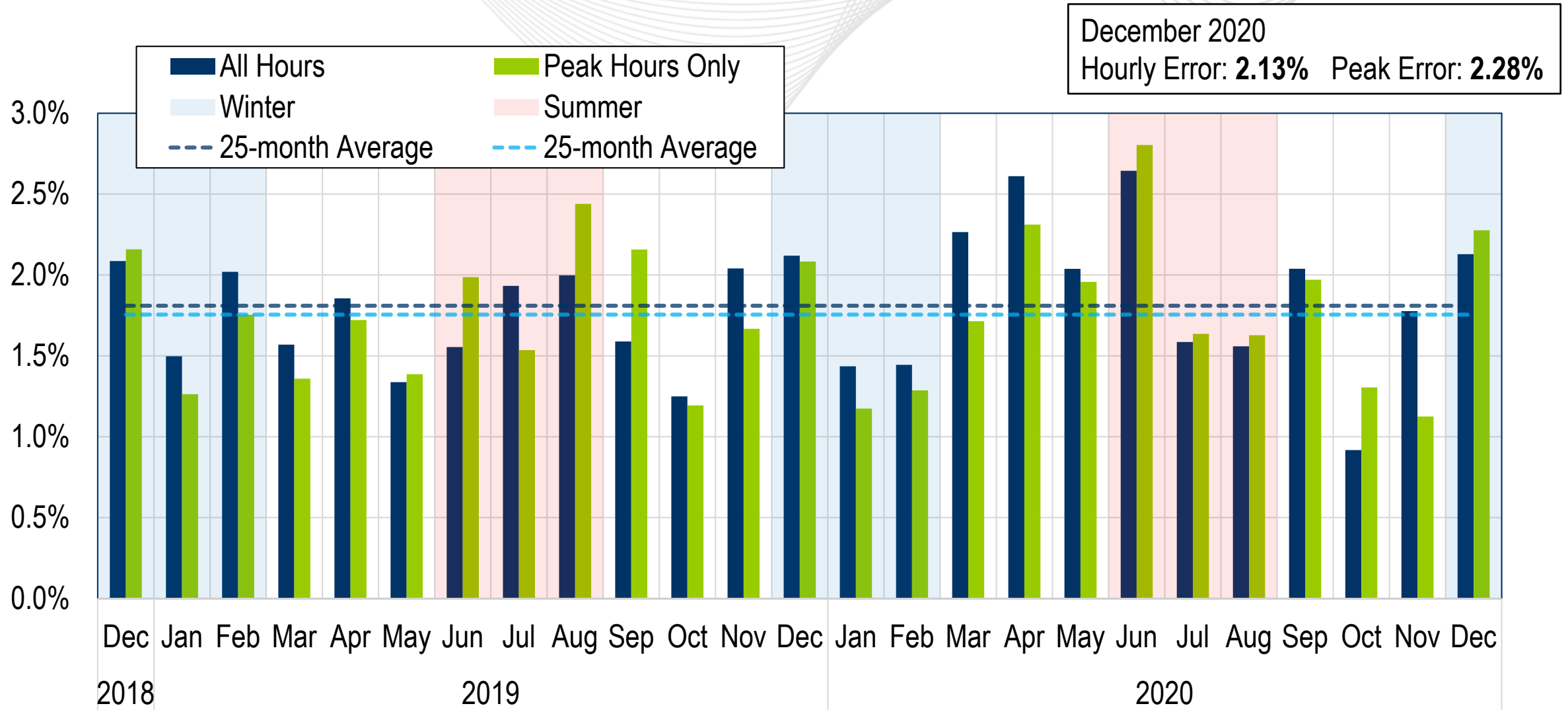


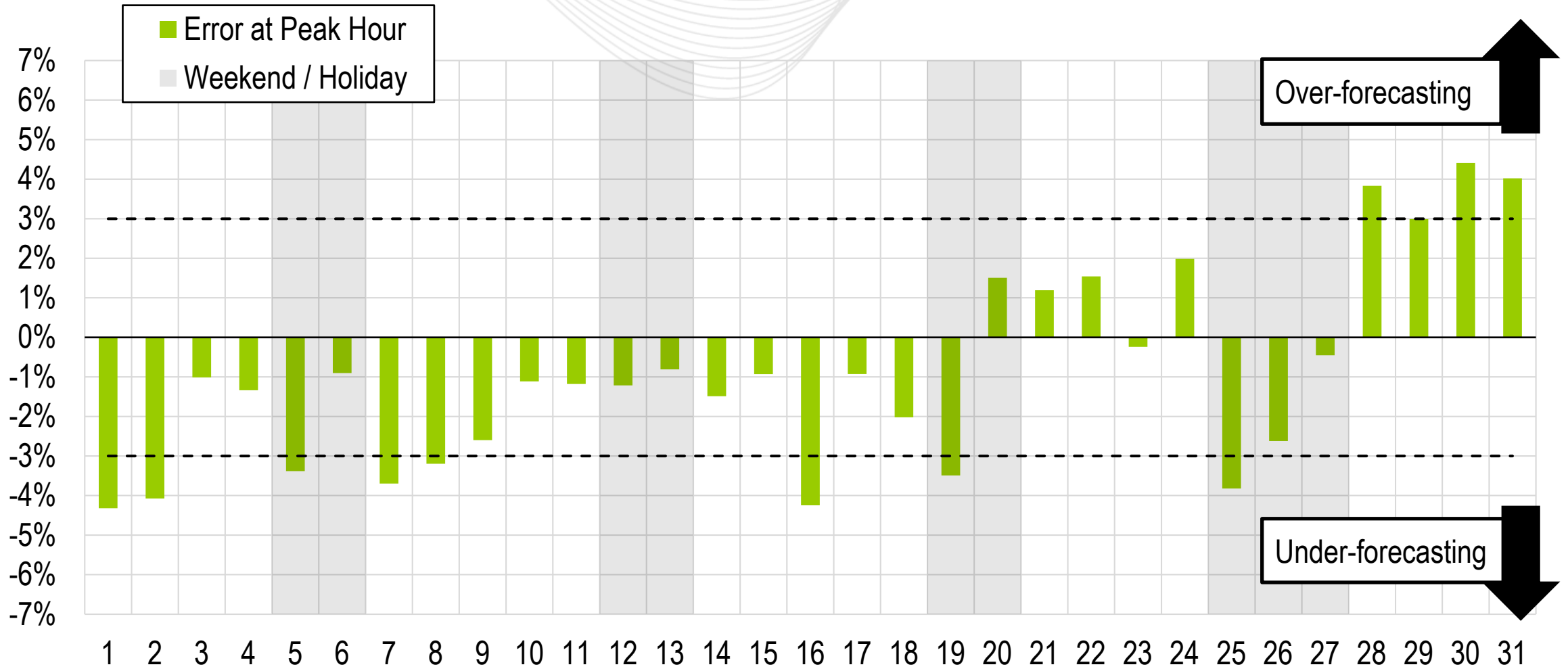


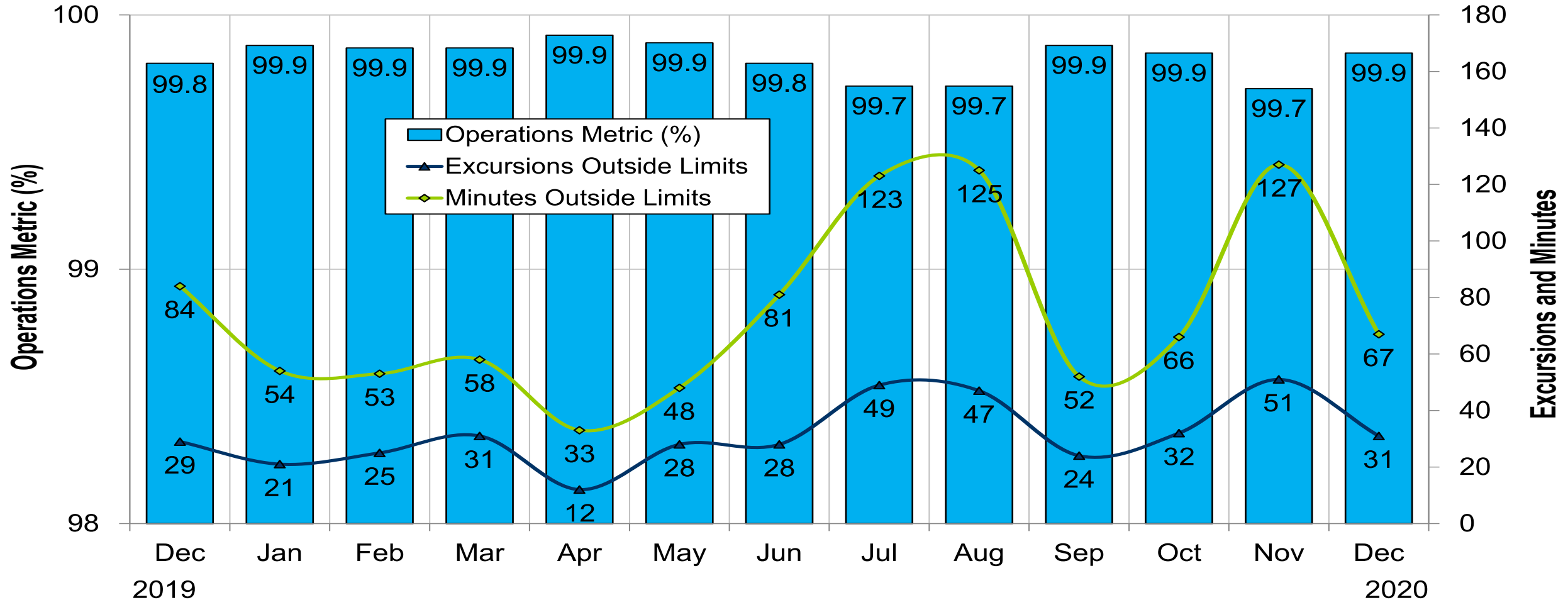
System Operations Report

Hong Chen
Senior Lead Engineer, Markets Coordination
MC Webinar
January 25, 2020



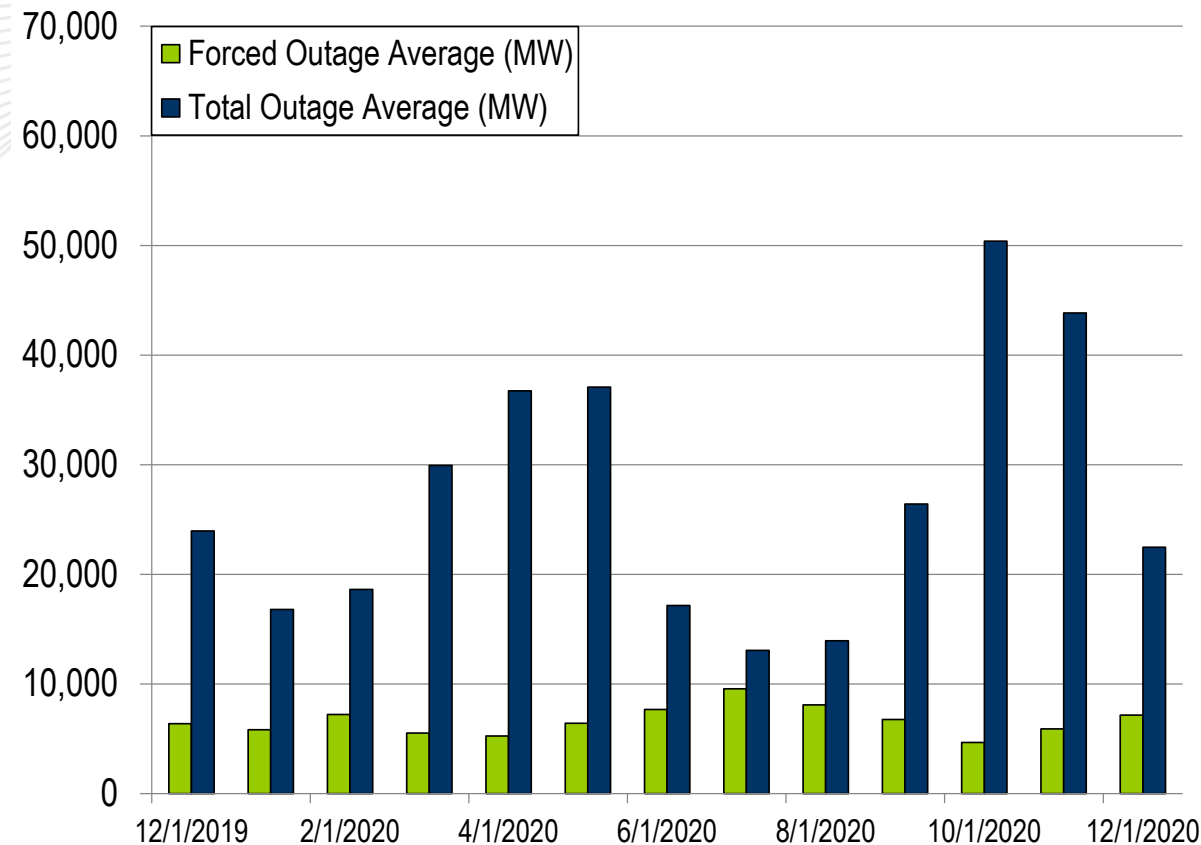
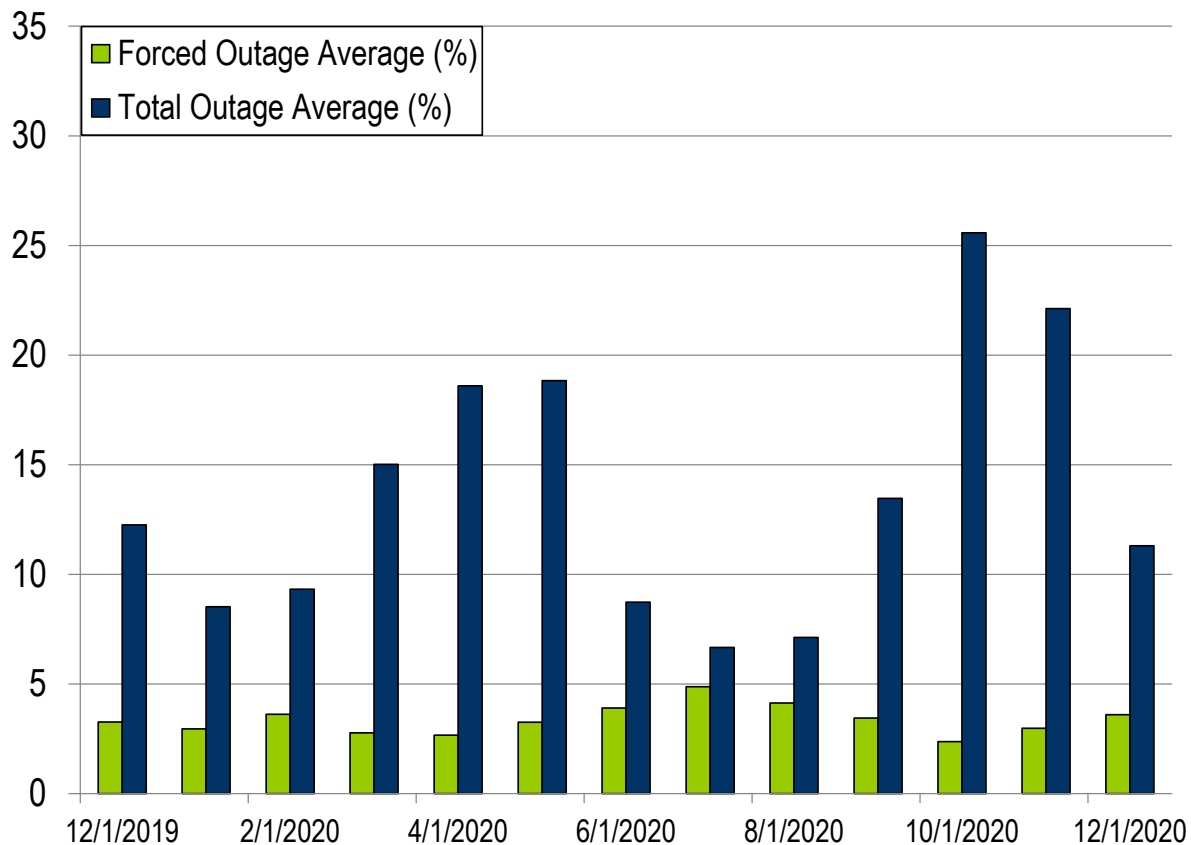
Daily Peak Forecast Error (December)





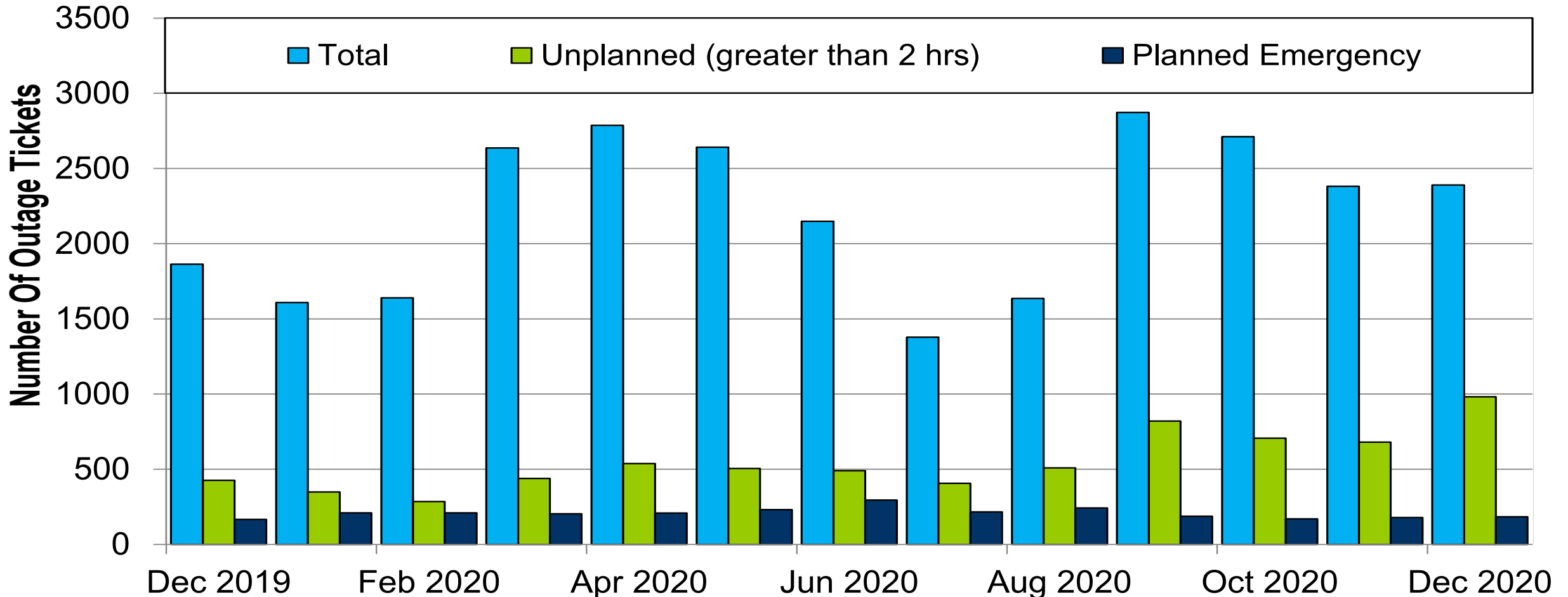
PJM's BAAL performance has exceeded the goal of 99% for each month in 2020.

- One spinning event in the month of December
- Three reserve sharing events with the Northeast Power Coordinating Council (NPCC)
- The following Emergency Procedures occurred in December:
 - 18 Post-Contingency Local Load Relief Warnings (PCLLRW)
 - 1 Conservative Operation
 - 1 Shortage Case Approved



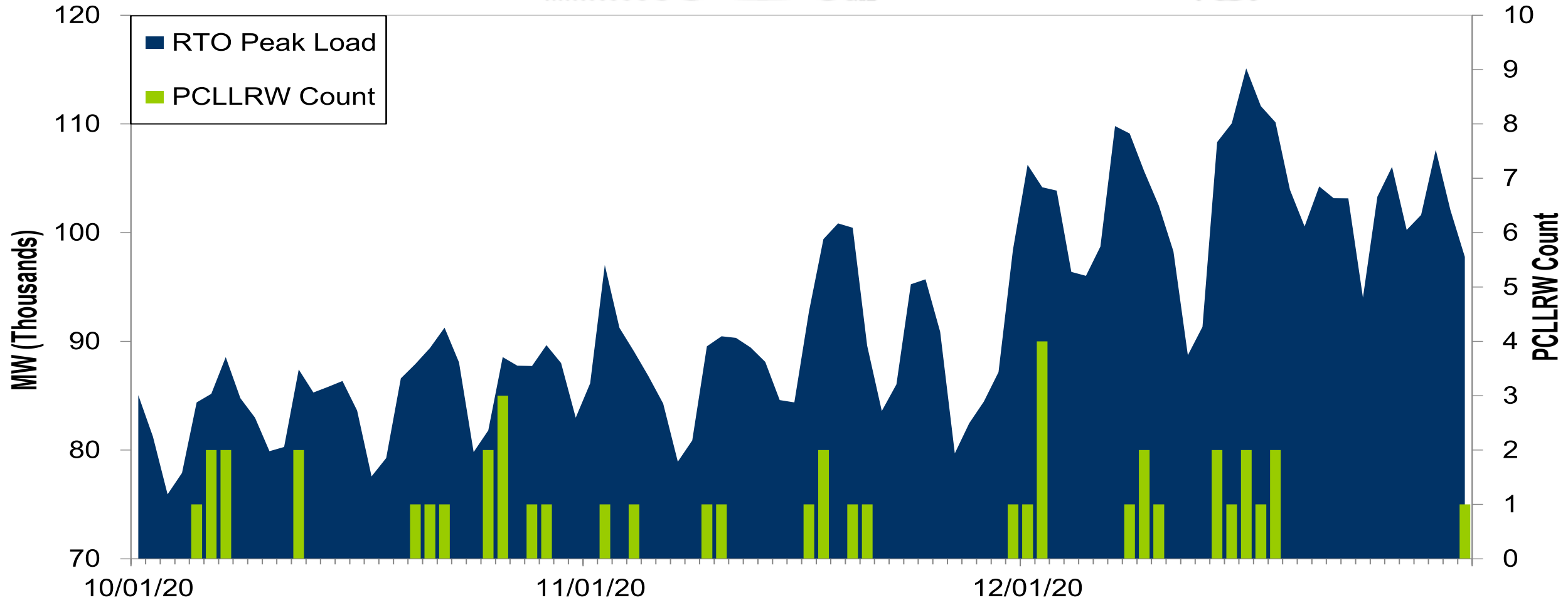
The 13-month average forced outage rate is 3.37% or 6,655 MW.
 The 13-month average total outage rate is 13.67% or 26,974 MW.

2019-2020 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	12/16/20	11:38:17	11:48:39	00:10:22	MAD	268.4	196.9

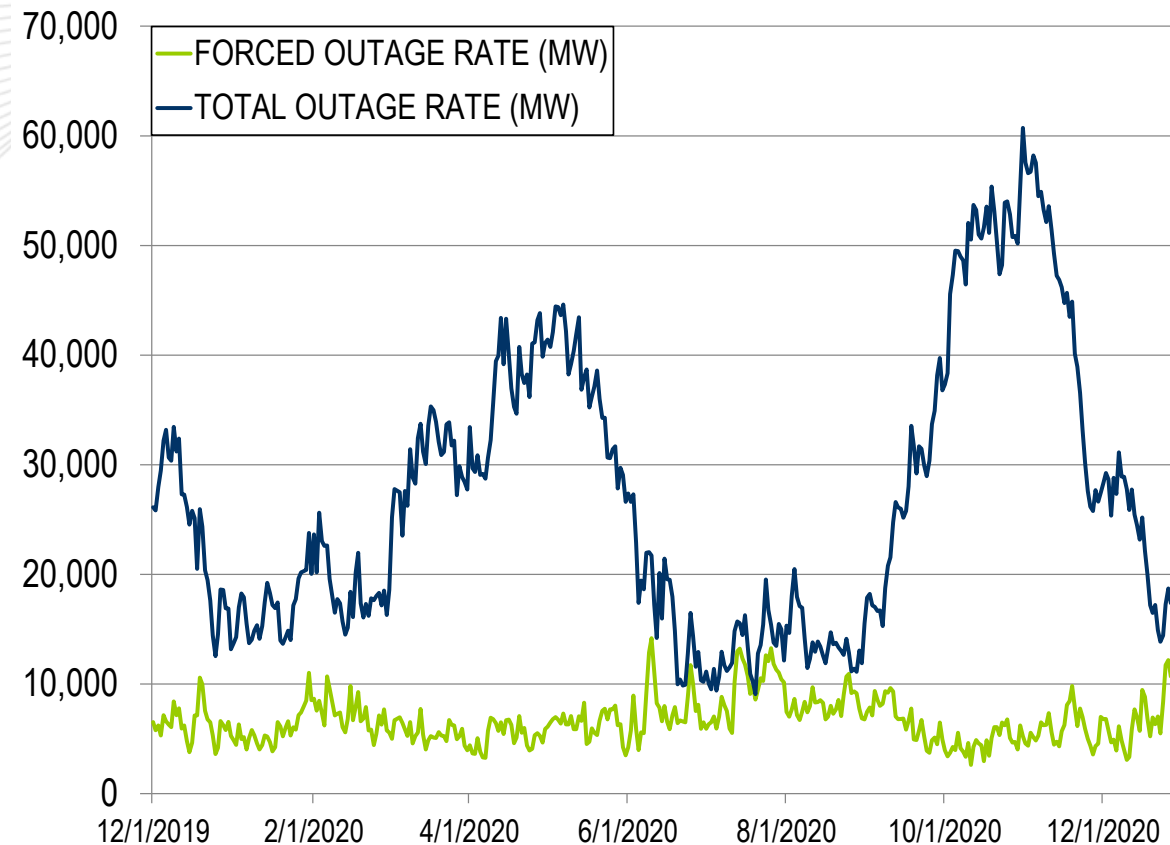
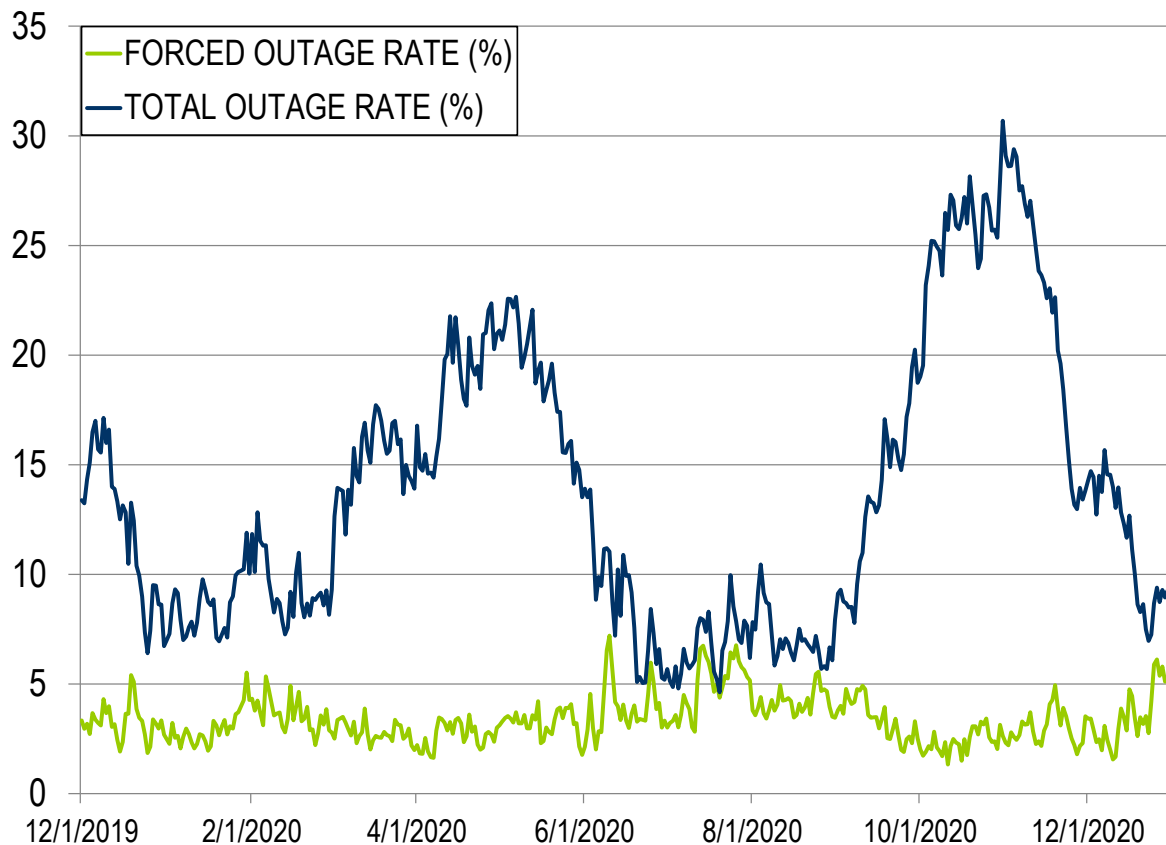
Event	Date	Start Time	End Time	Duration	Region	Tier 2 Assigned (MW)	Tier 2 Response (MW)	Tier 2 Penalty (MW)
1	12/16/20	11:38:17	11:48:39	00:10:22	MAD	527.6	413.2	114.4

*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 3.37% or 6,655 MW.
 The 13-month average total outage rate is 13.67% or 26,974 MW.

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

