System Operations Report

Marcus Smith, Lead Engineer – Markets Coordination

David Kimmel, Sr. Engineer II – Performance Compliance

Operating Committee

December 5, 2024

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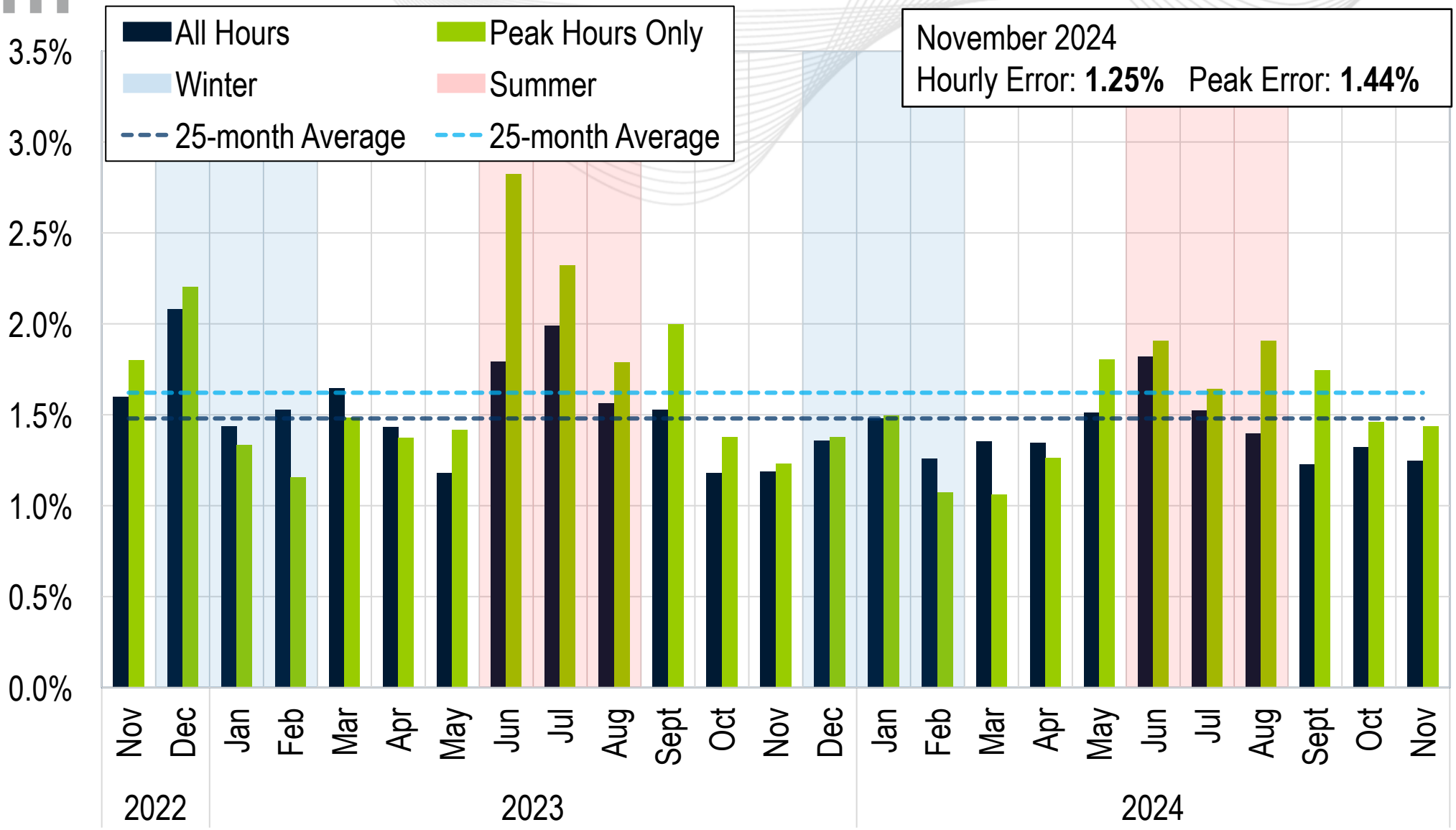
Average Load Forecast Error



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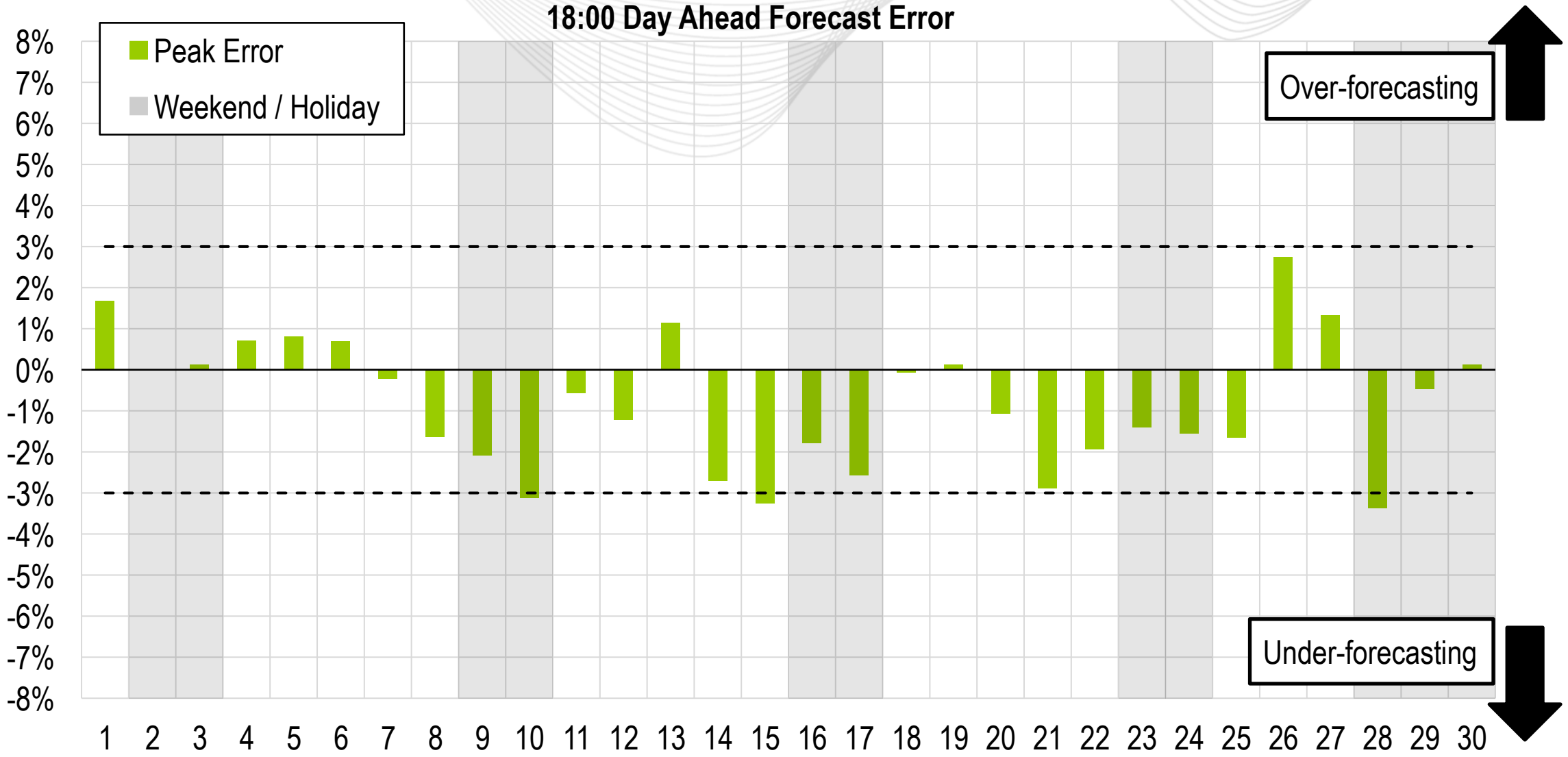
Daily Peak Forecast Error (November)



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Days Exceeding 3% Forecast Error at Peak Hour

Under Forecasting

Nov. 10

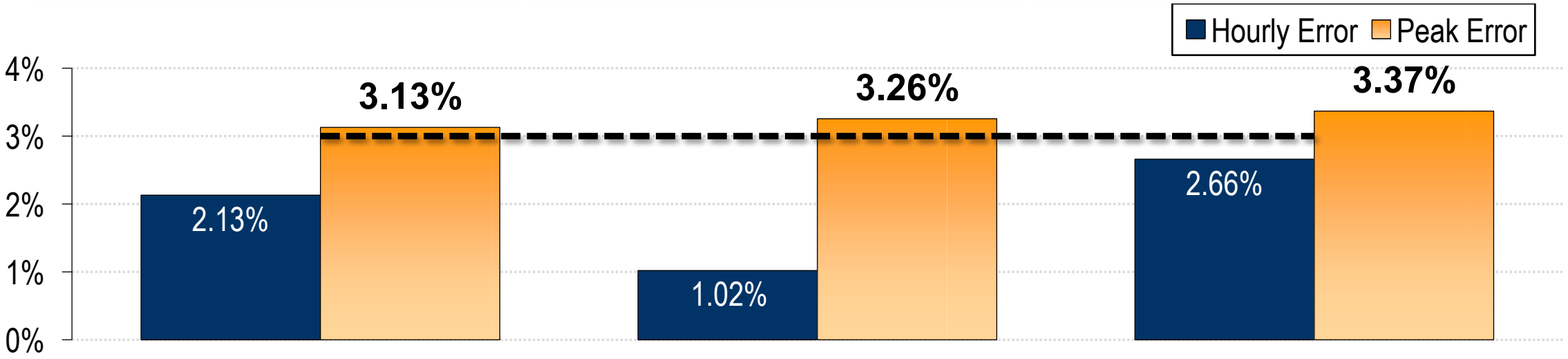
Temperatures were 2-4 degrees cooler with abundant clouds and showers leading to higher loads.

Nov. 15

Temperatures came in 3-6 degrees cooler across the RTO, especially in the Western Region, leading to higher peak load.

Nov. 28

Heavy rain and clouds with some cooler than forecasted temperatures led to a protracted midday peak on Thanksgiving.



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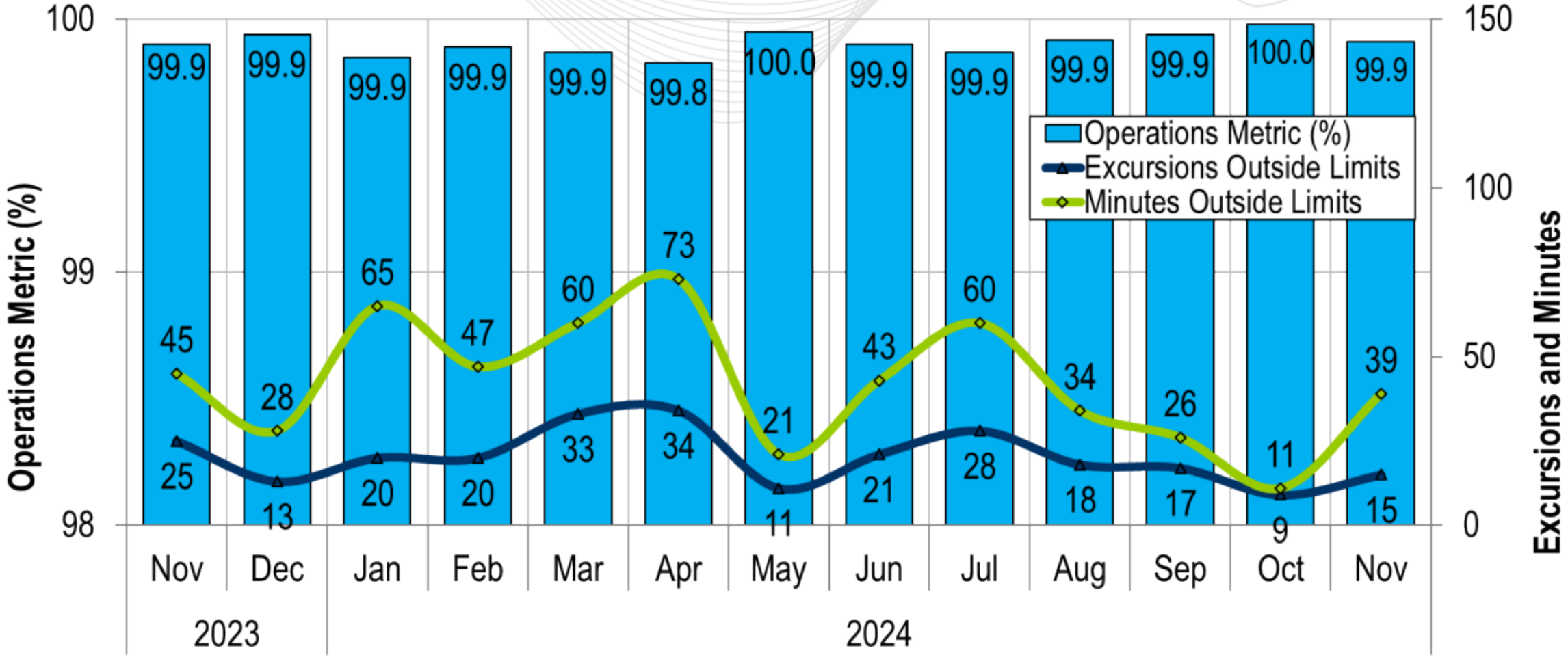
Monthly BAAL Performance Score



PJM's BAAL performance has exceeded the goal of 99% for each month in 2023 and 2024.

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Operational Summary (November)

- The following Emergency Procedures occurred:
  - 3 Shared Reserve events
  - 3 Spin Events
  - 1 Conservative Operations Alert
  - 12 Post Contingency Local Load Relief Warnings (PCLLRWs)

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Shortage Case Approvals

- 2 Shortage Cases Approved
- The approved Shortage Cases occurred on:
  - 11/22/2024:
    - 2 shortage cases approved for the 00:59 and 01:10 intervals
    - Factors: Unit Tripping and Interchange

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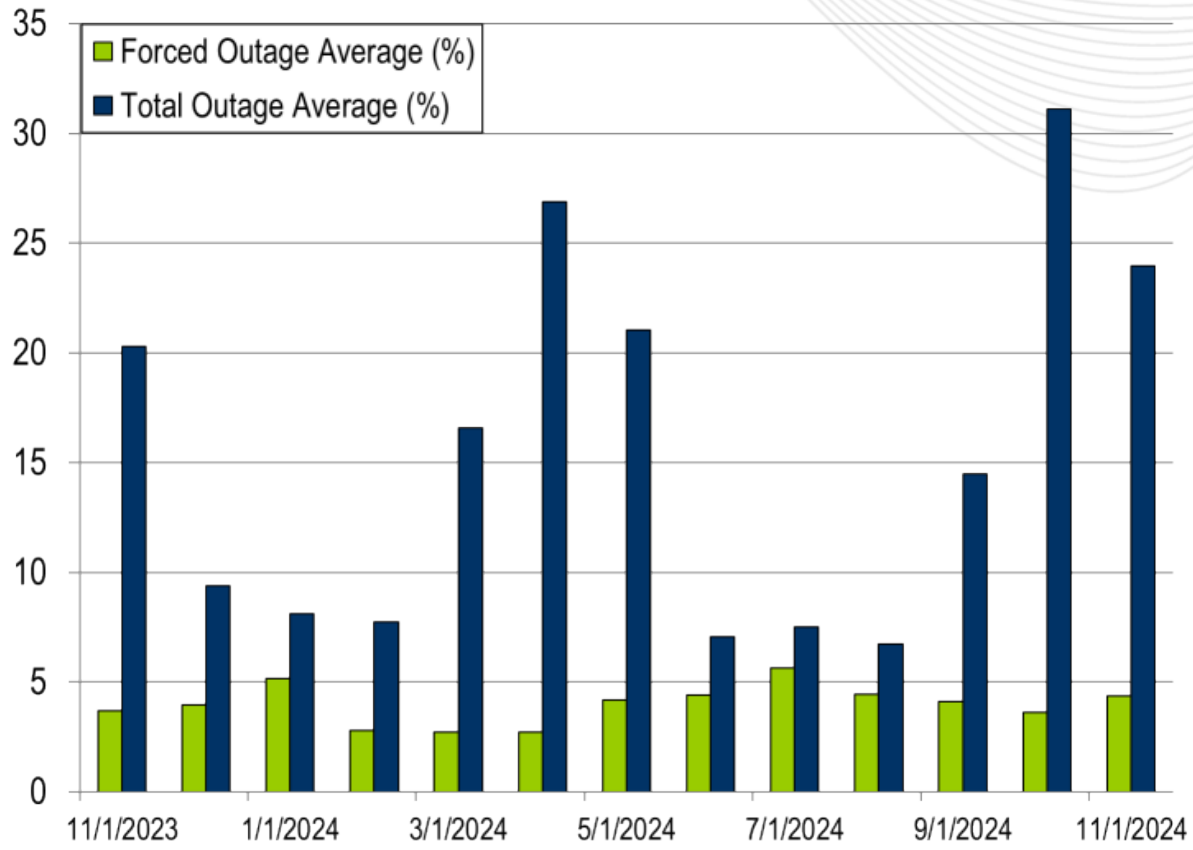
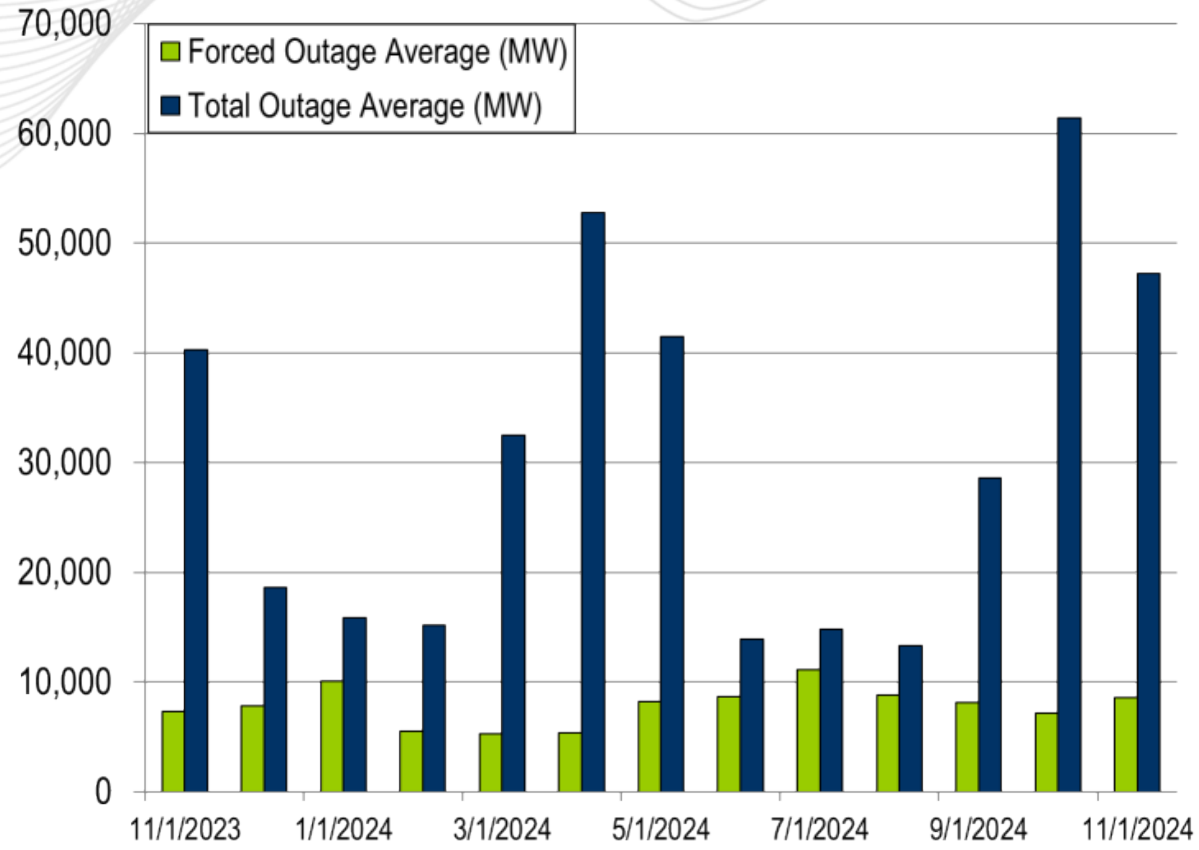
RTO Generation Outage Rate - Monthly





The 13-month average forced outage rate is 4.00% or 7,893 MW.
The 13-month average total outage rate is 15.44% or 30,445 MW.

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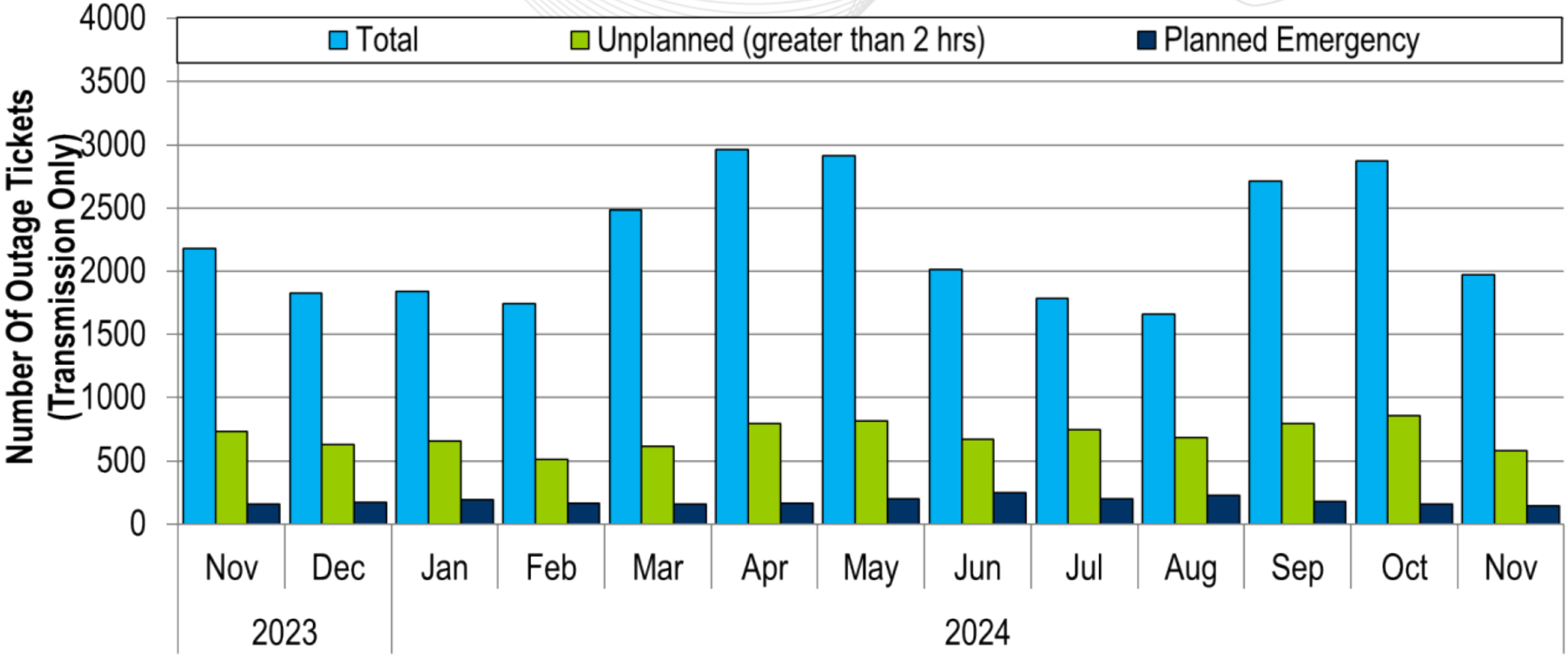
2023-2024 Planned Emergency, Unplanned, and Total Outages by Ticket (Transmission Only)



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

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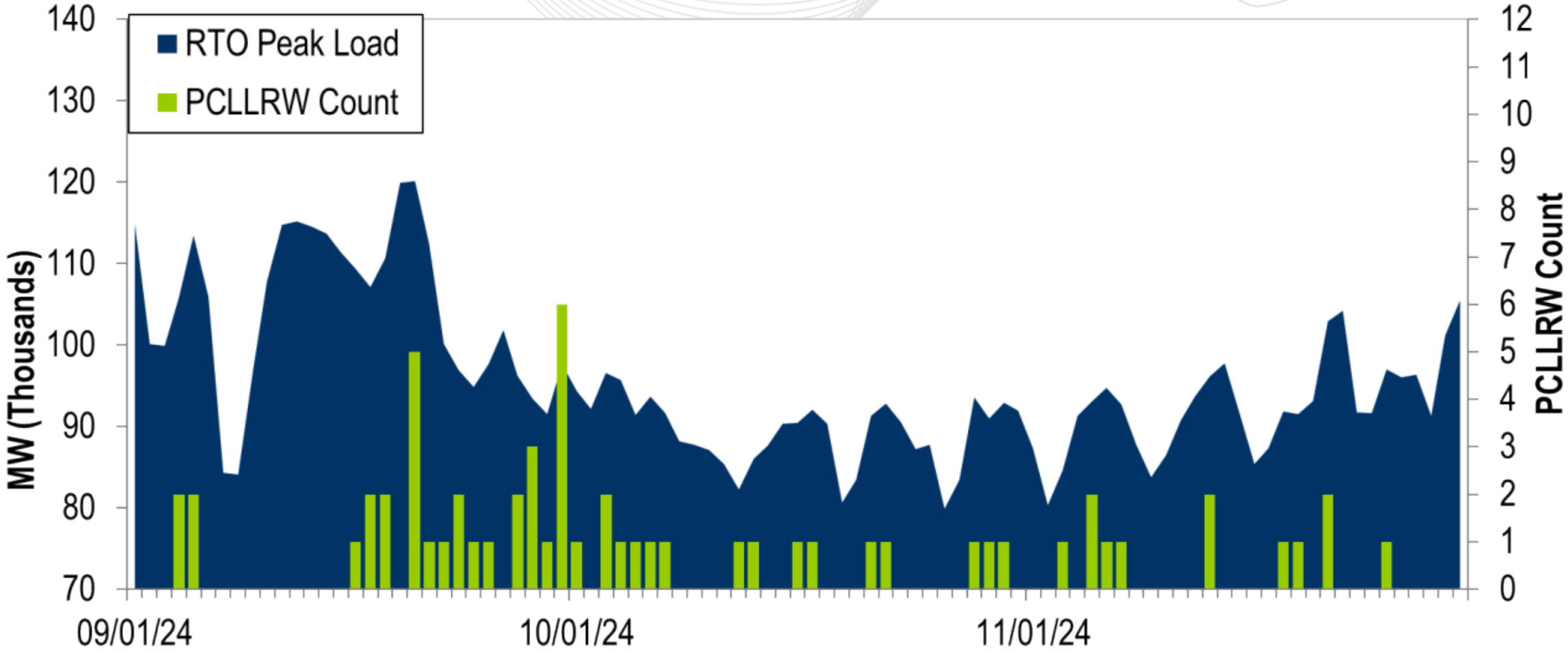
PCLLRW Count Vs. Peak Load – Daily Values For 3 Months



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Spin Response

Event	1		
Date	11/10/24		
Start Time	00:20:29		
End Time	00:31:18		
Duration	00:10:49		
Region	RTO		
Resource Type	Gen	DR	Total
Assigned (MW)	1439	481	1919
Estimated Expected Response of Assigned Resources (MW)	1439	481	1919
Actual Response of Assigned Resources (MW)	1032	451	1483
Output Increase of Resources without Assignment (MW)	624	0	624
Percent Response To Estimated Expected Response (%)	72%	94%	77%
Penalty (MW)	407	30	436

Please note that the performance results from the events on 11/27/2024 and 11/29/2024 are not yet available. This slide will be reposted with those results when available.

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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

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Appendix

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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.

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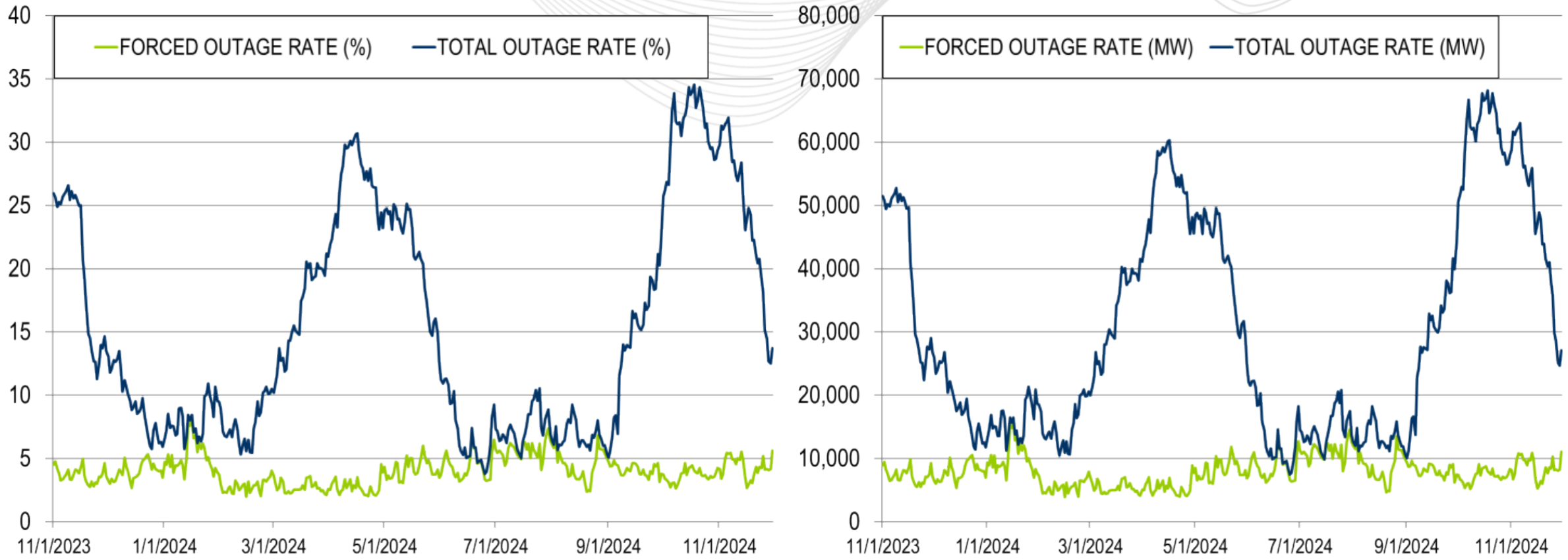
RTO Generation Outage Rate - Daily



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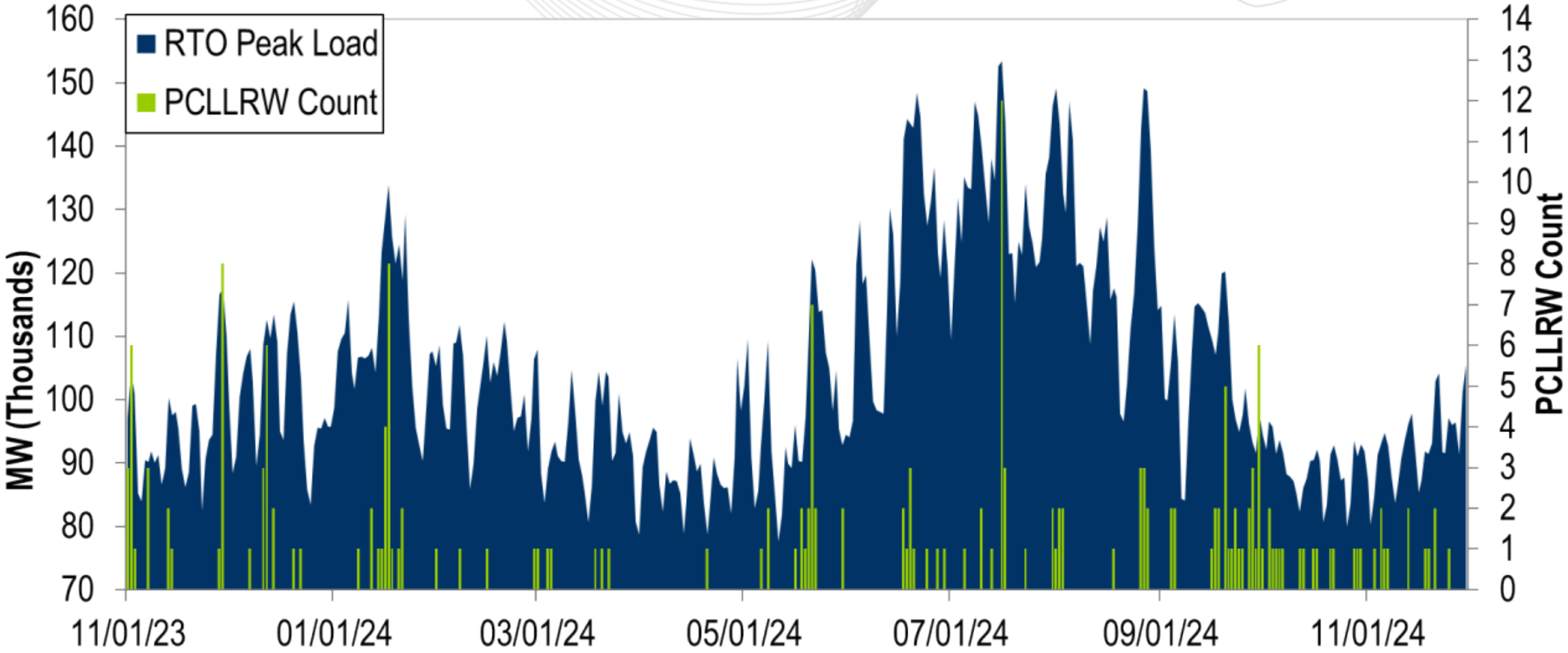
PCLLRW Count Vs. Peak Load – Daily Values For 13 Months



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