# System Operations Report

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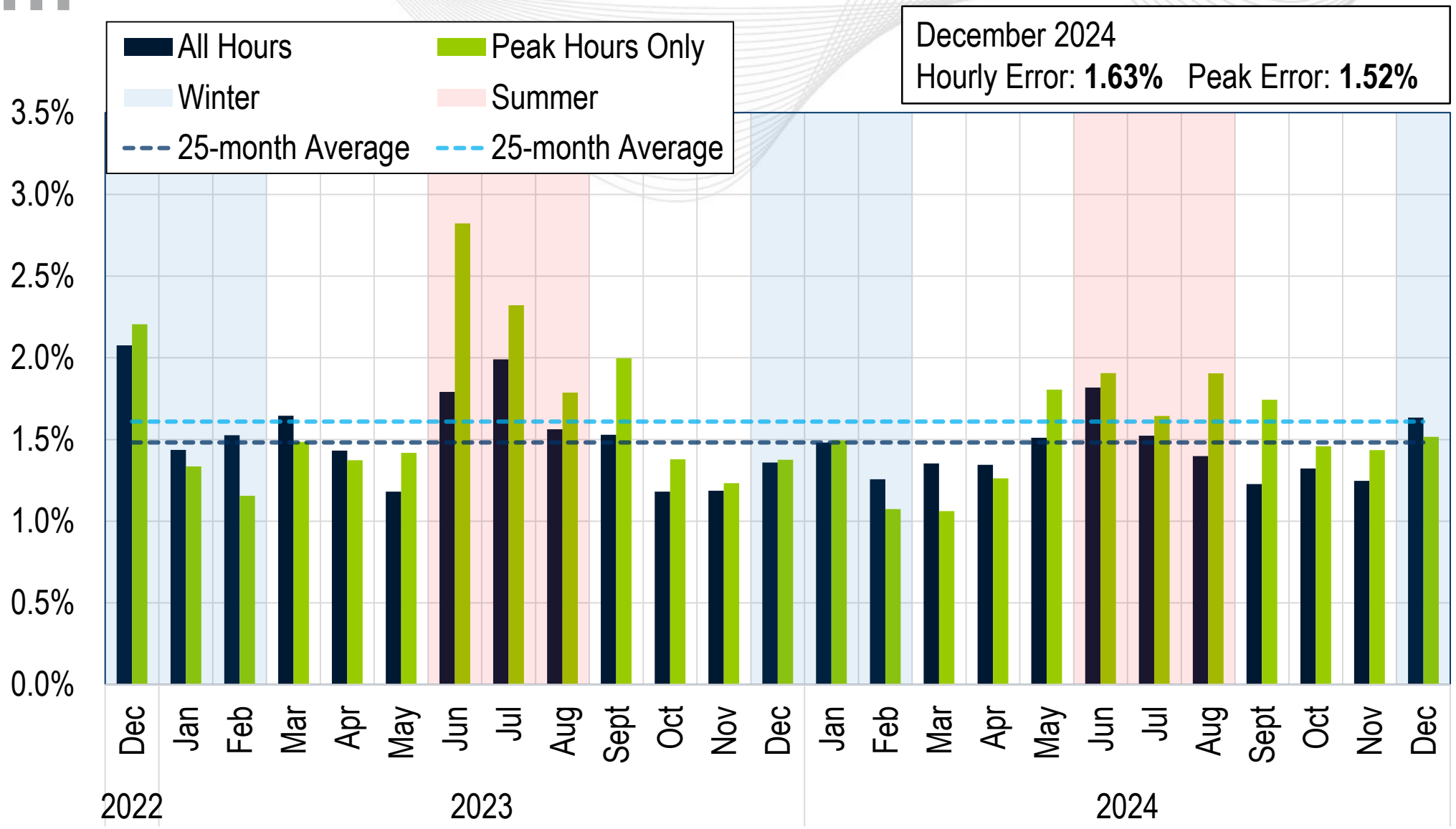
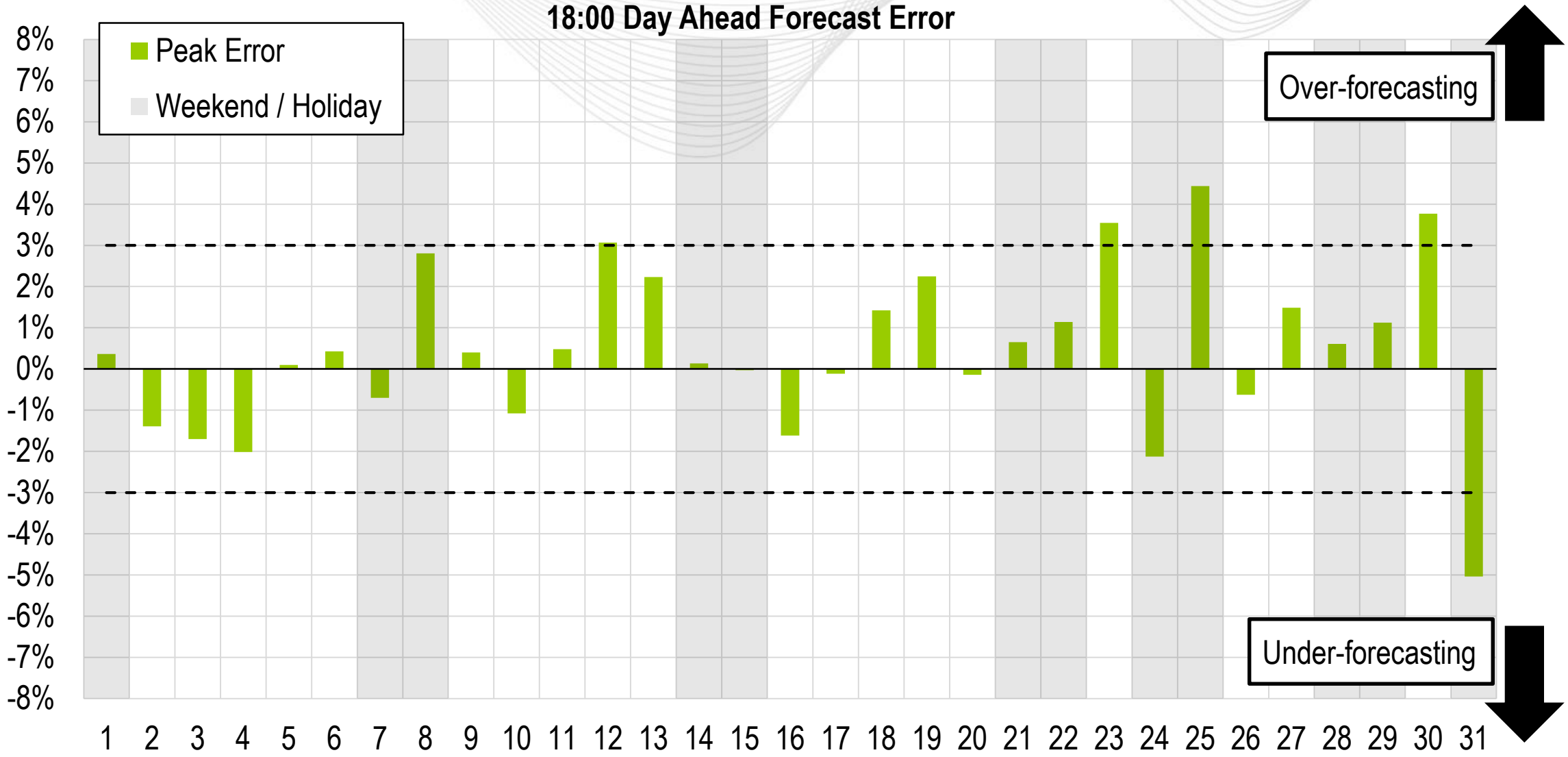
Operating Committee

January 9, 2025

# Average Load Forecast Error



# Daily Peak Forecast Error (December)



# Days Exceeding 3% Forecast Error at Peak Hour

## Over-forecasting

### Dec. 12
Temperatures in East were 3-6°F warmer than forecast in afternoon

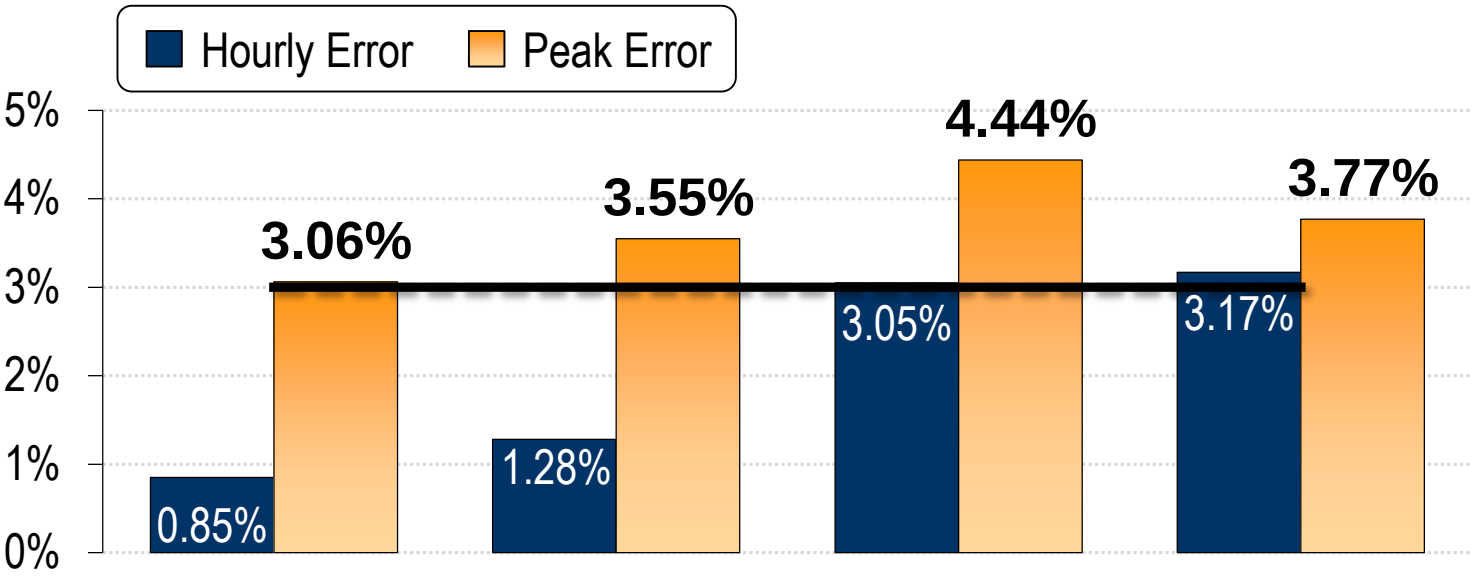
### Dec. 23
Colder than forecasted temperatures but loads were lower due to holiday impacts

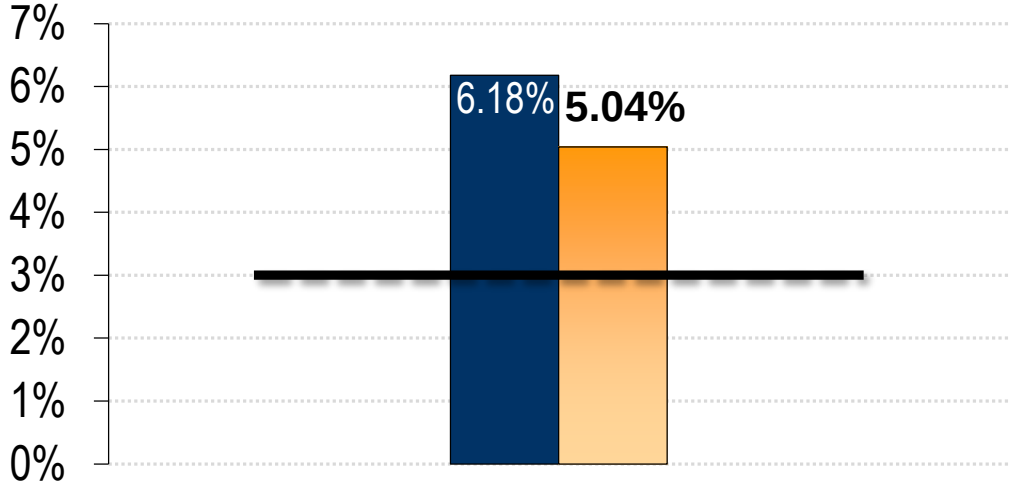
### Dec. 25
Temperatures 2-6°F warmer than forecast; holiday impact greater than anticipated

### Dec. 30
Holiday influence led to lower loads coming off an unseasonably warm weekend

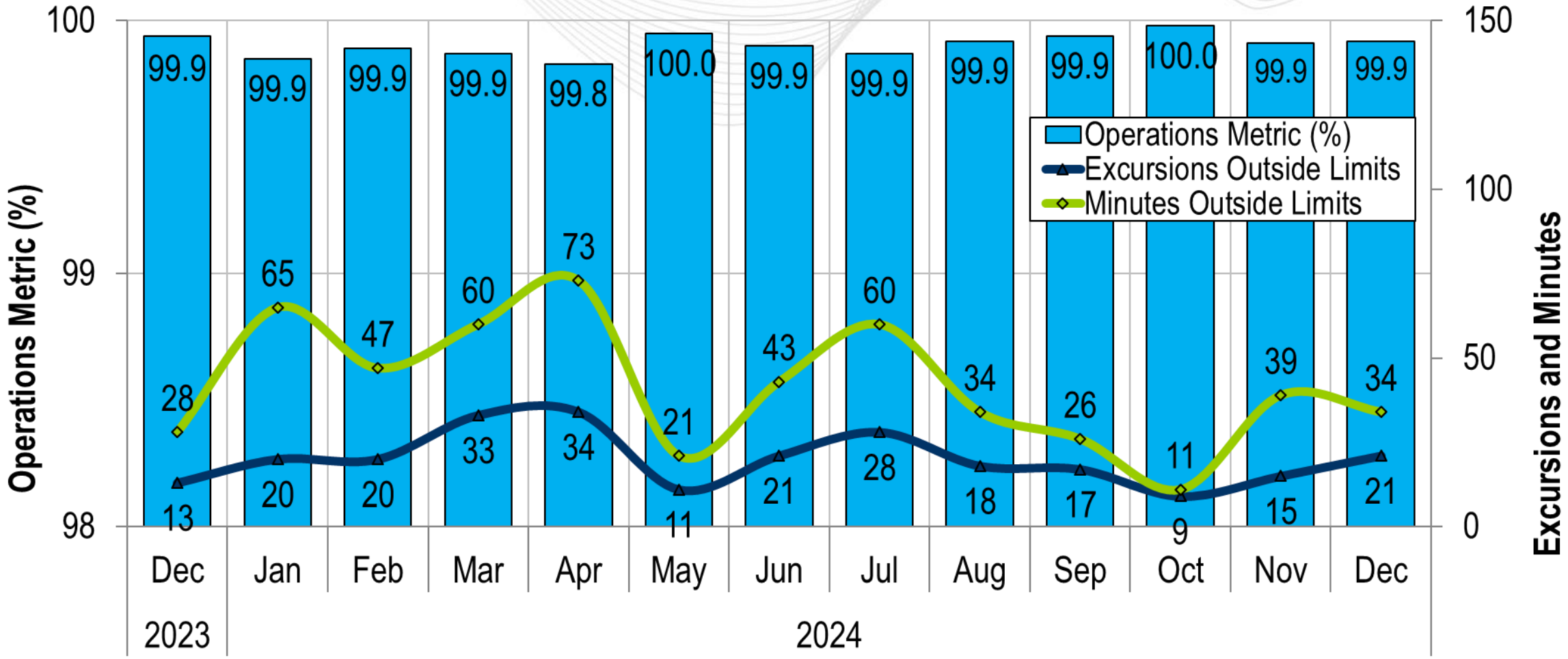
## Under-forecasting

### Dec. 31
Loads came in higher as there was more than usual uncertainty due to a large model spread, recent holiday impacts & historical holiday analysis



# Monthly BAAL Performance Score




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

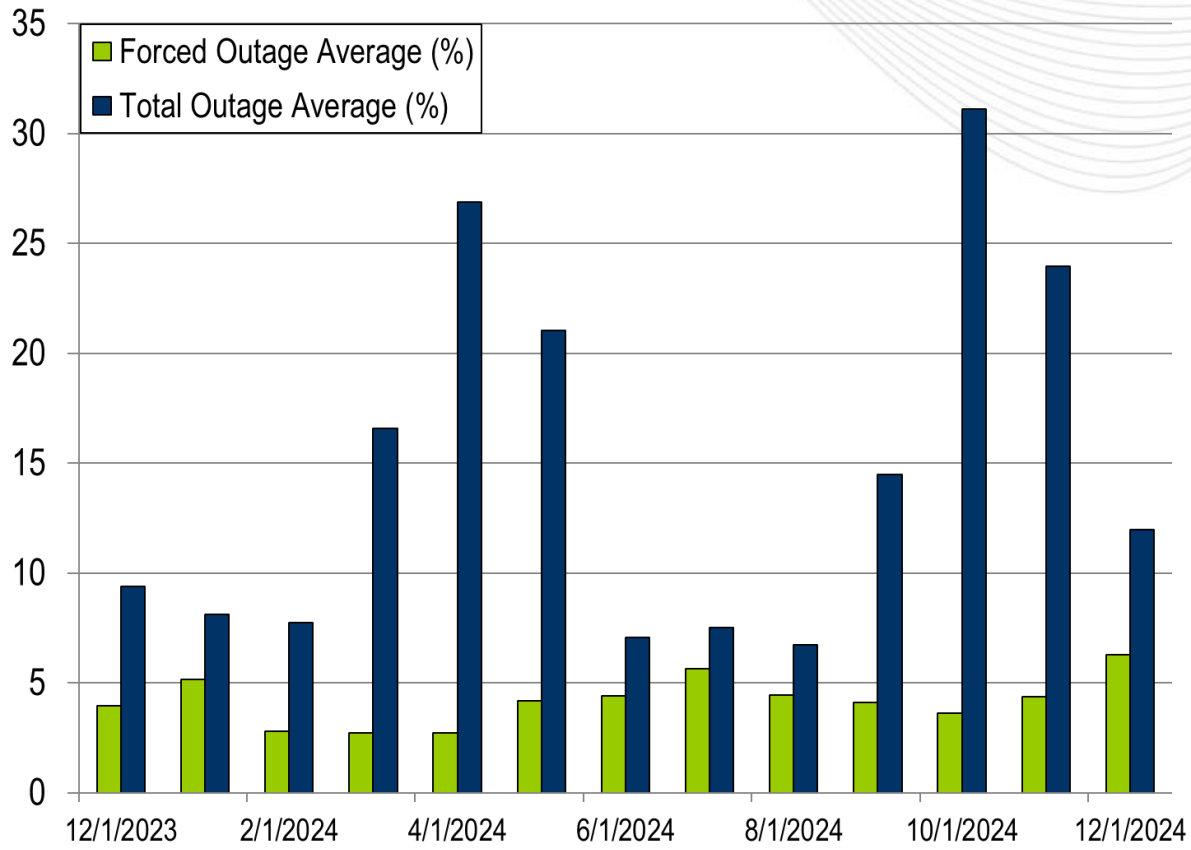
# Operational Summary (December)

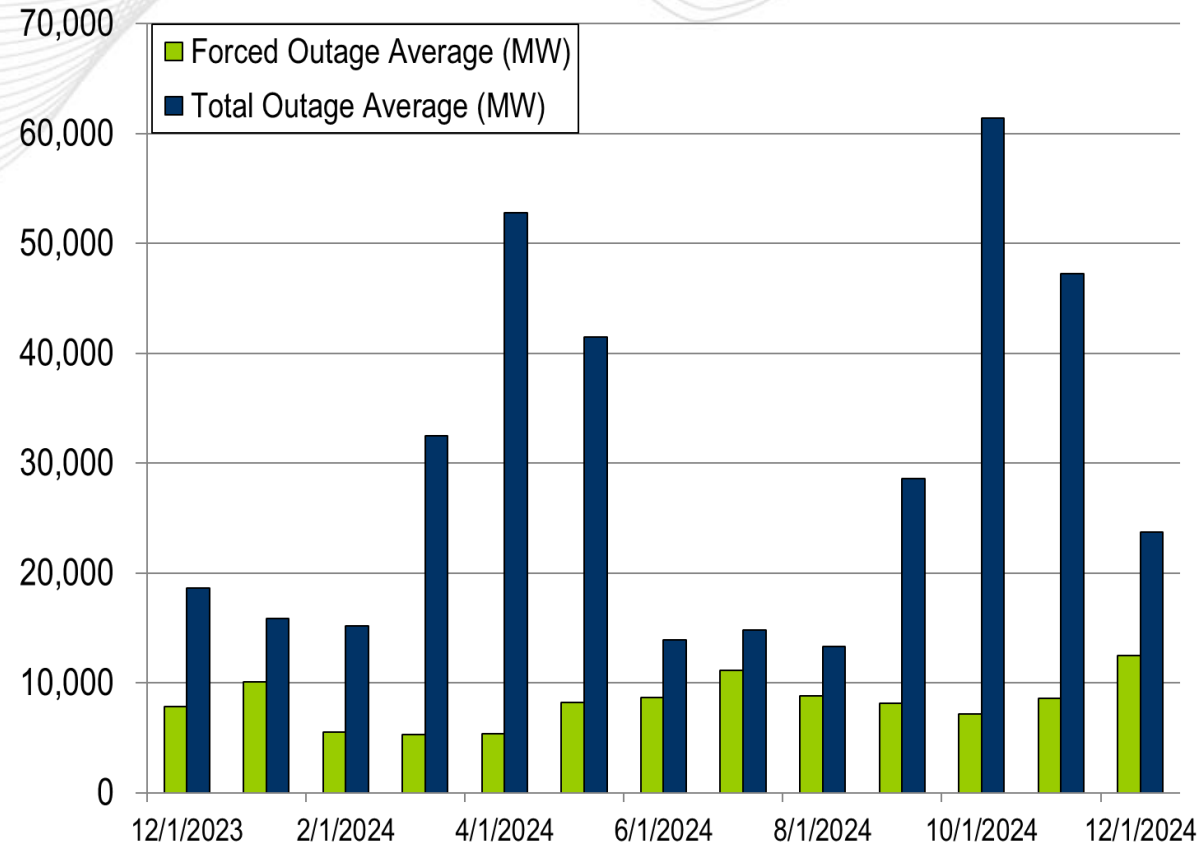
- The following Emergency Procedures occurred:
  - 4 Shared Reserve events
  - 1 Spin Event
  - 1 High System Voltage Action
  - 2 Cold Weather Alerts
  - 16 Post Contingency Local Load Relief Warnings (PCLLRWs)

# Shortage Case Approvals

- 1 Shortage Case Approved
- The approved Shortage Cases occurred on:
  - 12/06/2024:
    - 1 shortage case approved for the 17:40 interval
    - Factors: load and Interchange increase

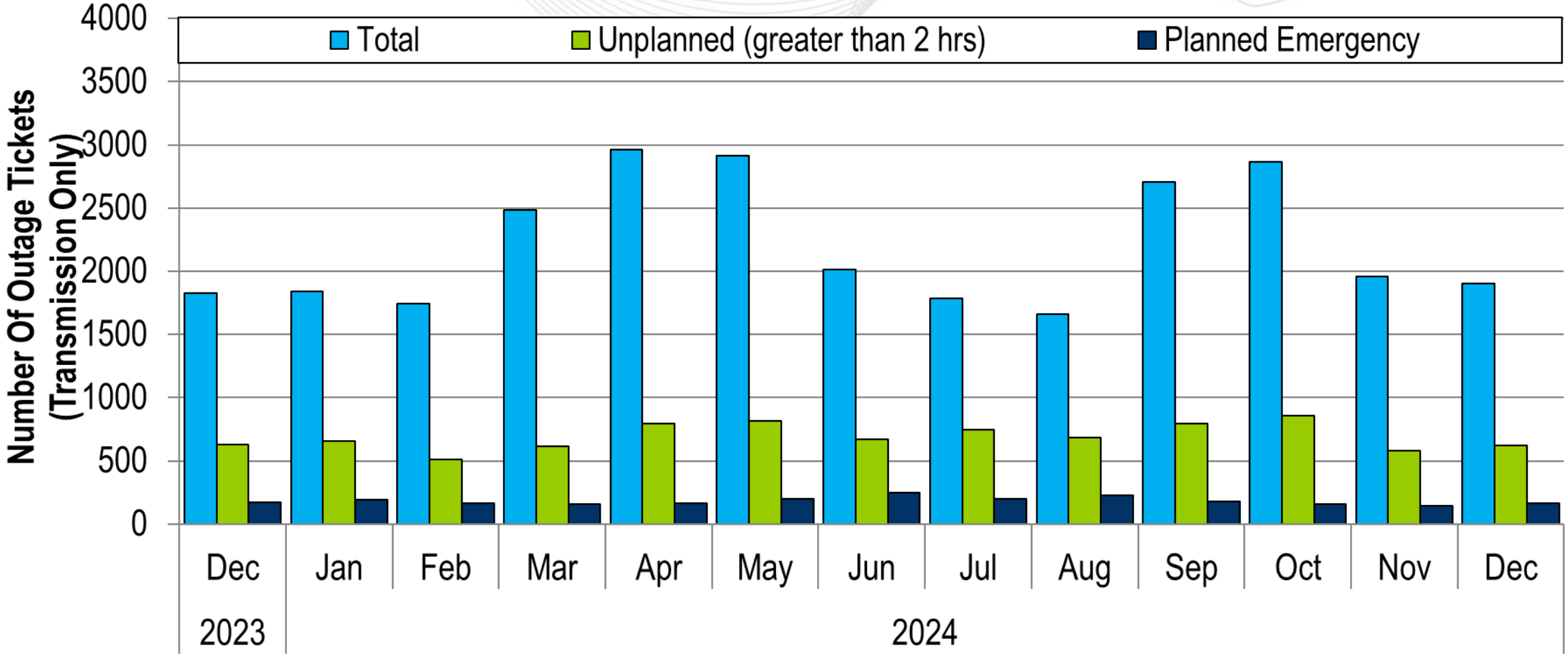
# RTO Generation Outage Rate - Monthly



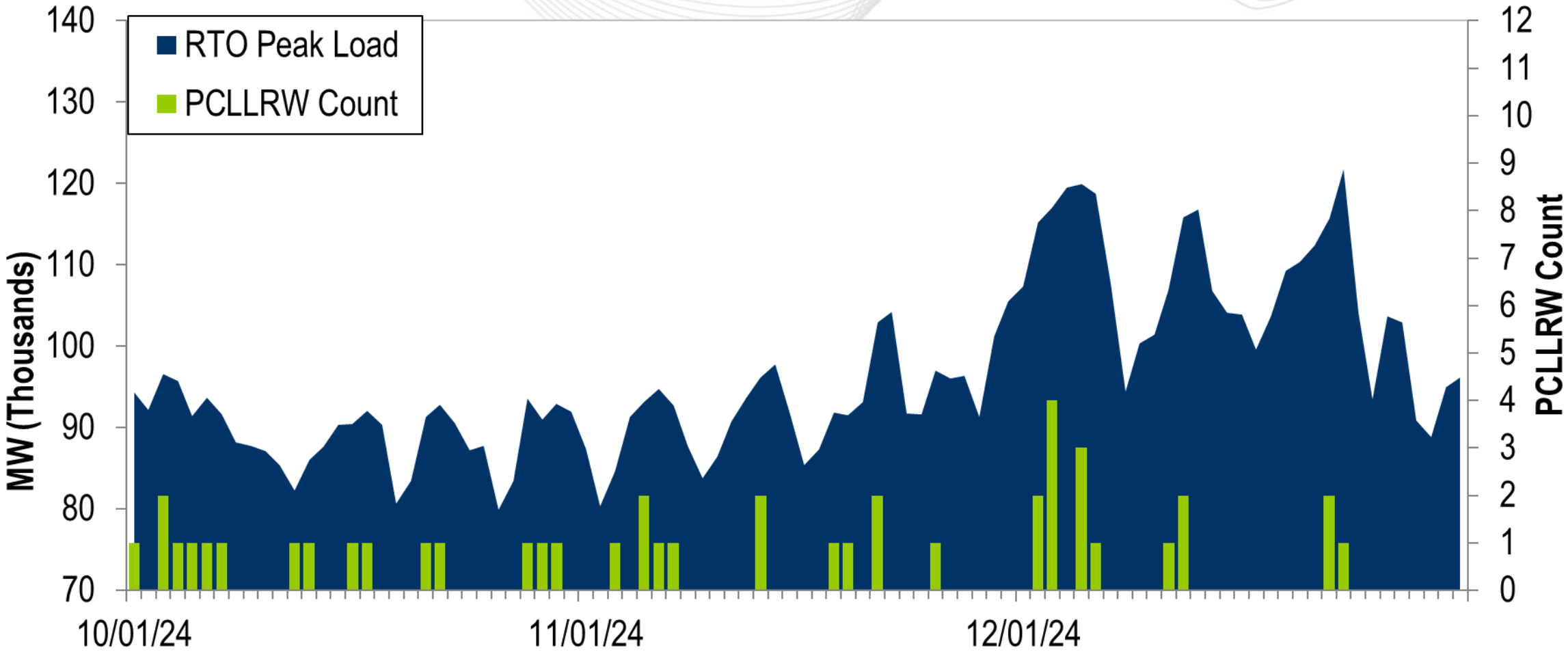

The 13-month average forced outage rate is 4.20% or 8,290 MW.
The 13-month average total outage rate is 14.82% or 29,201 MW.

# 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.

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



# Spin Response

| Event | 1 | | |
|---|---|---|---|
| Date | 12/11/24 | | |
| Start Time | 08:21:22 | | |
| End Time | 08:27:22 | | |
| Duration | 00:06:00 | | |
| Region | RTO | | |
| Resource Type | Gen | DR | Total |
| Assigned (MW) | 1872 | 643 | 2515 |
| Estimated Expected Response of Assigned Resources (MW) | 1123 | 386 | 1509 |
| Actual Response of Assigned Resources (MW) | 821 | 431 | 1253 |
| Output Increase of Resources without Assignment (MW) | 865 | 0 | 865 |
| Percent Response To Estimated Expected Response (%) | 73% | 112% | 83% |
| Penalty (MW) | 0 | 0 | 0 |

# Contact

Load Forecast Report

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System Operations Report

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# Appendix

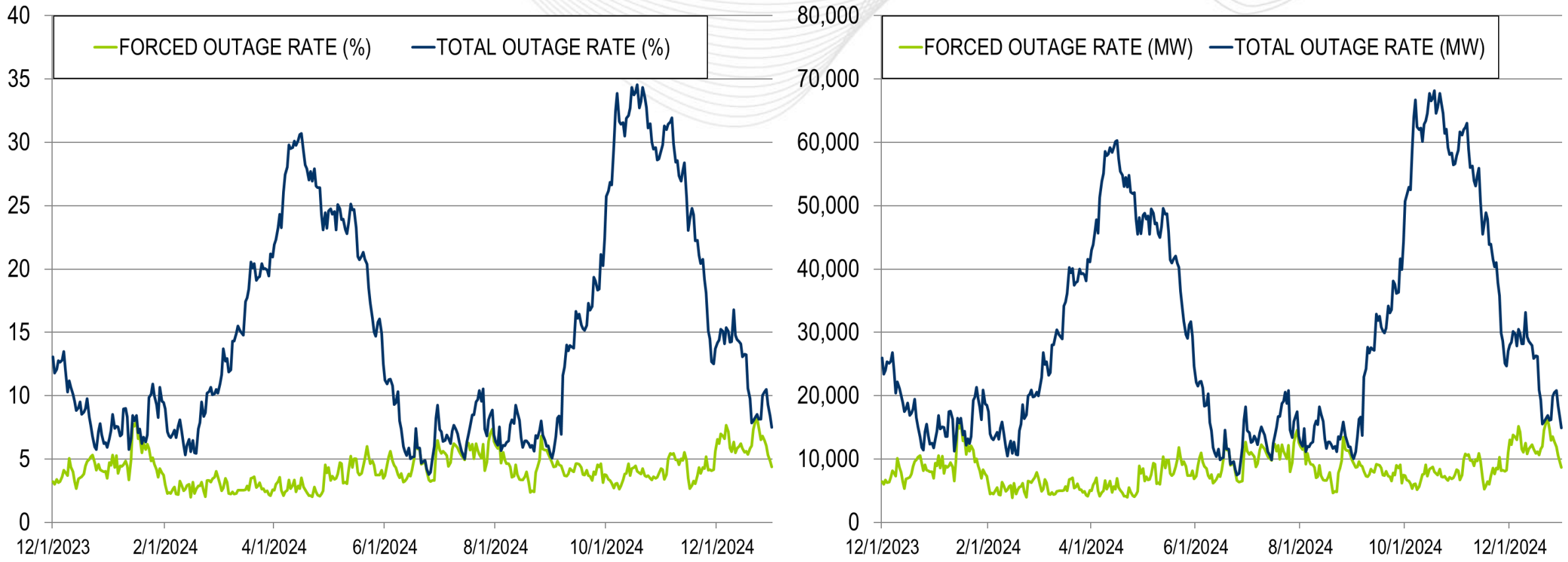
# Balancing Authority ACE Limit - Performance Measure

**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.

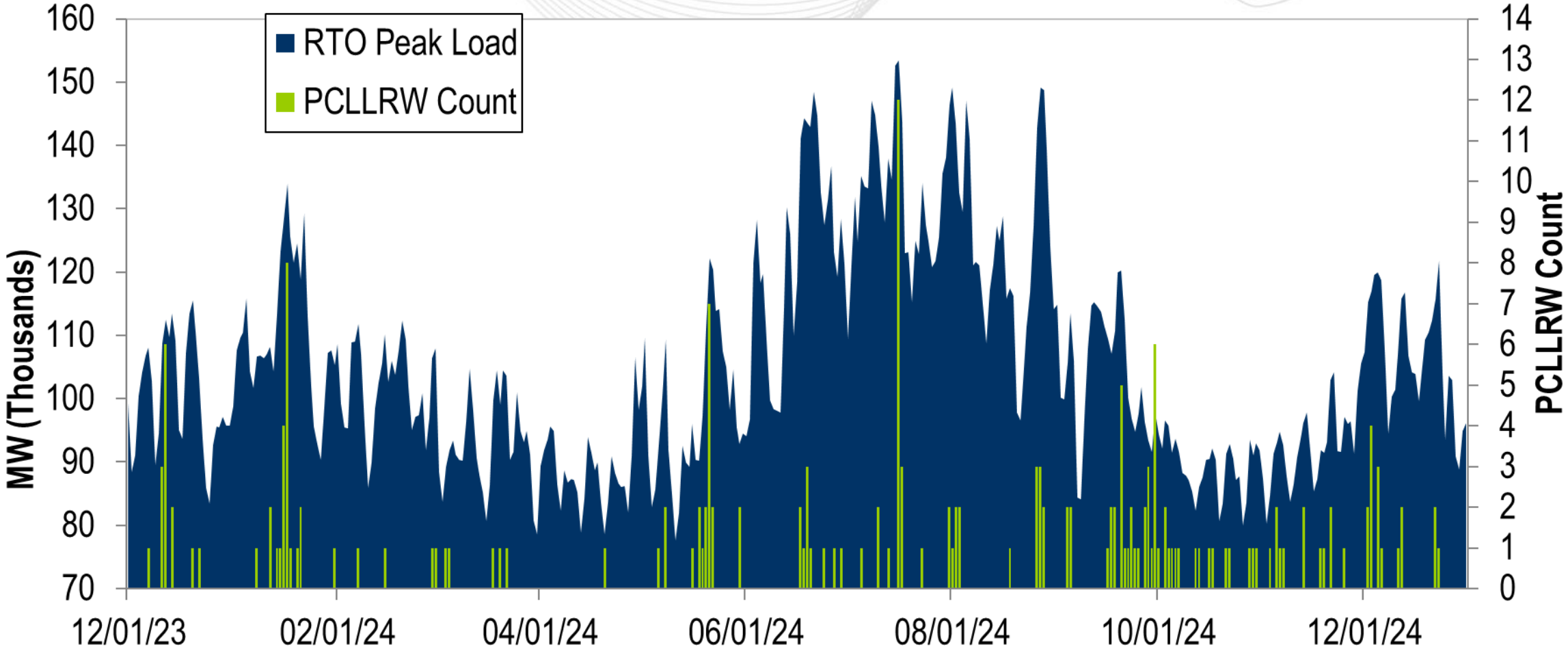
# RTO Generation Outage Rate - Daily




The 13-month average forced outage rate is 4.20% or 8,290 MW.

The 13-month average total outage rate is 14.82% or 29,201 MW.

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



# PROTECT THE POWER GRID

# THINK BEFORE YOU CLICK!

pjm

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**Report suspicious email activity to PJM.**

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