



Operations Performance Metrics Monthly Report

A Report by the
New York Independent System Operator

April 2025

*Prepared by NYISO Operations Analysis and Services, based on settlements
initial invoice data collected on or before May 8, 2025.*

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April 2025 Highlights

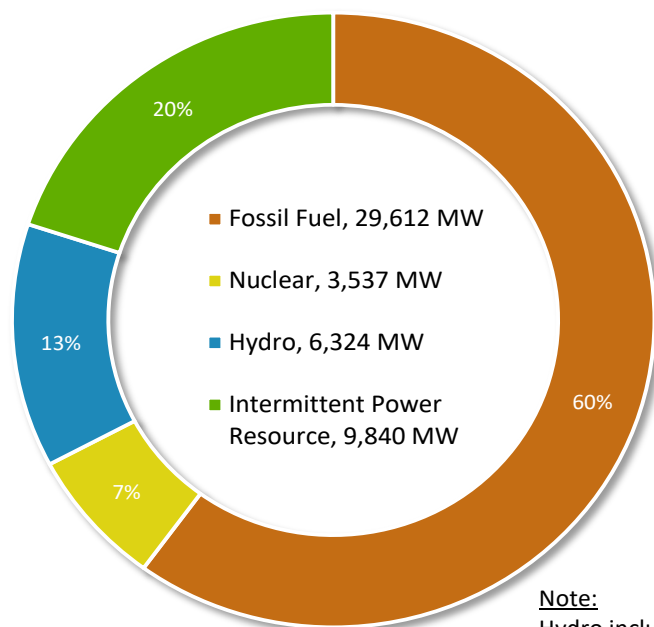
			
Monthly Metered Load		Historical Metered Load Peaks	
Peak Load	Minimum Load	Winter 2024-2025 Peak Load	All-Time Winter Peak Load
18,836 MW 04/08/2025 HB 20	11,061 MW 04/20/2025 HB 14	23,521 MW 01/22/2025 HB 18	25,738 MW 01/07/2014 HB 18
Monthly Intermittent Resource Peaks		Historical Intermittent Resource Peaks	
			
Peak Wind	Peak Solar (FTM+BTM)	All-Time Peak Wind	All-Time Peak Solar (FTM+BTM)
2,211 MW 04/16/2025 HB 16	4,809 MW 04/17/2025 HB 12	2,309 MW 12/16/2024 HB 23	4,809 MW 04/17/2025 HB 12

Notable NYCA System Events

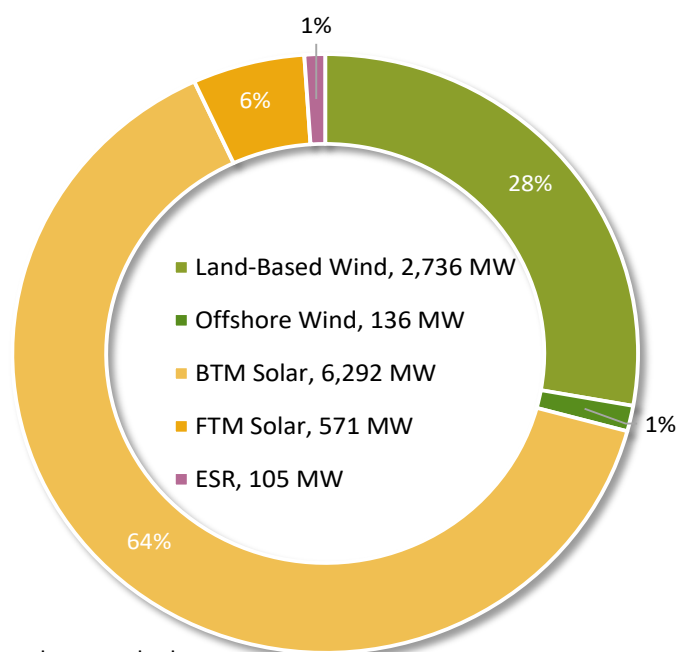
- Forced transmission outages in Zone J Greenwood/Staten Island pocket resulted in increased uplift costs through April 20th when the Gowanus-Greenwood 138kV (#42231) returned to service.

NYCA Generation Mix

Generation Nameplate
by Fuel Type

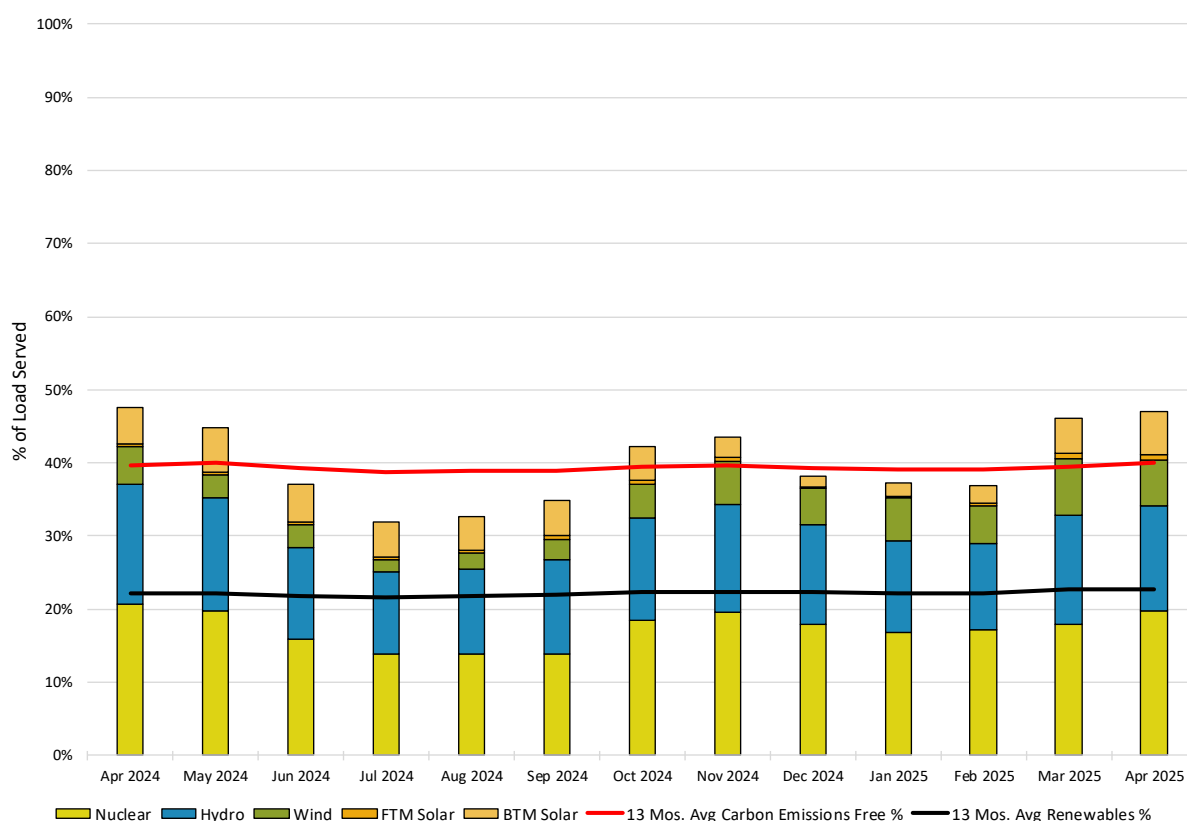


Intermittent Power
Resource Nameplate



Note:
Hydro includes pumped storage hydro
ESR includes LESR

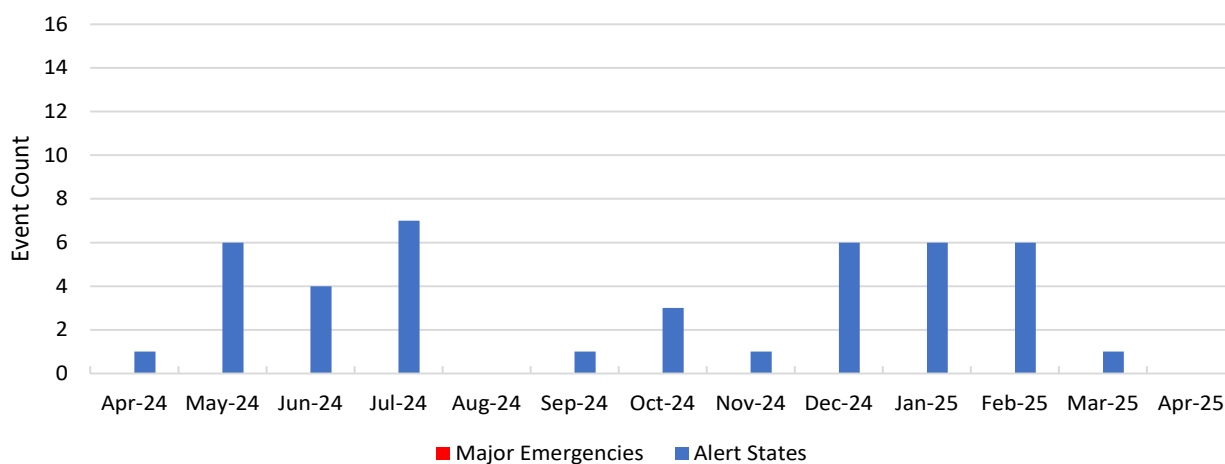
NYCA Load Served by Emissions-Free Generation



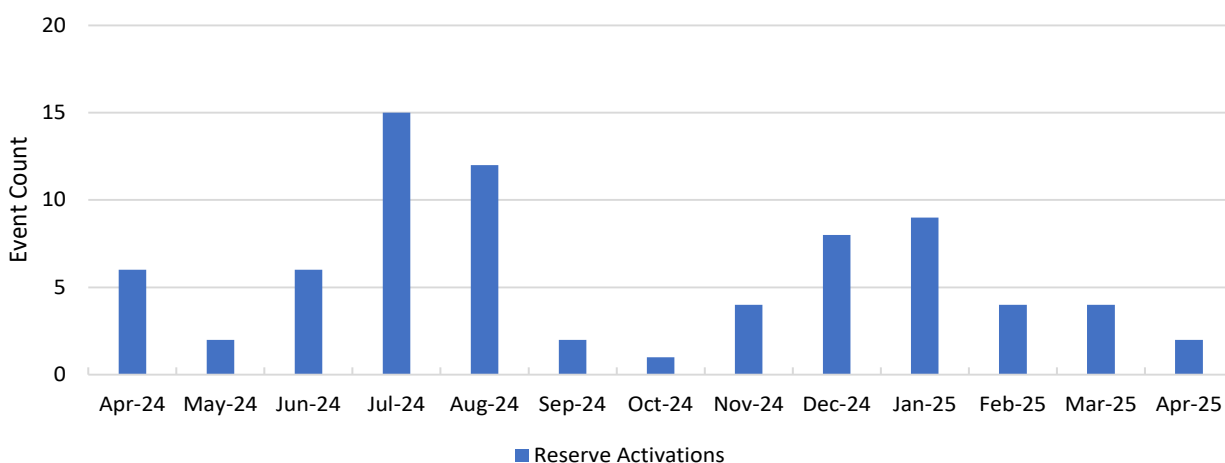
Reliability Performance Metrics

See [Appendix A](#) for reliability metric definitions

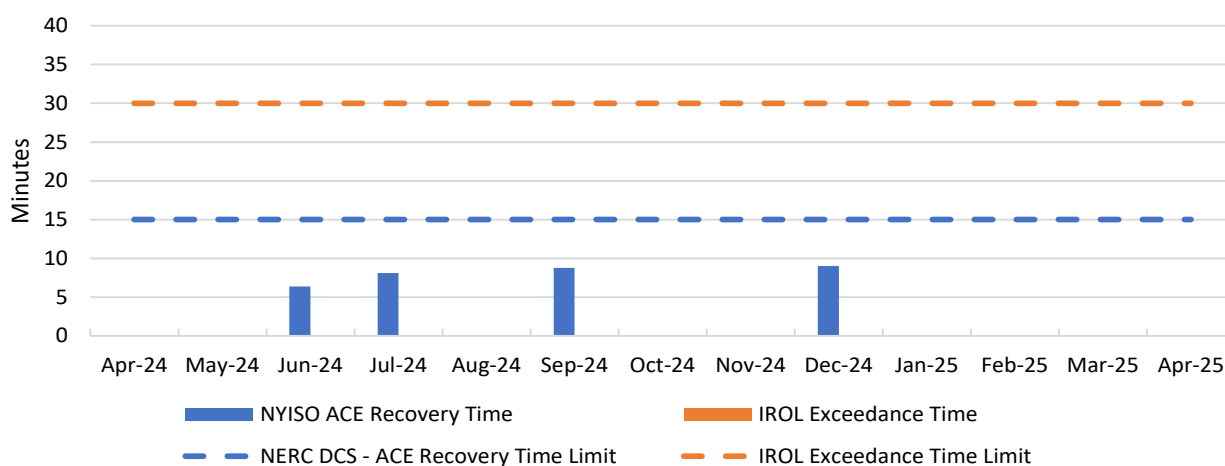
Major Emergency State & Alert State Declarations



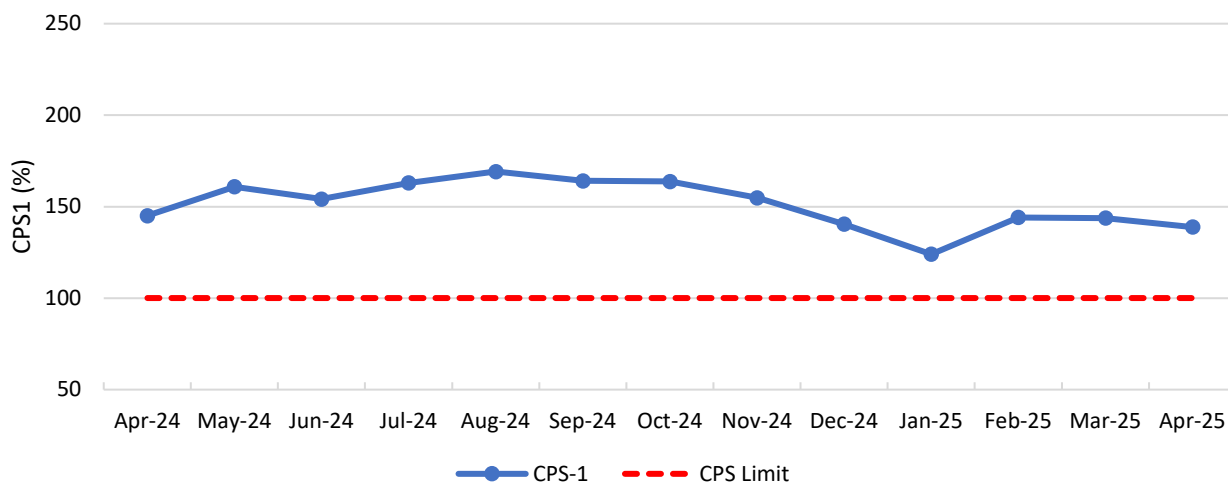
Reserve Activations



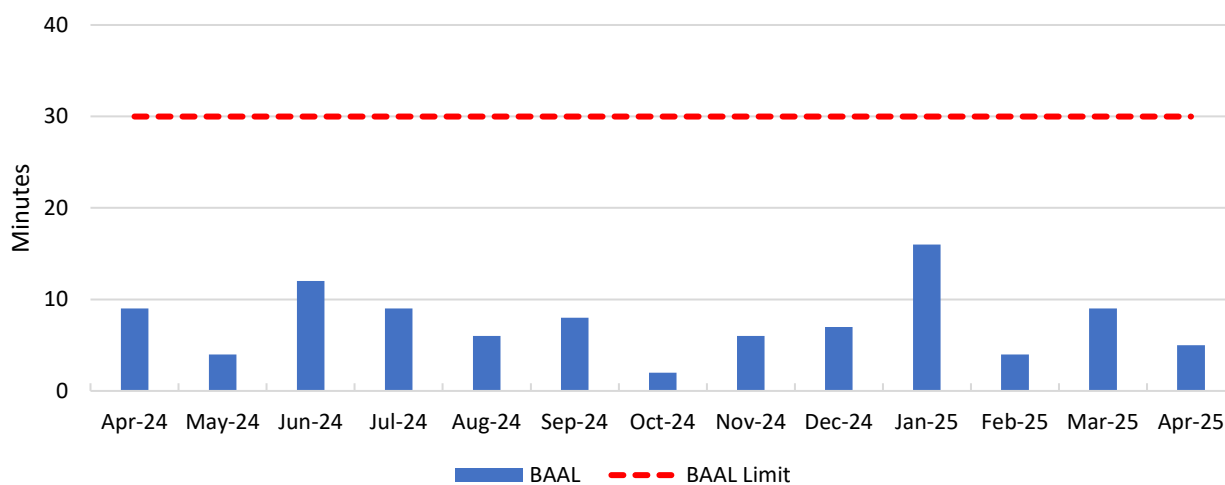
NERC IROL and DCS Reportable Violation Minutes



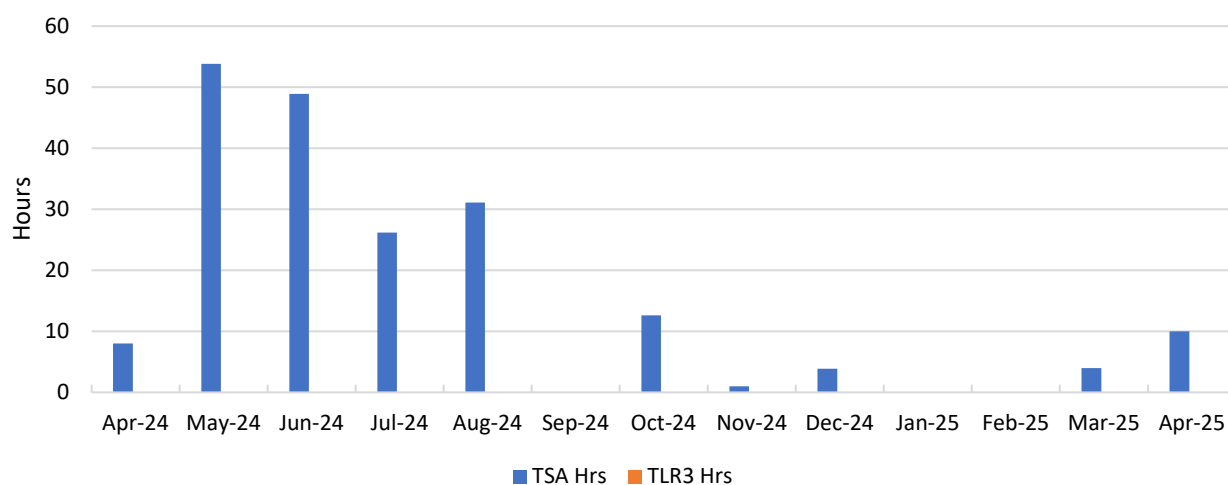
NERC Control Performance Standard

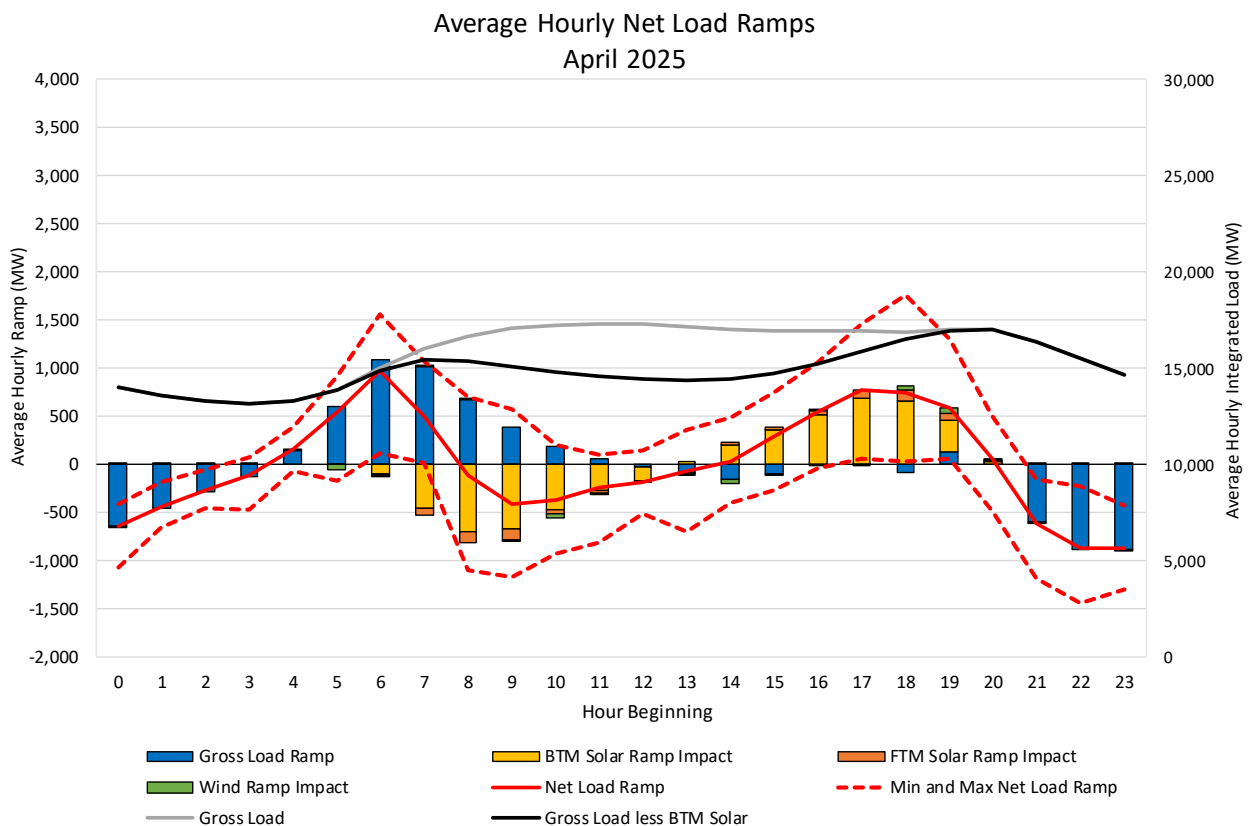
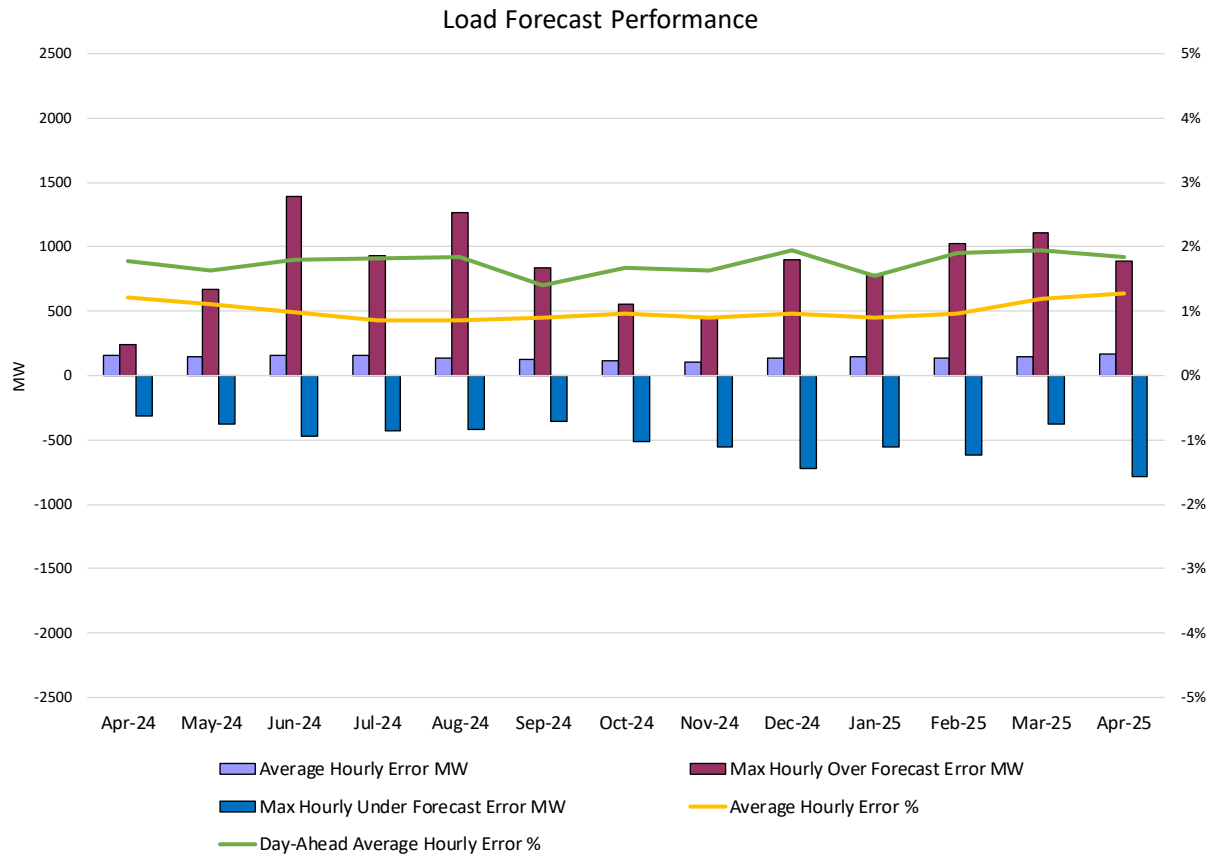


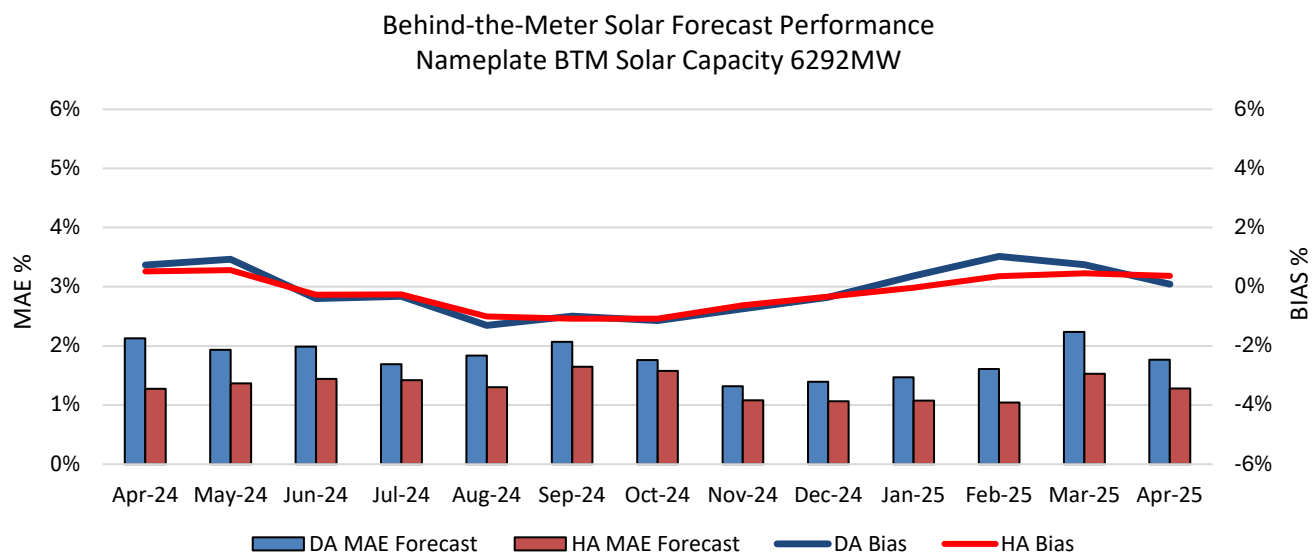
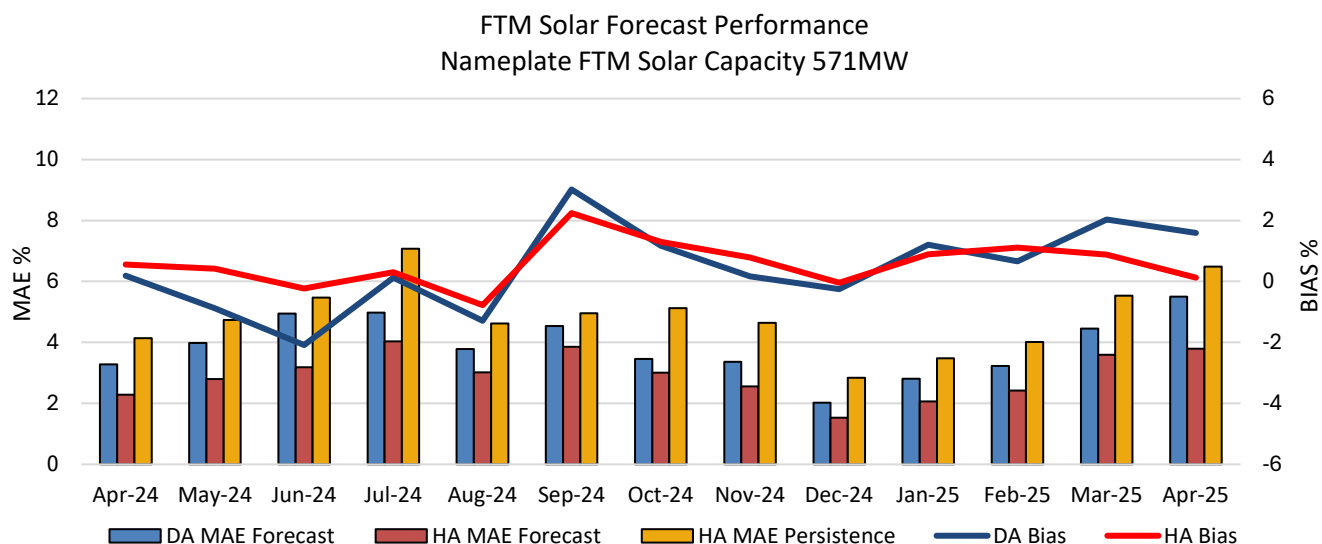
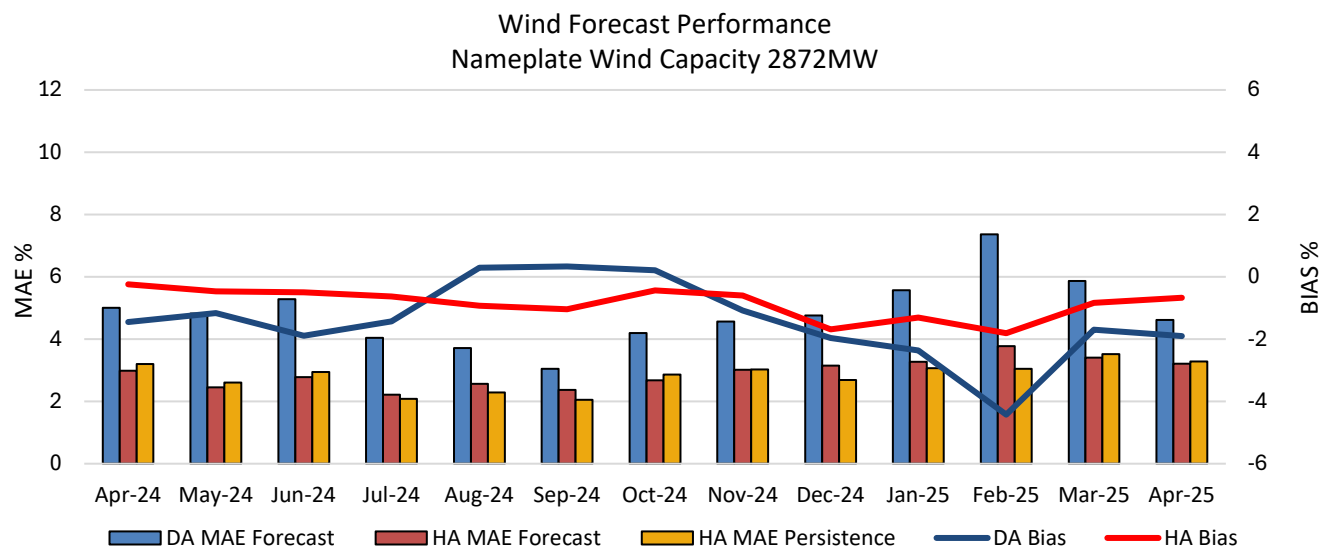
NERC Balancing Authority ACE Limit Standard



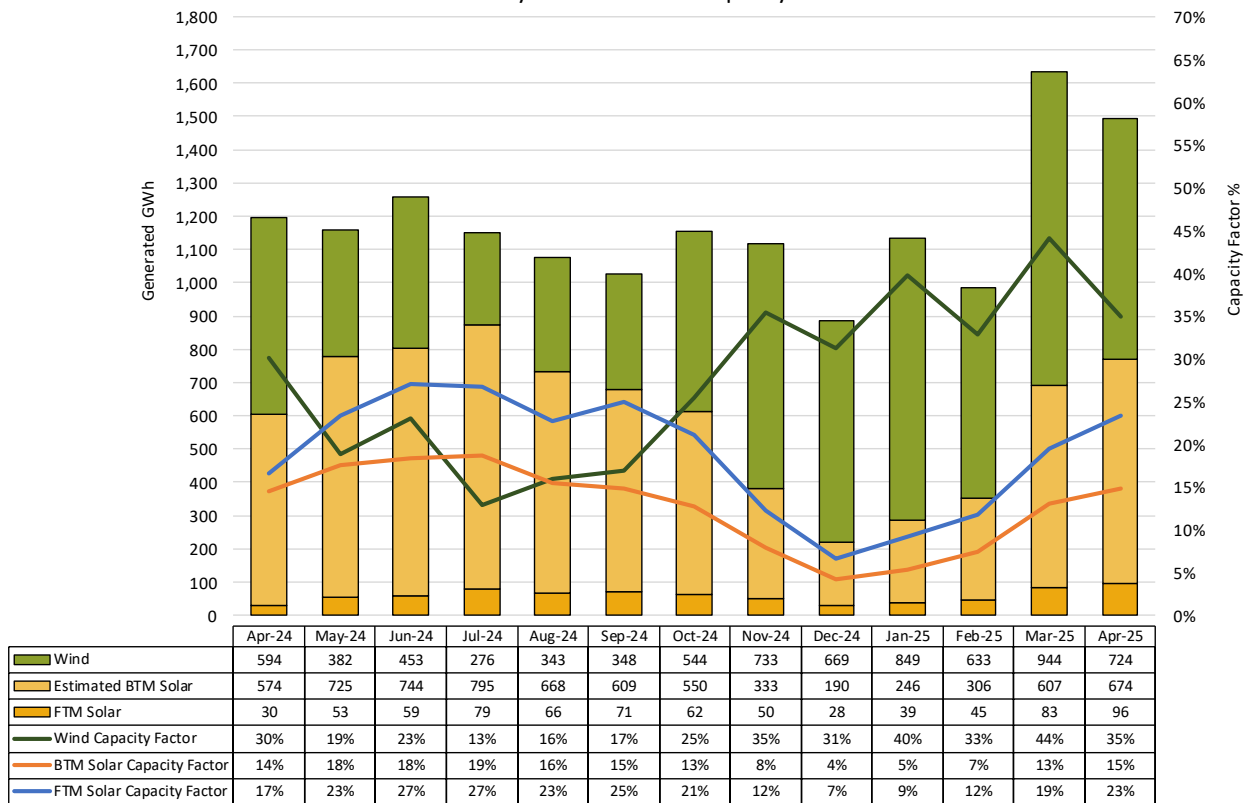
Thunderstorm Alert Hours and NERC TLR-3 Hours



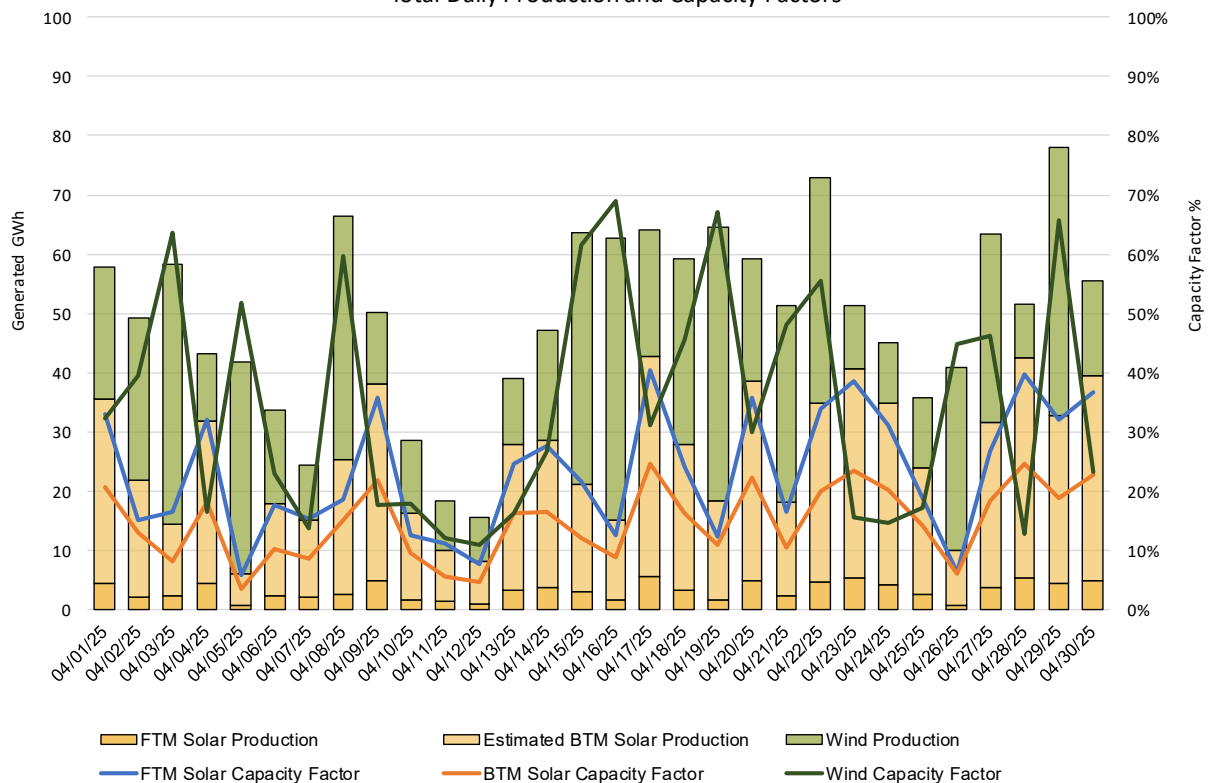




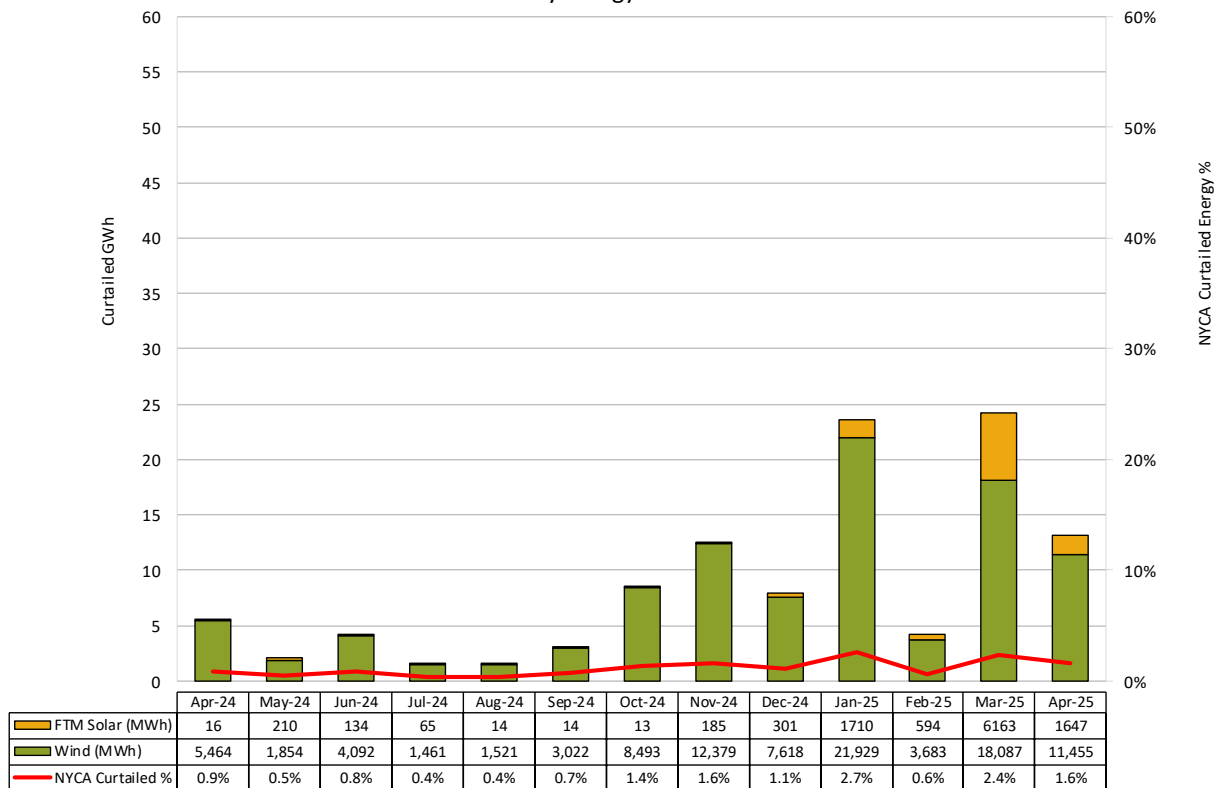
Net Wind and Solar Performance Total Monthly Production and Capacity Factors



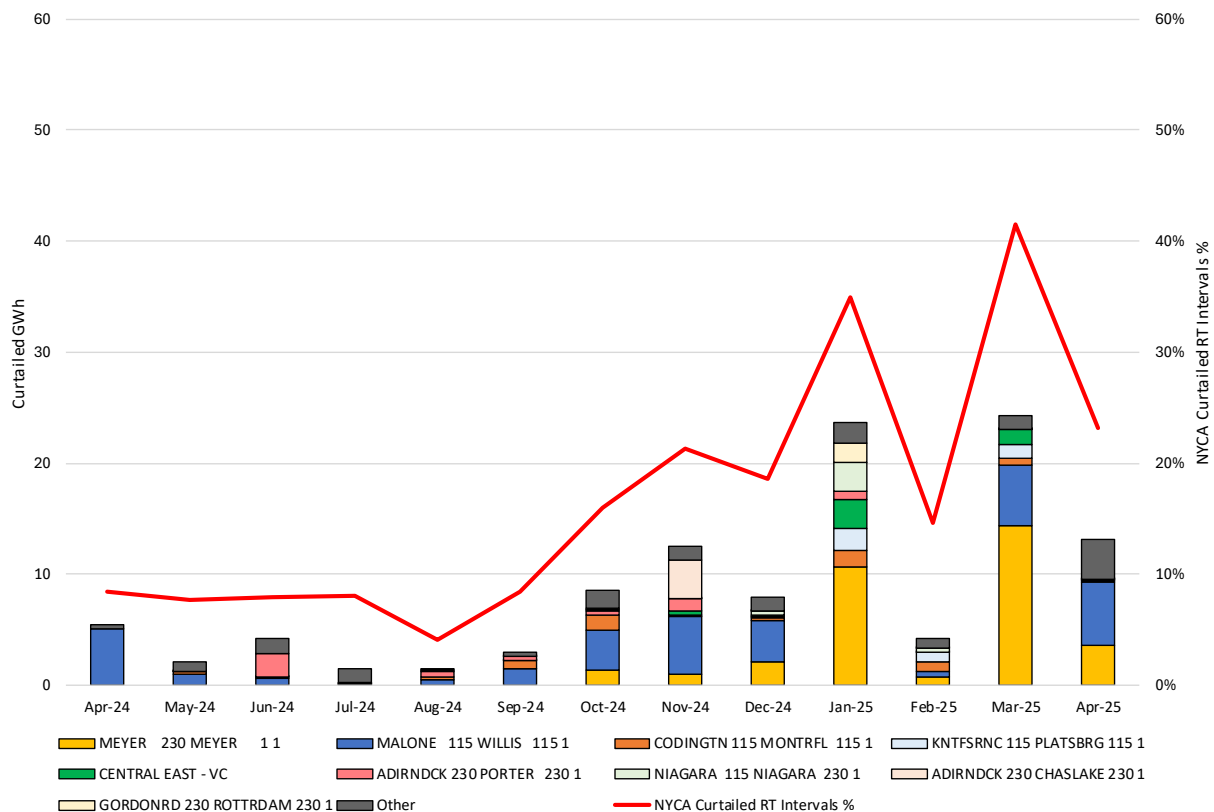
Net Wind and Solar Performance Total Daily Production and Capacity Factors

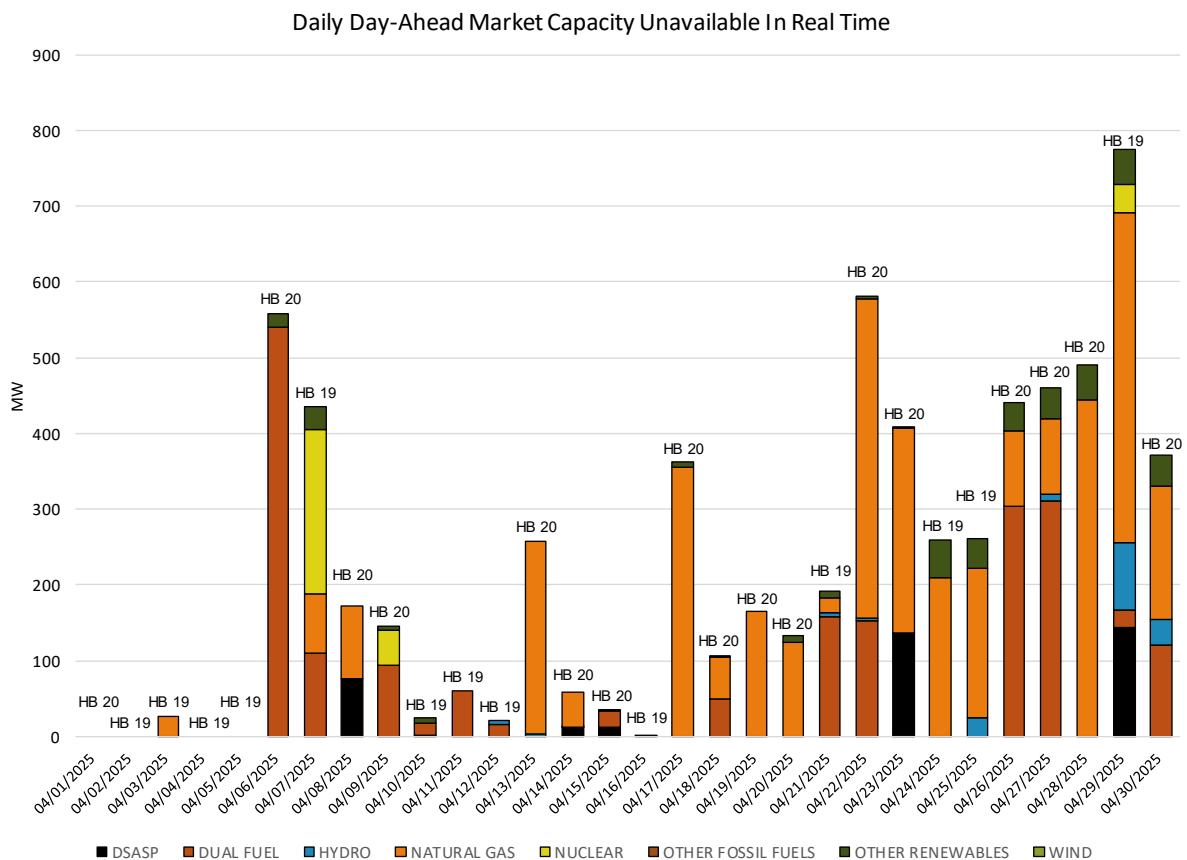
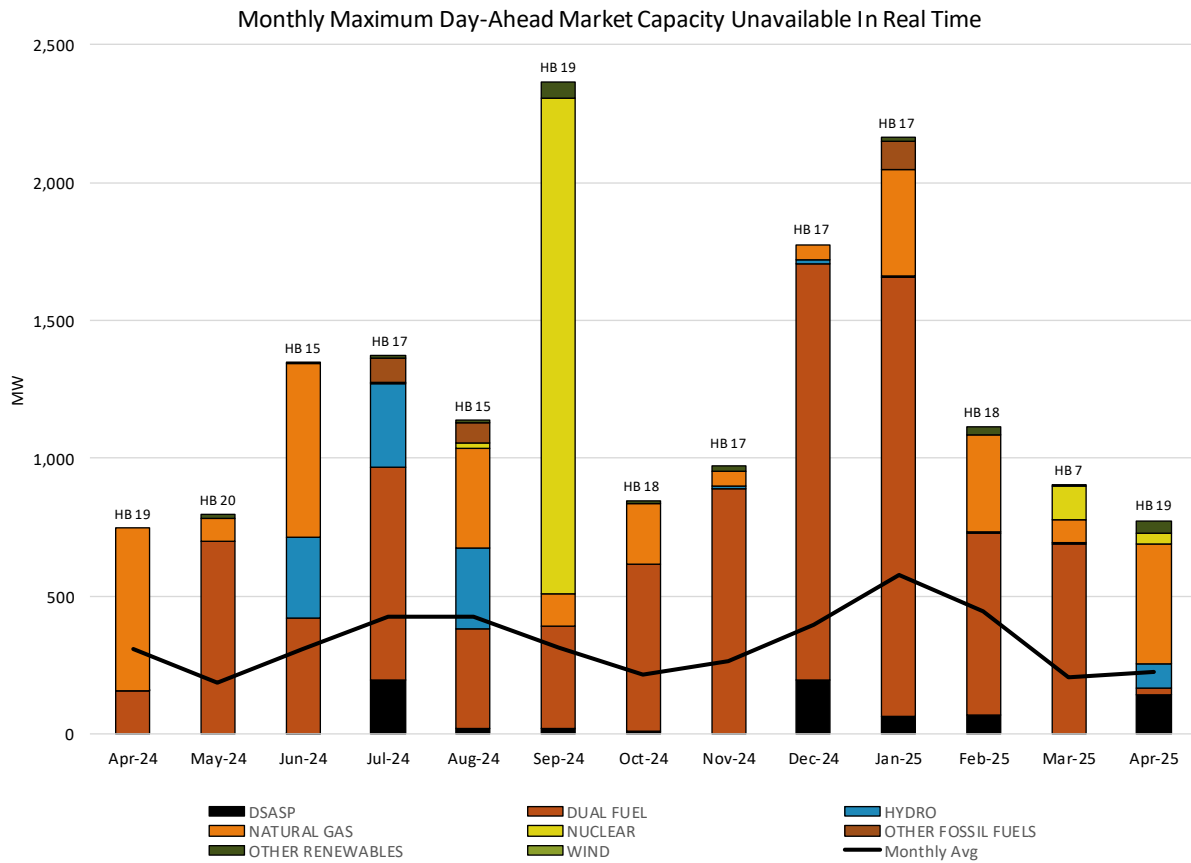


Net Wind and FTM Solar Performance Monthly Energy Curtailment

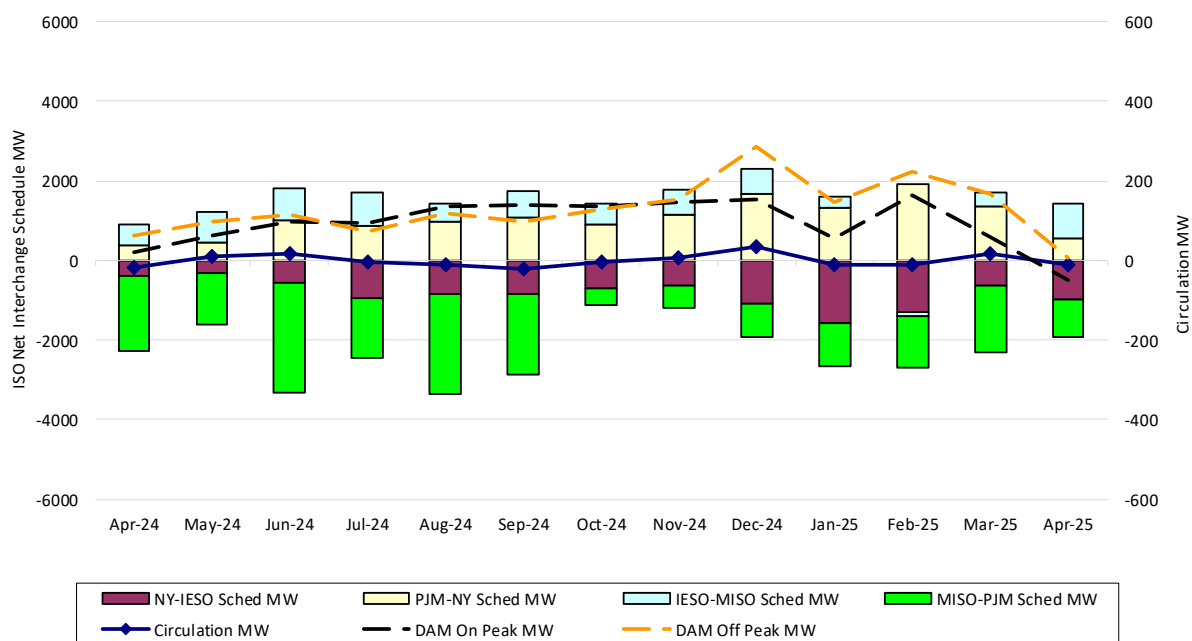


Net Wind and FTM Solar Performance Monthly Energy Curtailment by Limiting Constraint



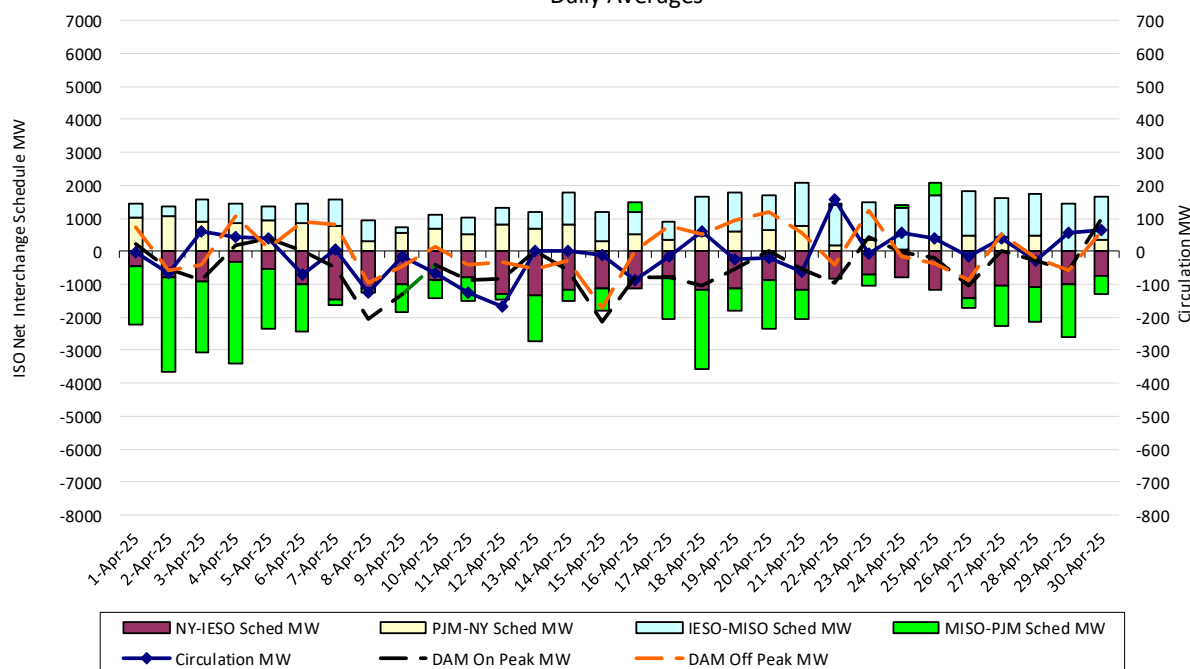


Lake Erie Circulation and ISO Net Interchange Schedules
Monthly Averages



Interchange schedules with positive values aggravate clockwise Lake Erie Circulation.

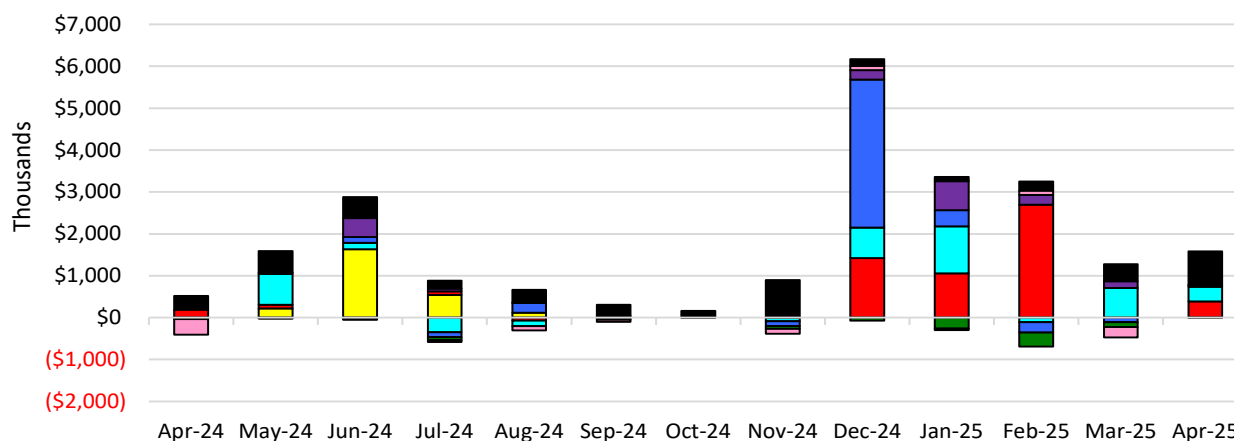
Lake Erie Circulation and ISO Net Interchange Schedules
Daily Averages



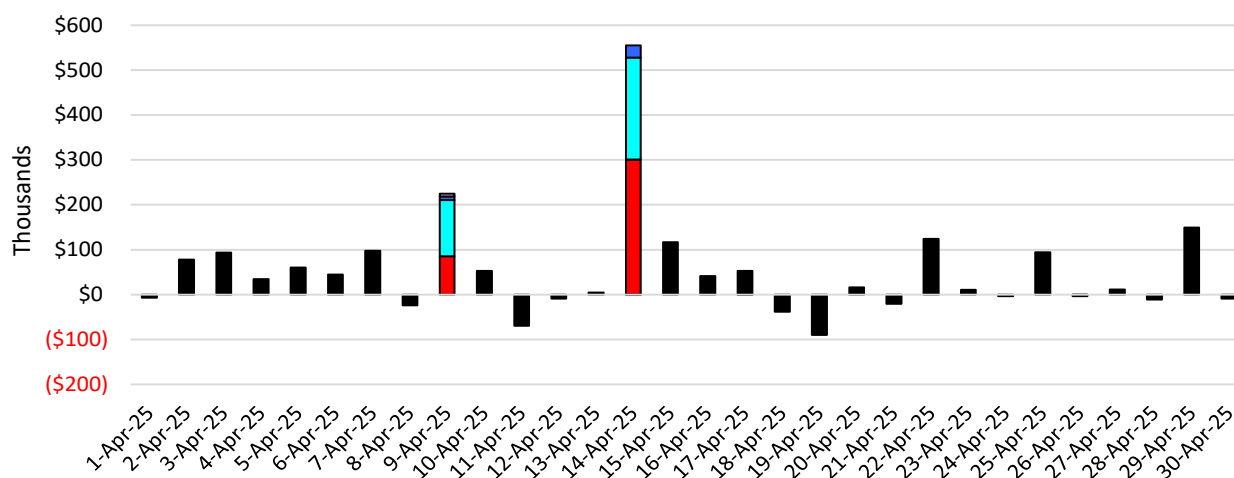
Interchange schedules with positive values aggravate clockwise Lake Erie Circulation.

Market Performance Metrics

Balancing Market Congestion Residual
Monthly Uplift Cost Categories



Daily Uplift Cost Categories



Real-Time Balancing Market Congestion Residual Categories

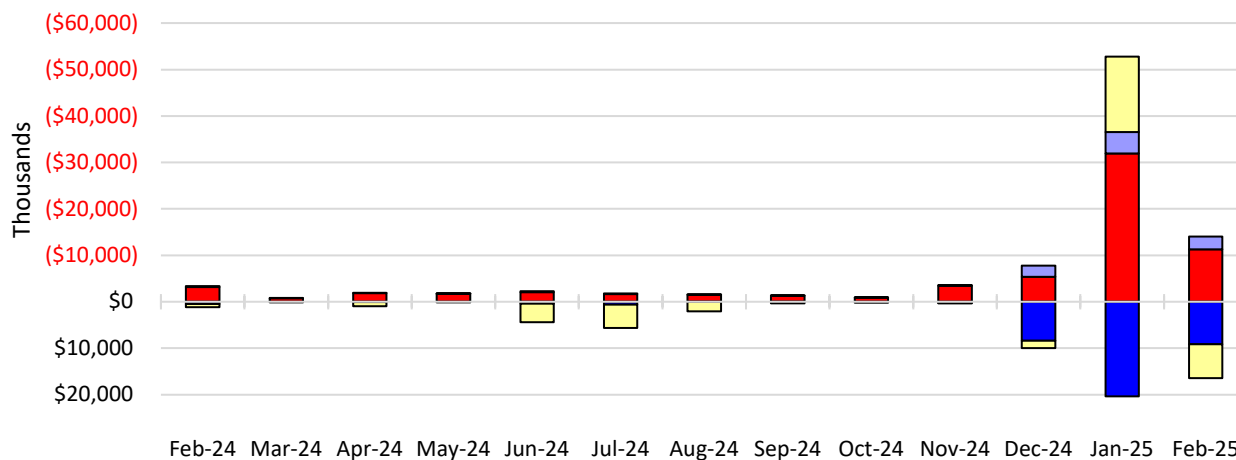
Category	Cost Assignment	Events Types	Event Examples
Storm Watch	Zone J	Thunderstorm Alert (TSA)	TSA Activations
Transmission Outage Mismatch	Market-wide	Changes in DAM to RTM transfers related to transmission outage mismatch	Forced Line Outages, Unit AVR Outages, Early Line Return from Outage
Interface/Facility 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 Flow exceeding +/-125MW
M2M Settlement	Market-wide	Settlement result inclusive of coordinated redispatch and Ramapo flowgates	
Cost Not Categorized	Market-wide		
Not Investigated	Market-wide		

Monthly Balancing Market Congestion Report Assumptions/Notes

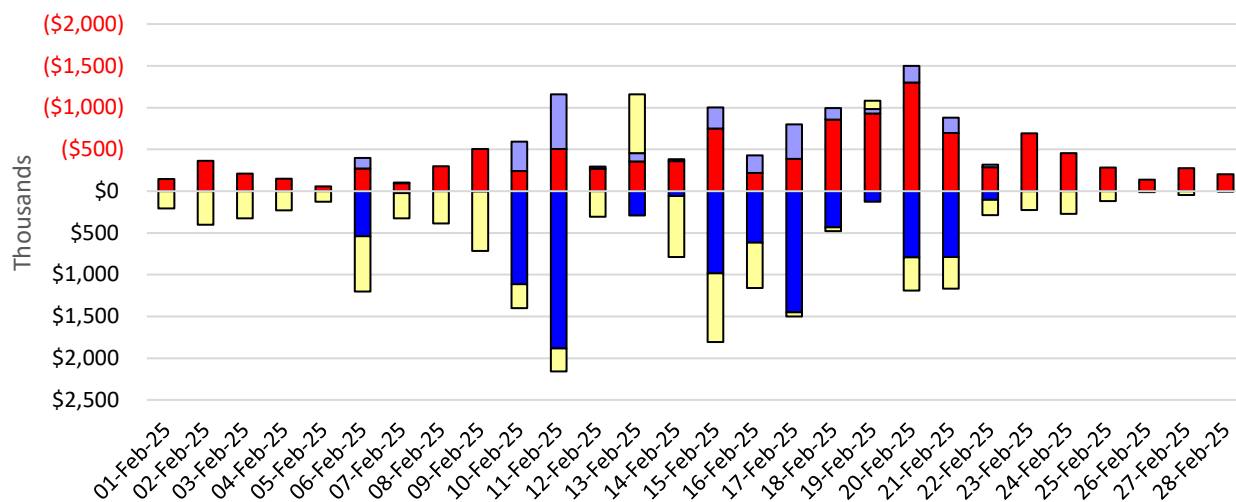
- 1) Storm Watch Costs are identified as daily total uplift costs
- 2) Days with a value of BMCr less M2M Settlement of \$100K/HR, shortfall of \$200K/Day or more, or surplus of \$100K/Day or more are investigated.
- 3) Uplift costs associated with multiple event types are apportioned equally by hour

Days investigated in April: 9,14			
Event	Date (yyyymmdd)	Hours	Description
	4/9/2025	10-12,15-17	Forced Outage Chateaugay-Massena 765kV (#7040)
	4/9/2025	10-12,15-17	Forced Outage Marcy 765/345kV (#AT2)
	4/9/2025	10-12,15-17	Forced Outage Massena-Marcy 765kV (#MSU1)
	4/9/2025	10-12,15-17	Forced Outage Marcy-New Scotland 345kV (#18)
	4/9/2025	10-12	Forced Outage Marcy-Coopers Corners 345kV (#UCC2-41)
	4/9/2025	9-16	Forced Outage Vernon-W49th St. 138kV (#38M72)
	4/9/2025	17,19	NYCA Active DNI Ramp Limit
	4/9/2025	0	Derate Farragut - Plymthst (138kV) (#32078)
	4/9/2025	9-12,16,19-21	Derate Foxhills-Greenwood 138kV (#29232) I/o Foxhills-Greenwood 138kV (#29231)
	4/9/2025	21,23	Derate Greenwood-Vernon 138kV (#31231)
	4/9/2025	20,21,23	Derate Greenwood-Vernon 138kV (#31231) I/o GOETHALS-FRESHKLS 345 22
	4/9/2025	19-21	Derate Greenwood-Vernon 138kV (#31231) I/o GOWANUS -GOETHALS 345 25
	4/9/2025	20,21	Derate Greenwood-Vernon 138kV (#31231) I/o SCB:GOETH(5):25&R25&A2253&BK1
	4/9/2025	9-17	Derate Rainey - Vernon 138kV (#36311)
	4/9/2025	7,23	Derate Rainey - Vernon 138kV (#36312)
	4/9/2025	19	NE AC Active DNI Ramp Limit
	4/14/2025	7-23	Forced Outage Dunwodie-Motthaven (#72)
	4/14/2025	12-18	Derate Foxhills-Greenwood 138kV (#29231) I/o GOETHALS-FRESHKLS 345 22
	4/14/2025	9-14	Derate Foxhills-Greenwood 138kV (#29231) I/o SCB:GOETH(5):25&R25&A2253&BK1
	4/14/2025	8-11	Derate Foxhills-Greenwood 138kV (#29232) I/o Foxhills-Greenwood 138kV (#29231)
	4/14/2025	9-11	Derate Foxhills-Greenwood 138kV (#29232) I/o SCB:GOETH(5):25&R25&A2253&BK1
	4/14/2025	13,17,18	Derate Kentave-Greenwood 138kV (#31232)
	4/14/2025	21	Derate Vernon-Greenwood 138kV (#31231) I/o SIN:VERNON-GRNWD 31232 & KENT
	4/14/2025	9	Derate Rainey-Vernon 138kV (#36311)
	4/14/2025	11	Derate Freshkills 345/138kV (#TA1) I/o SCB:FRESHKI(6):22&TB1&21192
	4/14/2025	16	NE AC Scheduling Limit

DAM Congestion Residual Monthly Cost Categories



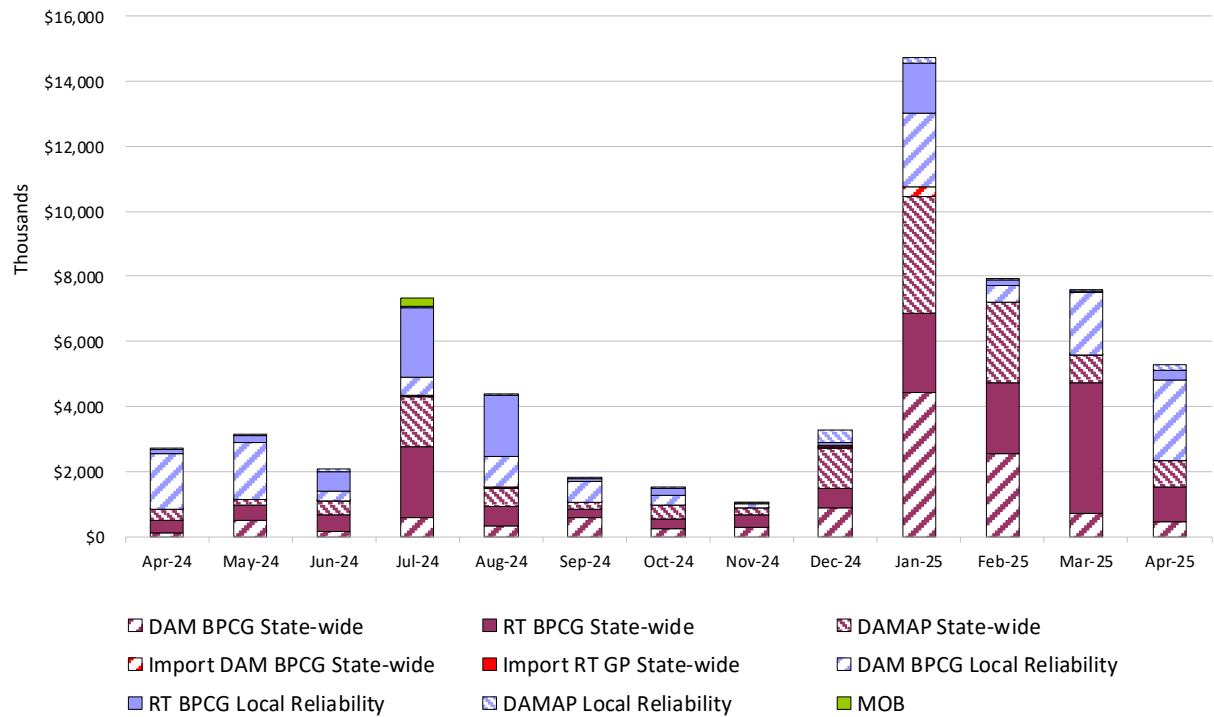
Daily Cost Categories



DAM Congestion Residual Categories

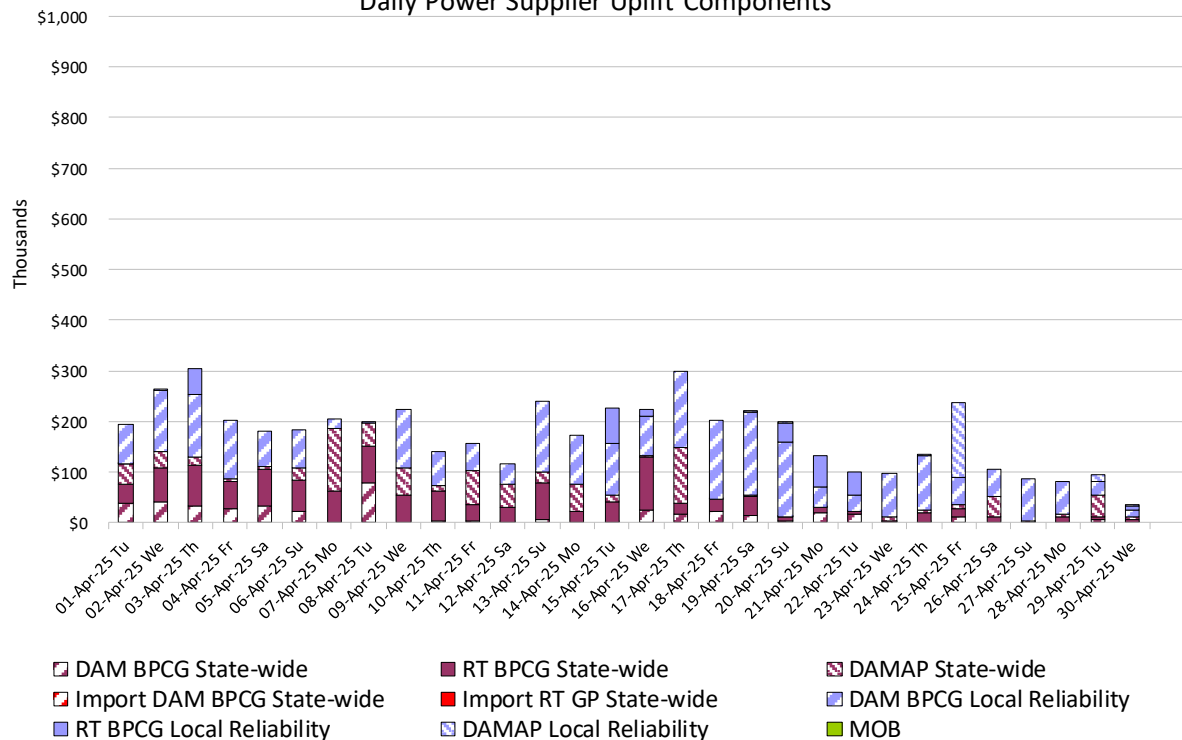
Category	Cost Assignment	Events Types	Event Examples
NYTO Outage Allocation	Responsible TO	Direct allocation to NYTO's responsible for transmission equipment status change.	DAM scheduled outage for equipment modeled in-service for the TCC Auction.
Incremental TCC/External Outage Impacts	All TO by Monthly 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 Rerate	All TO by Monthly Allocation Factor	Changes in the DAM Central East_VC limit as compared to the TCC Auction limit, which are not associated with transmission line outages.	
Cost Not Categorized	All TO by Monthly Allocation Factor		

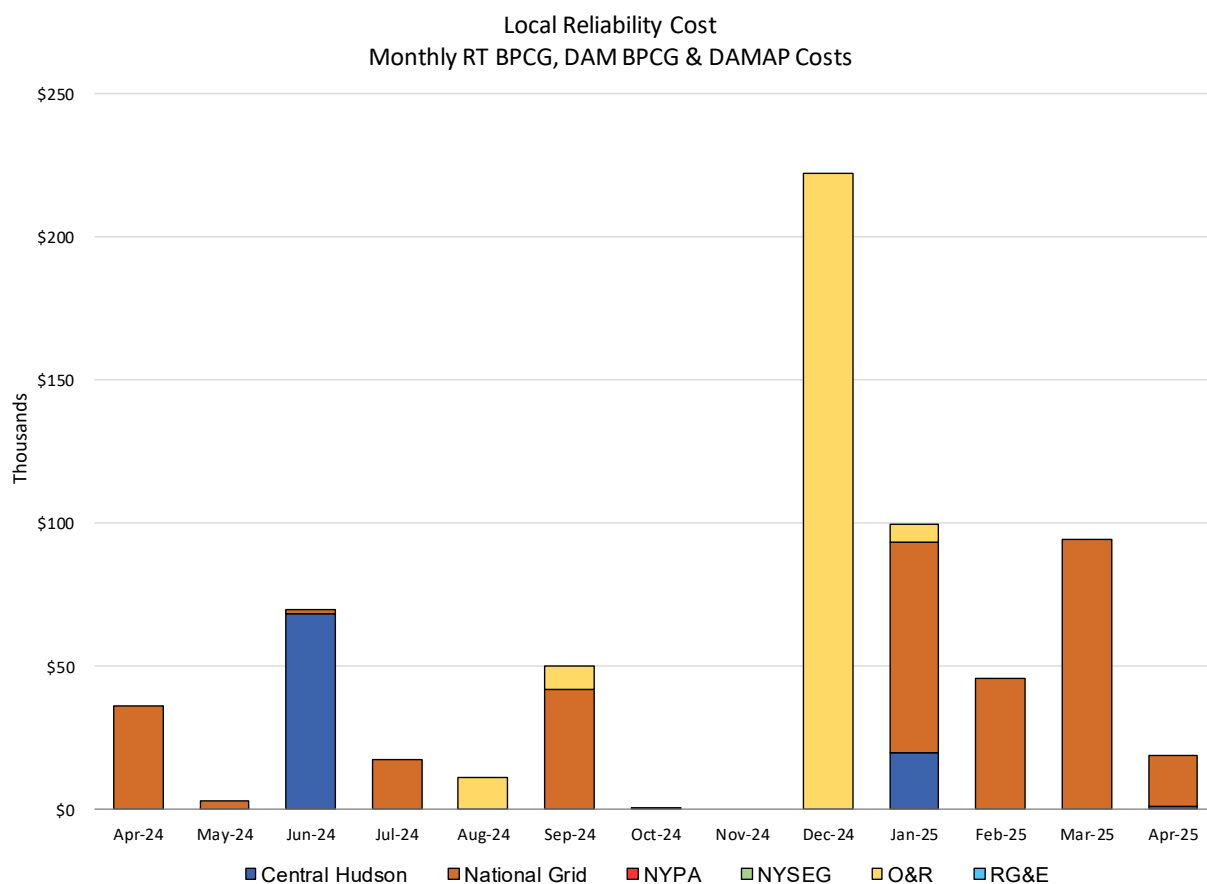
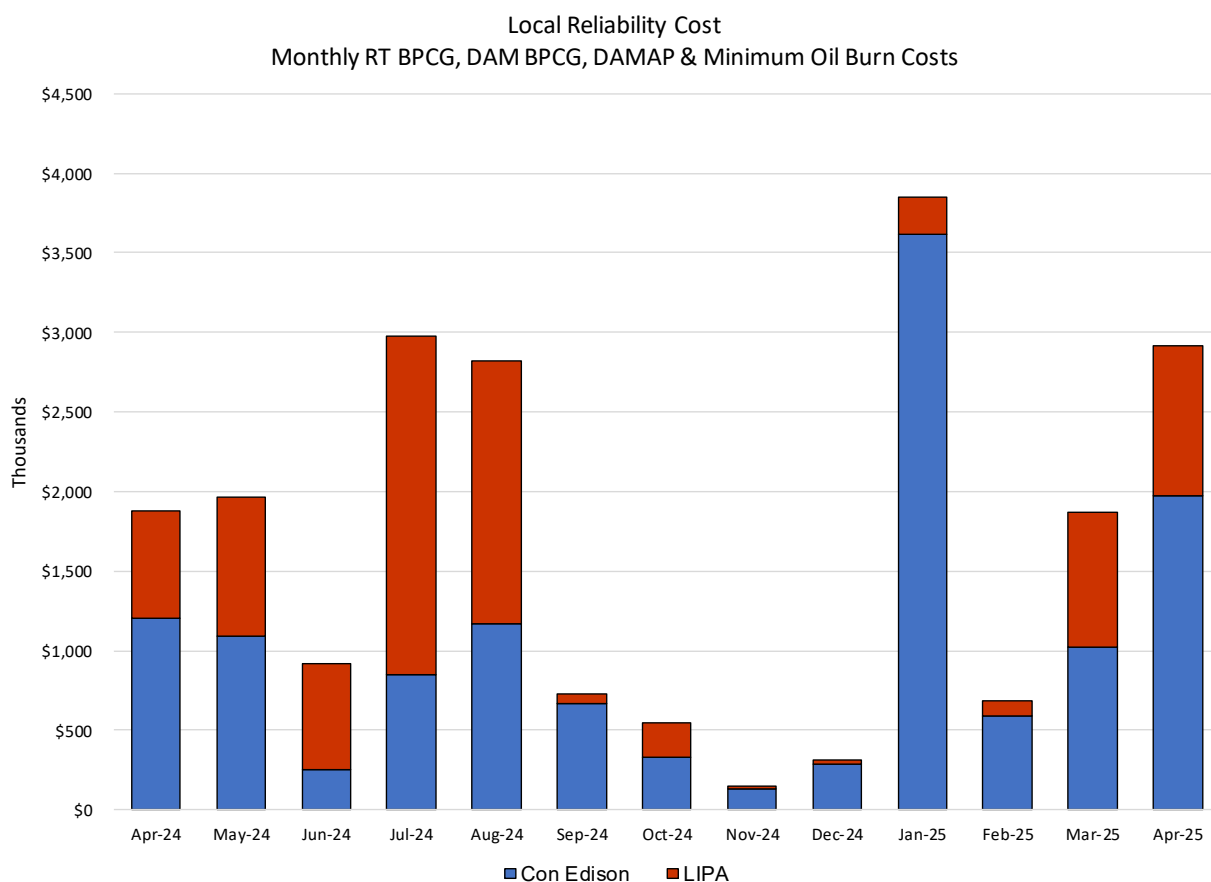
Monthly Power Supplier Uplift Components



April 2025

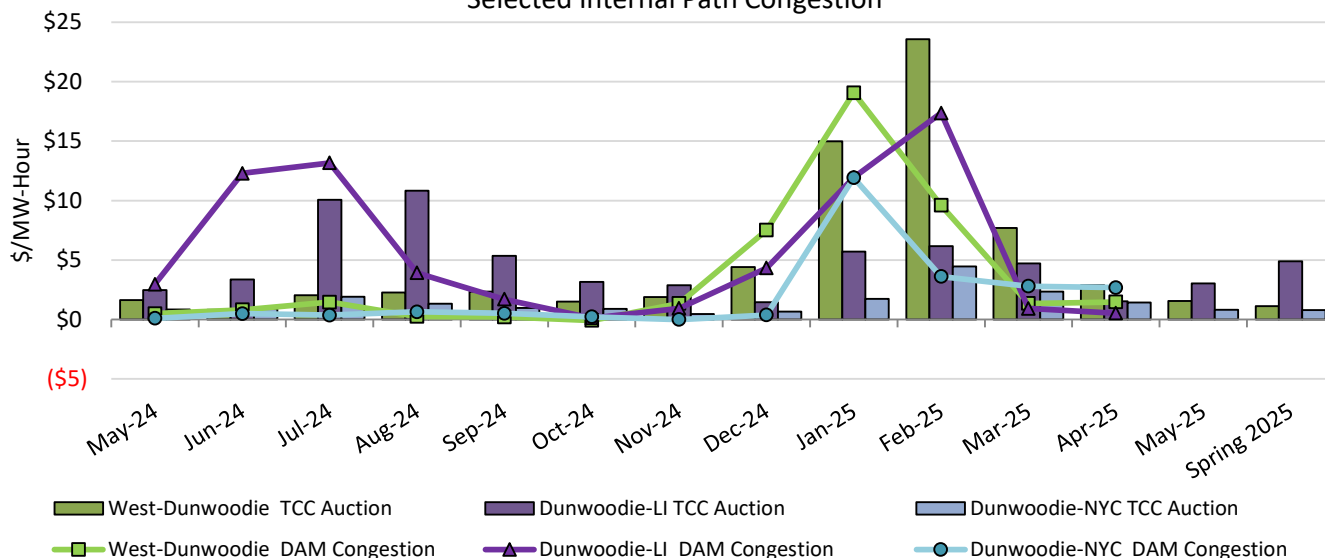
Daily Power Supplier Uplift Components



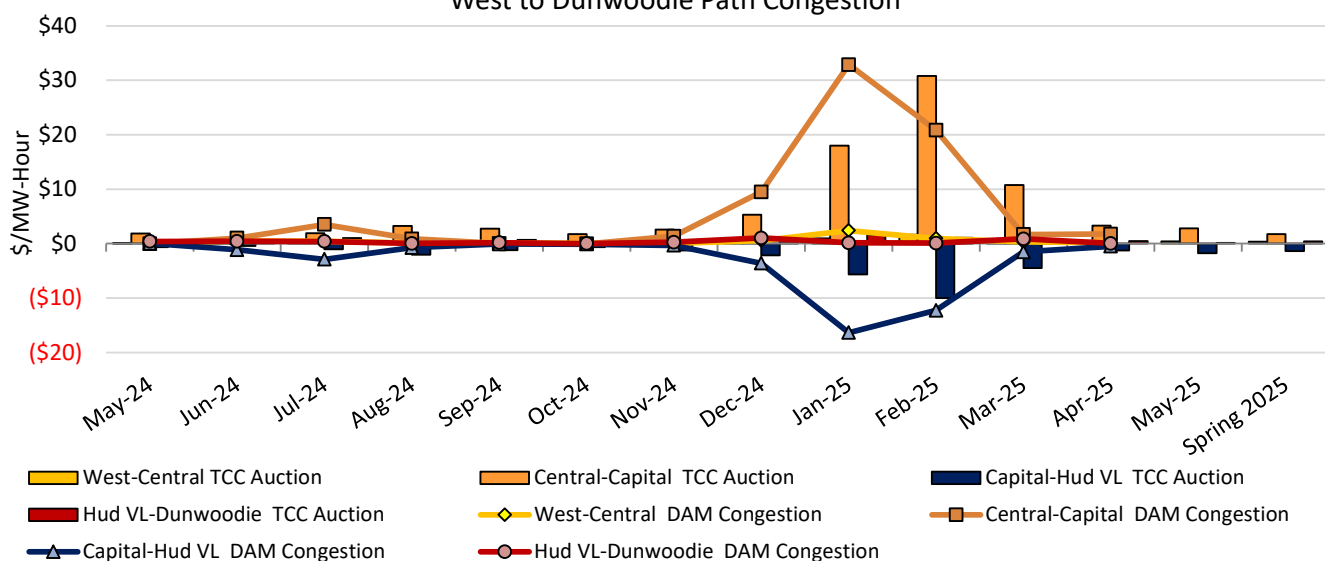


TCC Monthly Reconfiguration Auction vs. Monthly DAM Average with Spring 2025 Centralized TCC Auction Six-Month Average

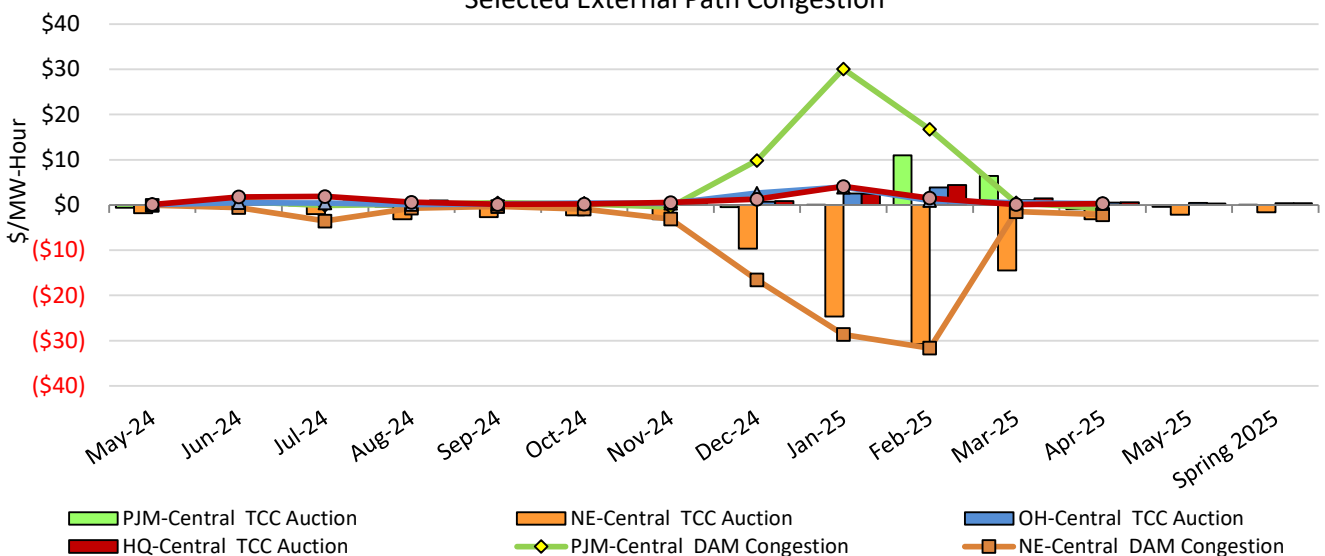
Selected Internal Path Congestion



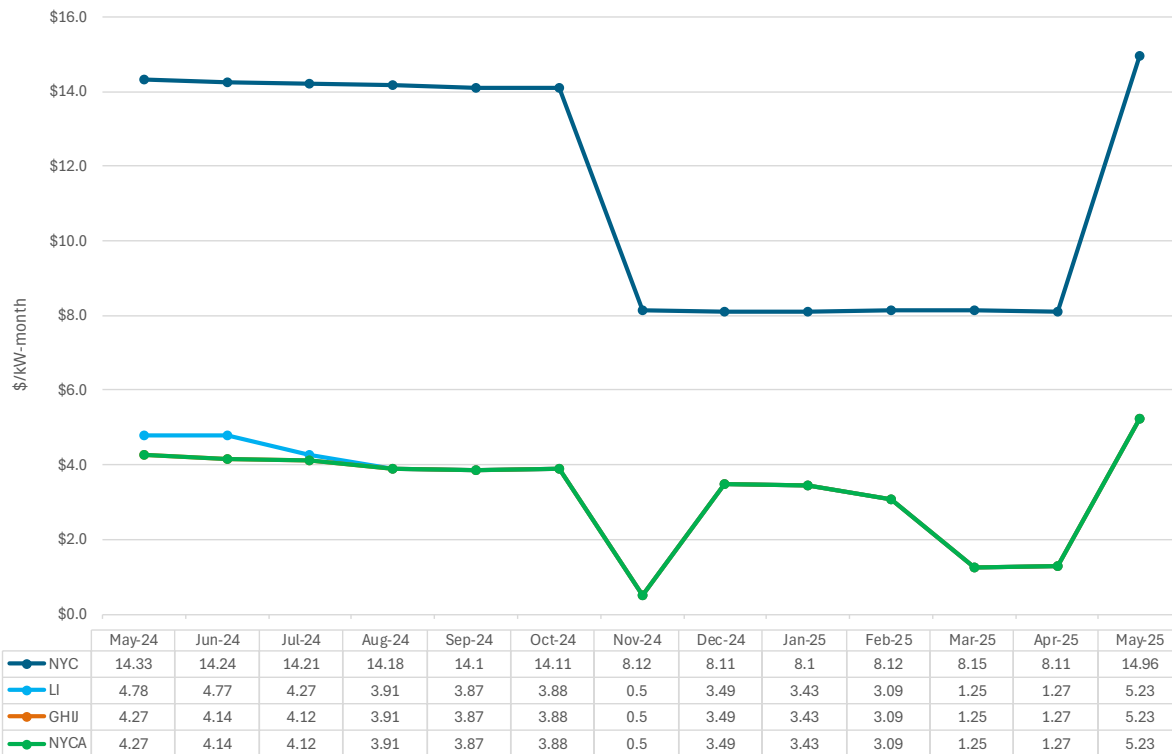
West to Dunwoodie Path Congestion



Selected External Path Congestion



ICAP Spot Market Clearing Price



Appendix A –Metric Definitions

- **Alert State:** The number of Alert State declarations reflect system operating conditions beyond thresholds associated with Normal and Warning States. Declaration of the Alert State allows the NYISO to take corrective actions not available in the Normal and Warning States.
- **Average Hourly Error %:** Average value of the ratio of hourly average error magnitude to hourly average actual load demand.
- **Capacity Factor:** The ratio of actual energy produced to the maximum energy that could have produced if operating at full capacity continuously during the same period.
- **Curtailed Energy:** Difference between real-time wind/FTM solar forecast and economic wind/FTM solar output limit.
- **Curtailed Energy %:** The ratio of curtailed energy to total energy production.
- **Day-Ahead Average Hourly Error %:** Average across all hours of the month of the absolute value of the difference between actual load demand and the Day-Ahead forecast load demand, divided by the actual load demand.
- **Day-Ahead Bias:** $\text{Avg} (\text{actual generation} - \text{Day-Ahead forecast generation}) / \text{capacity}$
- **Day-Ahead MAE Forecast Error:** $\text{Avg} |\text{actual generation} - \text{Day-Ahead forecast generation}| / \text{Capacity}$
- **Day-Ahead Market Capacity Unavailable:** Unavailable capacity is calculated as the difference of Day-Ahead Market capacity including SRE relative to the real-time (RT) capacity during RT peak load hour.
- **Disturbance Control Standard Event Time:** For NYISO initiated NERC Reportable Disturbances, the maximum ACE recovery time is identified. Recovery times less than 15 minutes are considered NERC compliant.
- **Hour-Ahead Bias:** $\text{Avg} (\text{actual generation} - \text{Hour-Ahead forecast generation}) / \text{capacity}$
- **Hour-Ahead MAE Forecast Error:** $\text{Avg} |\text{actual generation} - \text{Hour-Ahead forecast generation}| / \text{Capacity}$
- **Hour-Ahead MAE Persistence Error:** $\text{Avg} |\text{actual generation} - \text{Hour-Ahead actual generation}| / \text{Capacity}$
- **Hourly Error MW:** Value of the difference between the hourly average actual load demand and the average hour ahead forecast load demand.
- **Major Emergency:** The number of Major Emergency State declarations reflect system operating conditions beyond thresholds associated with the Alert State. Declaration of the Major Emergency State allows the NYISO to take additional corrective actions not available in the Alert State.
- **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.
- **NERC Control Performance Standard:** The value of NERC Control Performance Standard 1 (CPS-1) is an indicator of the NYISO Area resource and demand balancing. CPS-1 values greater than 100% are considered NERC compliant.
- **NERC IROL Time Over Limit:** For IROL exceedances leading to Major Emergency State declarations, the maximum IROL exceedance time is identified. IROL exceedances of less than thirty minutes are considered NERC compliant.
- **NERC Transmission Loading Relief (TLR):** Value represents the number of hours in which the NYISO requested TLR level 3 curtailments to provide transmission constraint relief.
- **Net Load:** Defined as Gross load less wind and solar generation.
- **Net Load Ramp:** Average value of the difference in load demand between the previous and current hour. Wind and solar ramps are negated to indicate their impact on Net load ramp.
- **Reserve Activation:** 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.
- **Thunderstorm Alert (TSA):** TSA is declared by NYISO when severe operating conditions are detected. A predetermined set of pre-and post-contingency constraints are passed to the RTC and RTD programs while TSA is in effect. Value represents number of hours TSA was active.

Appendix B –NYISO Information Resources

- [Annual Renewable Energy Performance Metrics](#)
- [Demand Response - NYISO](#)
- [Energy Market & Operational Data](#)
- [FERC Order 844 Zonal and Resource Specific Uplift Reports](#)
- [Installed Capacity Market Data](#)
- [Load & Capacity Data Report \(Gold Book\)](#)
- [Operating Committee - NYISO](#)
- [Systems Operations Advisory Subcommittee Report](#)
- [Transmission Congestion Contracts Market Data](#)