

Operations Performance Metrics Monthly Report



October 2022 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 November 8, 2022.

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October 2022 Operations Performance Highlights

- October 2022 peak load of 18,326 MW occurred on 10/26/2022 HB 18
- Summer 2022 capability period peak load to date of 30,505MW occurred on 7/20/2022 HB 17
- All-time summer capability period peak load of 33,956 MW occurred on 07/19/2013 HB 16
- 0.0 hours of Thunderstorm Alerts were declared
- 0.0 hours of NERC TLR level 3 curtailment
- Autumn 2022-2023 Centralized TCC auction six-month average clearing price for Central-Capital is \$85.9/MW

Installed Intermittent Power Resource Nameplate Values:

| Land-Based Wind | Behind-the-Meter Solar | Front-of-the-Meter Solar |
|-----------------|------------------------|--------------------------|
| 2,191 MW | 4,123 MW | 74 MW |

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

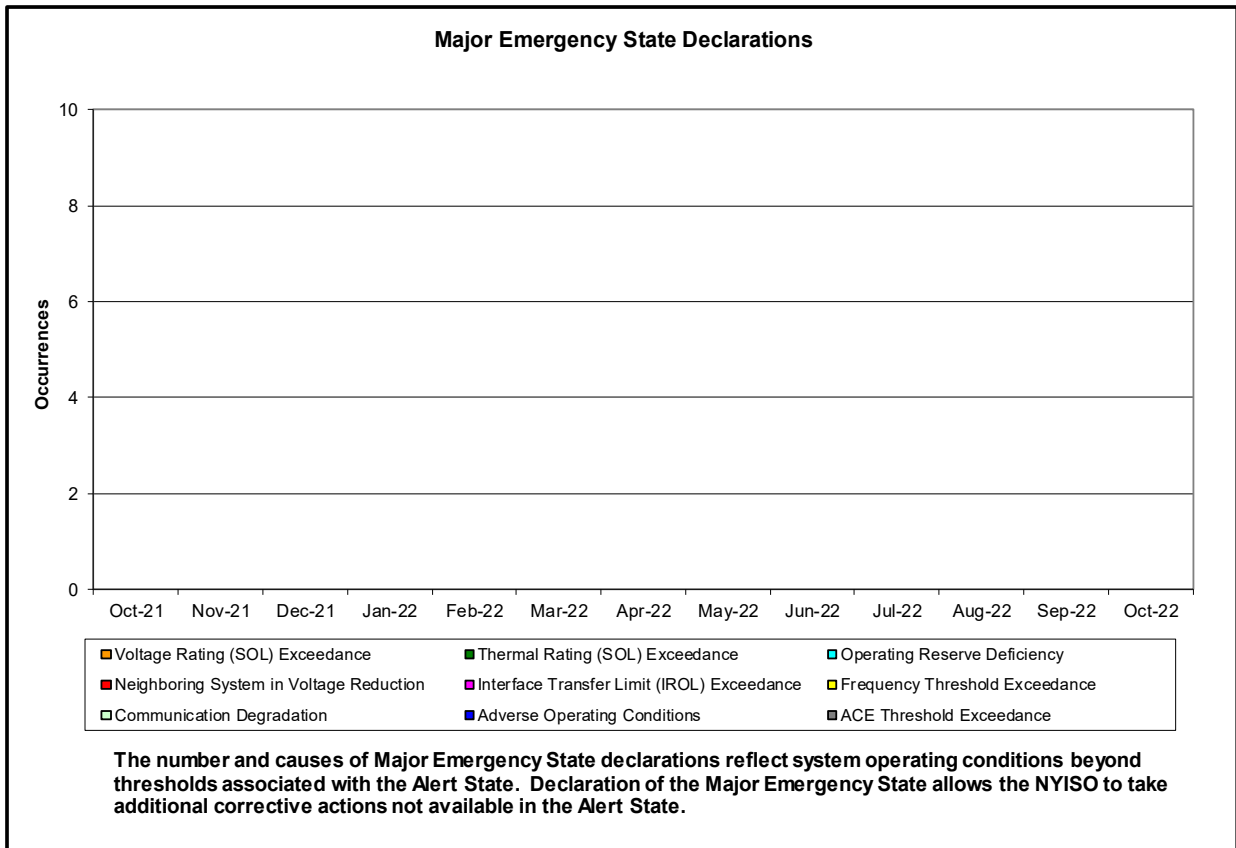
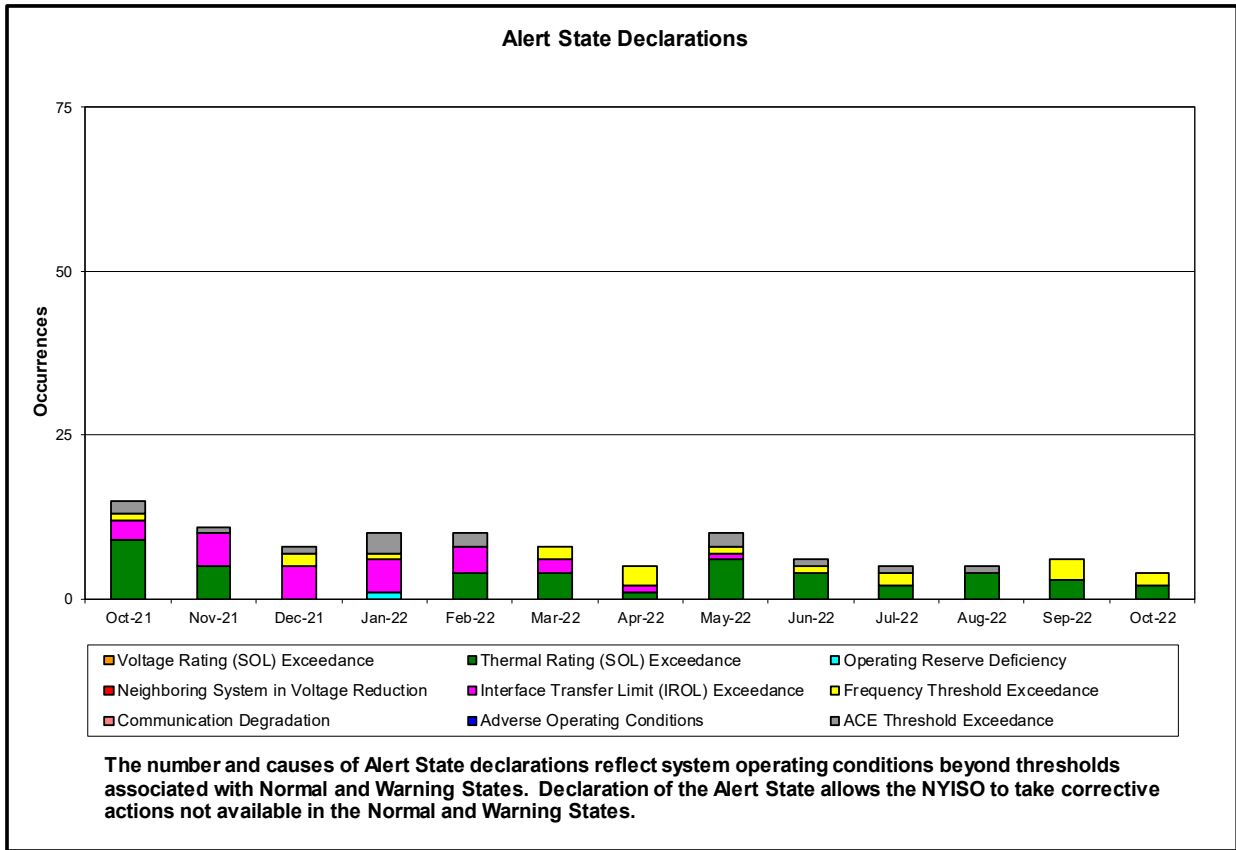
| | Current Month Value (\$M) | Year-to-Date Value (\$M) |
|--|---------------------------|--------------------------|
| NY Savings from PJM-NY Congestion Coordination | \$3.56 | \$29.40 |
| NY Savings from PJM-NY Coordinated Transaction Scheduling | (\$0.20) | \$1.44 |
| NY Savings from NE-NY Coordinated Transaction Scheduling | (\$0.50) | \$8.46 |
| Total NY Savings | \$2.86 | \$39.30 |
| Regional Savings from PJM-NY Coordinated Transaction Scheduling | \$0.84 | \$6.02 |
| Regional Savings from NE-NY Coordinated Transaction Scheduling | \$0.14 | \$3.26 |
| Total Regional Savings | \$0.98 | \$9.28 |

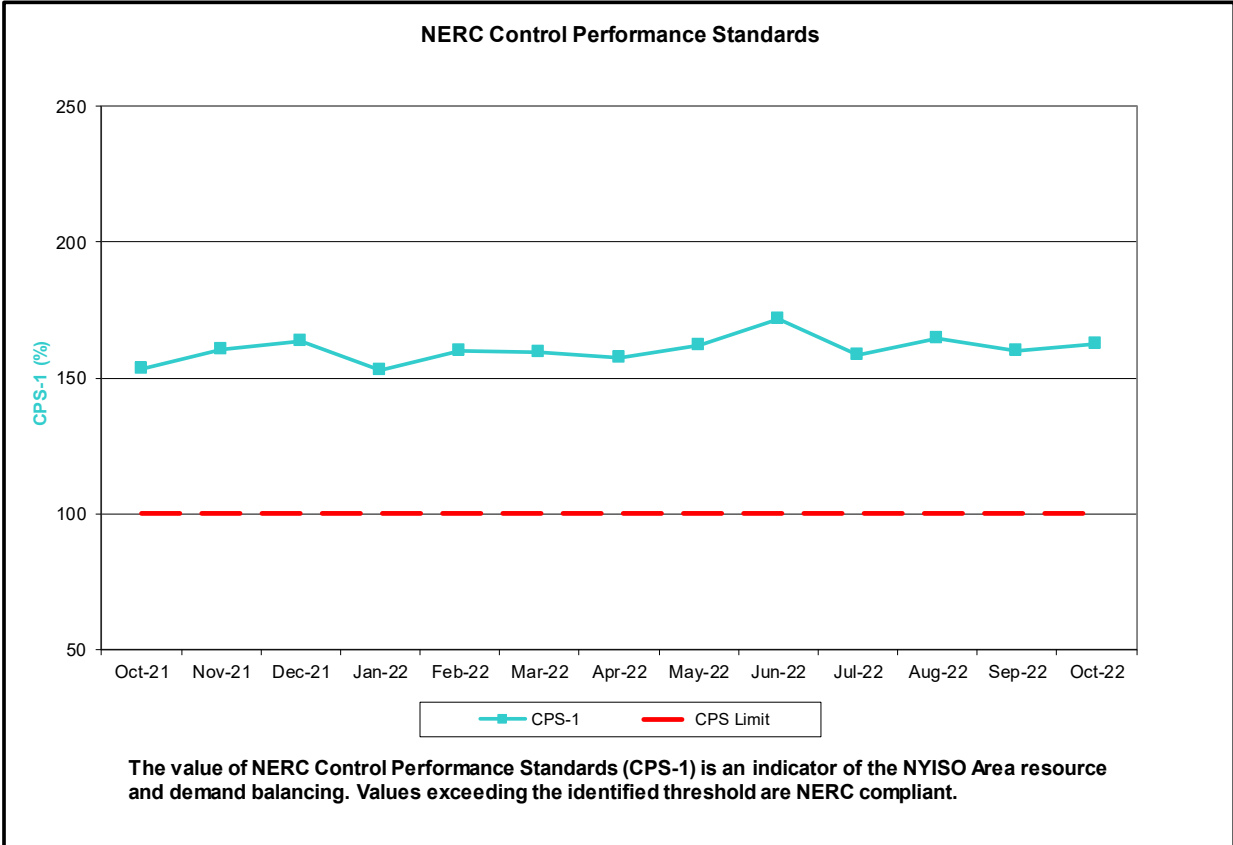
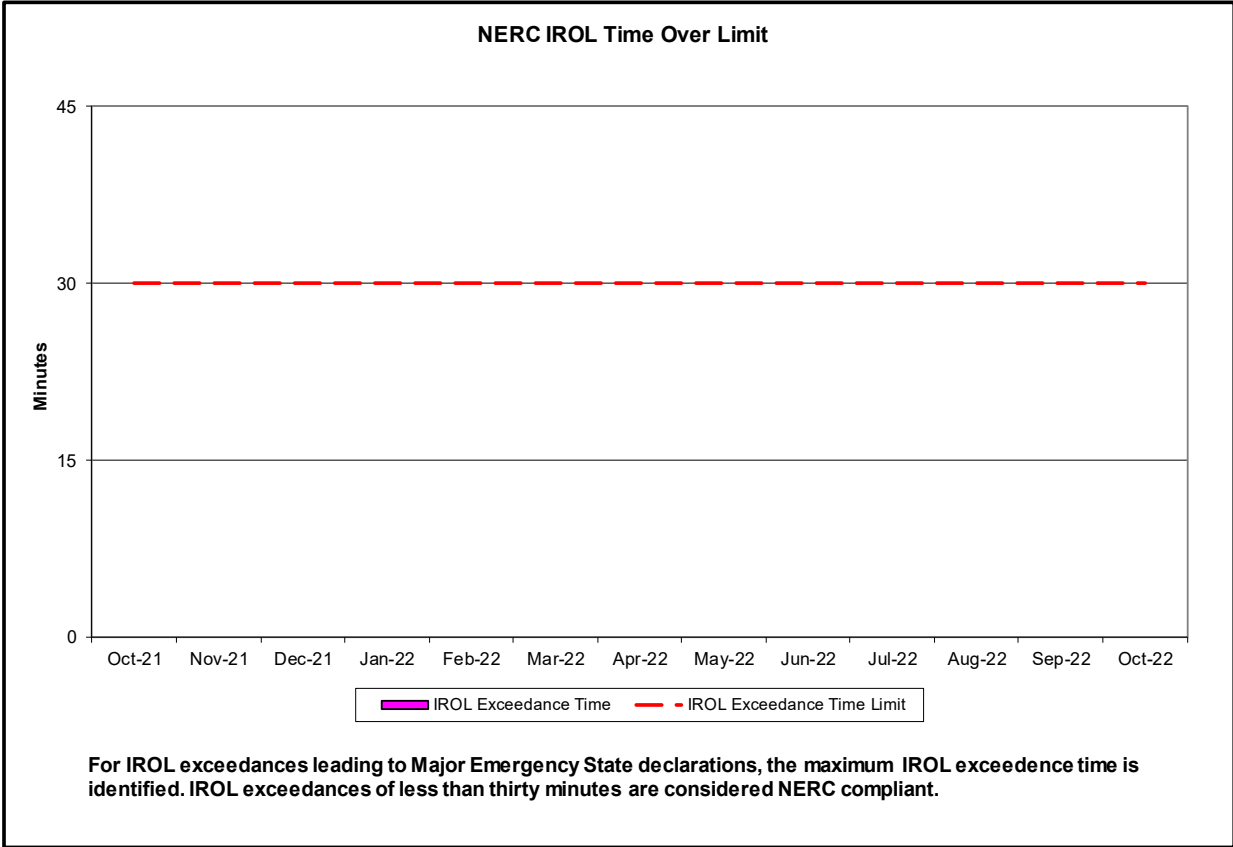
- Statewide uplift cost monthly average was (\$0.72)/MWh.
- The following table identifies the Monthly ICAP spot market prices and the price delta.

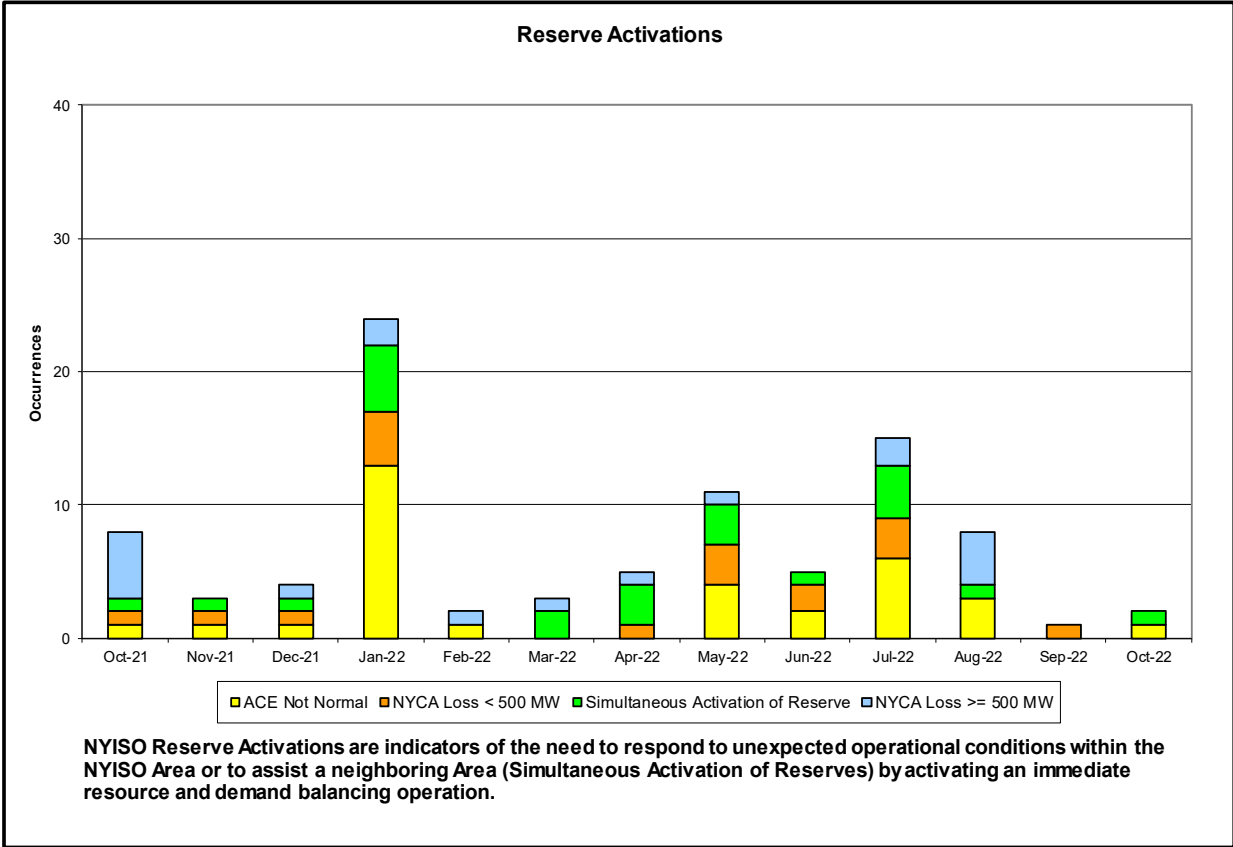
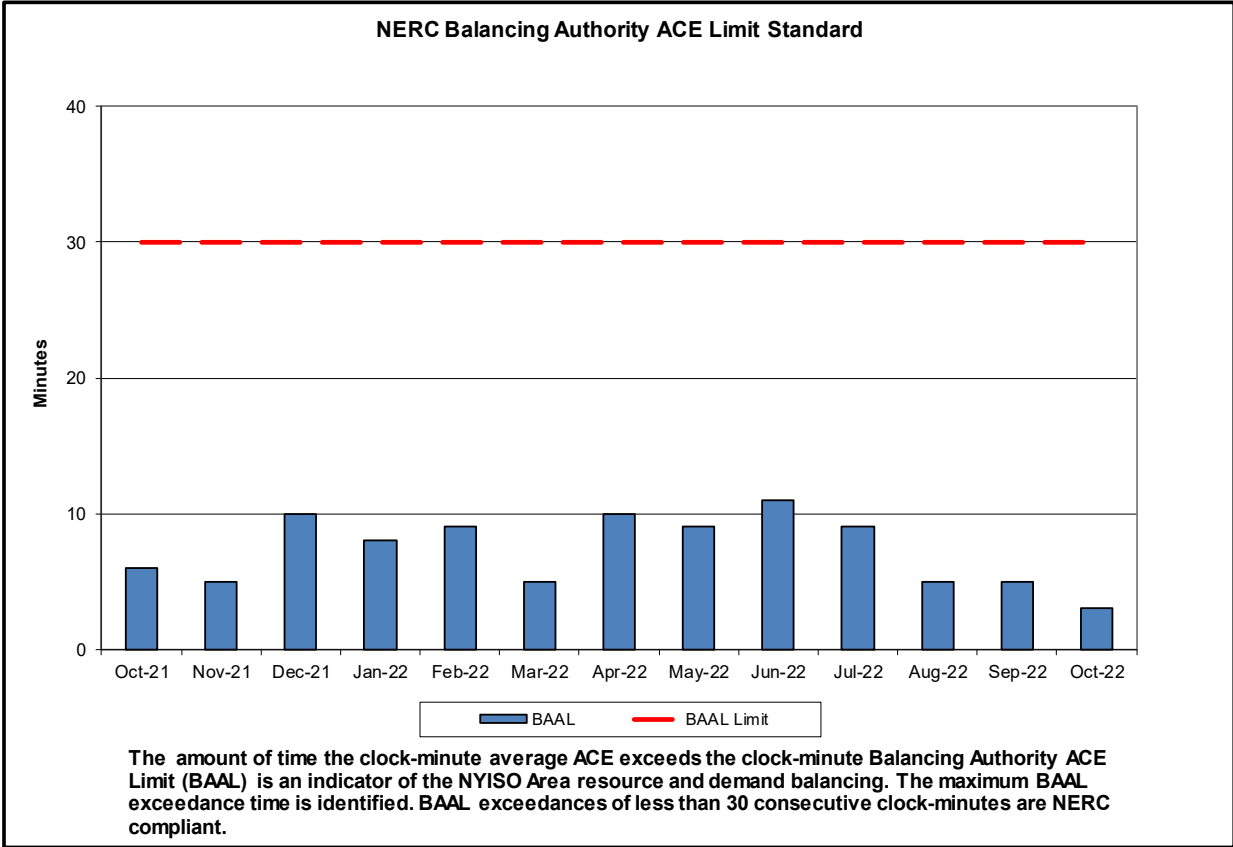
| Spot Auction Price Results | NYCA | Lower Hudson Valley Zones | New York City Zone | Long Island Zone |
|----------------------------|--------|---------------------------|--------------------|------------------|
| November 2022 Spot Price | \$1.54 | \$1.54 | \$1.54 | \$1.54 |
| April 2022 Spot Price | \$0.76 | \$0.76 | \$0.76 | \$1.81 |
| Delta | \$0.78 | \$0.78 | \$0.78 | (\$0.27) |

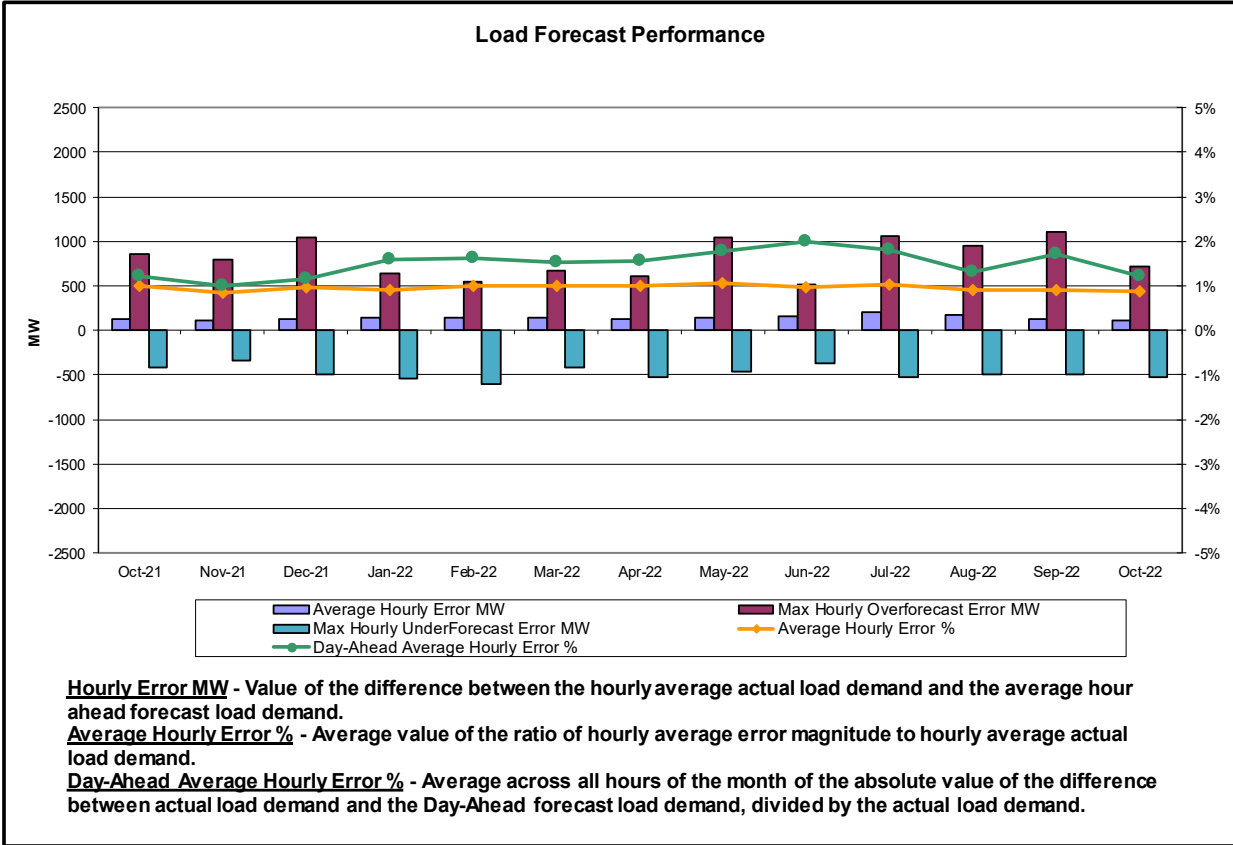
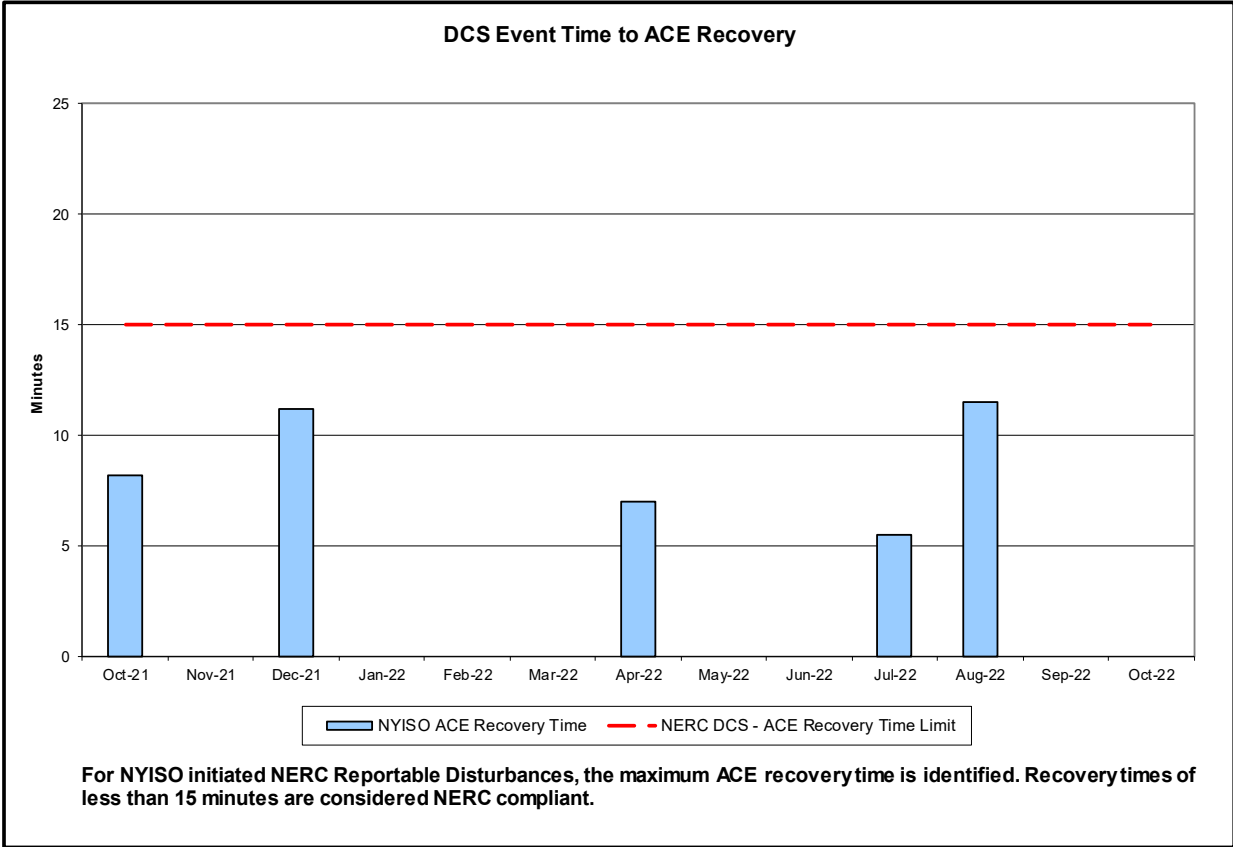
- Price changes from April 2022 to November 2022 are driven by changes in supply as well as Capability Year inputs such as demand curve parameters, Locational Capacity Requirements, Installed Reserve Margin, and the load forecast.

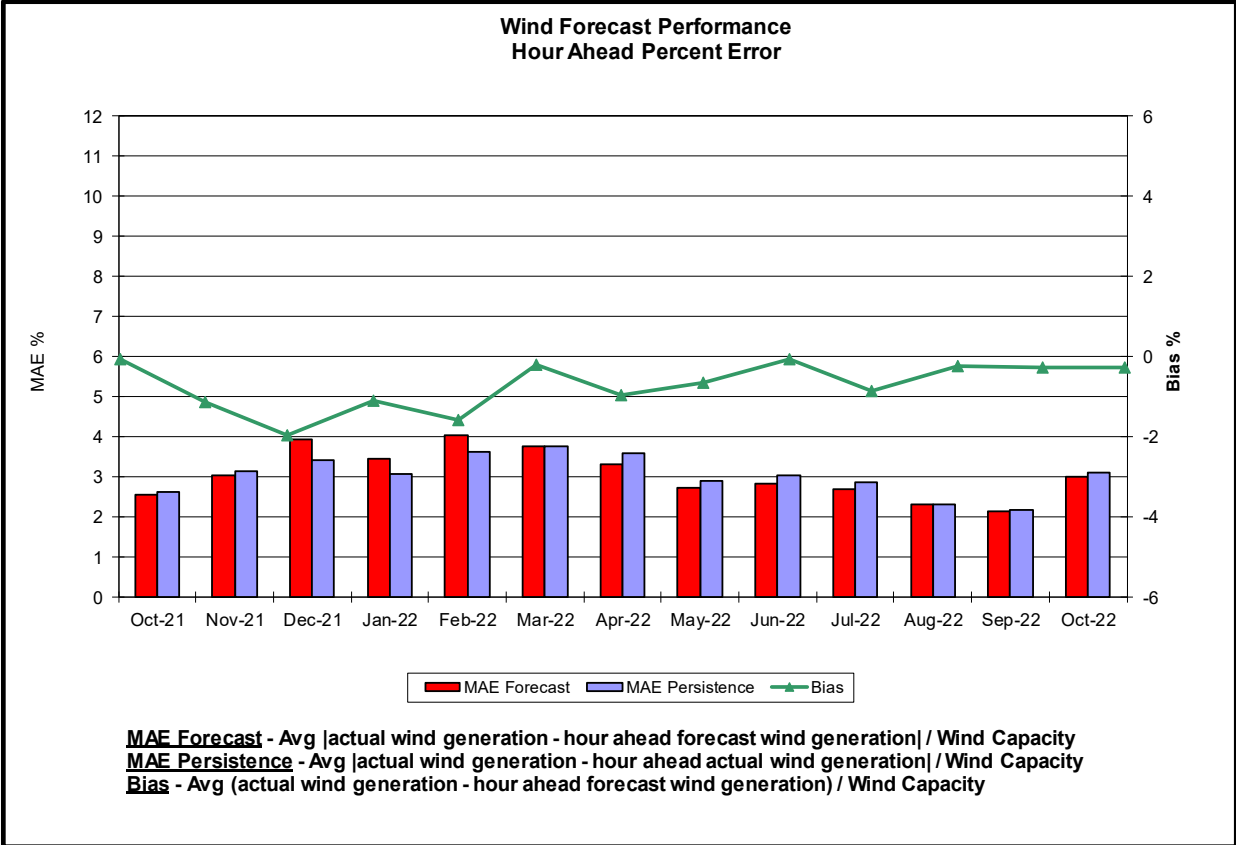
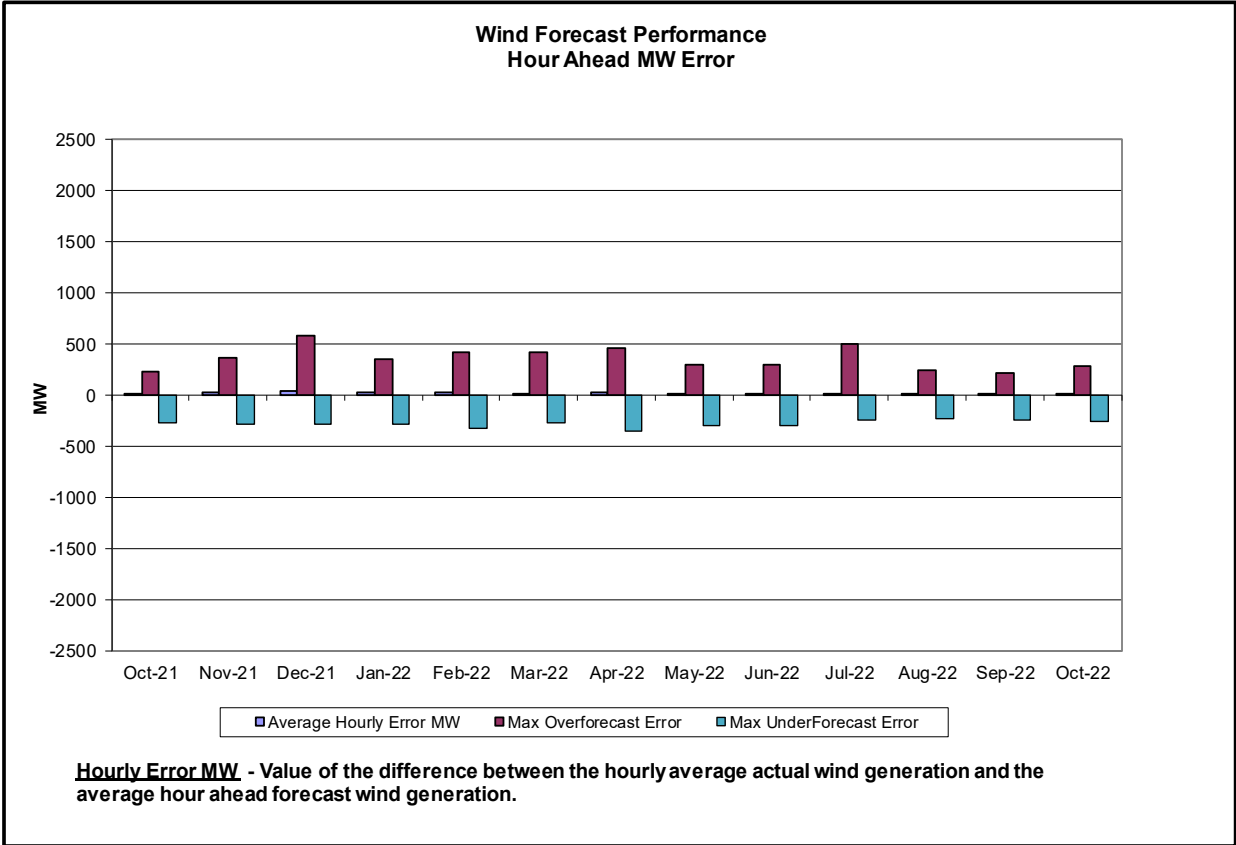
Reliability Performance Metrics

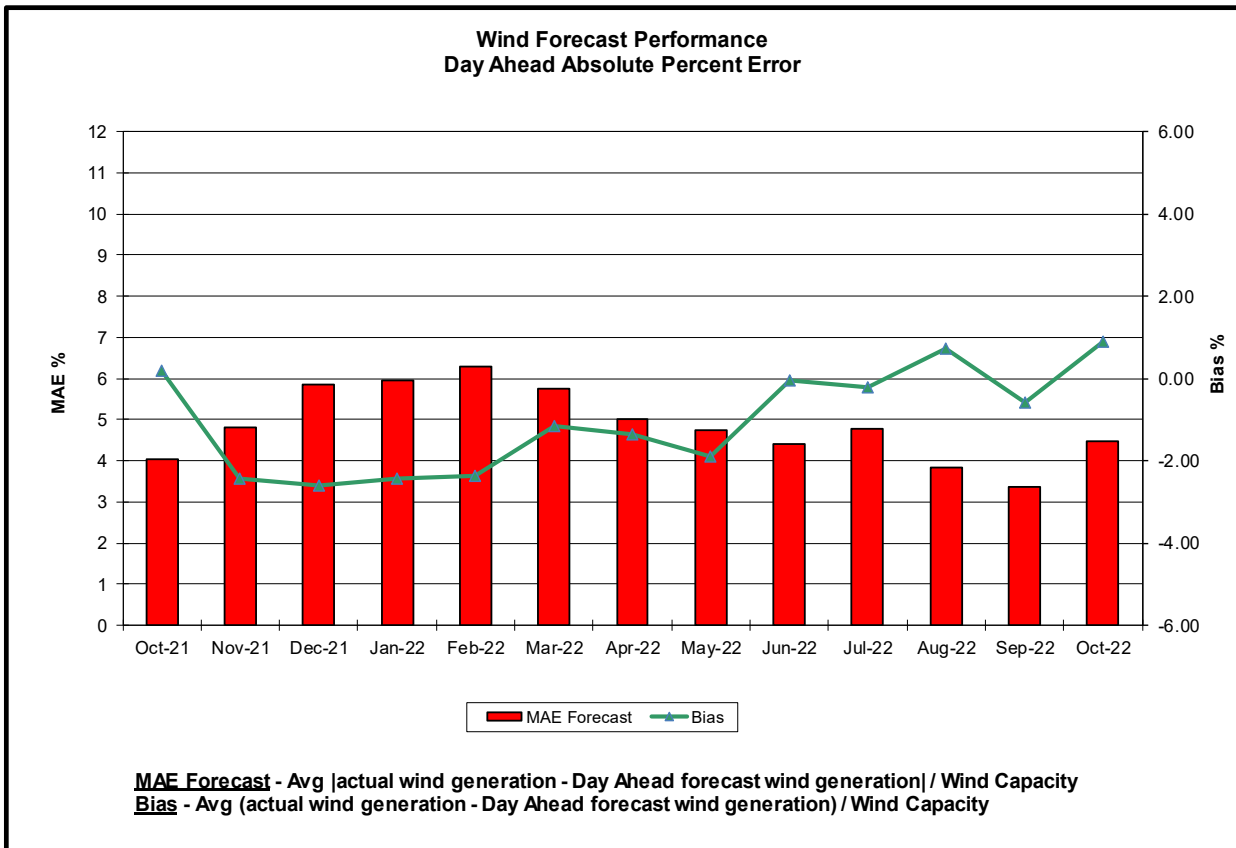
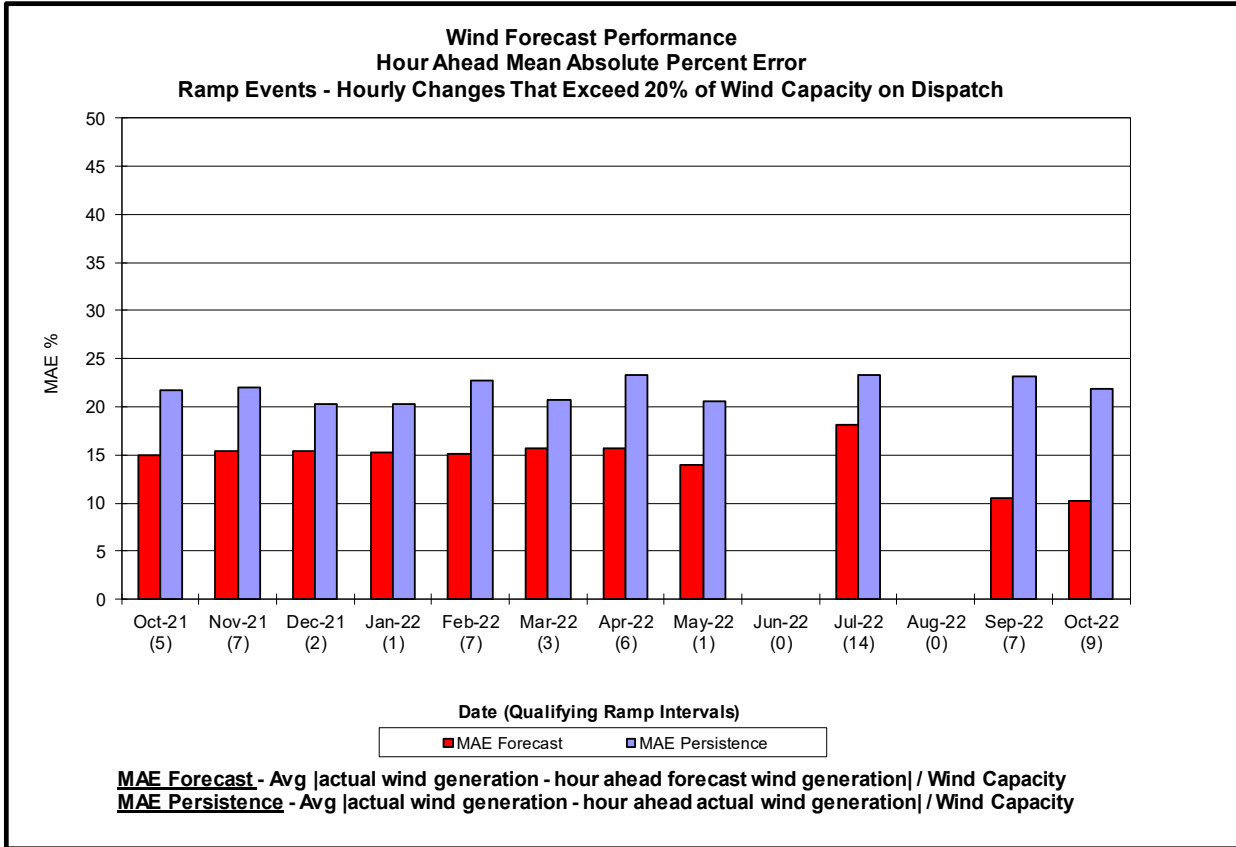


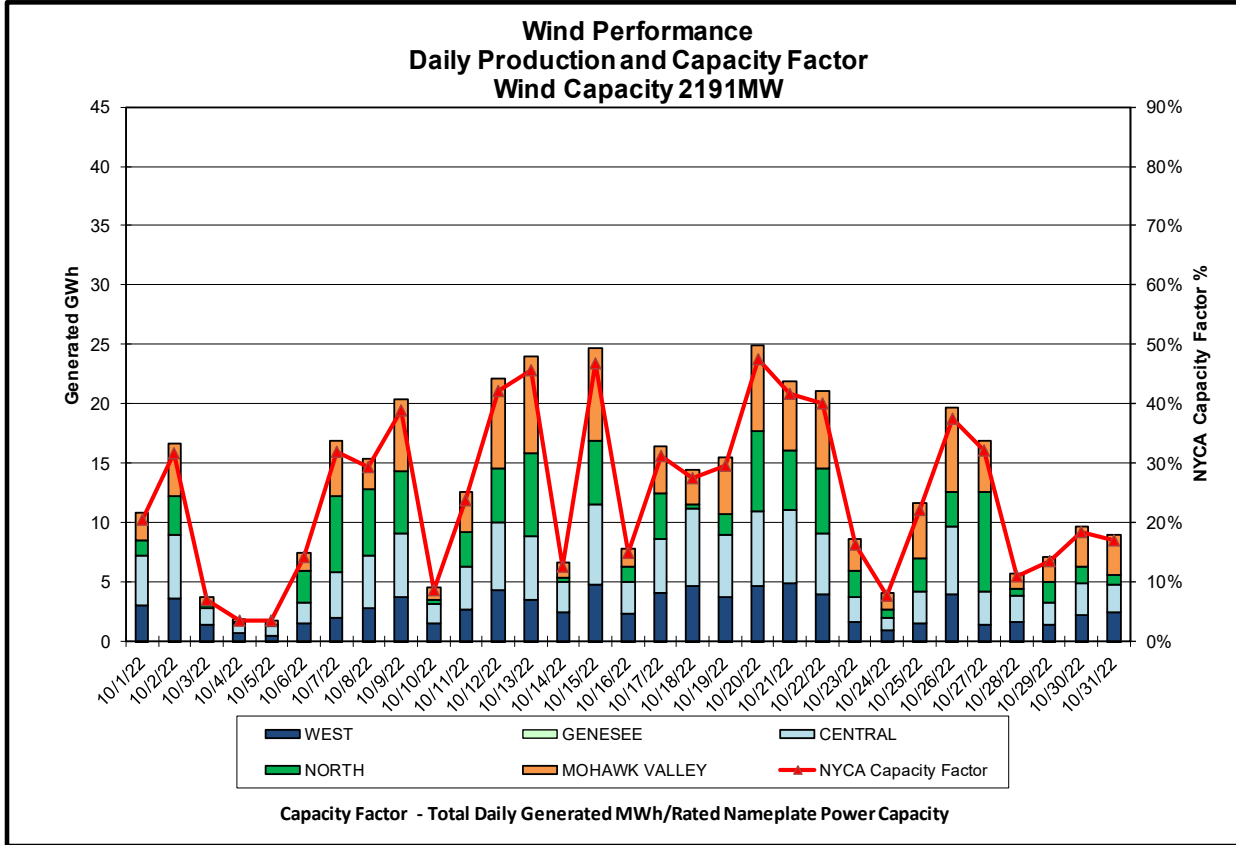
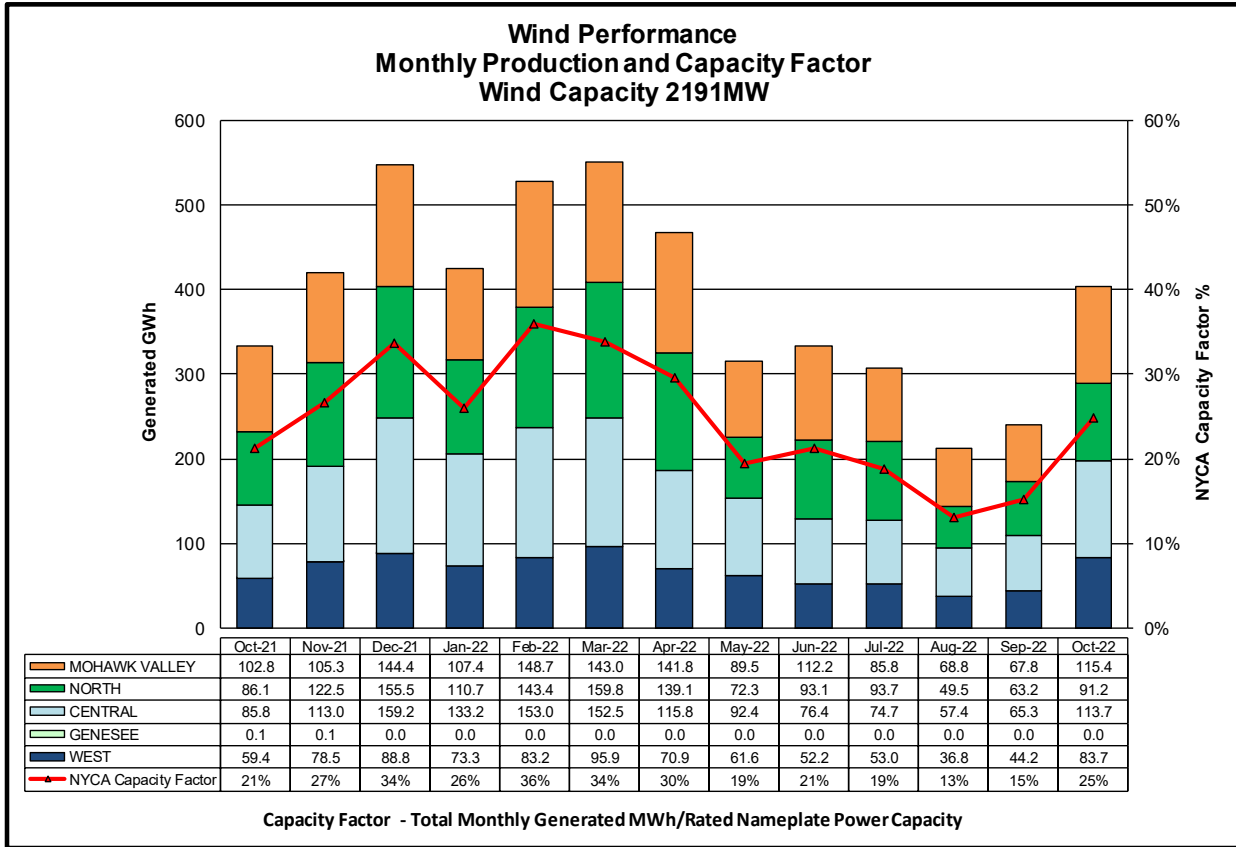


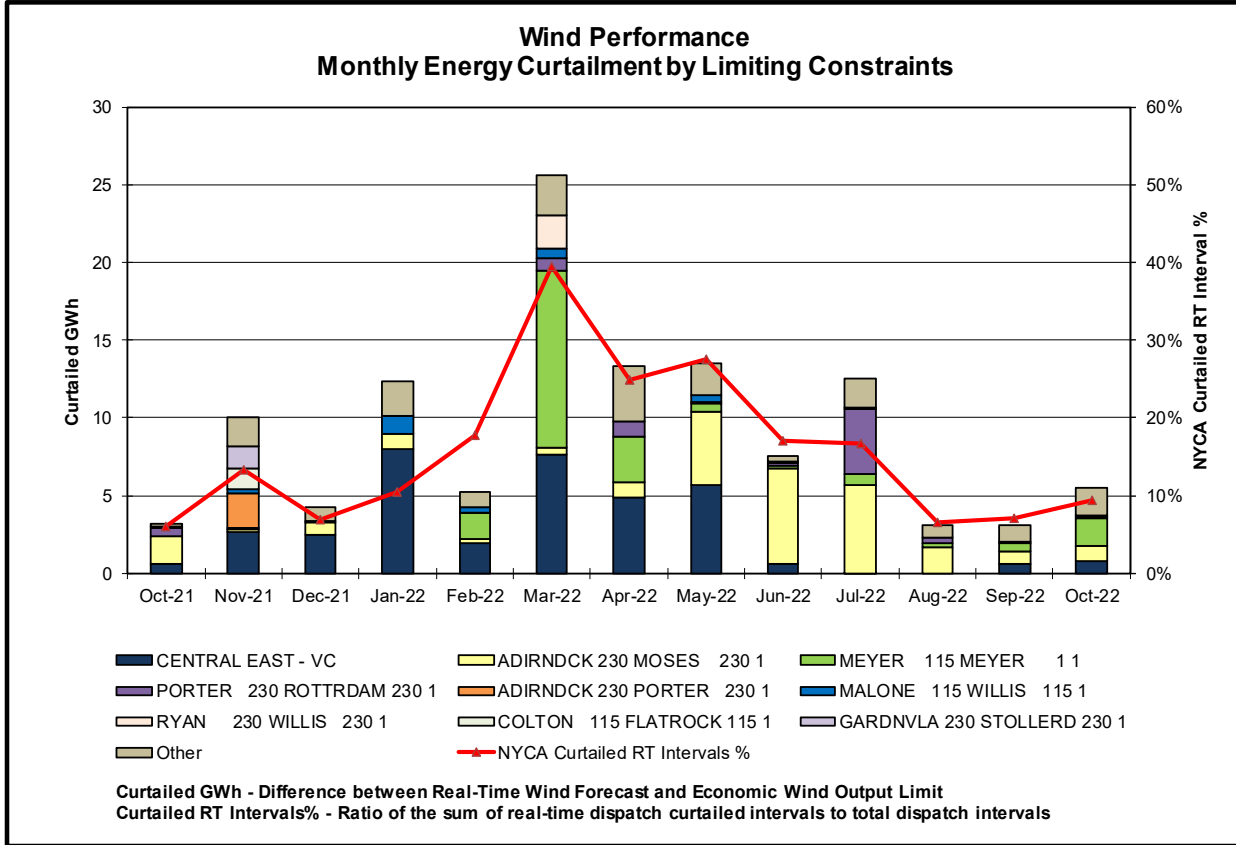
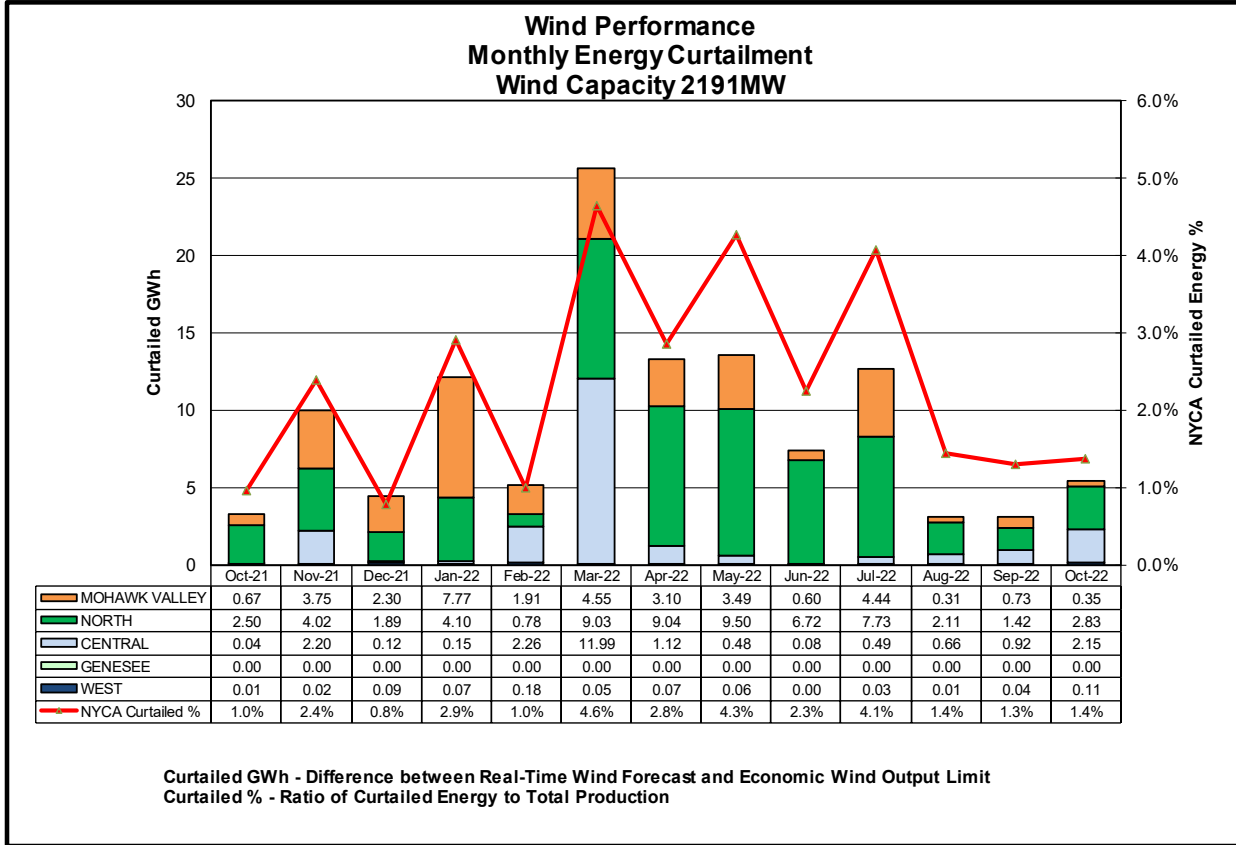


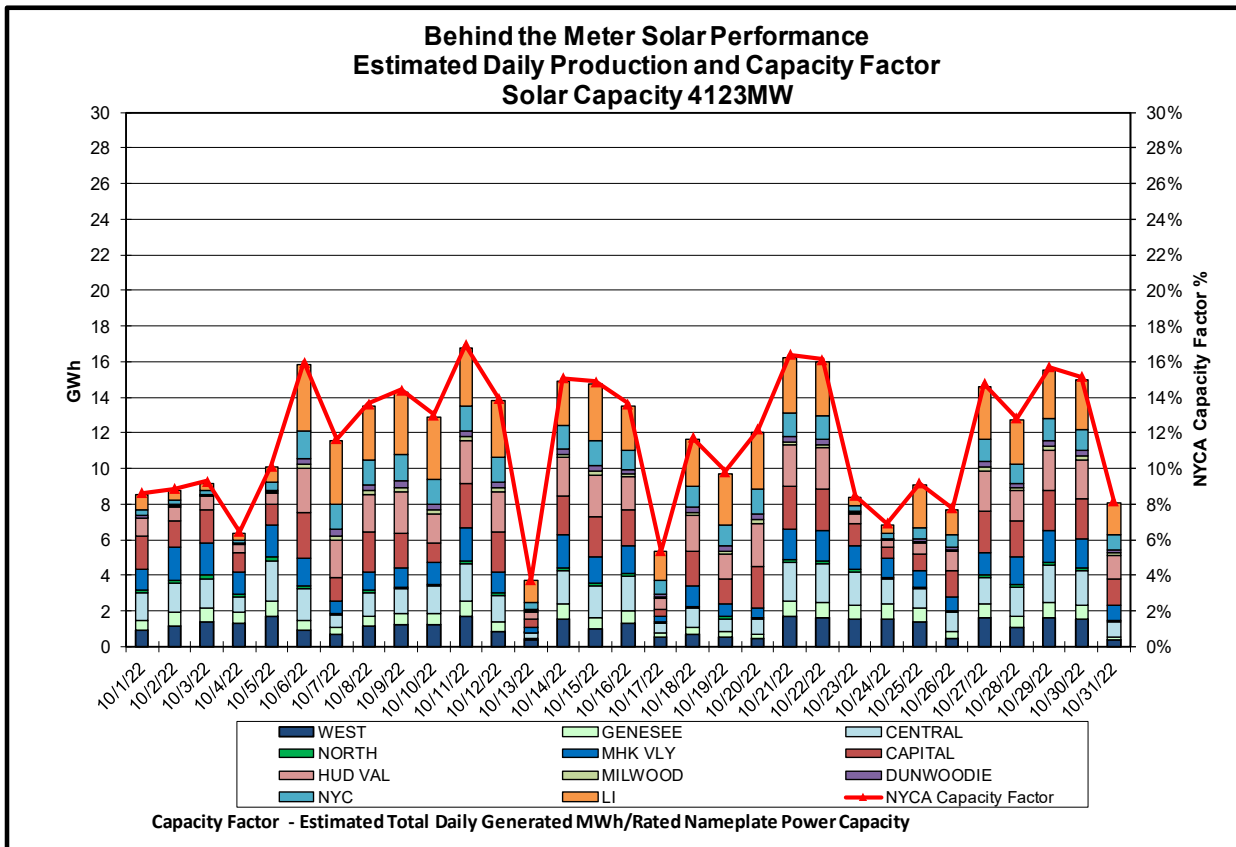
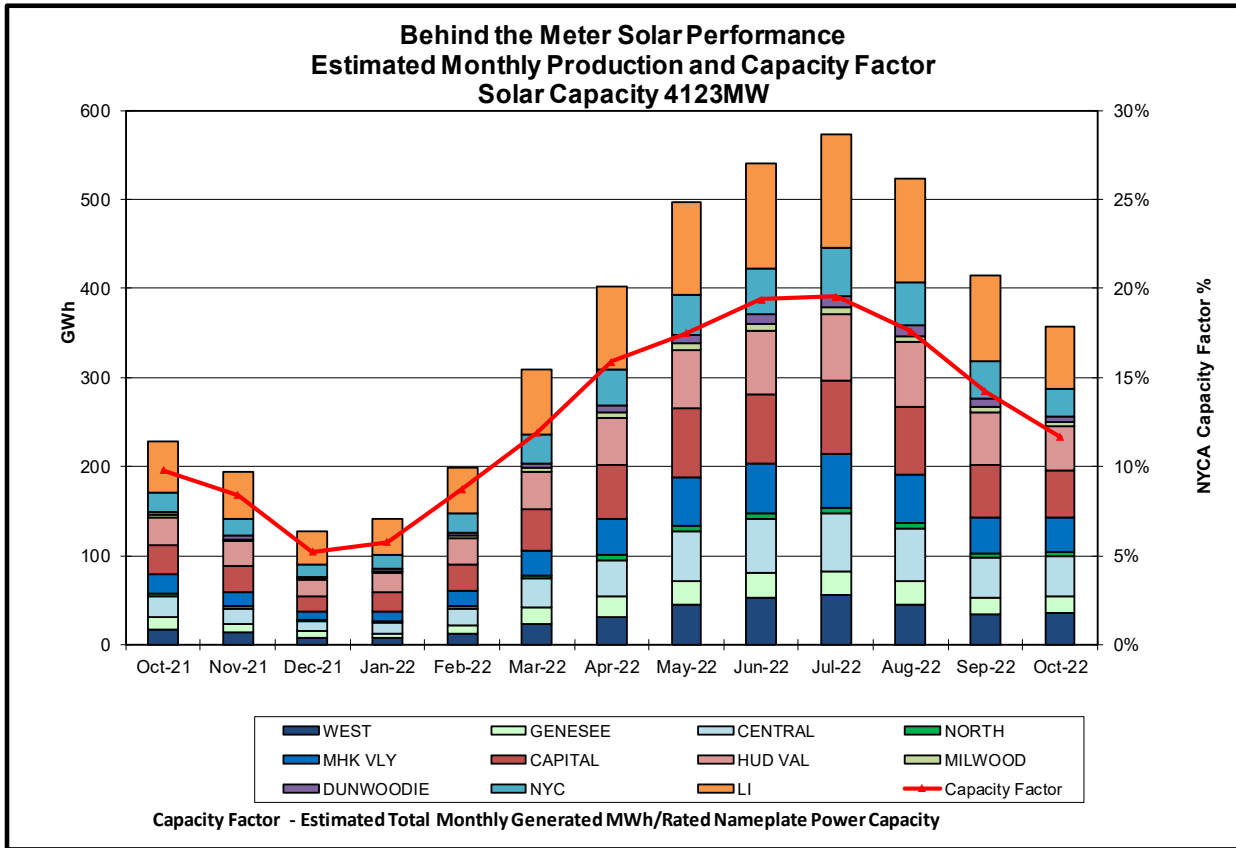


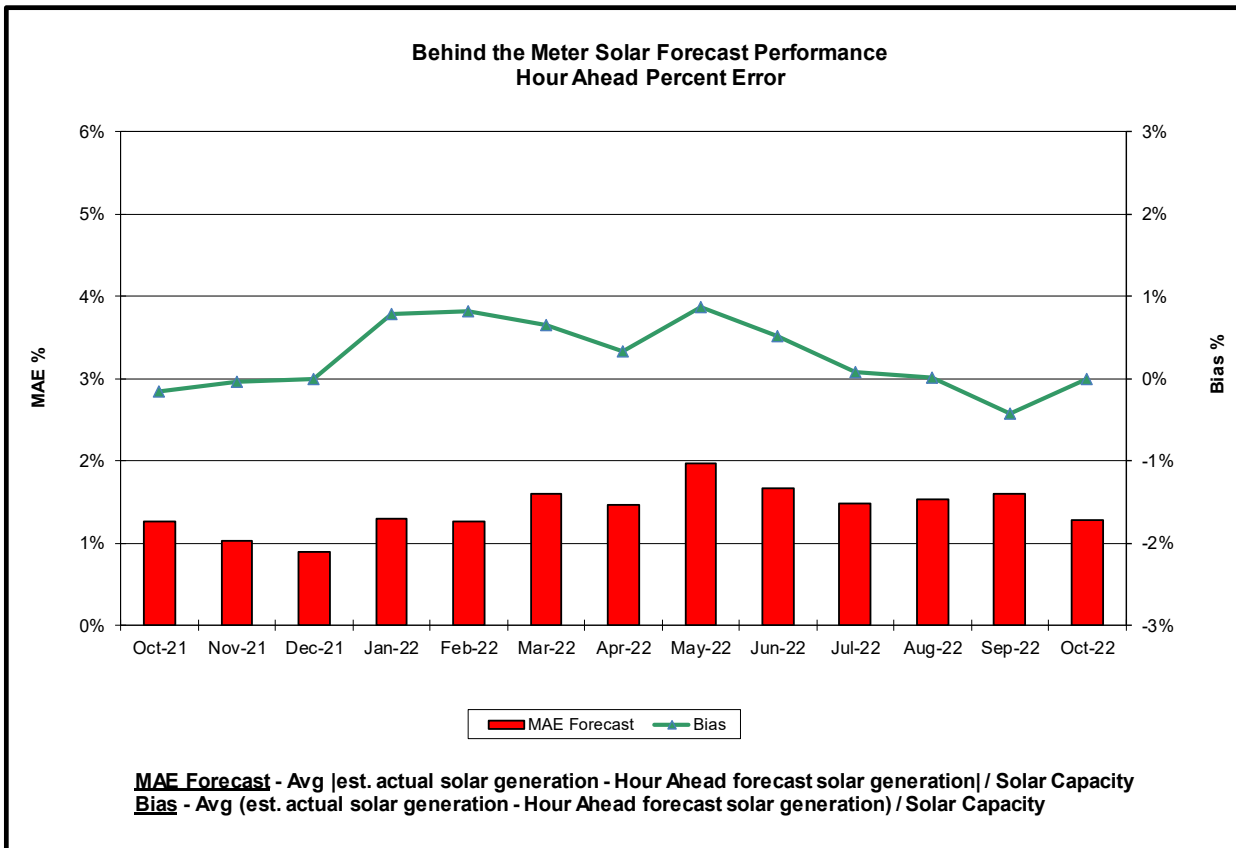
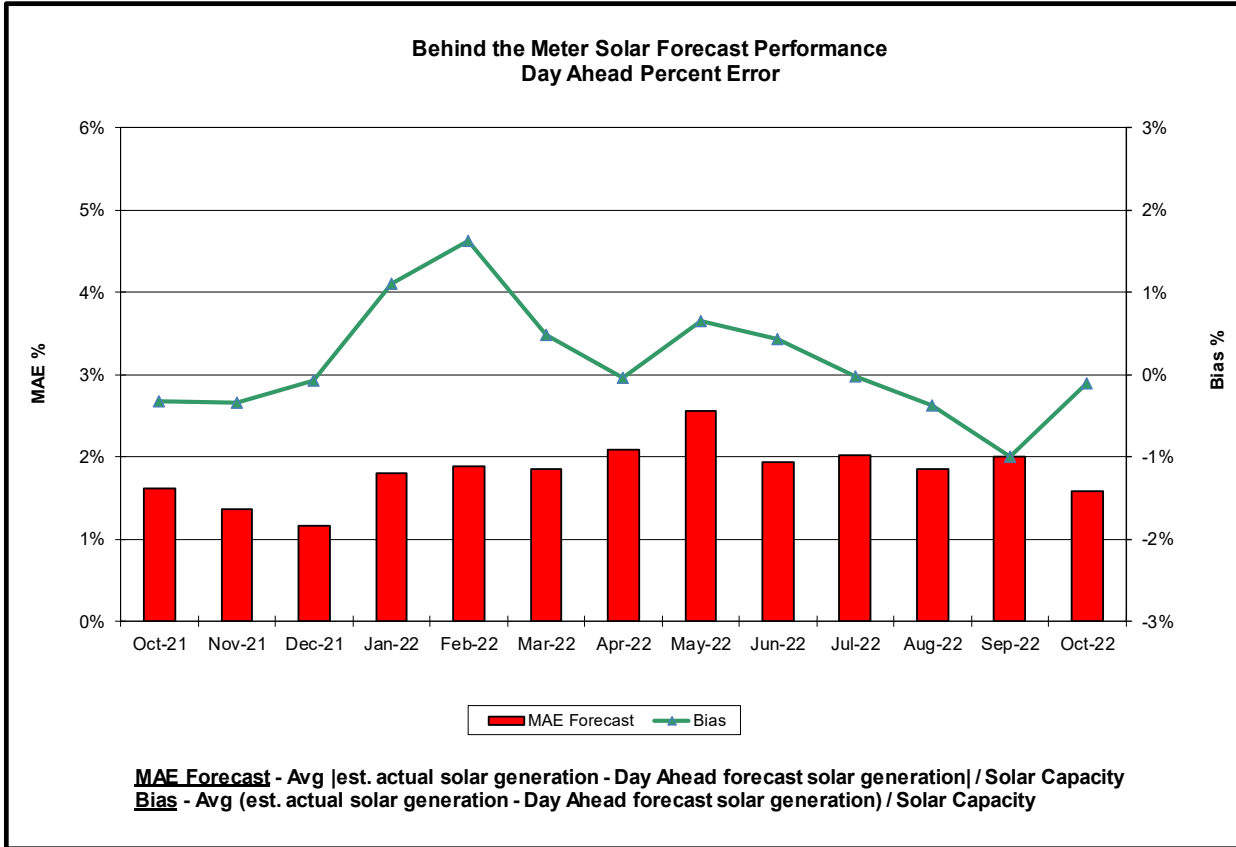


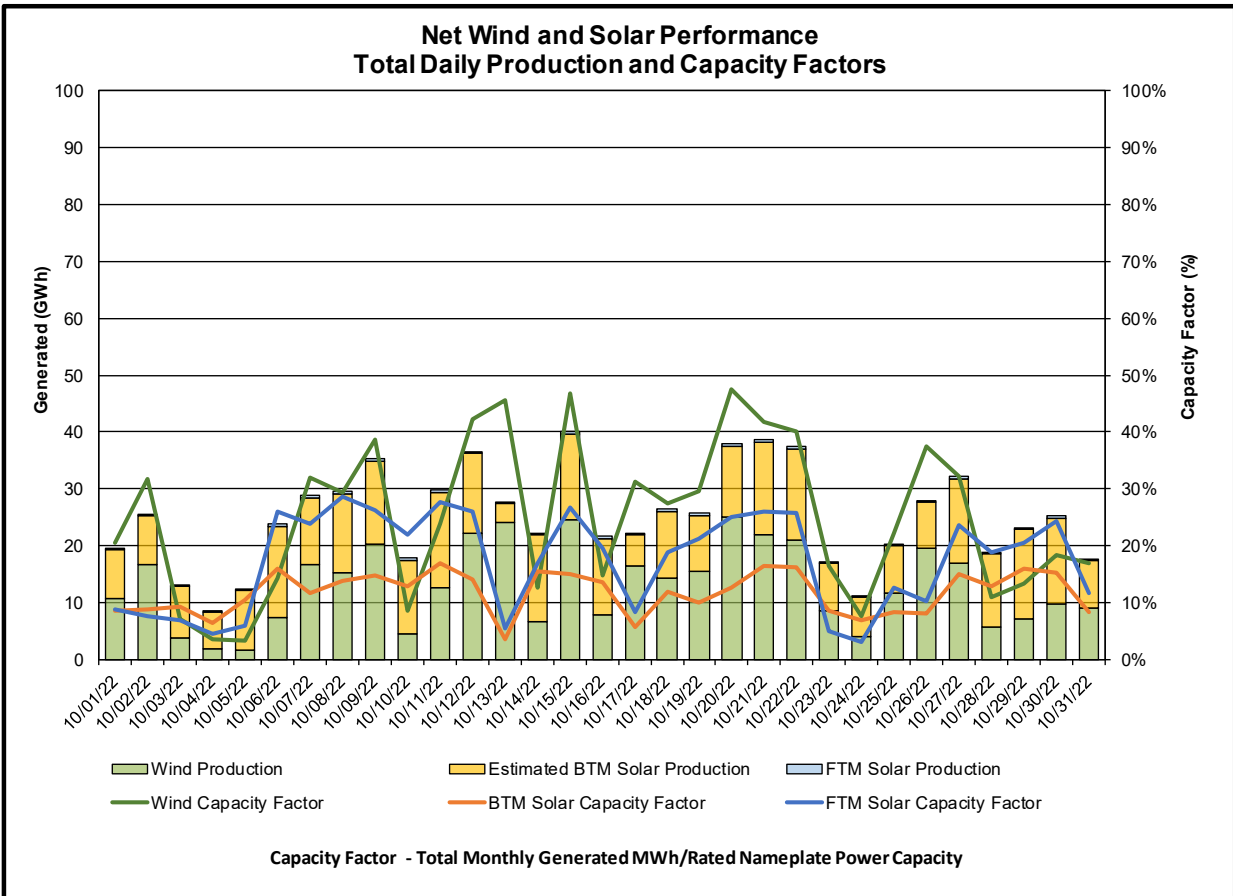
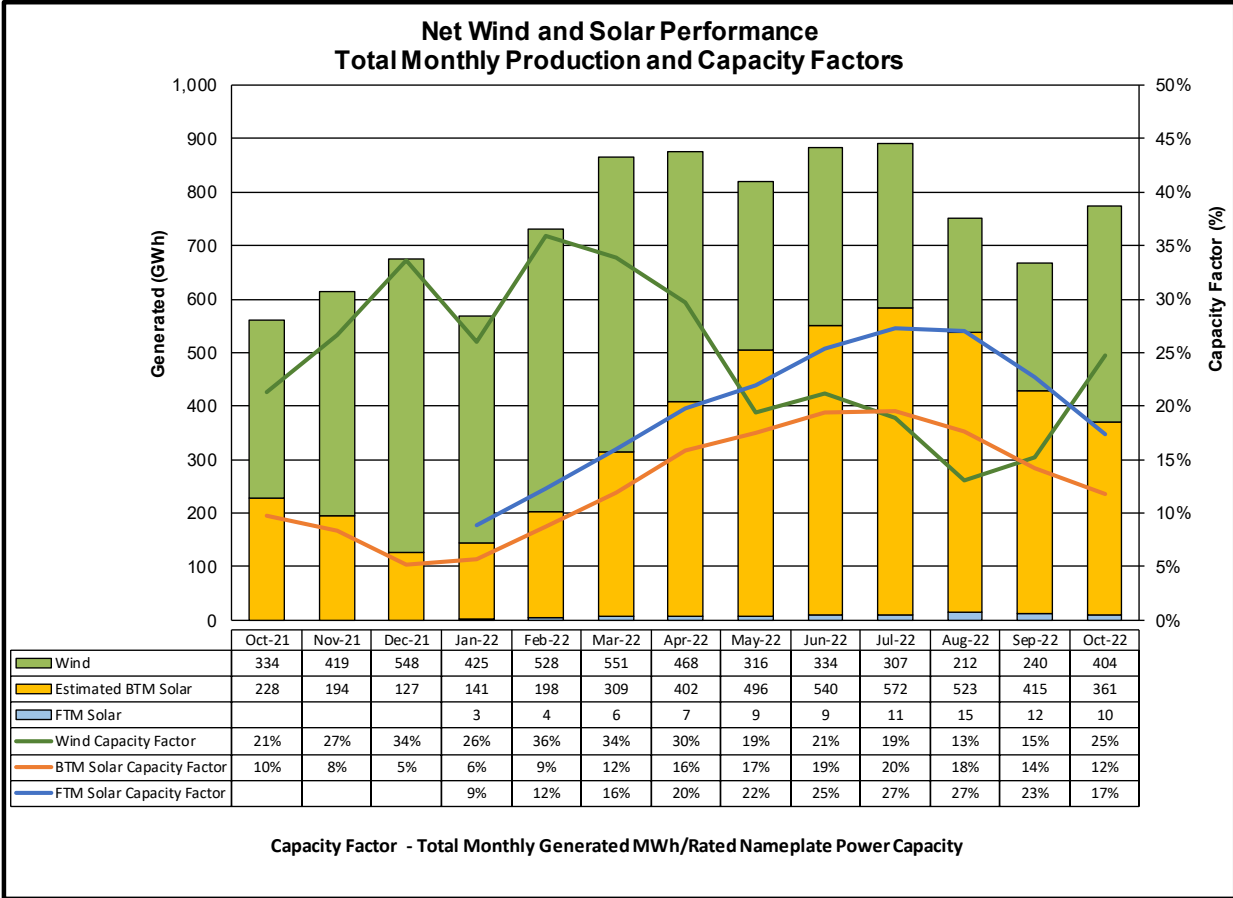


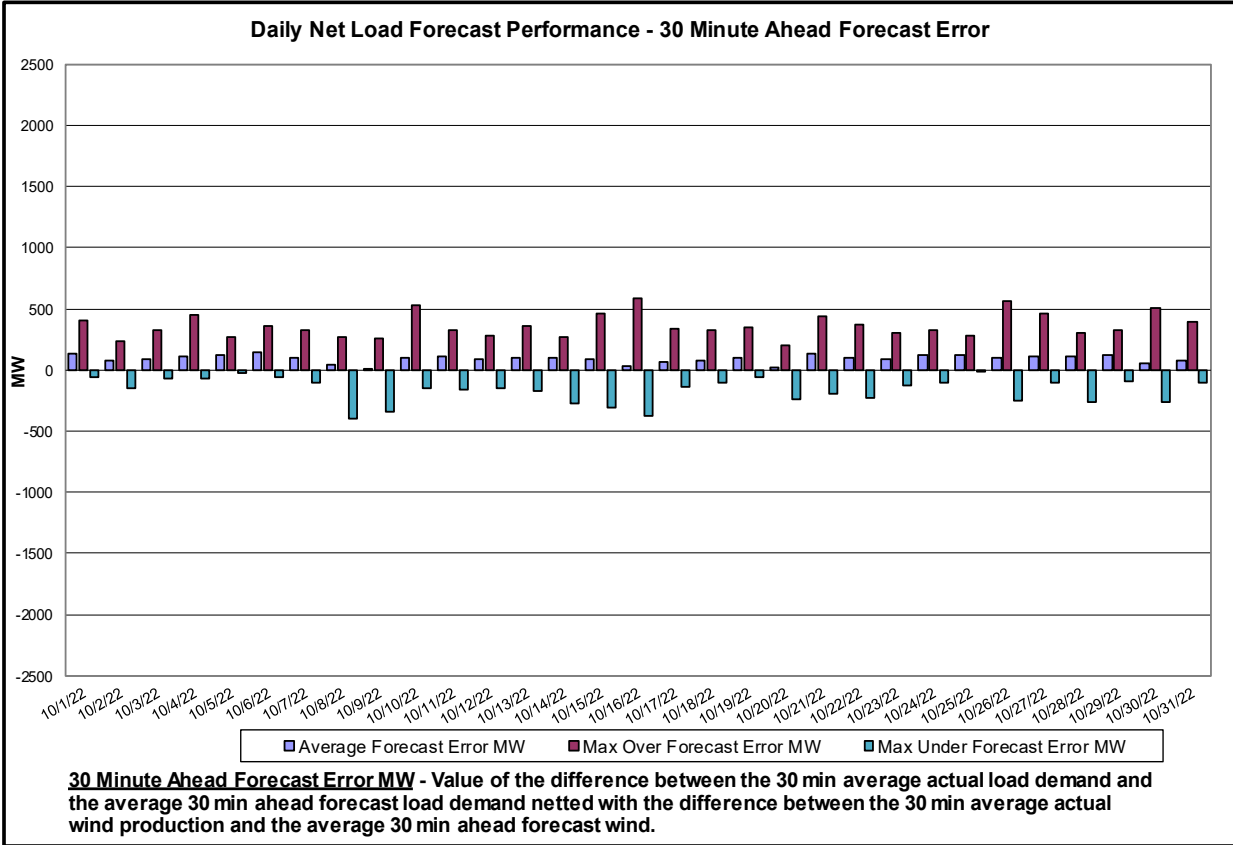
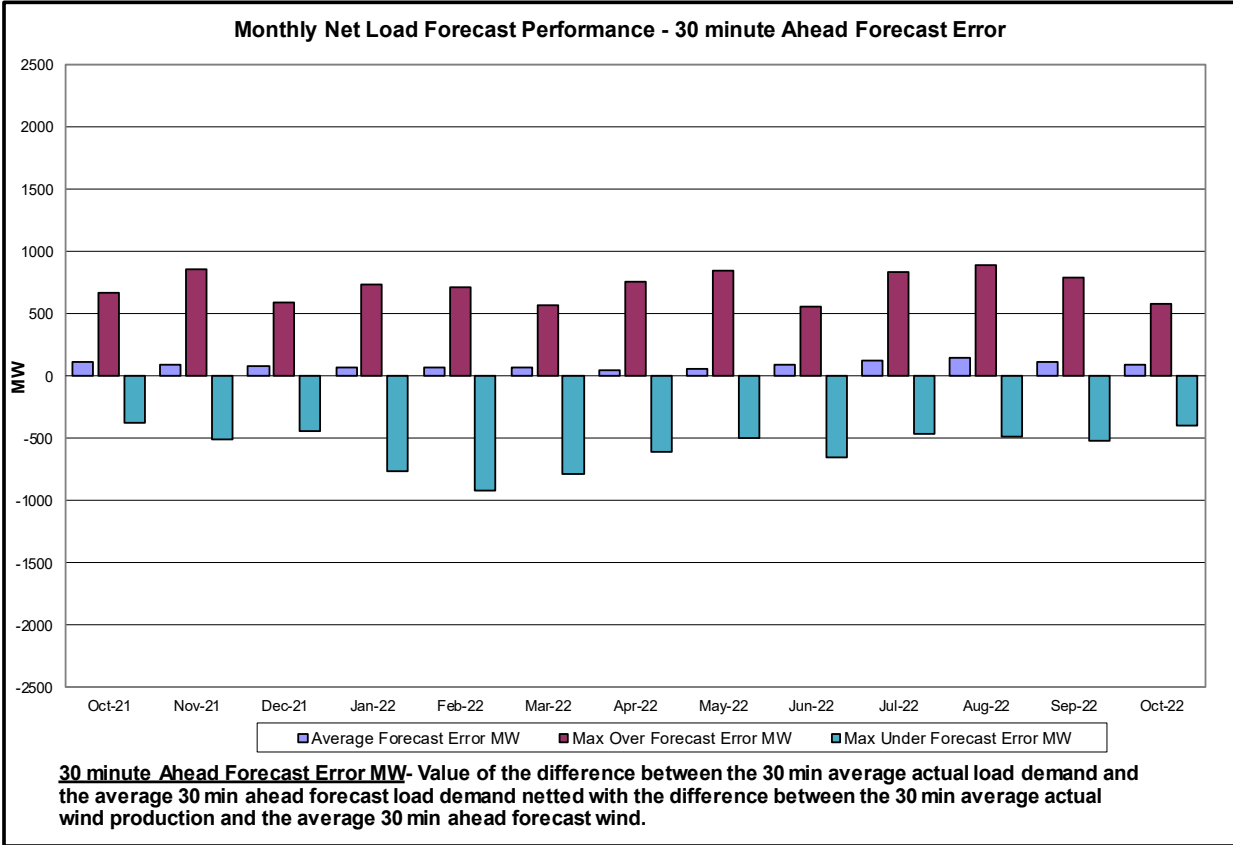


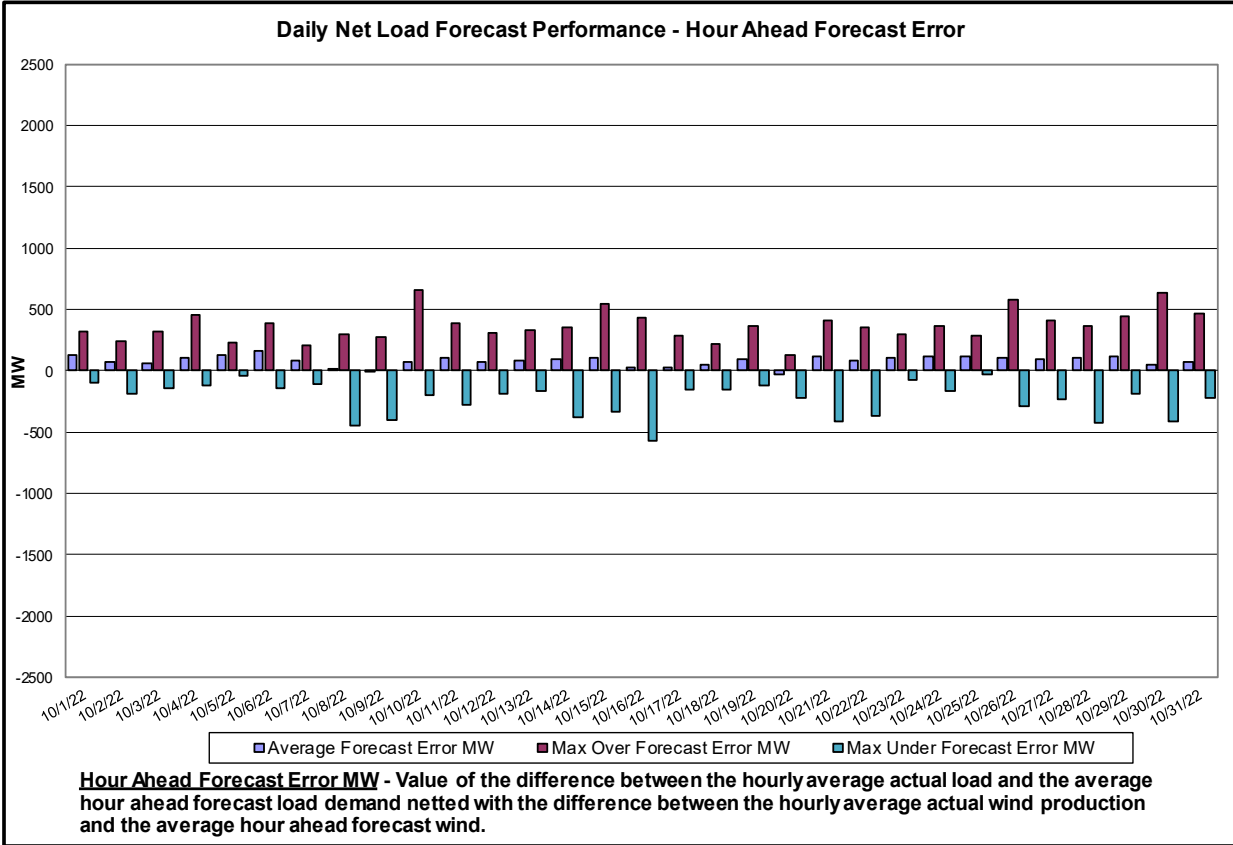
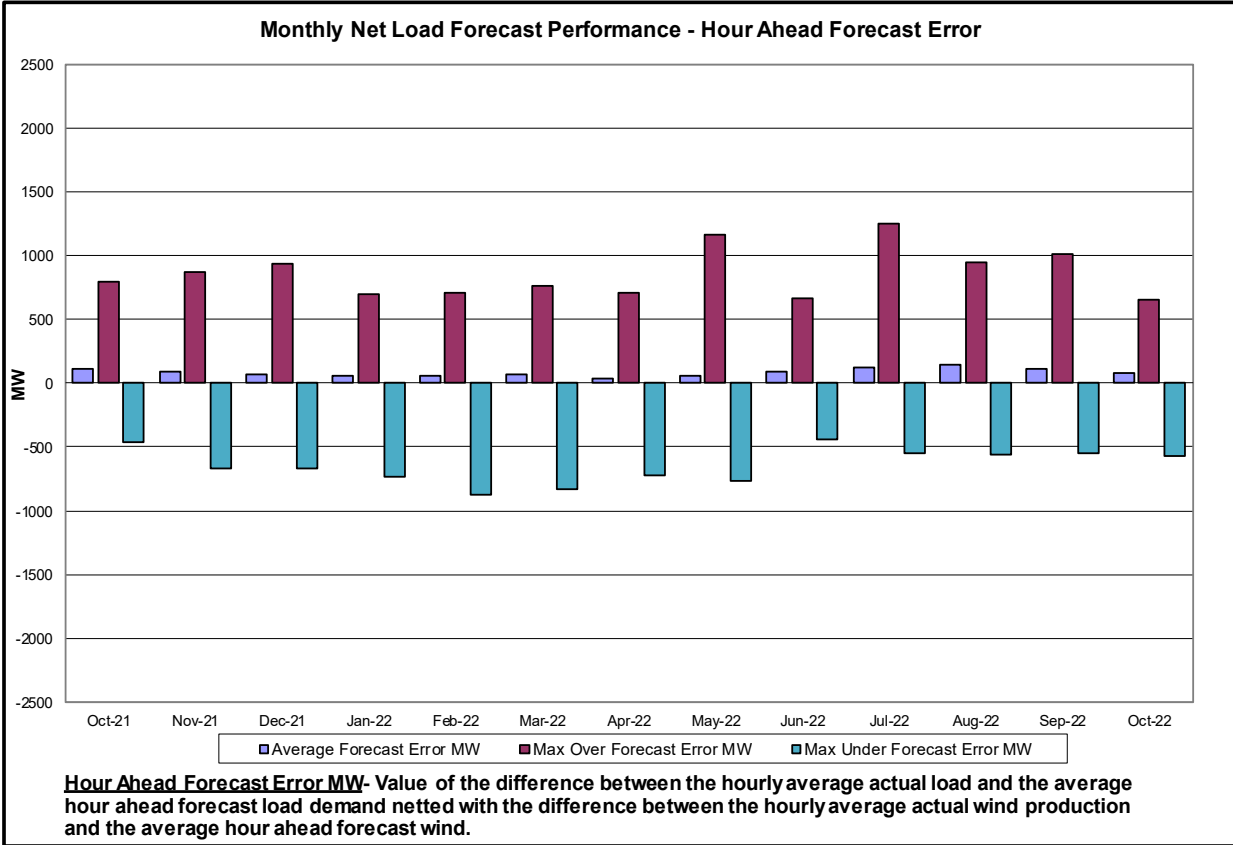


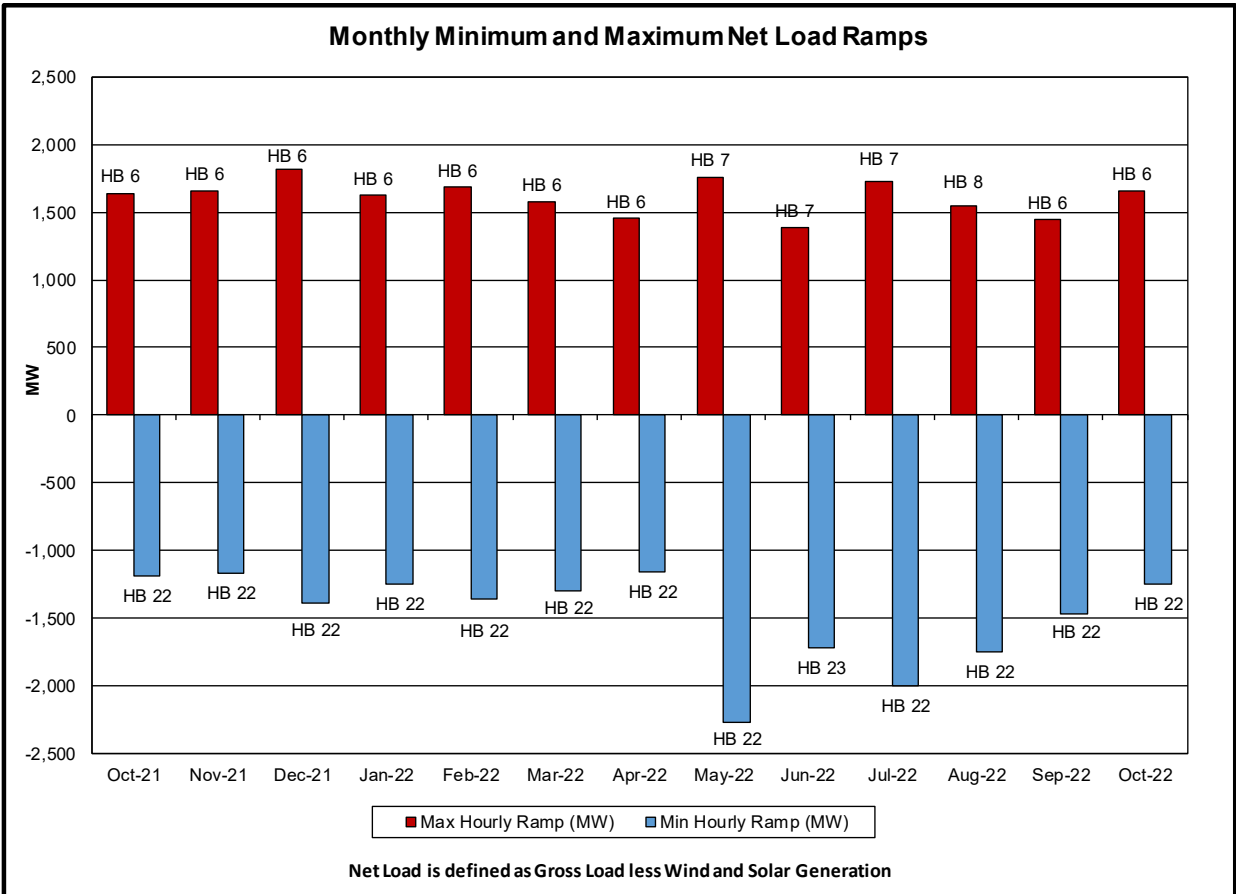
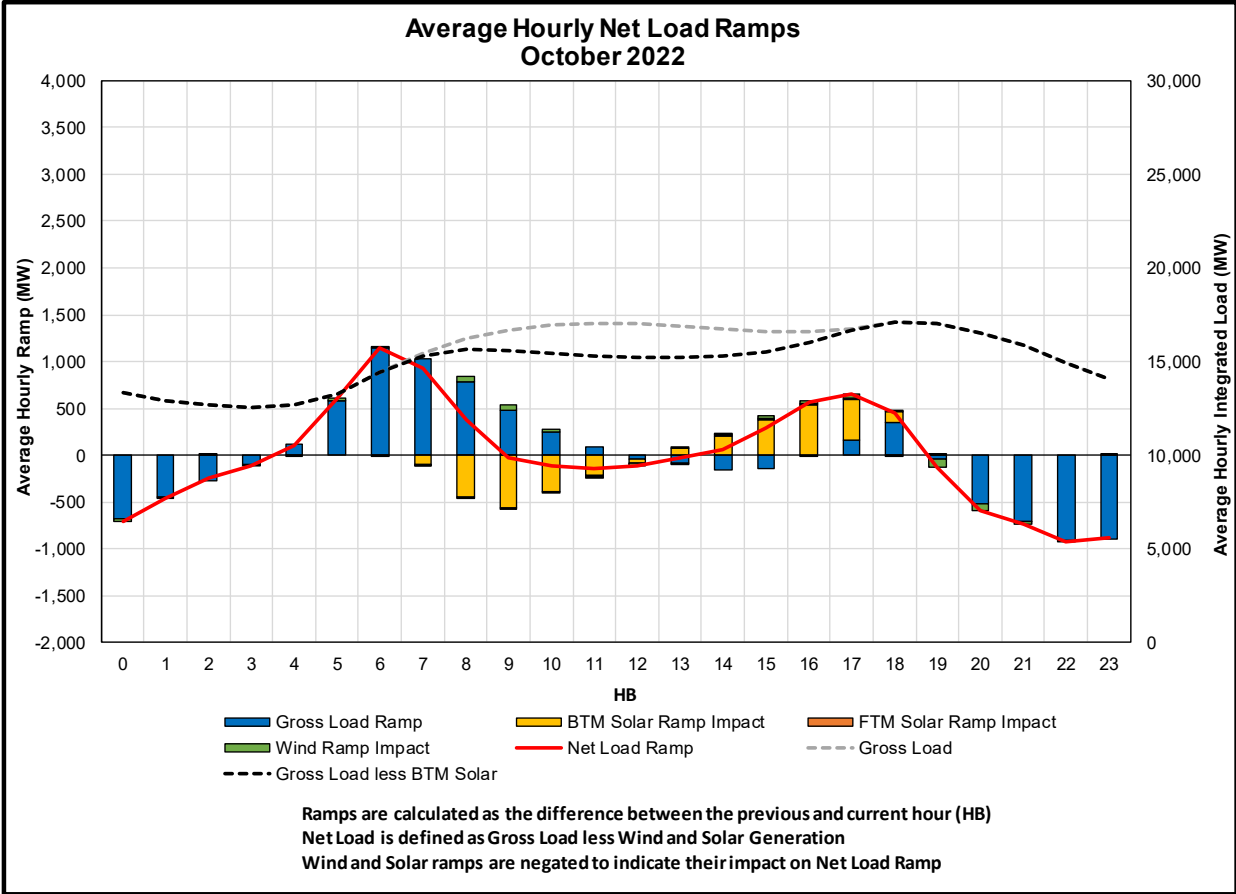


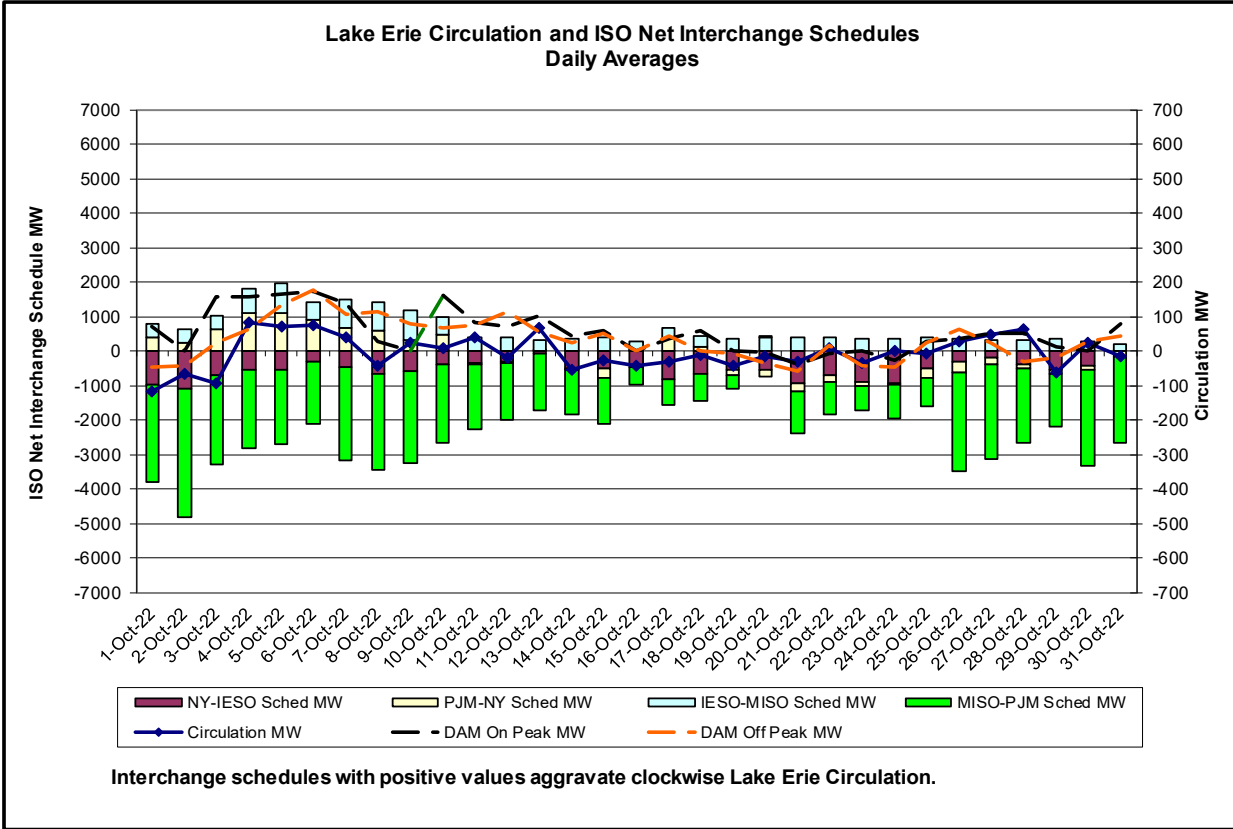
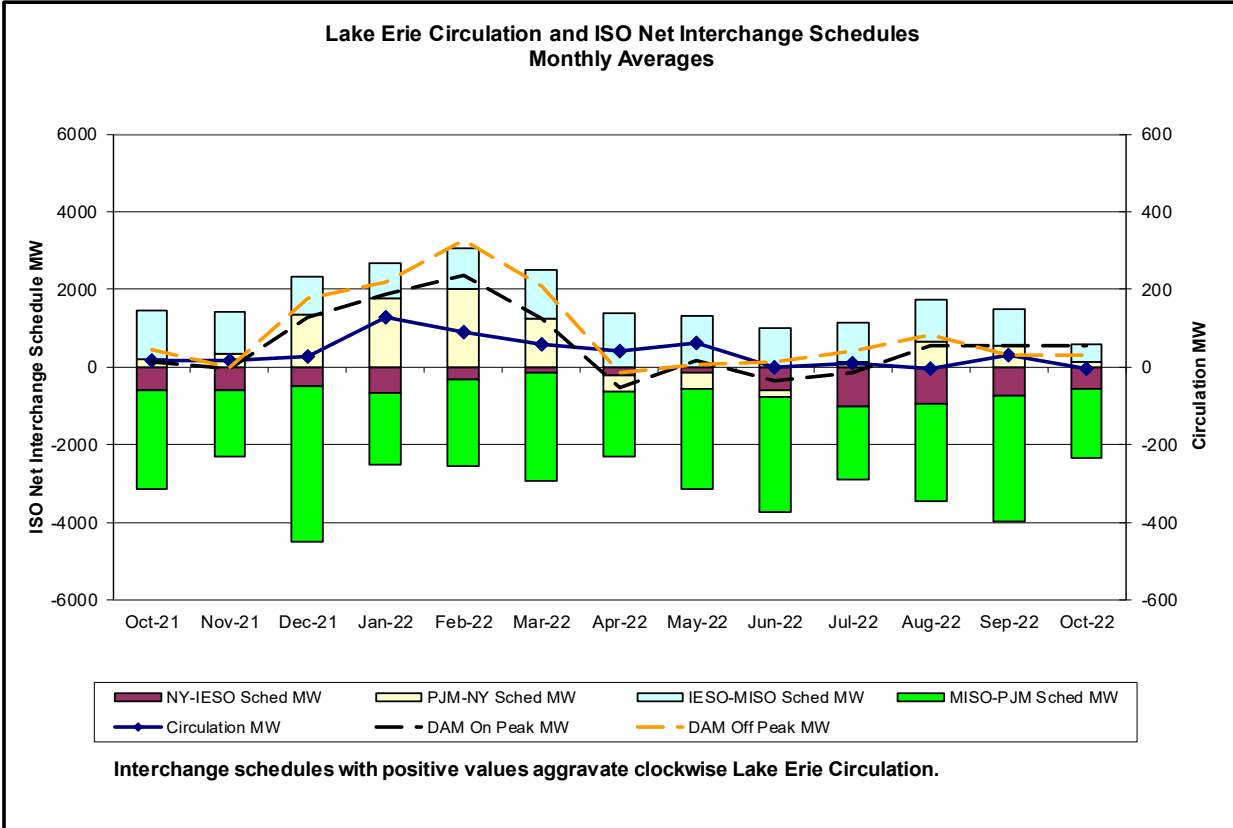




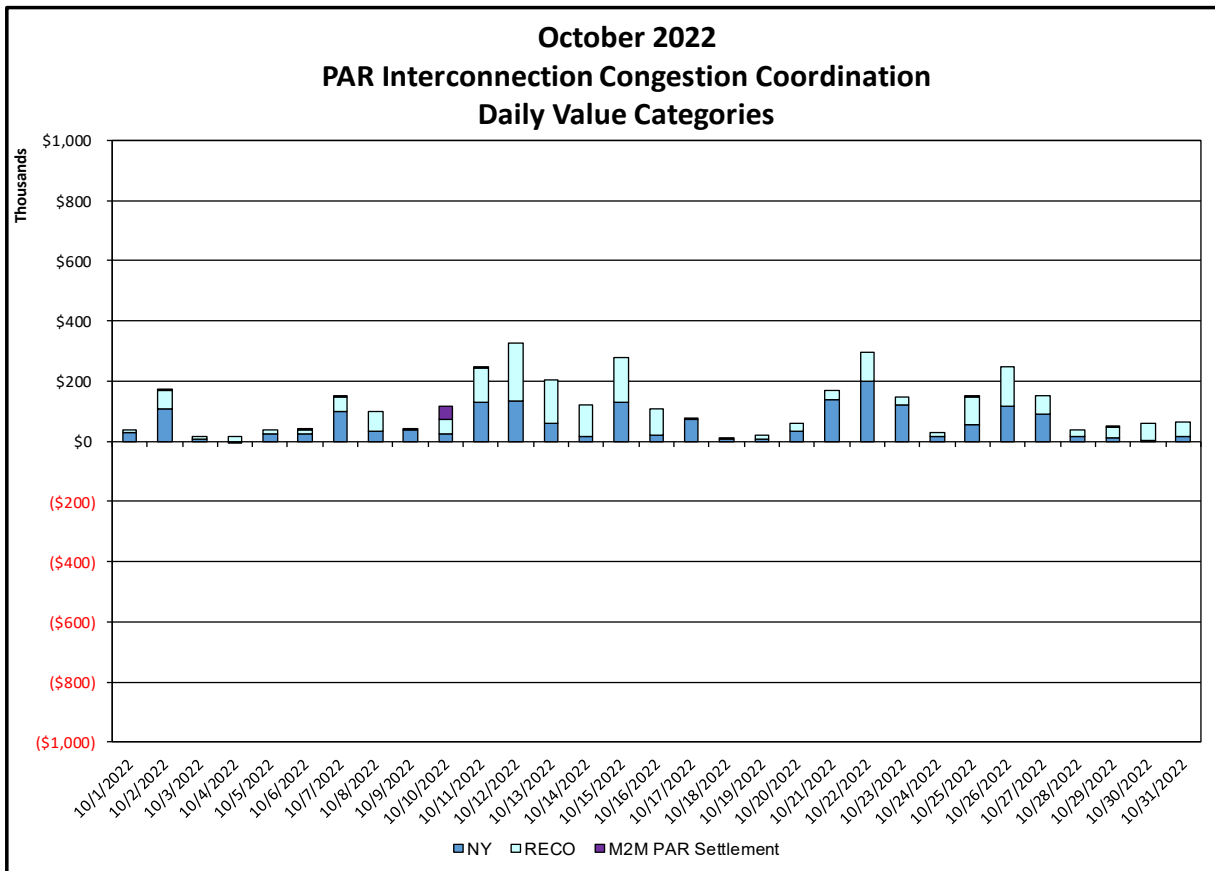
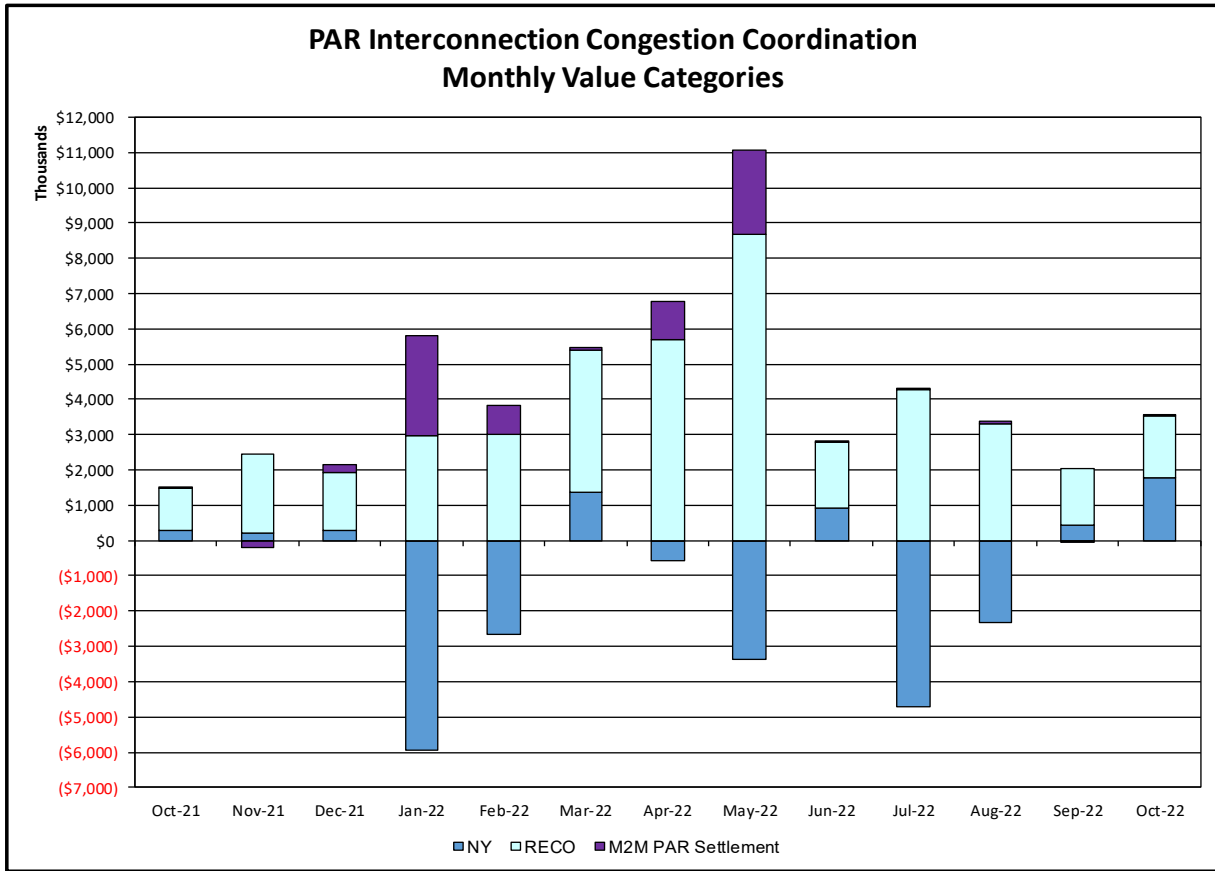






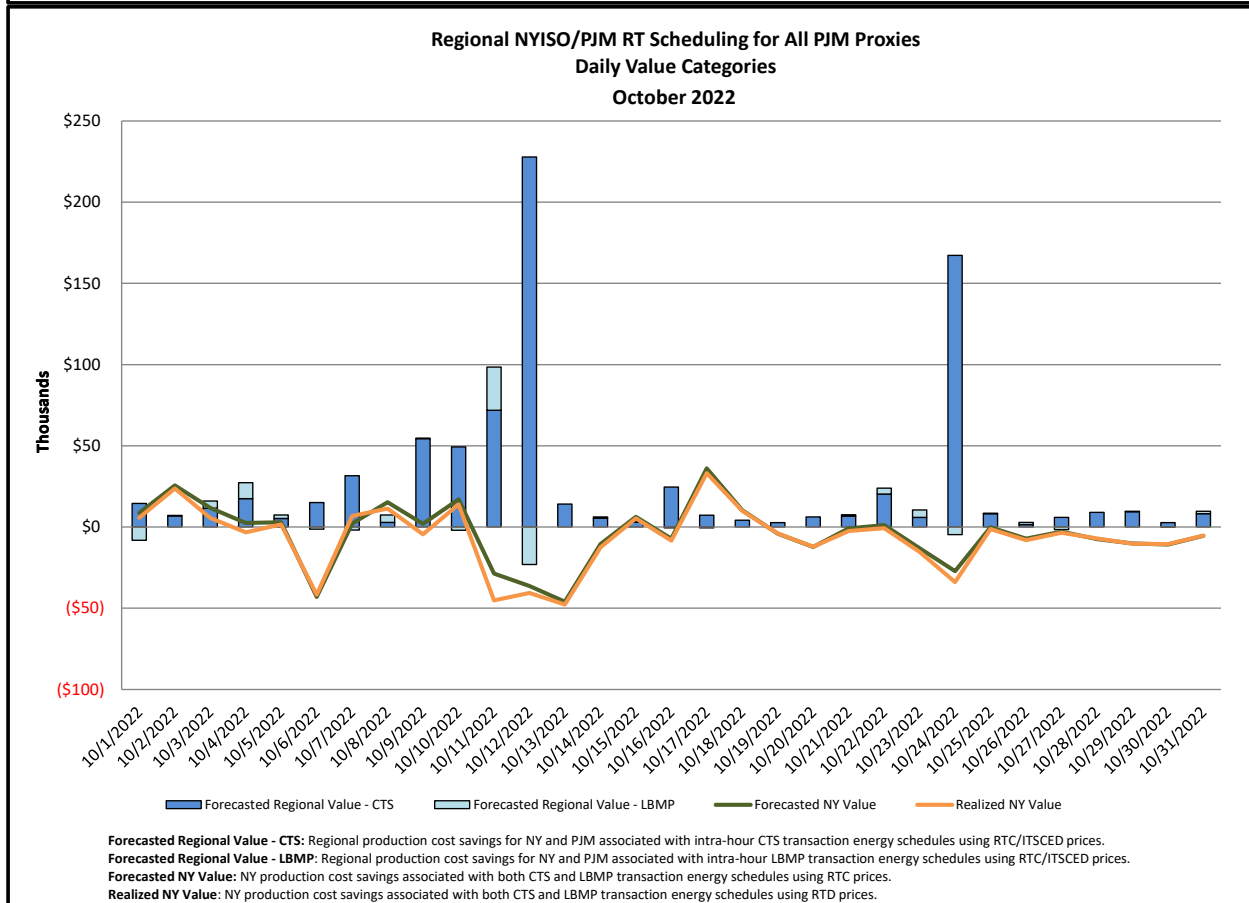
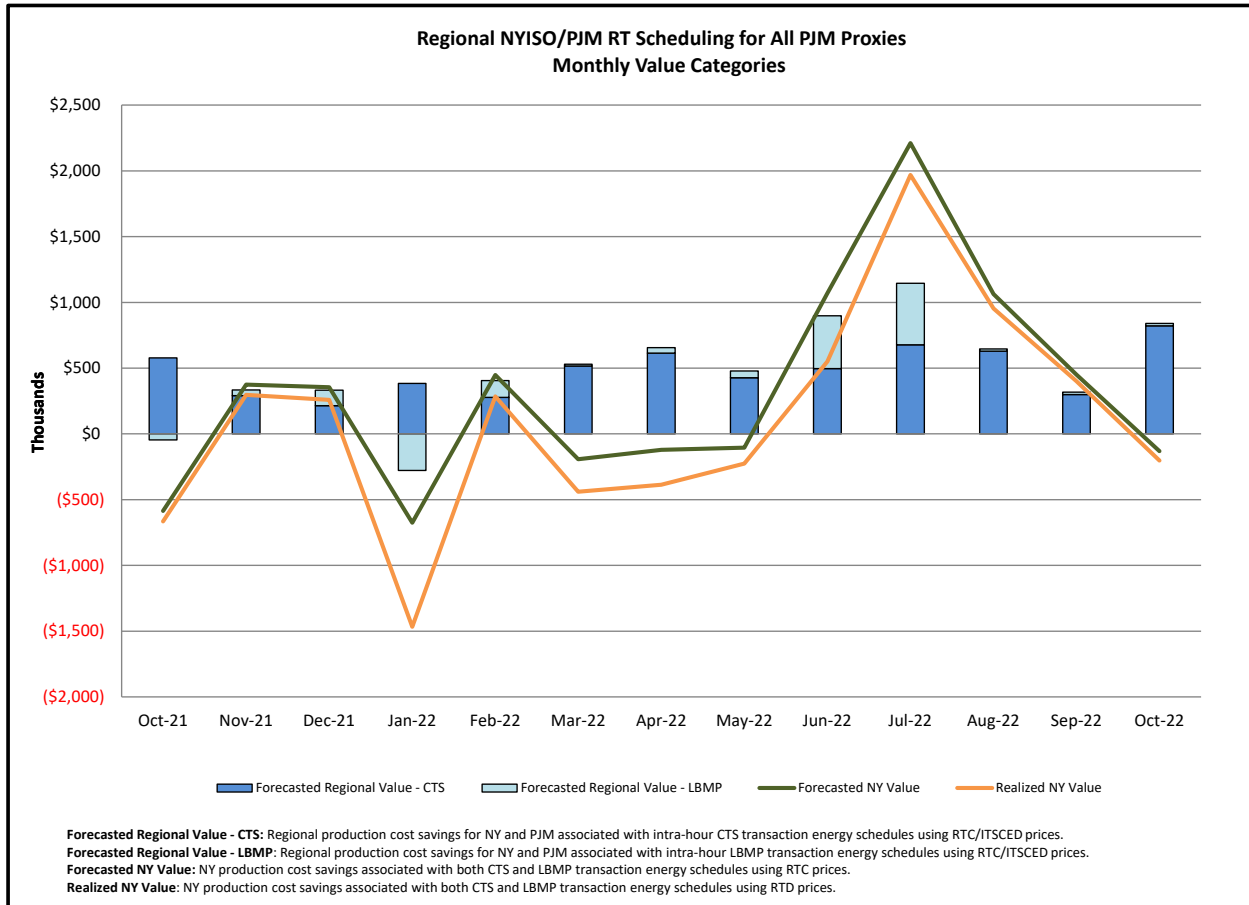


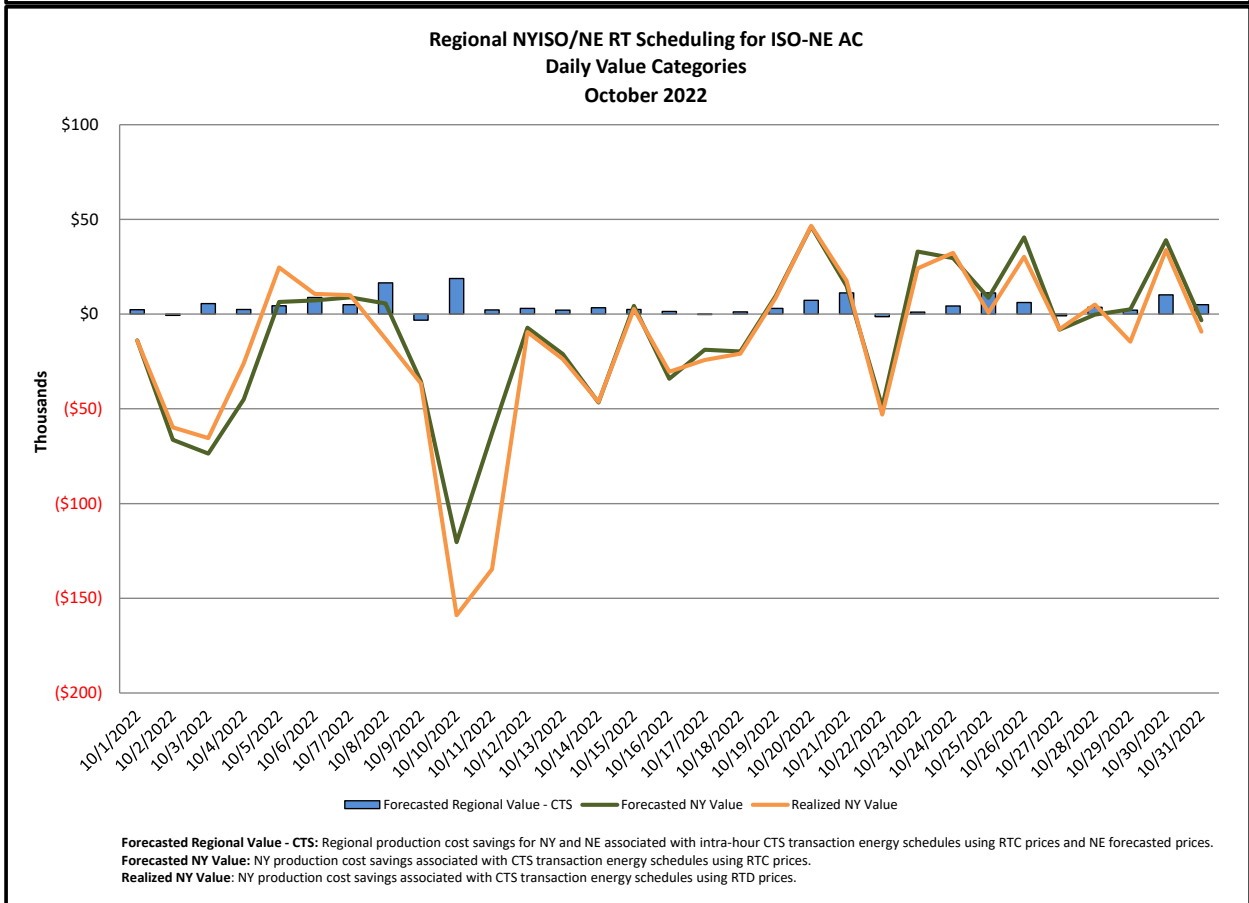
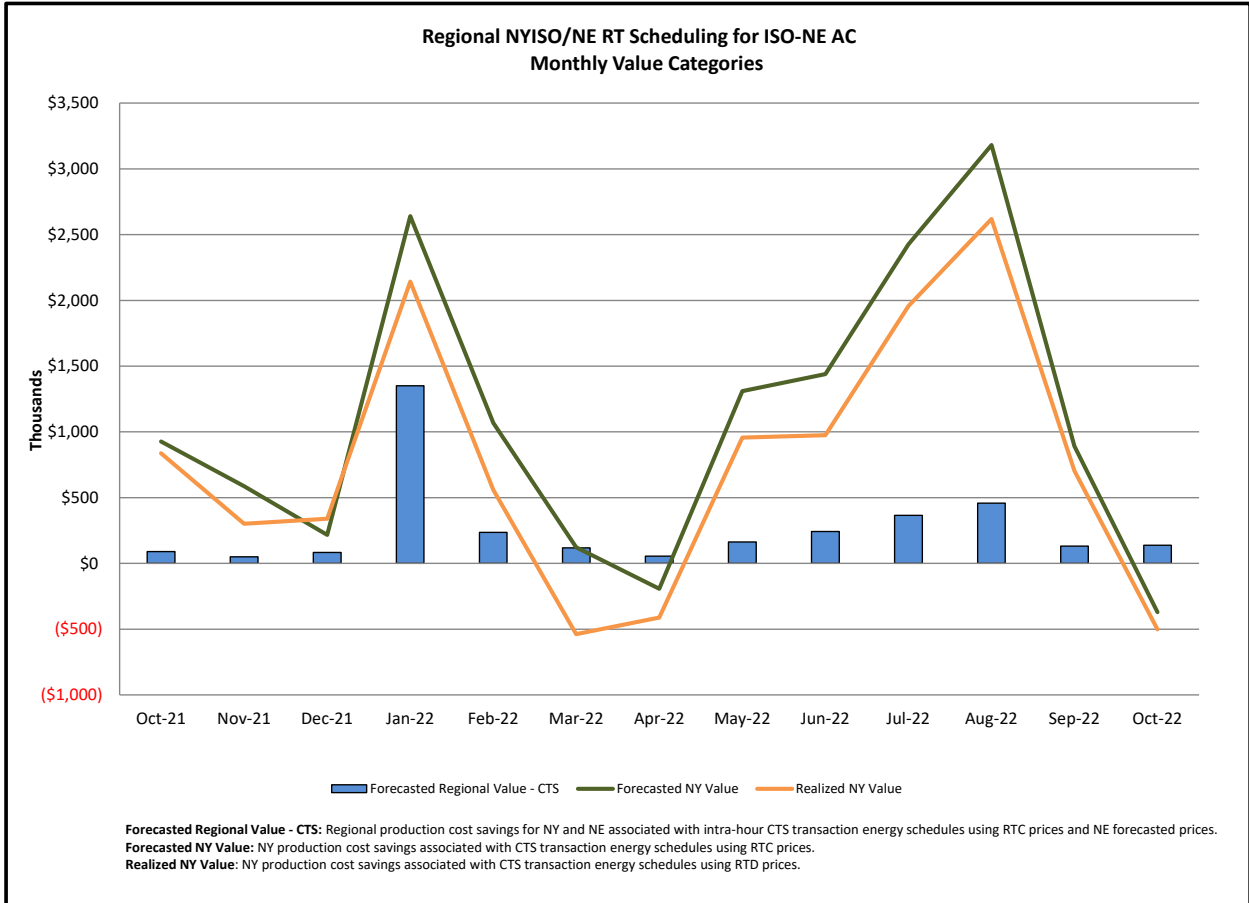
Broader Regional Market Performance Metrics



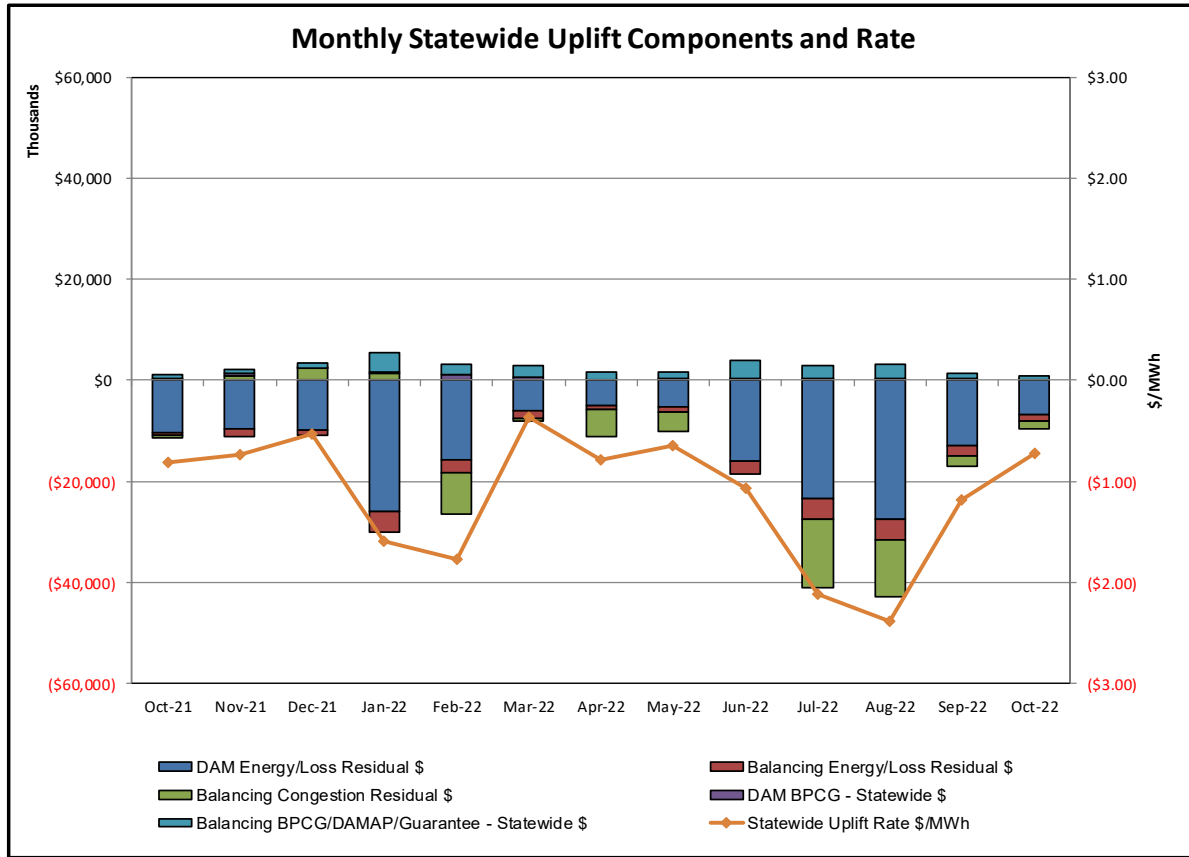
PAR Interconnection Congestion Coordination

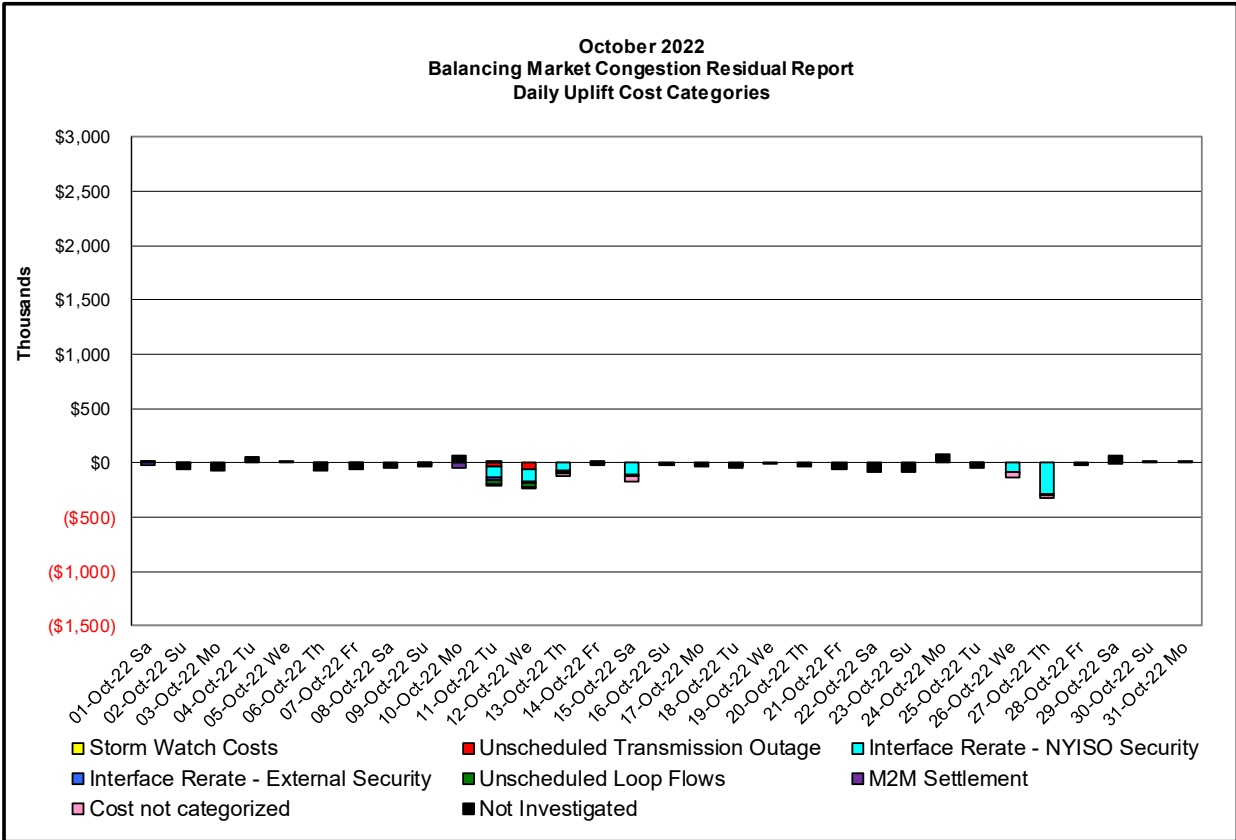
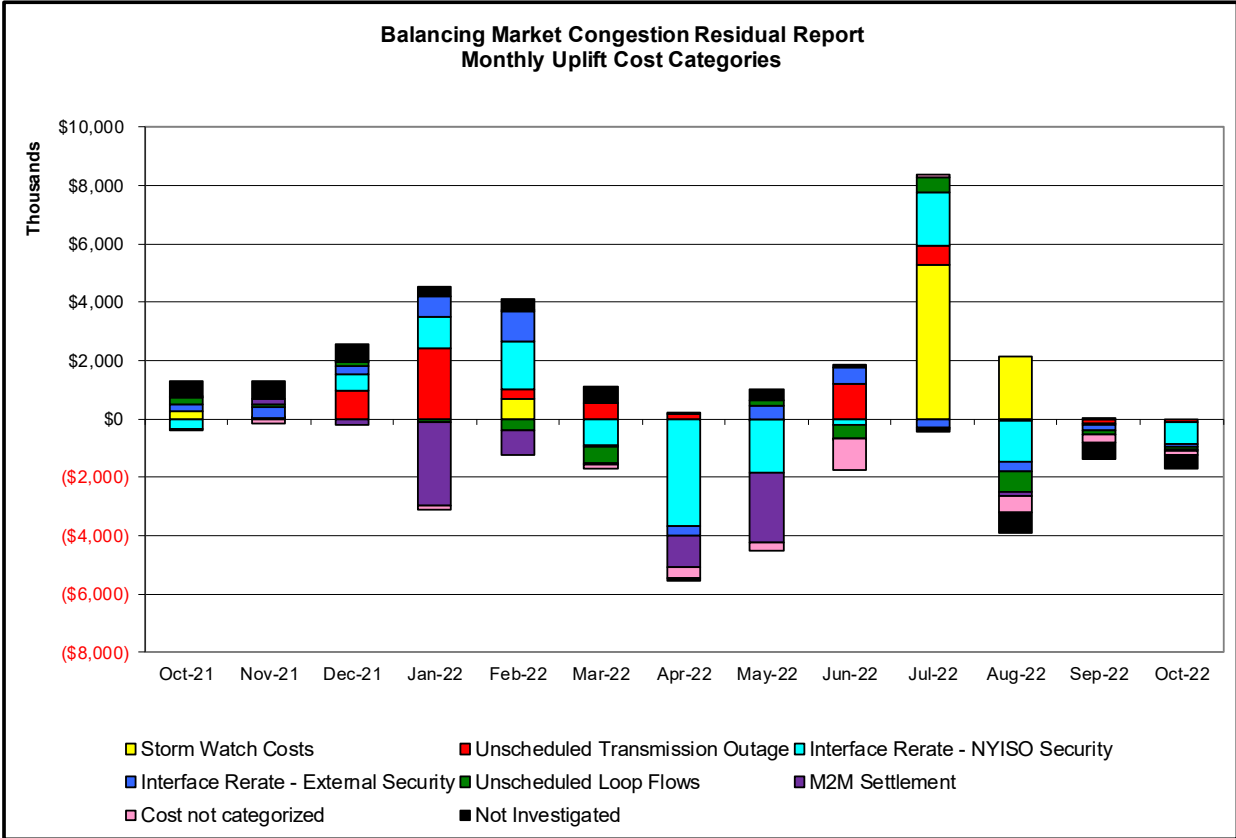
| <u>Category</u> | <u>Description</u> |
|---------------------------|--|
| NY | Represents the value NY realizes from Market-to-Market PAR Coordination when experiencing congestion. This is the estimated savings to NY for additional deliveries into NY |
| RECO | Represents the value of PJM's obligation 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. |
| M2M PAR Settlement | 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





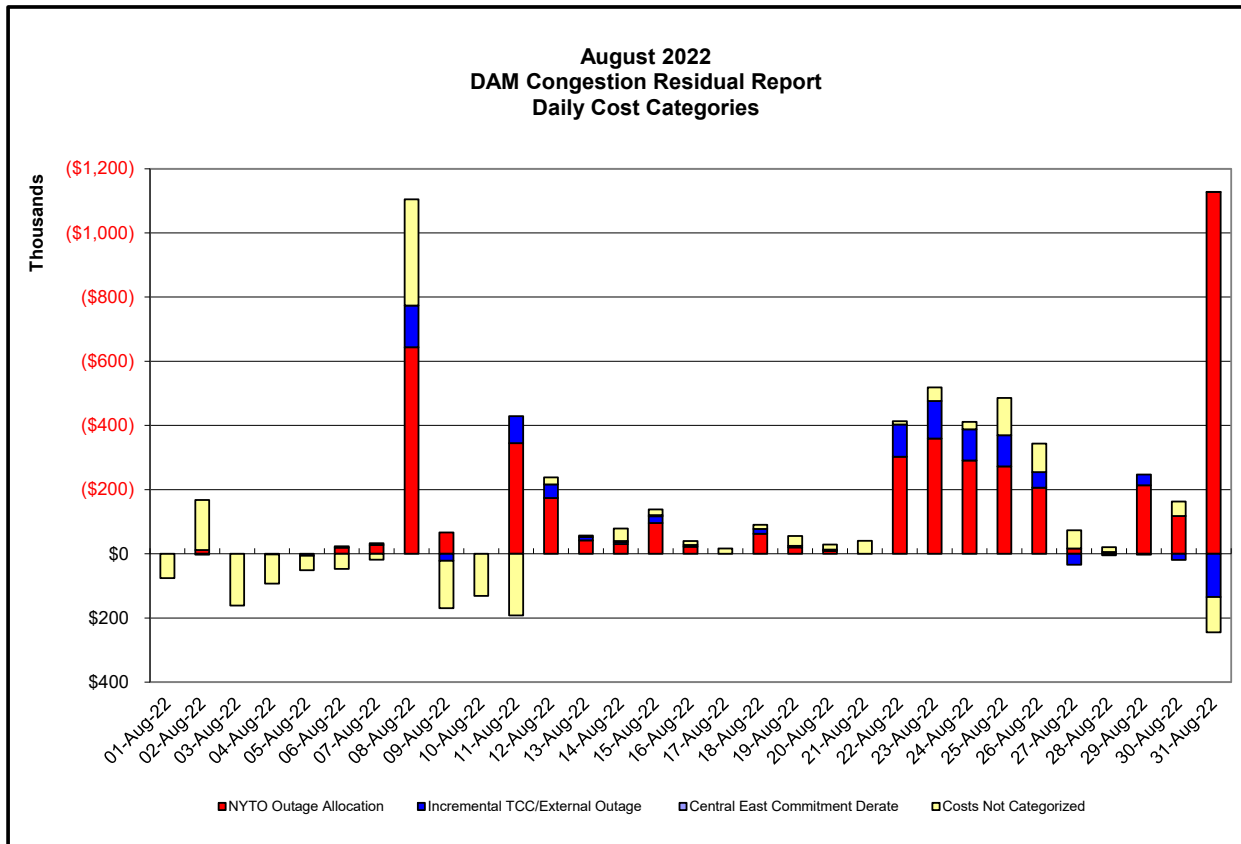
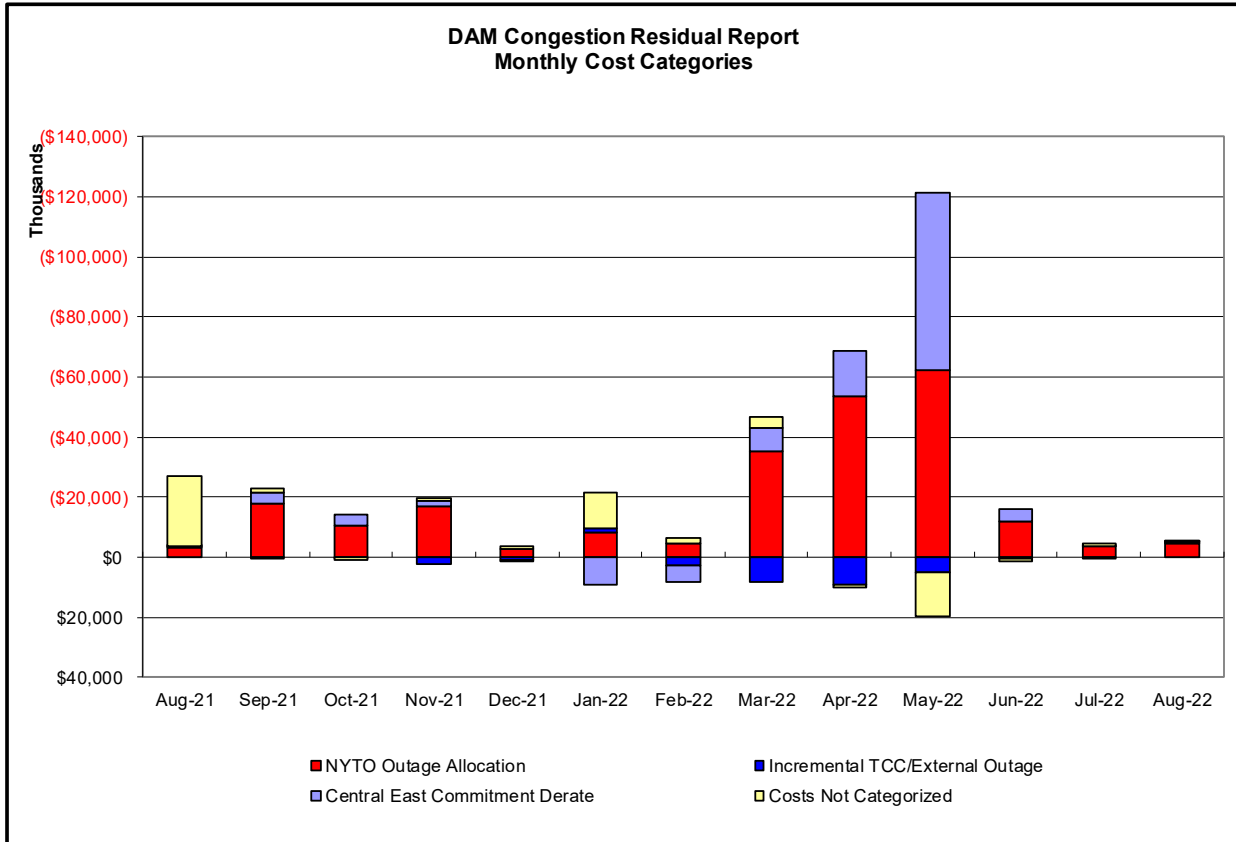
| Day's investigated in October: 11,12,13,15,26,27 | | October Dates |
|--|--|----------------|
| Event | Description | October Dates |
| | Early return-to-service of Coopers-Middletp 345kV (#CCRT34) | 11,12 |
| | Derate Central East | 11 |
| | NYCA DNI Ramp Limit | 11,12,26,27 |
| | Uprate Astoria Annex-Astoria East 138kV (#34091) | 27 |
| | Uprate Brentwood-Pilgram 69kV (#768) I/o BUS:PILGRIM 660 765&BK3 | 26 |
| | Uprate Buffalo78-Huntley 115kV (#130) I/o SIN:PACKARD-WALCK_RD_129 | 11,12 |
| | Uprate Central East | 11-13,15,26,27 |
| | Uprate CricketValley-PleasantValley 345kV (#F83) I/o CricketValley-PleasantValley 345kV (#F84) | 15,26,27 |
| | Uprate Deposit-IndianHD 69kV (#675) I/o TWR:HOLTSVLE 881& 882& 880 | 27 |
| | Uprate Dunwoodie-Shore Rd 345kV (#Y50) I/o Neptune HVDC | 11-13,15 |
| | Uprate East 179th St-Hellgate 138kV (#15055) | 11-13 |
| | Uprate Elwood-Pulaski 69kV (#670) I/o TWR:HOLTSVLE 881& 882& 880 | 27 |
| | Uprate Foxhills-Greenwood 138kV (#29231) I/o SCB:GOWANUS(2):41&42231&R4 | 11,12 |
| | Uprate Foxhills-Greenwood 138kV (#29232) I/o FOXHILLS-WILLWBRK_138_29211&BK1 | 26 |
| | Uprate Goethals-Gowanus 345kV (#25) | 11,13 |
| | Uprate Goethals-Gowanus 345kV (#26) | 11,13 |
| | Uprate Gowanus-Greenwood 138kV (#42231) | 11,13 |
| | Uprate Gowanus-Greenwood 138kV (#42232) | 13 |
| | Uprate Hudson Ave-Jamaica 138kV (#701) | 27 |
| | Uprate Mott Haven-Dunwoodie 345kV (#72) | 11-13,26 |
| | Uprate Mott Haven-Dunwoodie 345kV (#72) I/o SCB:SPBK(RS5):M51&99941&5S1&S2 | 13 |
| | Uprate Rainey-Vernon 138kV (#36312) | 11,12 |
| | Uprate Sherman Creek-Dunwoodie N 138kV (#99031) | 13 |
| | Uprate Fox Hills-Greenwood 138kV (#29231) for SCB:GOWANUS(2):41&42231&R4 | 13 |
| | IESO AC ACTIVE DNI Ramp Limit | 12,27 |
| | NE AC ACTIVE DNI Ramp Limit | 11-13,15 |
| | NE_NNC1385-NY Scheduling Limit | 11 |
| | PJM AC ACTIVE DNI Ramp Limit | 11 |
| | Lake Erie Circulation, DAM-RTM exceeds +/-125MW; Central East | 11-13,15,26 |
| | Lake Erie Circulation, DAM-RTM exceeds +/-125MW; West | 13 |

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. | |

