



System Operations Report

Hong Chen

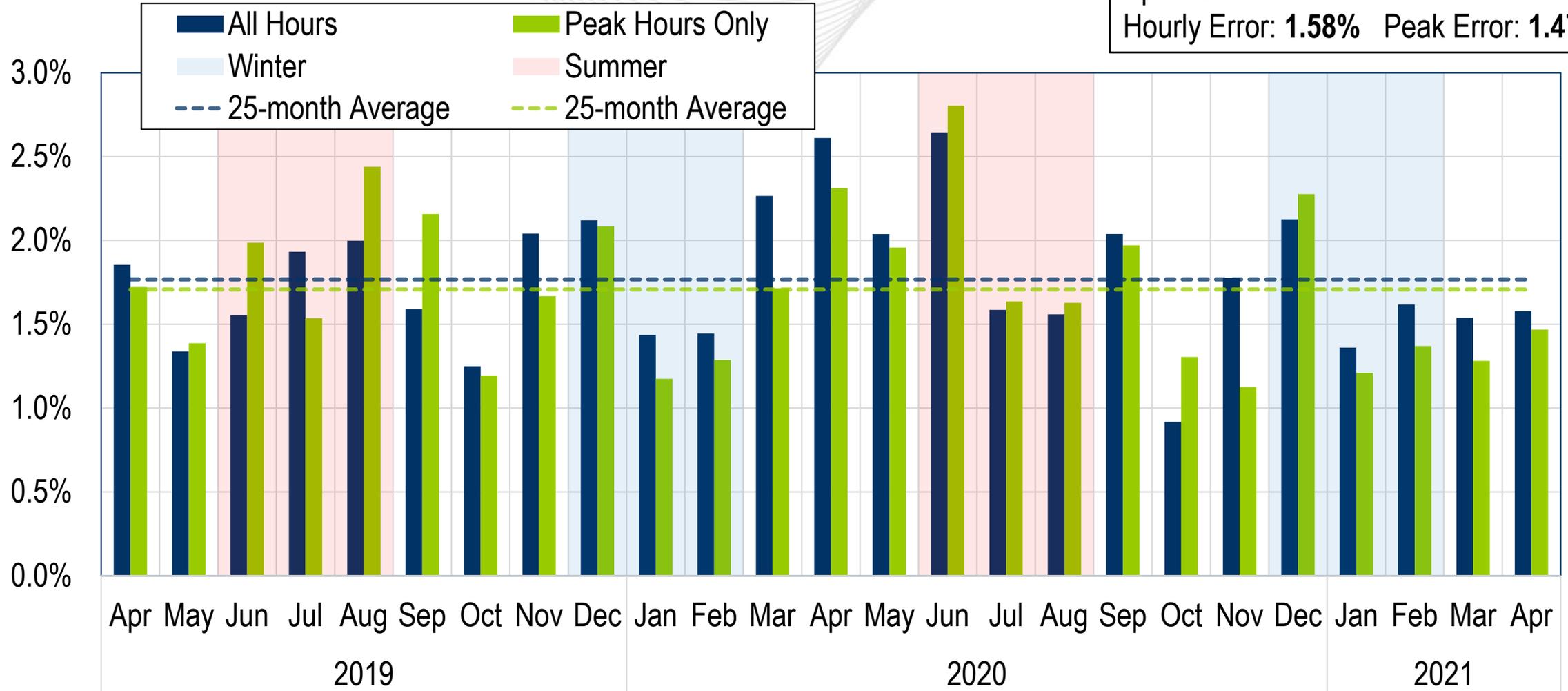
Sr. Lead Engineer, Markets Coordination

Operating Committee

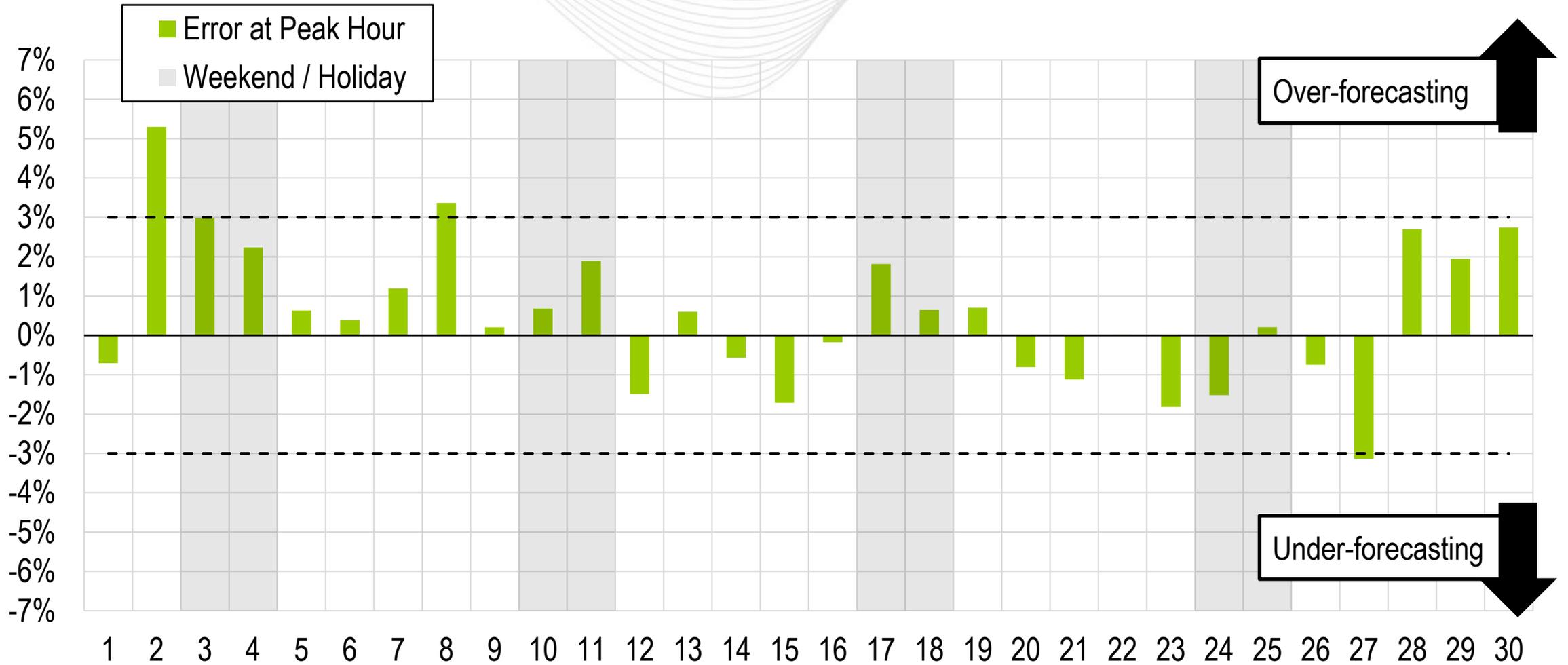
May 14, 2021

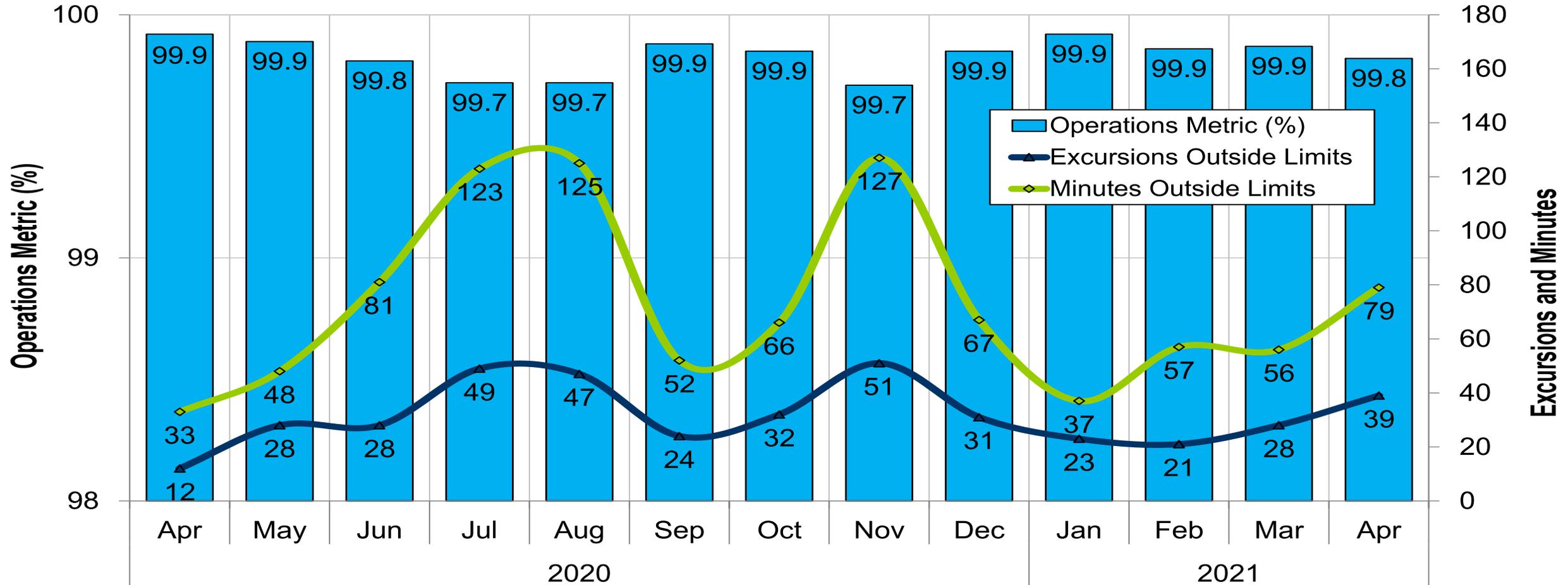
Average Load Forecast Error

April 2021
 Hourly Error: **1.58%** Peak Error: **1.47%**



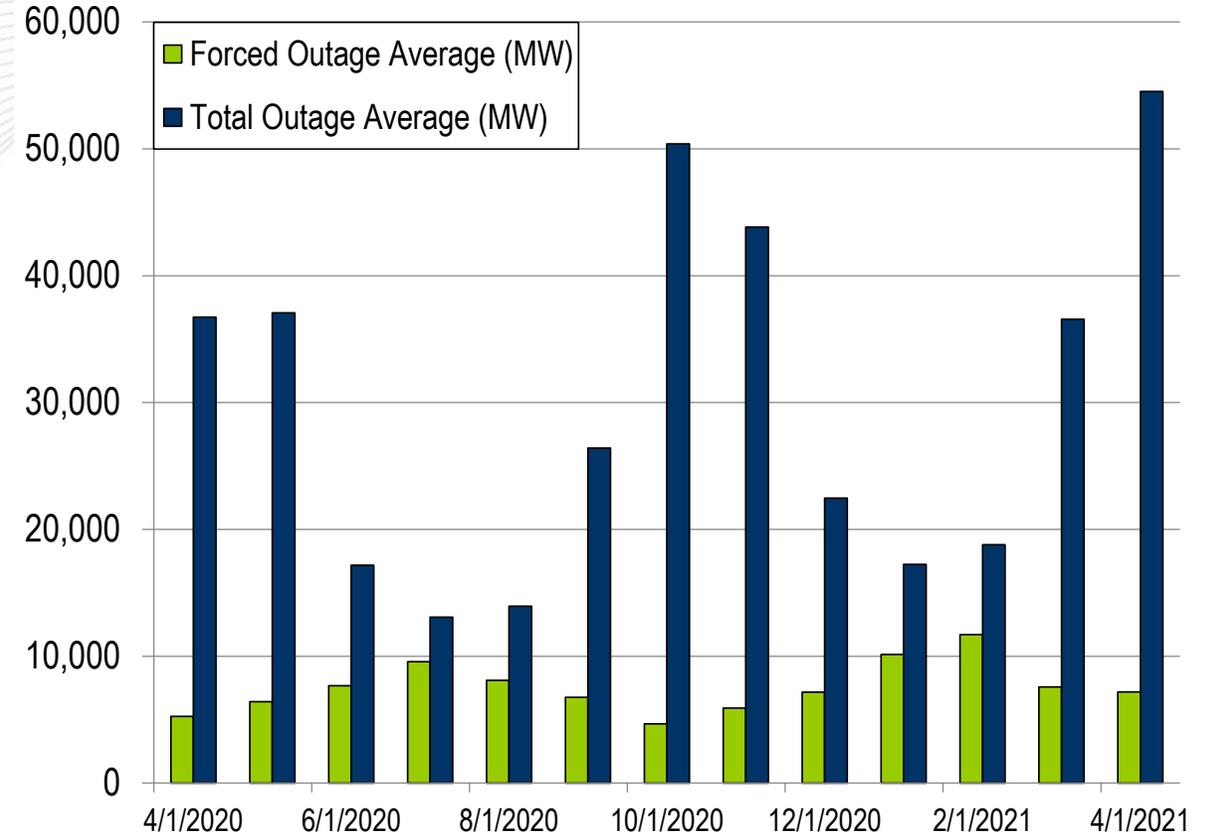
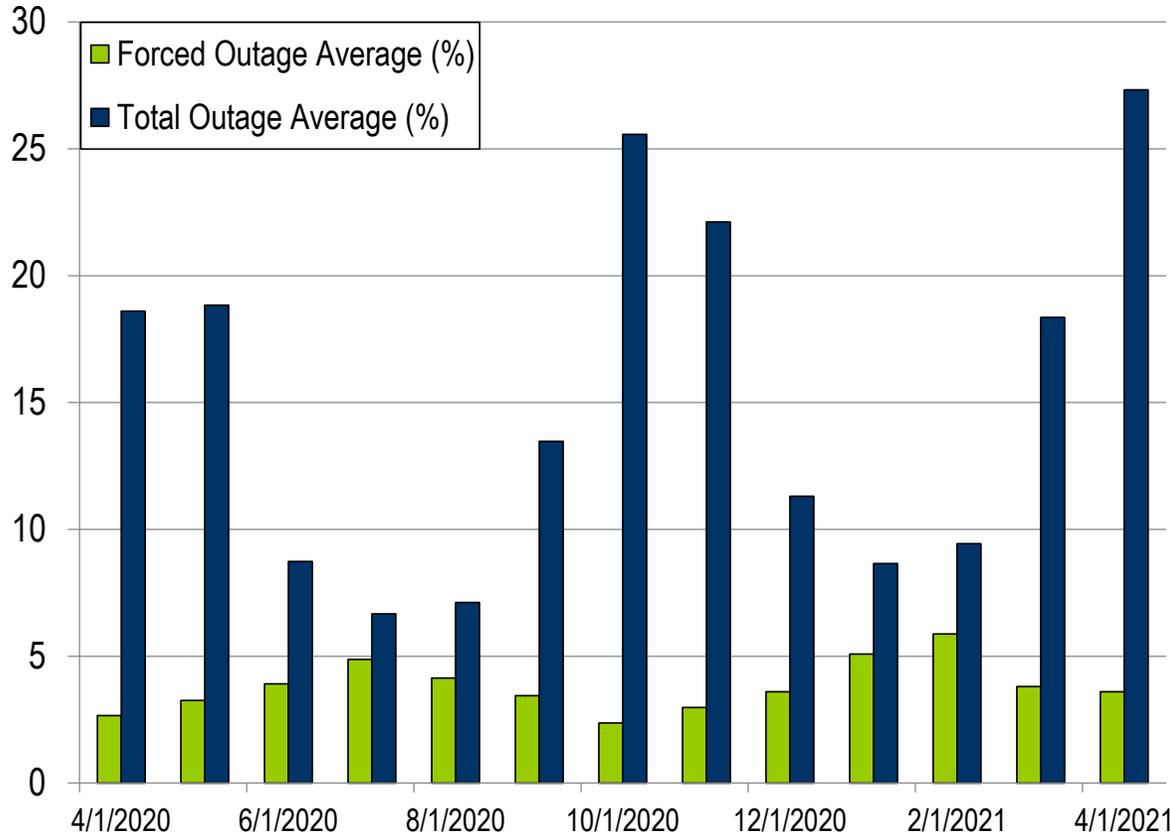
Daily Peak Forecast Error (April)





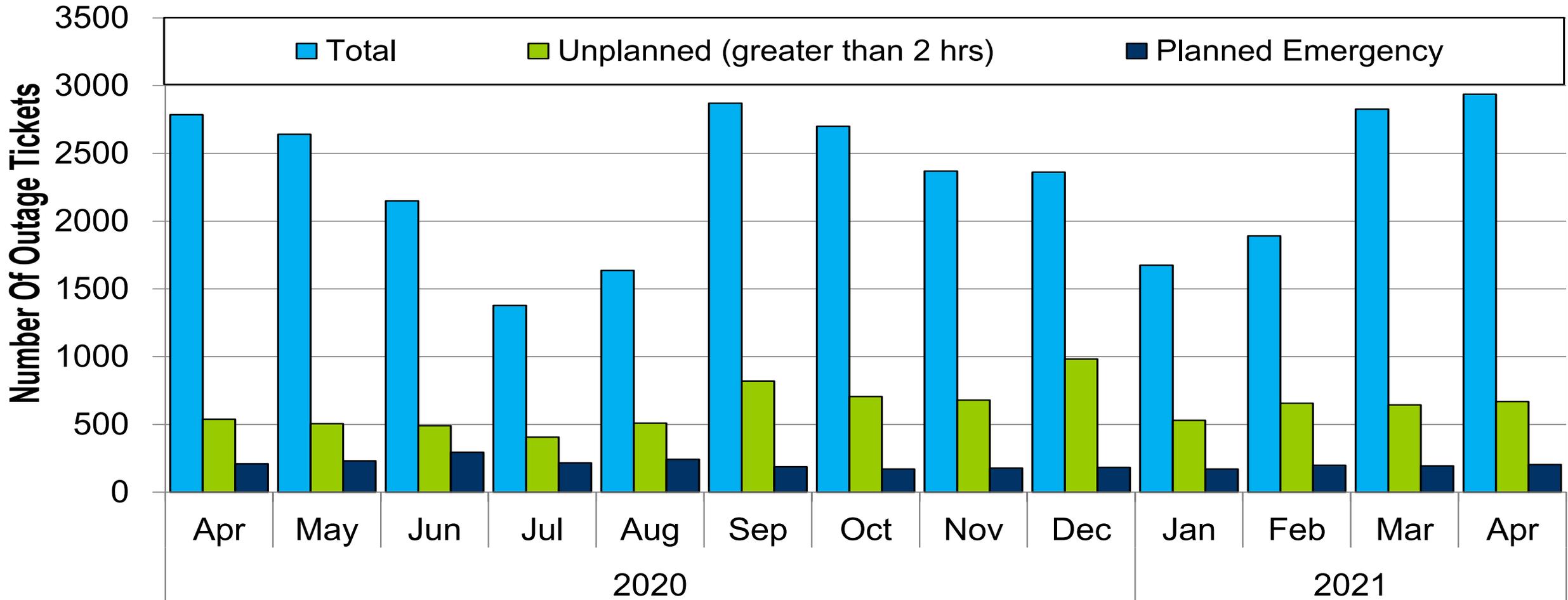
PJM's BAAL performance has exceeded the goal of 99% for each month in 2021.

- Two spinning events in the month of April
- Two reserve sharing events with the Northeast Power Coordinating Council (NPCC)
- The following Emergency Procedures occurred in April:
 - 22 Post-Contingency Local Load Relief Warnings (PCLLRW)
 - 6 High System Voltages



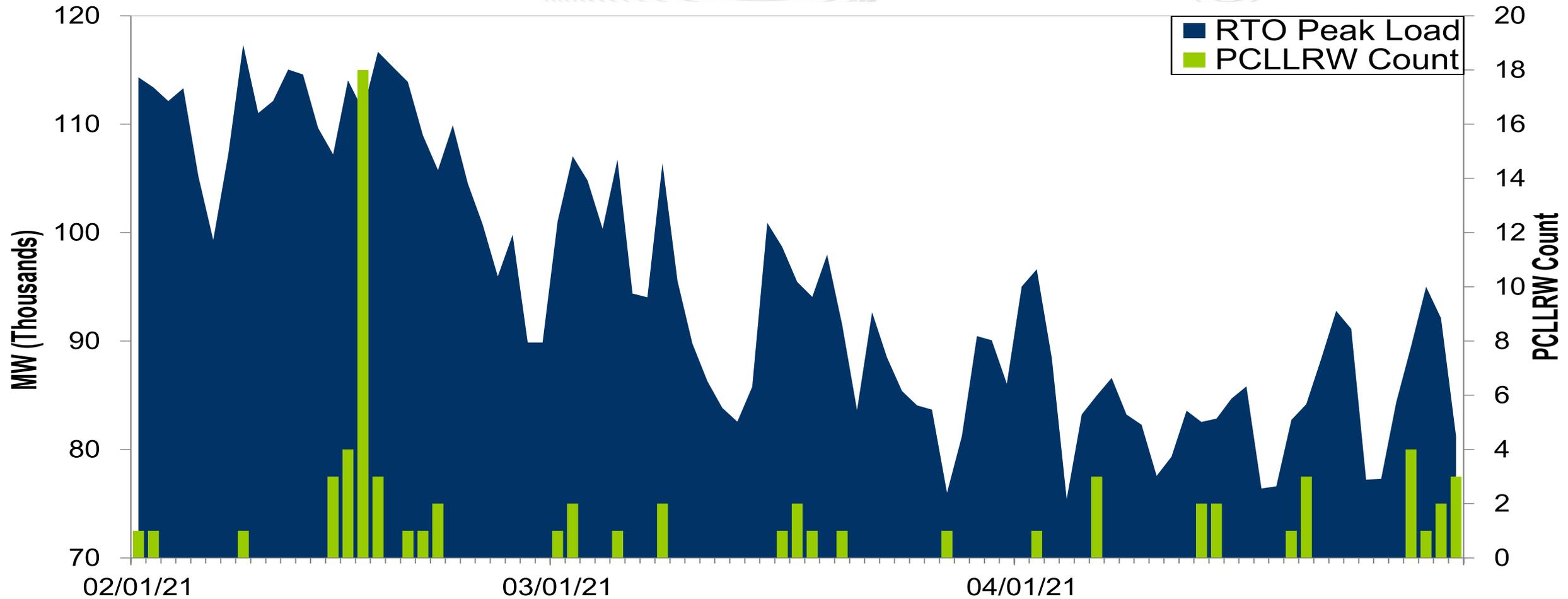
The 13-month average forced outage rate is 3.81% or 7,530 MW.
 The 13-month average total outage rate is 15.10% or 29,876 MW.

2020-2021 Planned Emergency, Unplanned, and Total Outages by Ticket



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

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



Event	Date	Start Time	End Time	Duration	Region	Tier 1 Estimate (MW)	Tier 1 Response (MW)
1	04/13/21	16:05:53	16:14:44	00:08:51	RTO	2093.4	975.6
2	04/30/21	16:30:27	16:42:04	00:11:37	RTO	1487.6	610.2

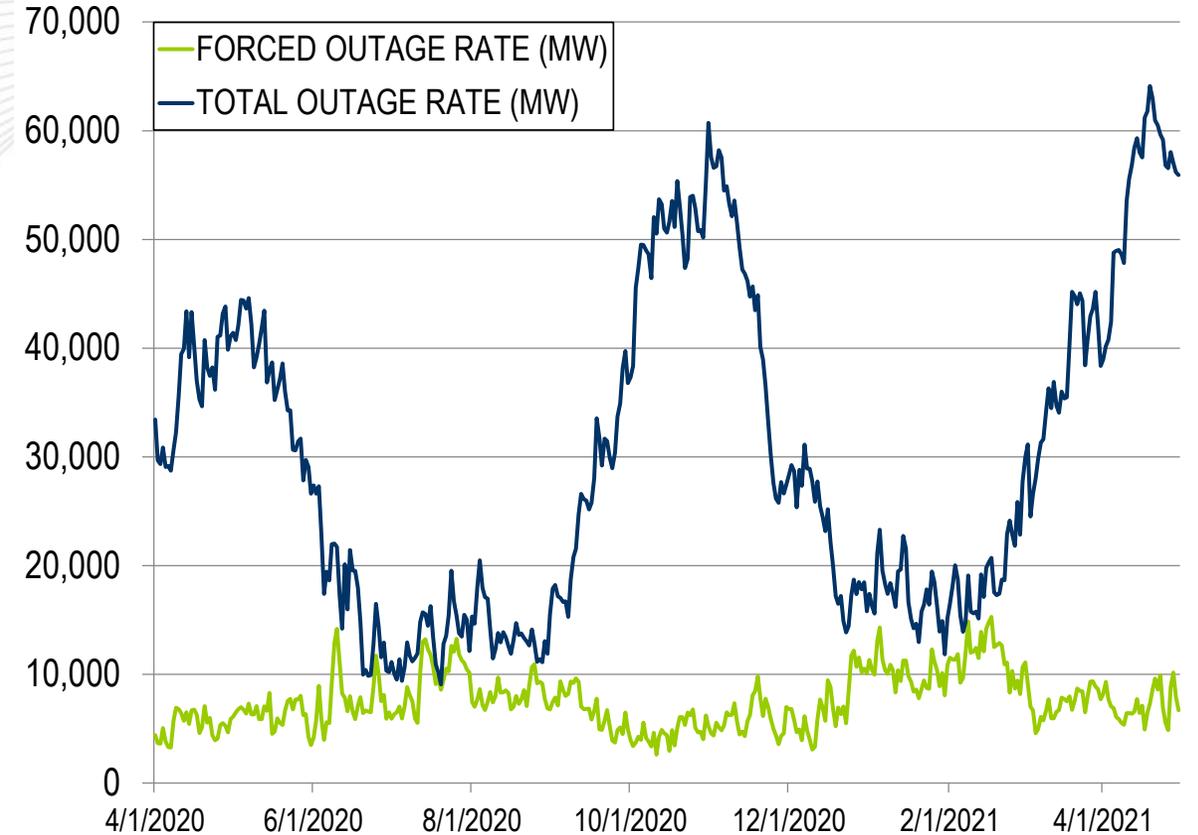
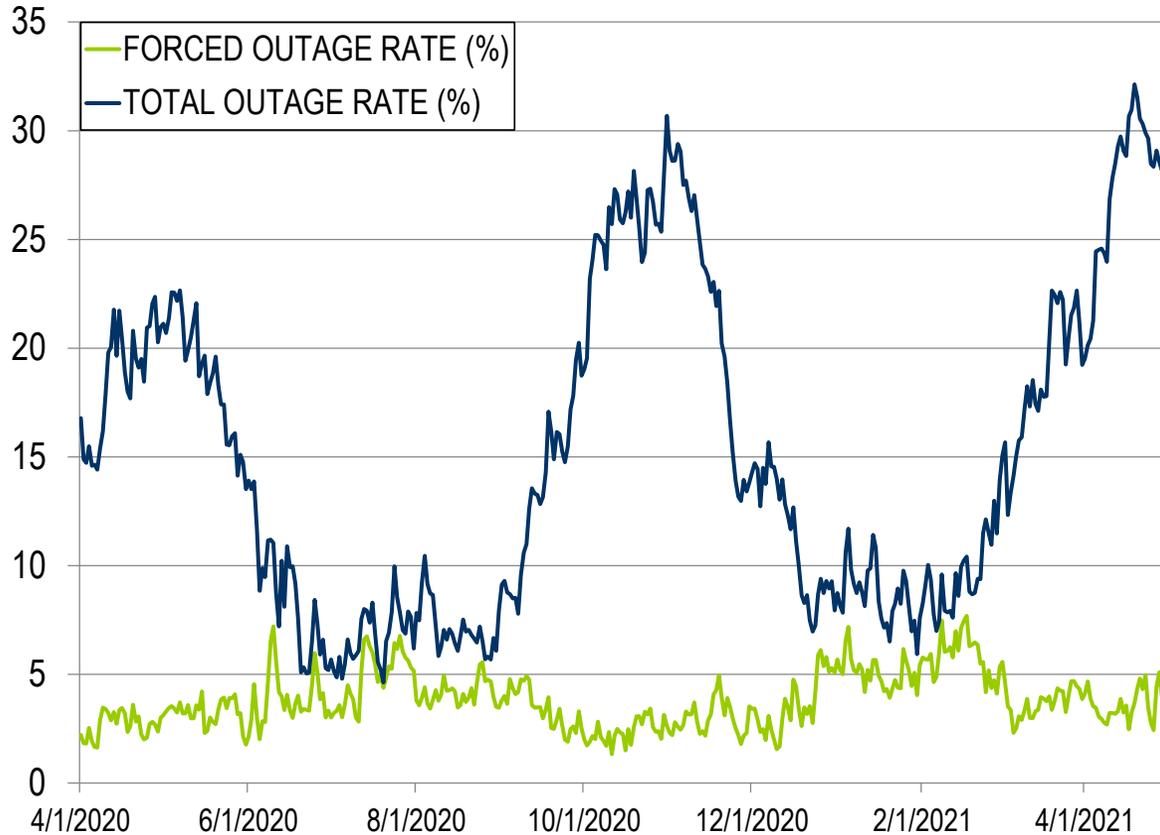
Event	Date	Start Time	End Time	Duration	Region	Tier 2 Assigned (MW)	Tier 2 Response (MW)	Tier 2 Penalty (MW)
1	04/13/21	16:05:53	16:14:44	00:08:51	RTO	345.3	345.3	0.0
2	04/30/21	16:30:27	16:42:04	00:11:37	RTO	508.3	407.2	101.1

*Tier 2 Response is equal to Tier 2 Assigned for events with duration less than ten minutes

Appendix

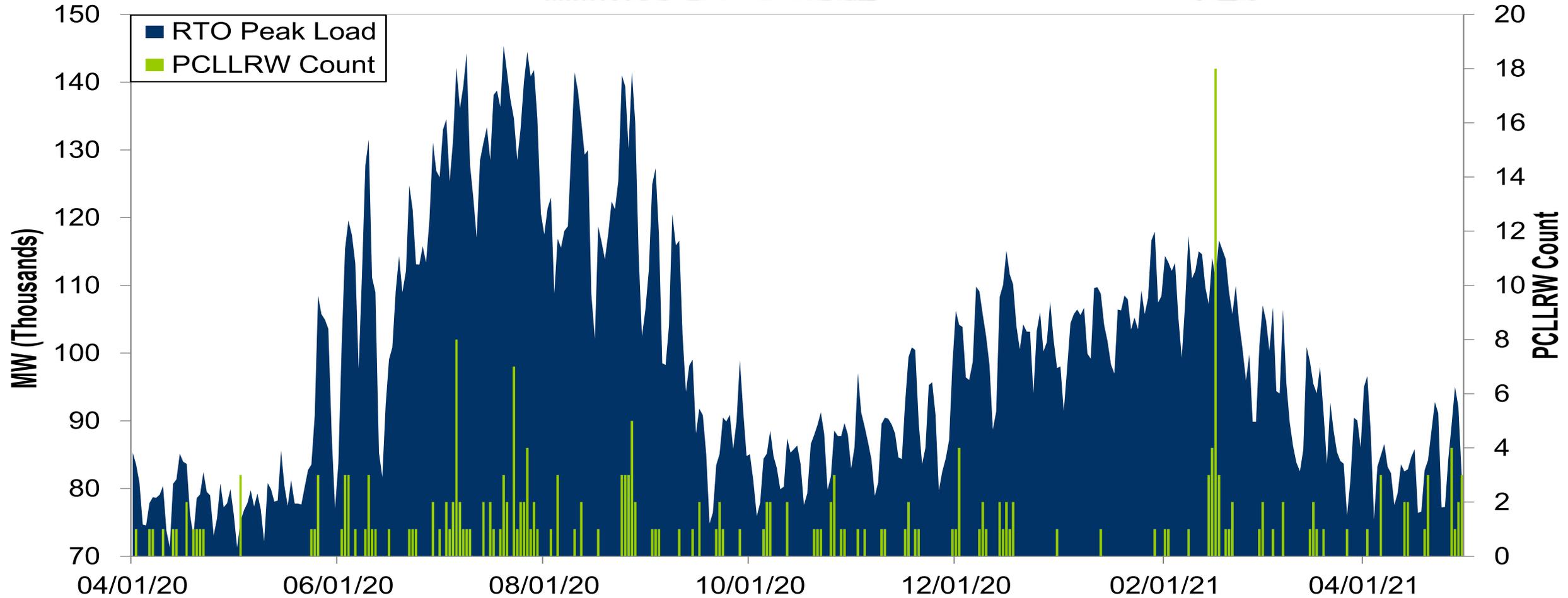
Goal Measurement: Balancing Authority ACE Limit (BAAL)

- 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.



The 13-month average forced outage rate is 3.81% or 7,530 MW.
 The 13-month average total outage rate is 15.10% or 29,876 MW.

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



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System Operations Report



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