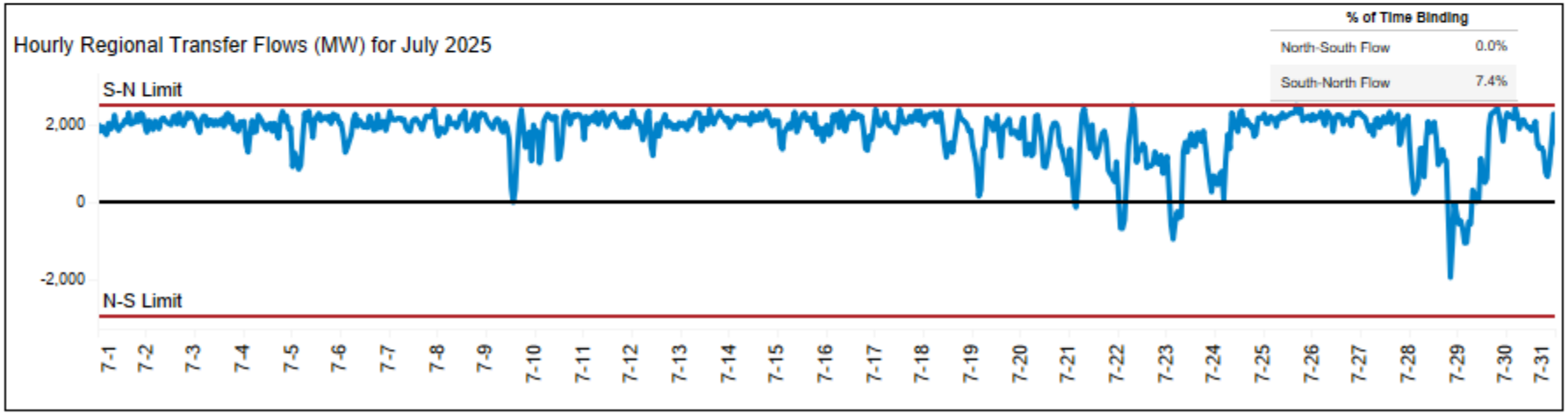
Source: MISO Markets and Operations Analytics Department

Regional Directional Transfer**



Percentage of Time Regional Directional Flow

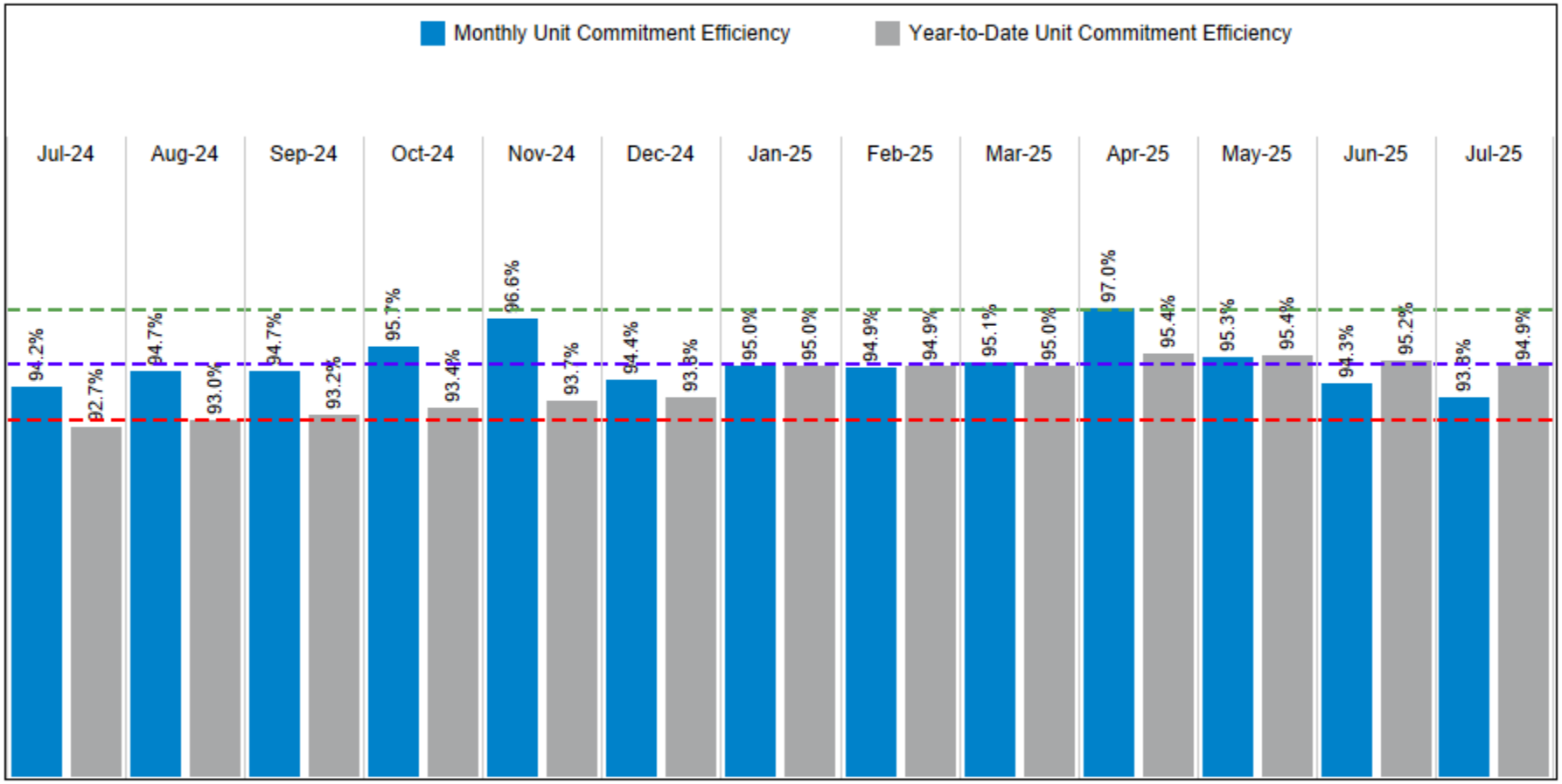
	Jul-24	Aug-24	Sep-24	Oct-24	Nov-24	Dec-24	Jan-25	Feb-25	Mar-25	Apr-25	May-25	Jun-25	Jul-25
North-South Flow	8%	10%	21%	17%	23%	22%	29%	40%	61%	44%	49%	26%	3%
South-North Flow	92%	90%	79%	83%	78%	78%	71%	60%	39%	56%	51%	74%	97%



***Regional Directional Transfer between MISO South and Central/North Regions*
Source: MISO Markets and Operations Analytics Department

Unit Commitment Efficiency

Effectively commit generation to meet demand obligations and mitigate constraints

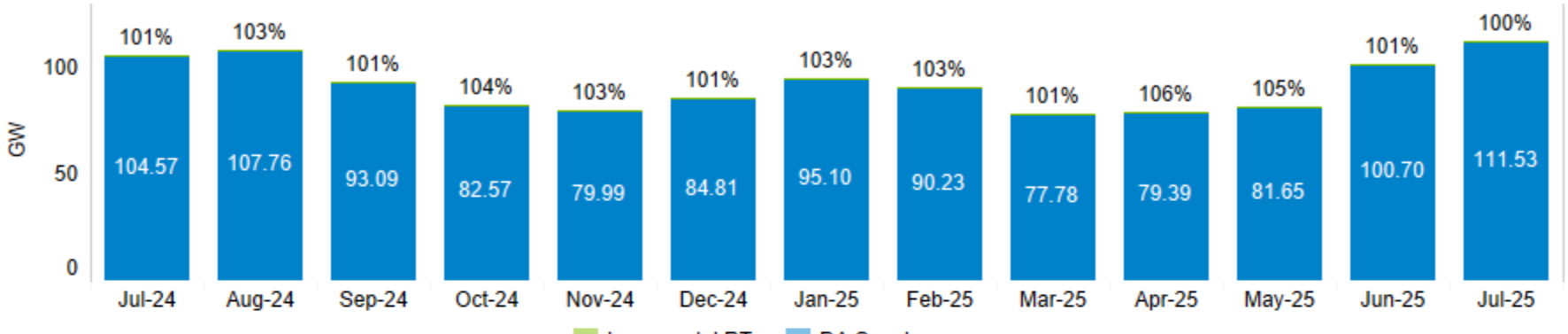


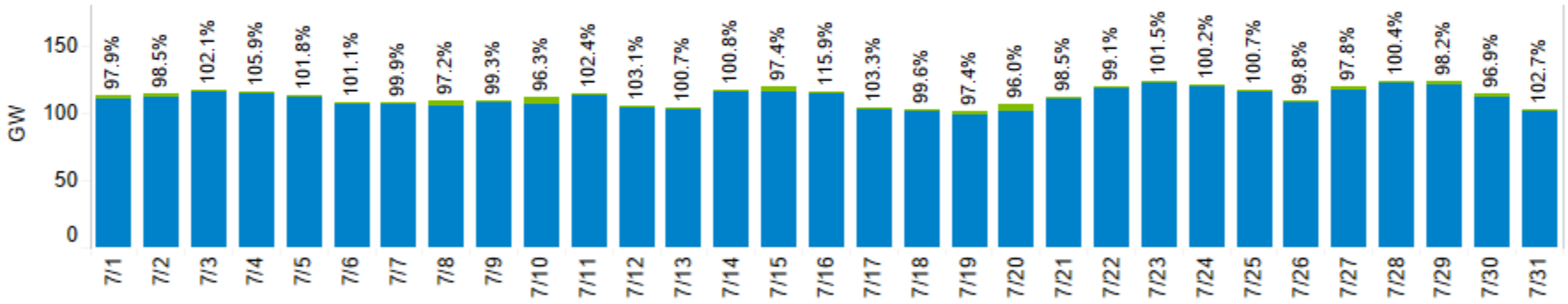
	Jul-24	Aug-24	Sep-24	Oct-24	Nov-24	Dec-24	Jan-25	Feb-25	Mar-25	Apr-25	May-25	Jun-25	Jul-25
Actual Cost	$1,013M	$974M	$809M	$705M	$682M	$988M	$1,311M	$1,069M	$819M	$756M	$829M	$1,095M	$1,427M
Optimal Cost	$1,005M	$967M	$803M	$701M	$679M	$978M	$1,300M	$1,061M	$812M	$752M	$822M	$1,085M	$1,415M
Sunk Cost	$878M	$842M	$685M	$595M	$576M	$807M	$1,095M	$897M	$673M	$628M	$678M	$913M	$1,229M

Source: MISO Optimal Dispatch Calculator (ODC)

Unit Commitment Efficiency = 1-((Actual cost – Optimal cost)/(Actual cost – Sunk cost))

Day-Ahead Supply and Real-Time Load Obligation at the Peak Load Hour





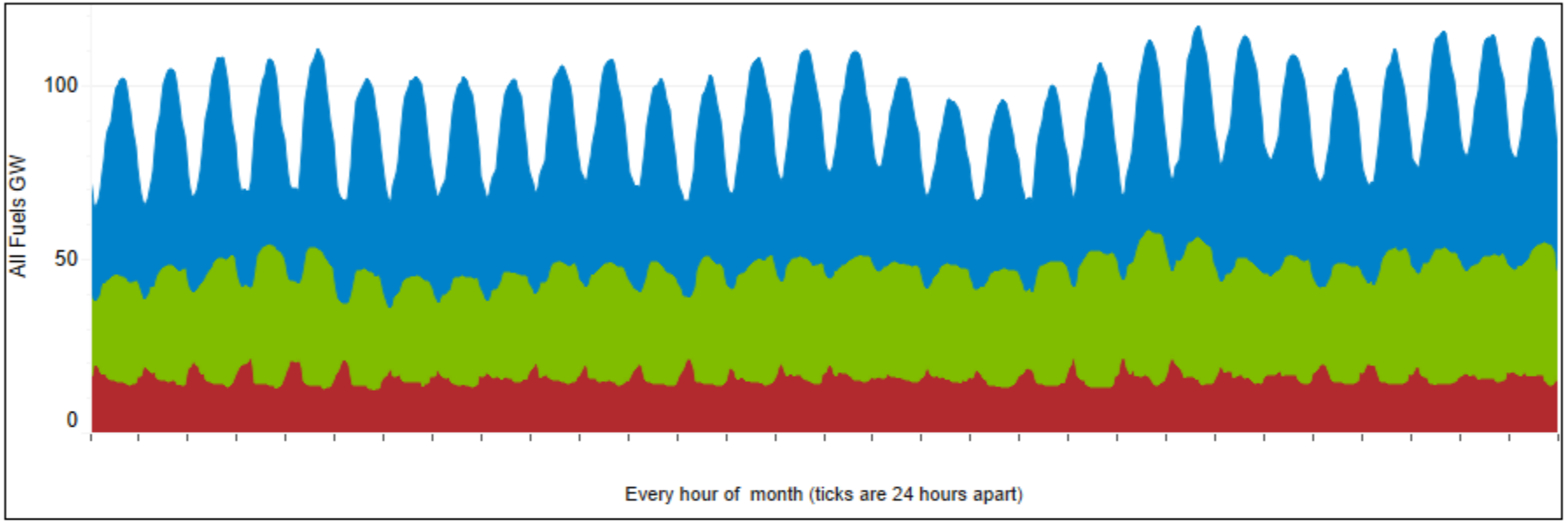
Incremental GW Commited in Real-Time

7/1	7/2	7/3	7/4	7/5	7/6	7/7	7/8	7/9	7/10	7/11	7/12	7/13	7/14	7/15	7/16	7/17	7/18	7/19	7/20	7/21	7/22	7/23	7/24	7/25	7/26	7/27	7/28	7/29	7/30	7/31
2.33	1.66	-2.40	-6.50	-2.04	-1.21	0.07	3.05	0.74	4.06	-2.70	-3.20	-0.77	-0.97	3.15	-15.87	-3.32	0.40	2.68	4.24	1.66	1.07	-1.79	-0.29	-0.78	0.23	2.59	-0.43	2.25	3.51	-2.70

Day-Ahead Supply is the Day-Ahead Economic Maximum received in Real-Time plus Behind-the-Meter plus Day-Ahead NSI at the Peak Hour
Real-Time Obligation is the Real-Time ICCP Load plus Real-Time Regulation Requirement plus Real-Time Spinning Requirement at the Peak Hour
Real-Time Increment is the Real-Time Obligation less Day-Ahead Supply at the Peak Hour
Percents calculated as Day-Ahead Supply divided by Real-Time Obligation

Source: MISO Market and Operations Analytics Department

Self Committed and Economically Dispatched Energy - July 2025

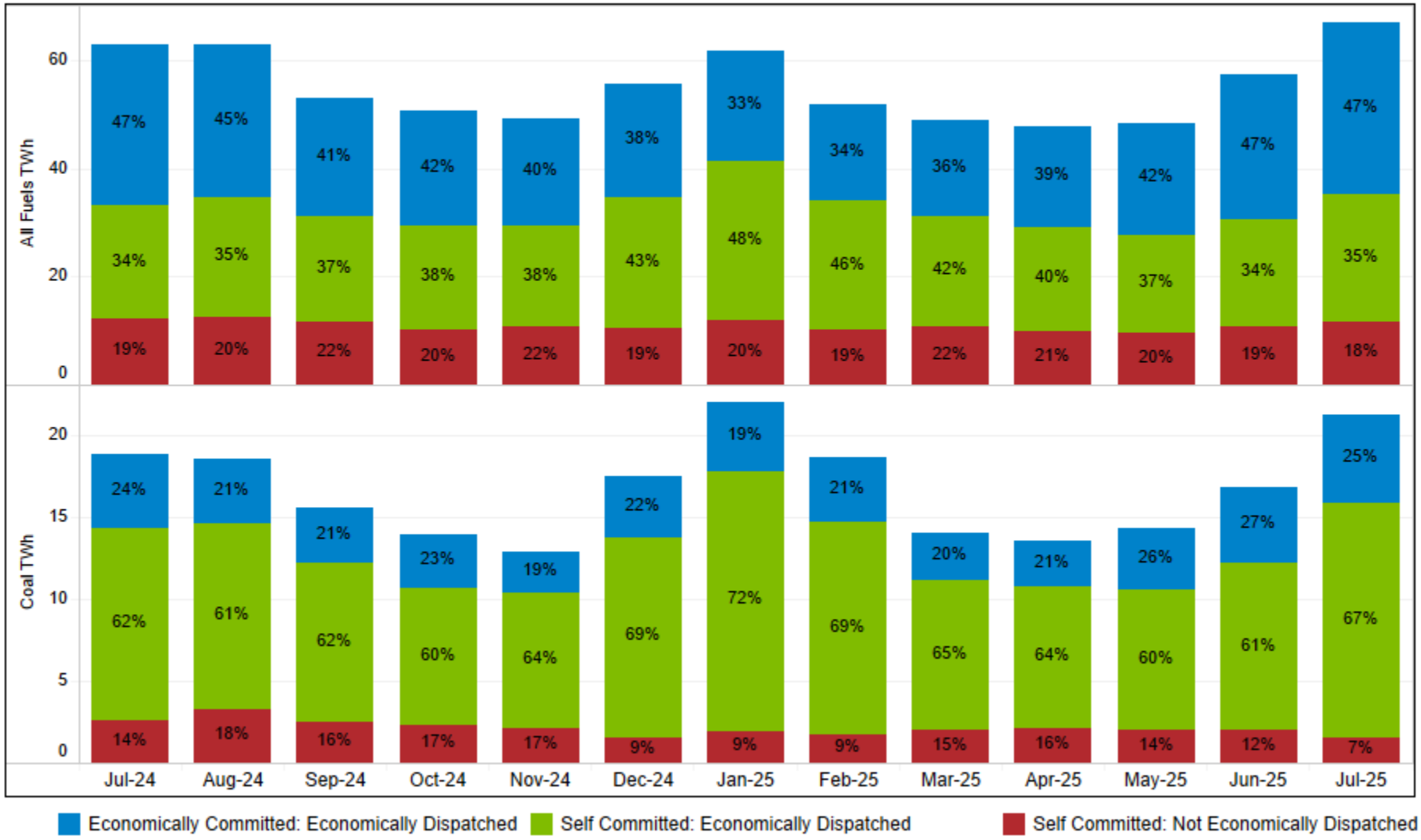


	All Fuels		Coal		Gas	
	TWh	%	TWh	%	TWh	%
Economically Committed: Economically Dispatched	31.7	47%	5.4	25%	22.0	77%
Self Committed: Economically Dispatched	23.5	35%	14.3	67%	5.4	19%
Self Committed: Not Economically Dispatched	11.7	18%	1.5	7%	1.0	4%
Grand Total	**66.9**	**100%**	**21.2**	**100%**	**28.4**	**100%**

Economically Committed: Economically Dispatched	Generation committed by MISO and dispatched on economic offers.
Self Committed: Economically Dispatched	Generation that is self-committed, but Resource Owners allow MISO to dispatch economically after the self-schedule portion of their resource offer is satisfied. Self-commitments can be used to manage local reliability, operational constraints, and fuel contract constraints.
Self Committed: Not Economically Dispatched	Energy from self-committed generation produced at its minimum level or is block-loaded and cannot be dispatched. Block Loaded energy is not necessarily uneconomic, but MISO has no ability to dispatch it based on economics.

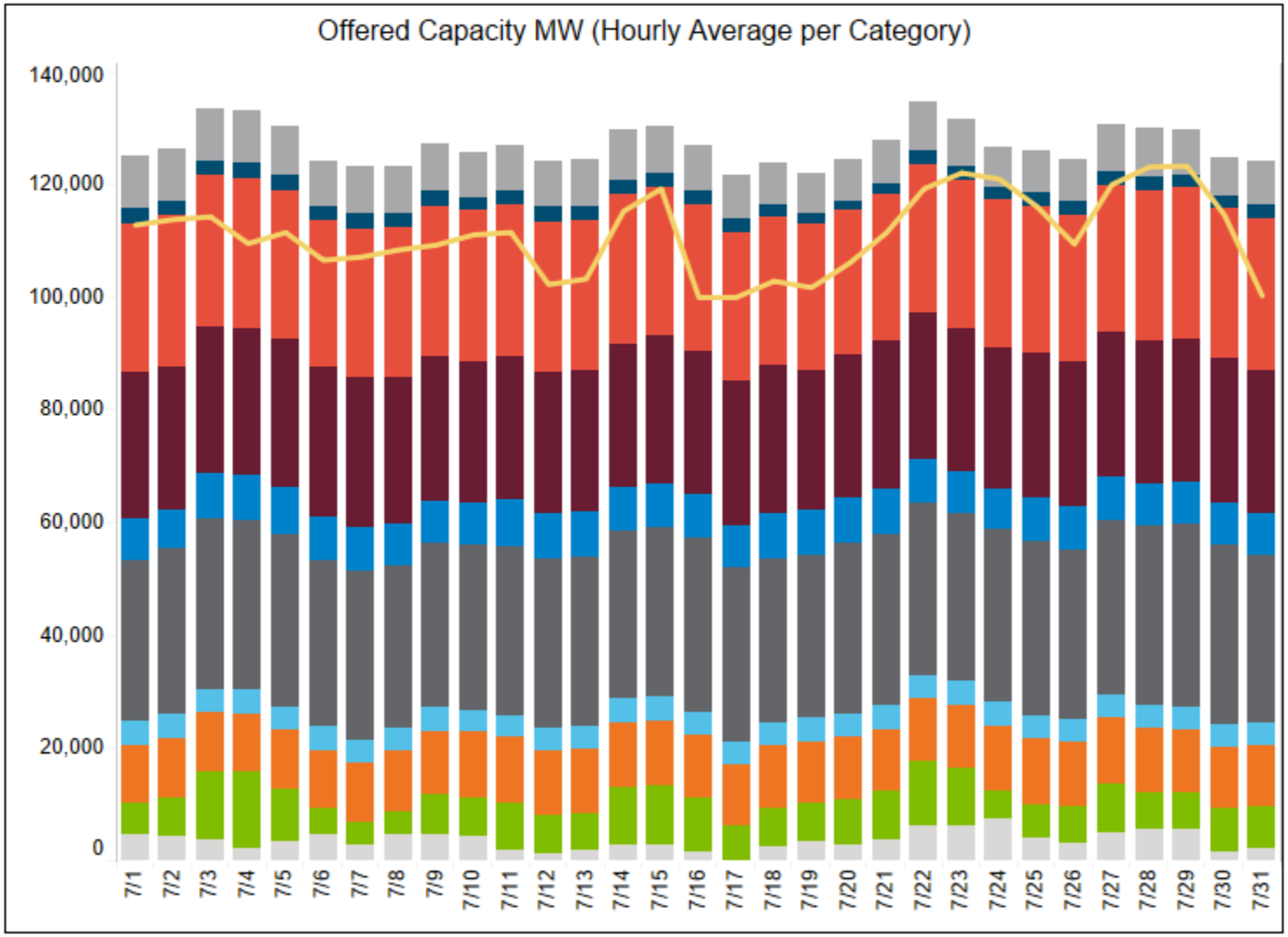
Source: MISO Market and Operations Analytics Department

Monthly Trend - Self Committed and Economically Dispatched Energy



Source: MISO Market and Operations Analytics Department

Offered Capacity and Real-Time Peak Load Obligation



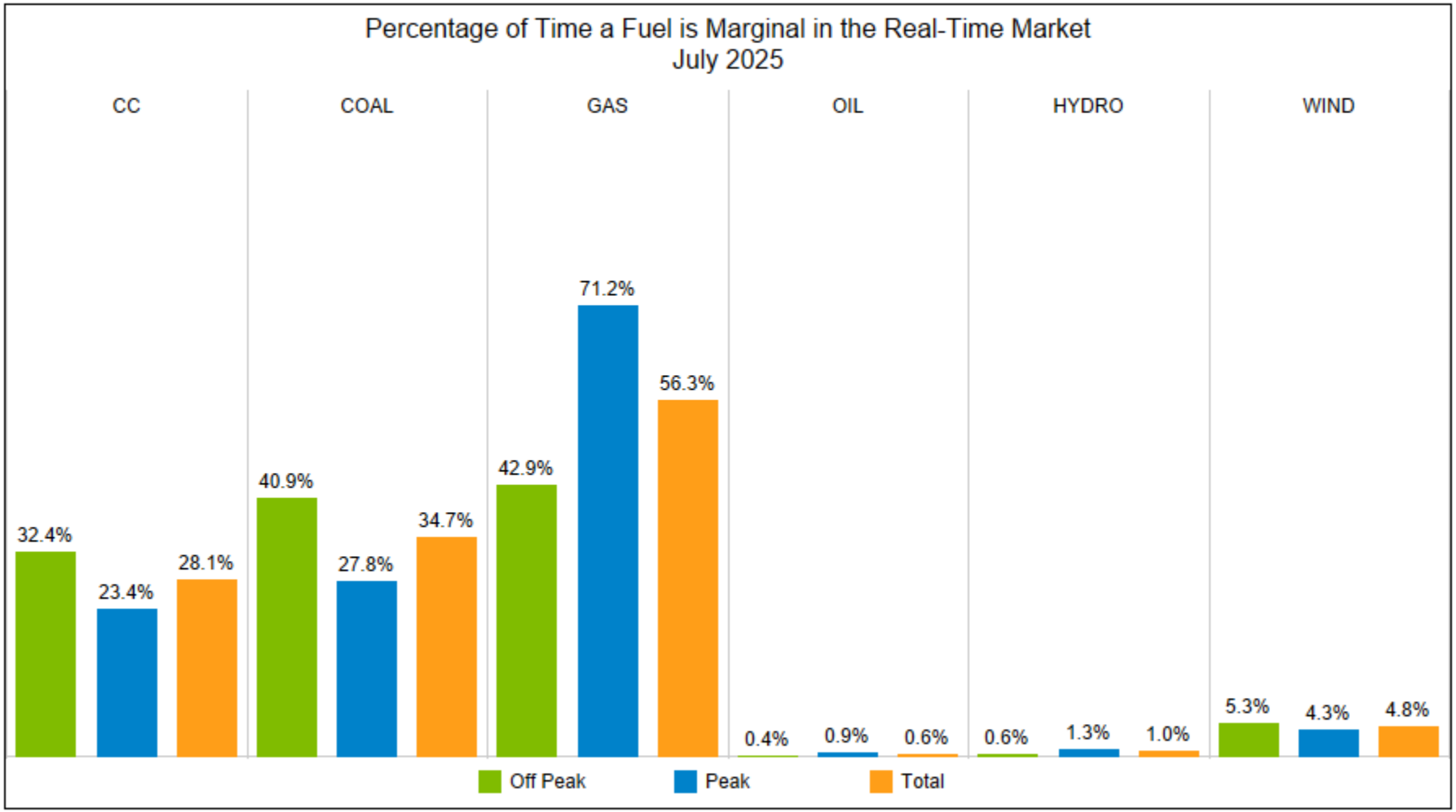
* Real-Time ICCP Load plus Real-Time Regulation Requirement plus Real-Time Spinning Requirement at the daily Peak hour.

** Other includes DRR, SER, pet coke, and waste units.

*** Gas excludes CC and CT.

Source: MISO Market and Operations Analytics Department

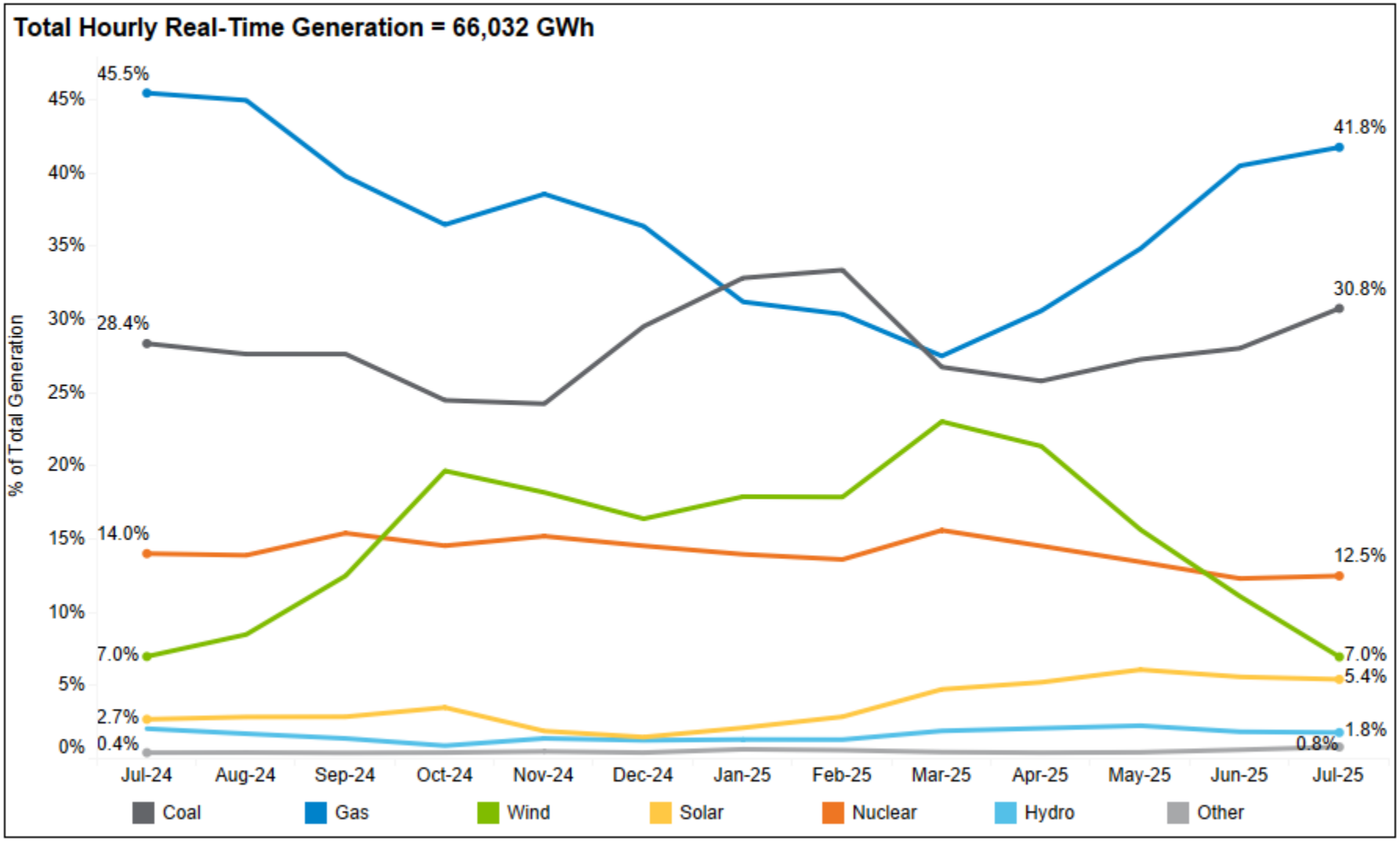
Marginal Fuel



Note: Binding transmission constraints can produce instances where more than one unit is marginal in the system. Consequently, more than one fuel may be on the margin; and since each marginal unit is included in the analysis, the percentage may sum to more than 100%.

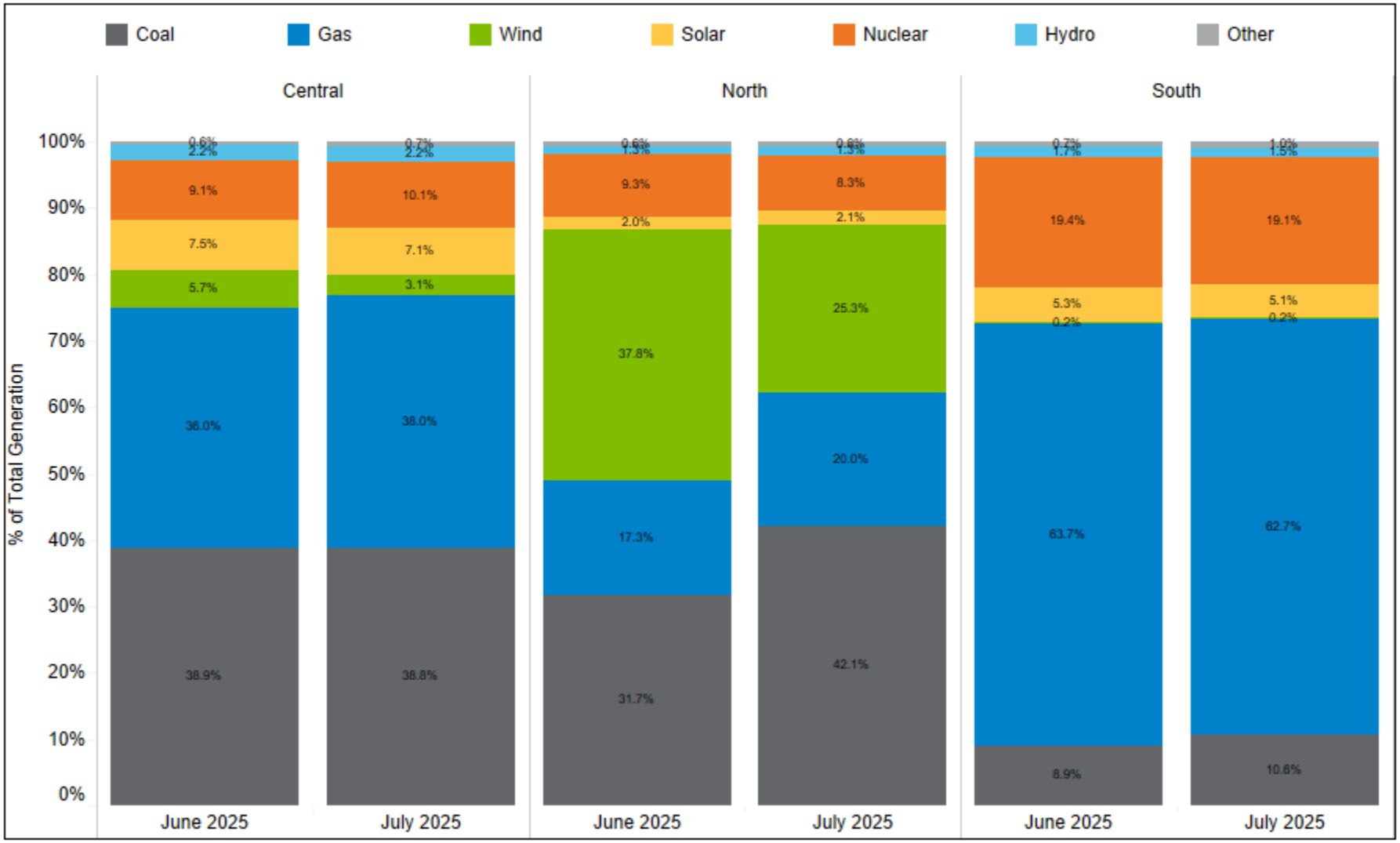
Source: MISO Market and Operations Analytics Department

Real-Time Generation Fuel Mix



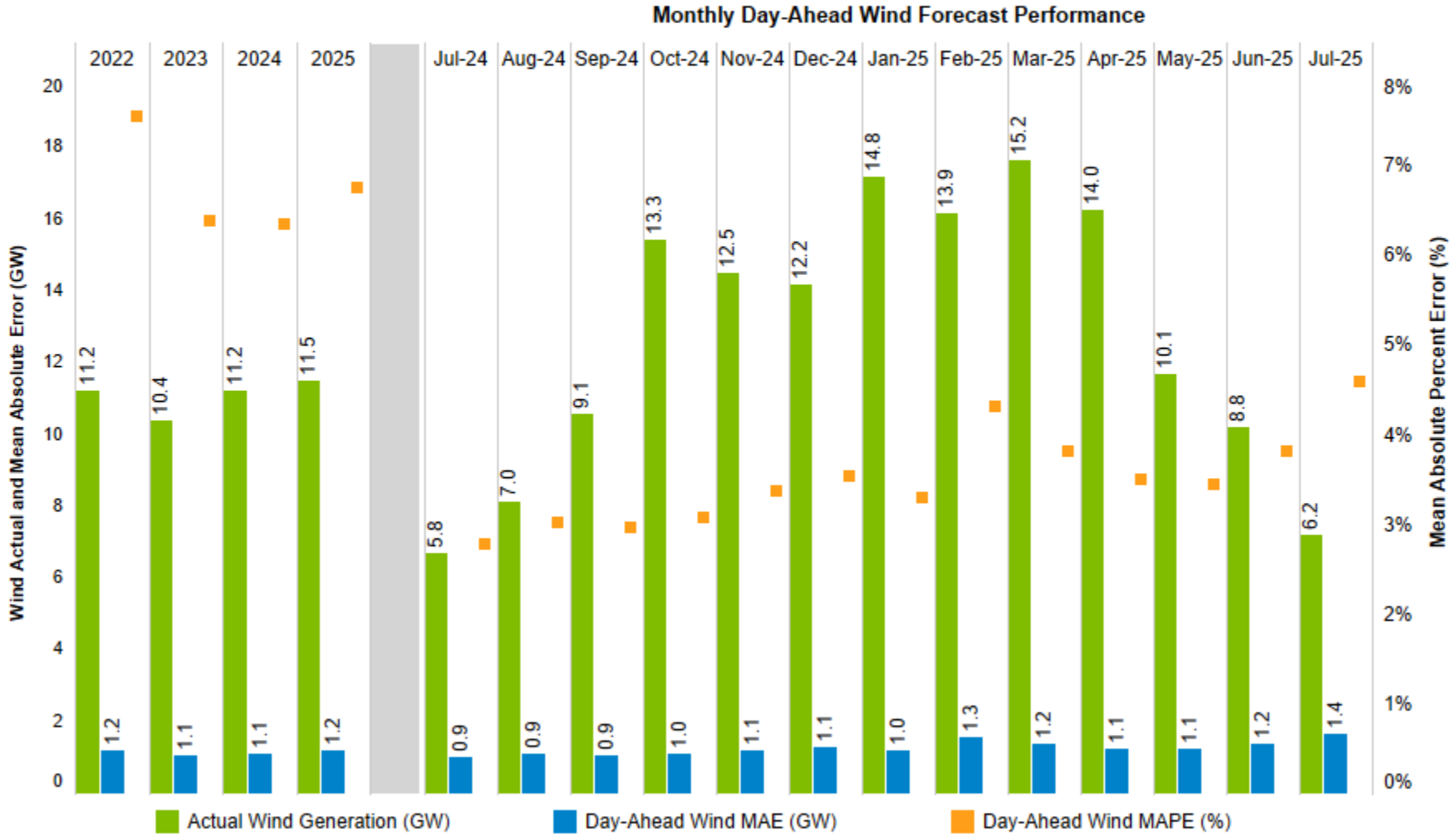
Based on hourly unit level state estimator data
Other includes: Battery, Oil, Pet Coke, Waste and Other fuels
Source: MISO Market and Operations Analytics Department

Real-Time Generation Fuel Mix by Region



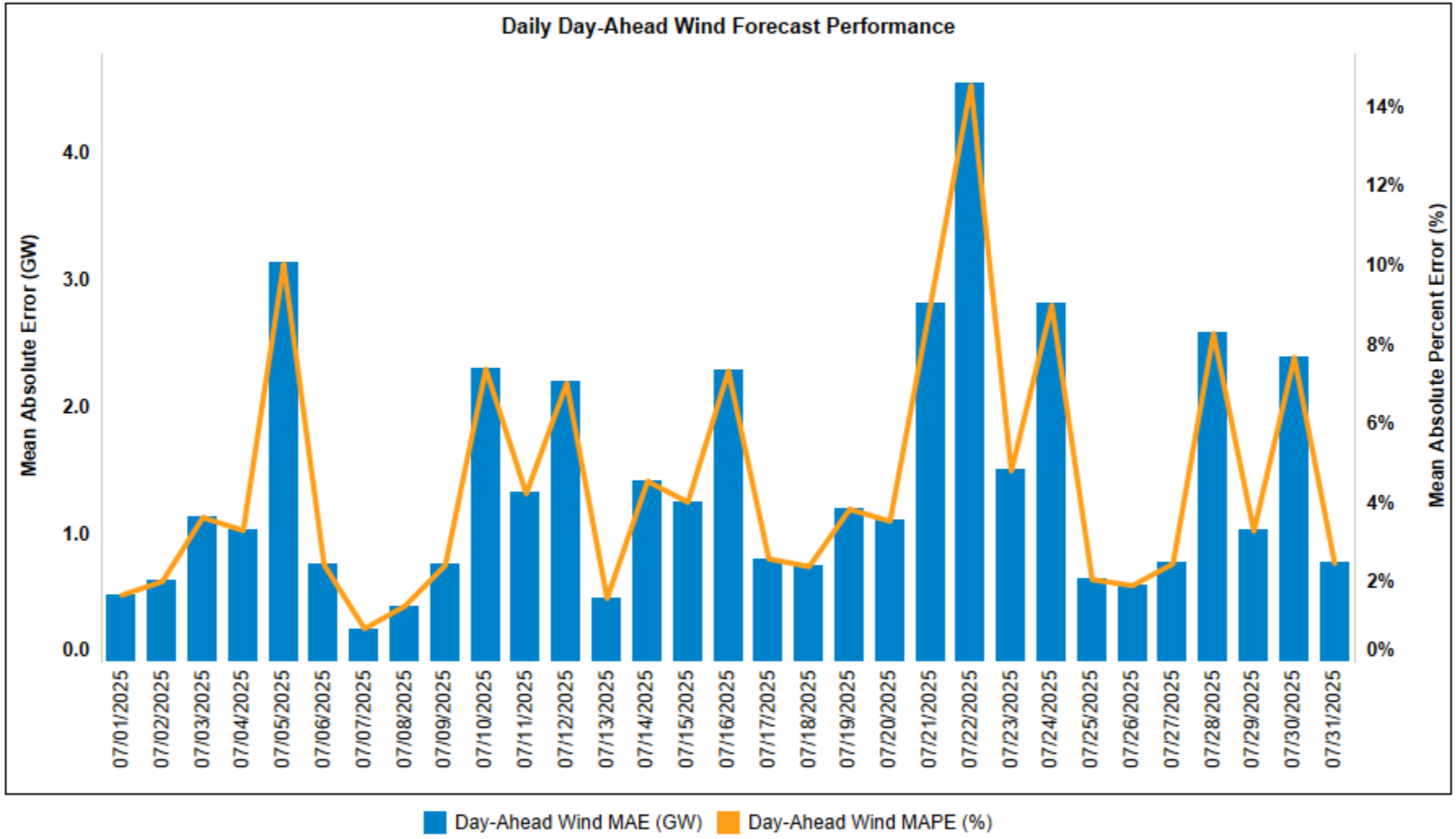
Based on hourly unit level state estimator data
Other includes: Battery, Oil, Pet Coke, Waste and Other fuels
Source: MISO Market and Operations Analytics Department

Monthly Day-Ahead Wind Forecast Performance: Mean Absolute Error (MAE) and Mean Absolute Percent Error (MAPE)



Source: MISO Operations Risk Management

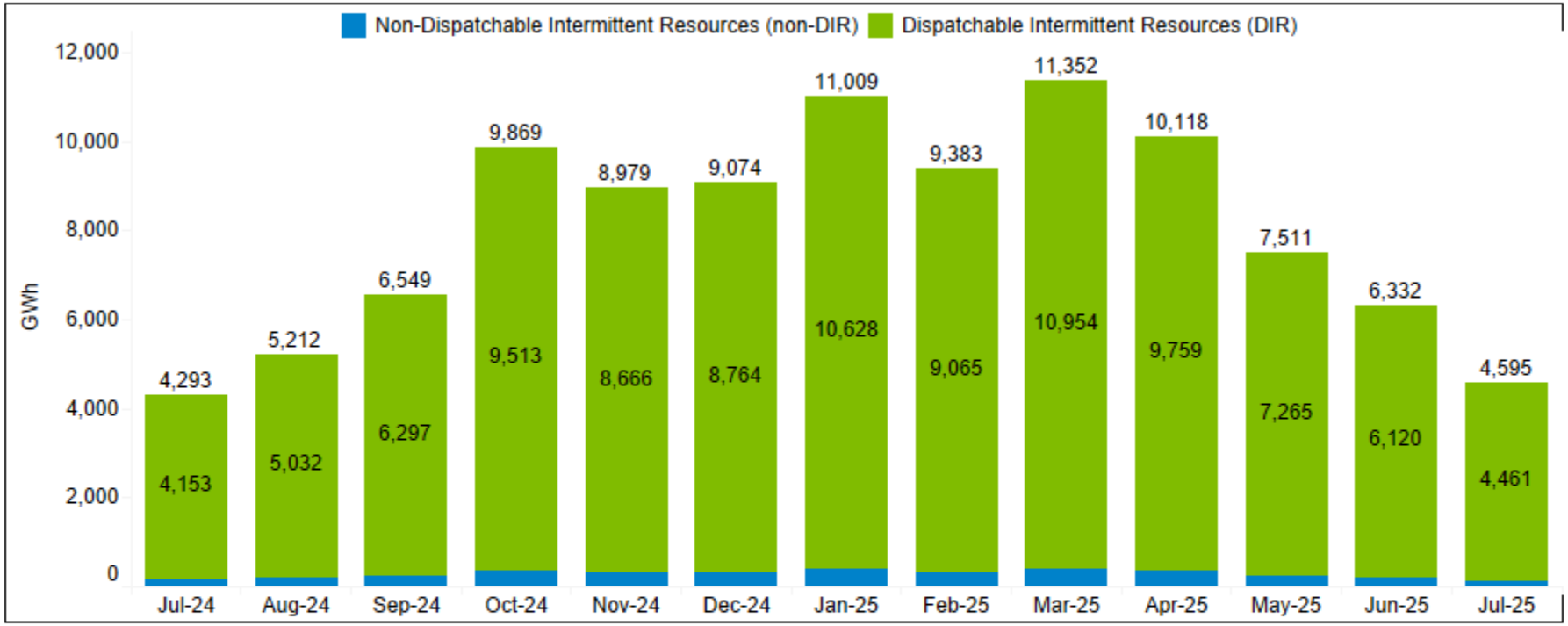
Daily Day-Ahead Wind Forecast Performance: Mean Absolute Error (MAE) and Mean Absolute Percent Error (MAPE)



Source: MISO Operations Risk Management

Monthly Wind Energy Generation

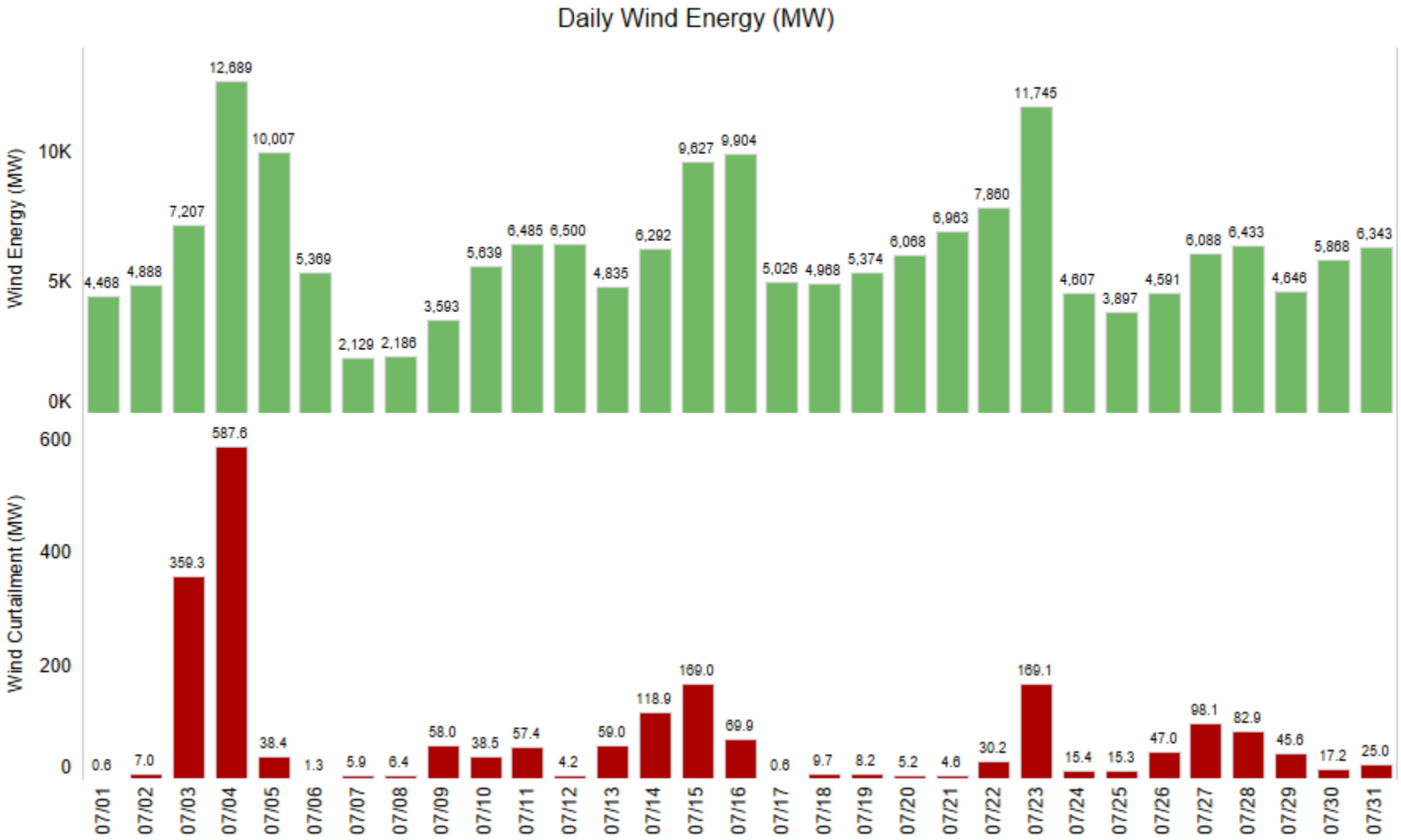
As of 06/04/2025
Registered Wind Capacity = 31,650 MW; Inservice Wind Capacity = 31,315 MW
Registered DIR Capacity = 30,122 MW; Inservice DIR Capacity = 29,787 MW



	Jul-24	Aug-24	Sep-24	Oct-24	Nov-24	Dec-24	Jan-25	Feb-25	Mar-25	Apr-25	May-25	Jun-25	Jul-25
Peak Wind Date and Hour Ending	7/1 23	8/6 4	9/12 24	10/30 2	11/20 16	12/4 11	1/28 21	2/28 22	3/23 15	4/28 19	5/16 21	6/21 15	7/5 1
Peak hourly wind output (MW)	18,465	15,418	16,944	22,683	21,272	24,044	25,218	24,646	24,172	23,582	22,803	21,086	15,404
Peak wind output as % of MISO load in that hour	24.0%	21.2%	24.2%	36.1%	29.0%	28.7%	31.2%	34.1%	34.6%	28.6%	28.6%	19.3%	19.2%
Wind Energy as a percent of MISO Energy	7.3%	8.8%	12.8%	19.9%	18.4%	16.3%	18.2%	18.1%	23.2%	21.5%	15.6%	11.3%	7.3%
DIR dispatch below Max as % of avail. DIR	2.1%	2.7%	4.9%	4.0%	3.4%	2.3%	3.3%	2.0%	3.1%	4.3%	3.3%	3.3%	1.3%

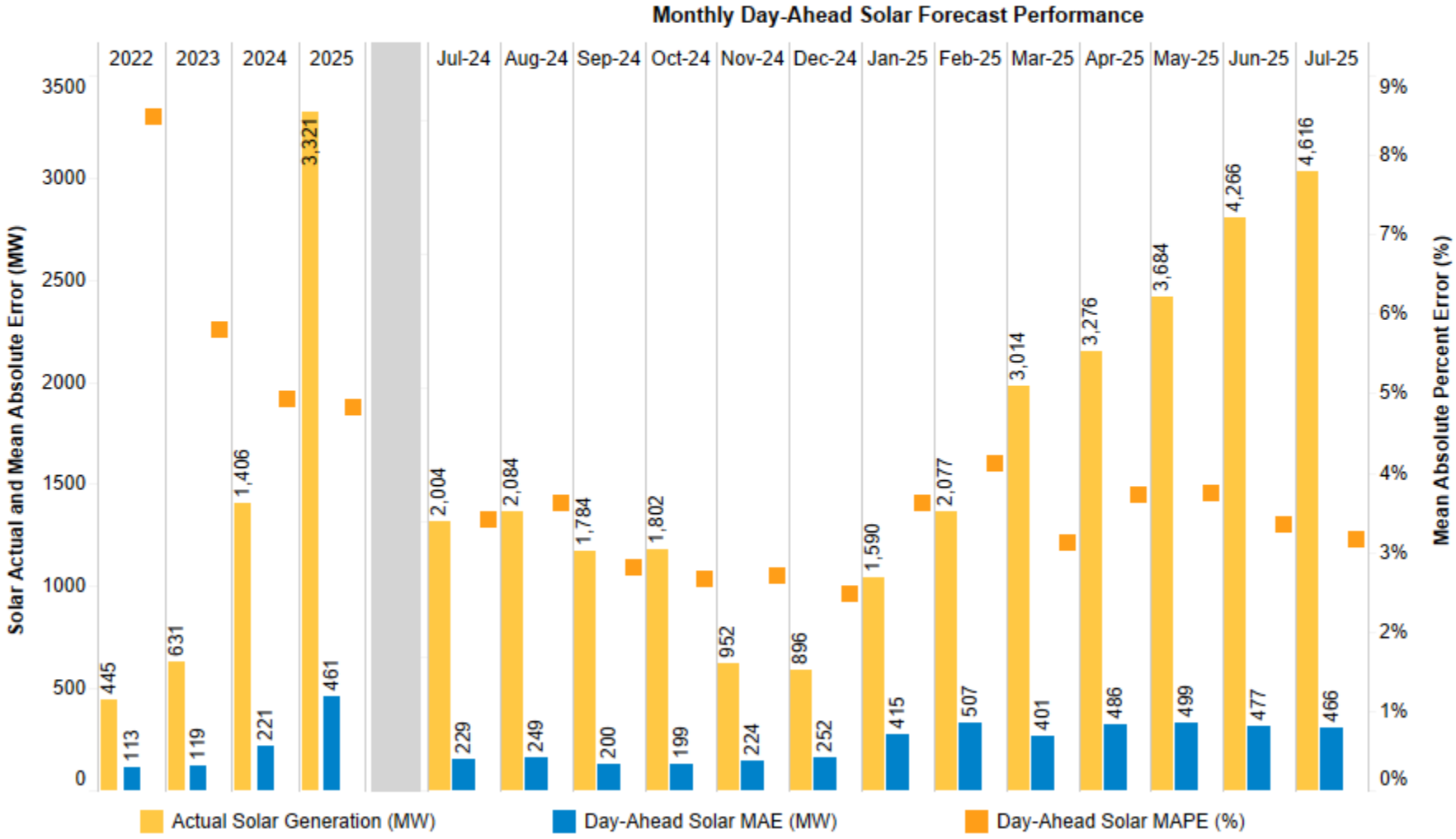
**Hourly State Estimator data*
Source: MISO Market and Operations Analytics Department

Daily Average Wind Energy and Curtailment



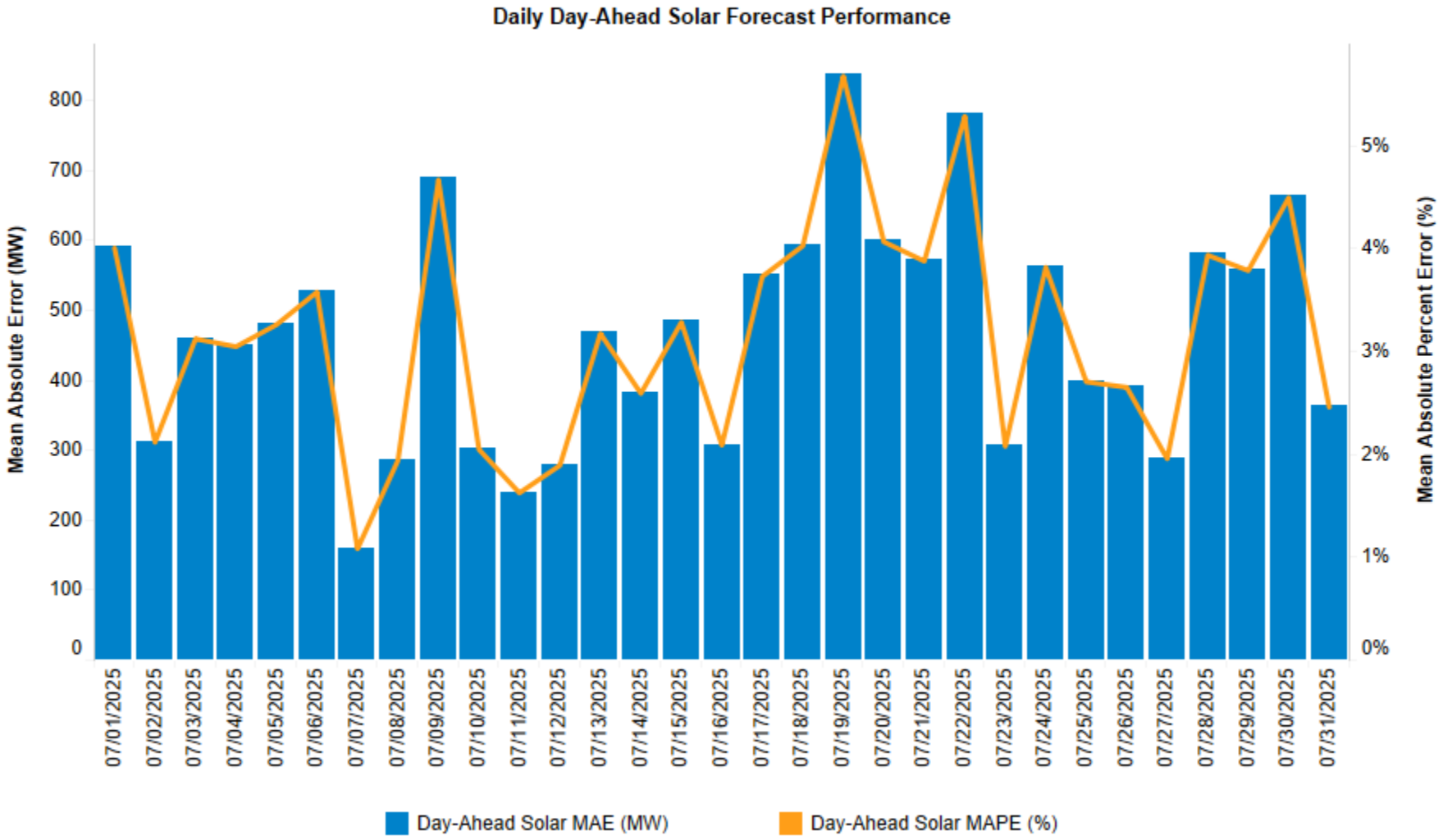
Source: MISO Market and Operations Analytics Department

Monthly Day-Ahead Solar Forecast Performance: Mean Absolute Error (MAE) and Mean Absolute Percent Error (MAPE)



Source: MISO Operations Risk Management

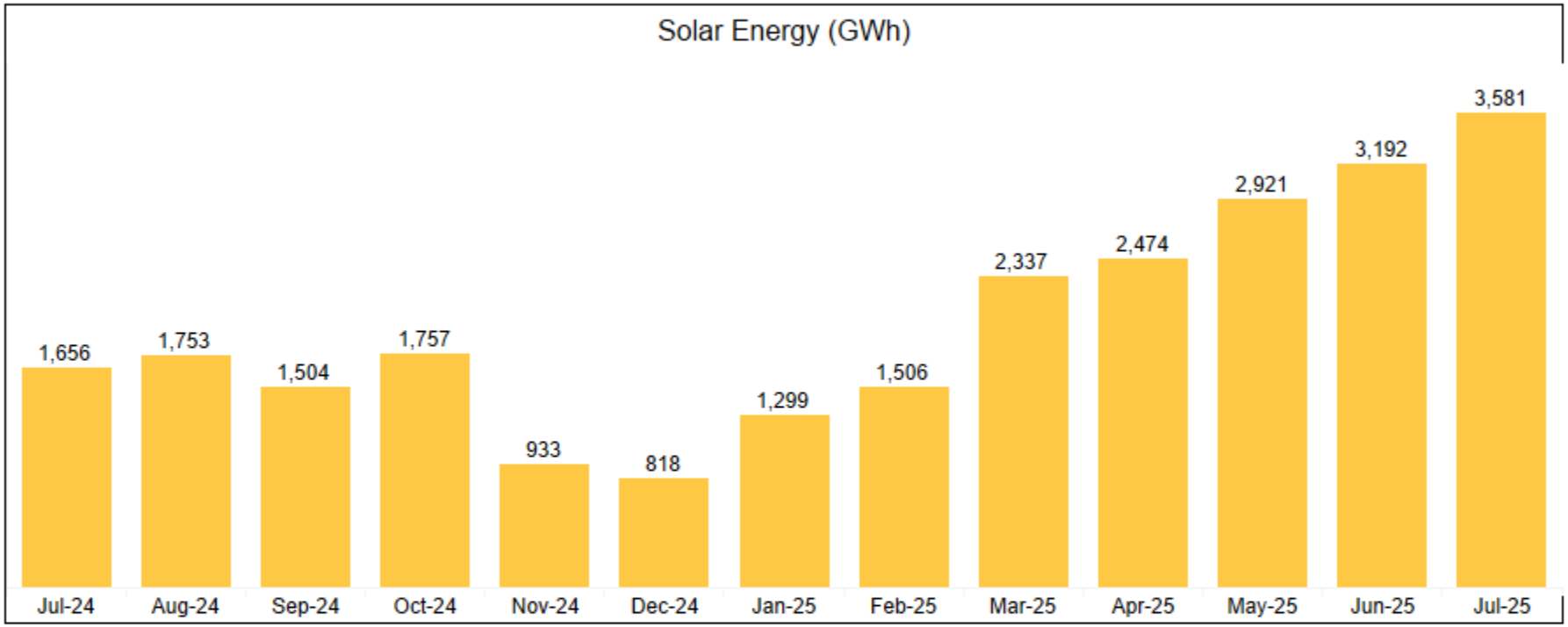
Daily Day-Ahead Solar Forecast Performance: Mean Absolute Error (MAE) and Mean Absolute Percent Error (MAPE)



Source: MISO Operations Risk Management

Monthly Solar Energy

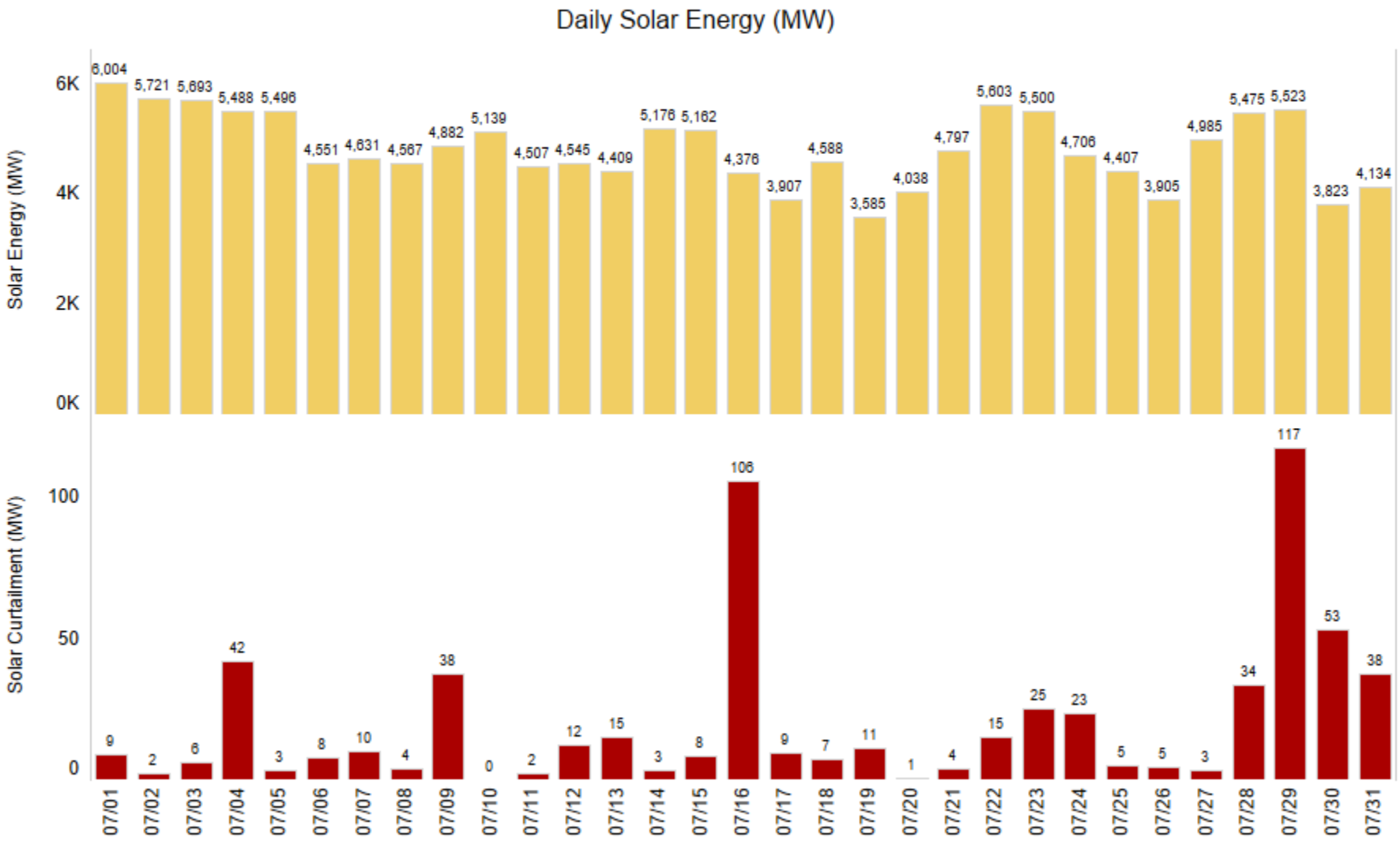
As of 06/04/2025
Registered Solar Capacity = 19,131 MW; Inservice Solar Capacity = 14,112 MW
Registered DIR Capacity = 18,959 MW; Inservice DIR Capacity = 13,940 MW



Peak Solar Date and Hour Ending	Jul-24 7/13 12	Aug-24 8/22 12	Sep-24 9/26 12	Oct-24 10/16 16	Nov-24 11/12 16	Dec-24 12/21 12	Jan-25 1/20 12	Feb-25 2/21 12	Mar-25 3/22 15	Apr-25 4/16 14	May-25 5/31 13	Jun-25 6/22 11	Jul-25 7/1 12
Peak Hour Solar Output (MW)	6,168	6,835	7,054	7,919	6,813	6,898	8,308	11,360	12,061	12,342	13,366	12,872	13,129
Peak Solar Output as a % of MISO Load in that hour	6.5%	8.3%	9.1%	11.5%	9.6%	8.7%	8.4%	12.4%	18.8%	18.0%	19.2%	12.9%	13.3%
Solar Energy as a % of MISO Energy	3.2%	3.8%	3.5%	4.7%	2.6%	2.0%	2.6%	3.5%	6.0%	5.4%	6.0%	6.0%	5.5%
DIR Dispatch below MAX as a % of avail. DIR	-0.5%	-0.5%	0.4%	-0.3%	-0.6%	-3.1%	-1.9%	0.1%	1.1%	0.5%	-0.1%	-0.1%	-0.4%

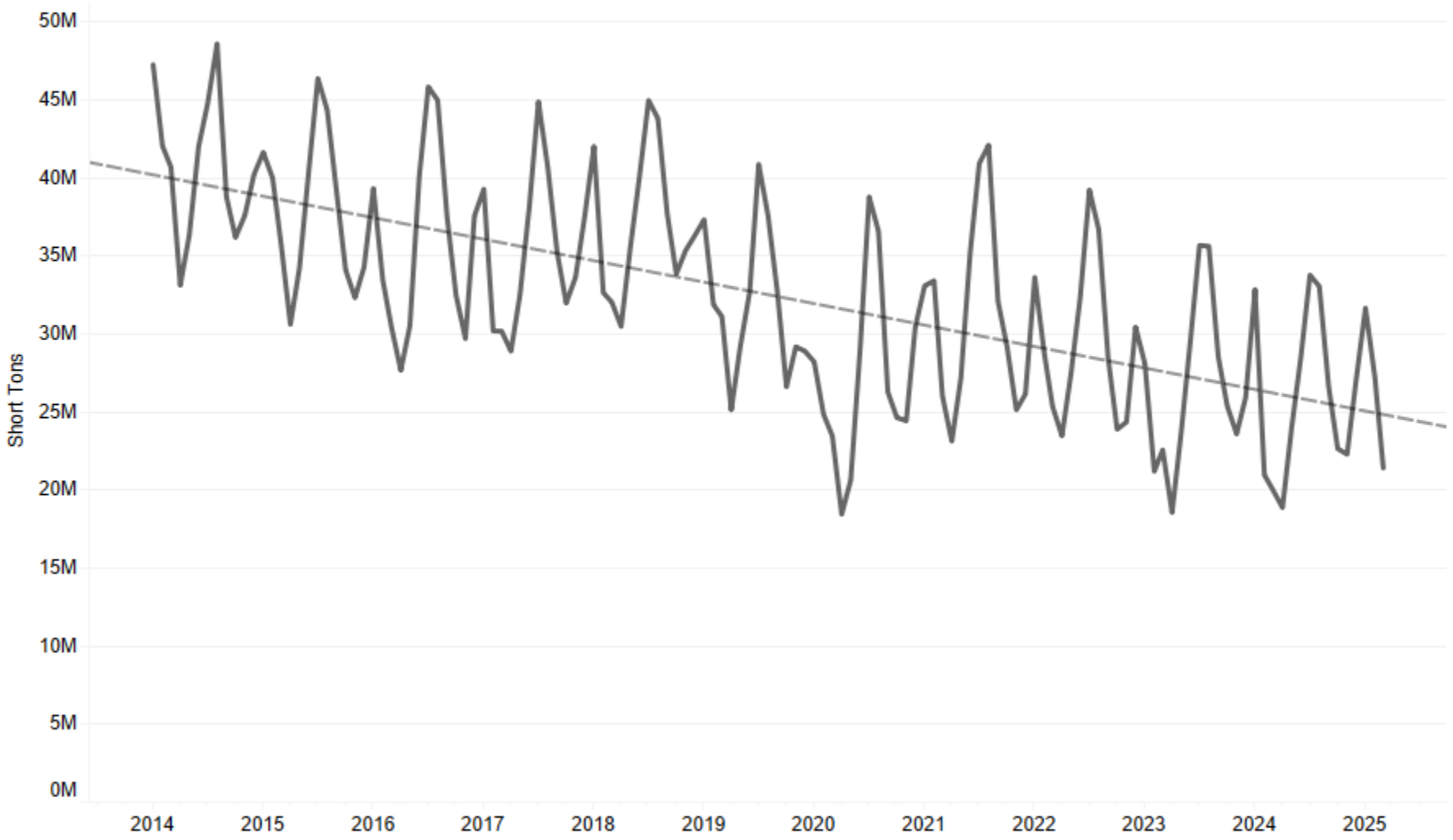
**Hourly State Estimator data*
Source: MISO Forecast Department

Daily Average Solar Energy and Curtailment



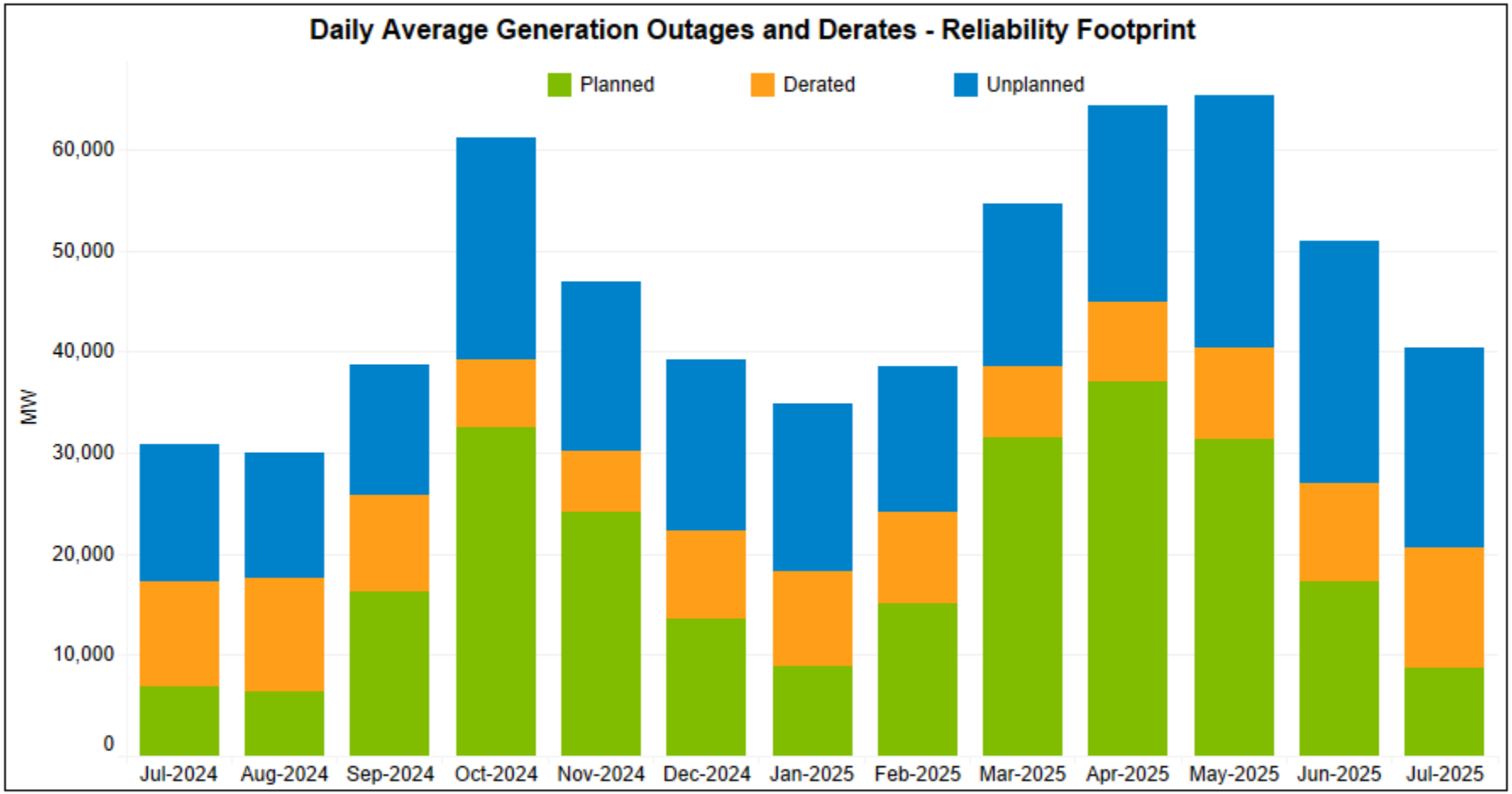
Source: MISO Market and Operations Analytics Department

Carbon Emissions



Data Source: EPA emissions through March 2025 and EPA EIA-860 2023
Emissions generated from MISO generators and does not account for volume of imports or exports
One Short Ton = 2000 lbs

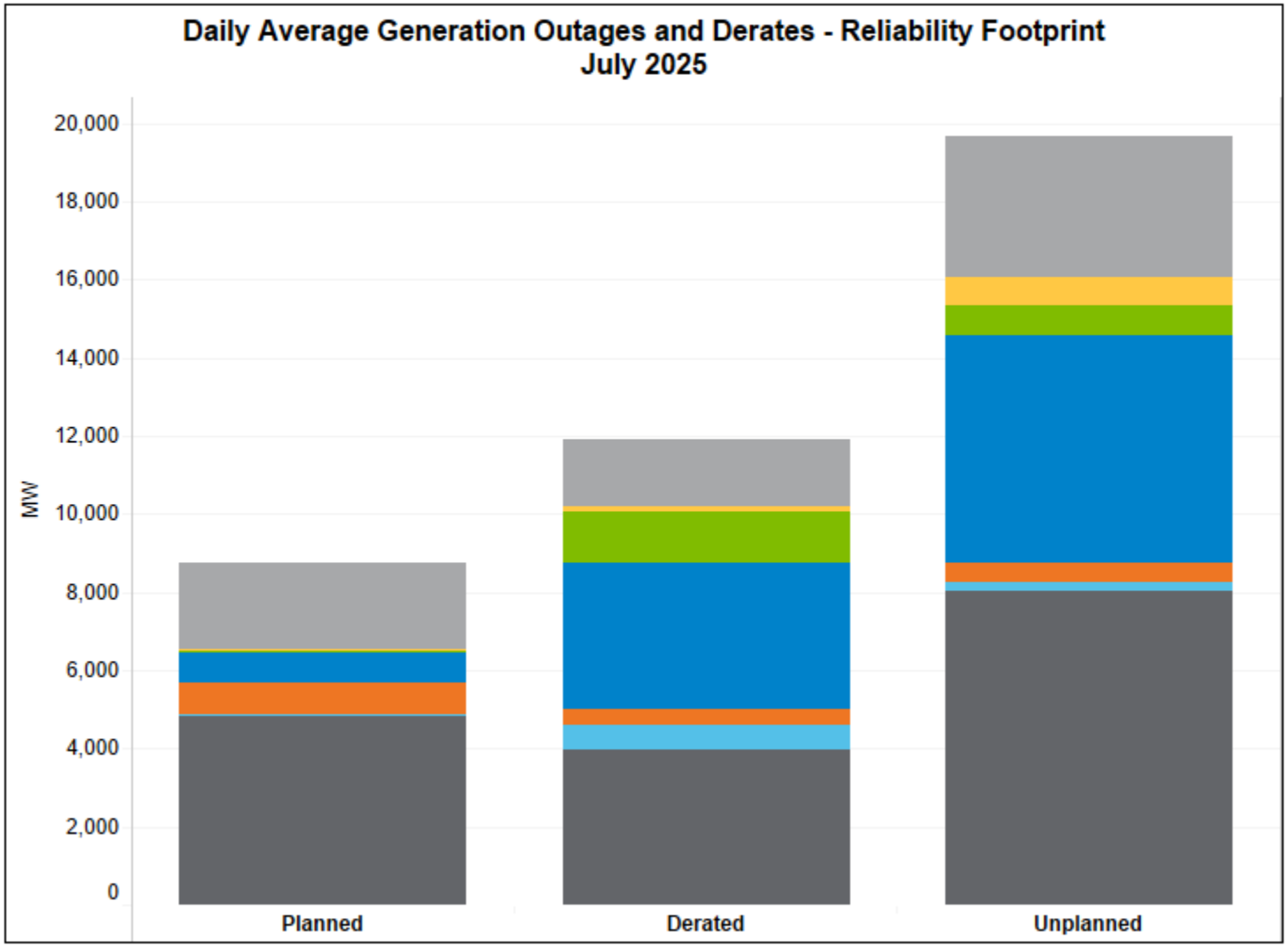
Generation Outages and Derates



Notes:
- *Unplanned Outages include Emergency, Forced, and Urgent*
- *Planned Outages include Planned*
- *De-rates are based on limits observed in Real-Time and may not reflect normal seasonal de-rates or de-rates for maintenance or other operating conditions*

Outage data is "point in time" and can change; the chart reflects the data as it resided in the system on the date of extraction
Source: MISO CROW Outage Scheduler

Generation Outages by Fuel

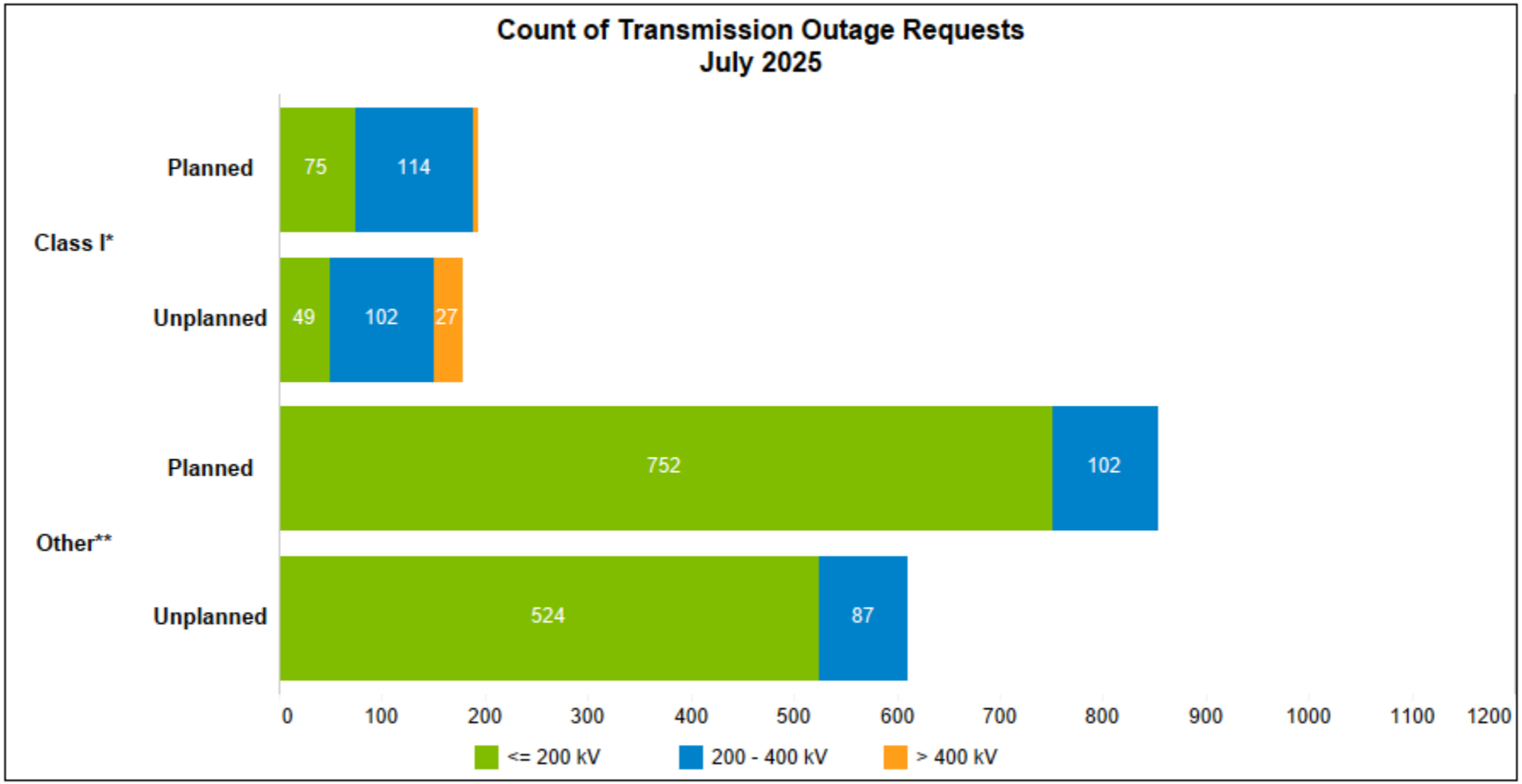


Notes:
- *Other includes Oil ,Hydro, Pet coke, Waste, BTMG, and units not in market footprint*
- *Unplanned Outages include Emergency, Forced, and Urgent*
- *Planned Outages include Planned*
- *De-rates are based on limits observed in Real-Time and may not reflect normal seasonal de-rates or de-rates for maintenance or other operating conditions*

Coal
Hydro
Nuclear
Gas
Wind
Solar
Other

Outage data is "point in time" and can change; the chart reflects the data as it resided in the system on the date of extraction
Source: MISO CROW Outage Scheduler

Transmission Outages



Notes:
- *Class 1 is any facility which has a reliability or market impact on transmission system operations*
- *Other is any facility which does NOT have a reliability or market impact on transmission system operations*
- *Unplanned Outages include Emergency, Forced, Discretionary and Urgent*
- *Planned Outages include Planned, Opportunity*

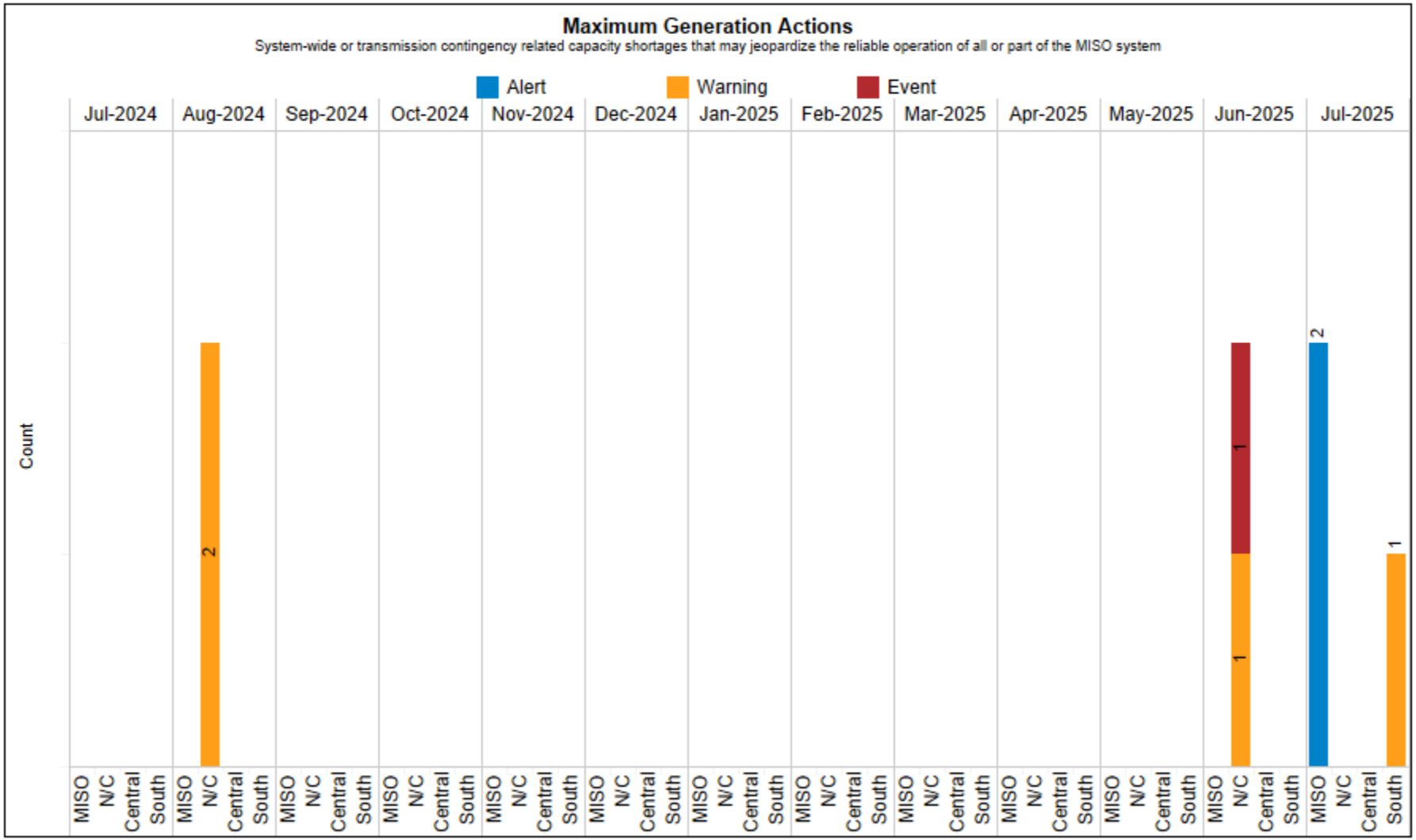
Outage data is "point in time" and can change; the chart reflects the data as it resided in the system on the date of extraction
Source: MISO CROW Outage Scheduler

MISO Inadvertent Balance

Month/Year	Net	On-Peak	Off-Peak
6/1/2024	-21,123	-10,382	-10,741
7/1/2024	-33,949	-12,863	-21,086
8/1/2024	-39,602	-15,448	-24,154
9/1/2024	-79,156	-36,769	-42,387
10/1/2024	-37,833	-17,446	-20,387
11/1/2024	-5,440	-2,237	-3,203
12/1/2024	-1,006	624	-1,630
1/1/2025	11,913	7,358	4,555
2/1/2025			
3/1/2025			
4/1/2025			
5/1/2025			
6/1/2025			
7/1/2025			
Running Total from 2009	-95,937	-88,521	-7,416

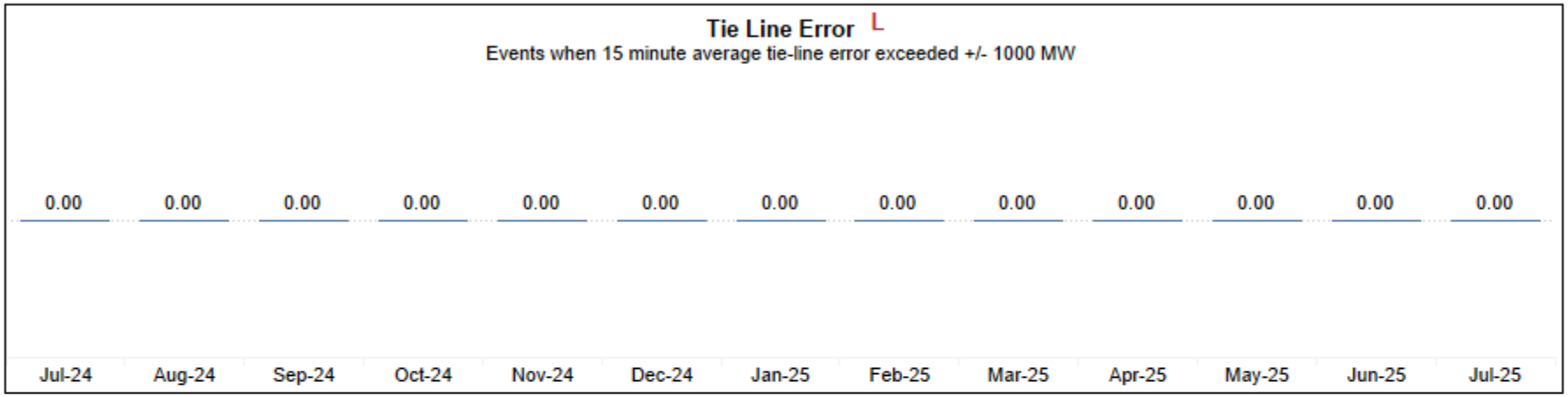
Source: NERC Tool (As of May 10, 2025)

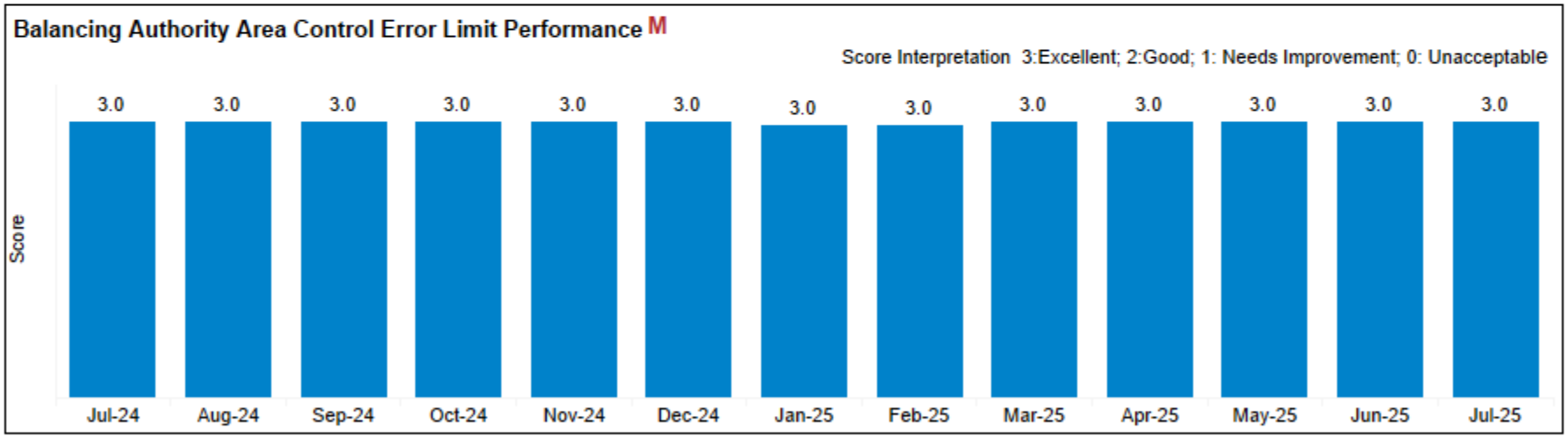
Generation Notifications



* Alerts – forecasting specific emergency situations in a future time-frame
* Warnings – experiencing initial stages of an emergency situation and taking action
* Events – experiencing an emergency situation and taking action

Tie Line and BAAL Performance

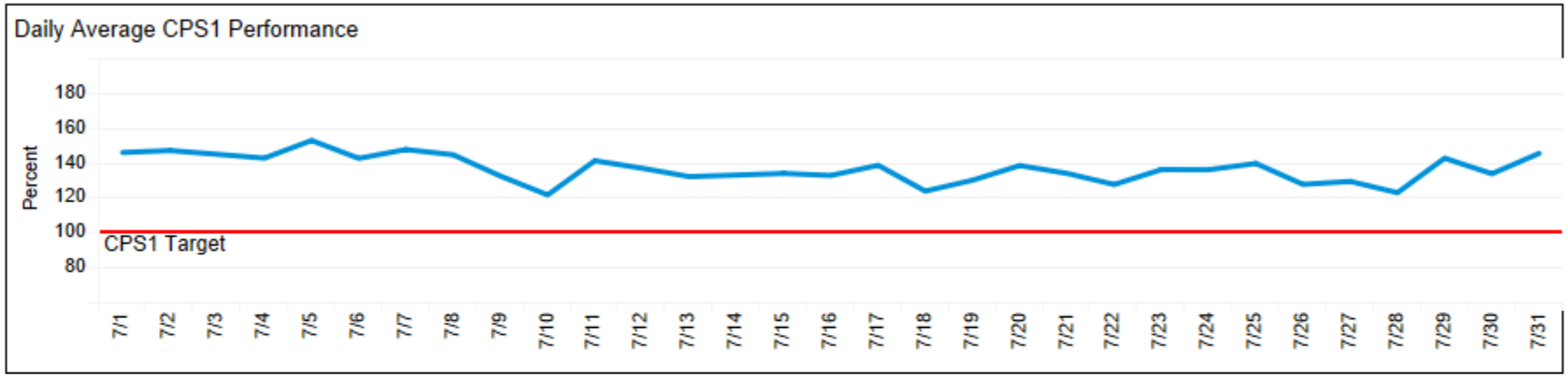


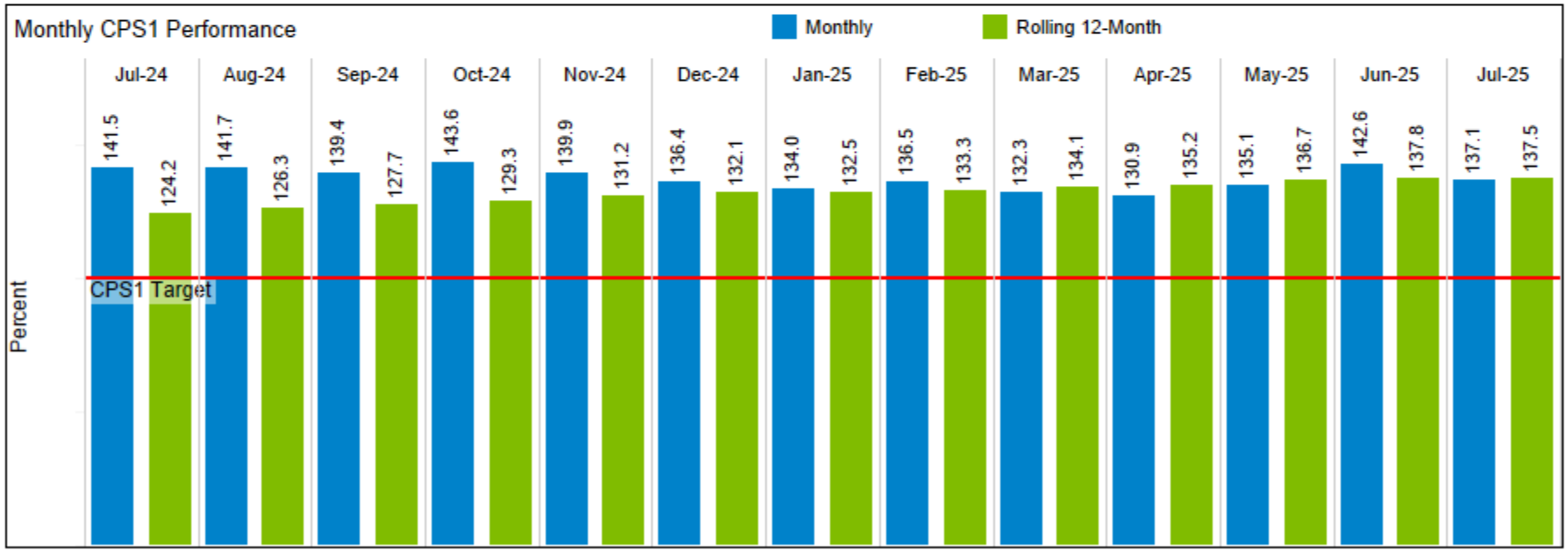


The Balancing Authority Area Control Error Limit (BAAL) measures control performance over the short-term. Exceeding BAAL for a continuous time period greater than 30 minutes constitutes a non-compliant event. The daily MISO BAAL performance rating is the lowest scored incident of the day.

Source: MISO Real-Time Operations Department

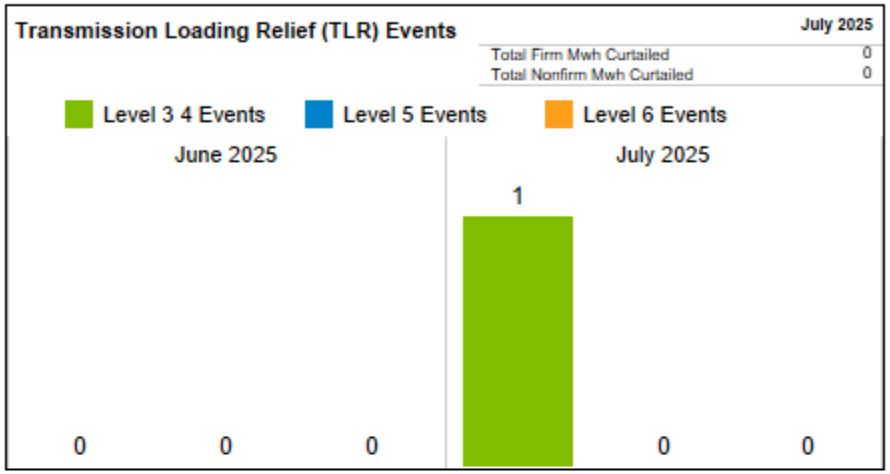
CPS1 Performance

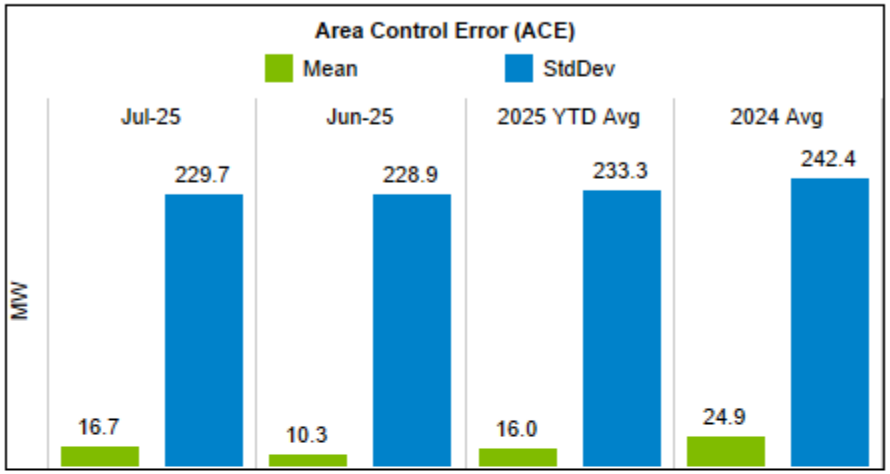


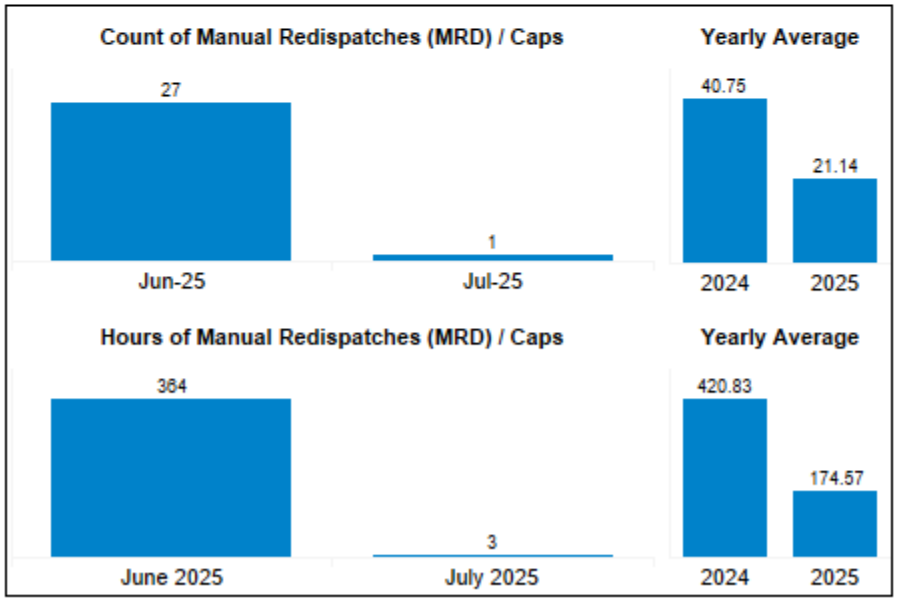


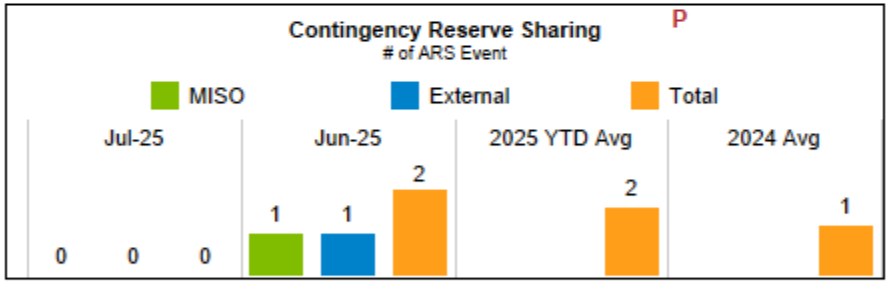
Per NERC Standard BAL-001-0 and MISO OP-044, the MISO will monitor CPS 1 performance and implement actions to ensure the MISO's rolling 12-month CPS 1 performance exceeds 100%
Source: MISO Real-Time Operations Department

Reliability — Other Metrics









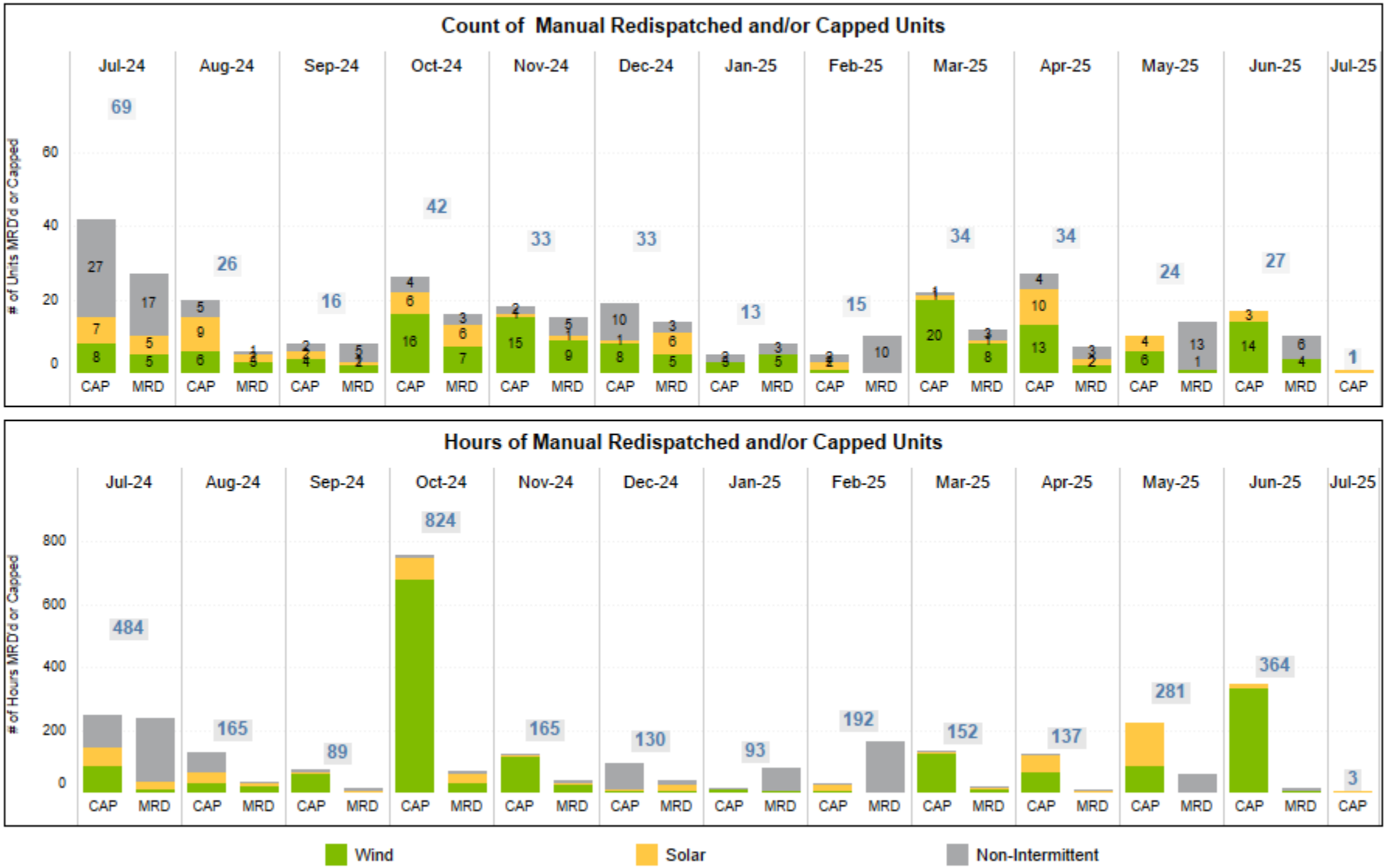
MISO deployed Contingency Reserves **

Date	HE	Deployment Type	MW
6/1/2025	19	OFFLINE	79
		ONLINE	1,227
6/17/2025	5	OFFLINE	338
		ONLINE	961

Source: MISO Real-Time Operations Department

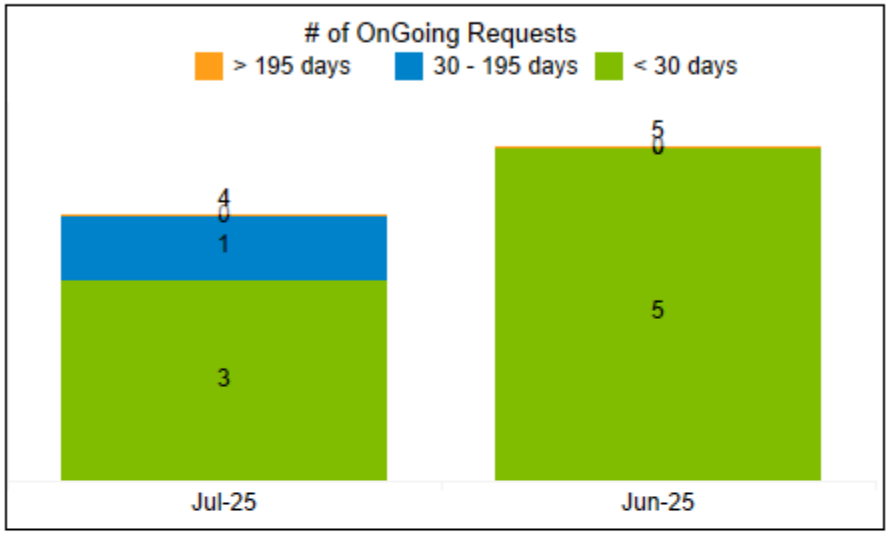
**Historical Contingency Deployment data located in *Related Documents* at
https://cdn.misoenergy.org/202001-202103%20Additional%20Information%20Historical%20Contingency%20Deployment%20Data548321.pdf /

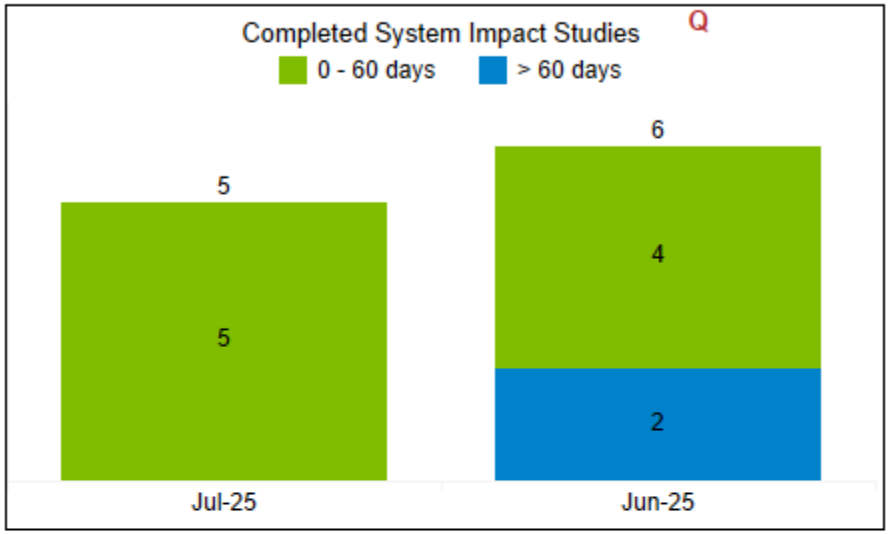
Operator Actions - Manual Redispatch and Caps

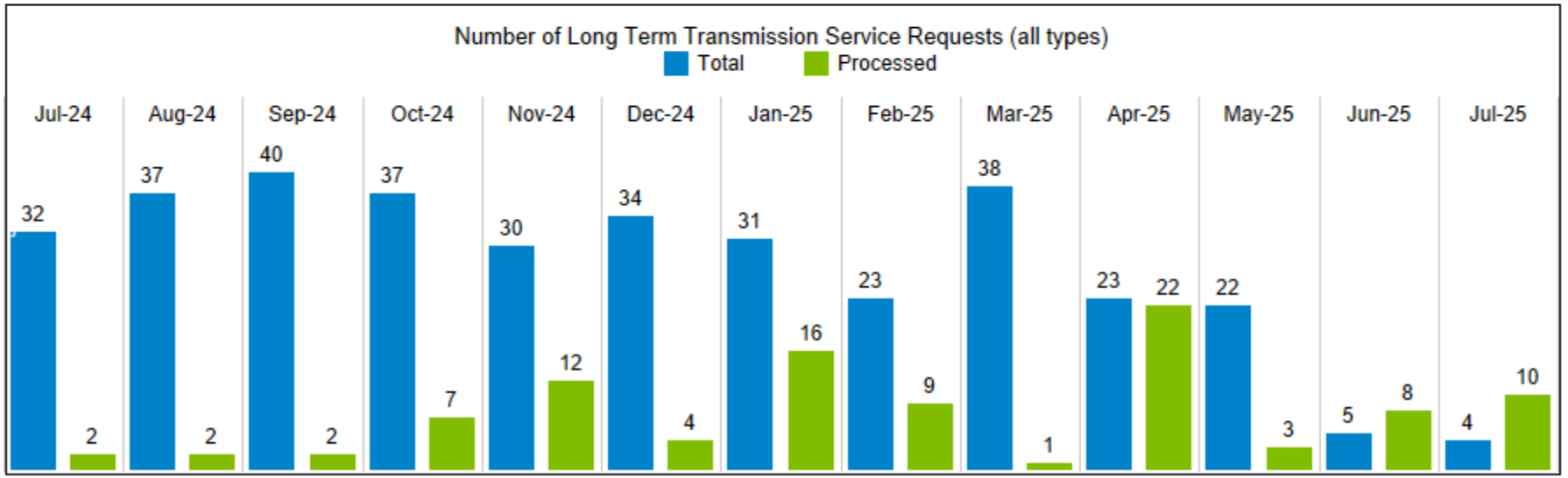


Source: MISO Market and Operations Analytics Department

Transmission Service Request

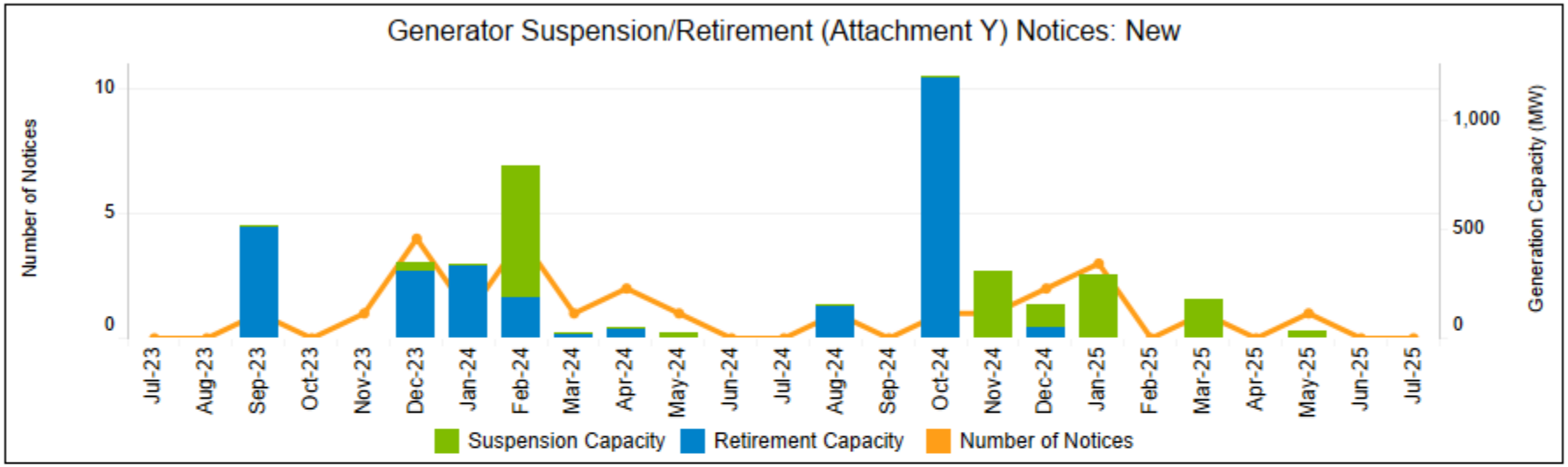


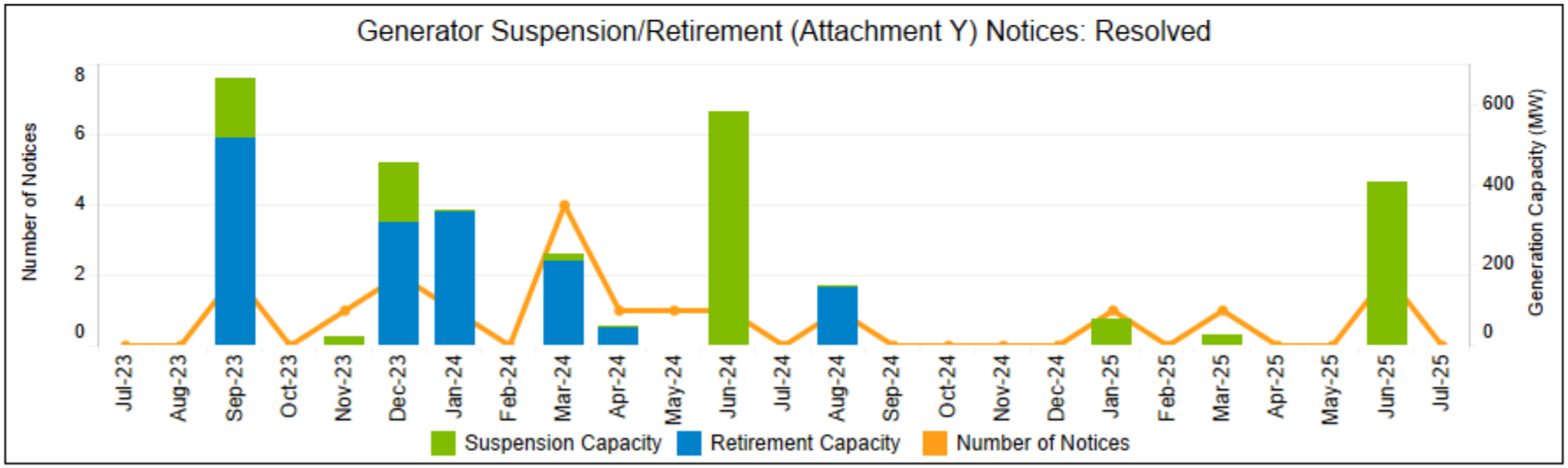




Source: MISO Resource Utilization

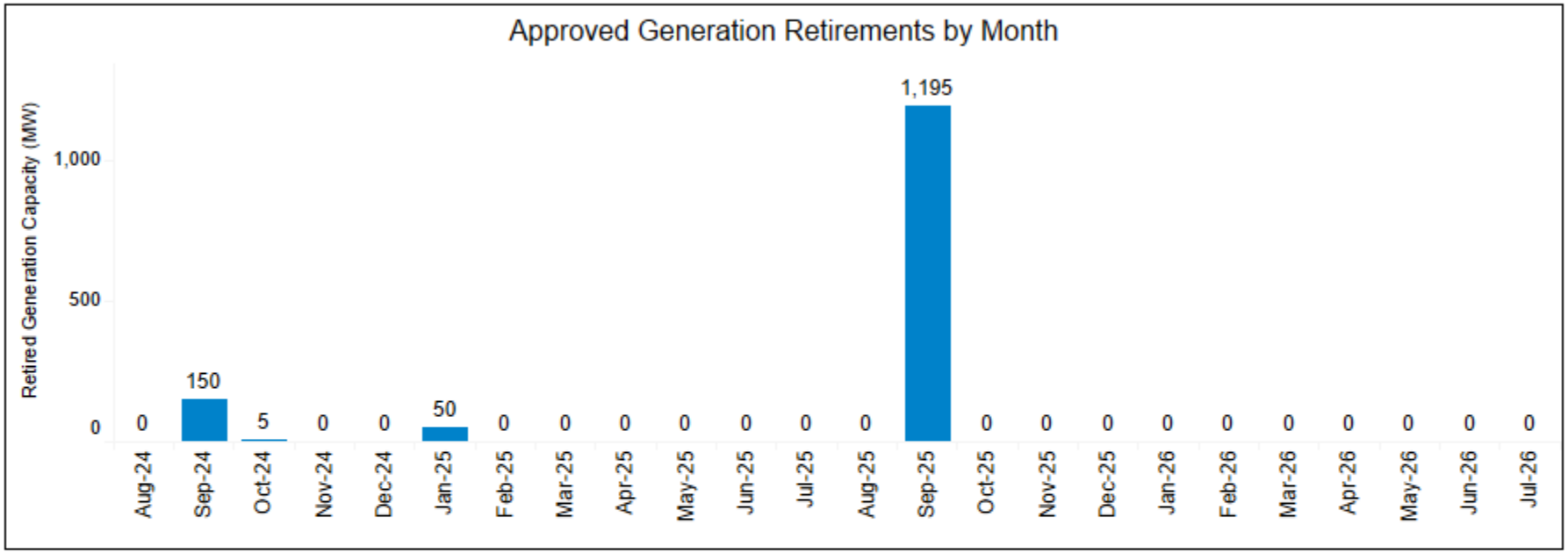
Generator Suspension/Retirement - New and Resolved

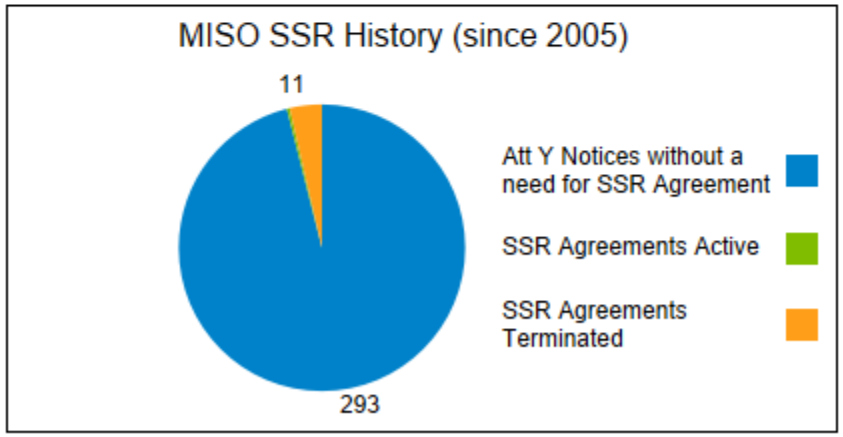




Source: MISO Transmission Planning Department

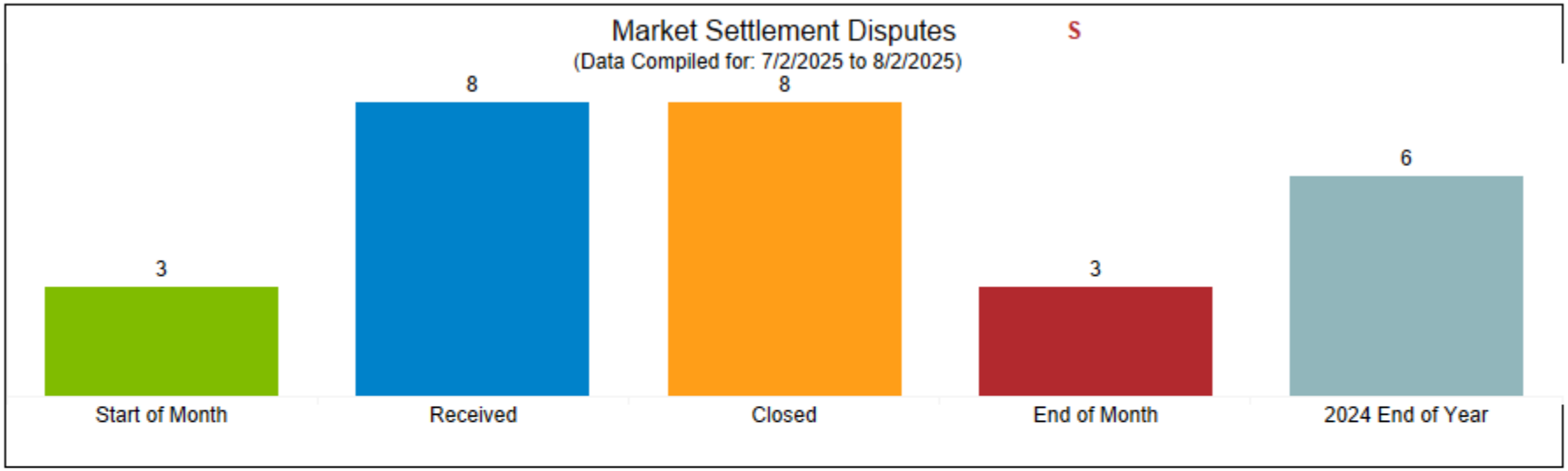
Generator Suspension/Retirement - Overall

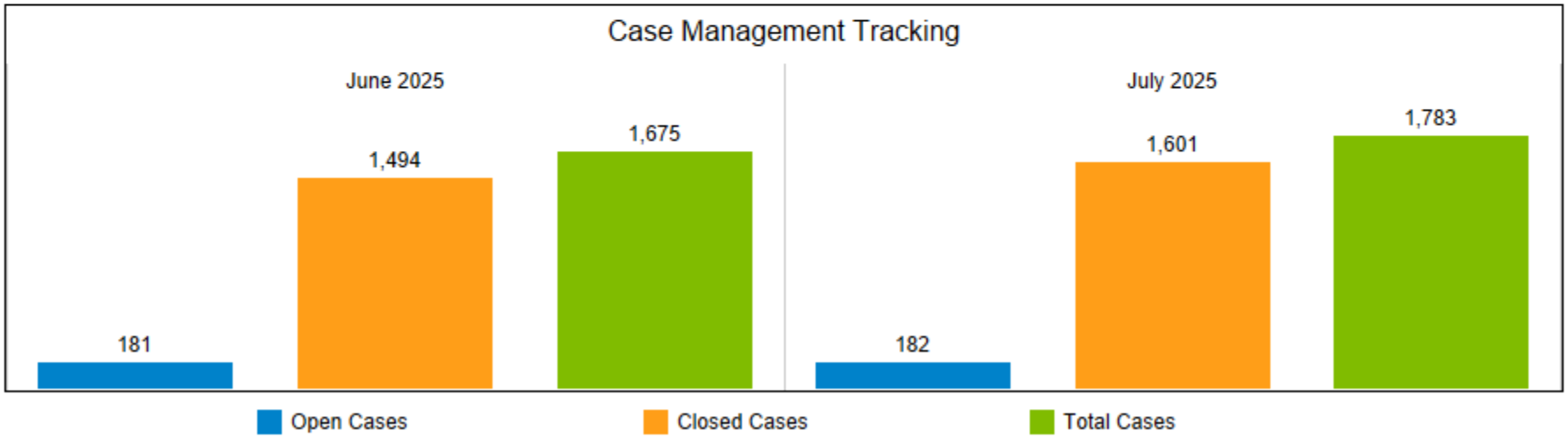




Source - MISO Transmission Planning Department

Settlements/Client Services and Readiness





Source: MISO Settlements and Client Services and Readiness Departments
Settlement values may change due to resettlement
Resource Adequacy, Tariff Pricing, Market Settlements, and Credit cases are included in Case Management Tracking data

MISO has set an even higher standard for its System Availability metrics in 2025, and while January and February had no downtime, a critical incident occurred in March that impacted STI

January - April 2025

Short-Term Incentive Metrics	JAN 25	FEB 25	MAR 25	APR 25	Trend *	YTD	Threshold | Target | Excellent
Critical Systems Availability (Downtime in Hours)	0.0	0.0	1.5	0.0	↘	**1.5**	4 Hours | 3 Hours | 2 Hours
Number of Critical System Incidents Exceeding 30 Minutes	0	0	1	0.0	↘	**1**	2 | 1 | 0

Other Availability Metrics	JAN 25	FEB 25	MAR 25	APR 25	Trend *	Monthly Target
ICCP** (Availability %)	100	100	100	100	⟷	99.5
Customer Facing Applications – Portals (Availability Index)	10	10	10	10	⟷	10 of 10
Markets (Availability Index)	4	4	4	4	⟷	4 of 4
Reliability Targets (Availability Index)	3	3	3	3	⟷	3 of 3

**Trend lines represent quarter-over-quarter performance*

***ICCP = Inter-Control Center Communications Protocol*

2025 Dashboard Metric Criteria (1 of 2)

**New or revised 2025 Metric*

Operational Excellence									
Metric	**Chart**	**● Expected**	**■ Monitor**	**▼ Review**	**Metric**	**Chart**	**● Expected**	**■ Monitor**	**▼ Review**
Percentage Price Deviation*	A	Absolute DA-RT price difference divided by DA LMP <=28.6%	Absolute DA-RT price difference divided by DA LMP is >28.6% but <=34.3%	Absolute DA-RT price difference divided by DA LMP >34.3%	Unit Commitment Efficiency*	H	>=93%		<93%
Monthly Average Gross Virtual Profitability*	B	Within the standard deviation bands (threshold $0.44/MWh)	Outside the standard deviation bands		Real-Time Obligation fulfilled by Day-Ahead Supply at the Peak Hour	I	>=95%	>=93% but <95%	<93%
FTR Funding	C	Monthly FTR Allocation % is >=92% and YTD FTR Allocation % is >=96%	Not in good status AND Monthly FTR Allocation % is >=87% AND Rolling 12-month FTR Allocation % is >=93%	Not in Good AND not in Monitor status	Day Ahead Wind Generation Forecast Error	K	# of days that the hourly average forecast error exceeds 10% <= 6	# of days that the forecast error exceeds 10% >6 or Forecast error exceeds 15% in = 3 days	# of days that the forecast error exceeds 10% >8 or Forecast error exceeds 15% in > 3 days or Forecast error resulted in declaring 1 Real Time Event
Market Efficiency Metric	D	>= 95%		<95%	Day Ahead Solar Generation Forecast Error	T	# of days that the hourly average forecast error exceeds 10% <= 6	# of days that the forecast error exceeds 10% >6 or Forecast error exceeds 15% in = 3 days	# of days that the forecast error exceeds 10% >8 or Forecast error exceeds 15% in > 3 days or Forecast error resulted in declaring 1 Real Time Event
RSG per MWh to Energy Price*	E	<=0.38%	>0.38% and <=0.46%	>0.46%	Tie Line Error	L	<=1	>1 but <=3	>3
Day Ahead Mid-Term Load Forecast**	F	# of days that forecast error exceeds 3% <=6 AND # days that forecast error exceeds 4% <=4	# of days that forecast error exceeds 3% > 6 OR # days that forecast error exceeds 4%> 4 OR forecast error exceeds 6% on >= 1 day	# of days that forecast error exceeds 3% > 10 OR # days that forecast error exceeds 4%> 8 OR forecast error exceeds 7% on >= 1 day OR Forecast error resulted in declaring 1 Real Time Event	Control Performance – BAAL	M	Monthly performance score >=2	Monthly performance score<2 but >=1	Monthly performance score <1

FTR YTD metric is applied beginning April

*** Forecast errors observed in March, April, October and November will be measured by 1% lower thresholds*

MISO

2025 Dashboard Metric Criteria (2 of 2)

**New or revised 2025 Metric*

Operational Excellence									
Metric	**Chart**	**● Expected**	**■ Monitor**	**▼ Review**	**Metric**	**Chart**	**● Expected**	**■ Monitor**	**▼ Review**
Short-Term Load Forecast*	G	Forecast error exceeding the 95% percentile of forecast error for the past year <= 2 days	3 days <= Forecast error exceeding the 95% percentile of forecast error for the past year <= 5 days	Forecast error exceeding the 95% percentile of forecast error for the past year > 5 days	Control Performance – CPS1 and CPS1 12-month rolling	N	>=100%		<100%
					ARS Deployment	P	DCS monthly average % recovery (APR) = 100%	Analysis of event not yet complete	DCS monthly average % recovery (APR) confirmed <100%
Customer Service									
System Impact Study Performance	Q	Studies completed in less than 60 days >=85%	Studies completed in less than 60 days <85% but >=75%	Studies completed in less than 60 days <75%	Settlement Disputes	S	Increase of up to 20 disputes	Increase of between 20 and 50 disputes	Increase of more than 50 disputes

FTR YTD metric is applied beginning April
*** Forecast errors observed in March, April, October and November will be measured by 1% lower thresholds*
Two days in December 2022 have been removed from threshold calculations..