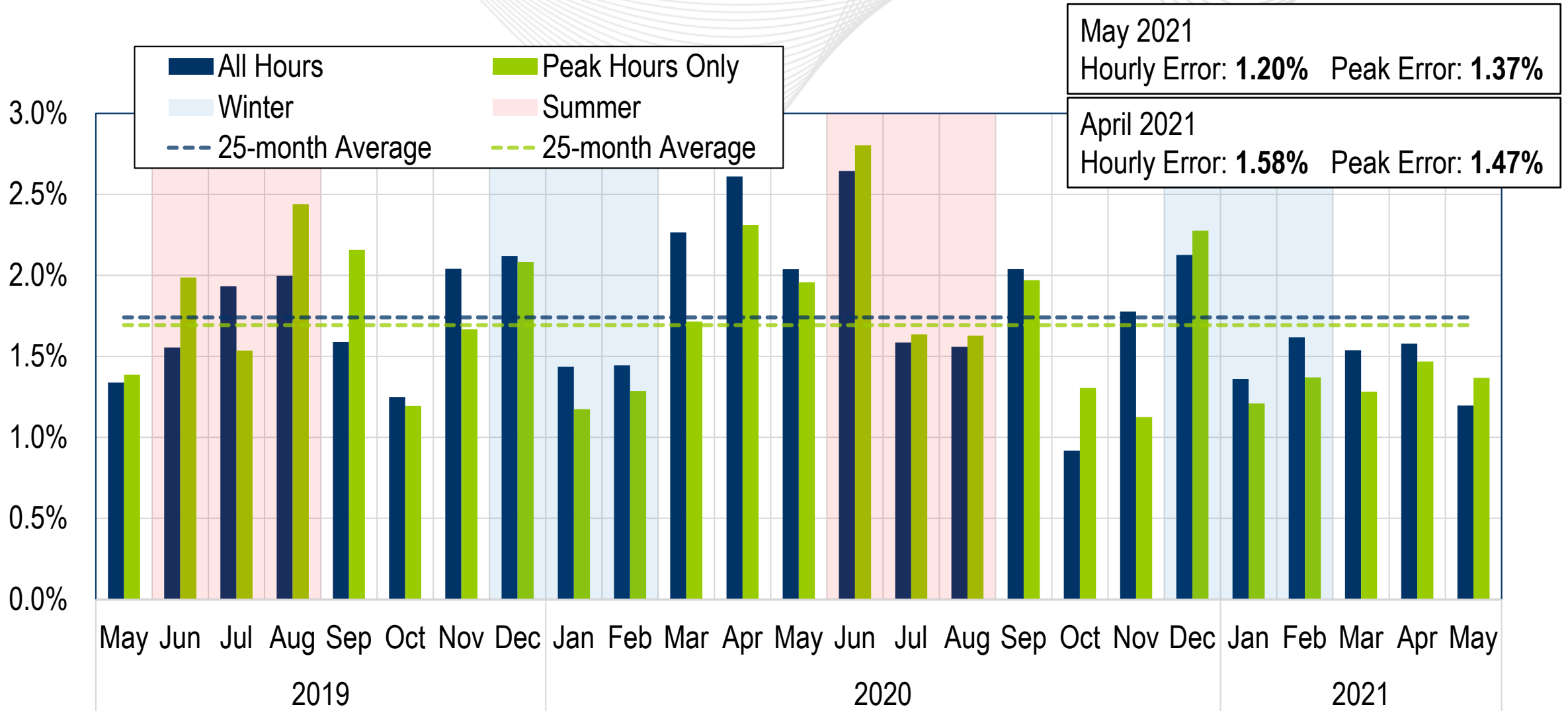




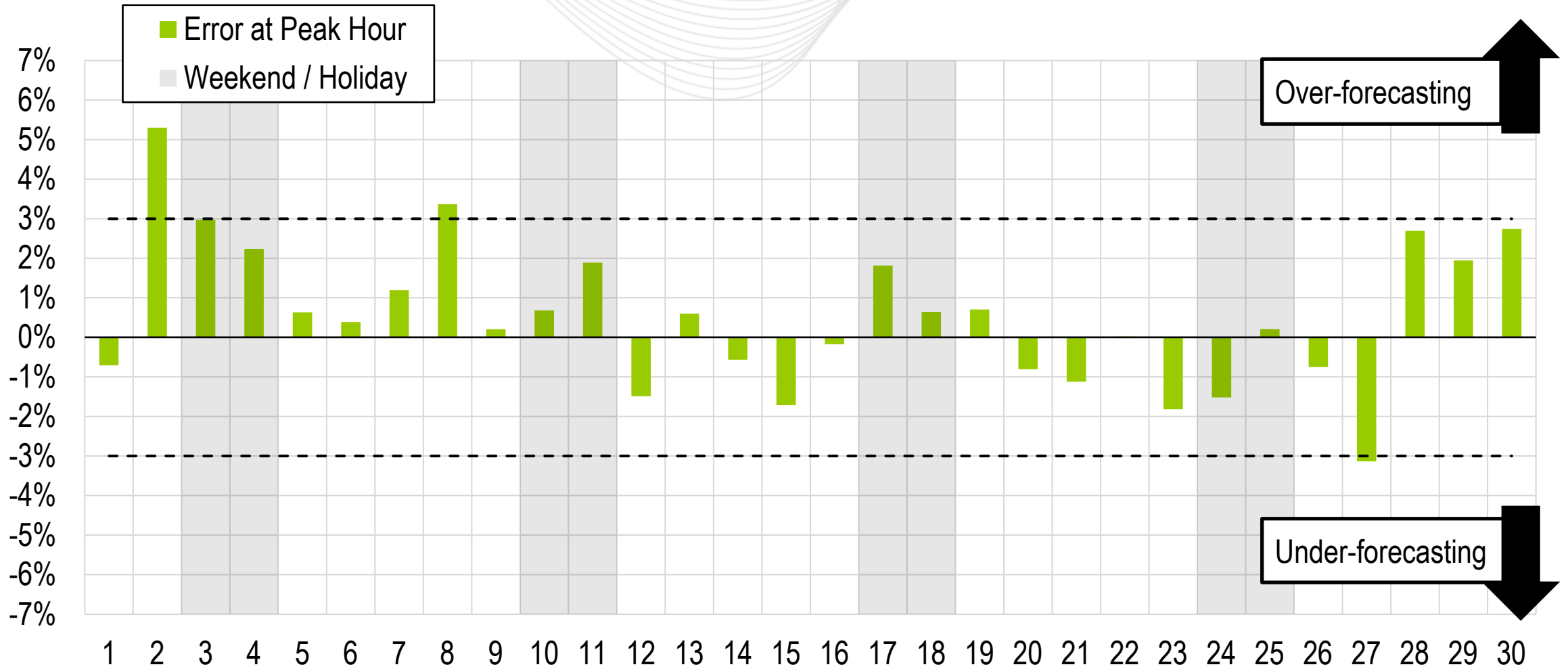
System Operations Report

Hong Chen
Senior Lead Engineer
Markets Coordination
MC Webinar
June 21, 2021

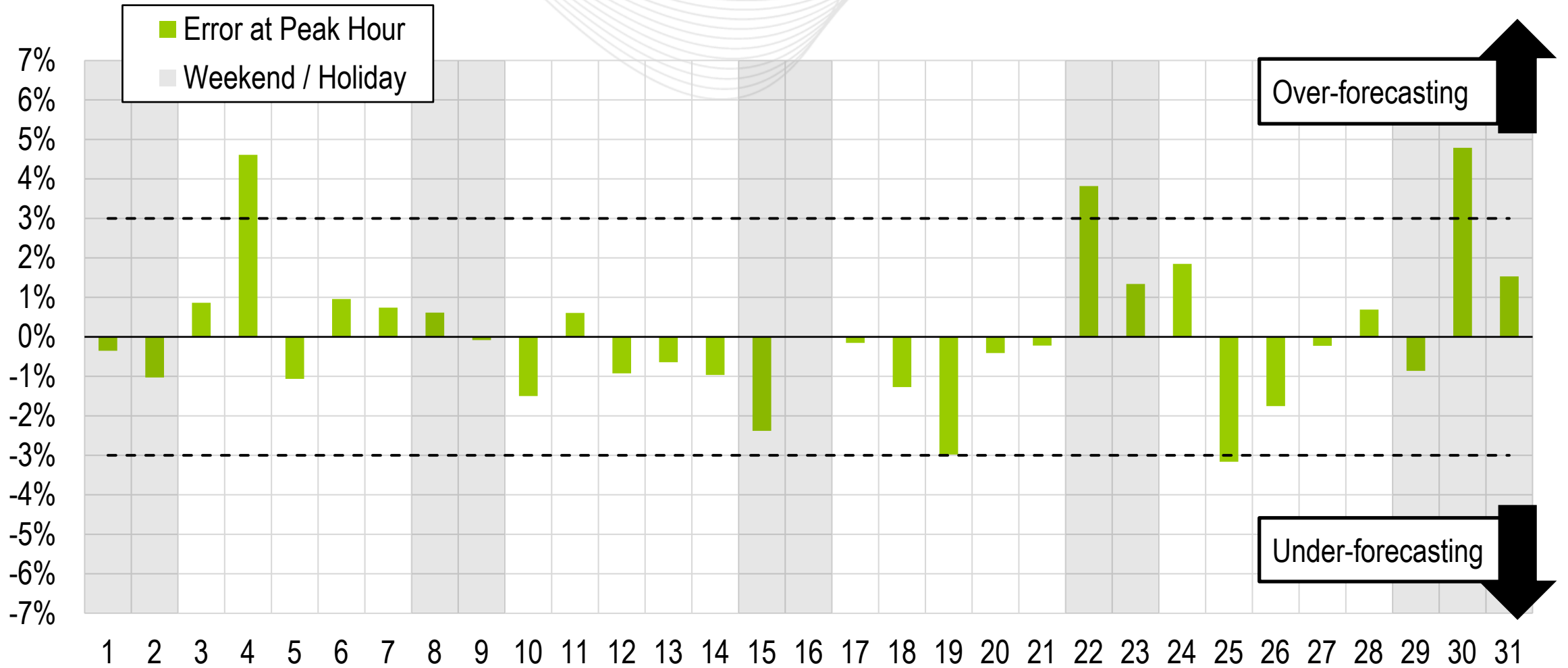
Average Load Forecast Error

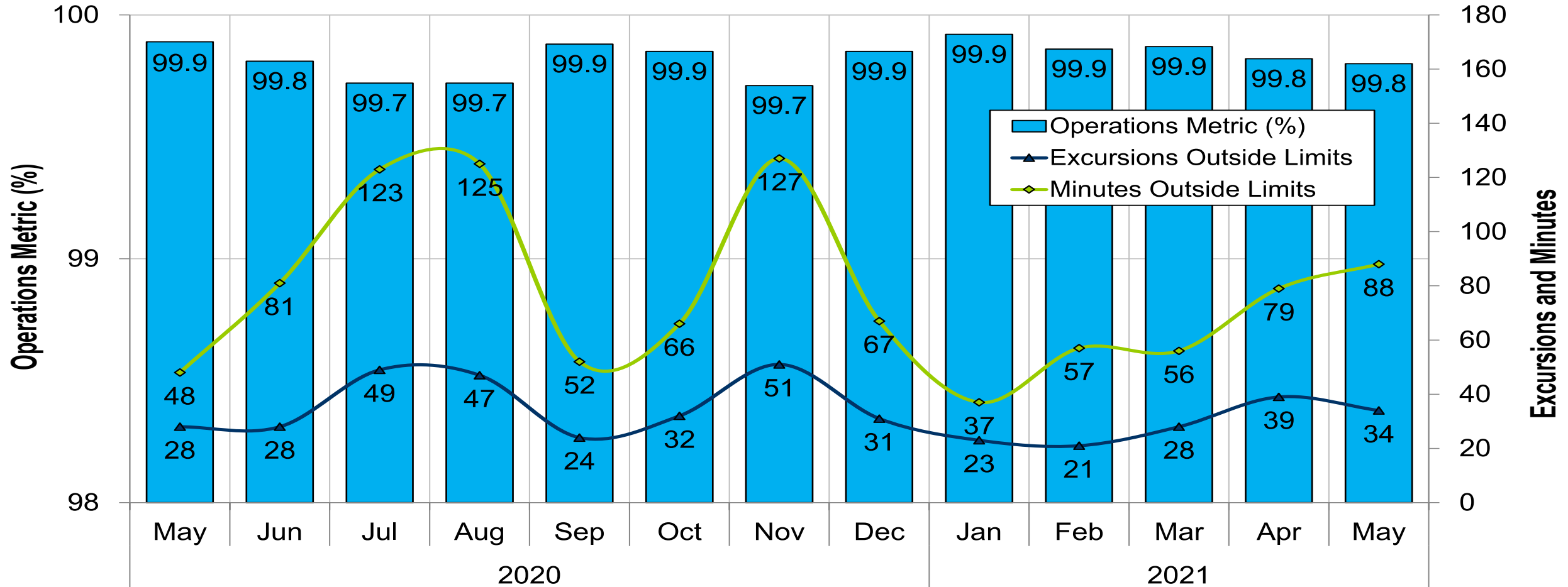


Daily Peak Forecast Error (April)



Daily Peak Forecast Error (May)

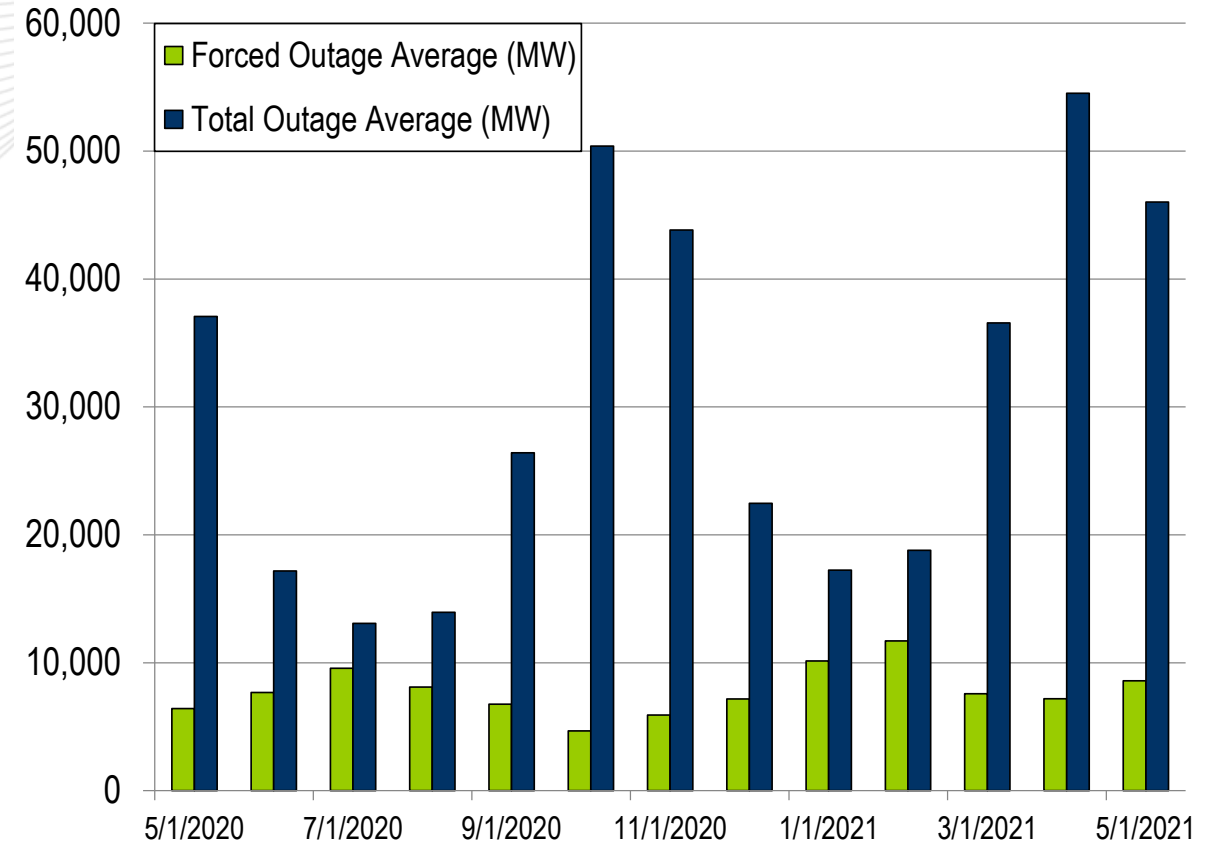
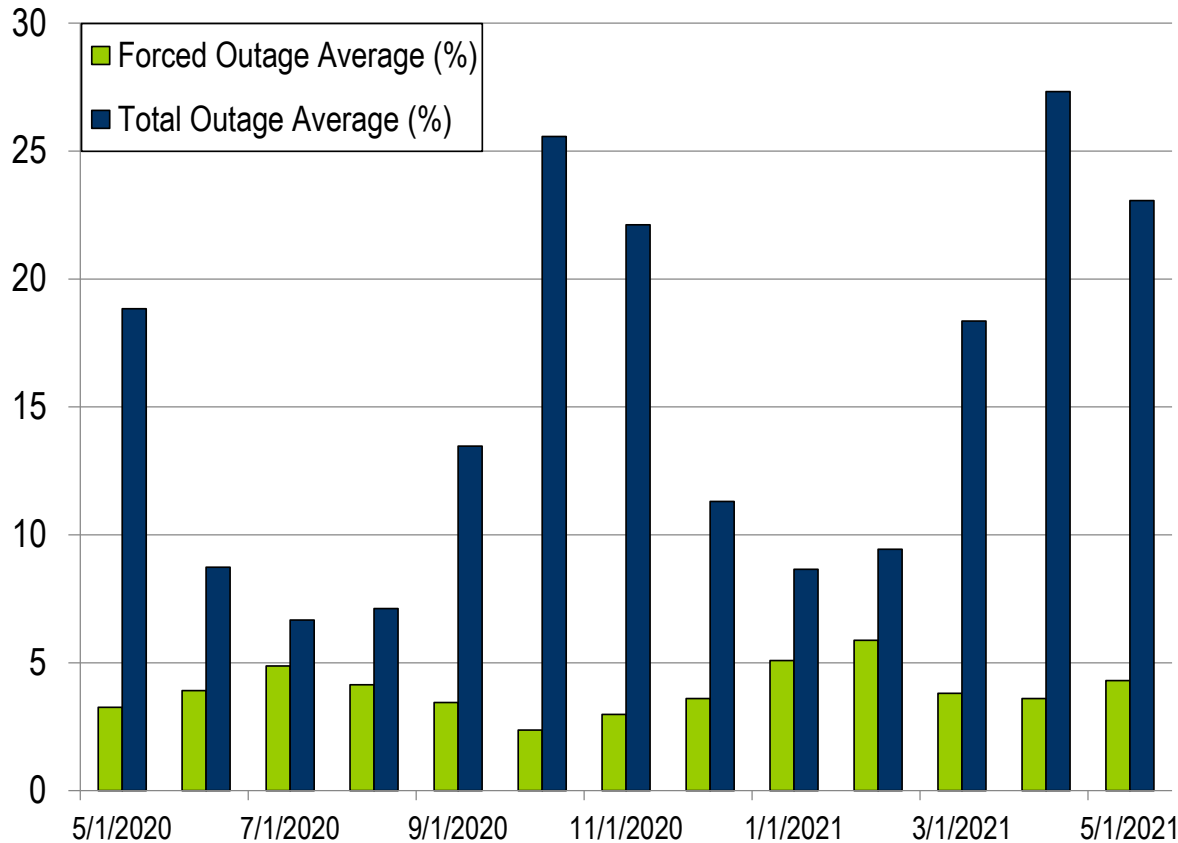




PJM's BAAL performance has exceeded the goal of 99% for each month in 2021.

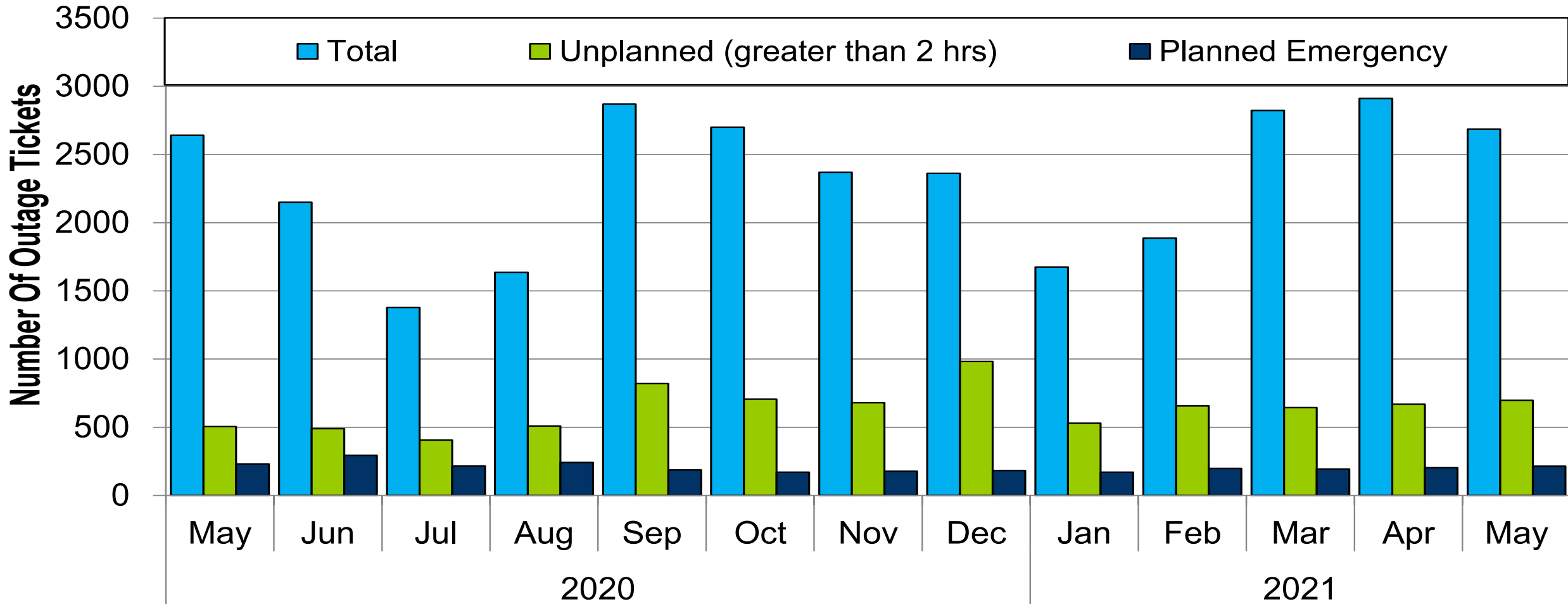
- Two spinning events in the month of April
- Two reserve sharing events with the Northeast Power Coordinating Council (NPCC)
- The following Emergency Procedures occurred in April:
 - 22 Post-Contingency Local Load Relief Warnings (PCLLRW)
 - 6 High System Voltages

- One spinning event in the month of May
- Four reserve sharing events with the Northeast Power Coordinating Council (NPCC)
- The following Emergency Procedures occurred in May:
 - 14 Post-Contingency Local Load Relief Warnings (PCLLRW)
 - 1 Hot Weather Alert
 - 1 Geomagnetic Disturbance Warning
 - 6 High System Voltages
 - 4 Shortage Cases Approved



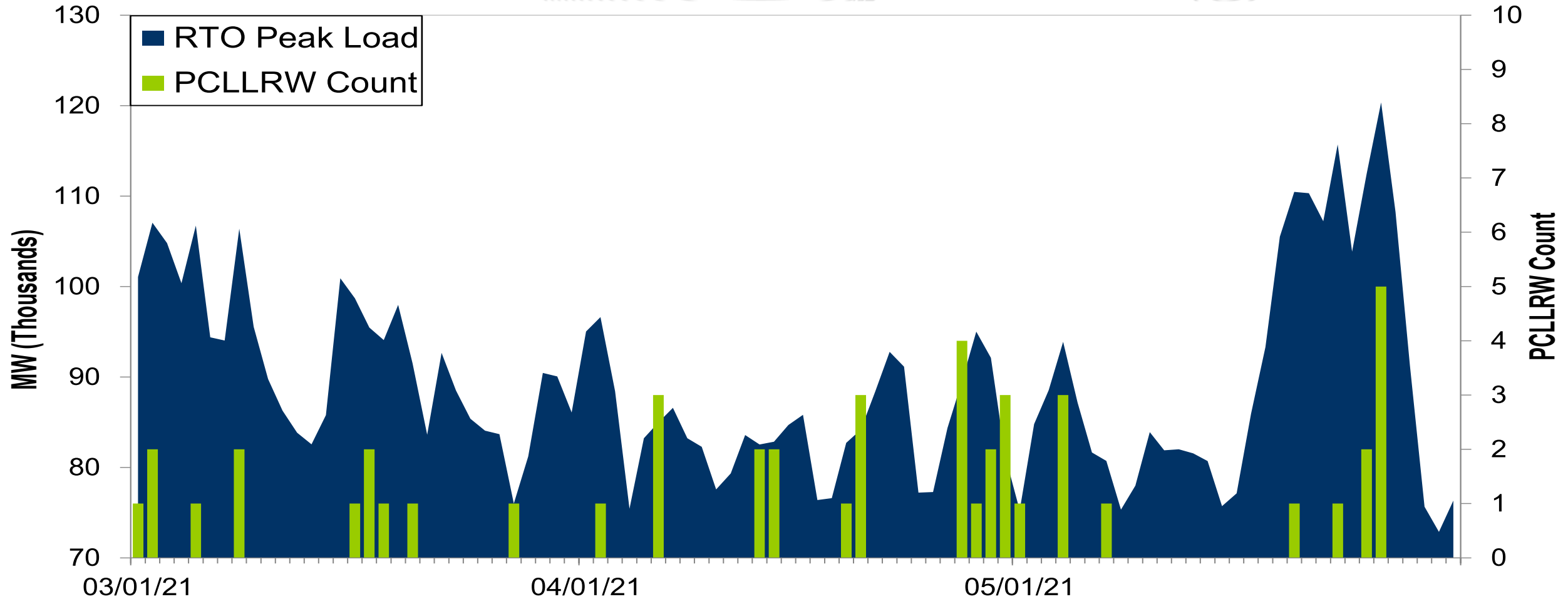
The 13-month average forced outage rate is 3.93% or 7,785 MW.
 The 13-month average total outage rate is 15.46% or 30,620 MW.

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

Event	Date	Start Time	End Time	Duration	Region	Tier 1 Estimate (MW)	Tier 1 Response (MW)
1	05/26/21	10:17:34	10:27:35	00:10:01	RTO	1138.4	811.0

Event	Date	Start Time	End Time	Duration	Region	Tier 2 Assigned (MW)	Tier 2 Response (MW)	Tier 2 Penalty (MW)
1	05/26/21	10:17:34	10:27:35	00:10:01	RTO	685.2	600.2	85.0

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

Presenter:
[Hong Chen, hong.chen@pjm.com]

[System Operations Report]



Member Hotline

(610) 666 – 8980

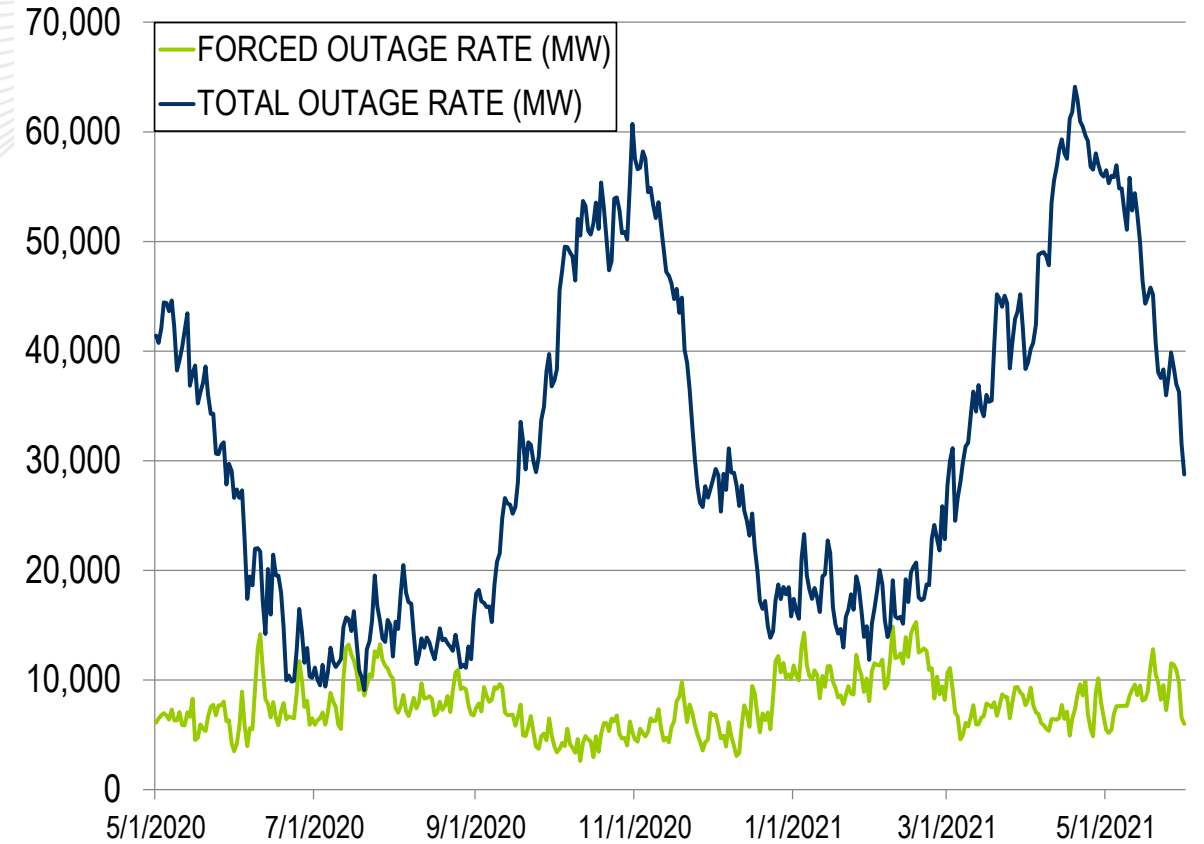
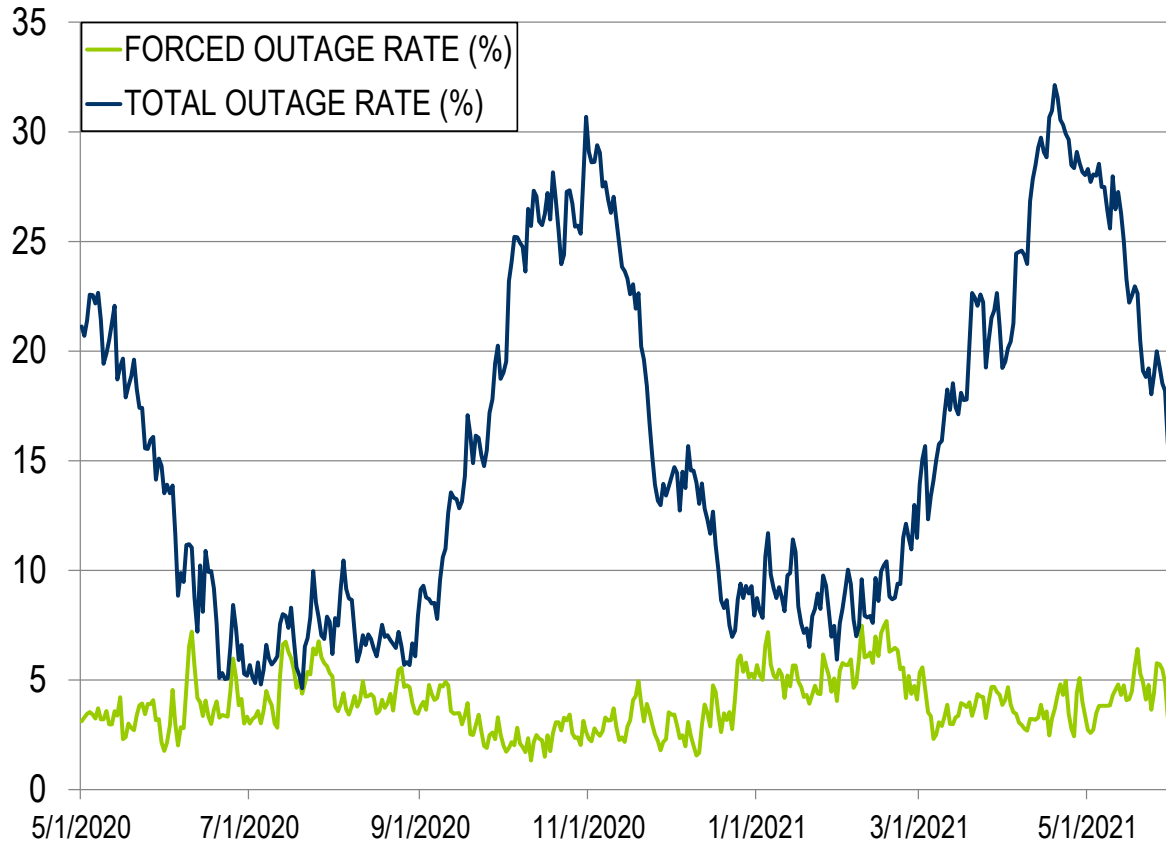
(866) 400 – 8980

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.



The 13-month average forced outage rate is 3.93% or 7,785 MW.
 The 13-month average total outage rate is 15.46% or 30,620 MW.

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

