System Operations Report

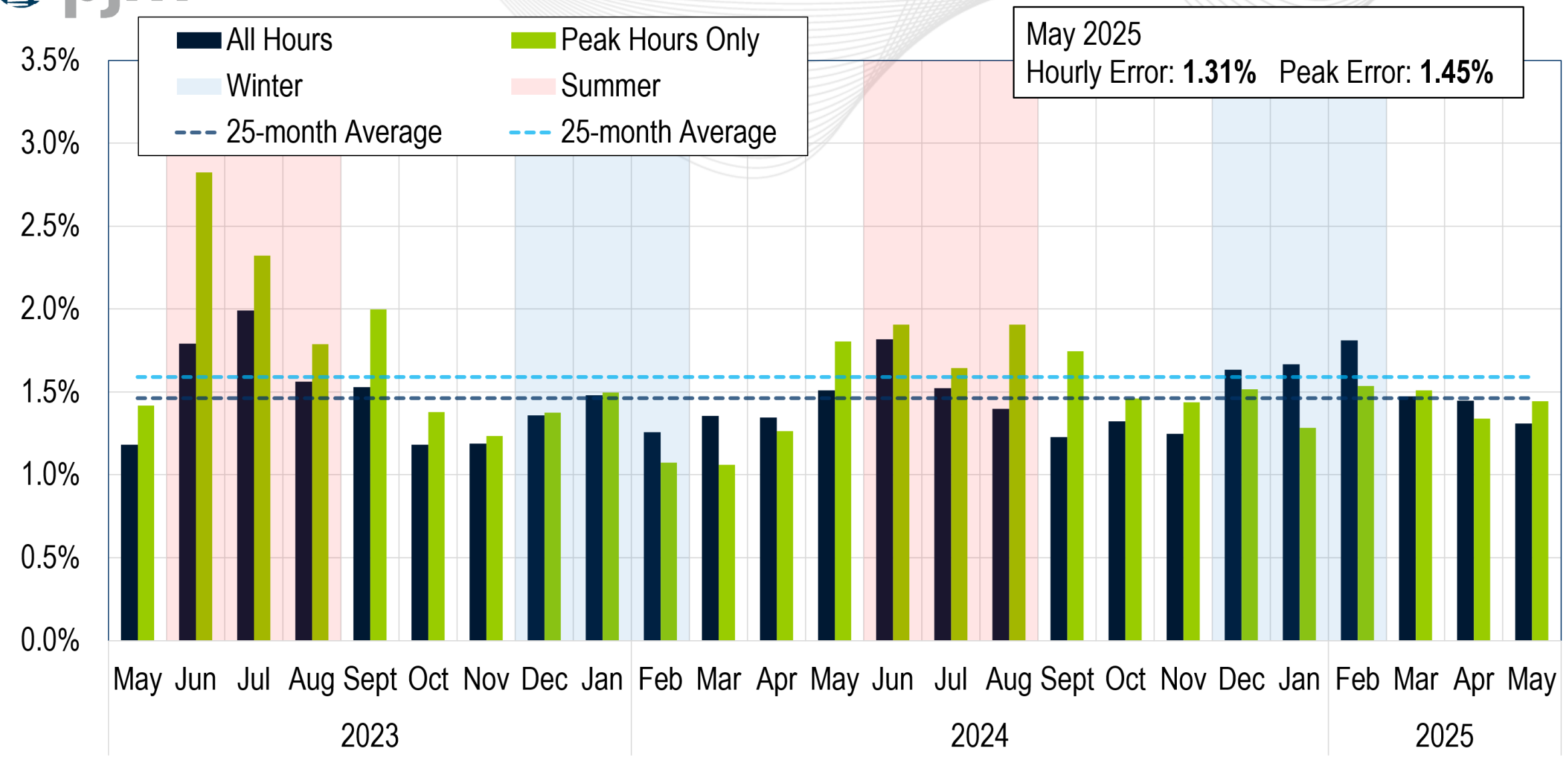
Michael Stewart, Sr. Engineer II – Markets Coordination

David Kimmel, Sr. Engineer II – Performance Compliance

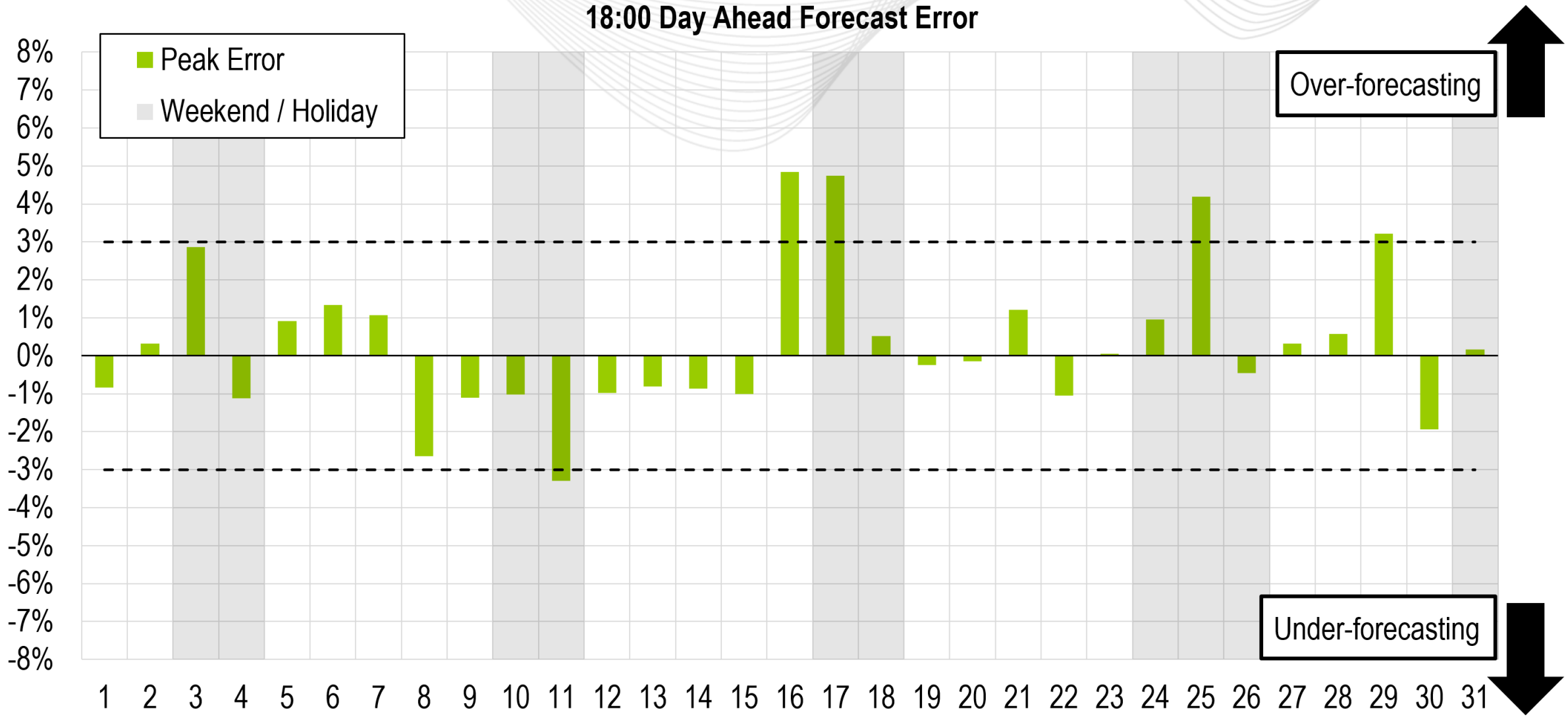
Members Committee

June 25, 2025

Average Load Forecast Error



Daily Peak Forecast Error (May)



Days Exceeding 3% Forecast Error at Peak Hour

Over Forecasting

May 16
Day after highest peak of month, thunderstorms suppressed loads with temperatures ~3-5 degrees cooler than forecast

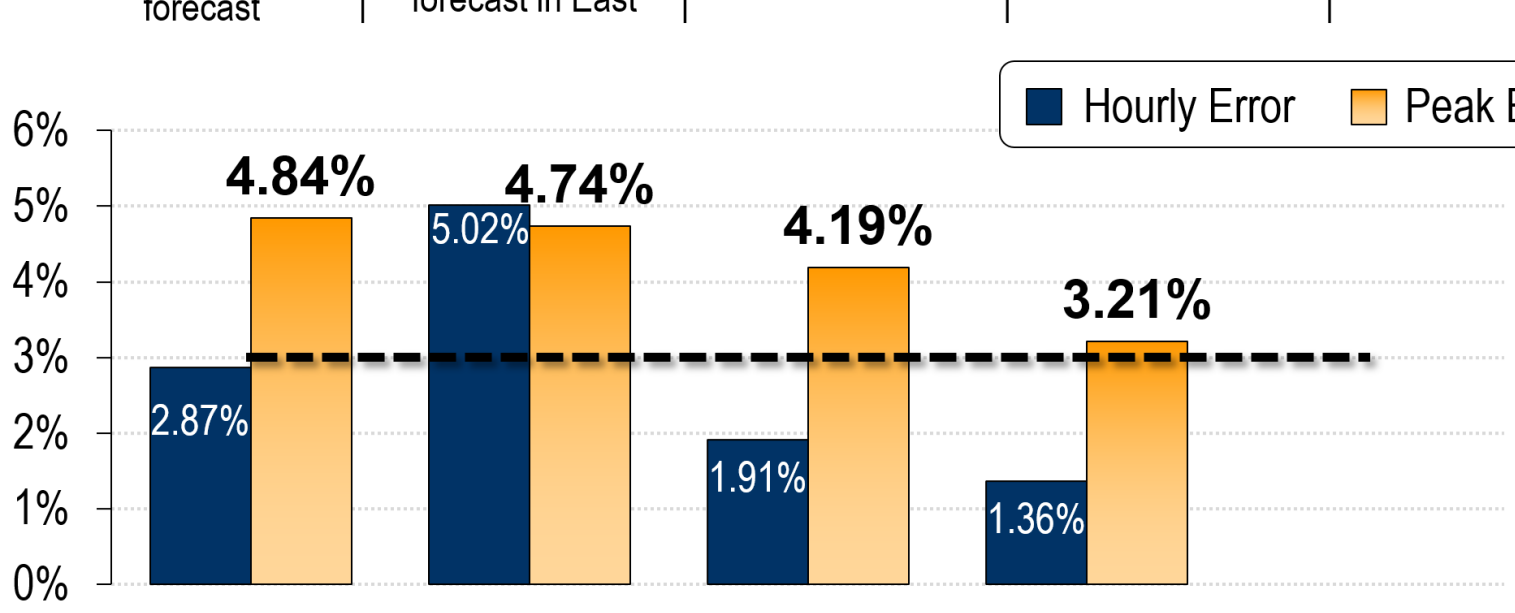
May 17
Loads never fully recovered from prior day's storms as temperatures the first half of day were 3-6 degrees cooler than forecast in East

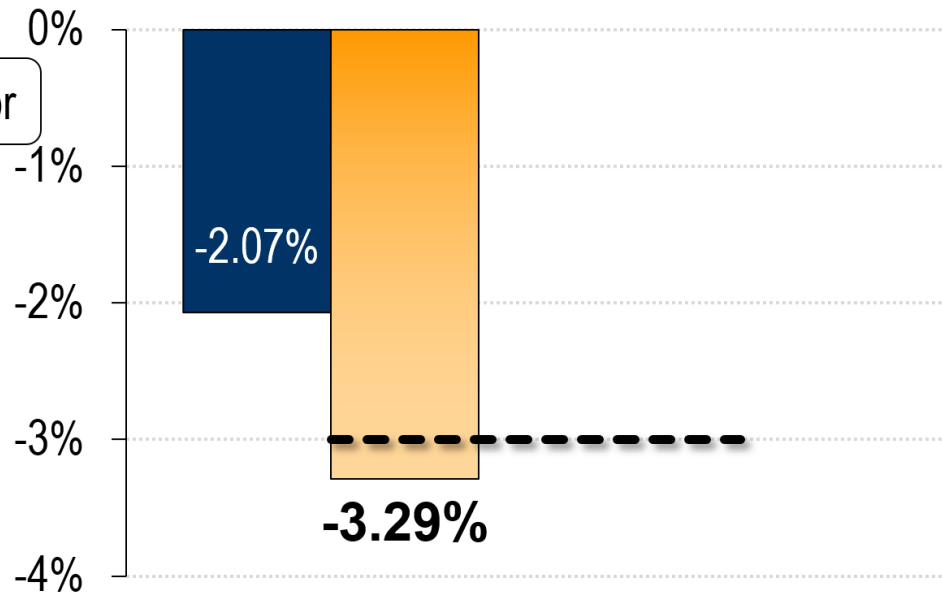
May 25
Coolest Memorial Day Weekend in 4 years with greater holiday impacts than anticipated especially in Western Region

May 29
Slower pick up to peak with temperatures 4-6 degrees cooler than forecast in East

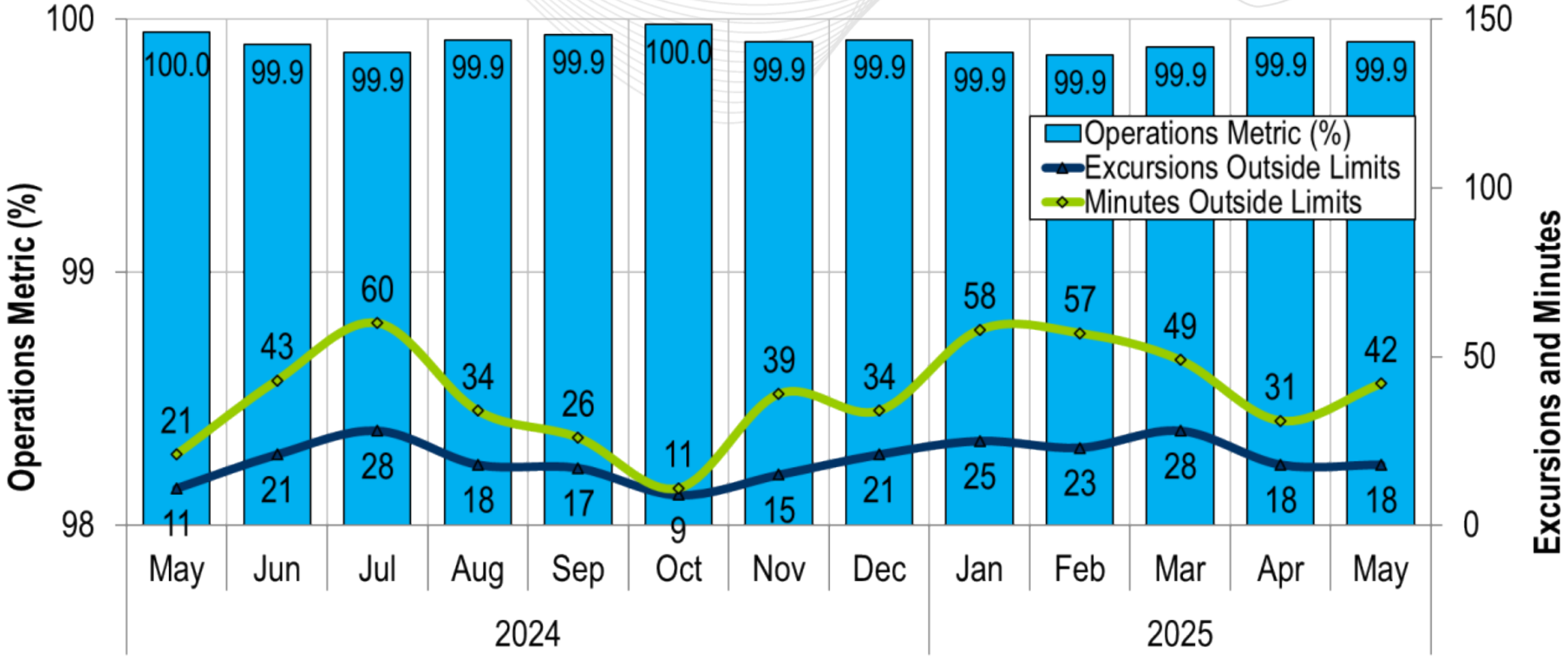
Under Forecasting

May 11: Stronger late afternoon pick up in load with temperatures 3-5 degrees warmer than forecast





Monthly BAAL Performance Score



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

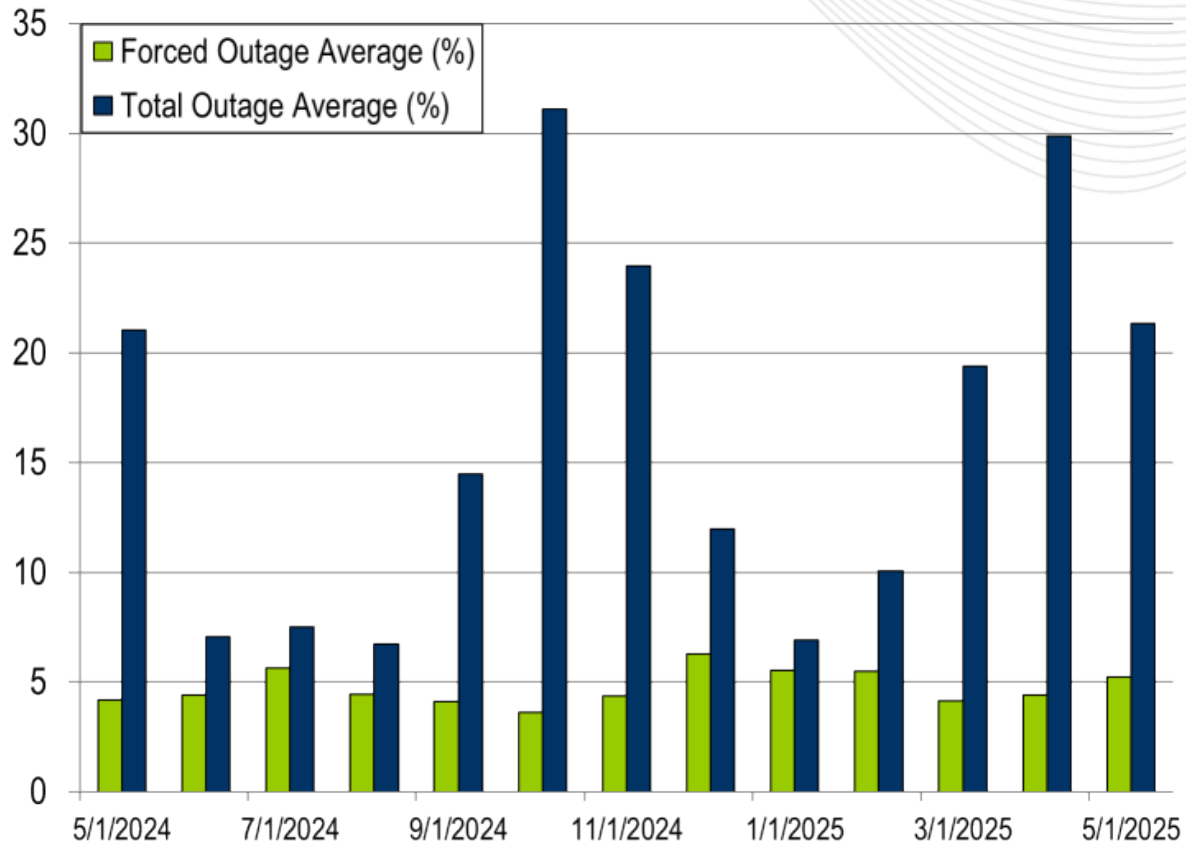
Operational Summary (May)

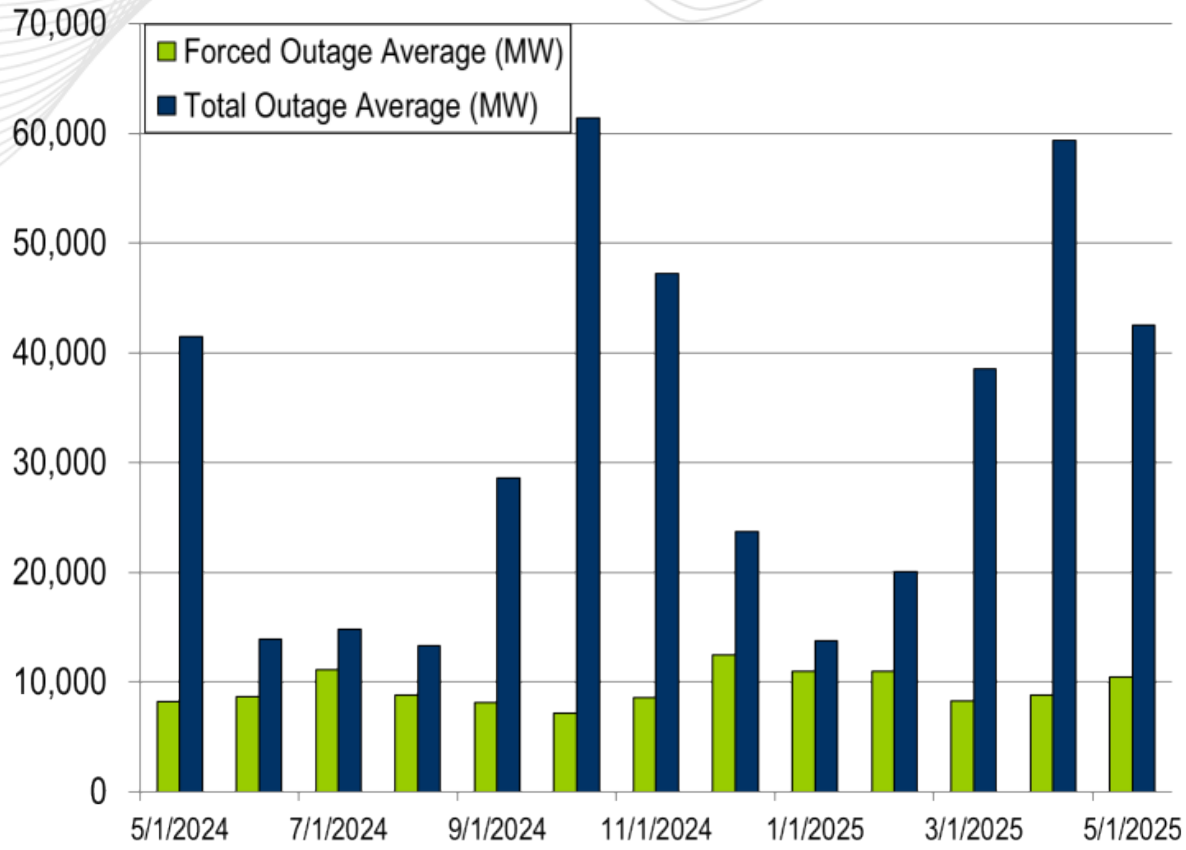
- The following Emergency Procedures occurred:
  - 1 Spin Event
  - 1 Shared Reserve event
  - 3 High System Voltage Action
  - 1 Geomagnetic Disturbance Warning
  - 24 Post Contingency Local Load Relief Warnings

Shortage Case Approvals

- 2 Shortage Cases Approved
- The approved Shortage Cases occurred on:
  - 05/08/2025:
    - 1 shortage case approved for the 16:50 interval
    - Factors: load increase
  - 05/28/2025:
    - 1 shortage case approved for the 07:45 interval
    - Factors: load increase

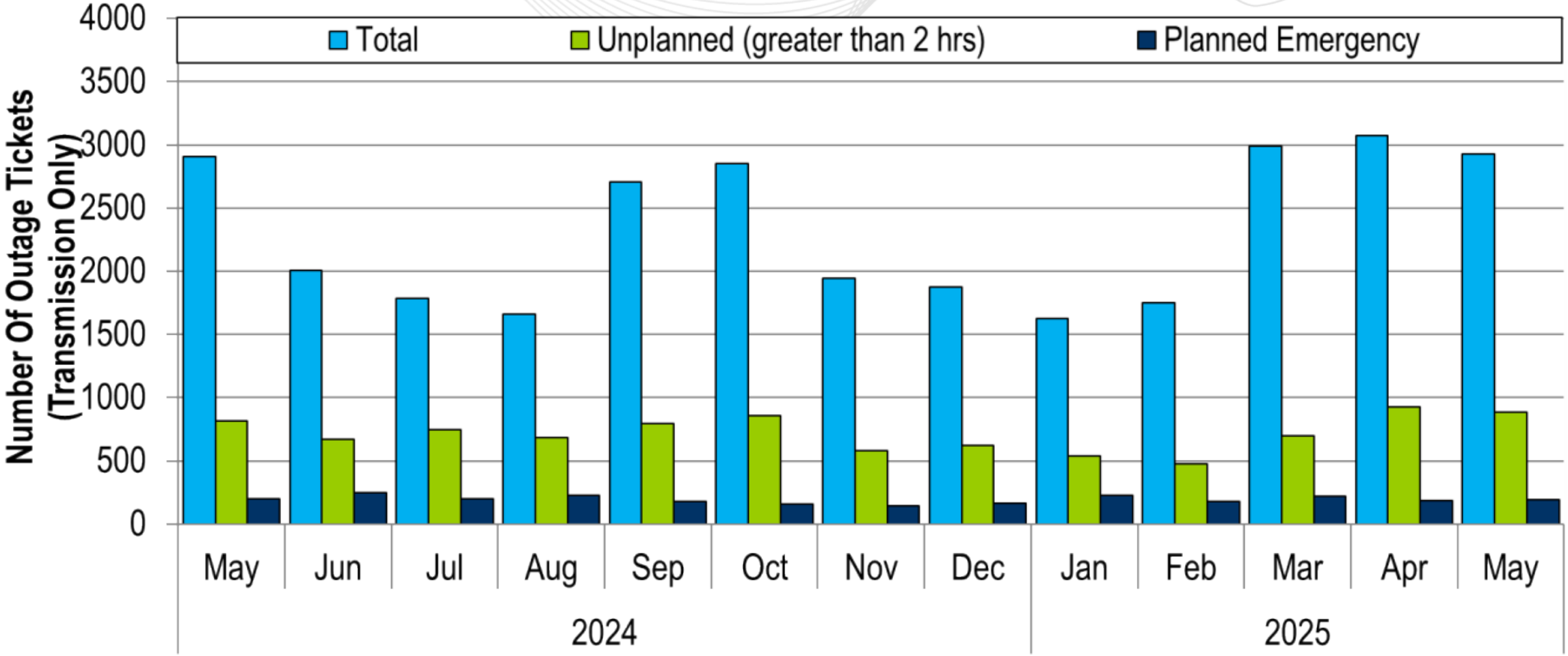
RTO Generation Outage Rate - Monthly





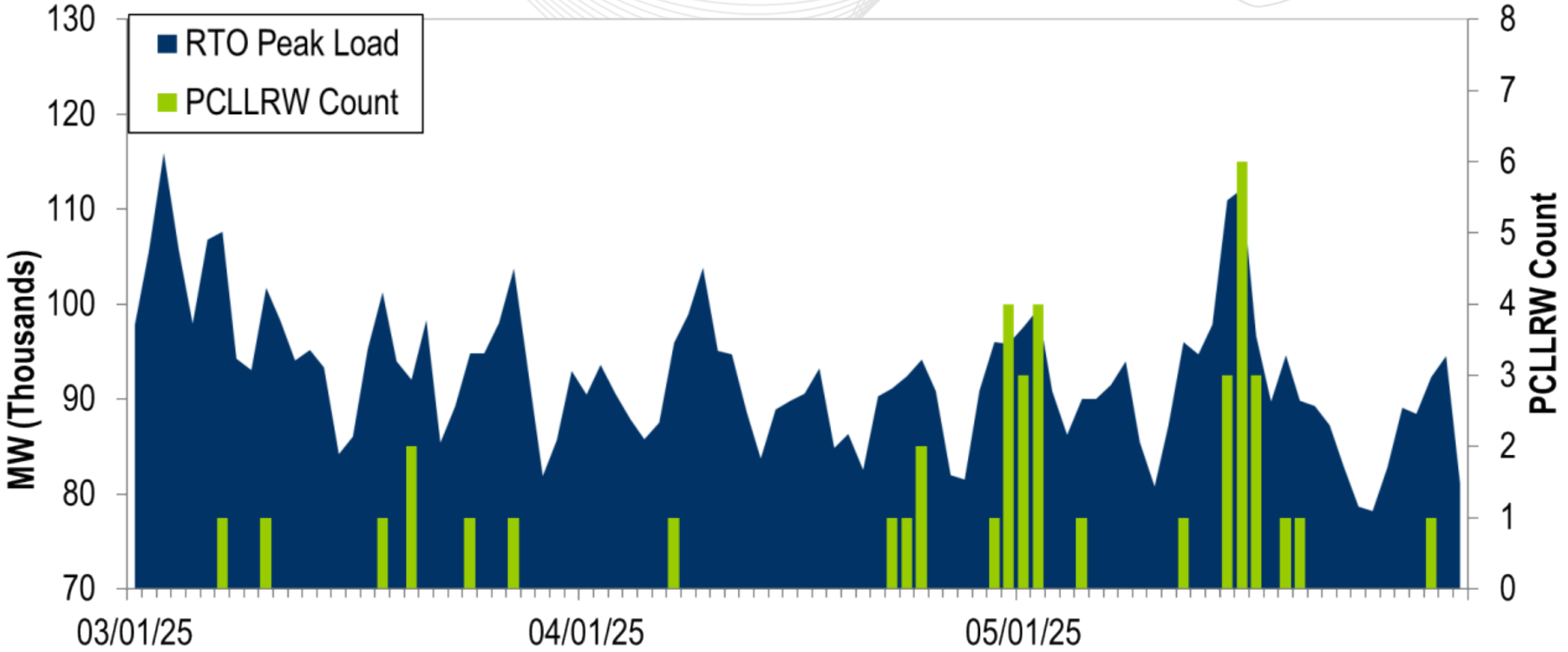
The 13-month average forced outage rate is 4.63% or 9,155 MW.
The 13-month average total outage rate is 17.07% or 33,708 MW.

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.

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



Spin Response

Event	1		
Date	05/19/25		
Start Time	11:46:23		
End Time	11:53:54		
Duration	00:07:31		
Region	RTO		
Resource Type	Gen	DR	Total
Assigned (MW)	2641	688	3329
Estimated Expected Response of Assigned Resources (MW)	1985	517	2502
Actual Response of Assigned Resources (MW)	1679	474	2154
Output Increase of Resources without Assignment (MW)	1769	0	1769
Percent Response To Assignment (%)	64%	69%	65%
Percent Response To Estimated Expected Response (%)	85%	92%	86%
Penalty (MW)	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%	65.1%
-	-	-	
-	-	-	

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

Appendix

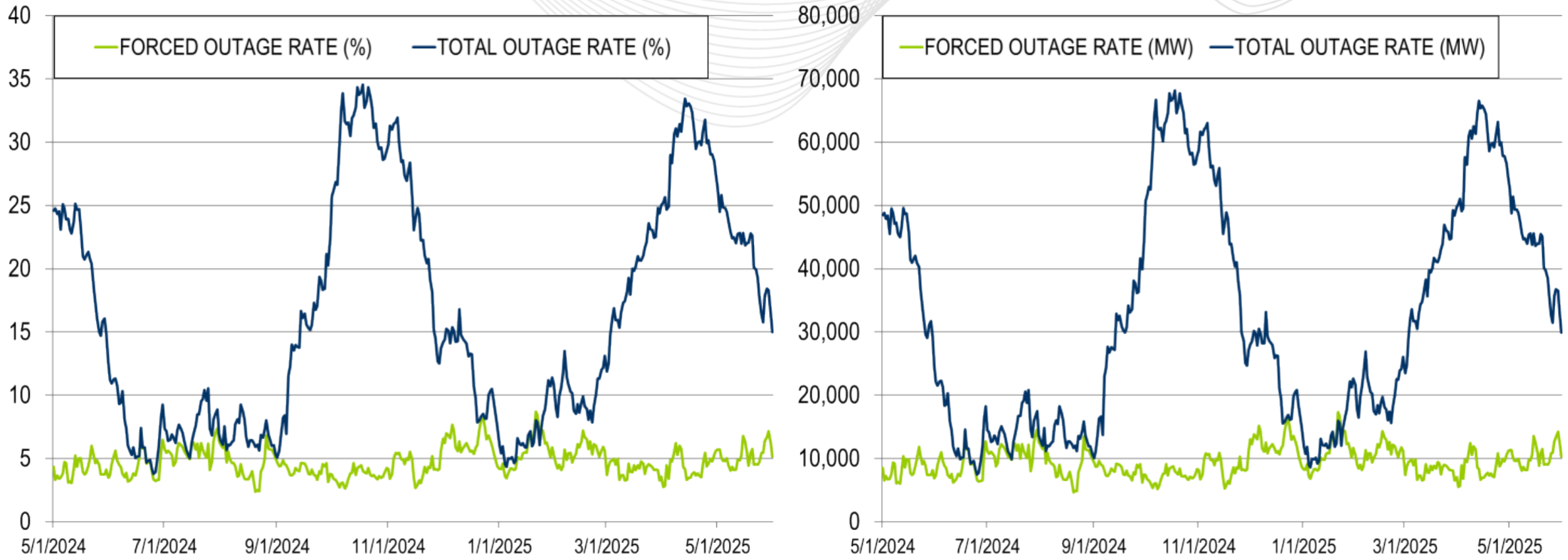
Balancing Authority ACE Limit - Performance Measure

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.

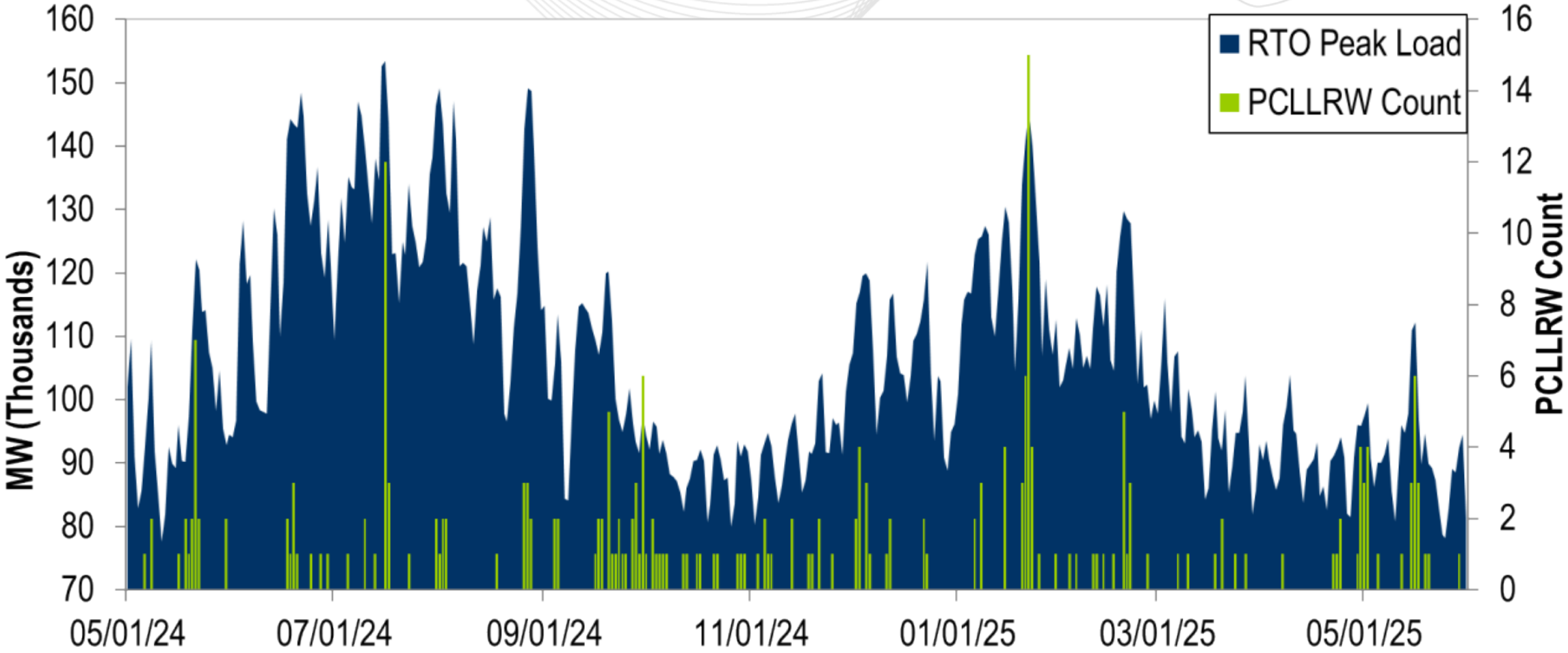
RTO Generation Outage Rate - Daily



The 13-month average forced outage rate is 4.63% or 9,155 MW.

The 13-month average total outage rate is 17.07% or 33,708 MW.

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



PROTECT THE POWER GRID

THINK BEFORE YOU CLICK!

pjm

Be alert to malicious phishing emails.

Report suspicious email activity to PJM.

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