

System Operations Report

Marcus Smith, Lead Engineer –
Markets Coordination

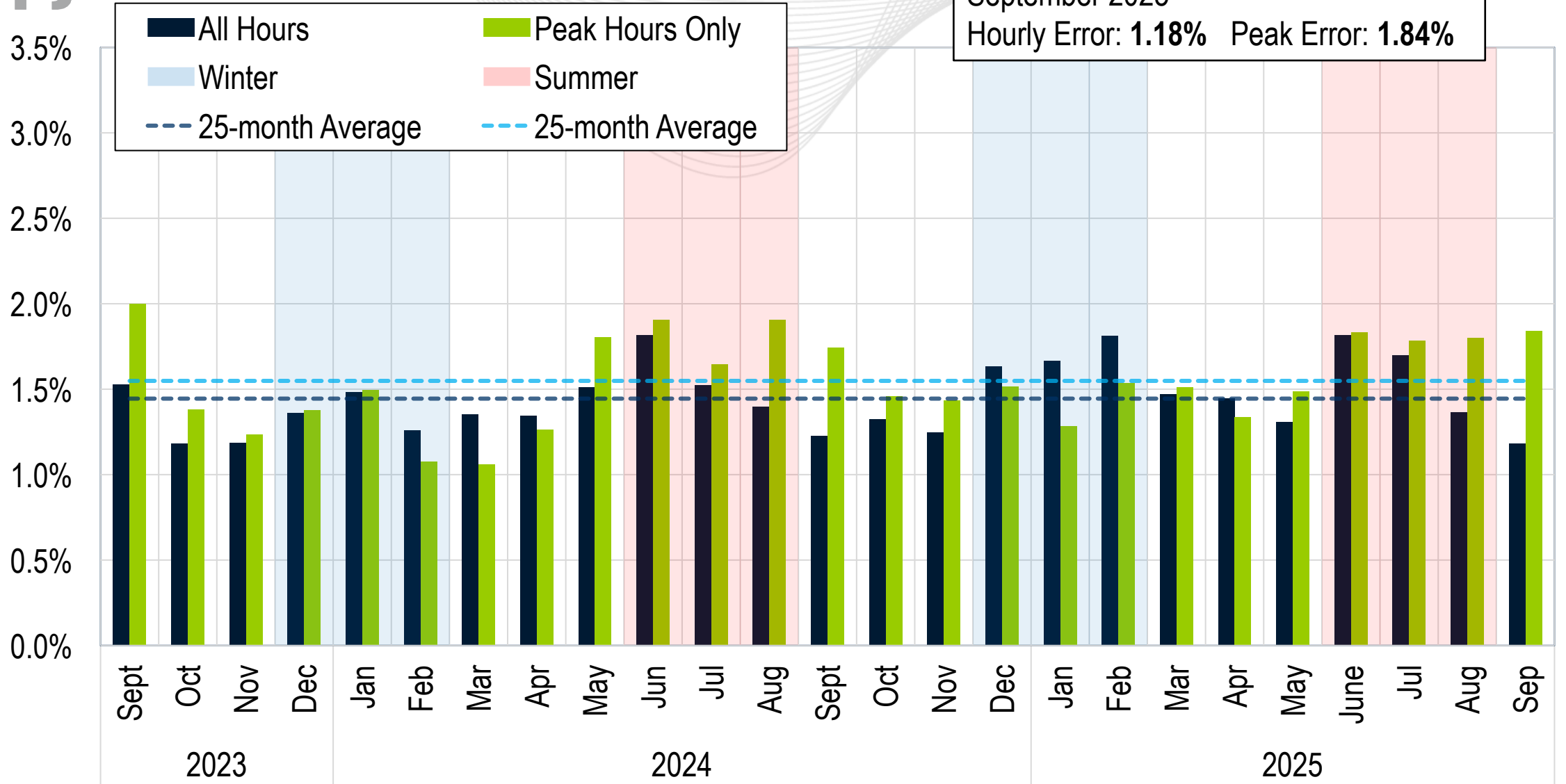
David Kimmel, Sr. Engineer II –
Performance Compliance

Operating Committee

October 8th, 2025

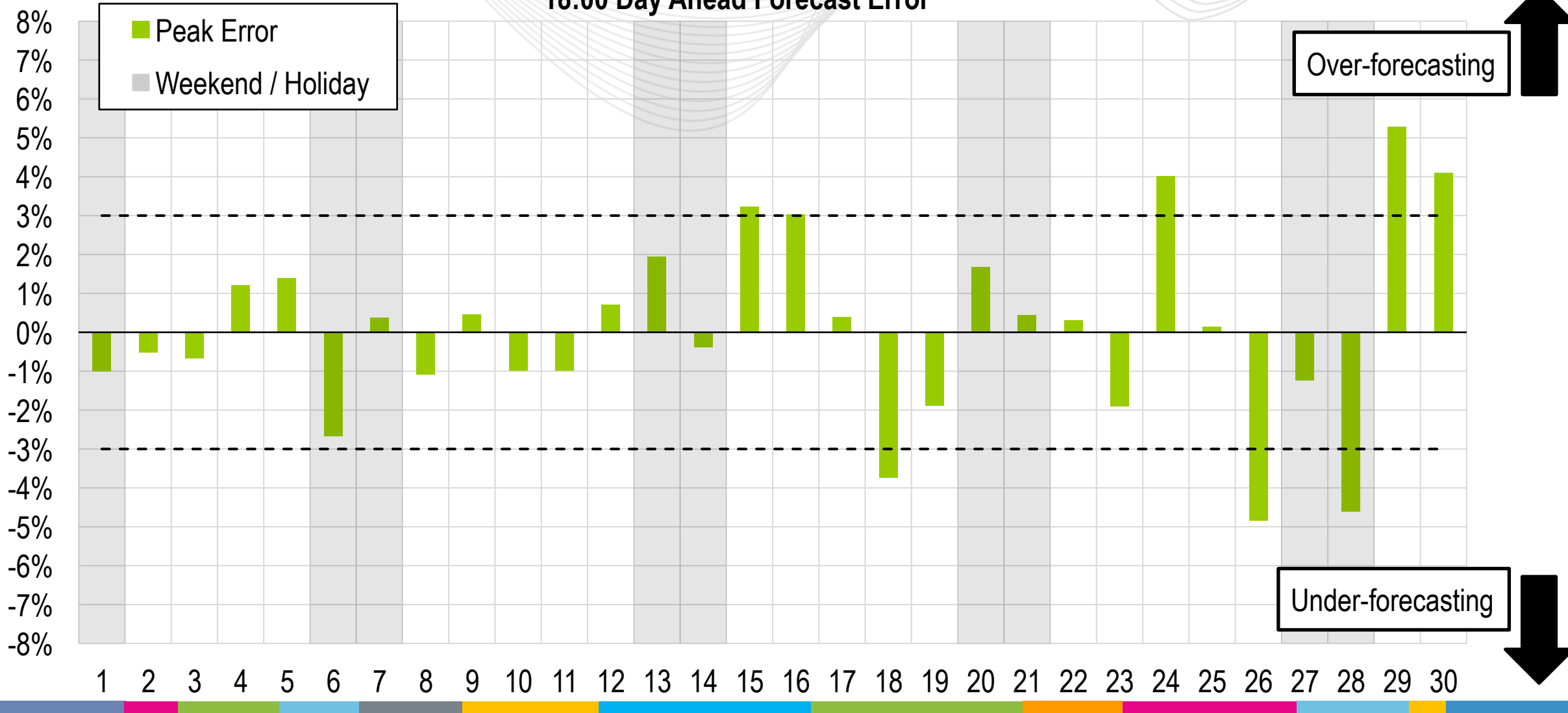
Average Load Forecast Error

September 2025
Hourly Error: **1.18%** Peak Error: **1.84%**



Daily Peak Forecast Error (Sept.)

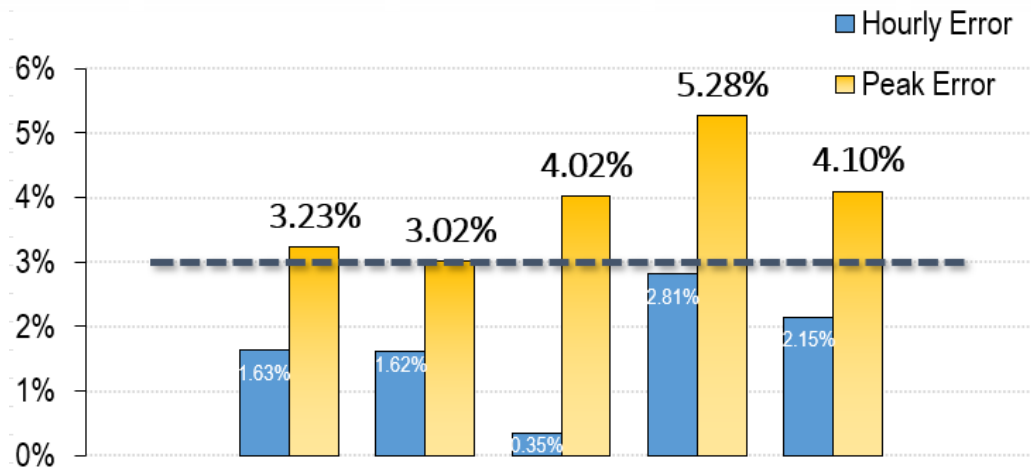
18:00 Day Ahead Forecast Error



Days Exceeding 3% Forecast Error at Peak Hour

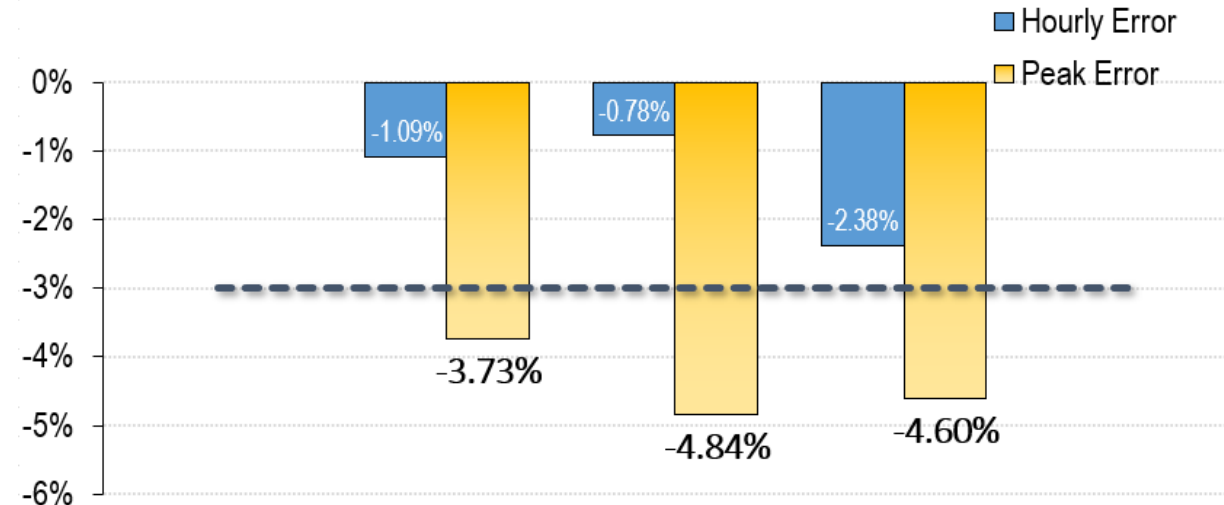
Over-forecasting

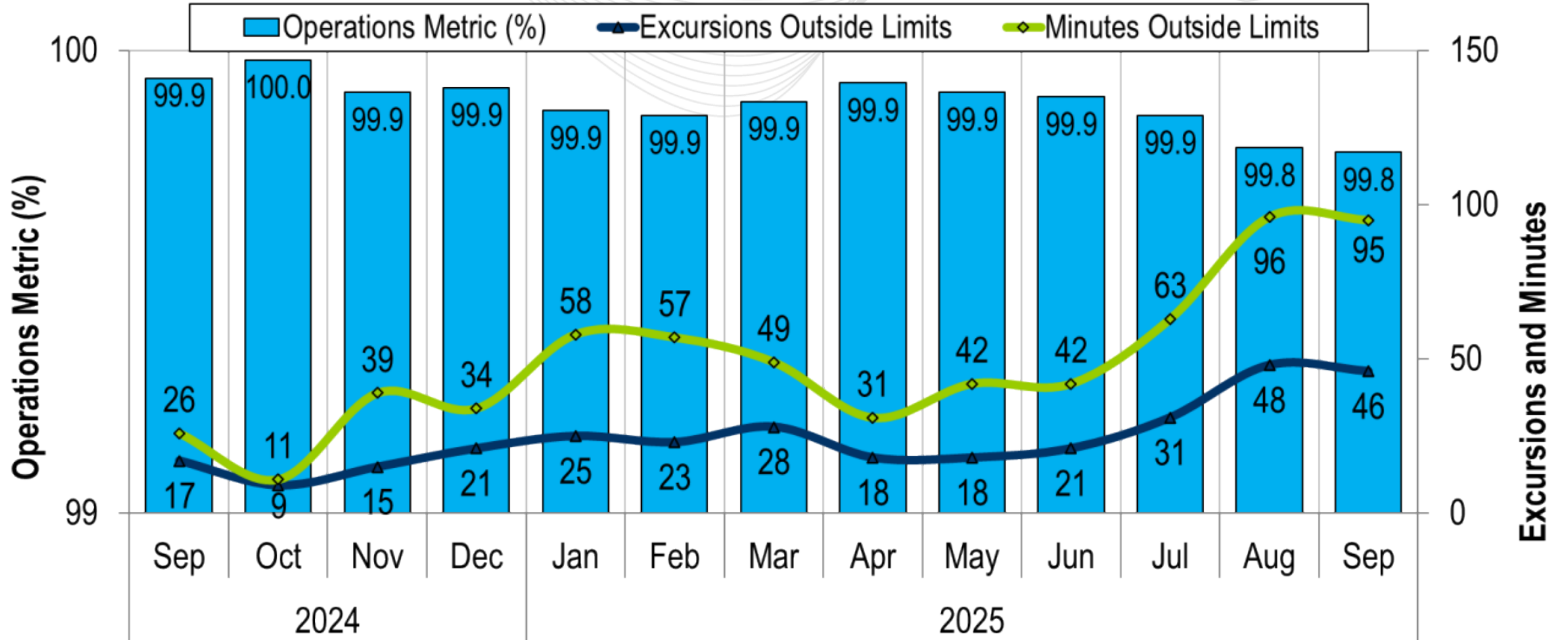
Sept. 15	Sept. 16	Sept. 24	Sept. 29	Sept. 30
Demand did not come in as high as forecast temperatures would have suggested	Temperatures came in lower in the Mid-Atlantic leading to over-forecasting	Significant temp. over-forecasting in several zones led to lower load and over-forecasting	Temperatures came in cooler in several zones leading to lower loads and over-forecasting	Several zones had significant temp. error, coming in much cooler, leading to over-forecasting



Under-forecasting

Sept. 18	Sept. 26	Sept. 28
Excessively under-forecasted temperature in the Mid-Atlantic led to load coming in much higher than anticipated in the RTO	Several zones had significant temperature error, coming in much higher than forecasted, leading to much higher loads than expected	Temperature came in higher than forecasted in several zones, leading to under-forecasting



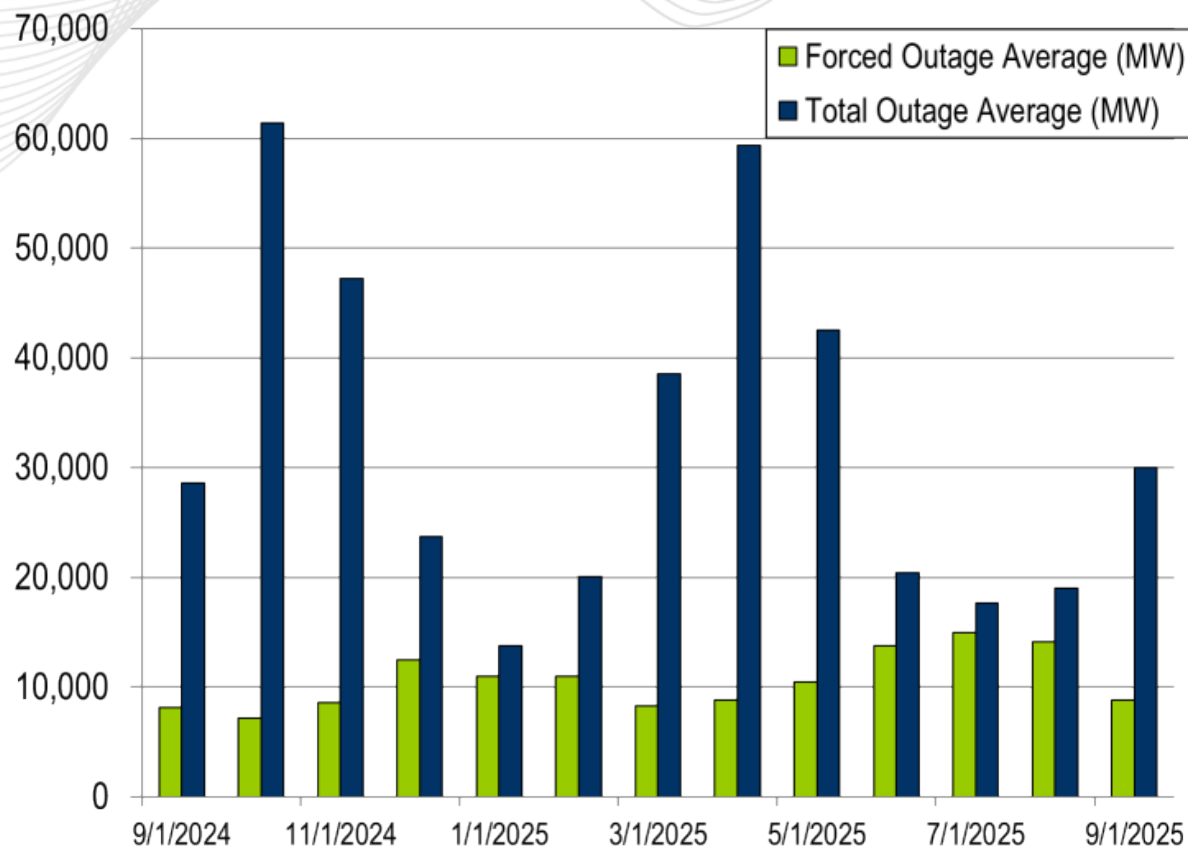
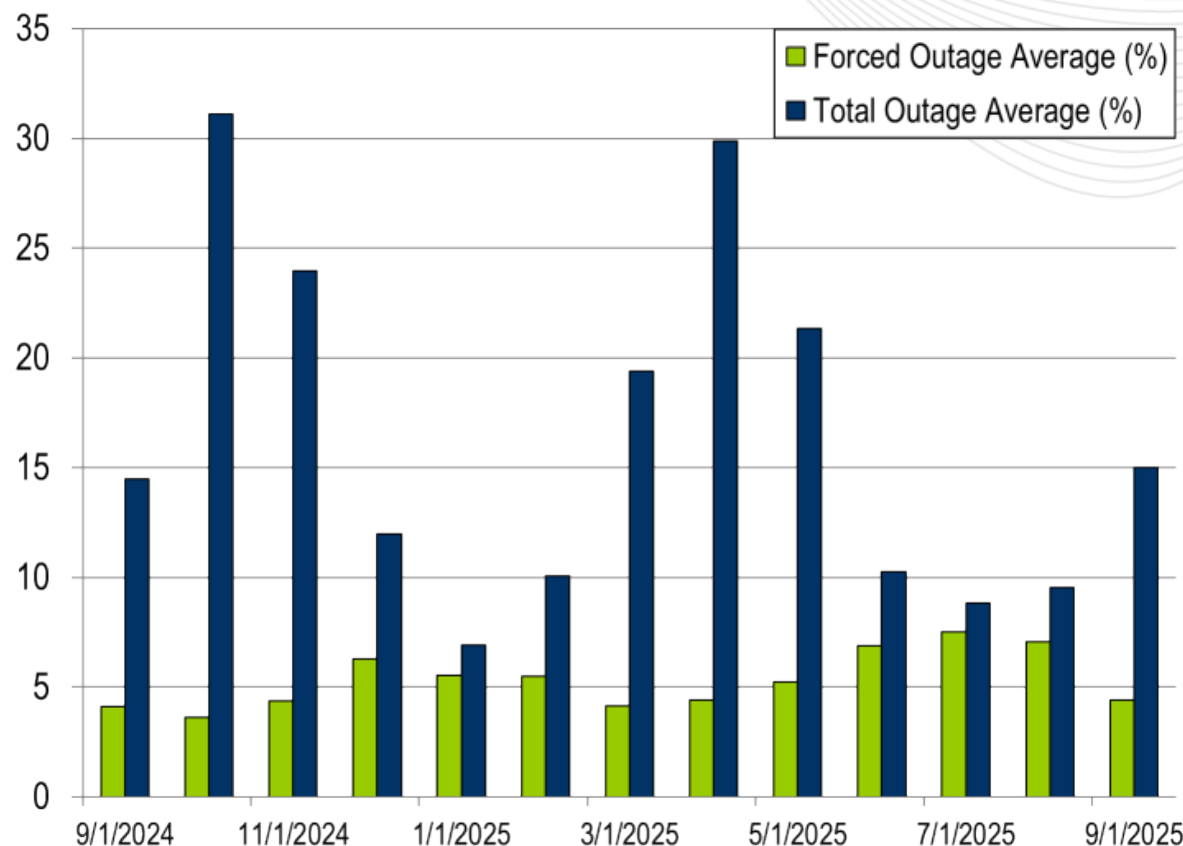


PJM's BAAL performance has exceeded the goal of 99% for each month in 2024 and 2025.

- The following Emergency Procedures occurred:
 - 4 Spin Events
 - 3 High System Voltage Actions
 - 2 Geomagnetic Disturbance Warnings
 - 22 Post Contingency Local Load Relief Warnings

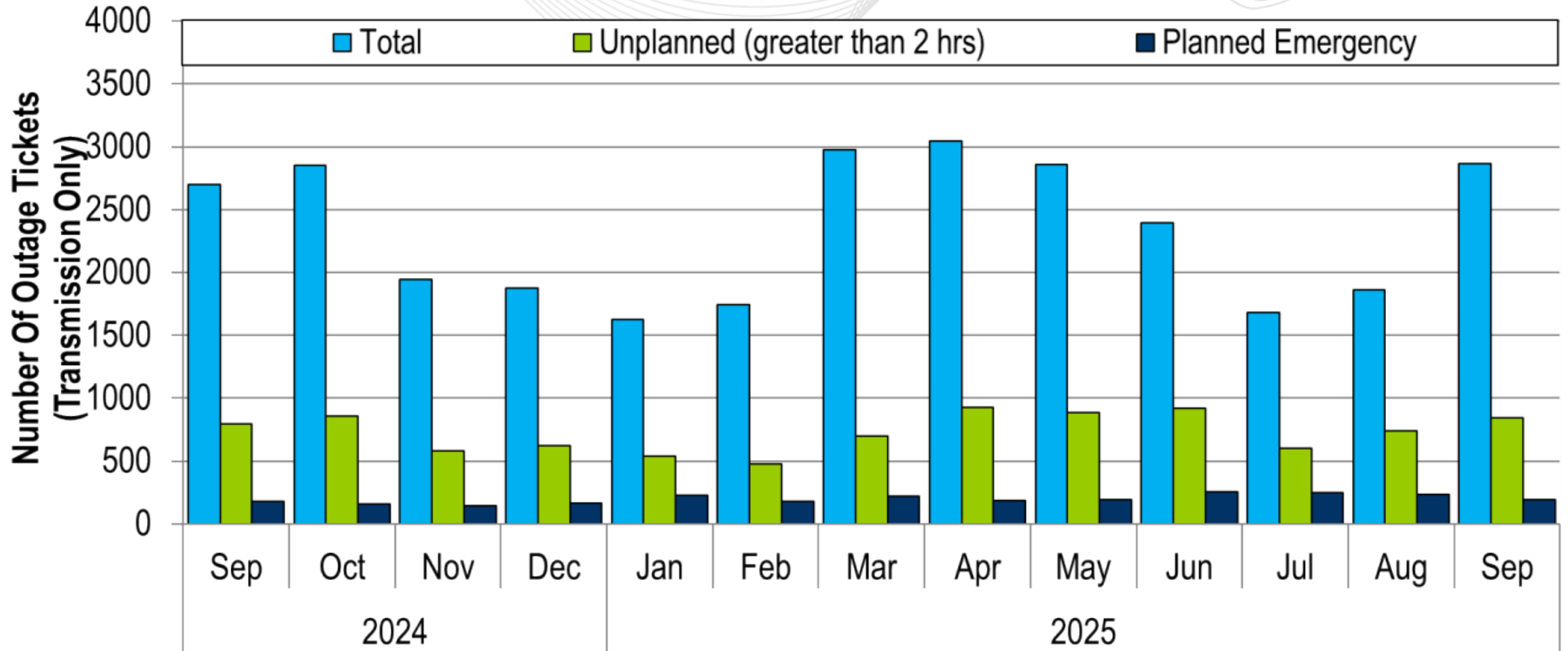
- 6 Shortage Cases Approved
- The approved Shortage Cases occurred on:
 - 09/01/2025:
 - 1 shortage cases approved for 00:20 interval
 - Factors: shortage in primary reserves as hydro was pumping, not bid in to provide reserves while pumping
 - 09/04/2025:
 - 2 shortage cases approved for 20:05 and 20:15 intervals
 - Factors: Spin Event from loss of generation
 - 09/25/2025:
 - 3 shortage cases approved for 19:40, 19:55, and 19:59 intervals
 - Factors: Low ACE coming out of Spin Event that was due to loss of generation

RTO Generation Outage Rate - Monthly



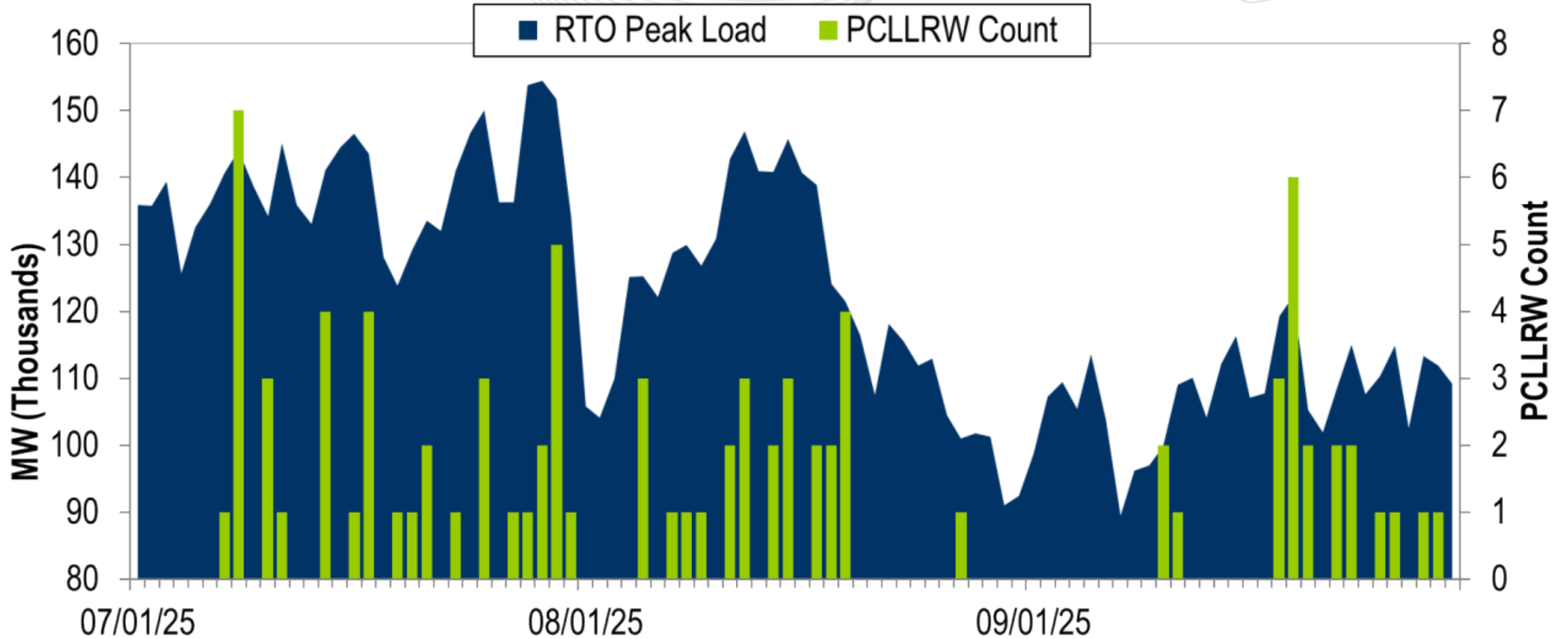
The 13-month average forced outage rate is 5.29% or 10,506 MW.
The 13-month average total outage rate is 15.13% or 30,024 MW.

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



Event	1			2			3			3		
Date	09/04/25			09/25/25			09/25/25			09/29/25		
Start Time	19:56:22			19:12:37			19:35:52			21:30:12		
End Time	20:05:21			19:23:06			19:43:35			21:36:57		
Duration	00:08:59			00:10:29			00:07:43			00:06:45		
Region	RTO			RTO			RTO			RTO		
Resource Type	Gen	DR	Total	Gen	DR	Total	Gen	DR	Total	Gen	DR	Total
Assigned (MW)	2421	542	2963	2754	589	3343	2810	589	3399	2910	496	3406
Estimated Expected Response of Assigned Resources (MW)	2175	487	2662	2754	589	3343	2168	455	2623	1964	335	2299
Actual Response of Assigned Resources (MW)	1673	482	2155	2075	491	2566	1698	332	2030	1432	429	1861
Output Increase of Resources without Assignment (MW)	1281	0	1281	656	0	656	820	0	820	586	0	586
Percent Response To Assignment (%)	69%	89%	73%	75%	83%	77%	60%	56%	60%	49%	86%	55%
Percent Response To Estimated Expected Response (%)	77%	99%	81%	75%	83%	77%	78%	73%	77%	73%	128%	81%
Penalty (MW)	0	0	0	679	98	777	0	0	0	0	0	0

Event Counted Toward Qualifying Events	Qualifying Reason	Individual Percent Response To Assignment (%)	Average Percent Response To Assignment (%)
09/25/25 19:12:37	Duration ≥ 10 minutes	77.0%	77.0%

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

A green speech bubble containing a white question mark, positioned above a blue speech bubble with three horizontal lines, indicating a question or contact point.

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Member Hotline

(610) 666 – 8980

(866) 400 – 8980

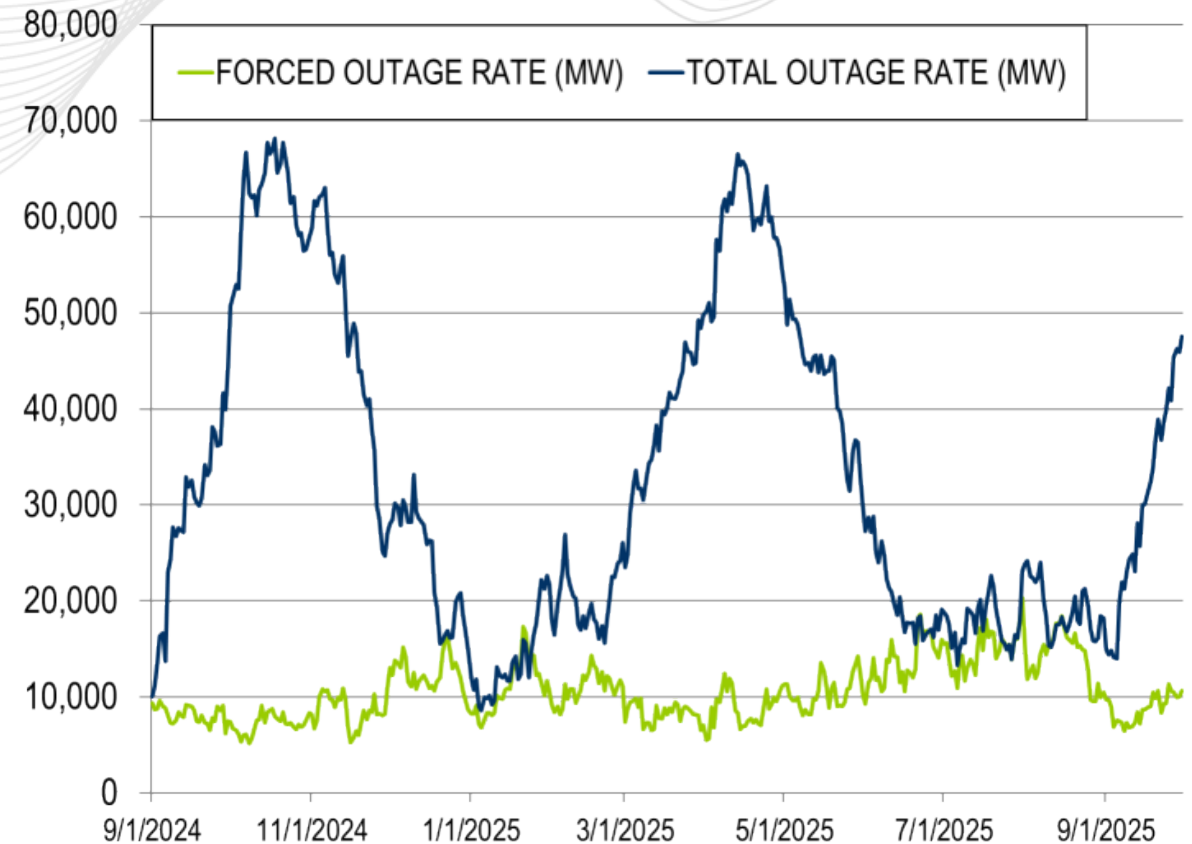
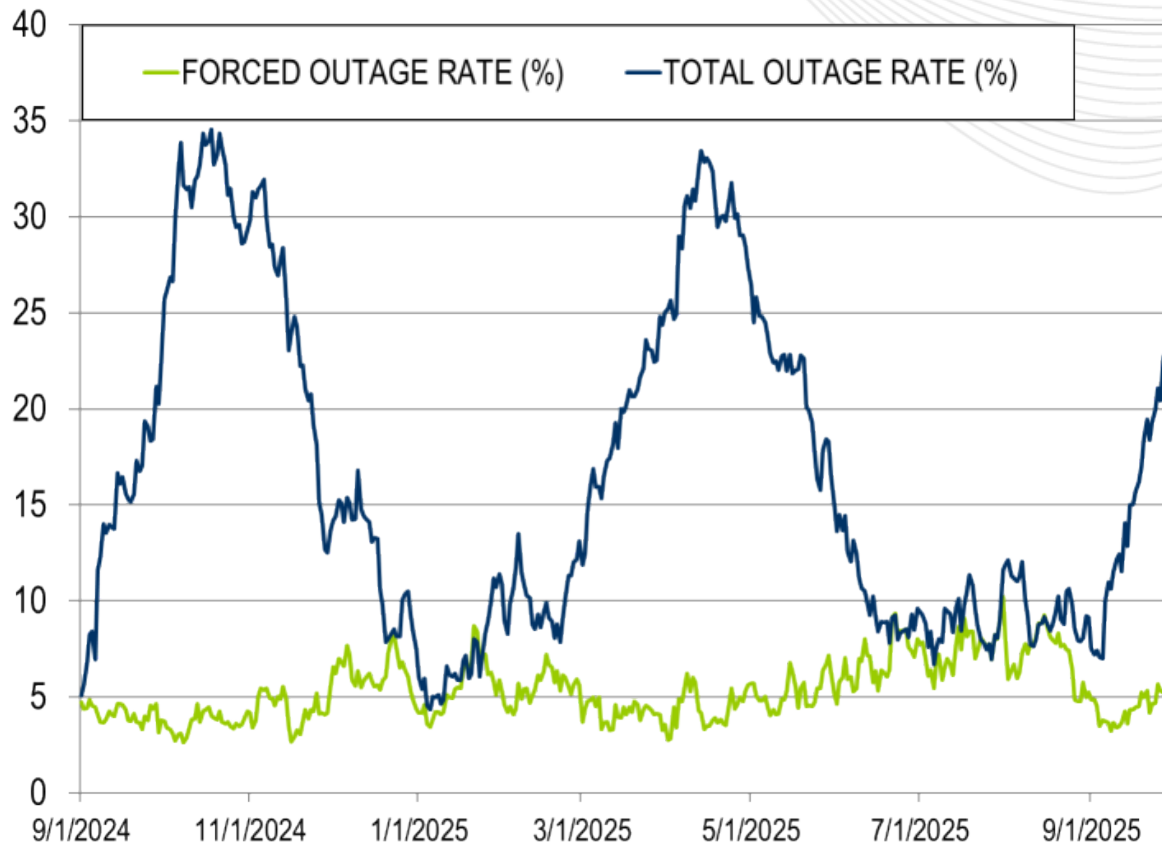
custsvc@pjm.com

Appendix

Goal Measurement: Balancing Authority ACE Limit (BAAL)

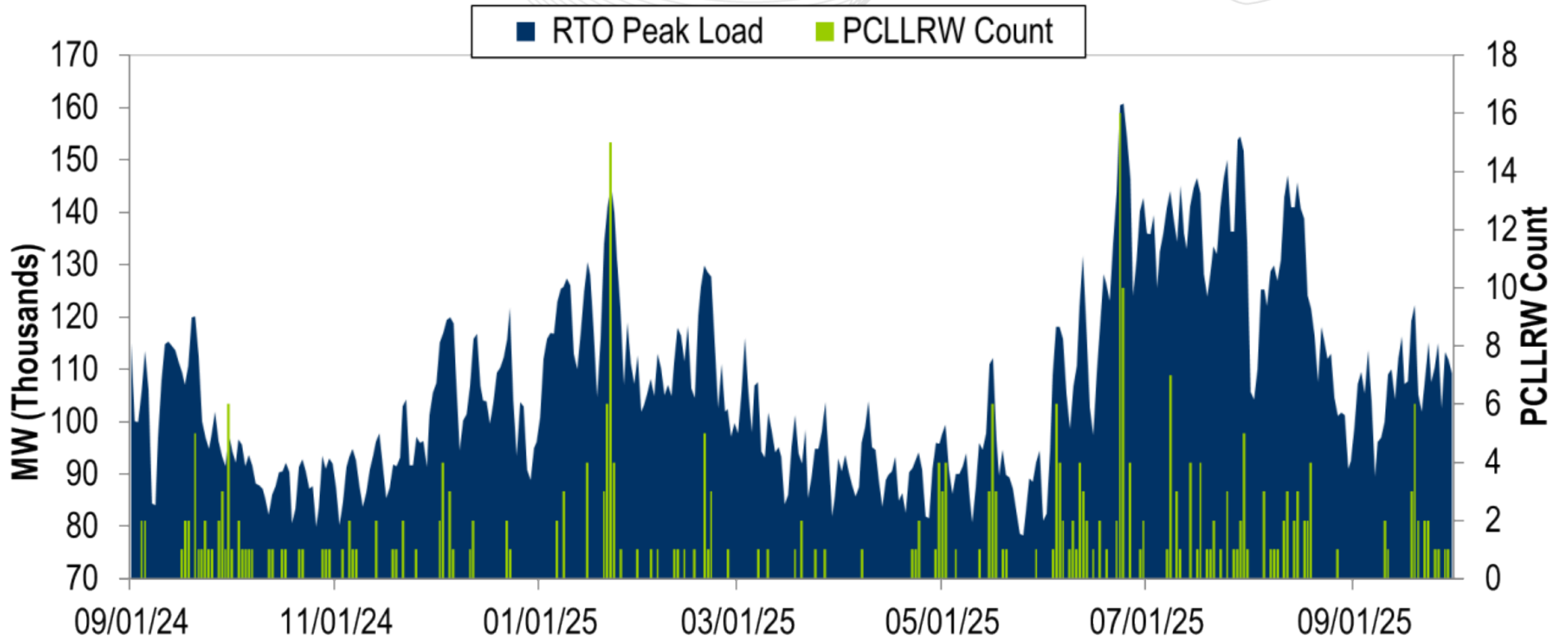
- The purpose of the new BAAL standard is to maintain interconnection frequency within a predefined frequency profile under all conditions (normal and abnormal), to prevent frequency-related instability, unplanned tripping of load or generation, or uncontrolled separation or cascading outages that adversely 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 5.29% or 10,506 MW.
The 13-month average total outage rate is 15.13% or 30,024 MW.

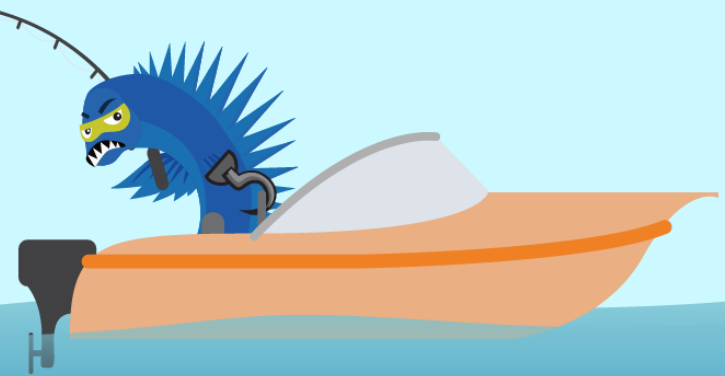
PCLLRW Count Vs. Peak Load – Daily Values For 13 Months



**PROTECT THE
POWER GRID**
**THINK BEFORE
YOU CLICK!**



**BE ALERT TO
MALICIOUS PHISHING
EMAILS**



Report suspicious email activity to PJM.
Call (610) 666-2244 or email it_ops_ctr_shift@pjm.com