System Operations Report

Stephanie Schwarz
Manager, Markets Coordination
Operating Committee
January 12th, 2022

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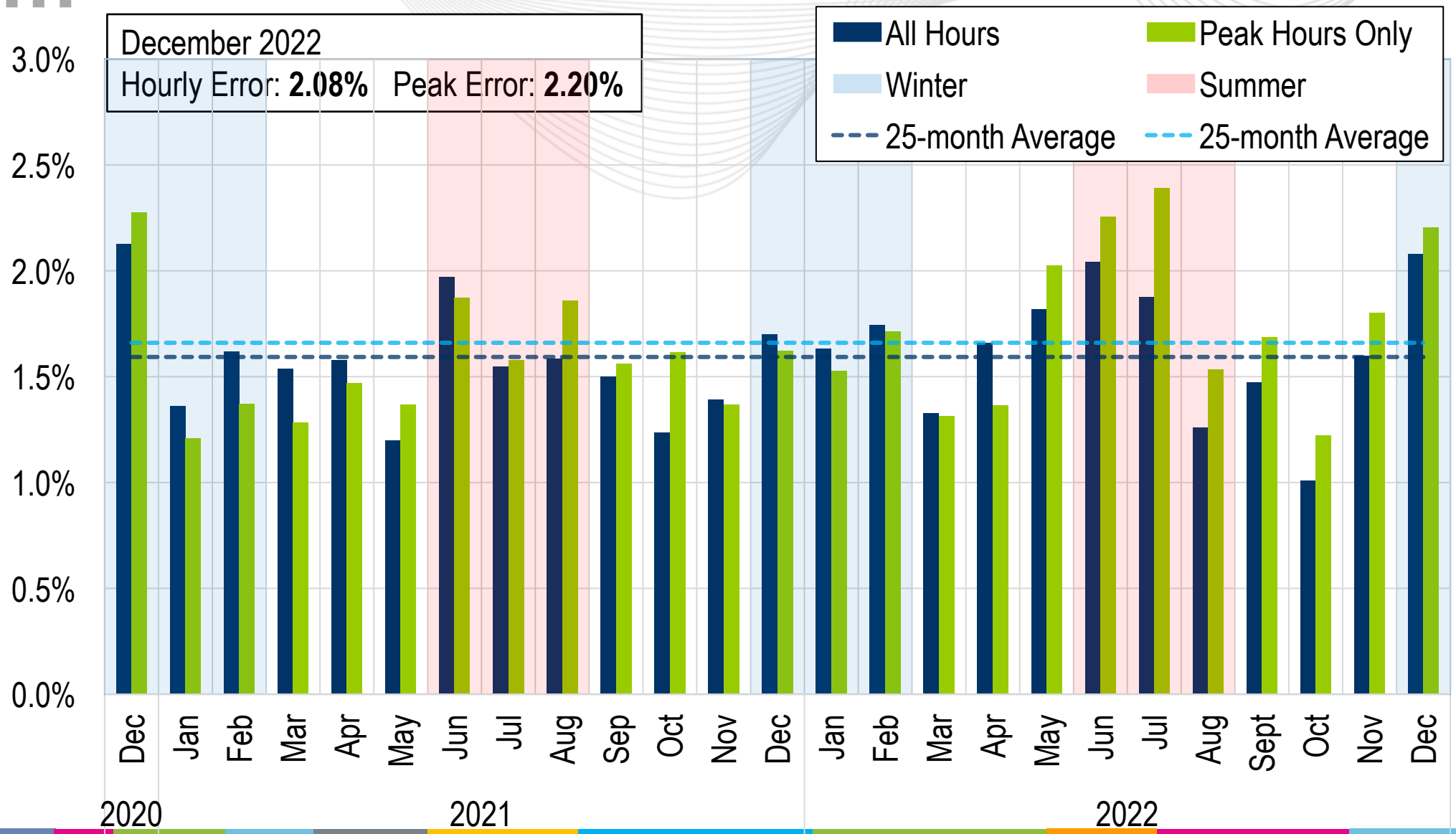
Average Load Forecast Error



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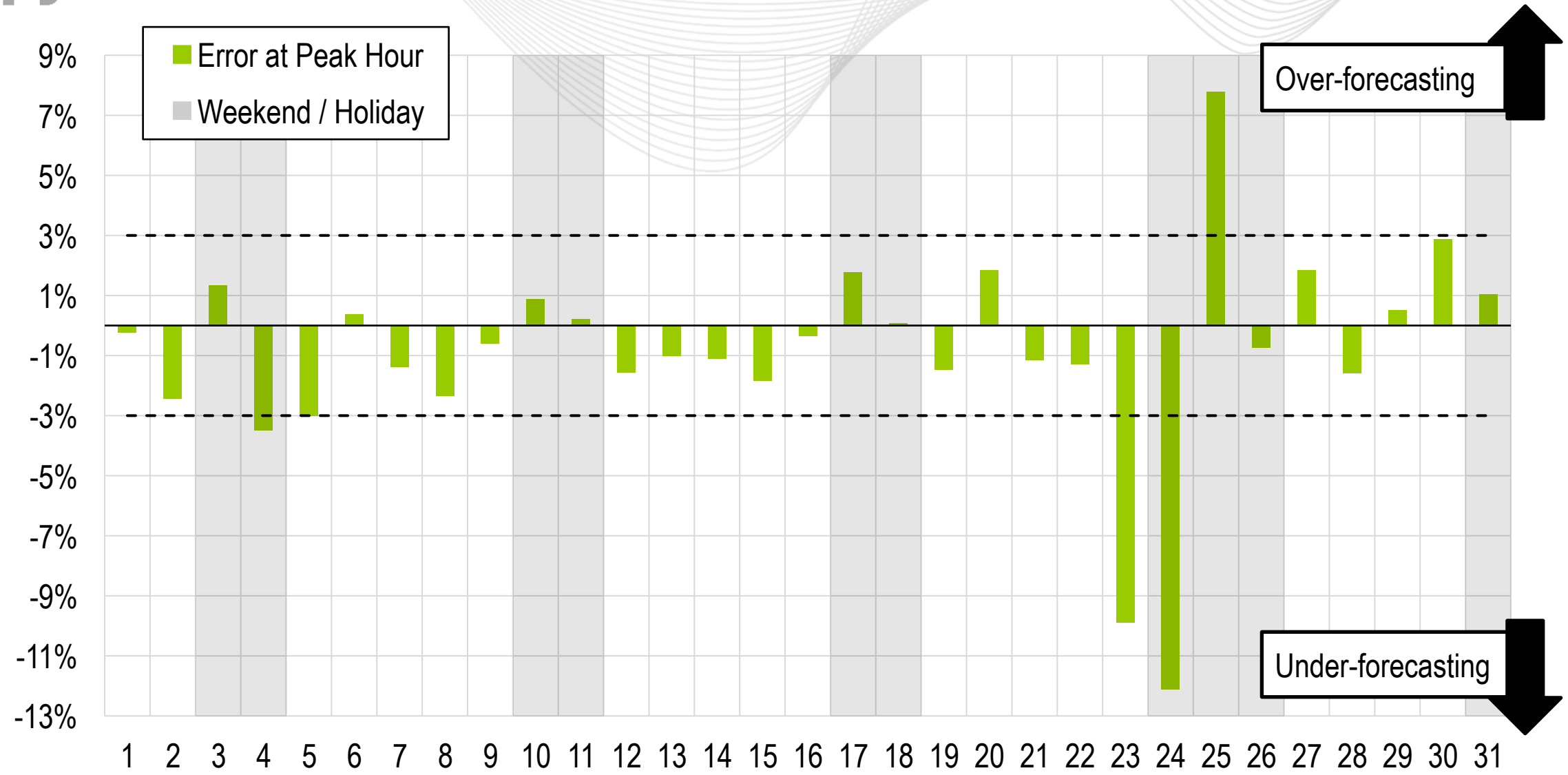
Daily Peak Forecast Error (December)



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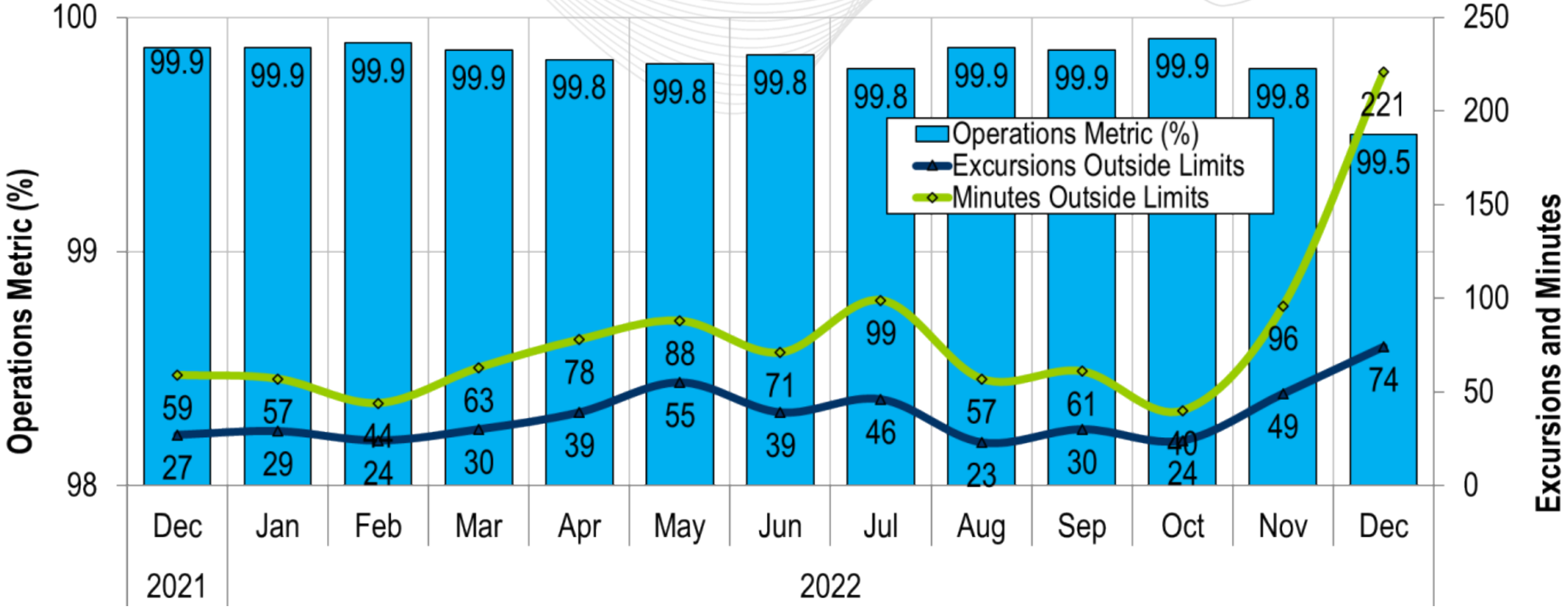
Monthly BAAL Performance Score



PJM's BAAL performance has exceeded the goal of 99% for each month in 2022.

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Operational Summary (December)

- Five Spinning Events
- Eight Shared Reserve Event
- The following Emergency Procedures occurred:
  - 2 Maximum Generation Emergency Alerts
  - 5 Emergency Load Management Reduction Actions
  - 2 Maximum Generation Emergency Actions
  - 3 Cold Weather Alerts
  - 2 NERC EEA Level 1
  - 5 NERC EEA Level 2
  - 53 Post-Contingency Local Load Relief Warnings (PCLLRW)

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Shortage Case Approvals

- 185 Shortage Cases Approved
- The approved Shortage Cases occurred on:
  - 12/23/2022:
    - 58 Shortage Cases for intervals between 16:35 – 22:15
    - Factors: Load came in much higher than forecast and generation tripping or FTS
  - 12/24/2022:
    - 125 Shortage Cases for intervals between 00:20 – 00:40, 00:55, 01:59 – 12:20
    - Factors: Load came in much higher than forecast and generation tripping or FTS
  - 12/25/2022:
    - 1 Shortage Case for 04:40 interval
    - Due to load increase
  - 12/26/2022:
    - 1 Shortage Case for 00:20 interval
    - Due to low ACE

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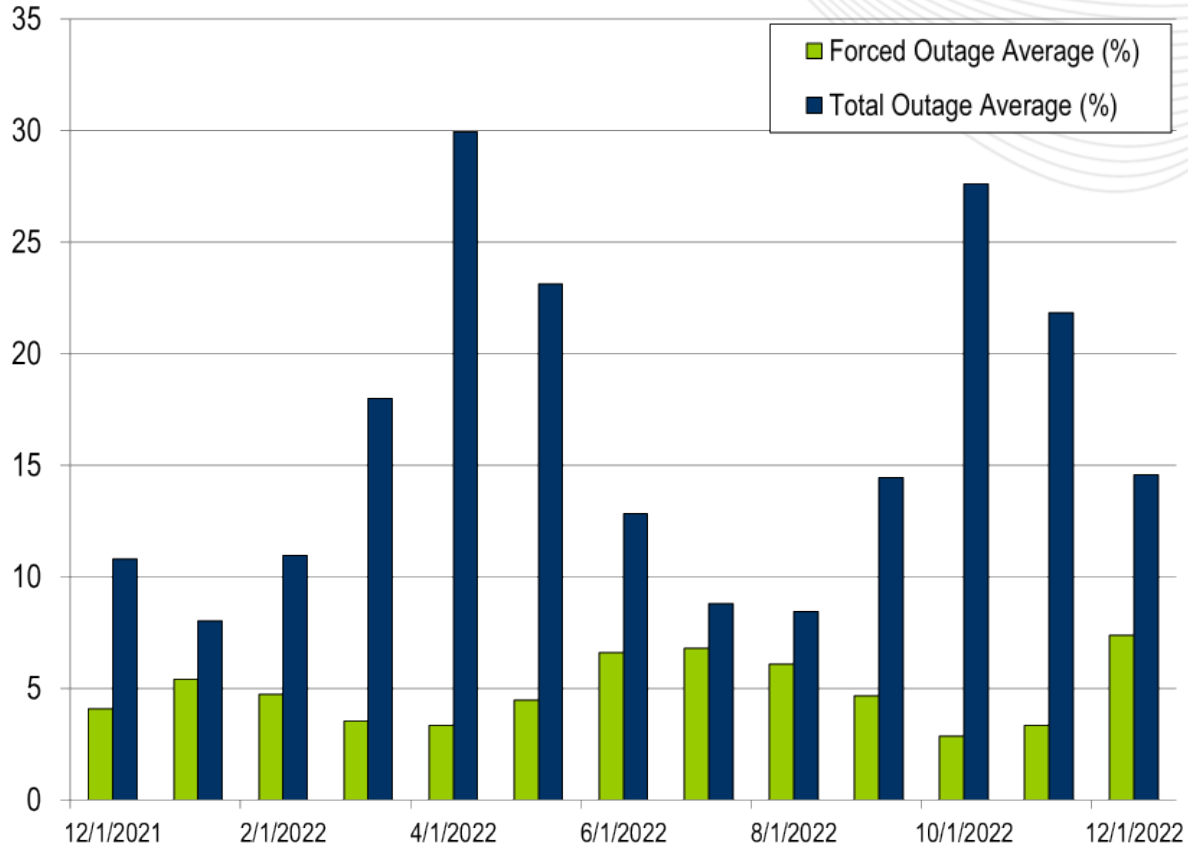
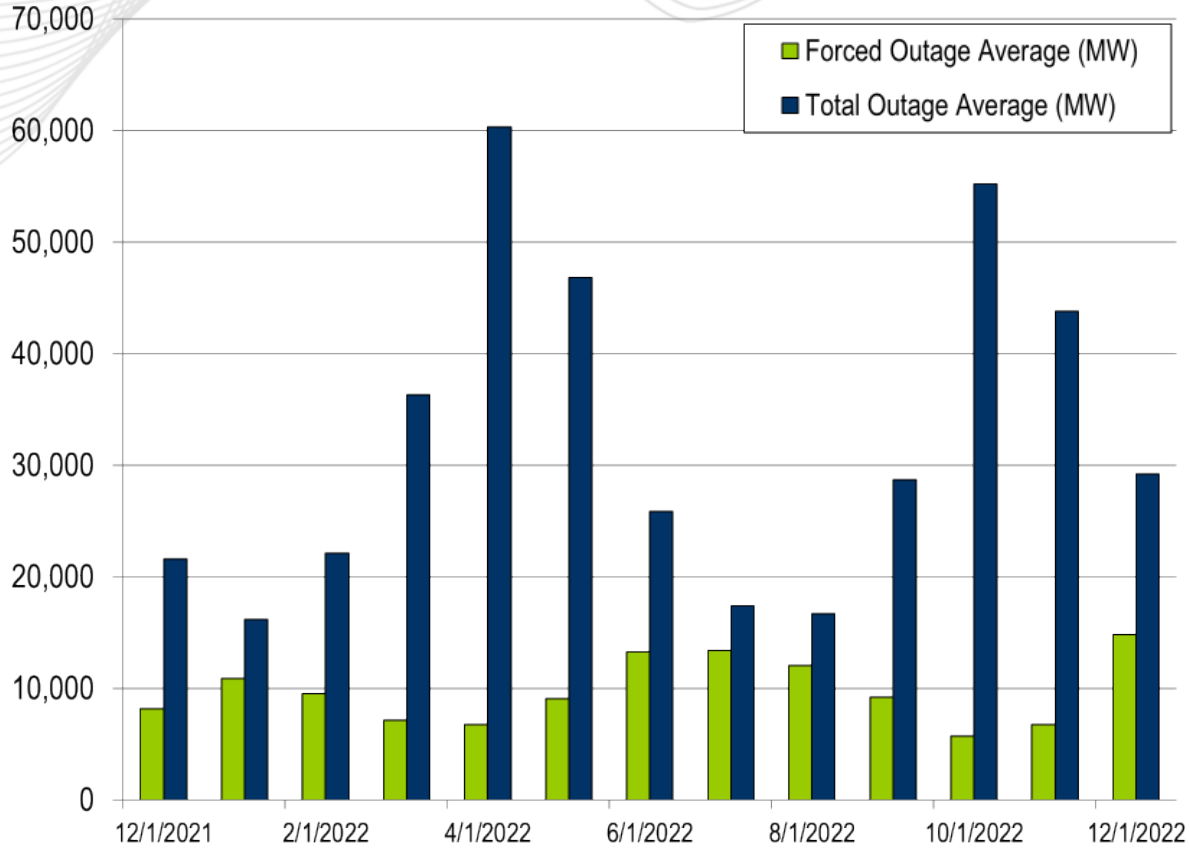
RTO Generation Outage Rate - Monthly





The 13-month average forced outage rate is 4.89% or 9,795 MW.

The 13-month average total outage rate is 16.12% or 32,363 MW.

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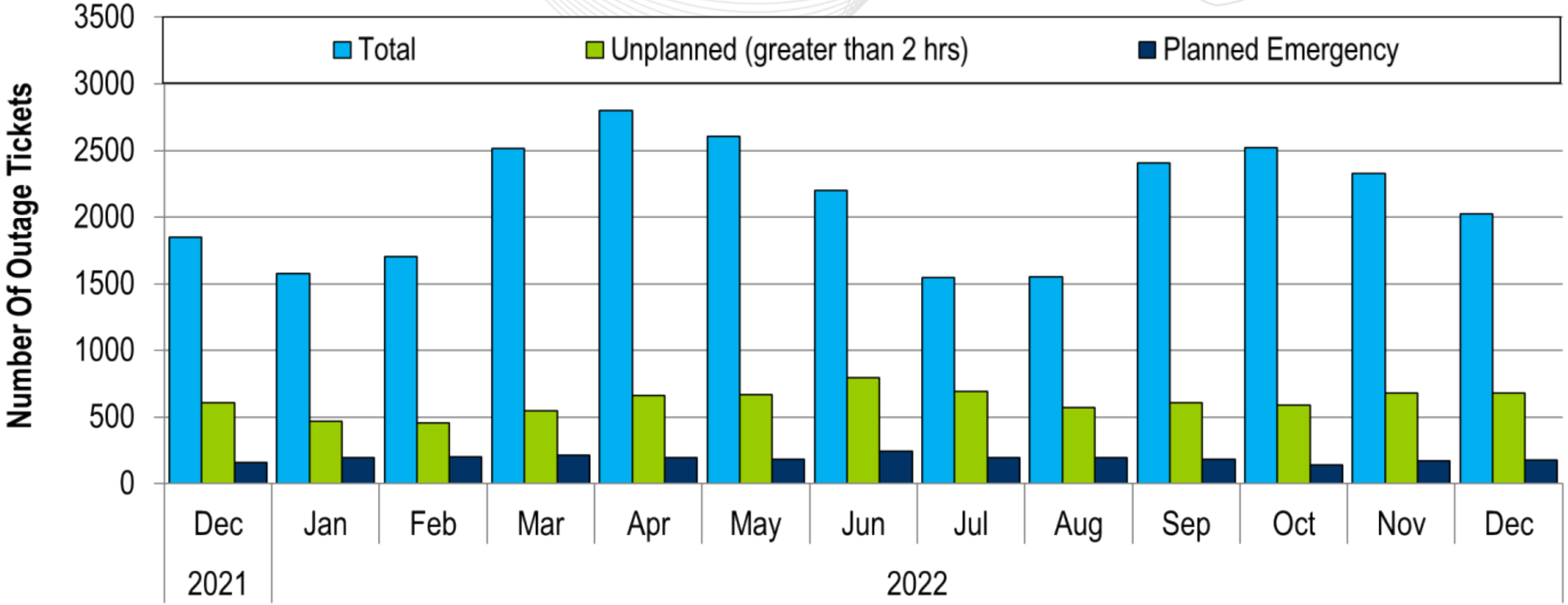
2021-2022 Planned Emergency, Unplanned, and Total Outages by Ticket



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

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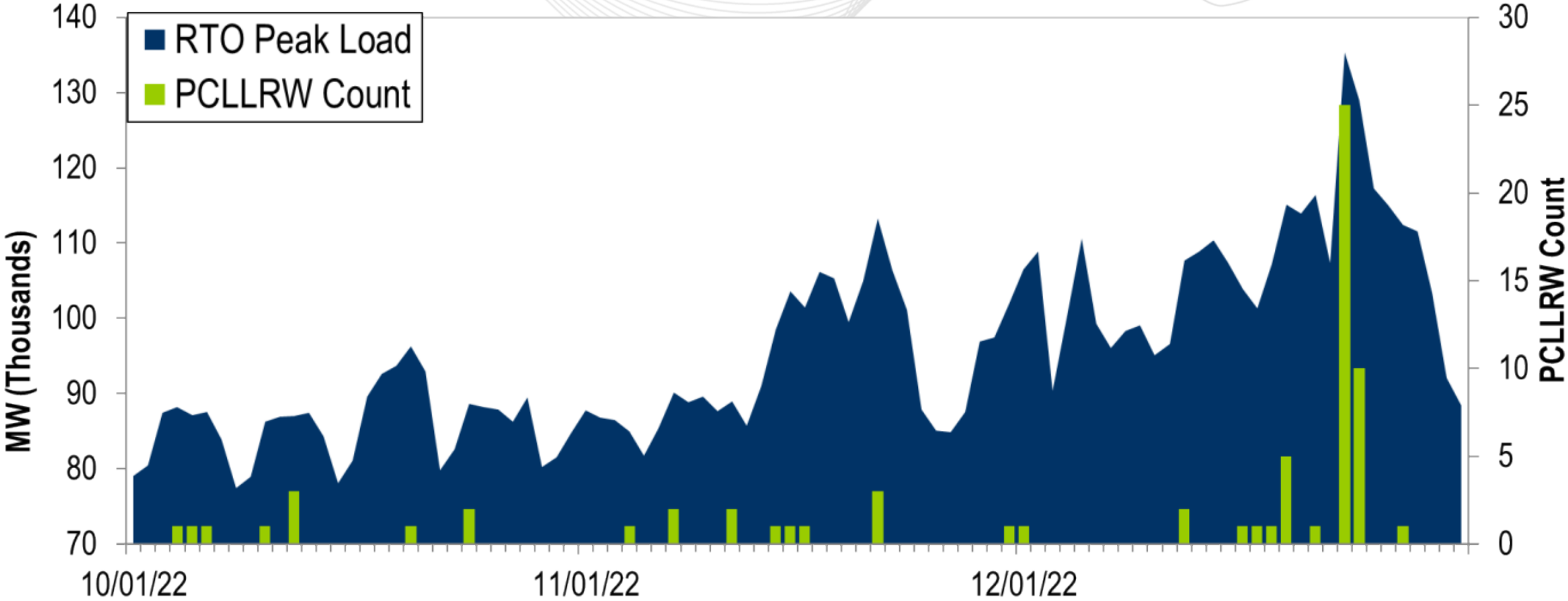
PCLLRW Count Vs. Peak Load – Daily Values For 3 Months



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Spin Response

Event	Date	Start Time	End Time	Duration	Region	Assigned (MW)	Response (MW)	Penalty (MW)
1	12/23/22	10:14:04	10:25:11	00:11:07	RTO	1791.4	948.9	842.5
2	12/23/22	16:17:51	18:09:20	01:51:29	RTO	1845.6	812.3	1033.3
3	12/24/22	00:05:01	00:30:44	00:25:43	RTO	1766.5	329.9	1436.6
4	12/24/22	02:23:38	02:54:13	00:30:35	RTO	1664.8	534.7	1130.1
5	12/24/22	04:23:41	05:51:13	01:27:32	RTO	1097.0	258.6	838.4

*Response is equal to Assigned for events with duration less than ten minutes

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Contact

Presenter:
Stephanie Schwarz,
Stephanie.Schwarz@pjm.com

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

System Operations Report

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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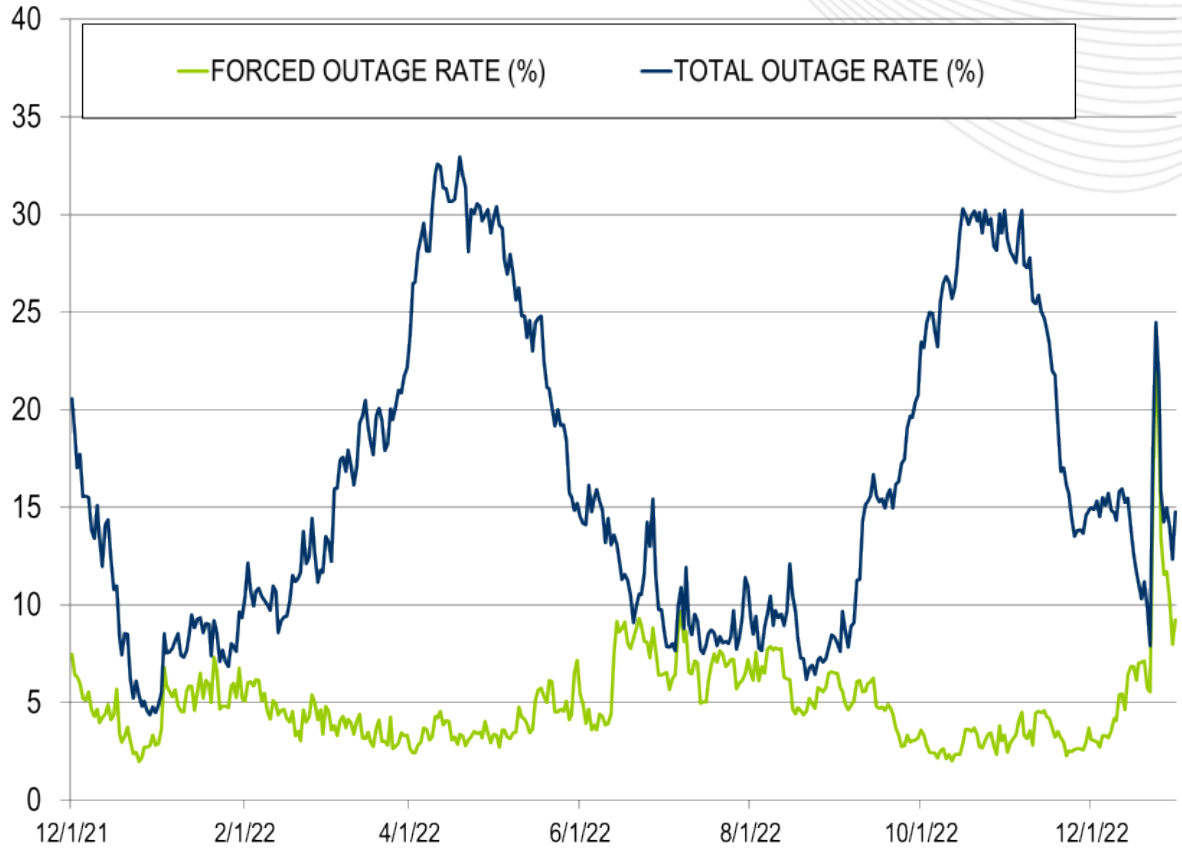
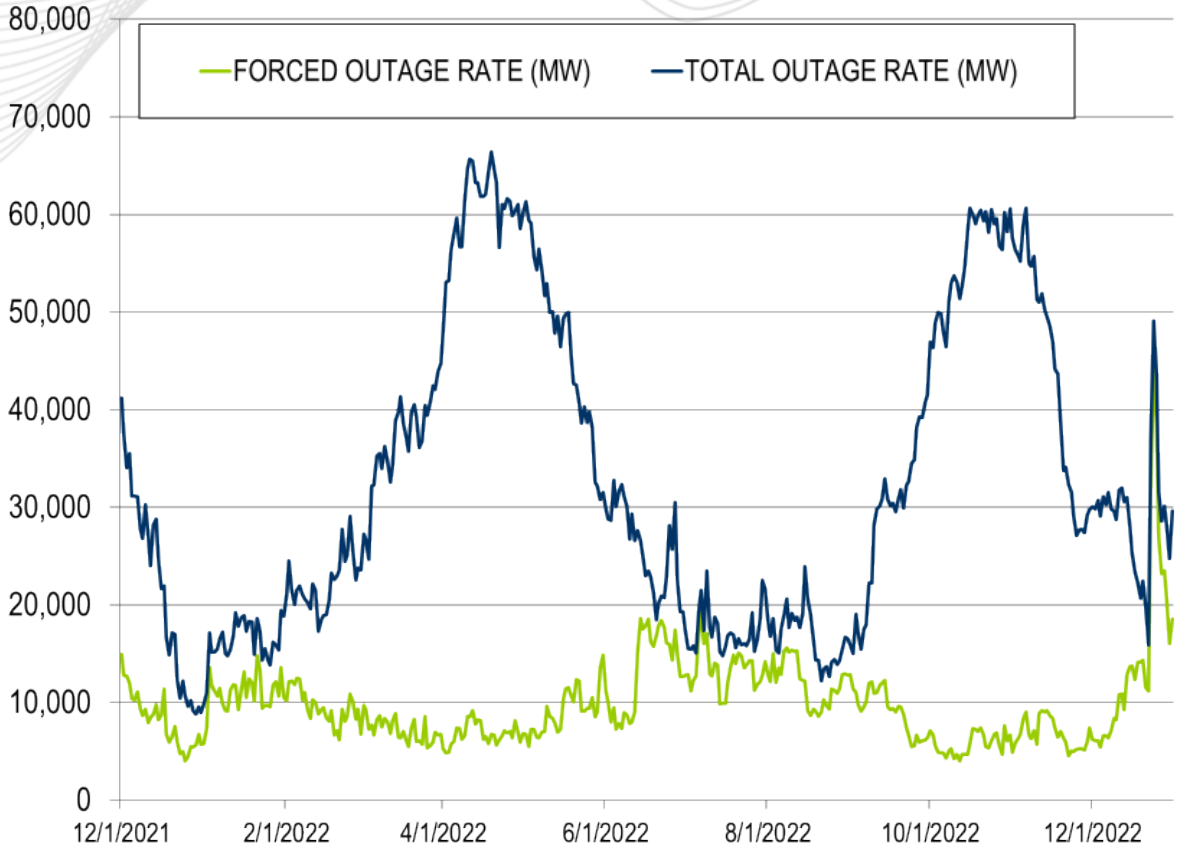
RTO Generation Outage Rate - Daily





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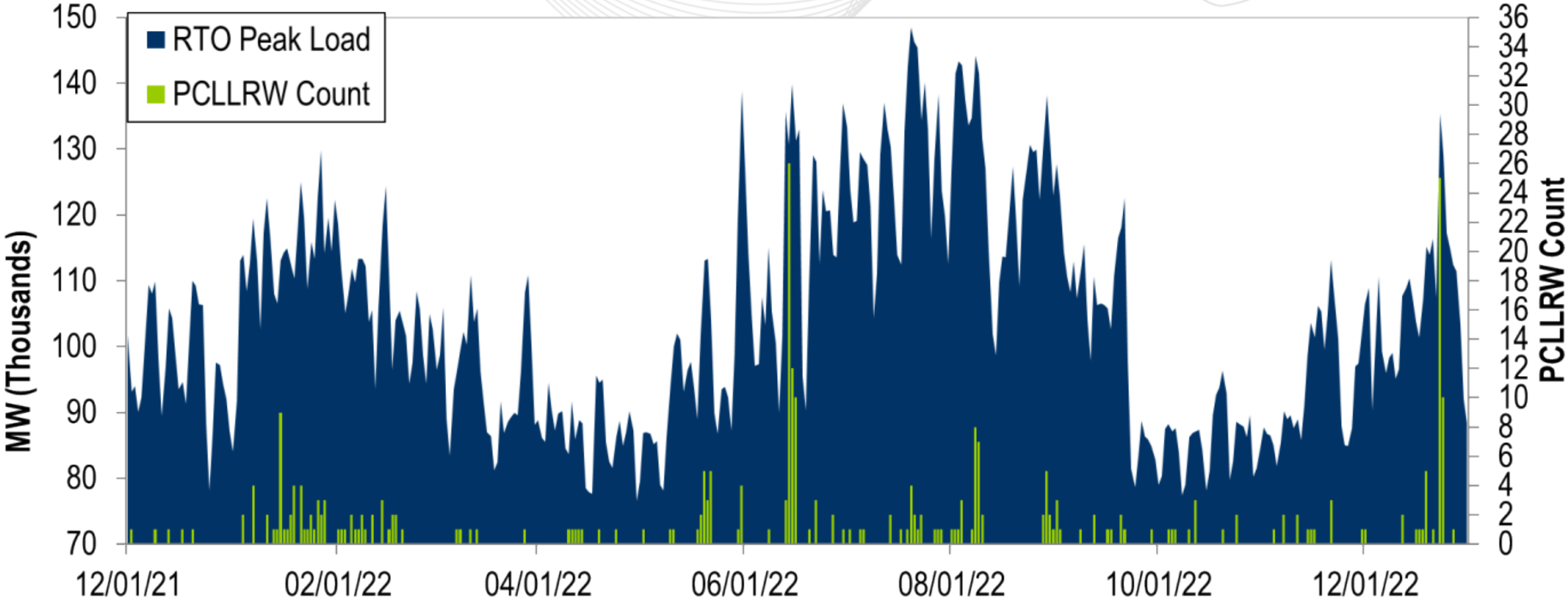
PCLLRW Count Vs. Peak Load – Daily Values For 13 Months



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