System Operations Report

Marcus Smith, Lead Engineer – Markets Coordination

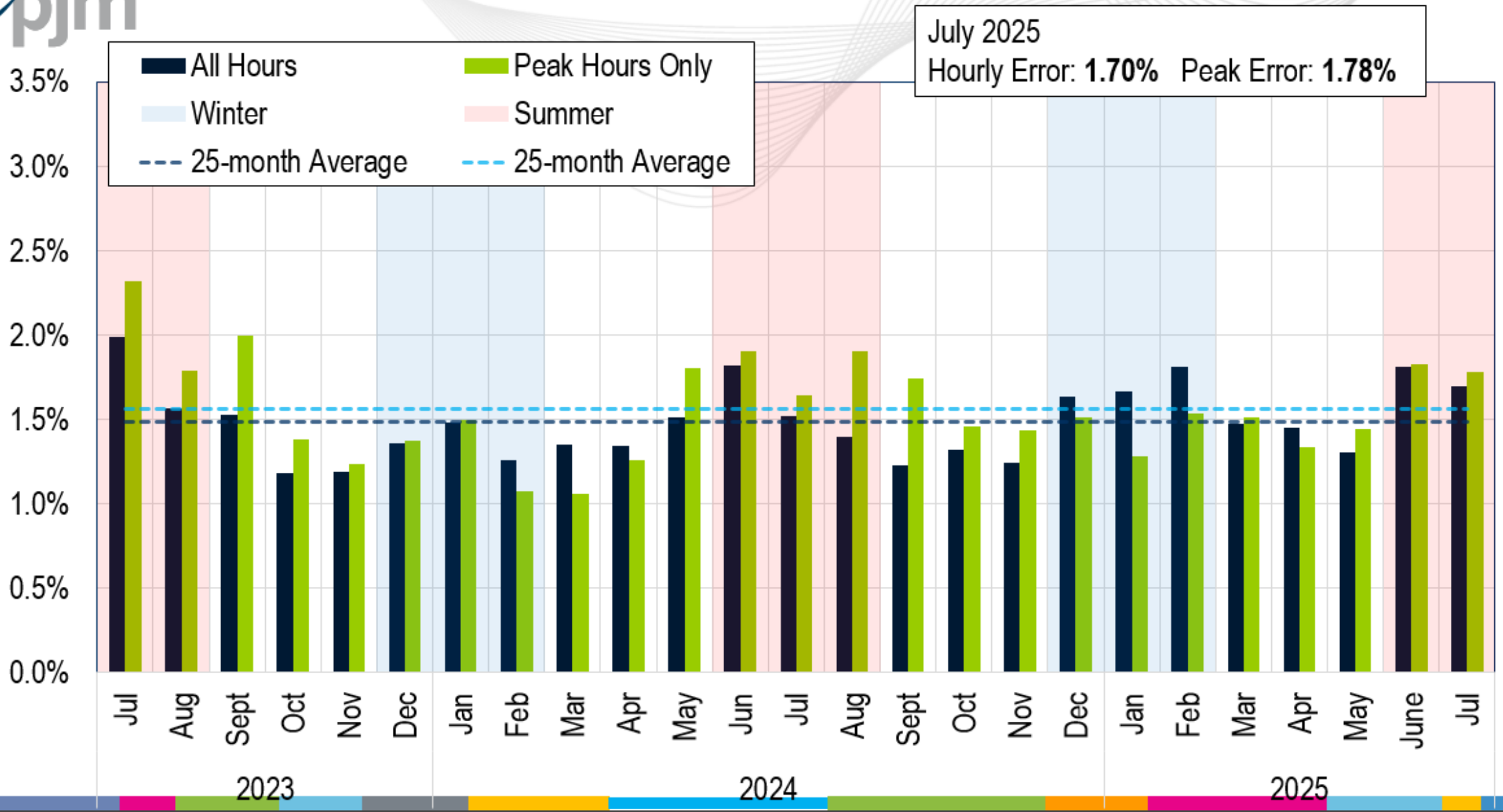
David Kimmel, Sr. Engineer II – Performance Compliance

Operating Committee

August 7th, 2025

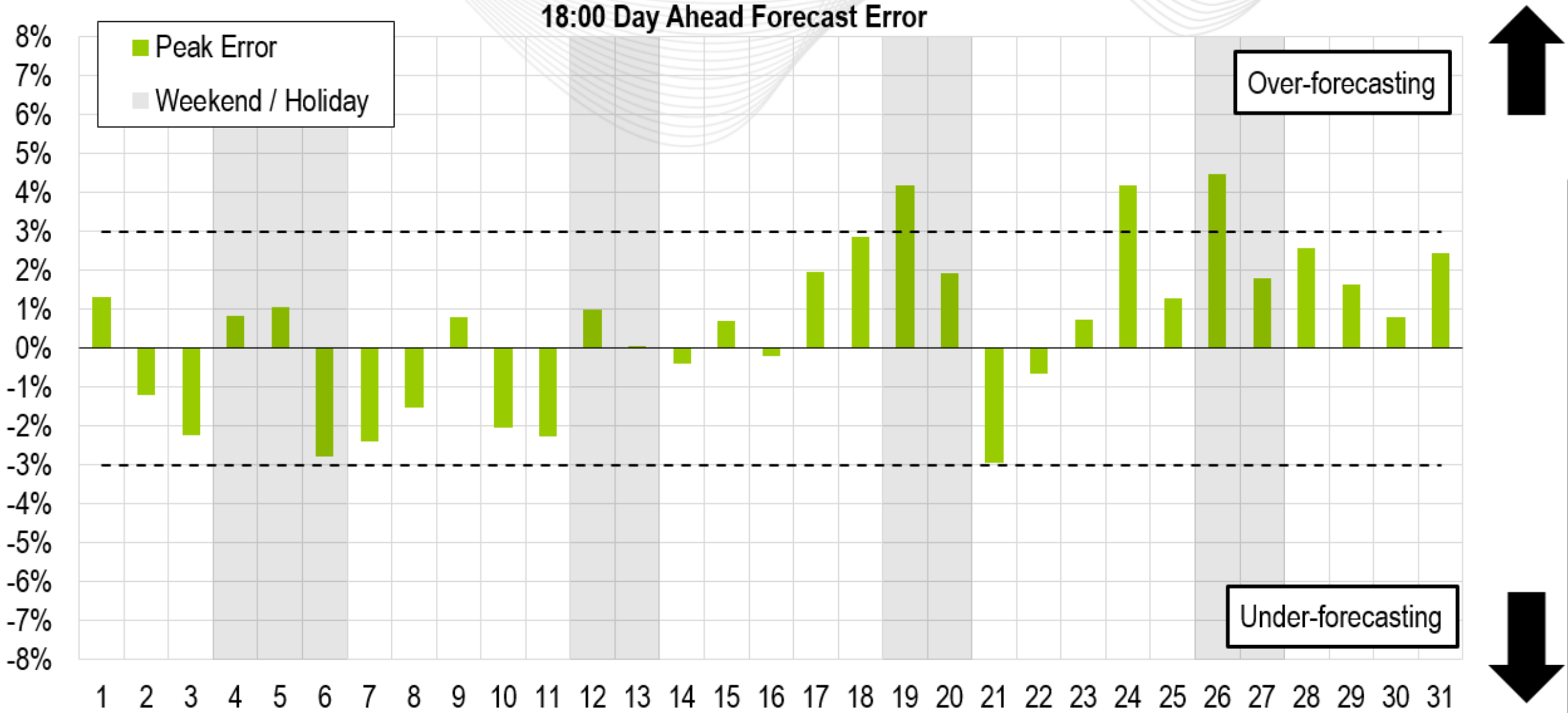
PJM©2025

Average Load Forecast Error



PJM © 2025

Daily Peak Forecast Error (July)

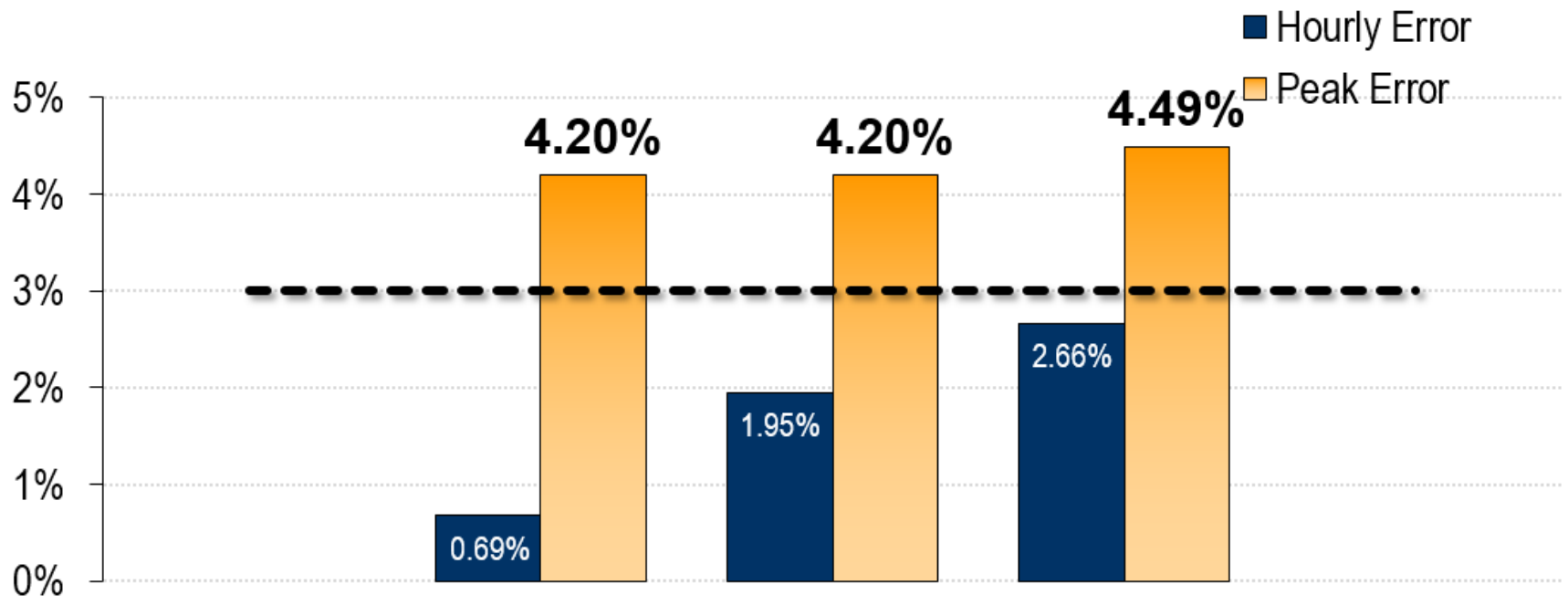


PJM © 2025

Days Exceeding 3% Forecast Error at Peak Hour

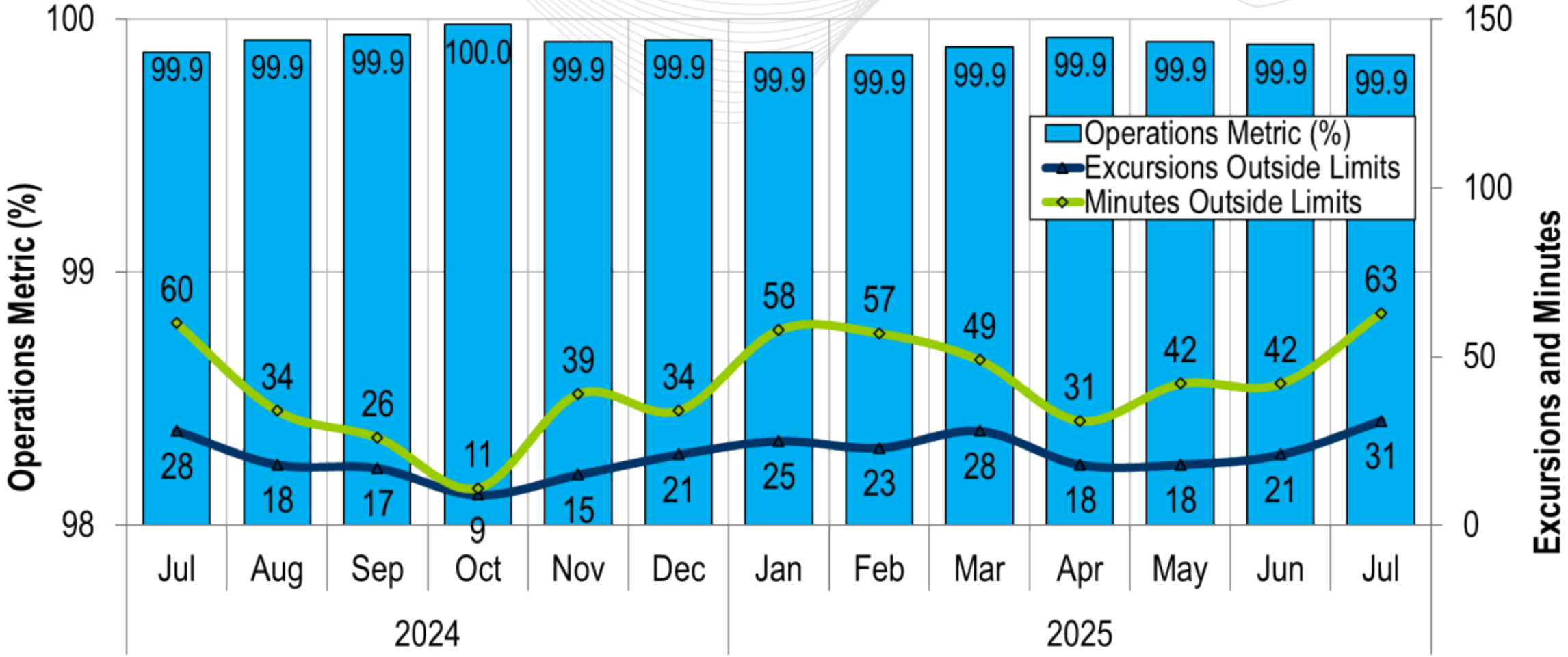
Over-forecasting

July 19	July 24	July 26
Scattered showers and thunderstorms across the footprint led to lower than forecast temperatures, leading to less load pull and over-forecasting.	Cooler than forecast temperatures and storms in the western footprint led to a 12°F drop in temperature, impacting peak loads.	Scattered showers and thunderstorms led to cooler temperatures all around, leading to less load pull and over-forecasting.



PJM © 2025

Monthly BAAL Performance Score



PJM's BAAL performance has exceeded the goal of 99% for each month in 2024 and 2025.

PJM©2025

Operational Summary

- The following Emergency Procedures occurred:
  - 4 Spin Event
  - 2 Shared Reserve event
  - 7 NERC EEA Level 1
  - 7 Maximum Generation Emergency Alerts
  - 5 Pre-Emergency Load Management Reduction Actions
  - 10 Hot Weather Alerts
  - 39 Post Contingency Local Load Relief Warnings

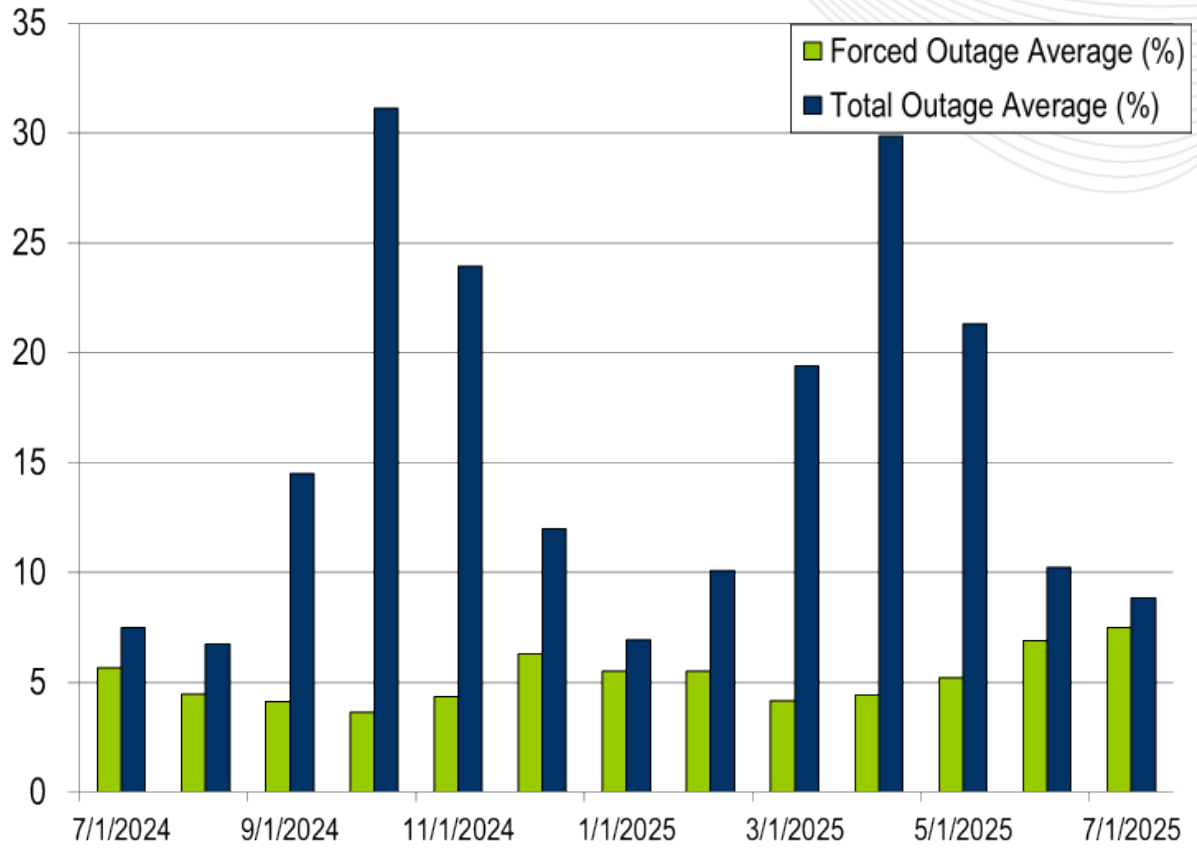
PJM©2025

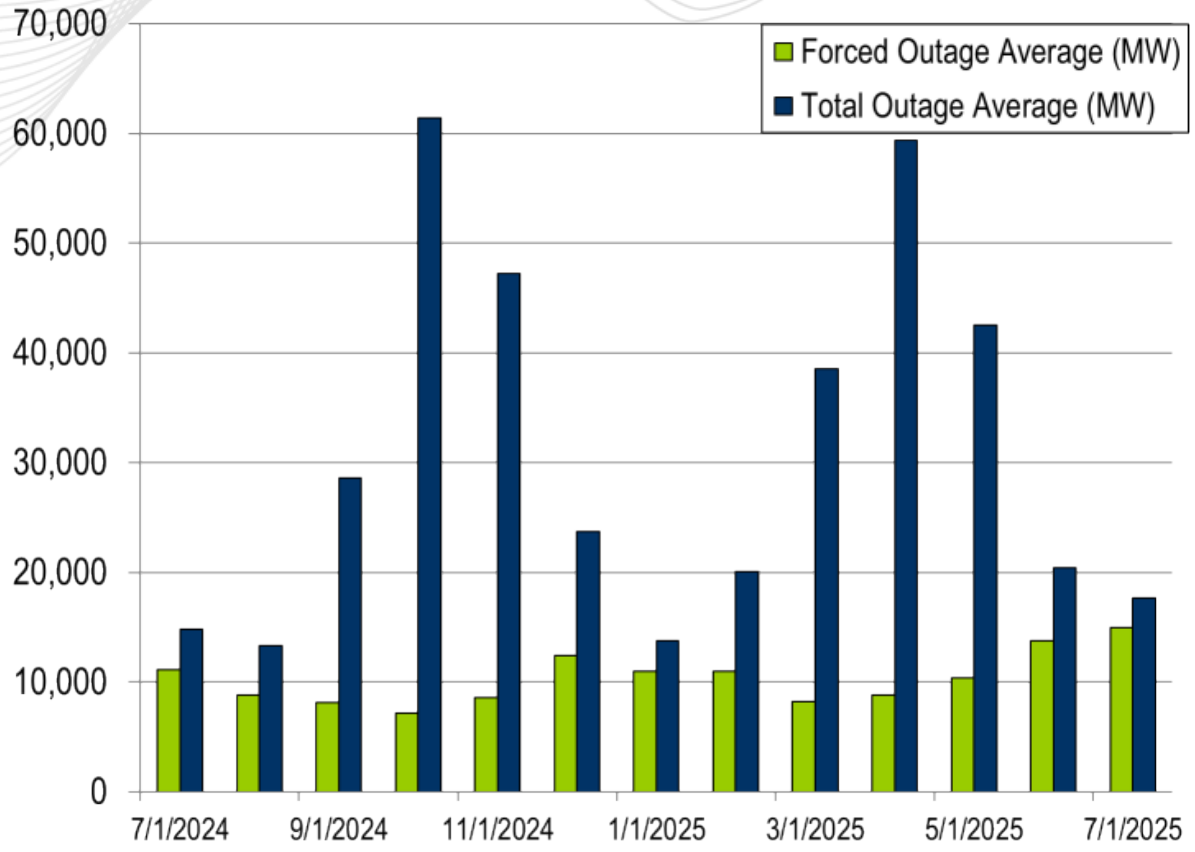
Shortage Case Approvals

- 7 Shortage Cases Approved
- The approved Shortage Cases occurred on:
  - 07/28/2025:
    - 1 shortage cases approved for 12:15 interval
      - Factors: Mainly due to generation loss
    - 6 shortage cases approved for intervals between 18:59 and 19:25
      - Factors: Due to solar dropping out rapidly, while load did not drop as quickly as anticipated

PJM©2025

RTO Generation Outage Rate - Monthly

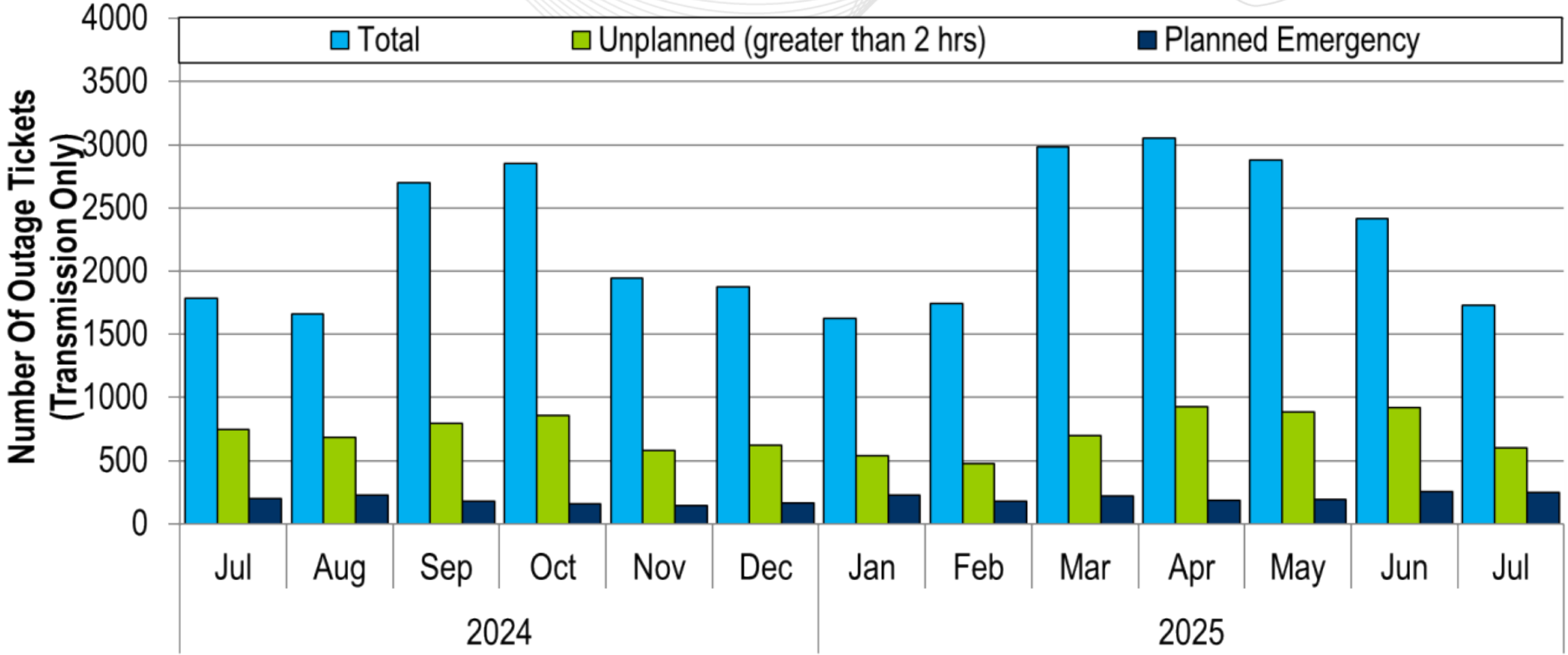




The 13-month average forced outage rate is 5.09% or 10,097 MW.
The 13-month average total outage rate is 15.39% or 30,491 MW.

PJM©2025

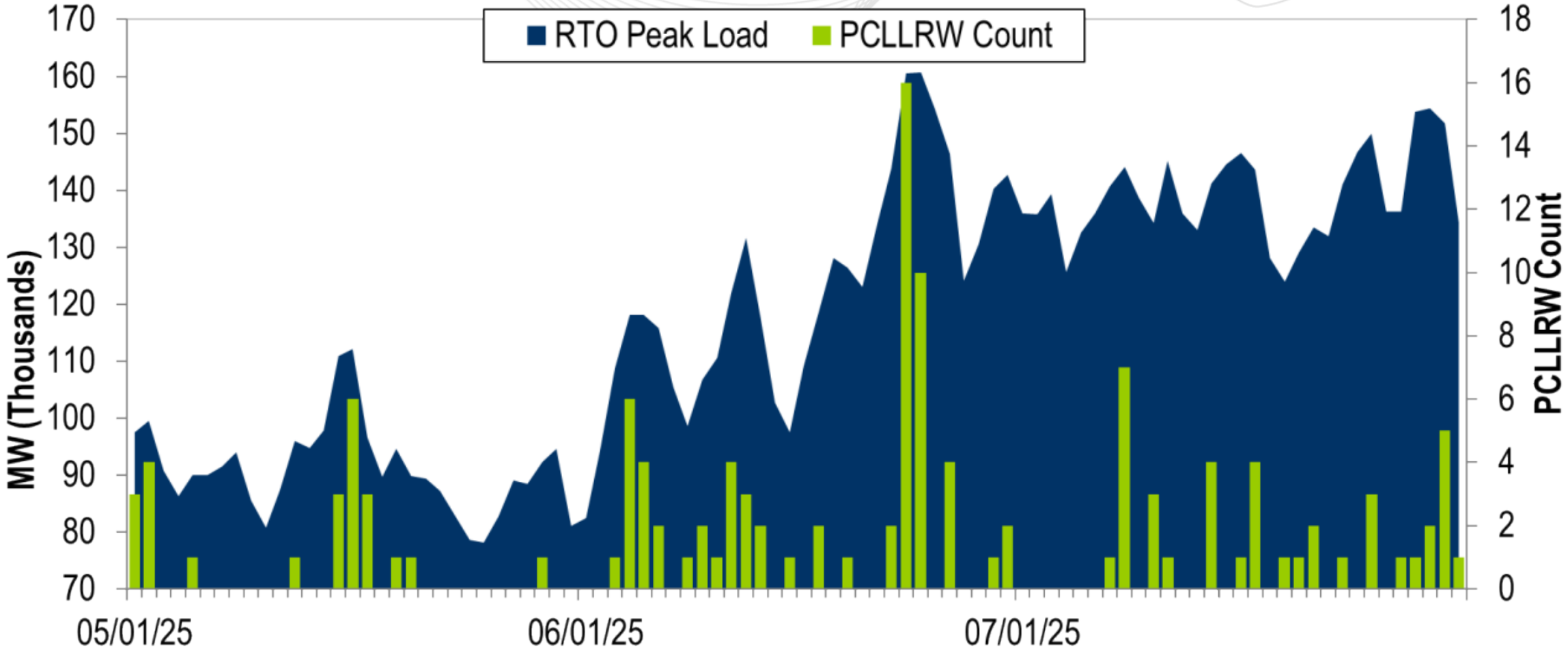
2024-2025 Planned Emergency, Unplanned, and Total Outages by Ticket (Transmission Only)



Note: “Unplanned Outages" include tripped facilities. One tripping event may involve multiple facilities.

PJM©2025

PCLLRW Count Vs. Peak Load – Daily Values For 3 Months



PJM©2025

Spin Response

Event	1			2			3			4		
Date	07/01/25			07/22/25			07/30/25			07/31/25		
Start Time	10:18:26			15:11:28			13:31:31			01:33:40		
End Time	10:29:04			15:22:00			13:37:28			01:39:56		
Duration	00:10:38			00:10:32			00:05:57			00:06:16		
Region	RTO			RTO			RTO			RTO		
Resource Type	Gen	DR	Total	Gen	DR	Total	Gen	DR	Total	Gen	DR	Total
Assigned (MW)	2398	544	2942	2764	548	3312	3588	328	3917	2802	582	3384
Estimated Expected Response of Assigned Resources (MW)	2398	544	2942	2764	548	3312	2135	195	2330	1756	365	2121
Actual Response of Assigned Resources (MW)	1931	406	2337	2171	439	2610	2119	238	2357	1261	367	1628
Output Increase of Resources without Assignment (MW)	1961	0	1961	1575	0	1575	1371	0	1371	488	0	488
Percent Response To Assignment (%)	81%	75%	79%	79%	80%	79%	59%	72%	60%	45%	63%	48%
Percent Response To Estimated Expected Response (%)	81%	75%	79%	79%	80%	79%	99%	122%	101%	72%	101%	77%
Penalty (MW)	466	138	605	592	110	702	0	0	0	0	0	0

Event Counted Toward Qualifying Events	Qualifying Reason	Individual Percent Response To Assignment (%)	Average Percent Response To Assignment (%)
02/05/25 10:05:15	Duration ≥ 10 minutes	65.1%	
07/01/25 10:18:26	Duration ≥ 10 minutes	79.5%	74.4%
07/22/25 15:11:28	Duration ≥ 10 minutes	78.8%	

PJM©2025

Contact

Load Forecast Report

Presenter/SME:
Marcus Smith,
Marcus.Smith@pjm.com

System Operations Report

Presenter:
David Kimmel,
David.Kimmel@pjm.com

SME:
Ross Kelly,
Ross.Kelly@pjm.com

Member Hotline

(610) 666 – 8980

(866) 400 – 8980

custsvc@pjm.com

PJM©2025

Appendix

PJM©2025

Balancing Authority ACE Limit - Performance Measure

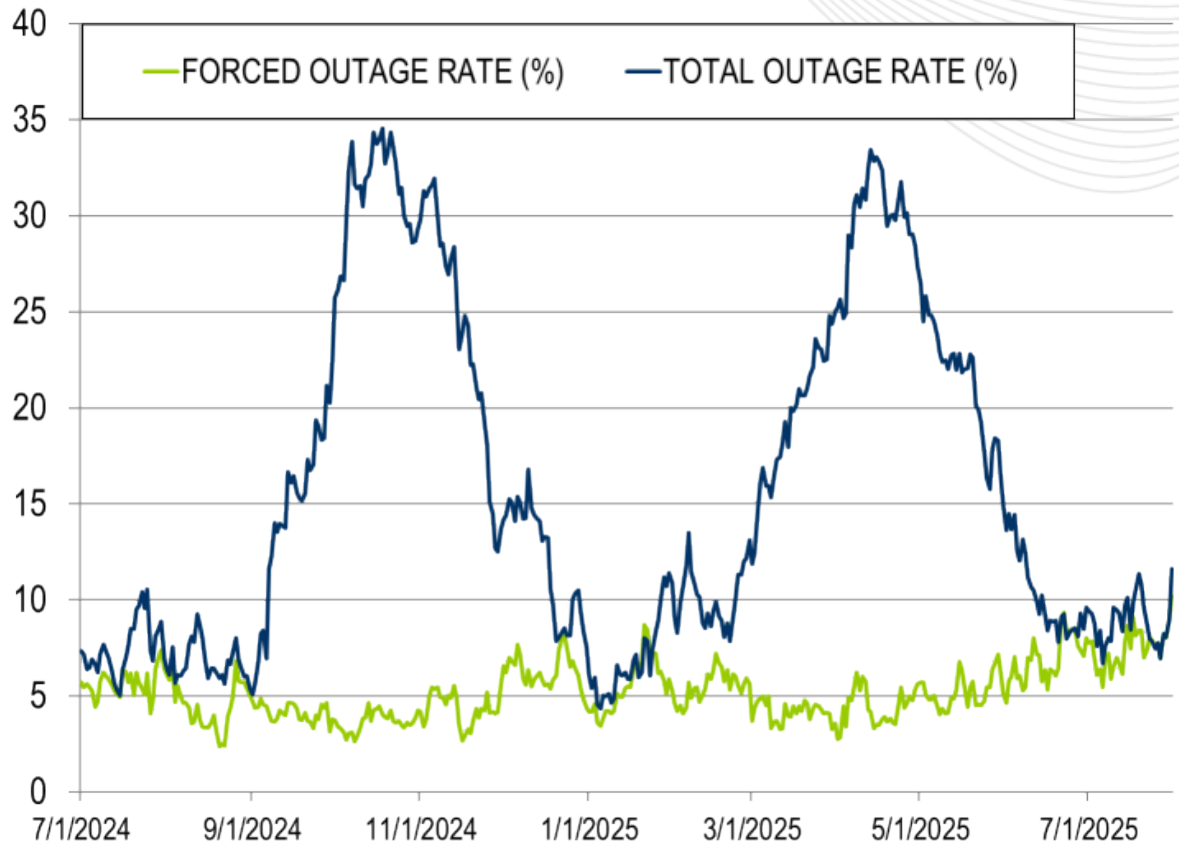
Goal Measurement: Balancing Authority ACE Limit (BAAL)

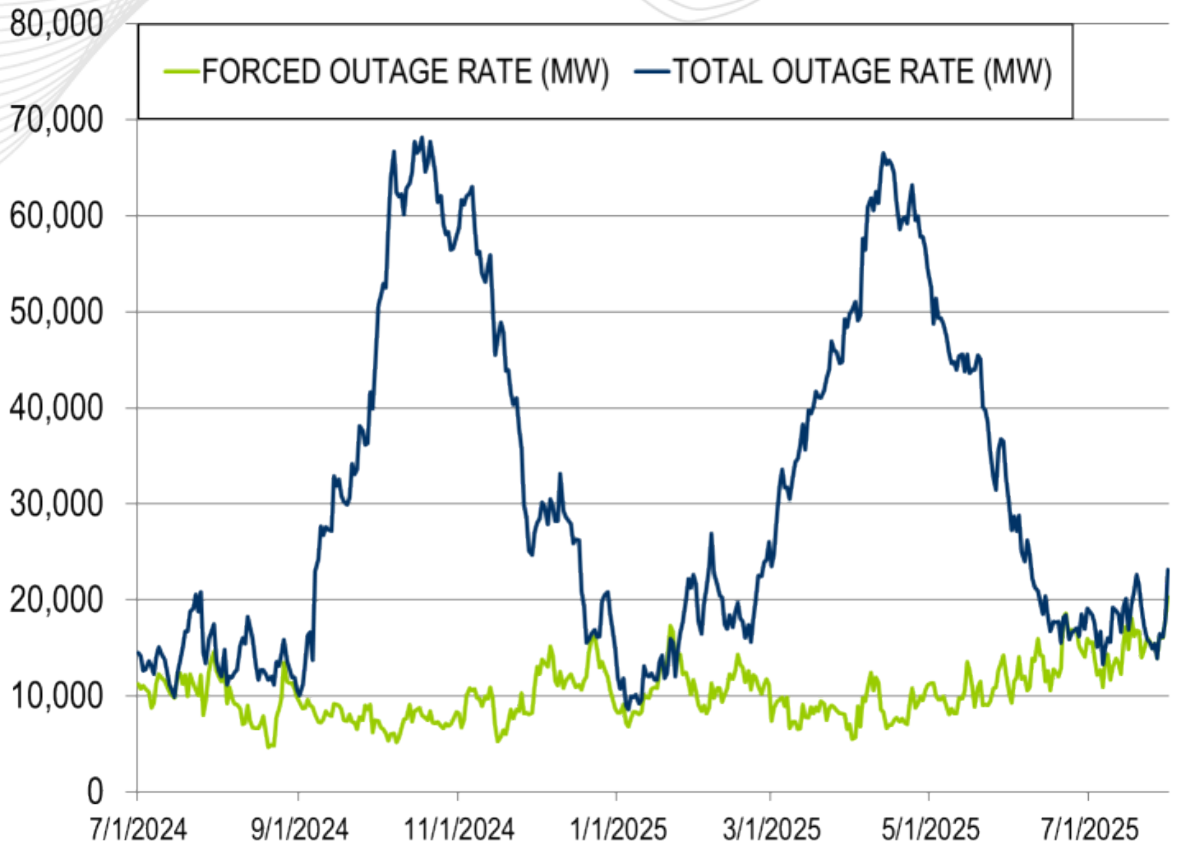
- The purpose of the new BAAL standard is to maintain interconnection frequency within a predefined frequency profile under all conditions (normal and abnormal), to prevent frequency-related instability, unplanned tripping of load or generation, or uncontrolled separation or cascading outages that adversely impact the reliability of the interconnection. NERC requires each balancing authority demonstrate real-time monitoring of ACE and interconnection frequency against associated limits and shall balance its resources and demands in real time so that its Reporting ACE does not exceed the BAAL ($BAAL_{LOW}$ or $BAAL_{HIGH}$) for a continuous time period greater than 30 minutes for each event.

- PJM directly measures the total number of BAAL excursions in minutes compared to the total number of minutes within a month. PJM has set a target value for this performance goal at 99% on a daily and monthly basis. In addition, current NERC rules limit the recovery period to no more than 30 minutes for a single event.

PJM©2025

RTO Generation Outage Rate - Daily

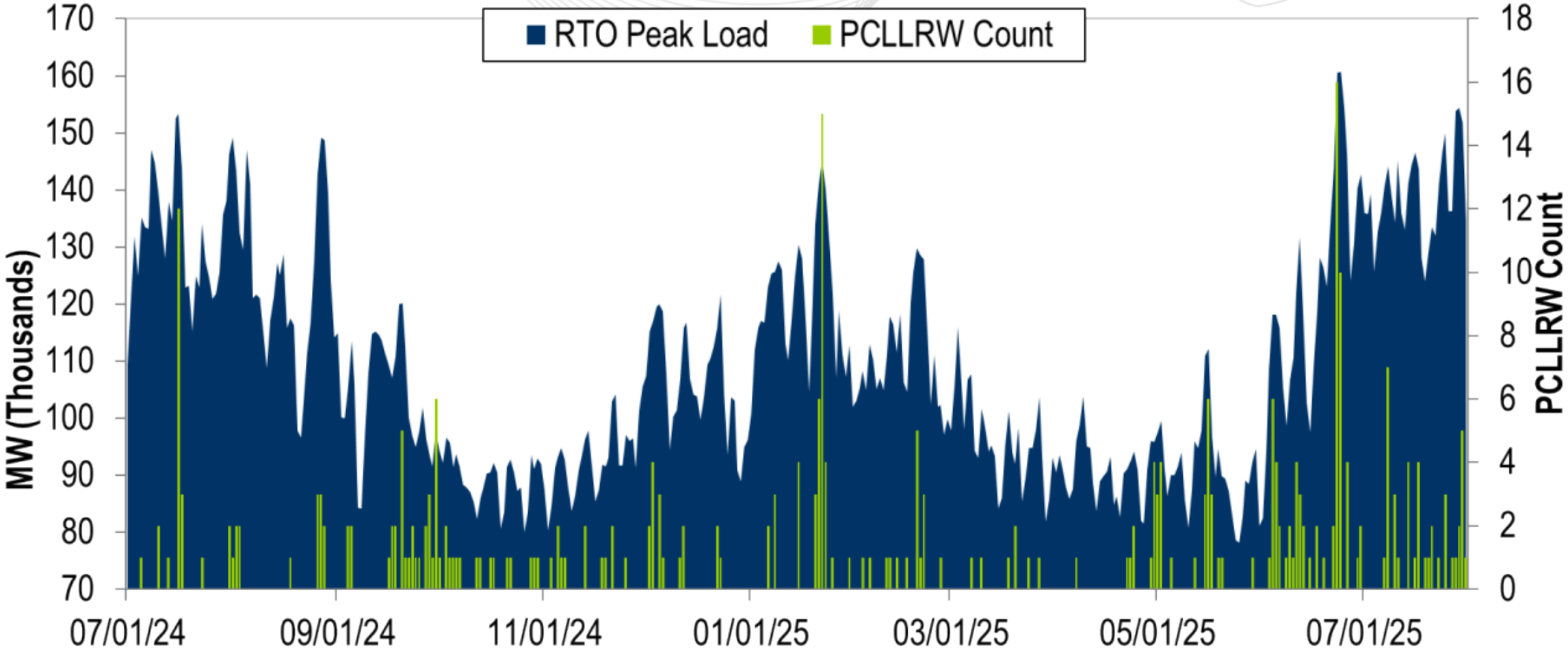




The 13-month average forced outage rate is 5.09% or 10,097 MW.
The 13-month average total outage rate is 15.39% or 30,491 MW.

PJM©2025

PCLLRW Count Vs. Peak Load – Daily Values For 13 Months



PJM©2025

PROTECT THE POWER GRID

THINK BEFORE YOU CLICK!

Be alert to malicious phishing emails.

Report suspicious email activity to PJM.

(610) 666-2244 / it_ops_ctr_shift@pjm.com