

# ***Operations Performance Metrics Monthly Report***



## ***March 2023 Report***

### **Operations & Reliability Department New York Independent System Operator**

Prepared by NYISO Operations Analysis and Services, based on settlements initial invoice data collected on or before April 10, 2023.

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## March 2023 Operations Performance Highlights

- March 2023 peak load of 19,881 MW occurred on 03/14/2023 HB 19
- Winter 2022-2023 capability period peak load to date of 23,369 MW occurred on 02/03/2023 HB 18
- All-time winter capability period peak load of 25,738 MW occurred on 01/07/2014 HB 18
- 20.2 hours of Thunderstorm Alerts were declared
- 0 hours of NERC TLR level 3 curtailment
- NYISO began securing Holtsville-West Yaphank 69kV (#69-853) facility in the Real-Time Market on 03/02/2023 and in the Day-Ahead Market execution occurring on 03/03/2023 for the 03/04/2023 market day.

Installed Wind, Solar and Energy Storage Resource Nameplate Values:

Land-Based Wind	Behind-the-Meter Solar	Front-of-the-Meter Solar	Energy Storage Resource (ESR)
2,424 MW	4,467 MW	114 MW	20 MW

Estimated production cost savings associated with the Broader Regional Market initiatives:

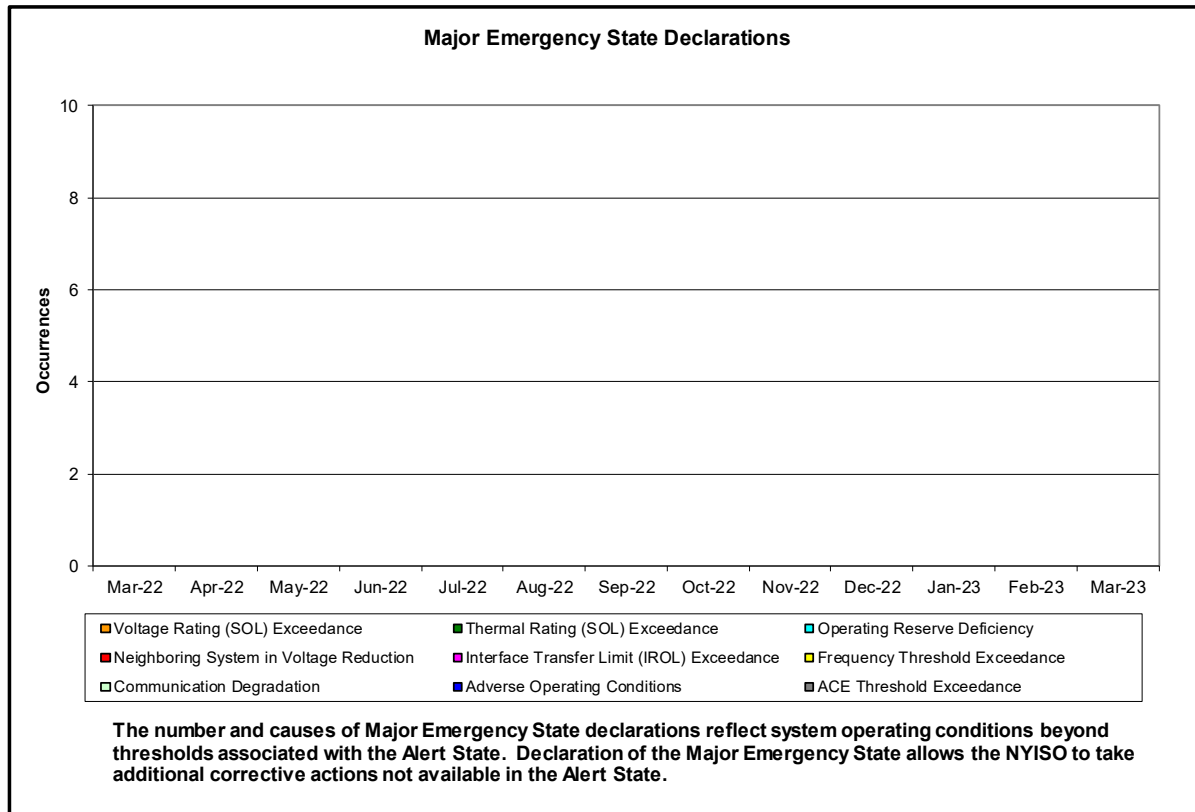
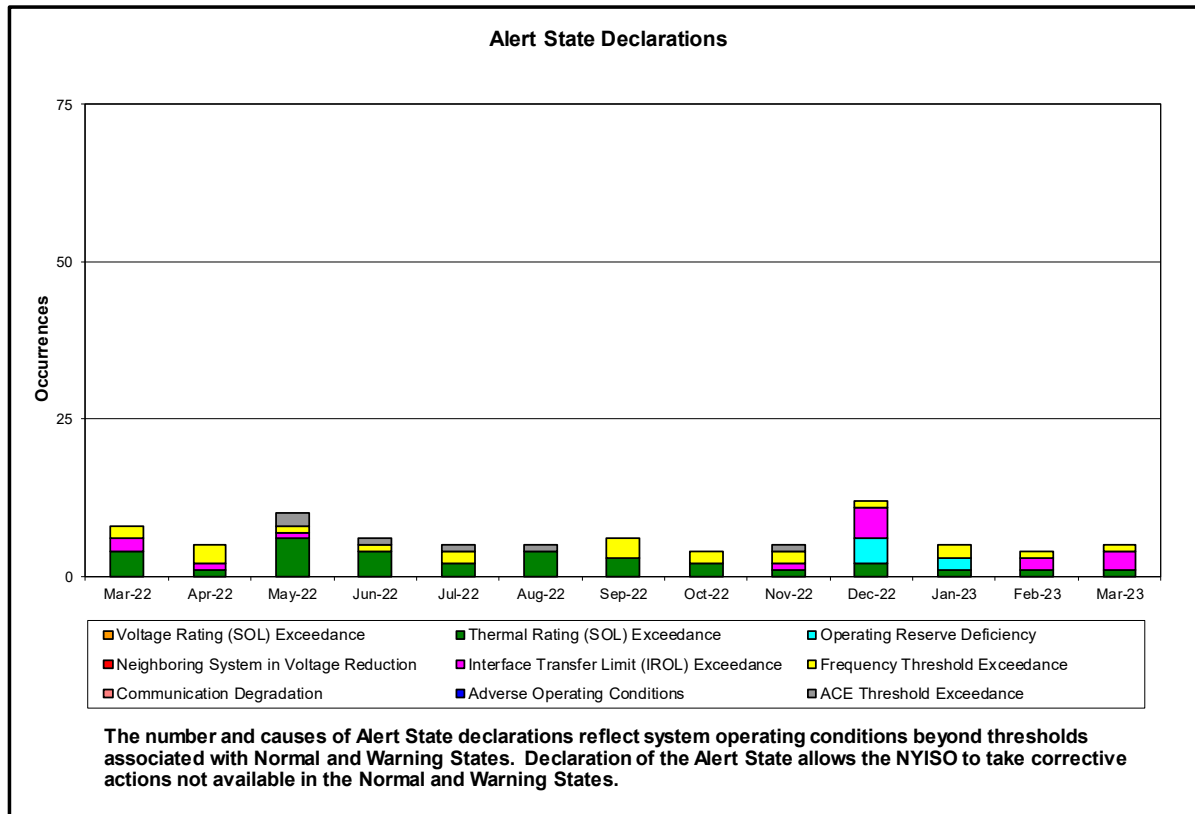
	Current Month Value (\$M)	Year-to-Date Value (\$M)
<b>NY Savings from PJM-NY Congestion Coordination</b>	\$3.73	\$7.45
<b>NY Savings from PJM-NY Coordinated Transaction Scheduling</b>	(\$0.08)	(\$0.39)
<b>NY Savings from NE-NY Coordinated Transaction Scheduling</b>	(\$0.15)	(\$1.14)
<b>Total NY Savings</b>	<b>\$3.50</b>	<b>\$5.92</b>
<b>Regional Savings from PJM-NY Coordinated Transaction Scheduling</b>	\$0.17	\$0.79
<b>Regional Savings from NE-NY Coordinated Transaction Scheduling</b>	\$0.08	\$0.28
<b>Total Regional Savings</b>	<b>\$0.25</b>	<b>\$1.07</b>

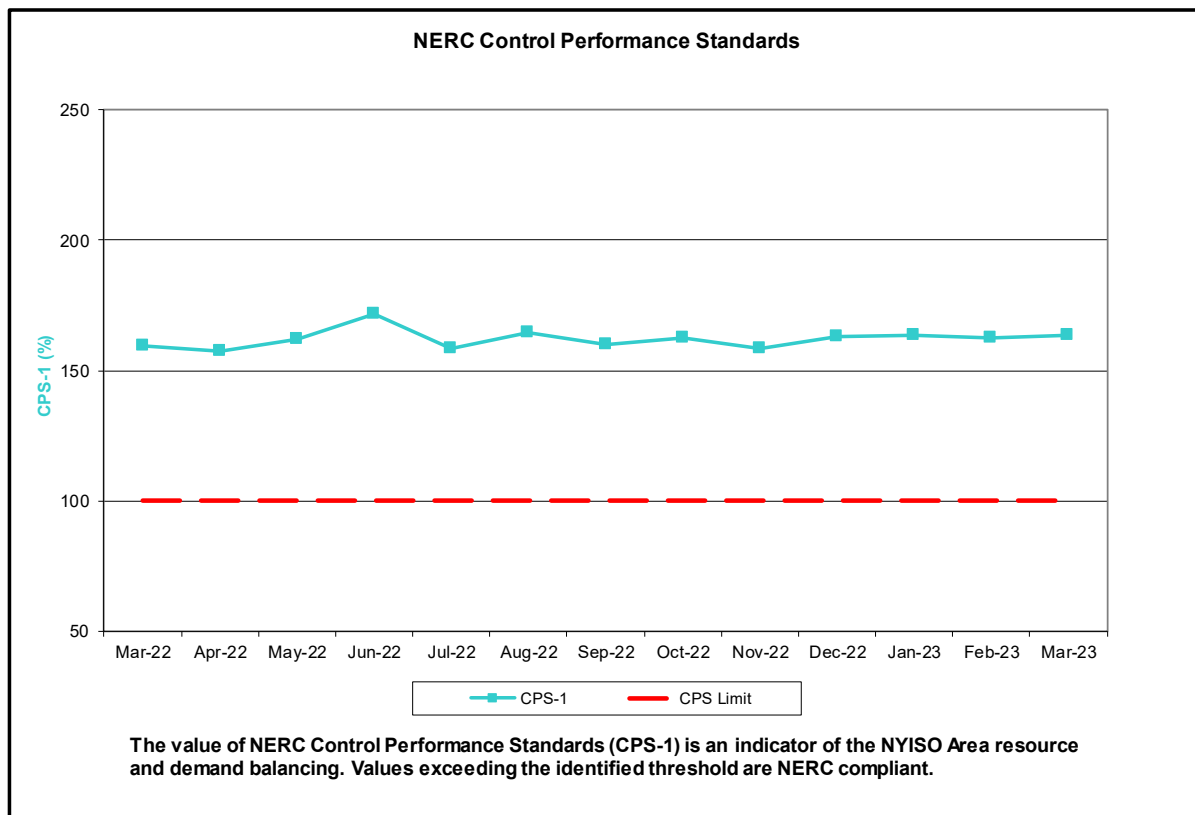
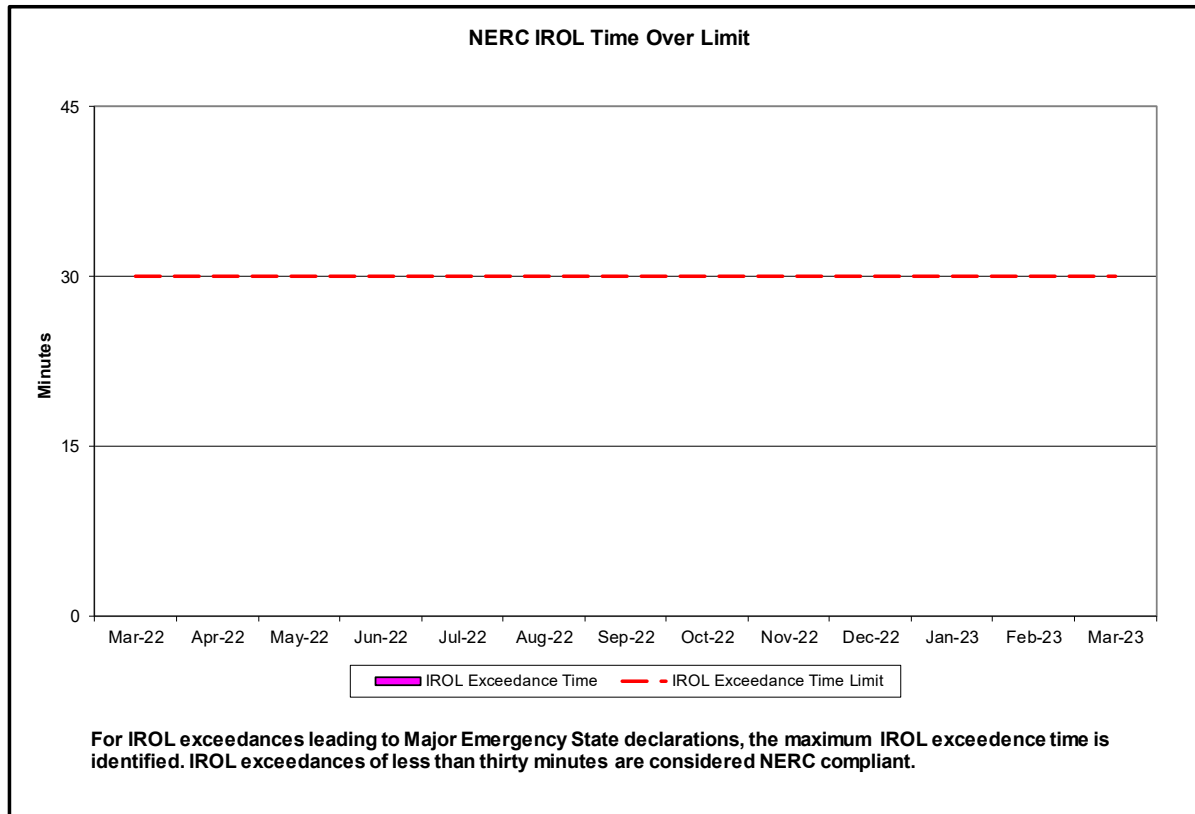
- Statewide uplift cost monthly average was (\$0.10)/MWh.
- The following table identifies the Monthly ICAP spot market prices and the price delta.

Spot Auction Price Results	NYCA	Lower Hudson Valley Zones	New York City Zone	Long Island Zone
February 2023 Spot Price	\$3.80	\$3.80	\$3.80	\$3.80
January 2023 Spot Price	\$4.39	\$4.39	\$4.39	\$4.39
Delta	(\$0.59)	(\$0.59)	(\$0.59)	(\$0.59)

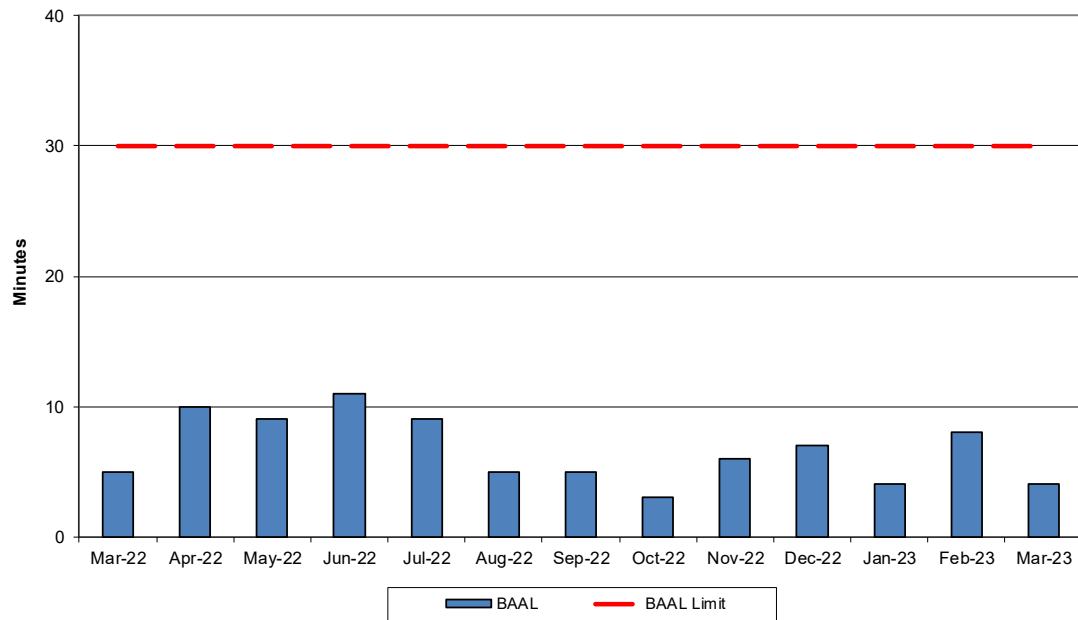
- Price decline in all zones was driven by a decline in unoffered MW

## Reliability Performance Metrics



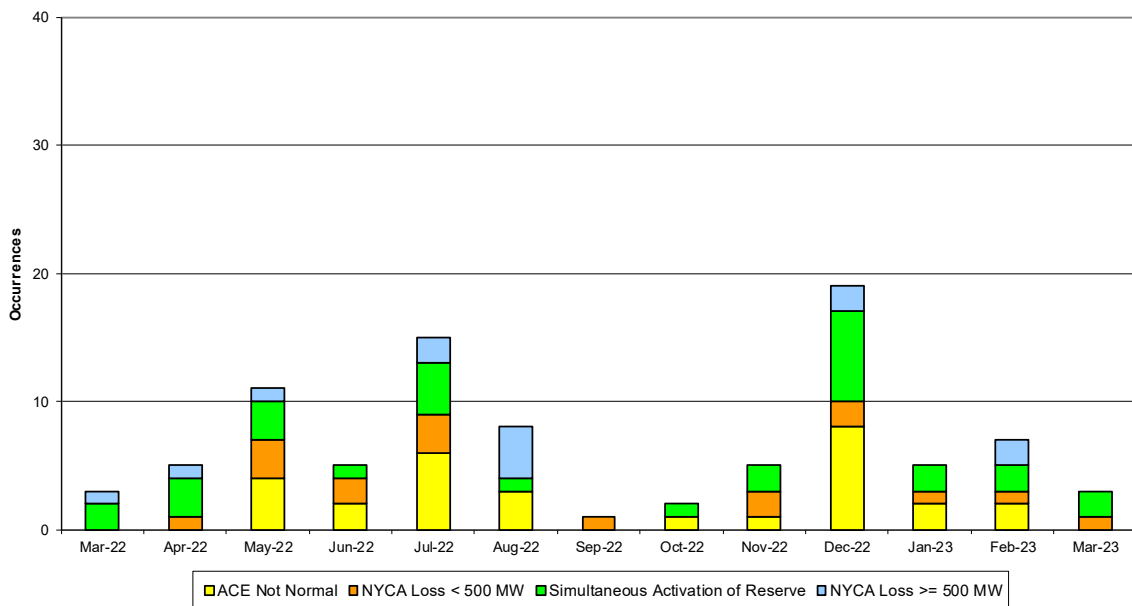


### NERC Balancing Authority ACE Limit Standard

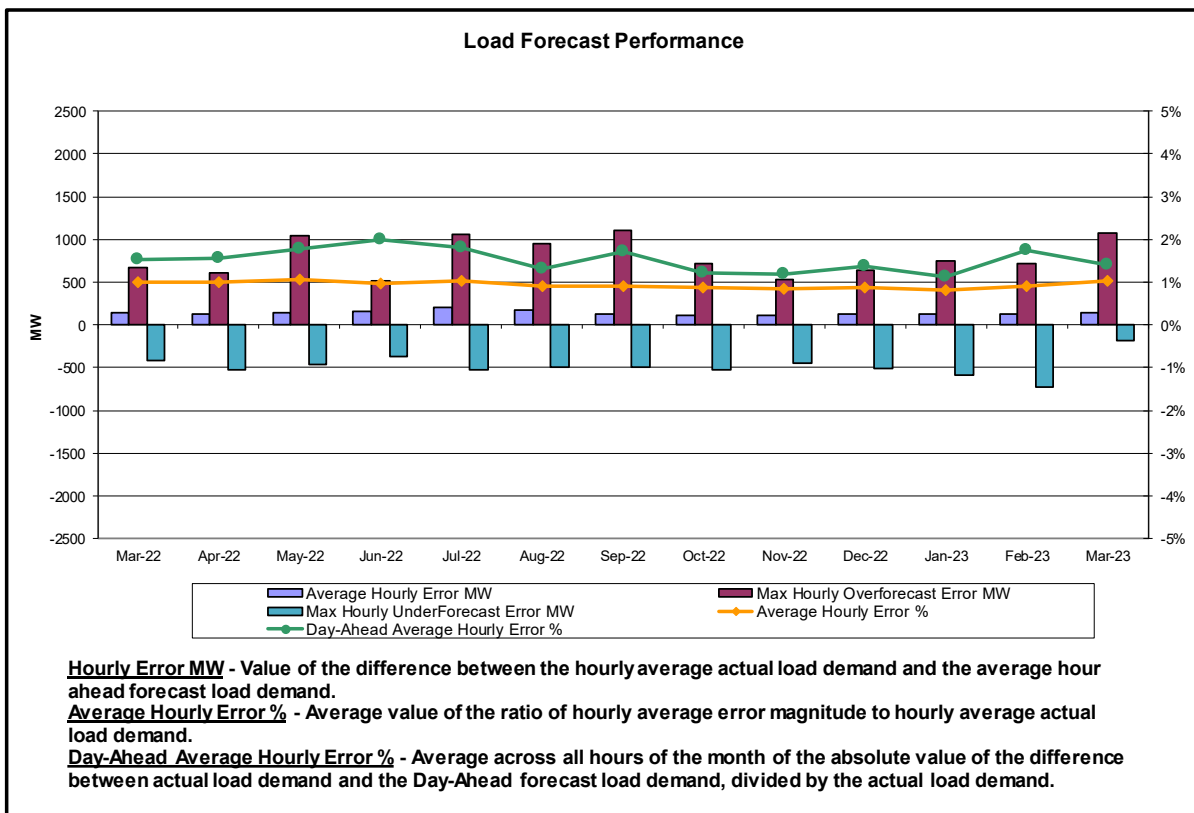
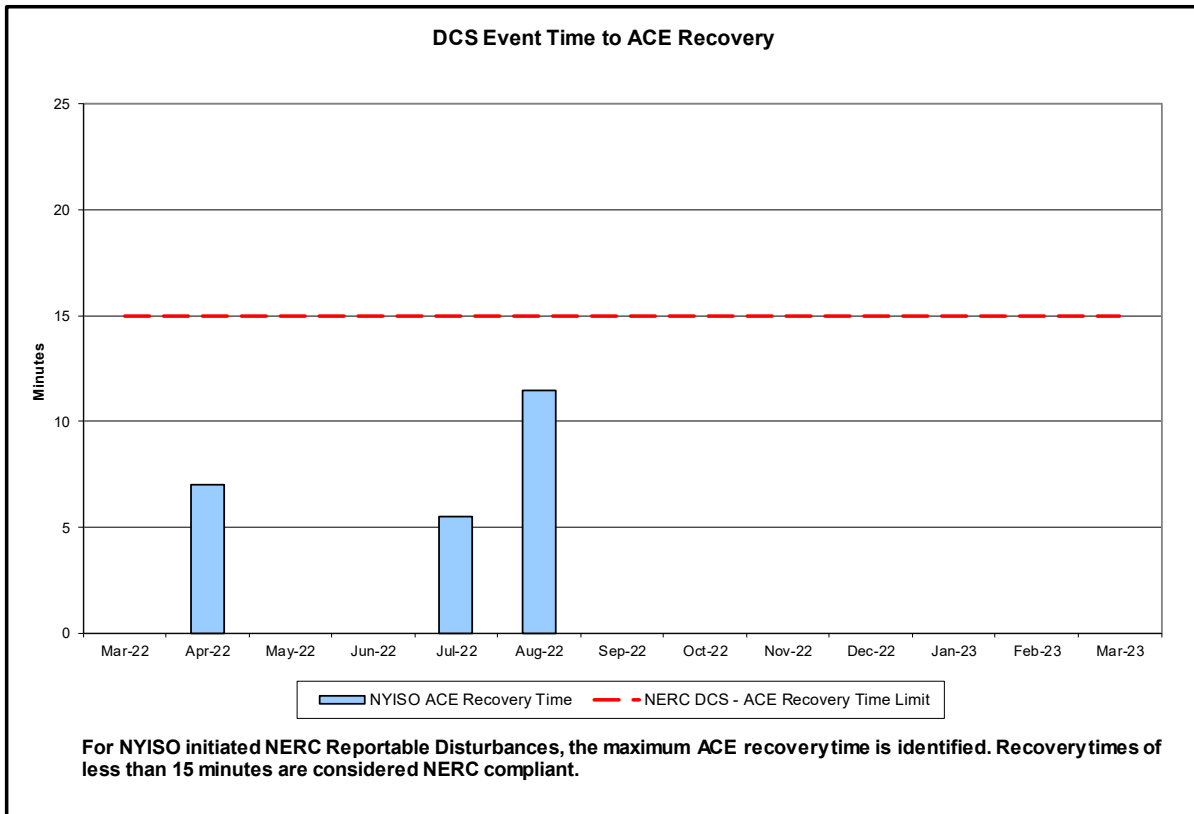


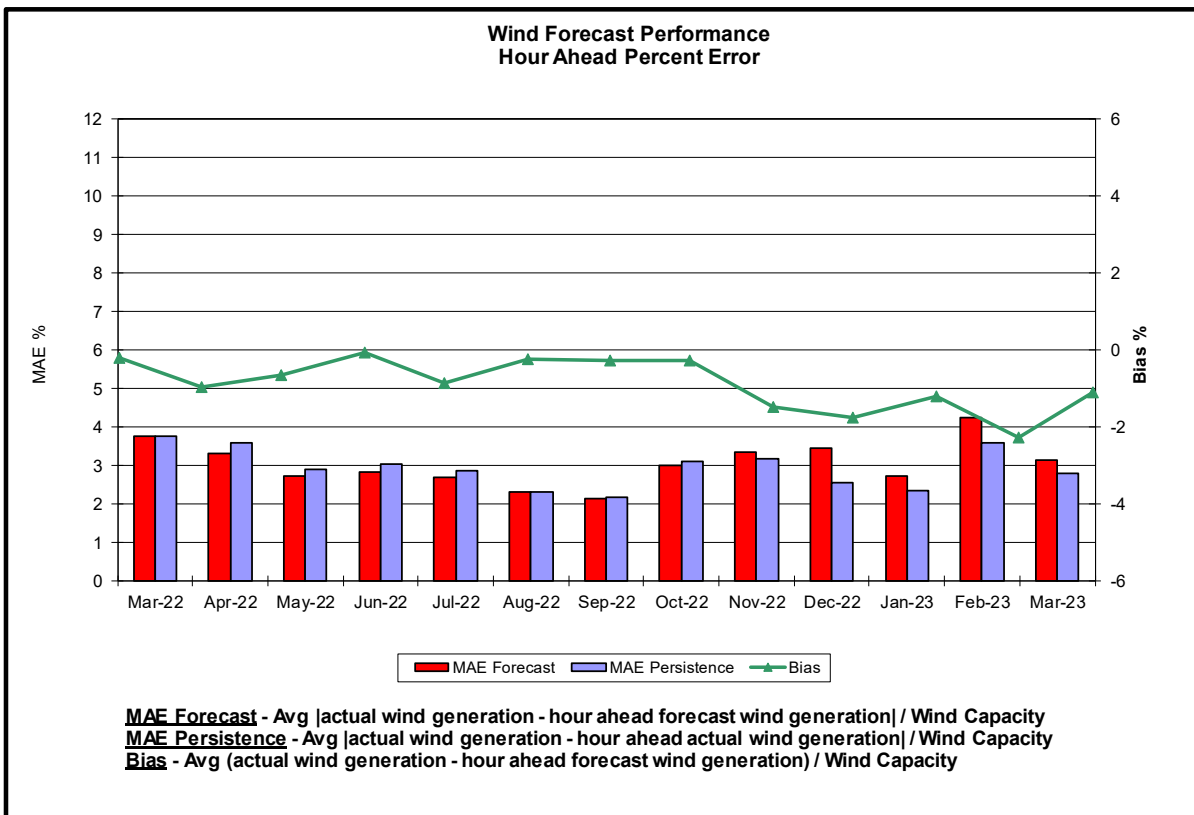
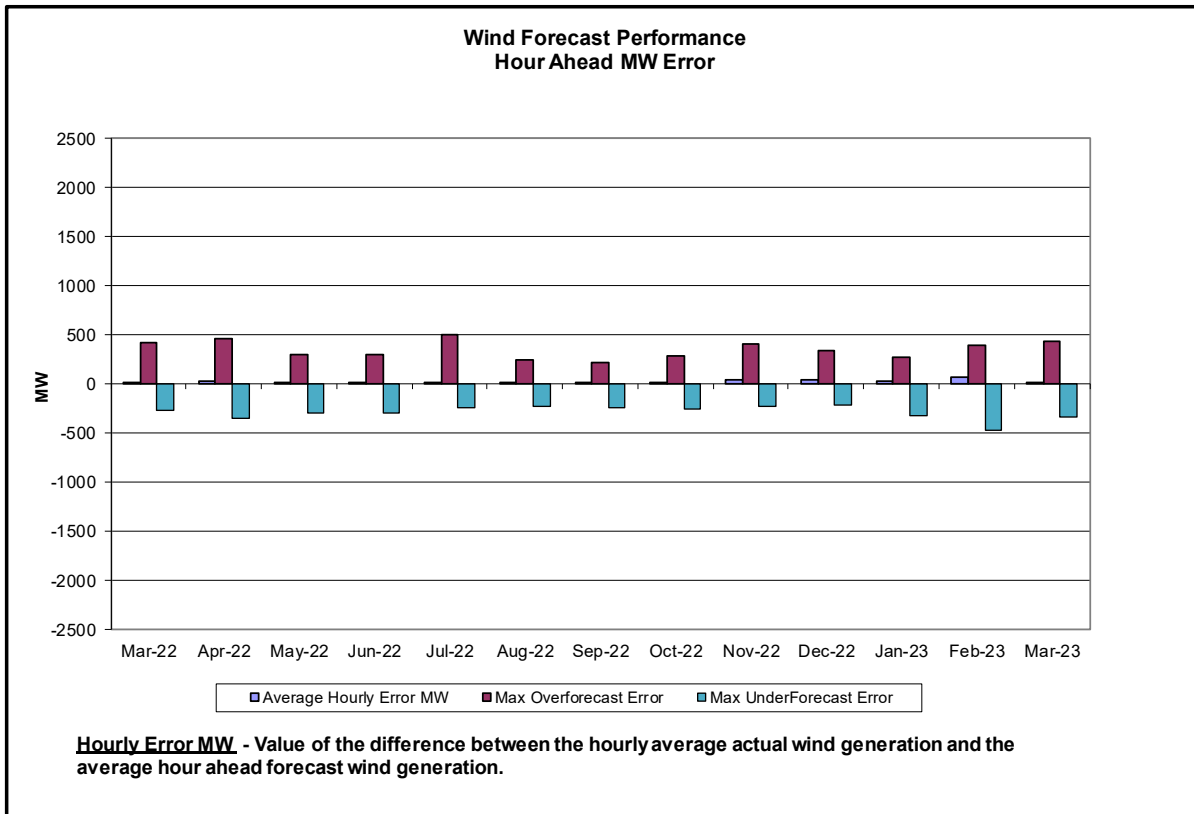
The amount of time the clock-minute average ACE exceeds the clock-minute Balancing Authority ACE Limit (BAAL) is an indicator of the NYISO Area resource and demand balancing. The maximum BAAL exceedance time is identified. BAAL exceedances of less than 30 consecutive clock-minutes are NERC compliant.

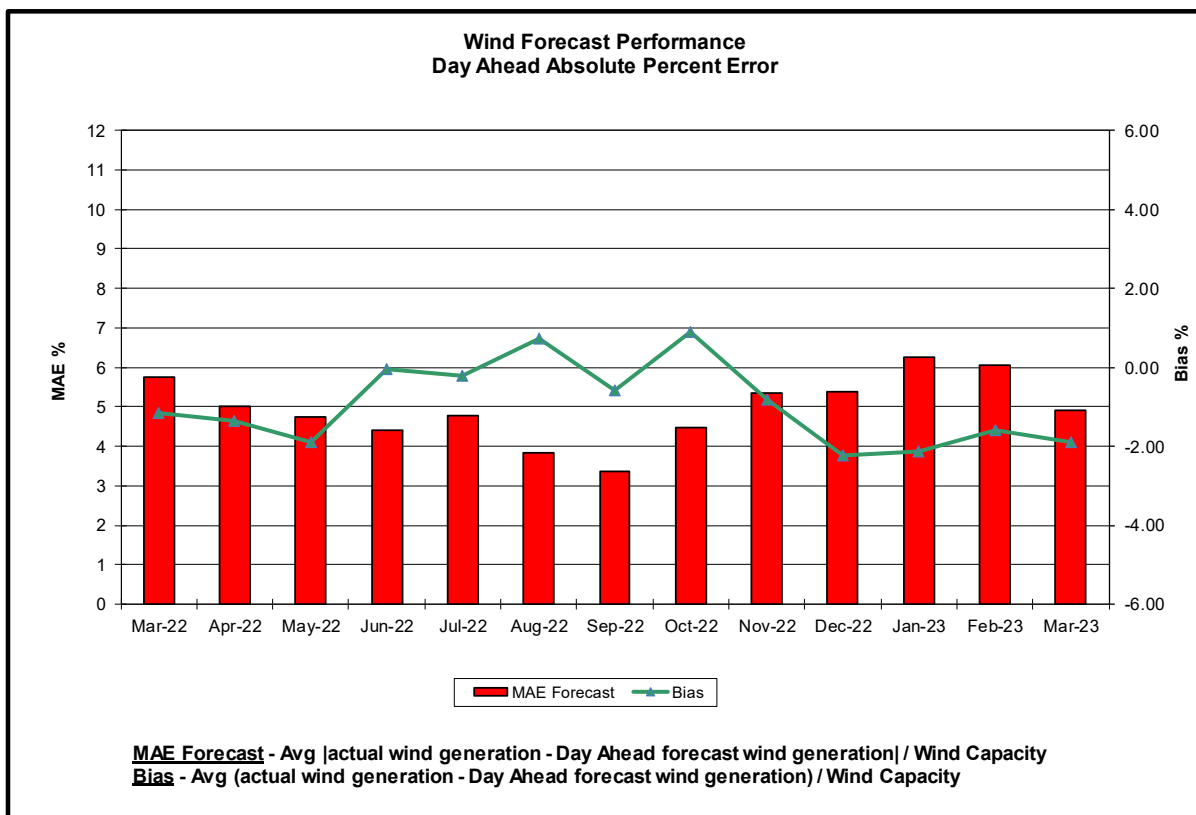
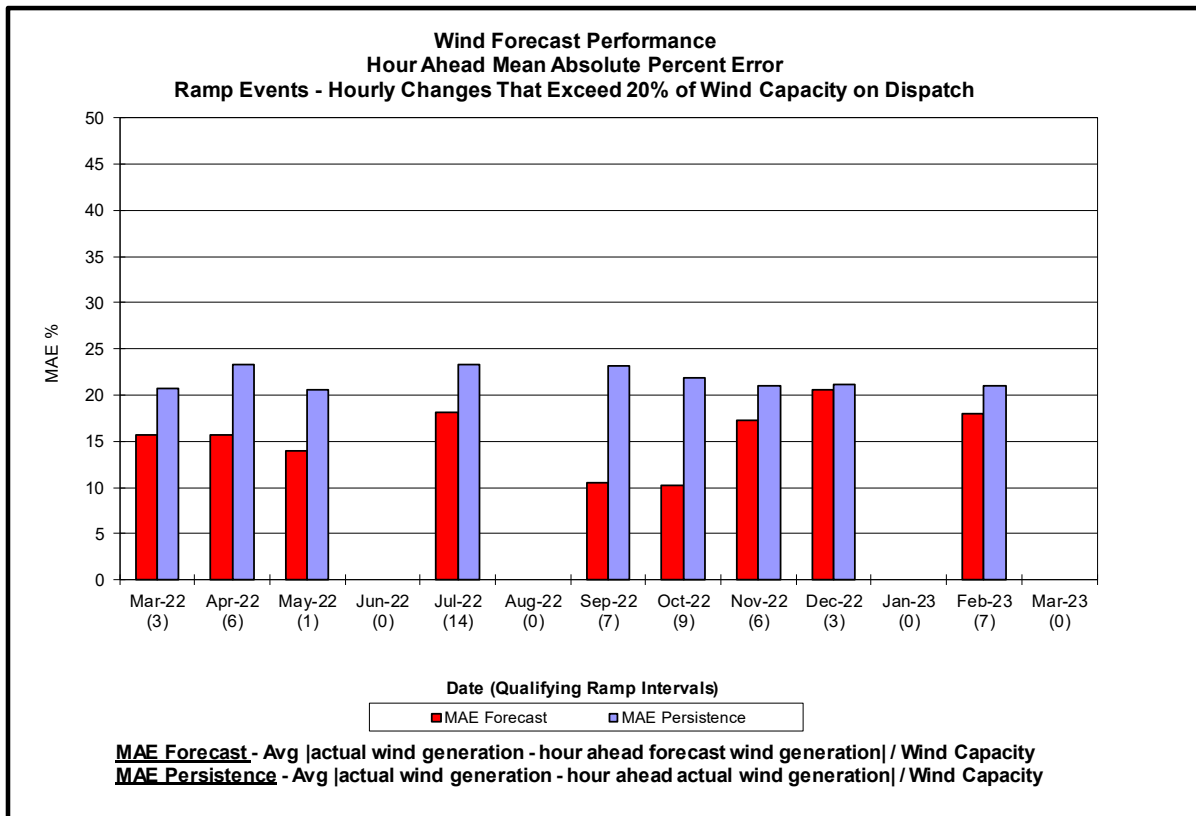
### Reserve Activations

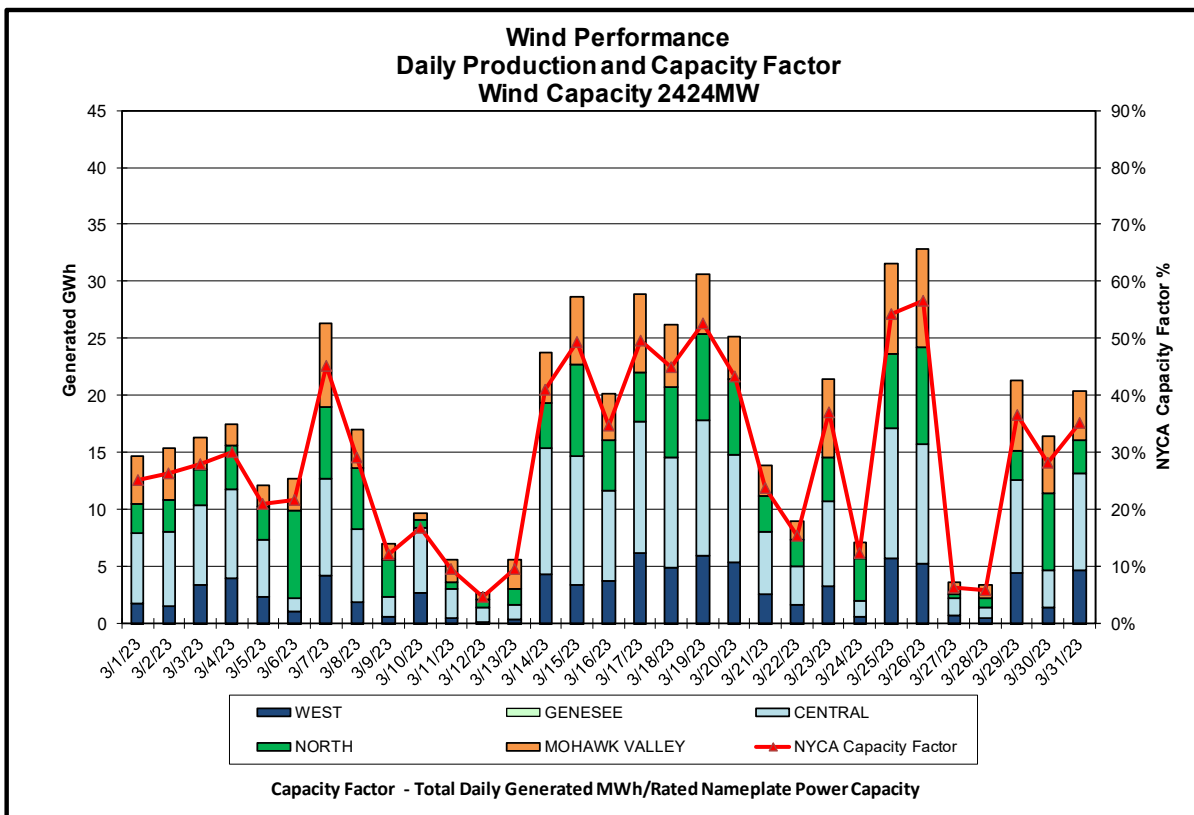
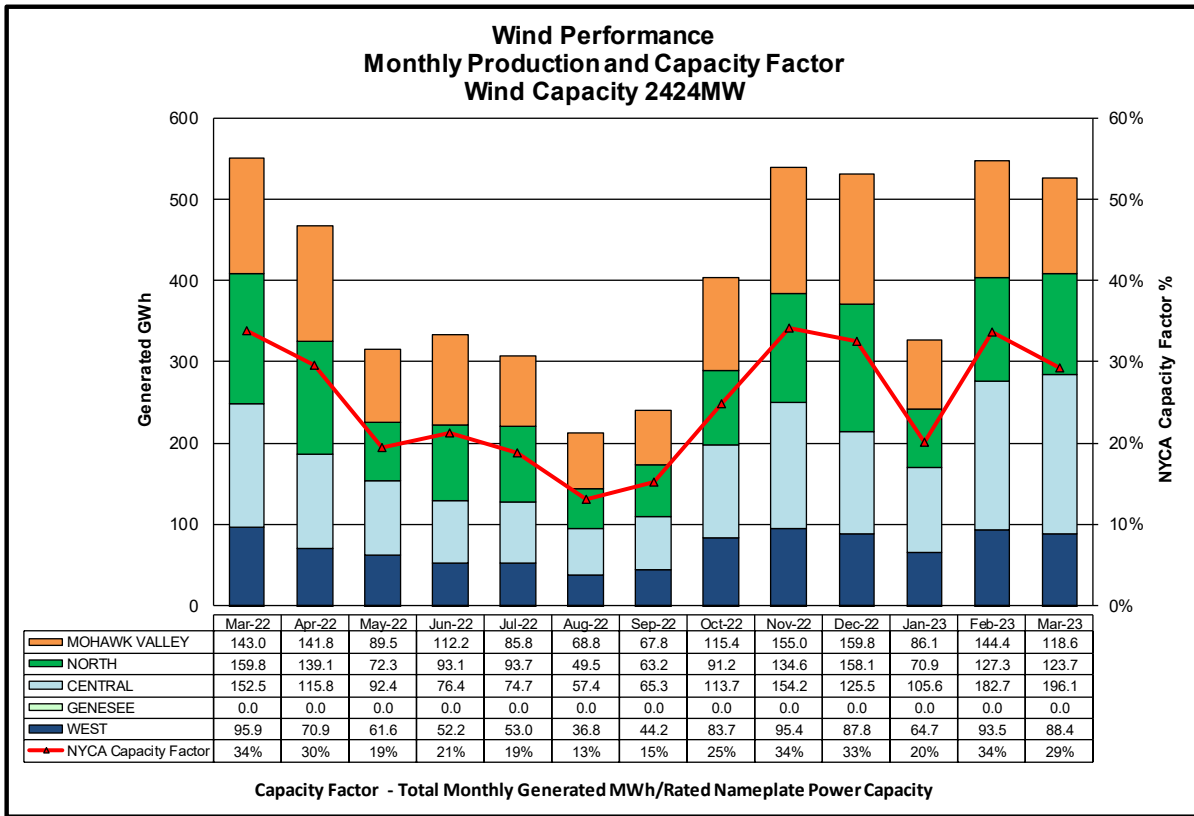


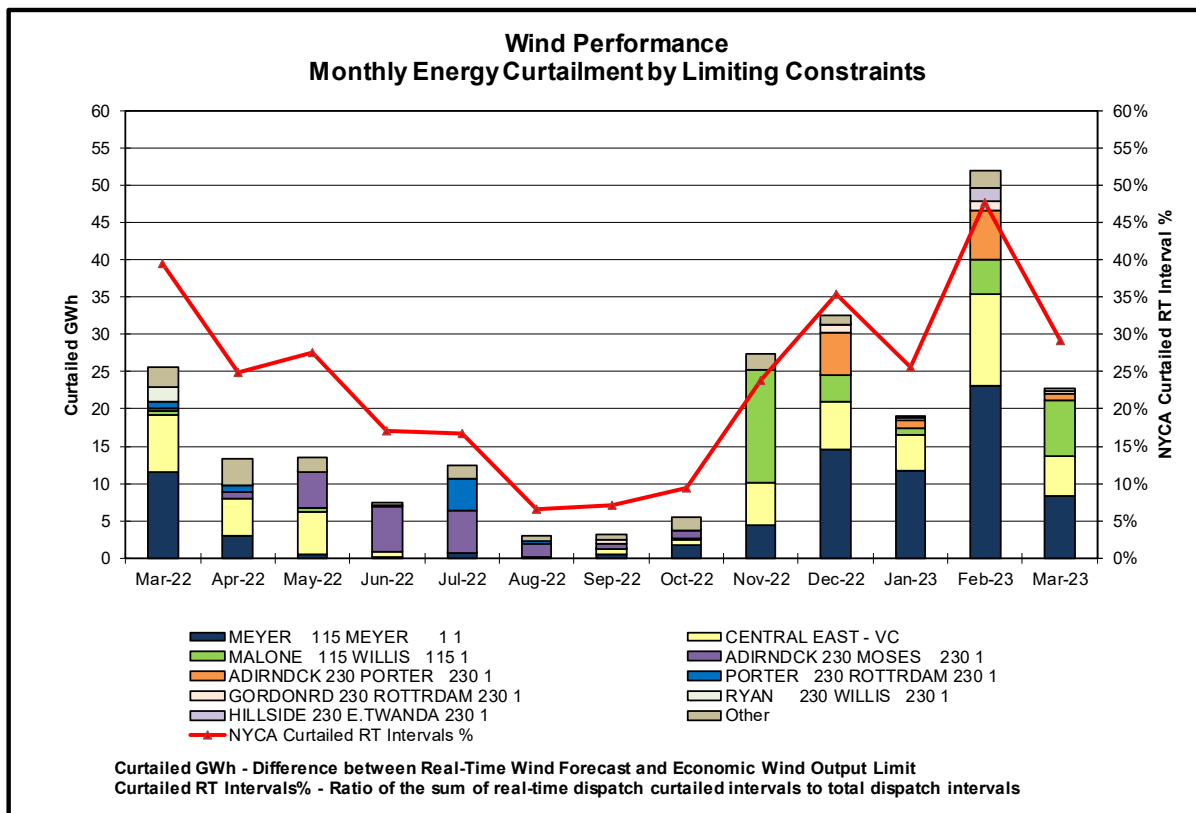
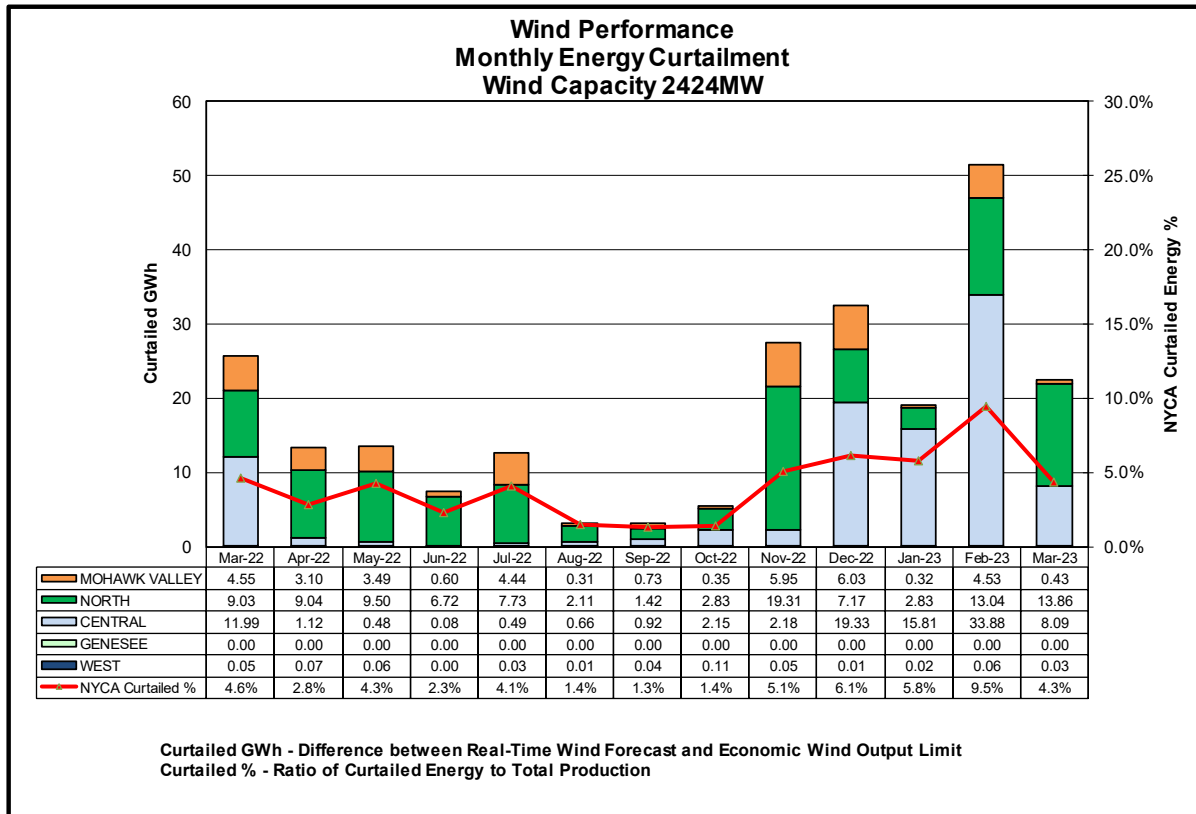
NYISO Reserve Activations are indicators of the need to respond to unexpected operational conditions within the NYISO Area or to assist a neighboring Area (Simultaneous Activation of Reserves) by activating an immediate resource and demand balancing operation.

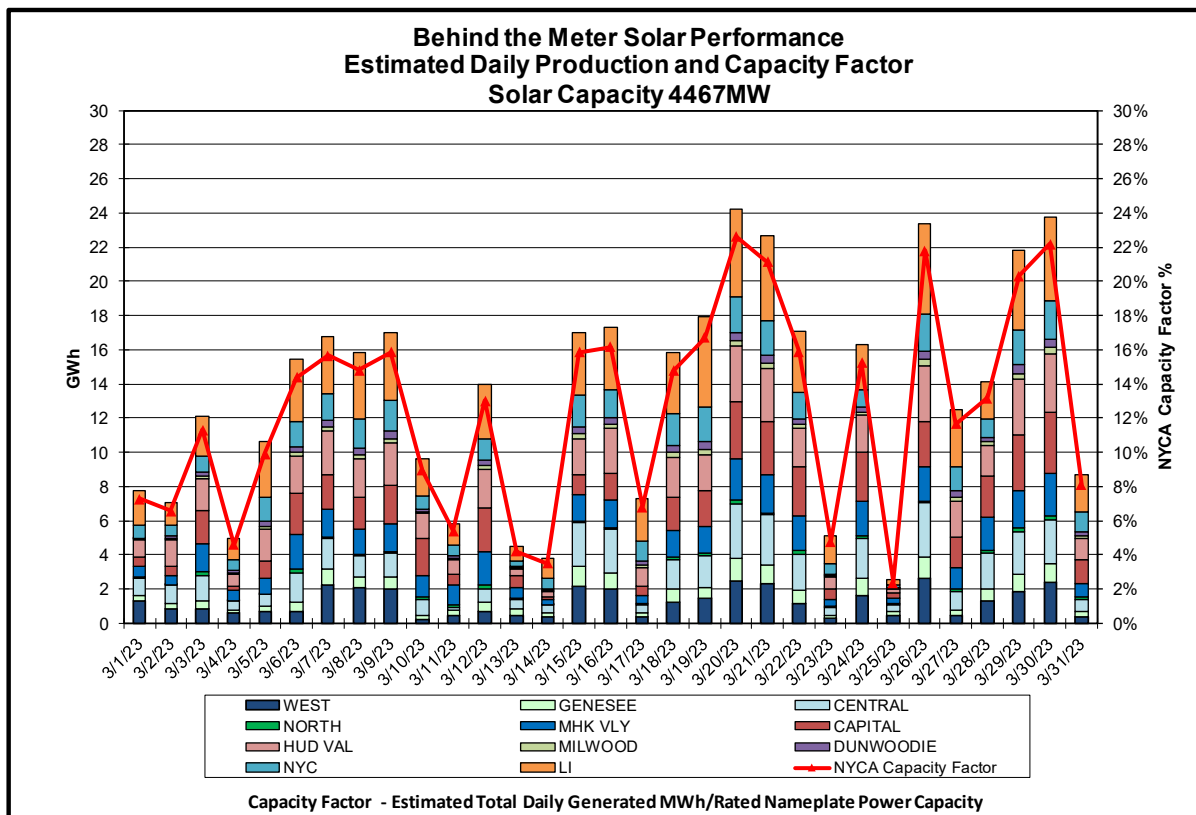
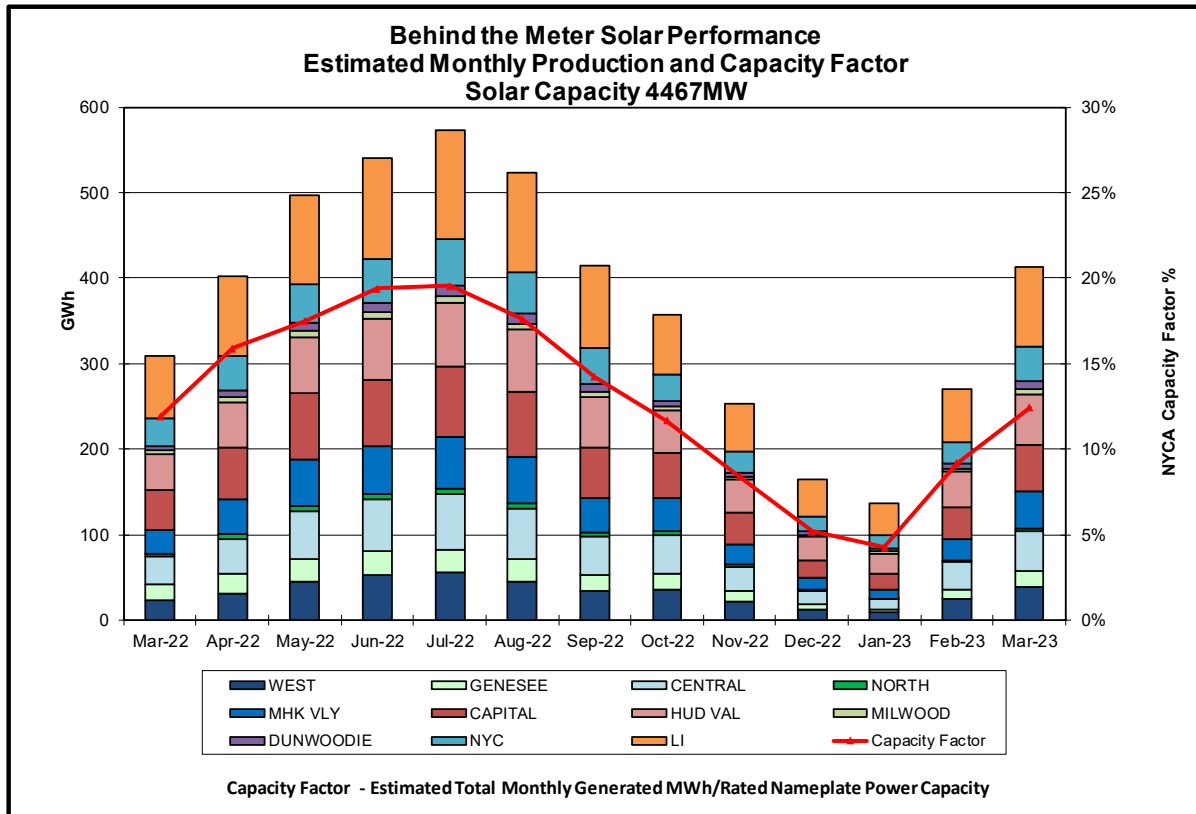


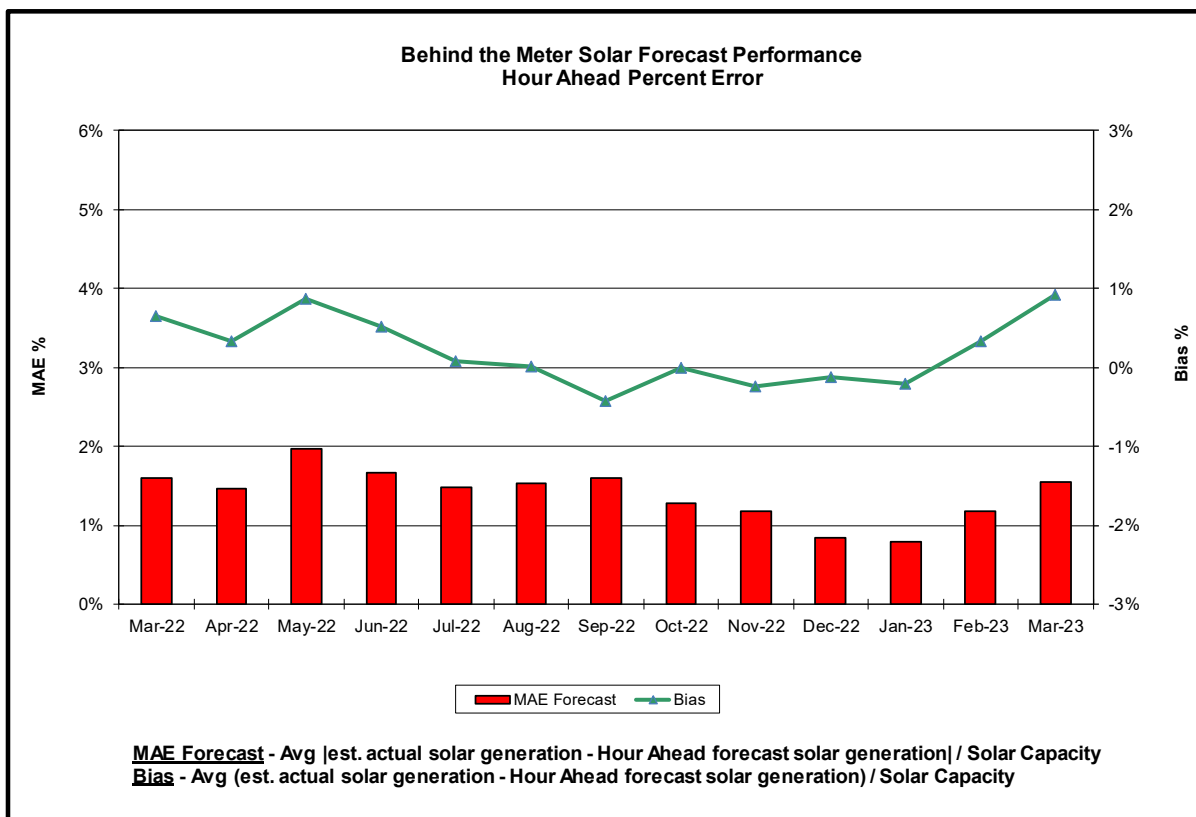
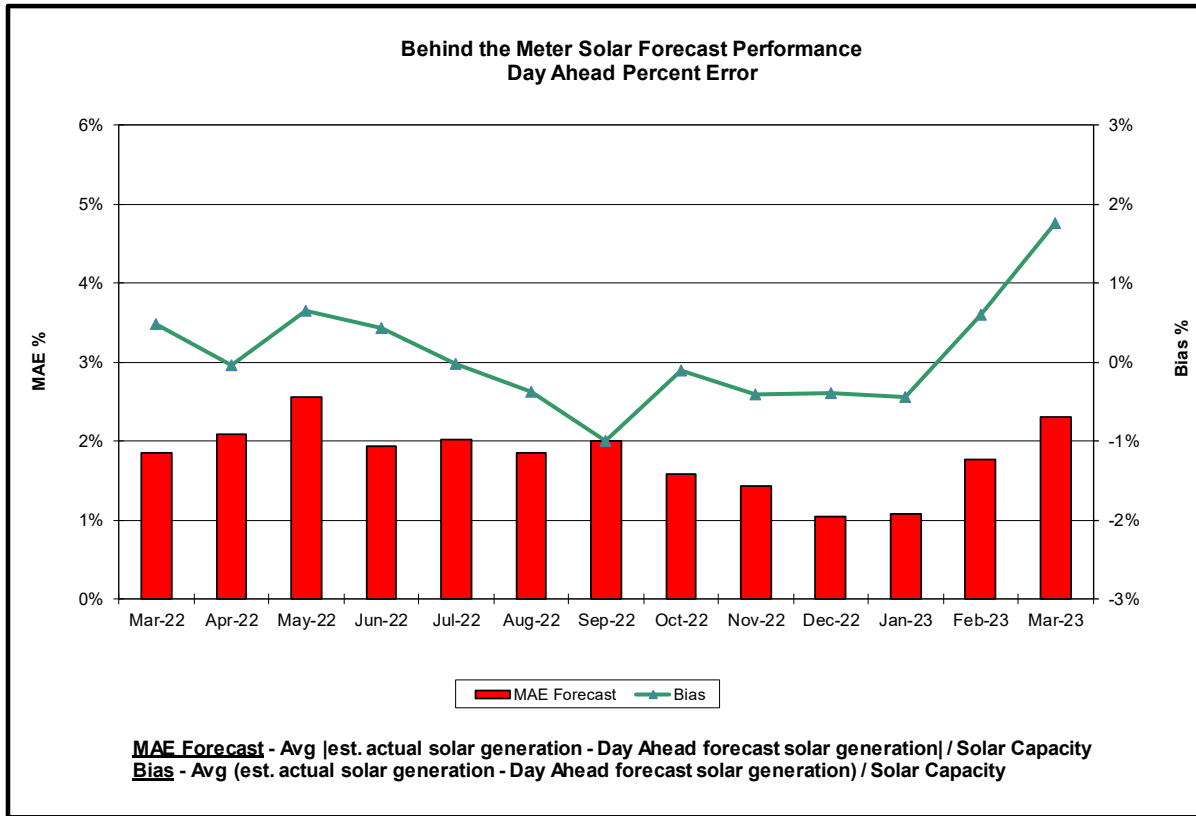


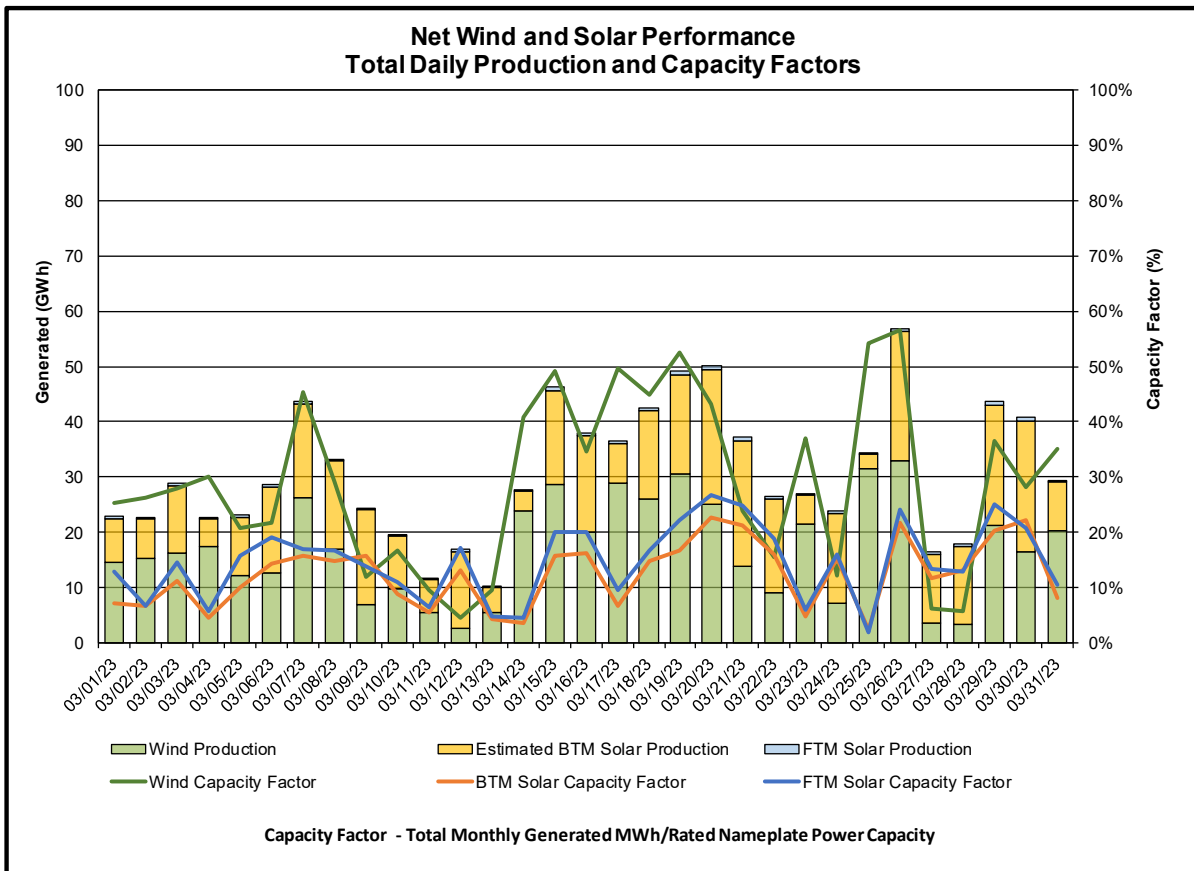
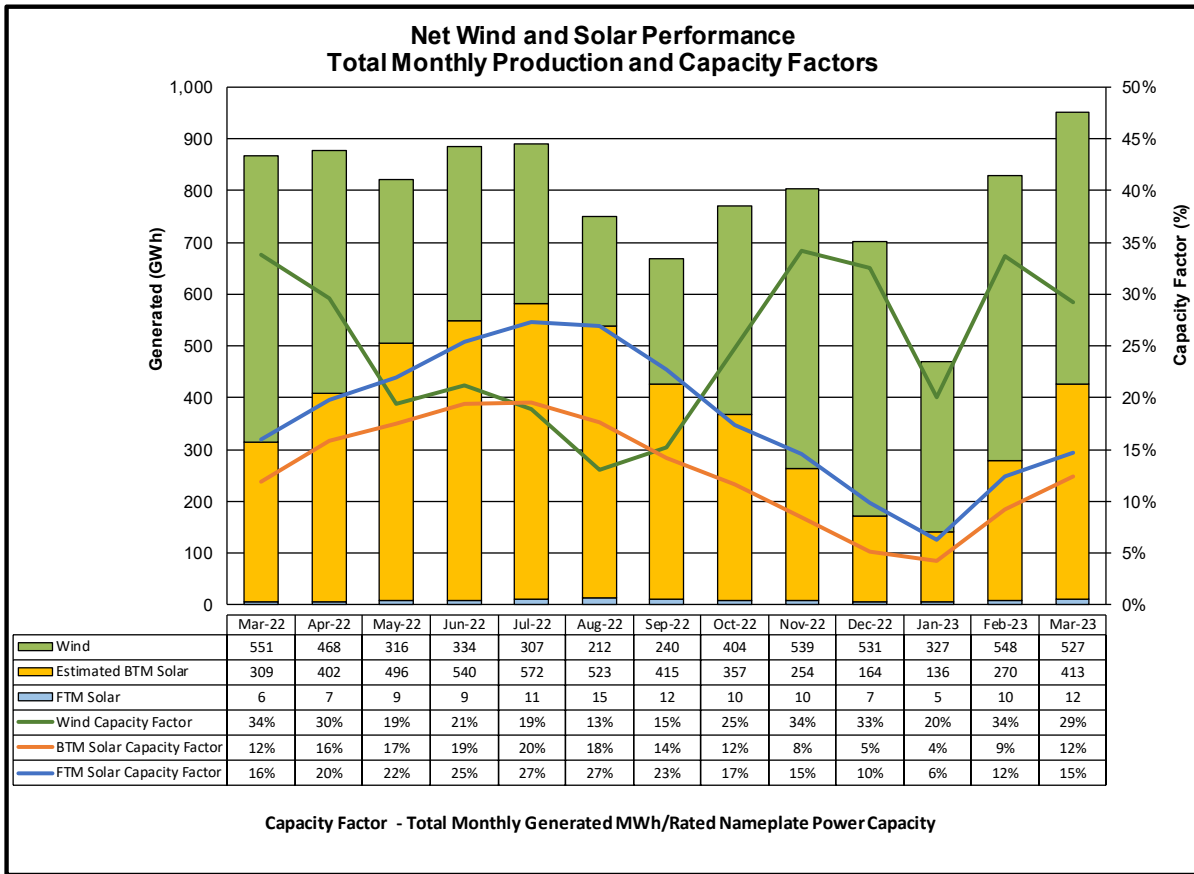


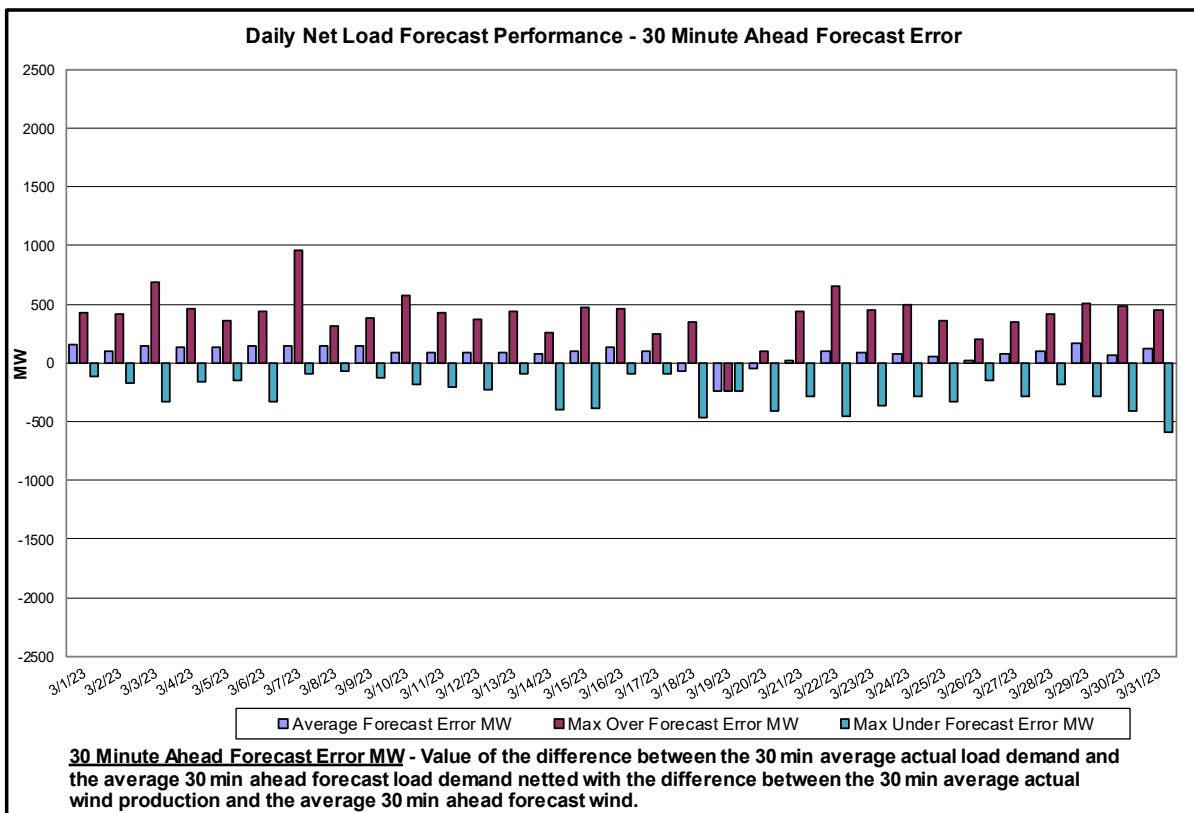
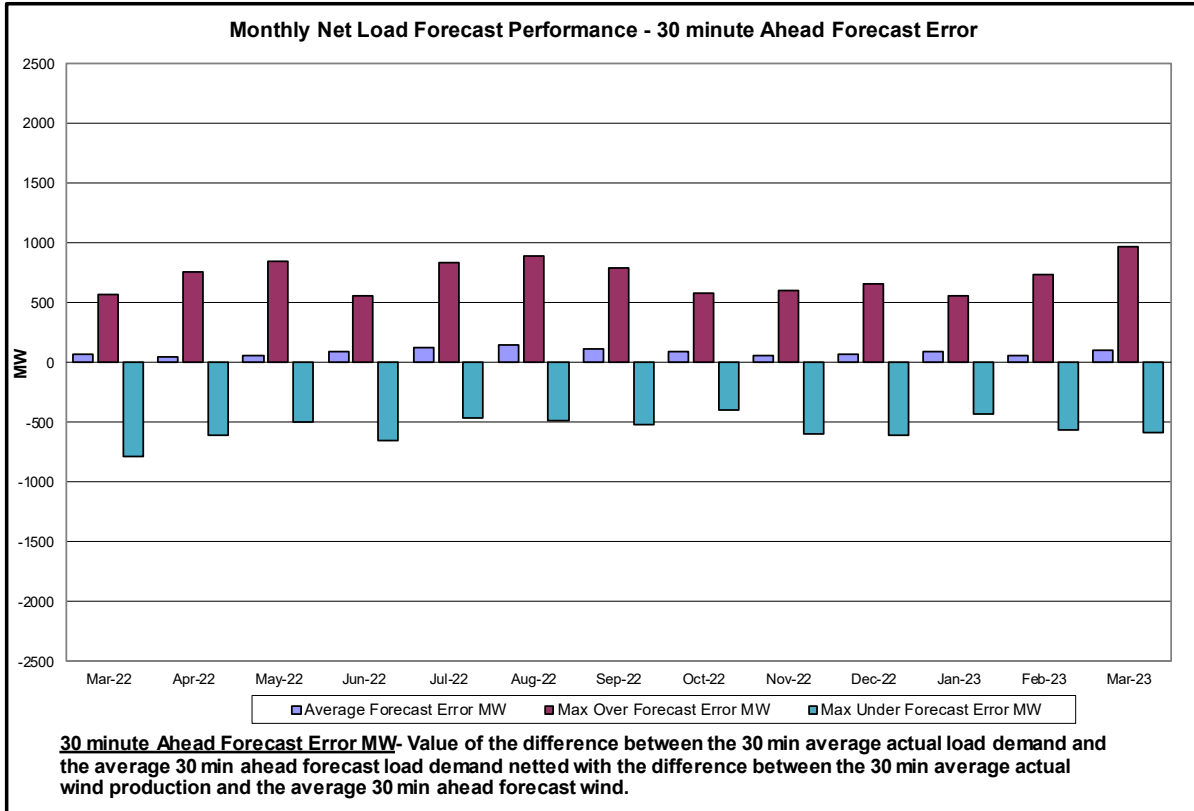


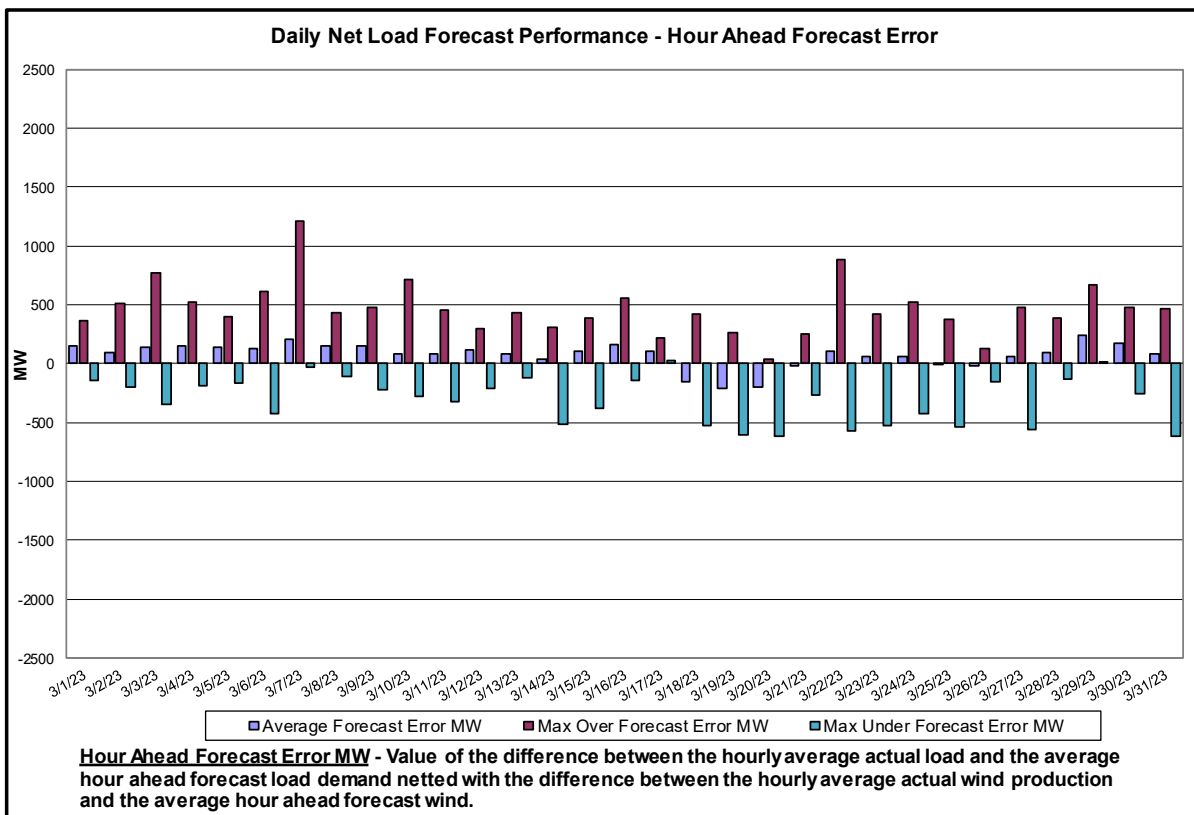
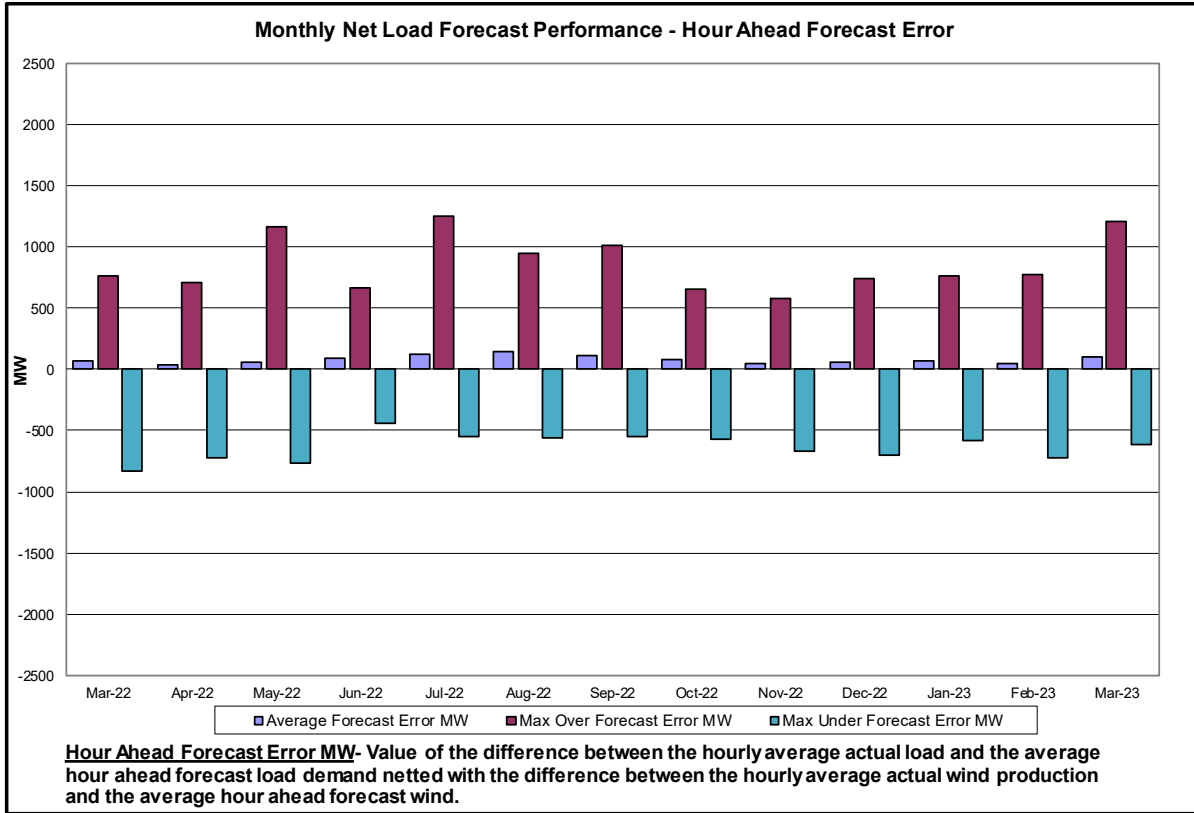


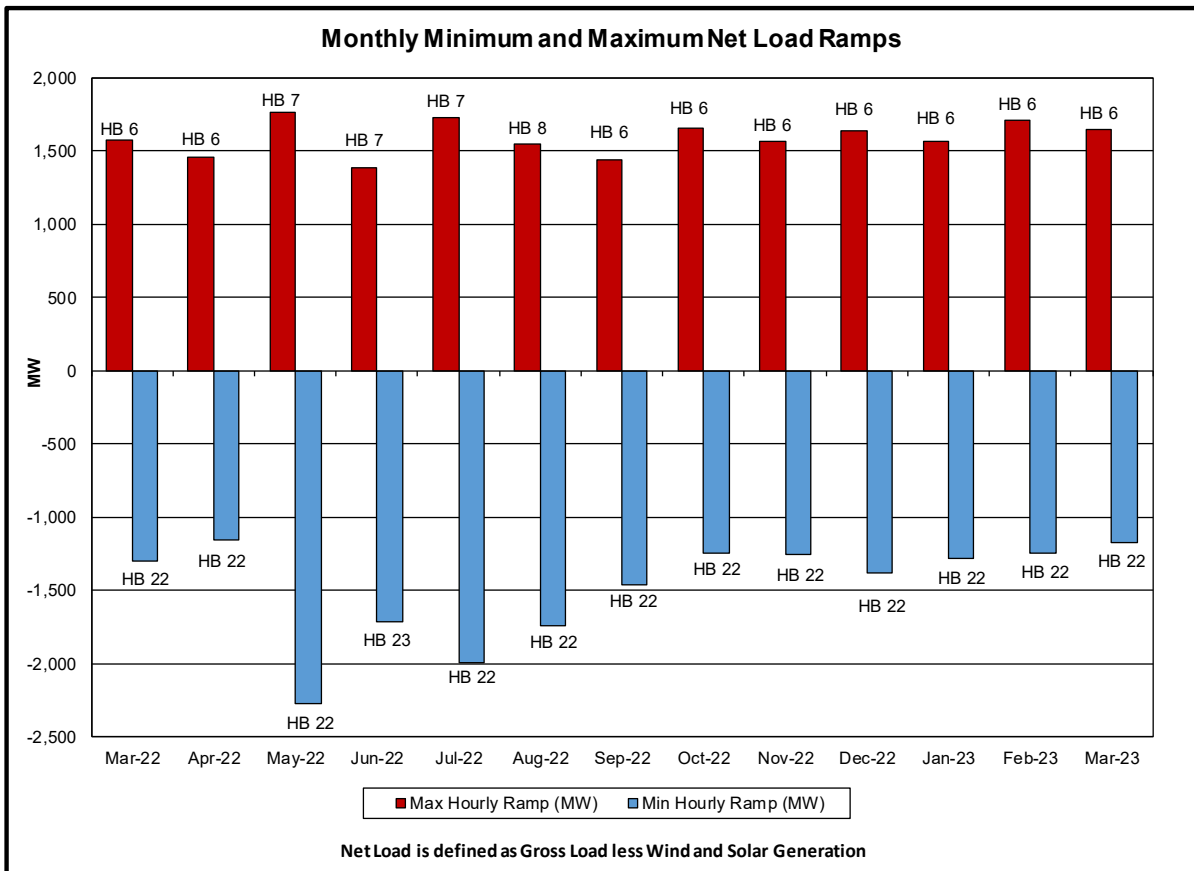
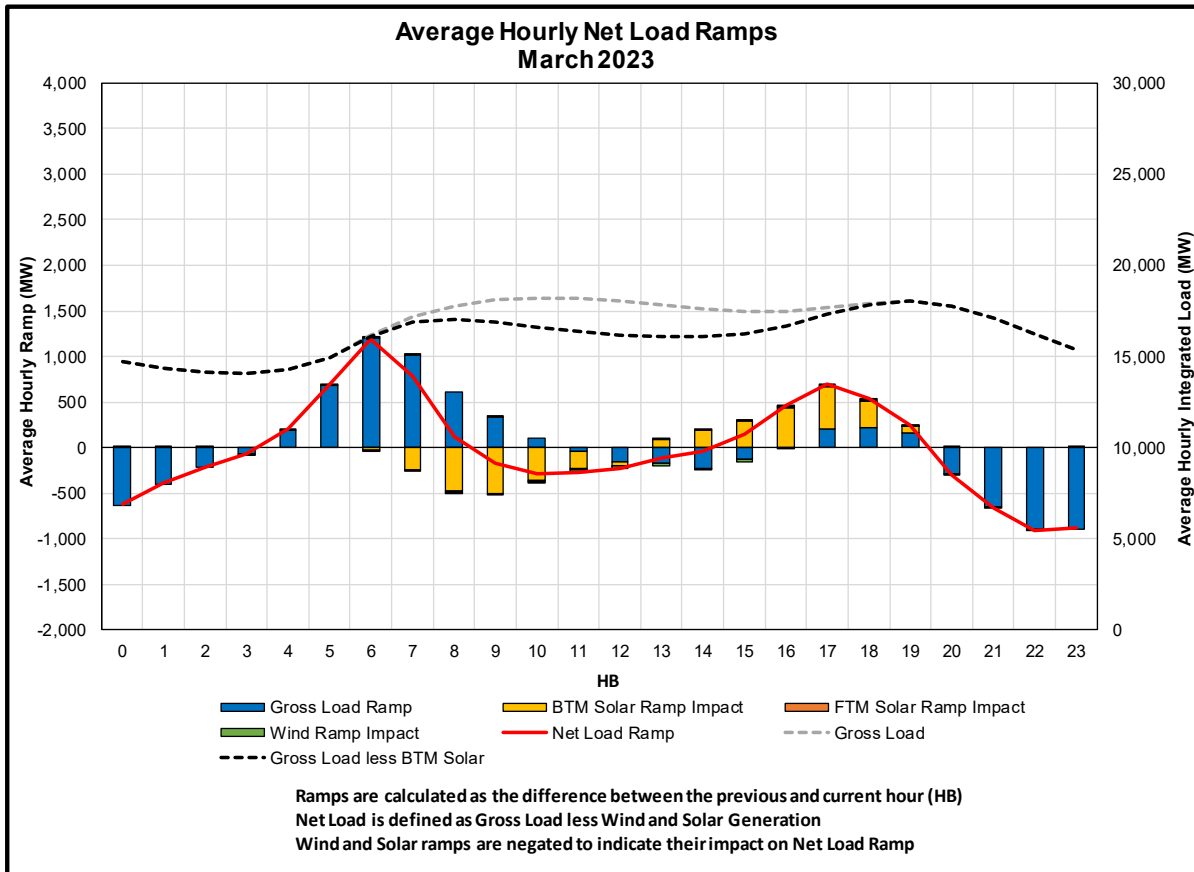




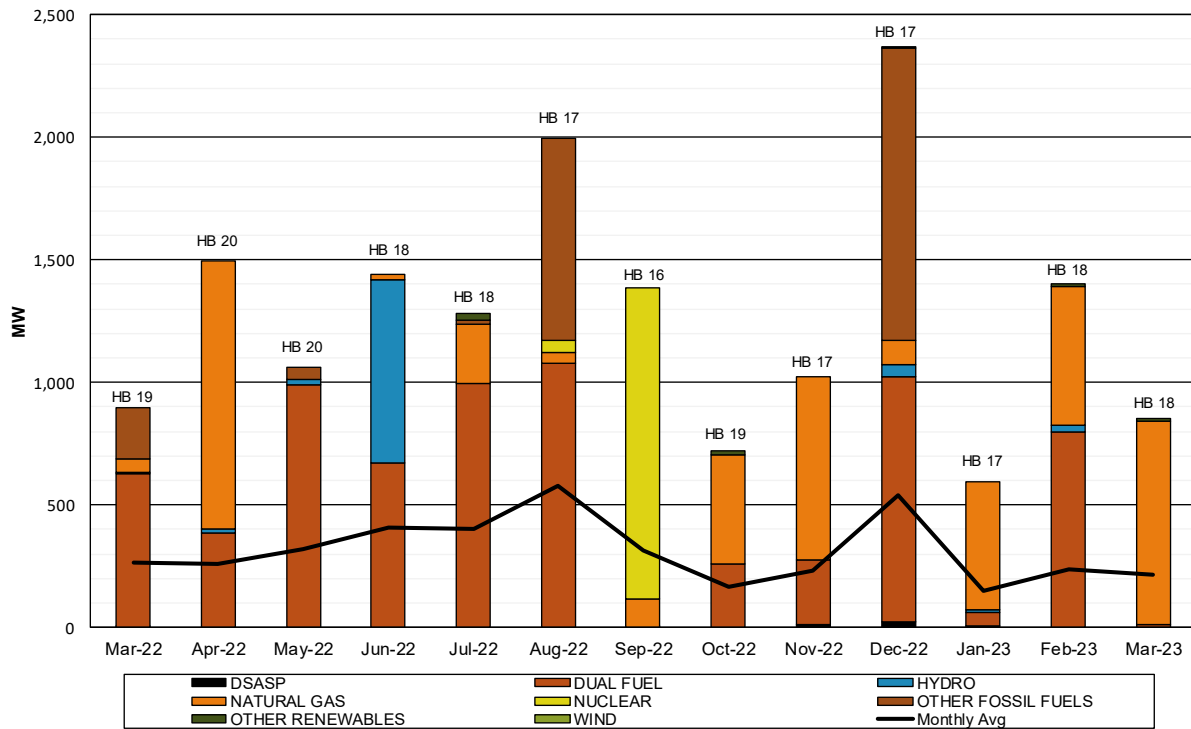








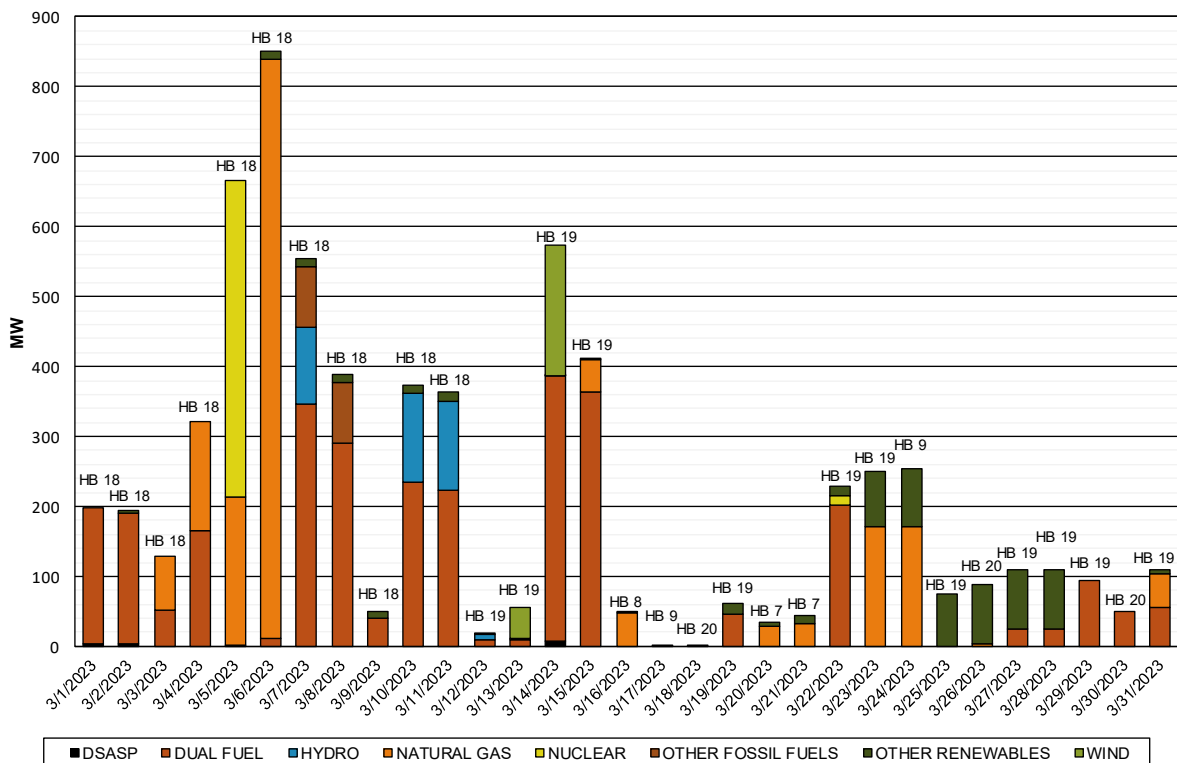
### Monthly Maximum Day-Ahead Market Capacity Unavailable In Real Time



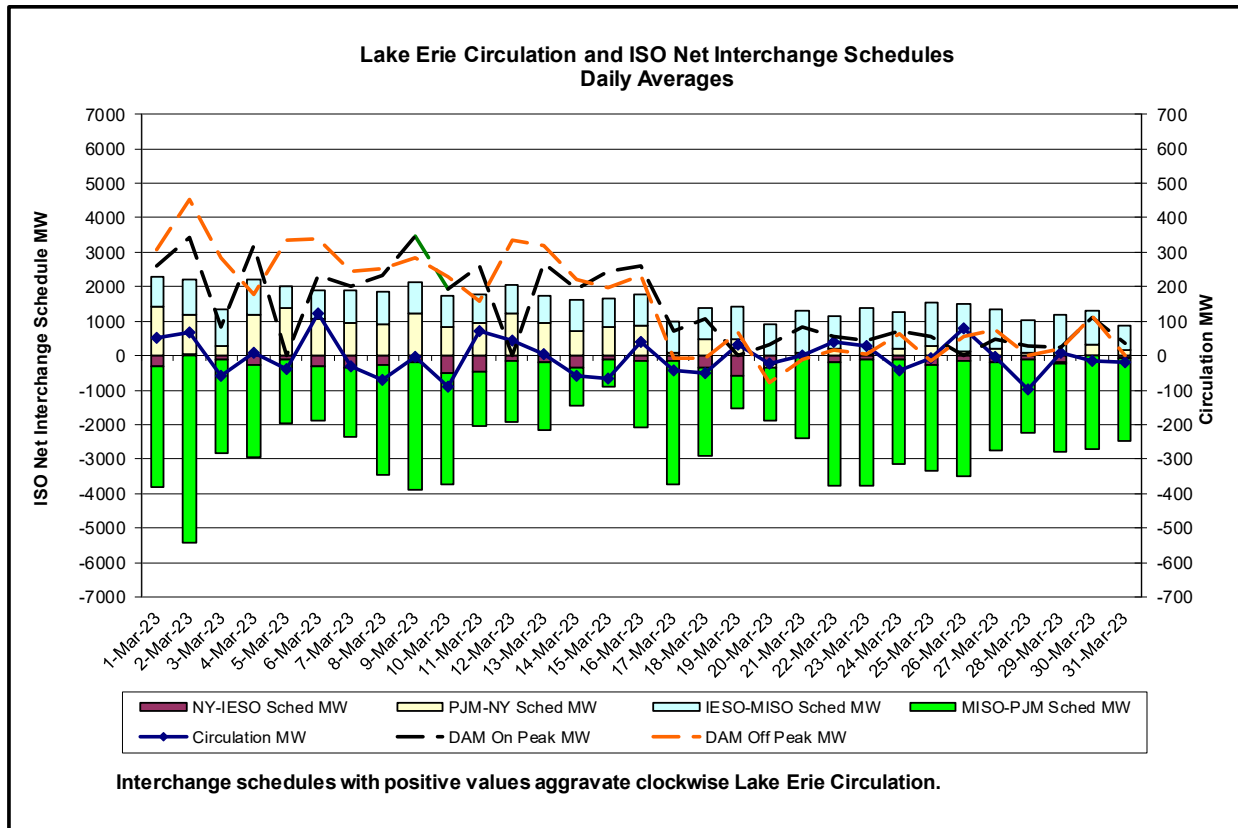
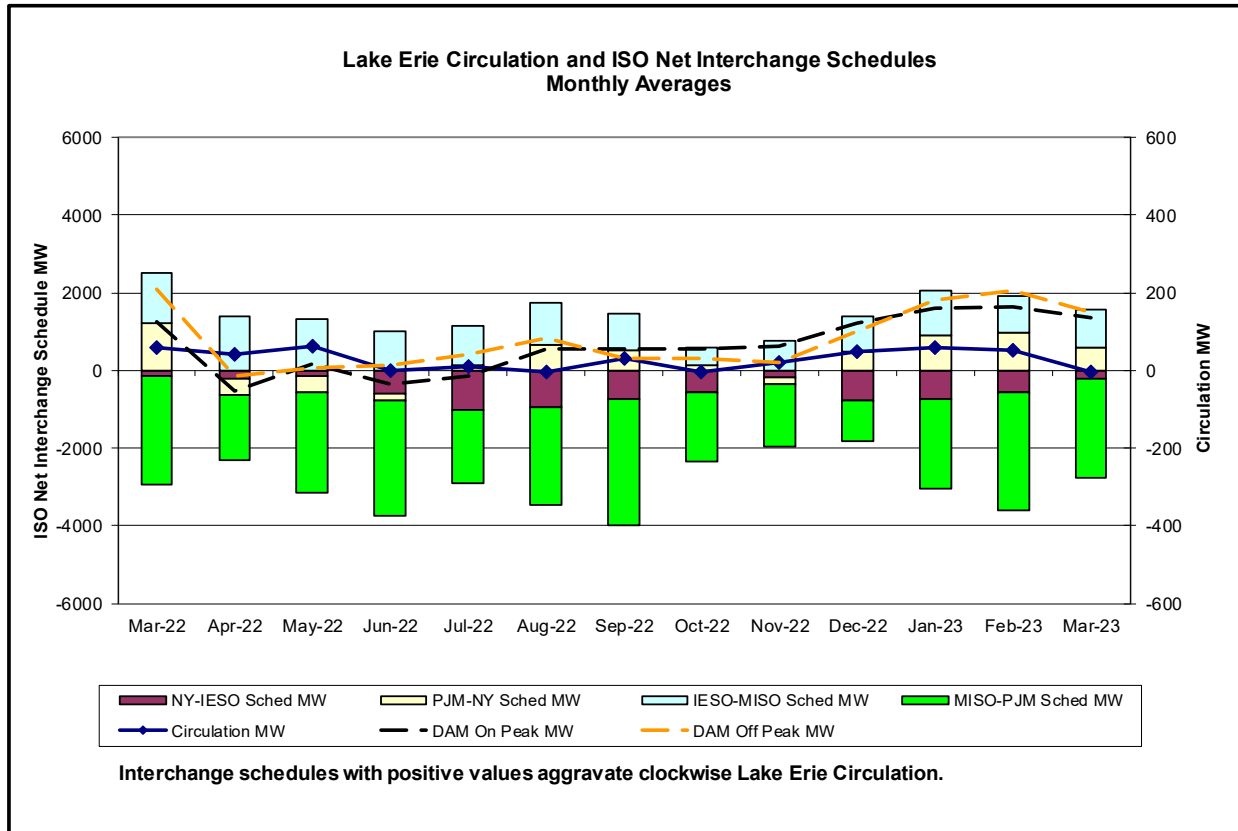
Unavailable Capacity is calculated as the difference of Day-Ahead Market (DAM) capacity relative to Real-Time (RT) capacity during RT peak load hour.

The Monthly Maximum is the day with the largest observed deficit during RT peak load hour.

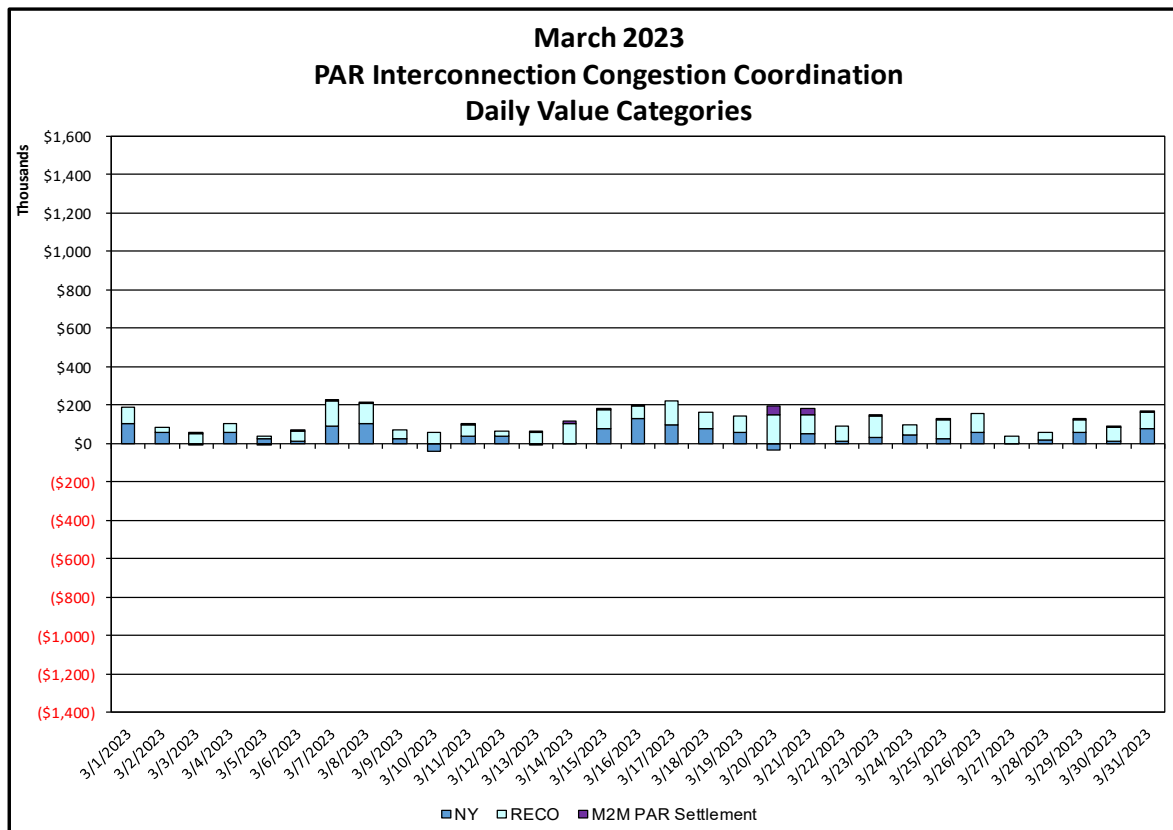
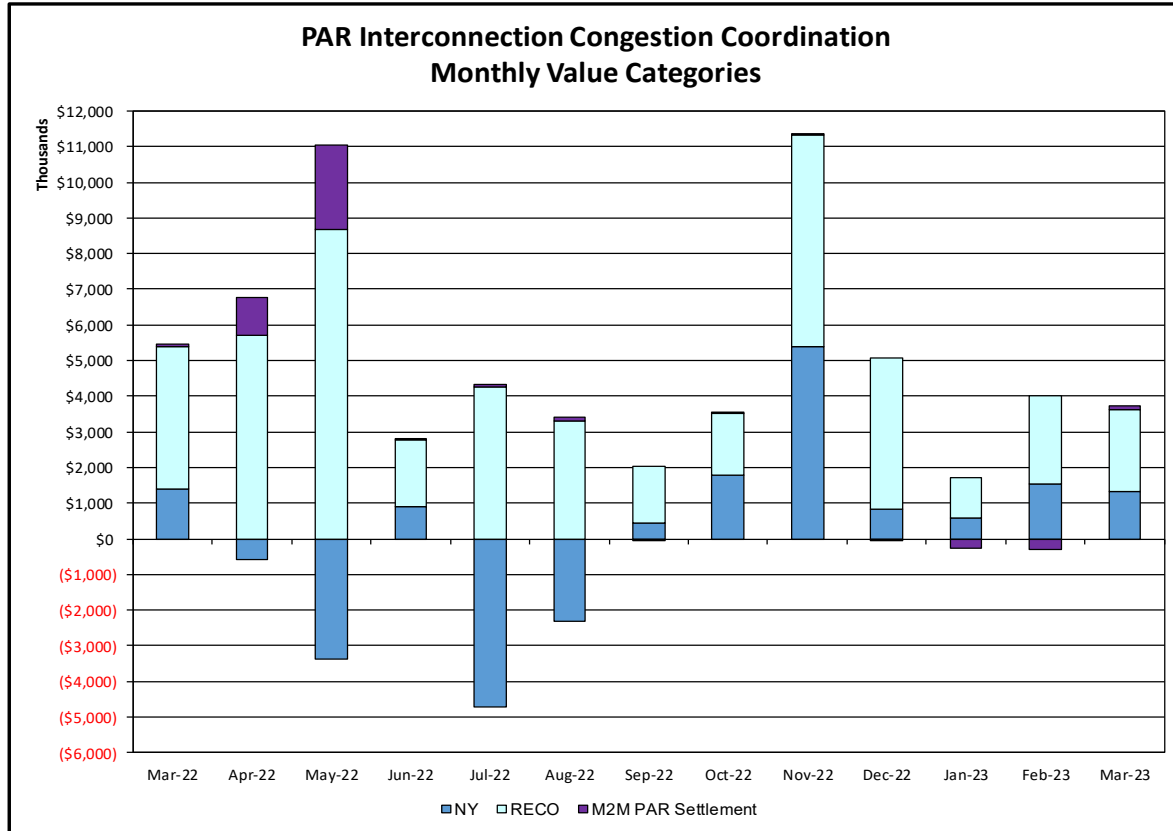
### Daily Day-Ahead Market Capacity Unavailable In Real Time



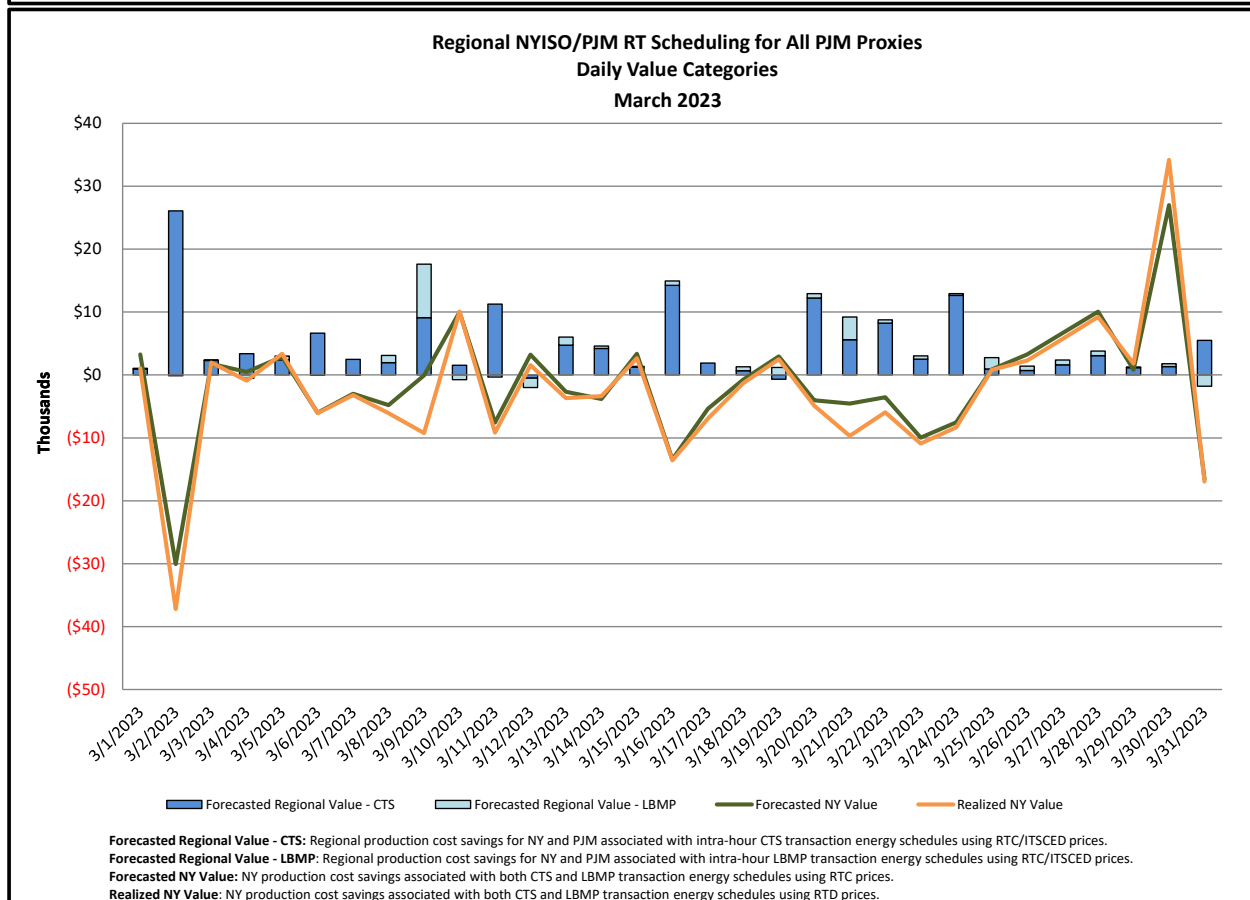
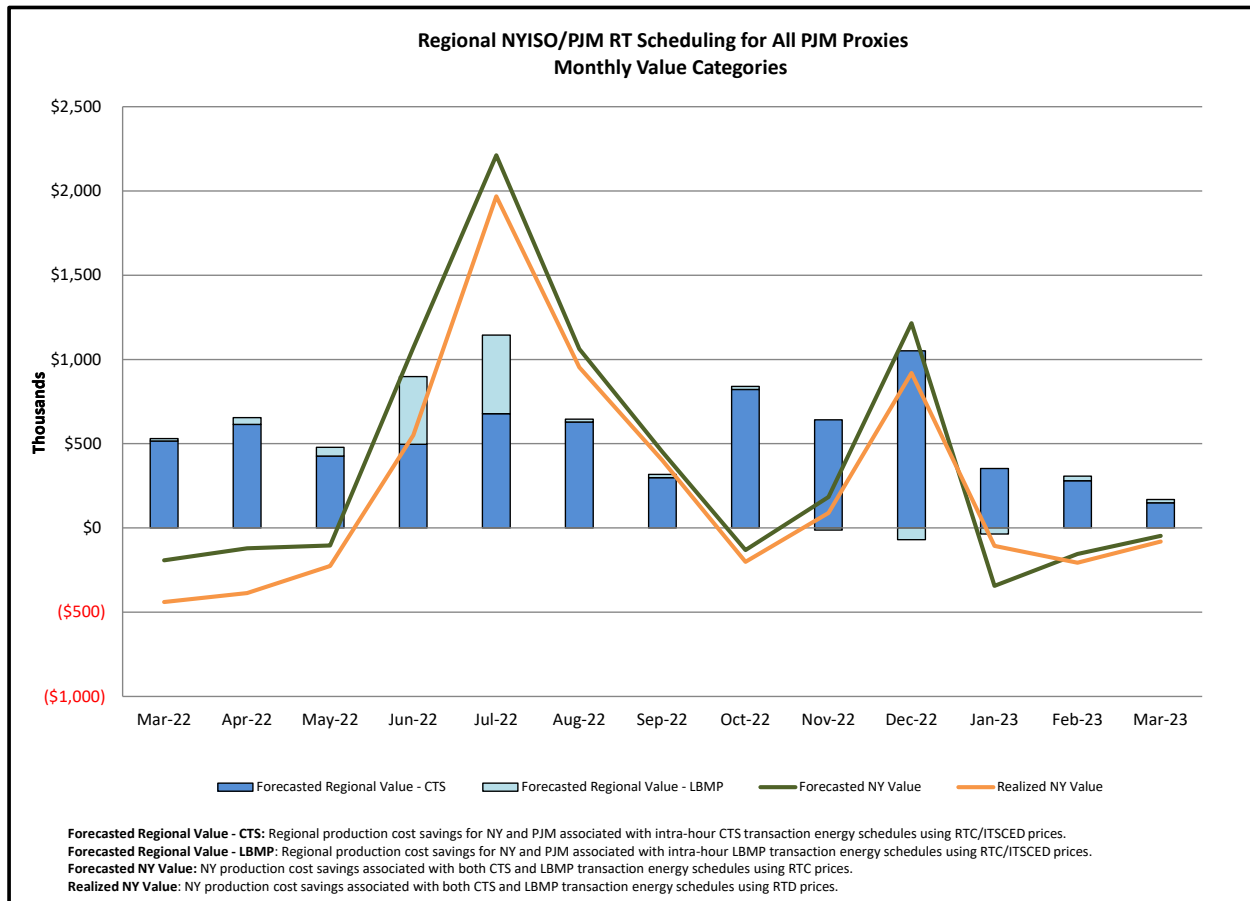
Unavailable Capacity is calculated as the difference of Day-Ahead Market (DAM) capacity relative to Real-Time (RT) capacity during RT peak load hour.

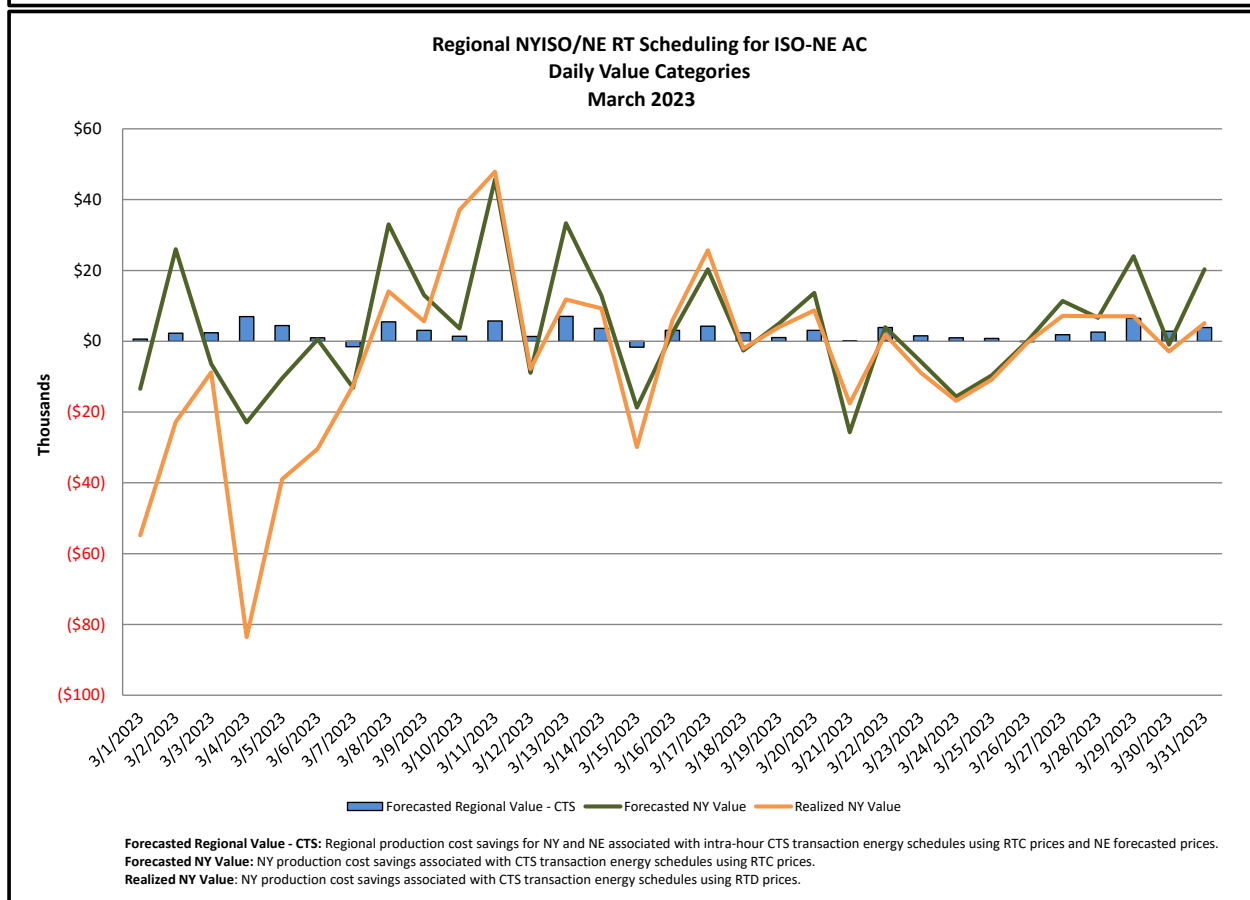
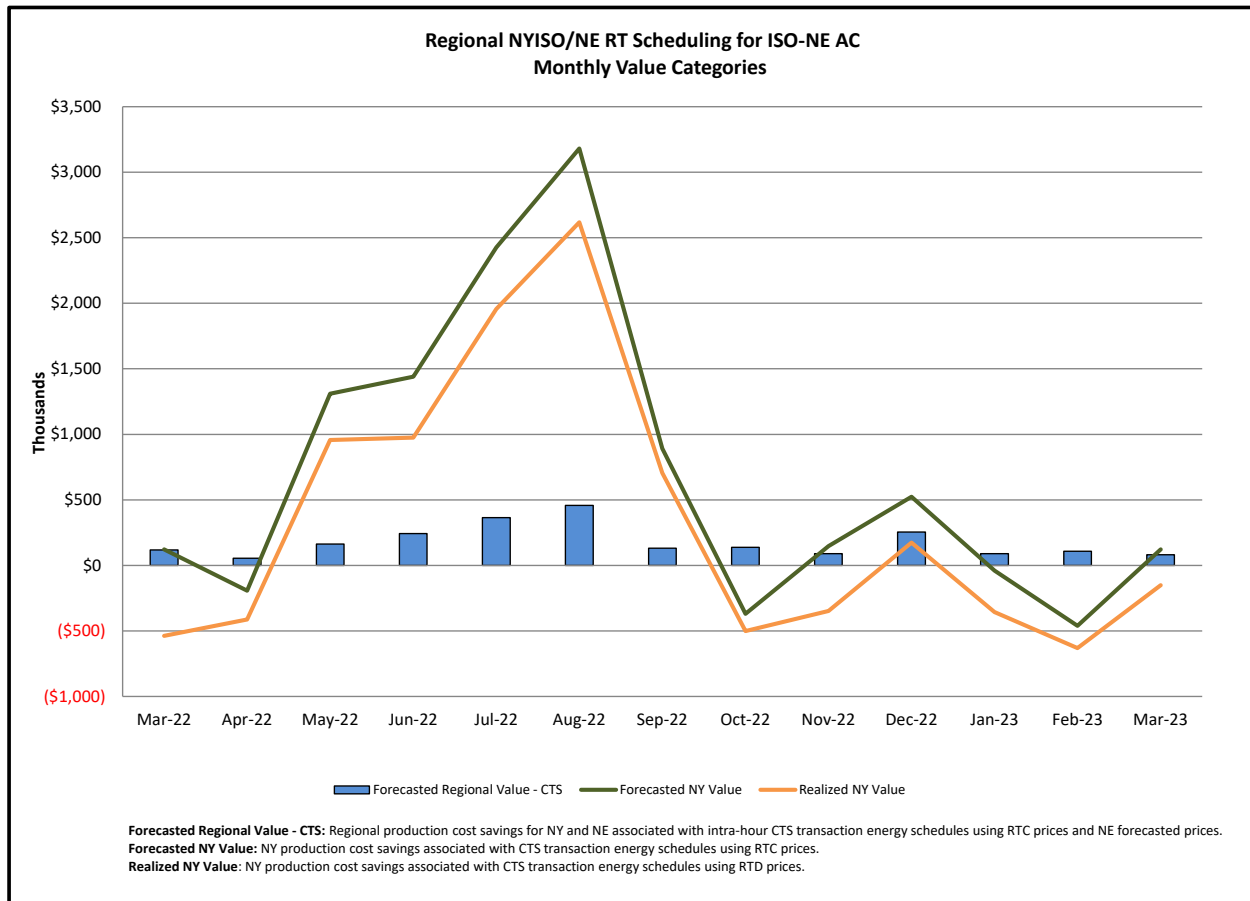


## Broader Regional Market Performance Metrics

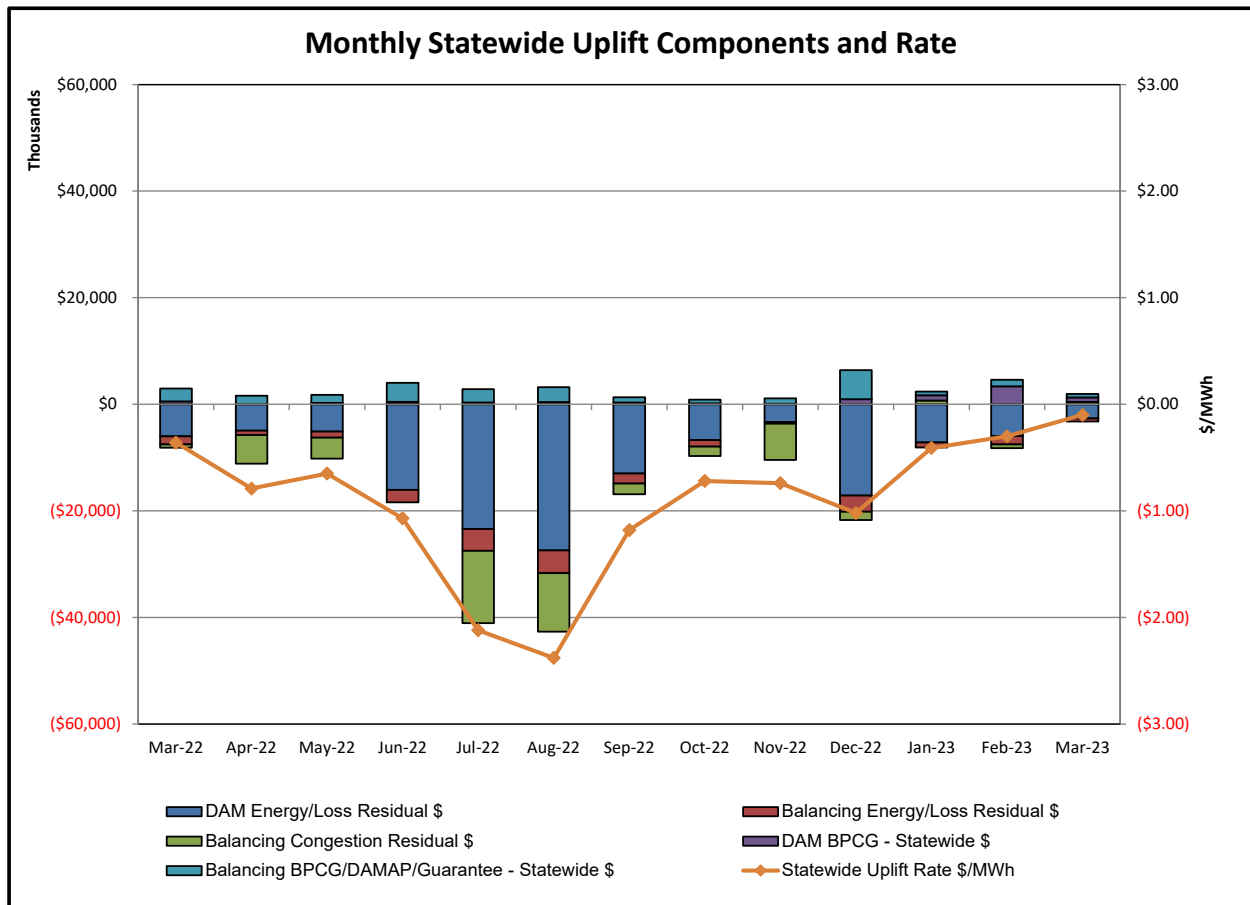


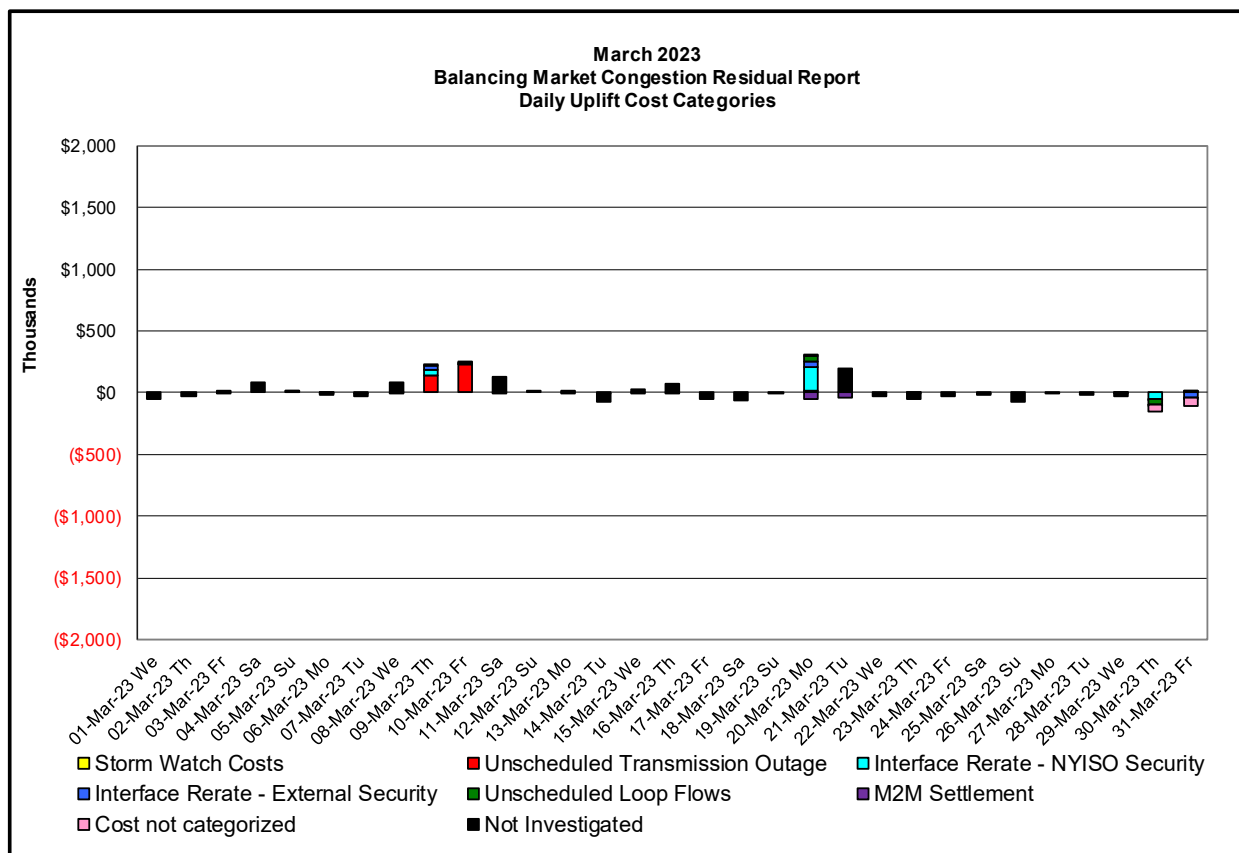
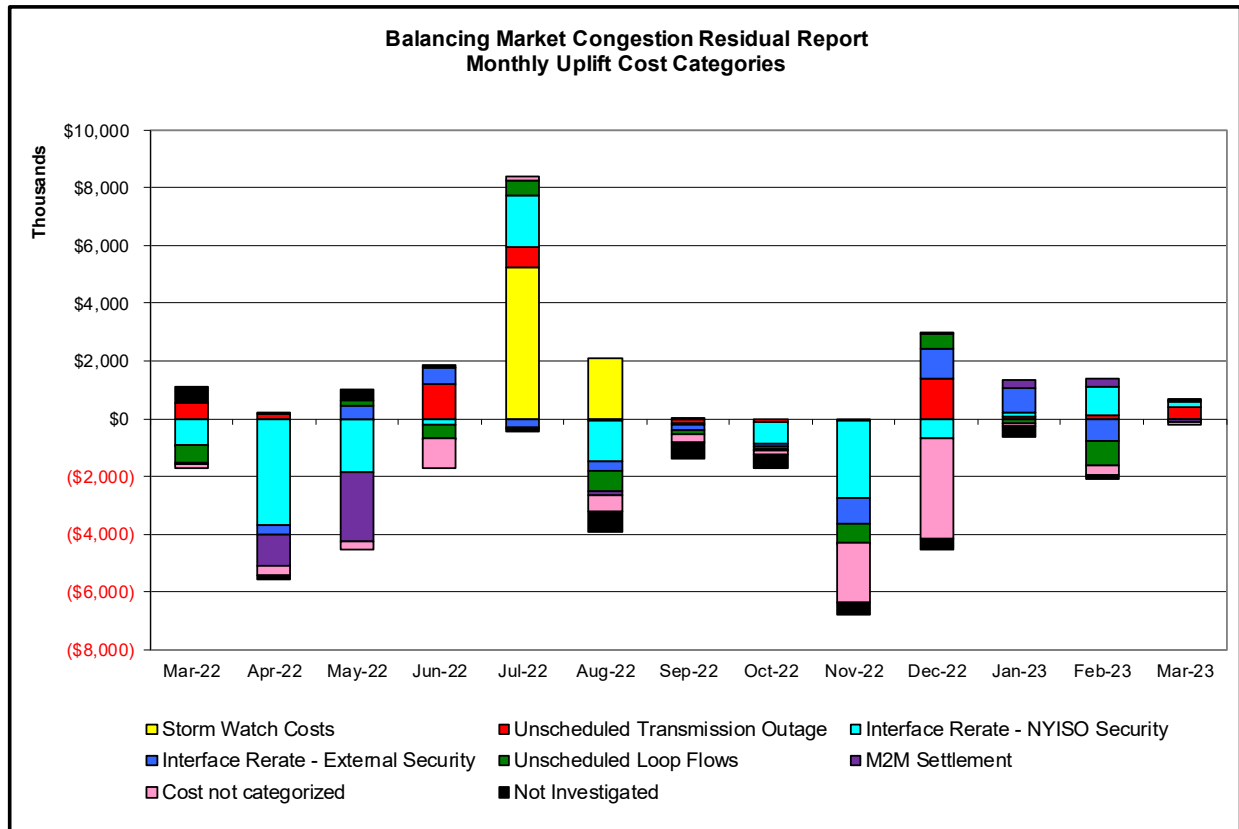
<b><u>PAR Interconnection Congestion Coordination</u></b>	
<b><u>Category</u></b>	<b><u>Description</u></b>
<b>NY</b>	Represents the value NY realizes from Market-to-Market PAR Coordination when experiencing congestion. This is the estimated savings to NY for additional deliveries into NY
<b>RECO</b>	Represents the value of PJM's obligation to deliver 80% of service to RECO load over Ramapo 5018. This is the estimated reduction in NYCA congestion due to the PJM delivery of RECO over Ramapo 5018.
<b>M2M PAR Settlement</b>	Market-to-Market PAR Coordination settlement on coordinated flowgates. Through April 2017 this value was included in the NY and RECO categories. The positive sign convention indicates settlement to NY while the negative indicates settlement to PJM.





## Market Performance Metrics





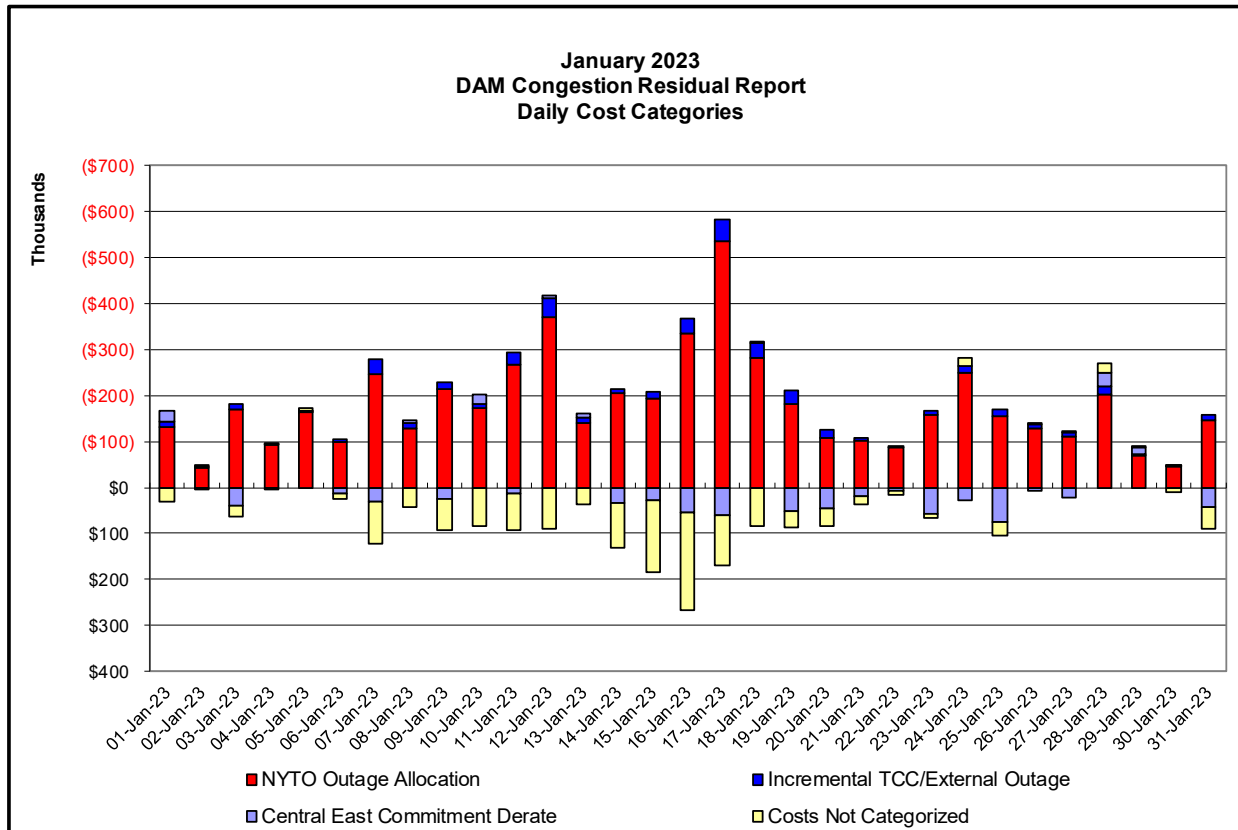
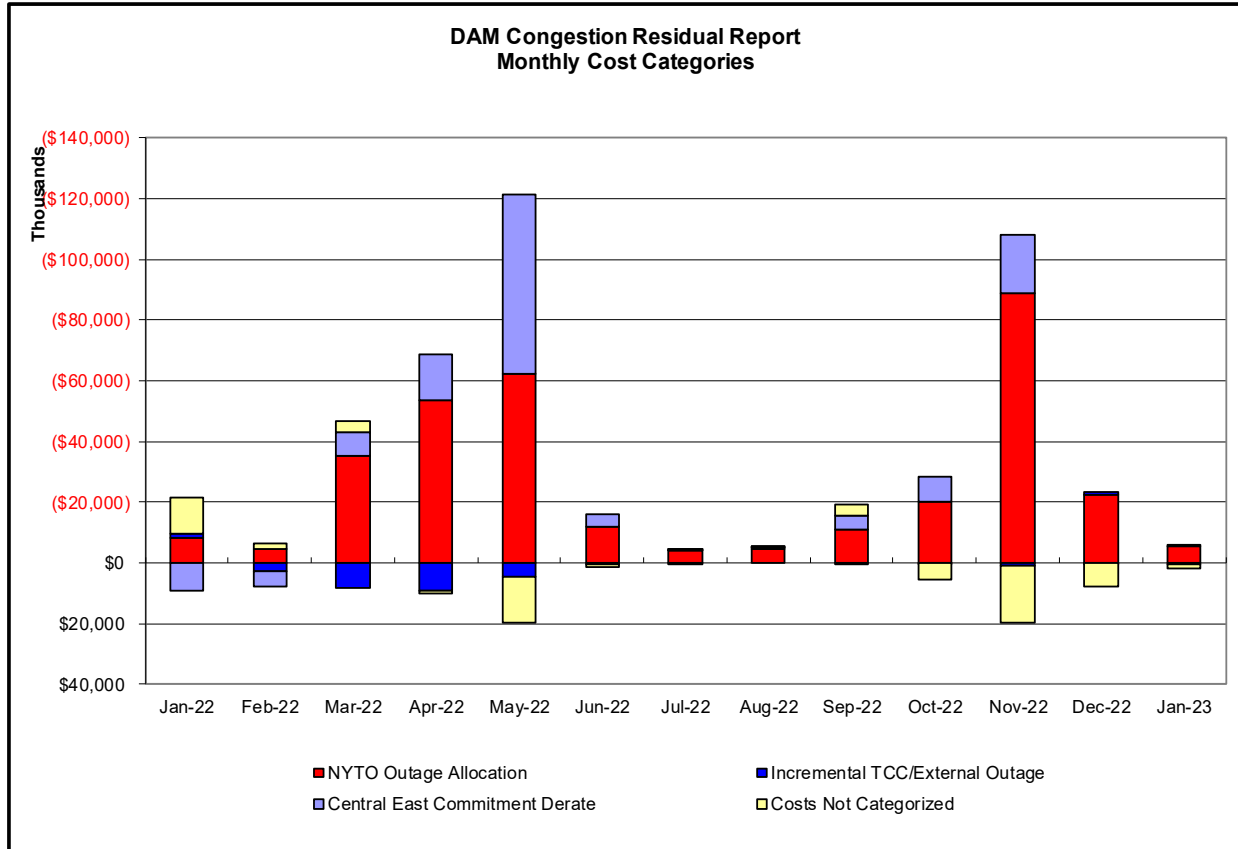
Day's investigated in March: 1,9,10,20,30,31		
Event	Description	March Dates
	Forced Outage Brownfalls-Taylorville 115kV (#4)	9
	Forced Outage Shore Road 345/138kV Bk 1	9,10
	Forced Outage Valley Stream-East Garden City 138kV (#261)	20
	Derate Adirondack-Porter 230kV (#12) I/o SIN:MSU1&7040& HQ GN&LD PROXY	1
	Derate Central East	1,9,20
	Derate Dunwoodie-ShoreRd 345kV (#Y50) I/o NEPTUNE HVDC TIE LINE	1,10
	Derate Foxhills-Greenwood 138kV (#29232) I/o SCB:GOETH(9):G23L&26&R26	9
	Derate Foxhills-Willowbrook 138kV (#29212)	9,20
	Derate Greenbush-Regeneron 115kV (#9) I/o Seabrook	1
	Derate Malone-Willis 115kV (#1-910) I/o TWR:MOSES MW2 & MAL4	20
	NYCA DNI Ramp Limit	1,9,30
	Uprate Central East	1,30,31
	HQ_CHAT DNI Ramp Limit	20
	IESO_AC ACTIVE DNI Ramp Limit	10
	NE_AC-NY DNI Ramp Limit	1,9
	NE_AC-NY Scheduling Limit	1,20,31
	NE_NNC1385-NY Scheduling Limit	1,9,10,20,30
	PJM_AC-NY DNI Ramp Limit	1,9
	Lake Erie Circulation, DAM-RTM exceeds +/-125MW; Central East	1,20,30,31
	Lake Erie Circulation, DAM-RTM exceeds +/-125MW; West	1,20

#### Real-Time Balancing Market Congestion Residual (Uplift Cost) Categories

<u>Category</u>	<u>Cost Assignment</u>	<u>Events Types</u>	<u>Event Examples</u>
Storm Watch	Zone J	Thunderstorm Alert (TSA)	TSA Activations
Transmission Outage Mismatch	Market-wide	Changes in DAM to RTM transfers related to transmission outage mismatch	Forced Line Outage, Unit AVR Outages, Early Line Return from Outage
Interface/Facility Rerate - NYISO Security	Market-wide	Changes in DAM to RTM transfers not related to transmission outage	Interface/Facility Rerates due to RTM voltages
Interface Rerate - External Security	Market-wide	Changes in DAM to RTM transfers related to External Control Area Security Events	TLR Events, External Transaction Curtailments
Unscheduled Loop Flows	Market-wide	Changes in DAM to RTM unscheduled loop flows impacting NYISO Interface transmission constraints	DAM to RTM Lake Erie Loop Flows exceeding +/- 125 MW
M2M Settlement	Market-wide	Settlement result inclusive of coordinated redispatch and Ramapo flowgates	

#### Monthly Balancing Market Congestion Report Assumptions/Notes

- 1) Storm Watch Costs are identified as daily total uplift costs
- 2) Days with a value of BMCR less M2M Settlement of \$100K/HR, shortfall of \$200K/Day or more, or surplus of \$100K/Day or more are investigated.
- 3) Uplift costs associated with multiple event types are apportioned equally by hour



### Day-Ahead Market Congestion Residual Categories

<u>Category</u>	<u>Cost Assignment</u>	<u>Events Types</u>	<u>Event Examples</u>
NYTO Outage Allocation	Responsible TO	Direct allocation to NYTO's responsible for transmission equipment status change.	DAM scheduled outage for equipment modeled in-service for the TCC Auction.
Incremental TCC/External Outage Impacts	All TO by Monthly Allocation Factor	Allocation associated with transmission equipment status change caused by change in status of external equipment or change in status of equipment associated with Incremental TCC.	Tie line required out-of-service by TO of neighboring control area.
Central East Commitment Derate	All TO by Monthly Allocation Factor	Reductions in the DAM Central East_VC limit as compared to the TCC Auction limit, which are not associated with transmission line outages.	

