

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



## ***September 2021 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 October 8, 2021.

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## September 2021 Operations Performance Highlights

- Peak load of 24,613 MW occurred on 09/15/2021 HB 16
- All-time summer capability period peak load of 33,956 MW occurred on 7/19/2013 HB 16
- 22.73 hours of Thunderstorm Alerts were declared
- 0 hours of NERC TLR level 3 curtailment
- To reduce risks from COVID-19, the NYISO continues to take several actions to maintain critical business operations and protect the health and well-being of our employees and stakeholders.

The following table identifies the estimated production cost savings associated with the Broader Regional Market initiatives.

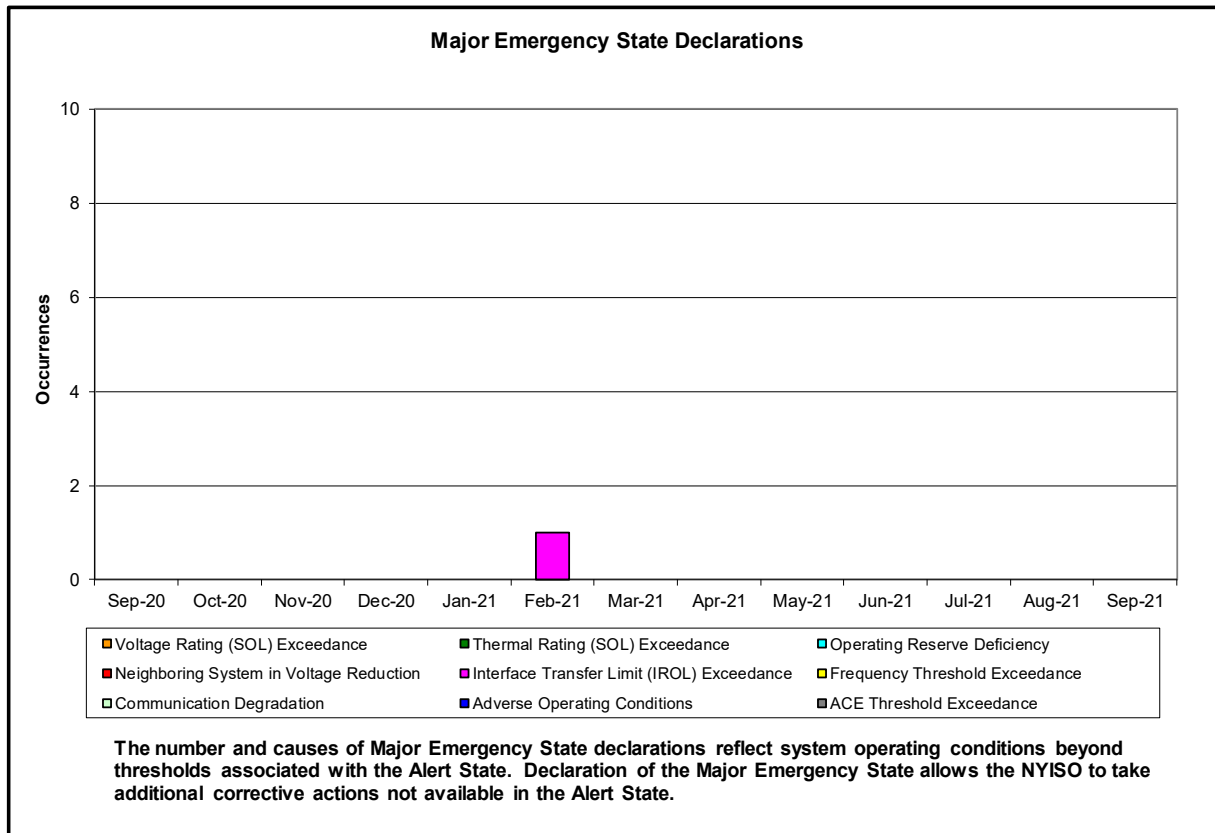
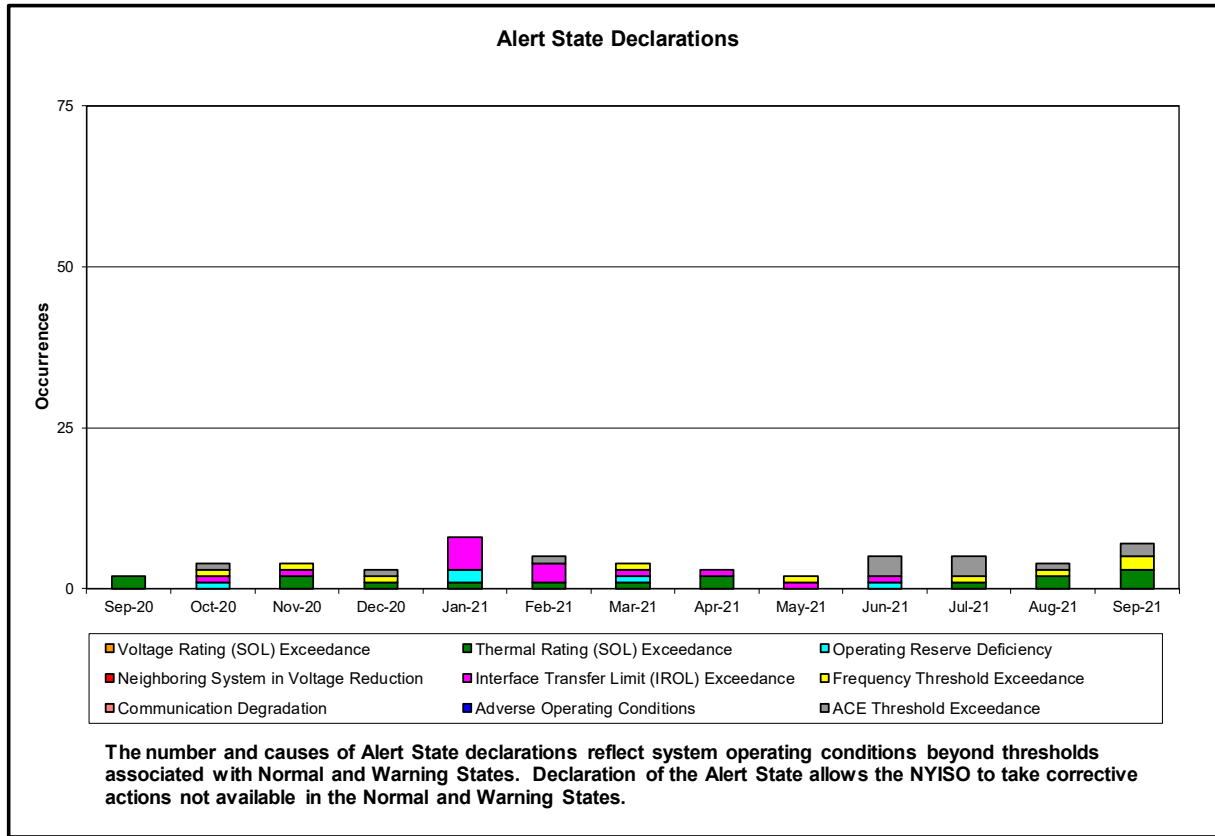
|  | Current Month Value (\$M) | Year-to-Date Value (\$M) |
|--|---------------------------|--------------------------|
| <b>NY Savings from PJM-NY Congestion Coordination</b>                  | \$1.49                    | \$12.41                  |
| <b>NY Savings from PJM-NY Coordinated Transaction Scheduling</b>       | \$0.05                    | \$1.23                   |
| <b>NY Savings from NE-NY Coordinated Transaction Scheduling</b>        | \$0.59                    | (\$1.03)                 |
| <b>Total NY Savings</b>  | \$2.13                    | \$12.61                  |
| <b>Regional Savings from PJM-NY Coordinated Transaction Scheduling</b> | \$0.35                    | \$4.47                   |
| <b>Regional Savings from NE-NY Coordinated Transaction Scheduling</b>  | \$0.13                    | \$0.20                   |
| <b>Total Regional Savings</b>  | \$0.48                    | \$4.67                   |

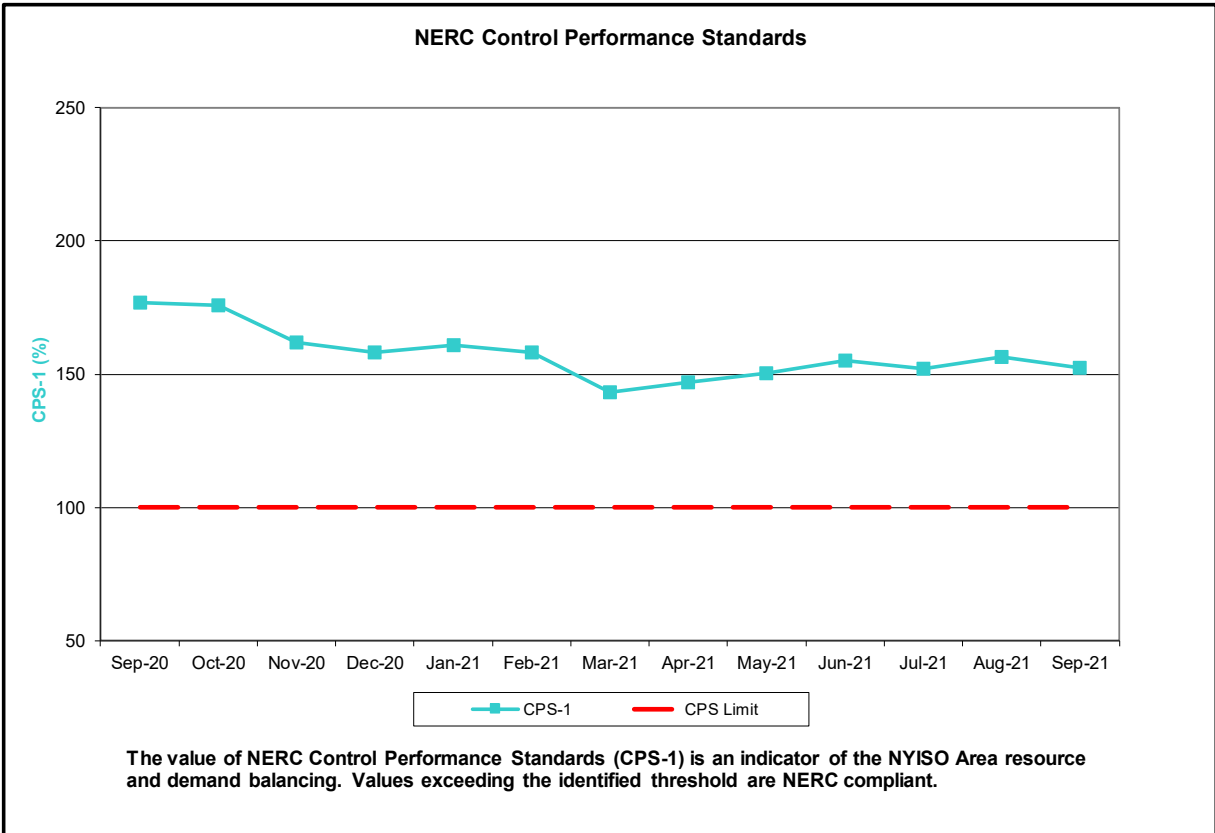
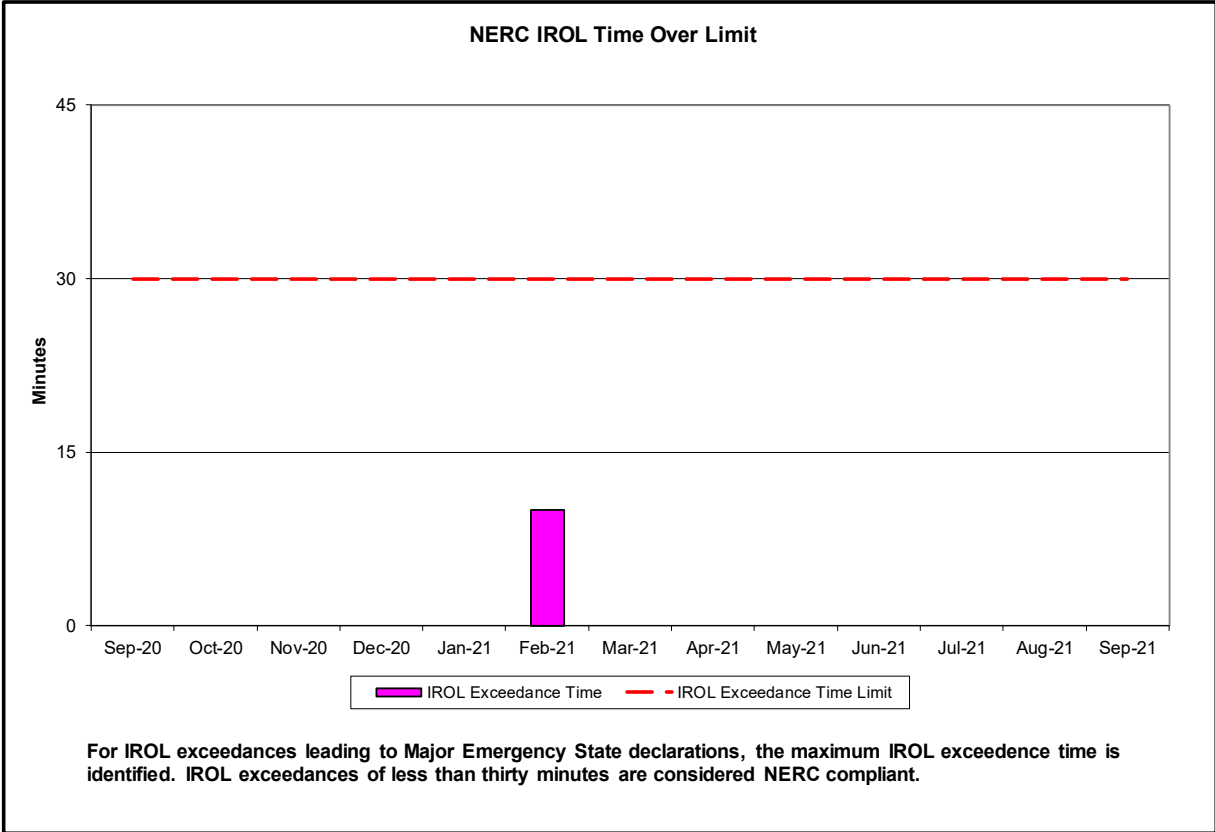
- Statewide uplift cost monthly average was (\$0.78)/MWh.
- The following table identifies the Monthly ICAP spot market prices and the price delta.

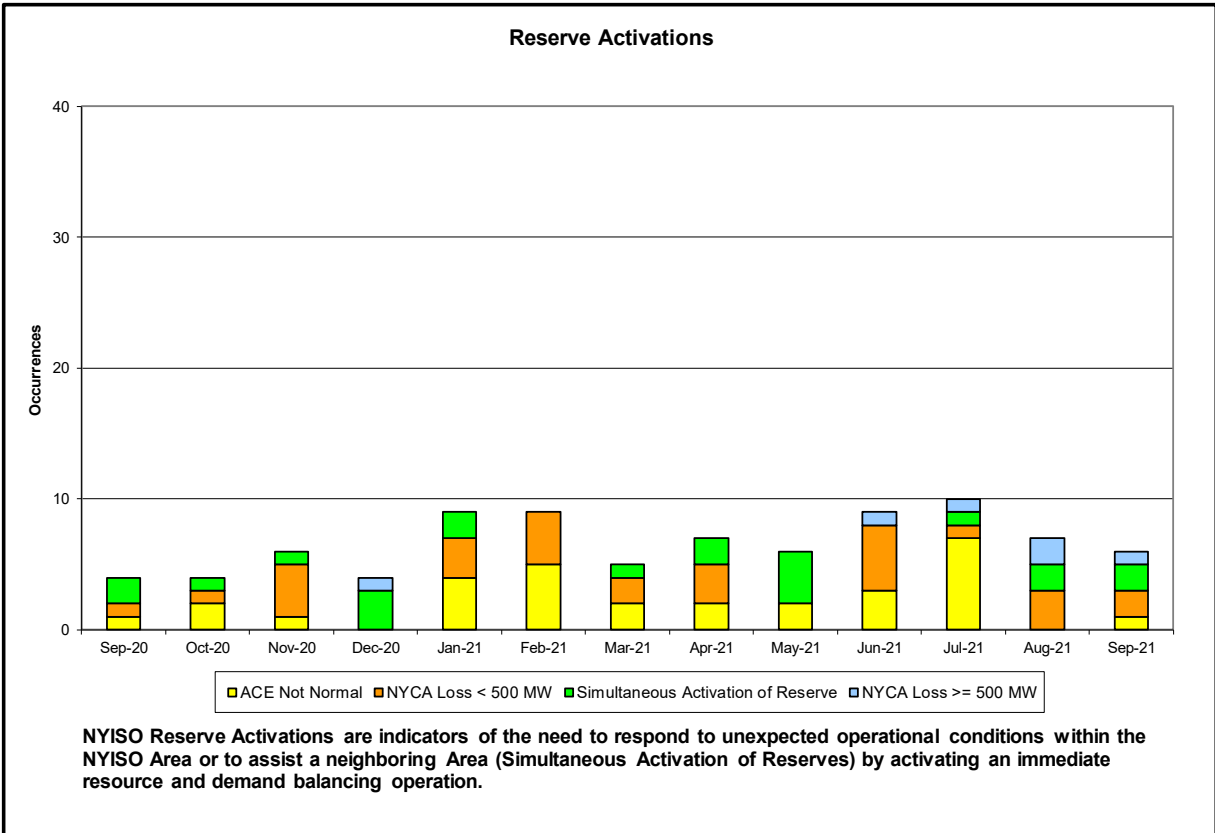
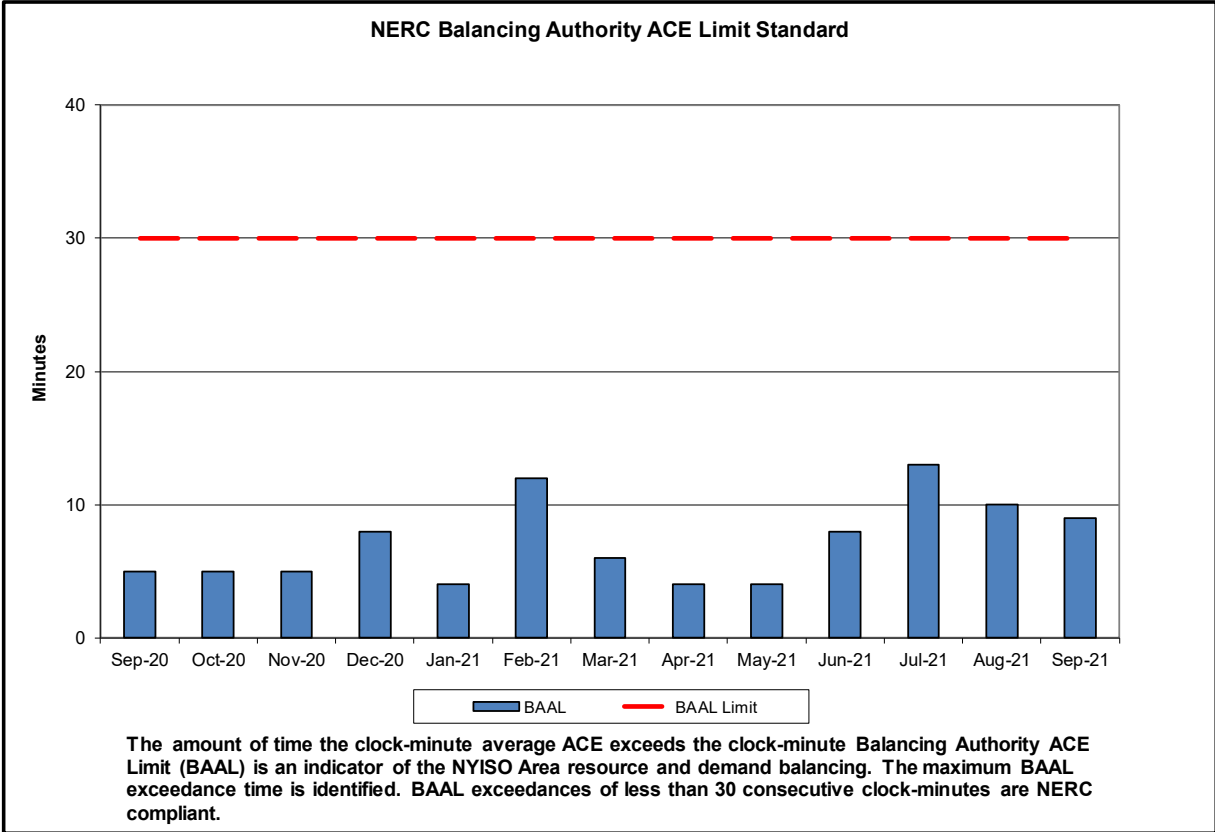
| Spot Auction Price Results | NYCA     | Lower Hudson Valley Zones | New York City Zone | Long Island Zone |
|----------------------------|----------|---------------------------|--------------------|------------------|
| October 2021 Spot Price    | \$4.21   | \$4.21                    | \$5.07             | \$9.28           |
| September 2021 Spot Price  | \$4.65   | \$4.65                    | \$5.08             | \$9.30           |
| Delta                      | (\$0.44) | (\$0.44)                  | (\$0.01)           | (\$0.02)         |

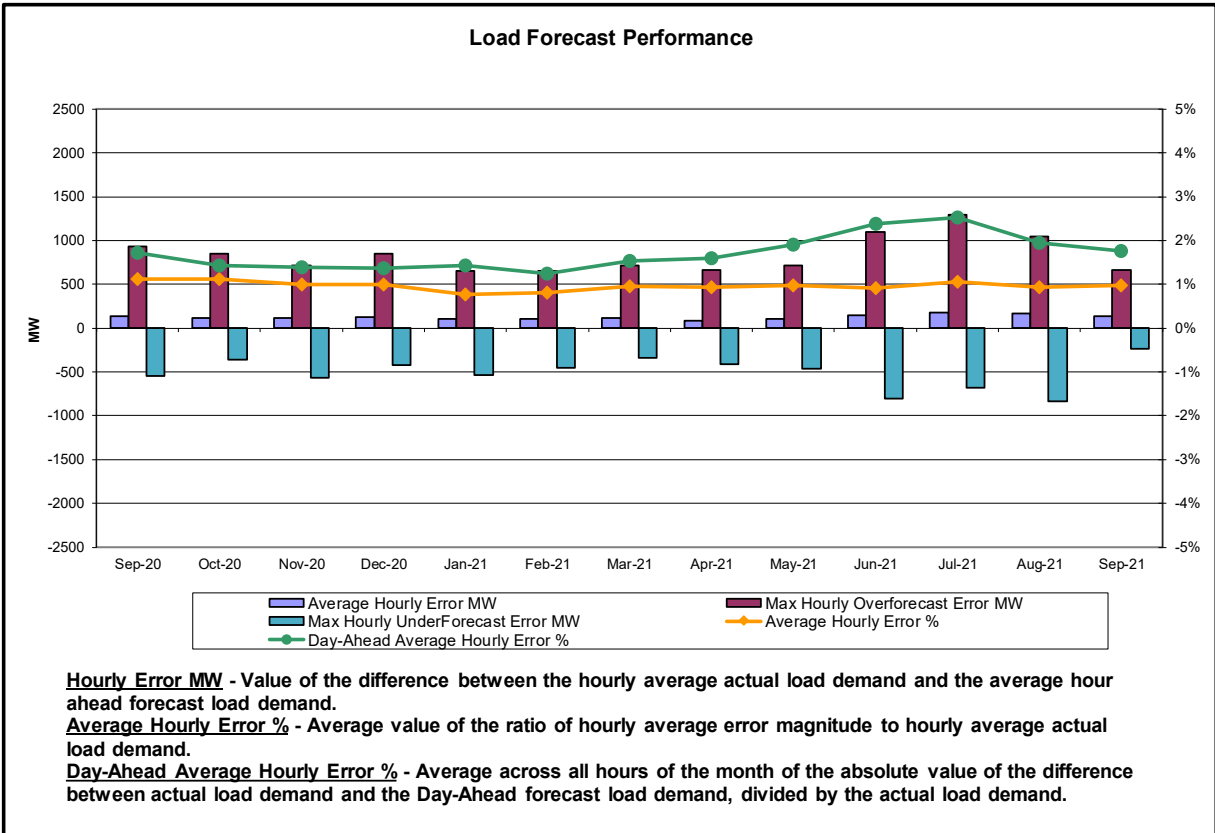
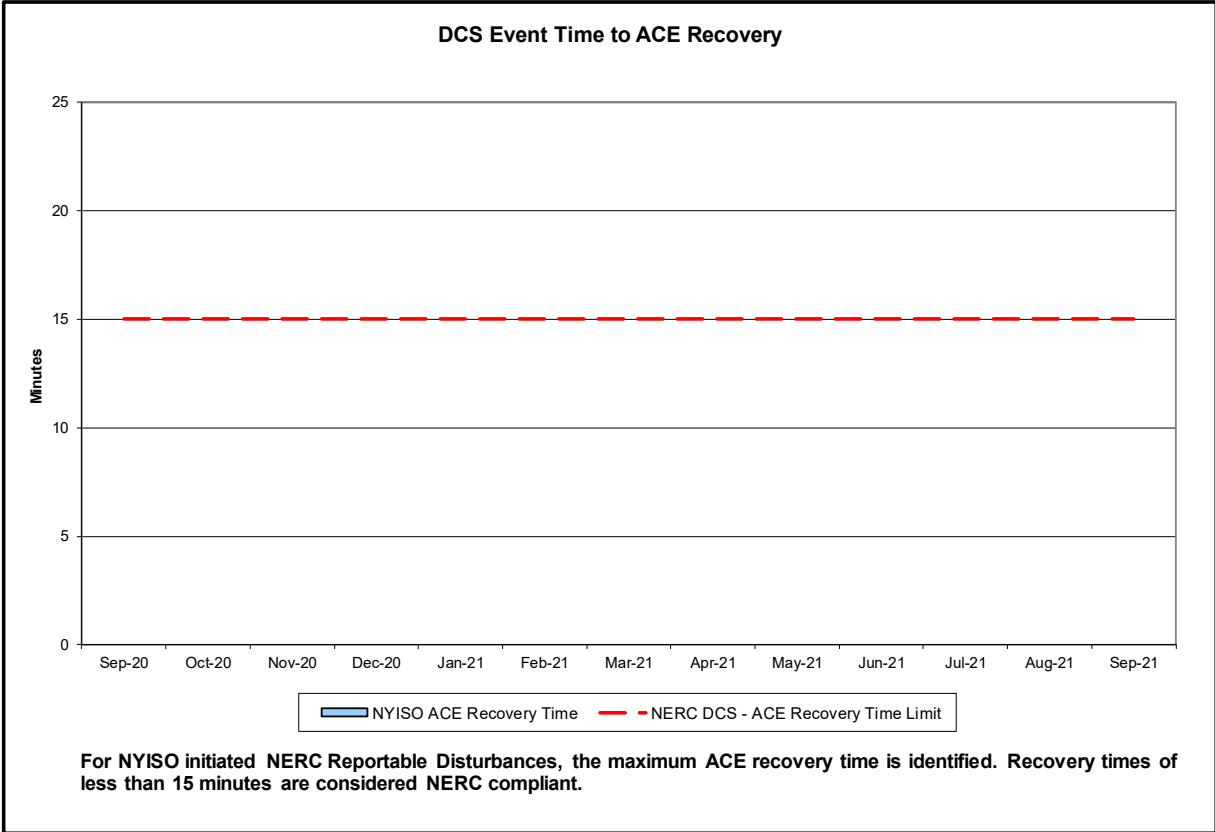
- NYCA and Lower Hudson Valley (GHIJ) locality experienced a \$0.44 clearing price decline due to an increase in Imports and a decrease in Unsold MWs.

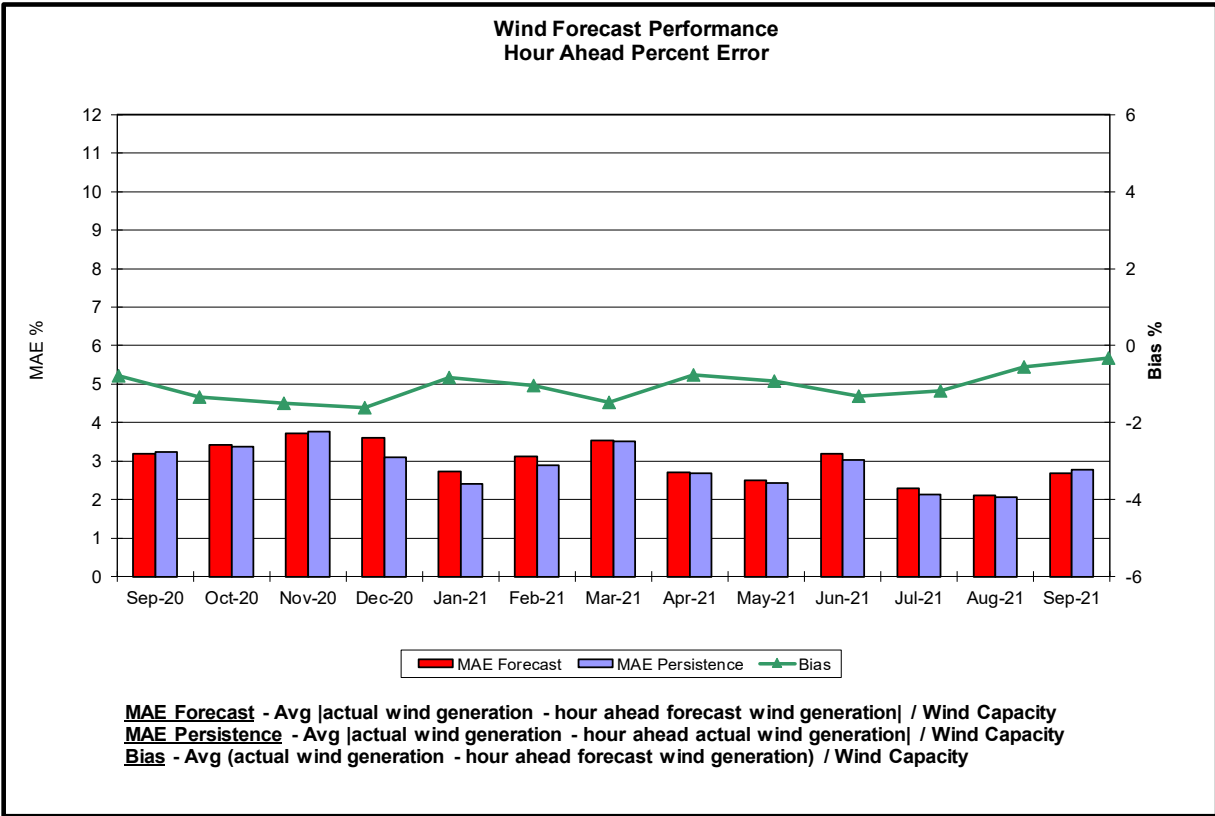
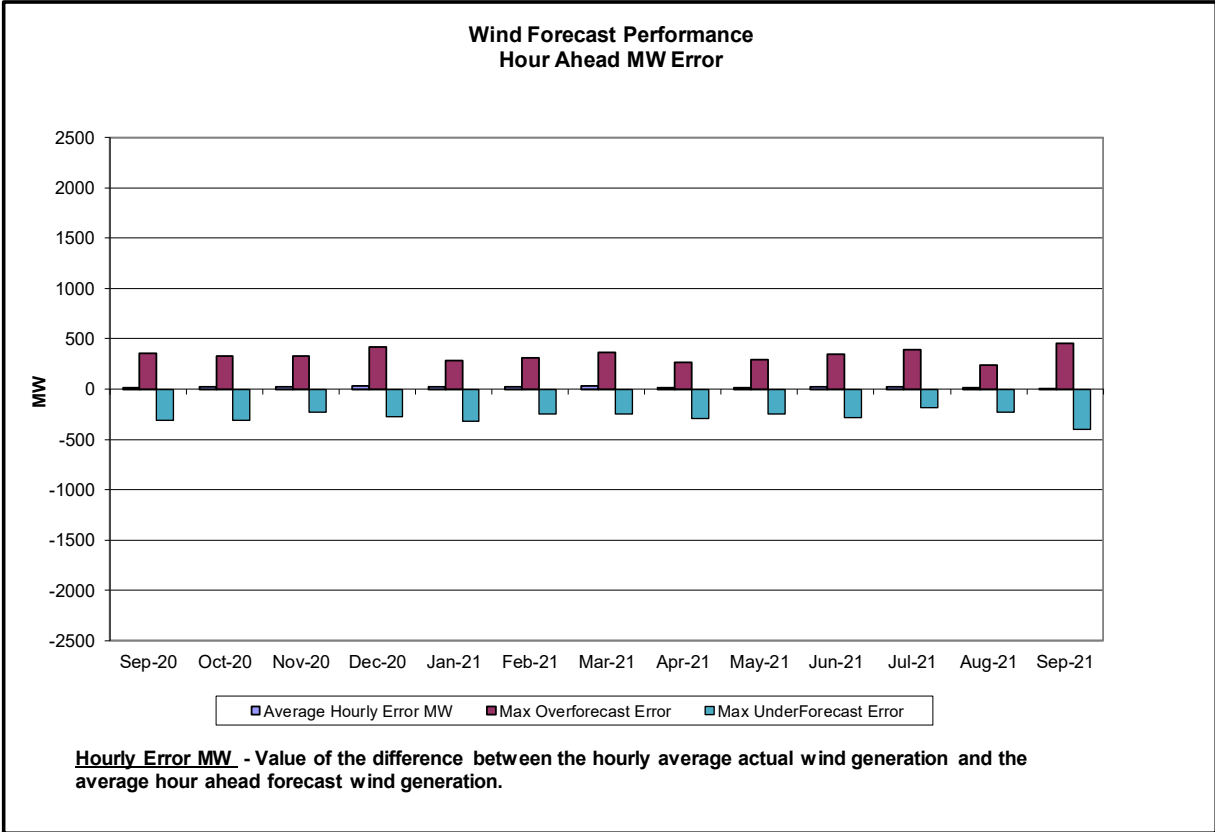
## Reliability Performance Metrics



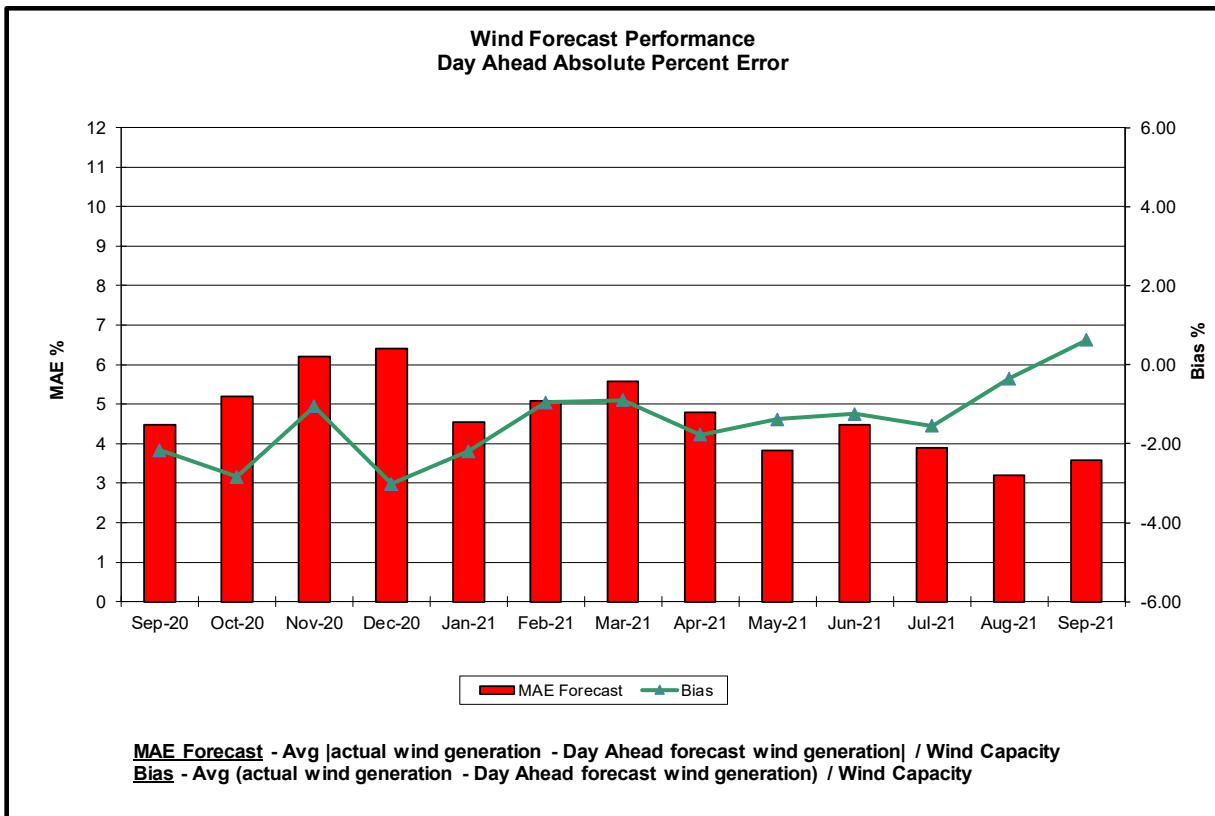
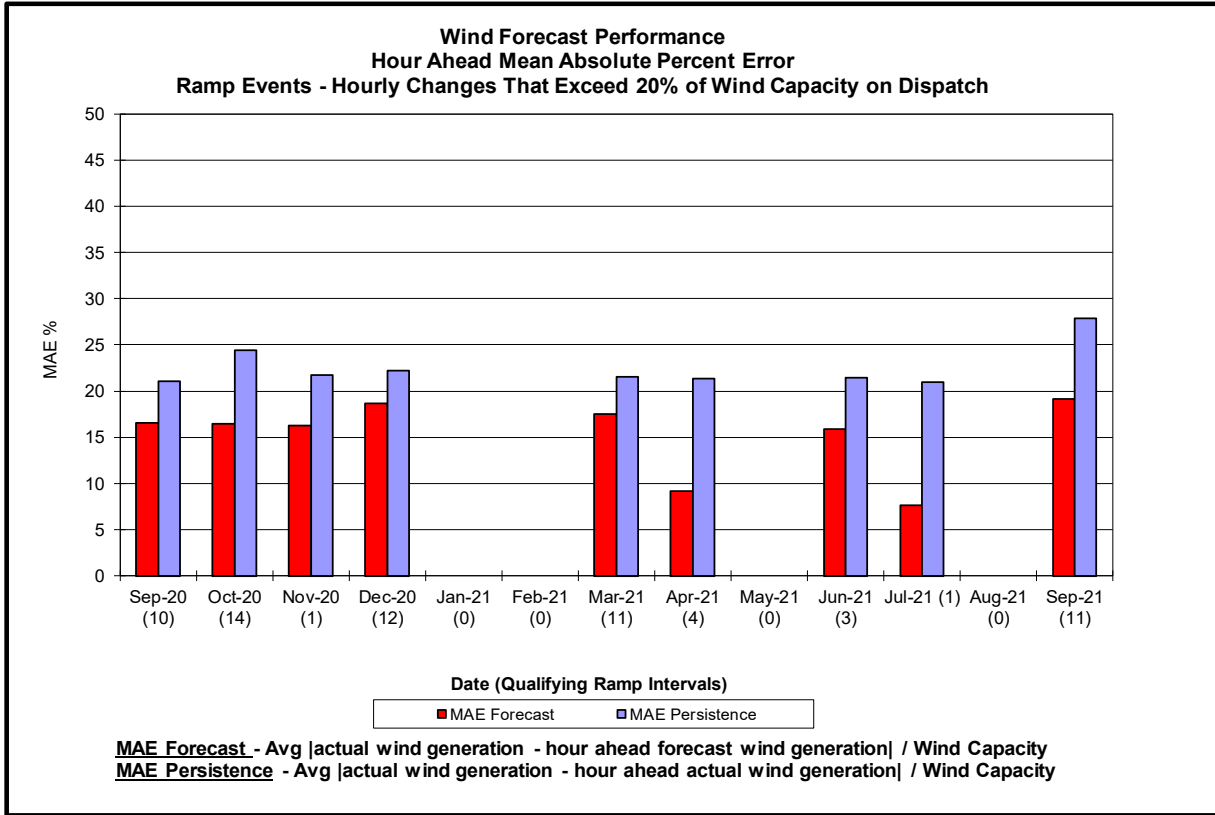


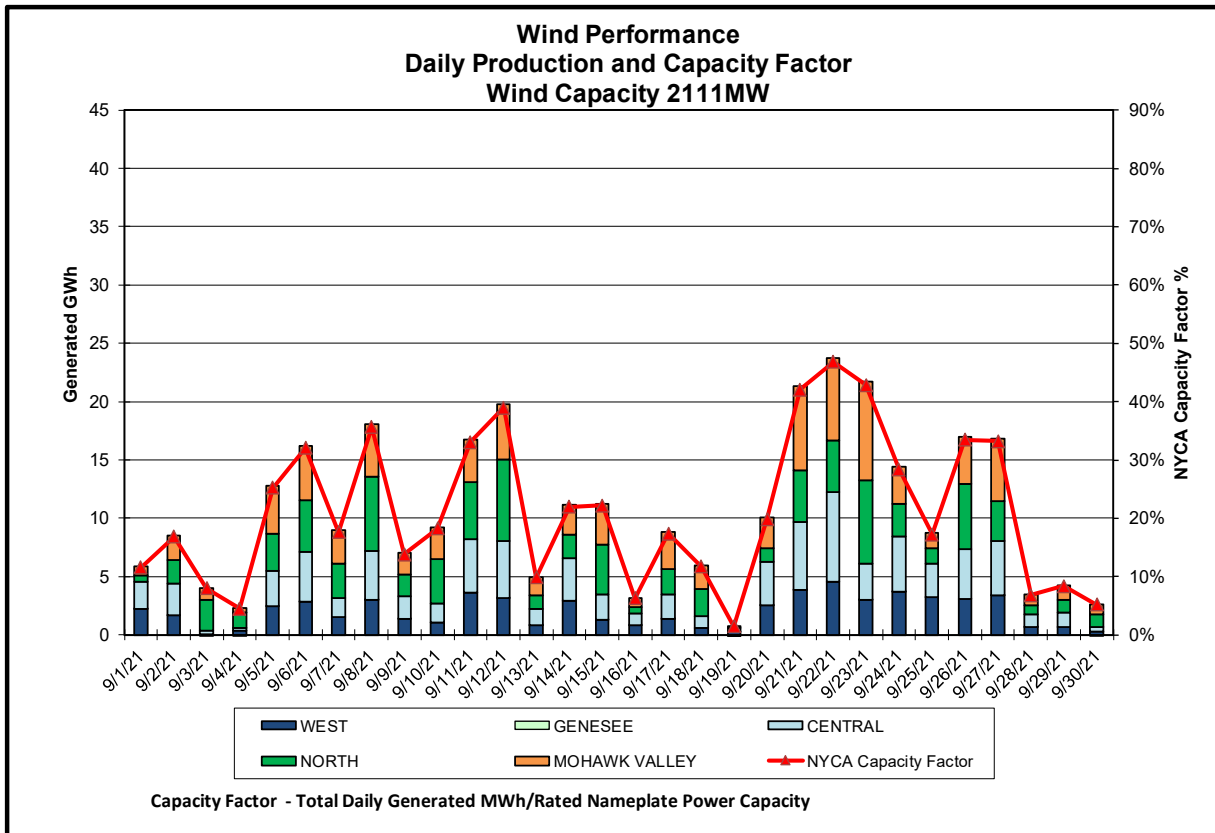
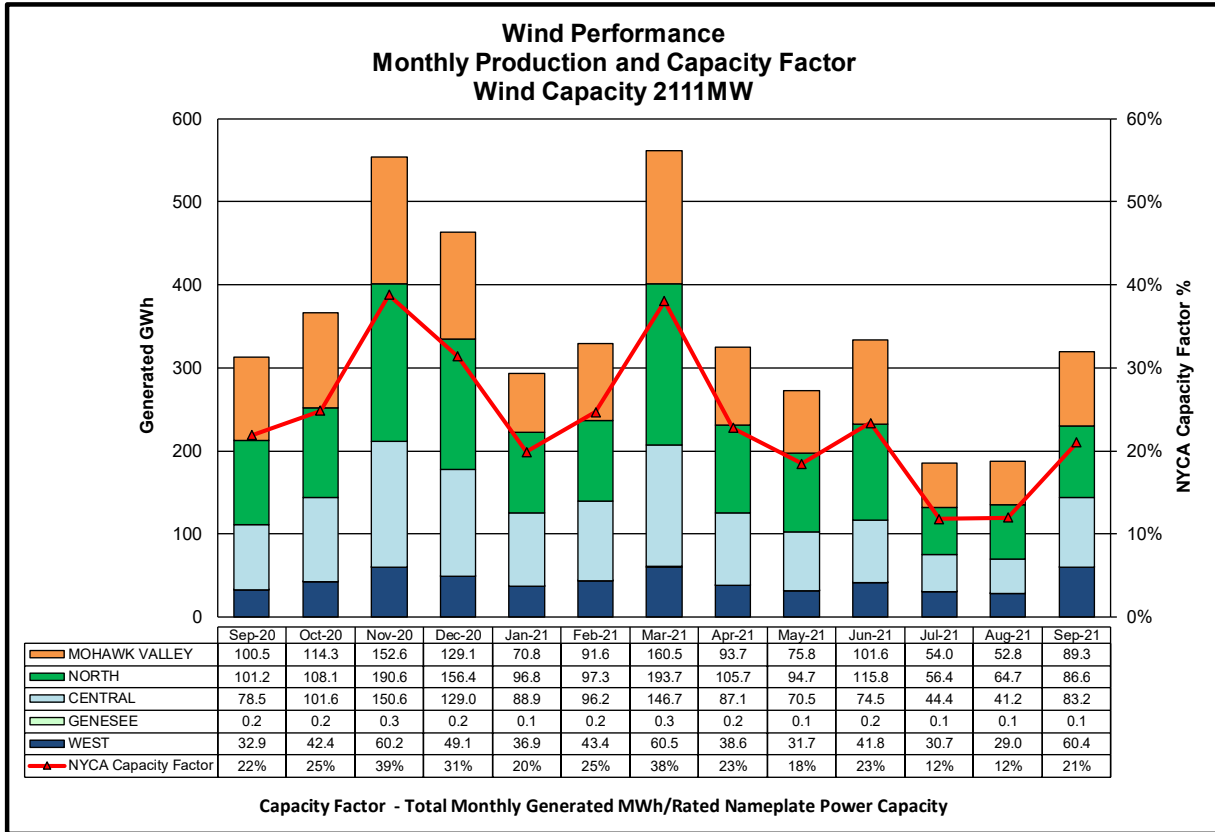


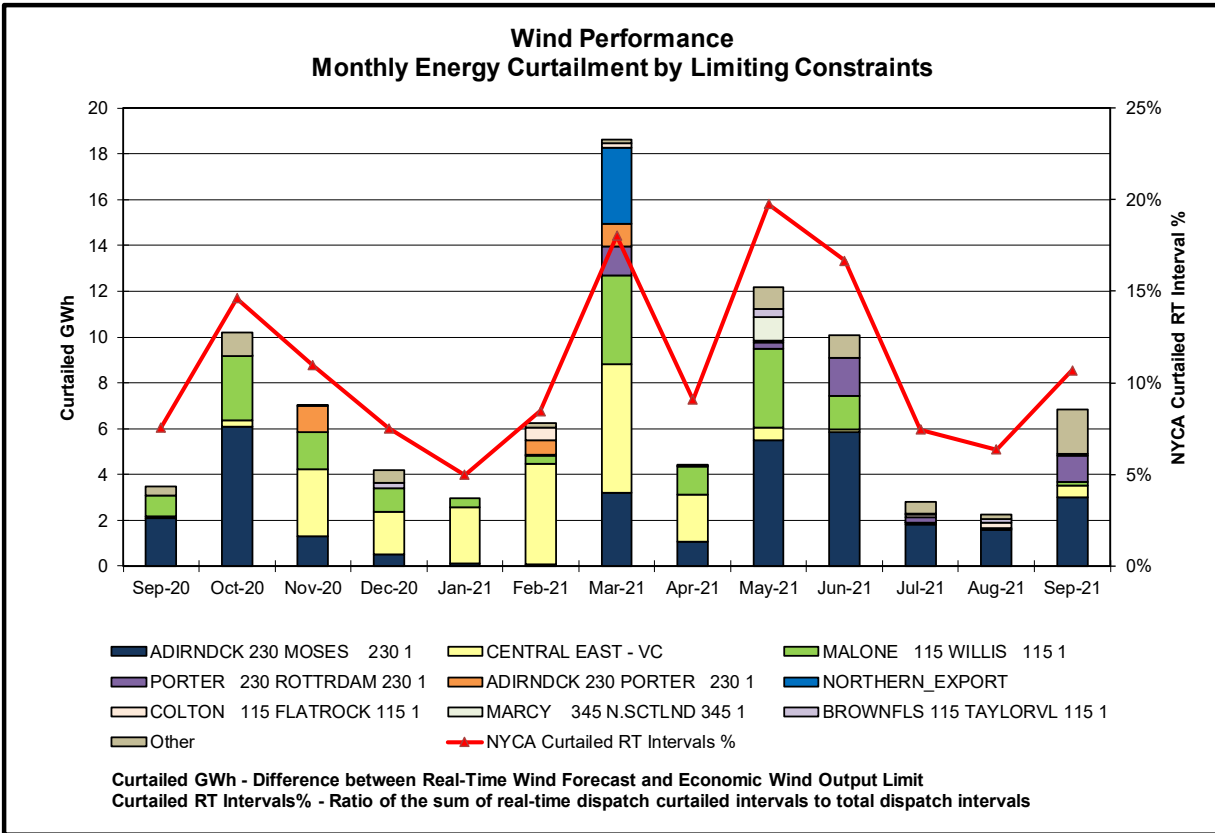
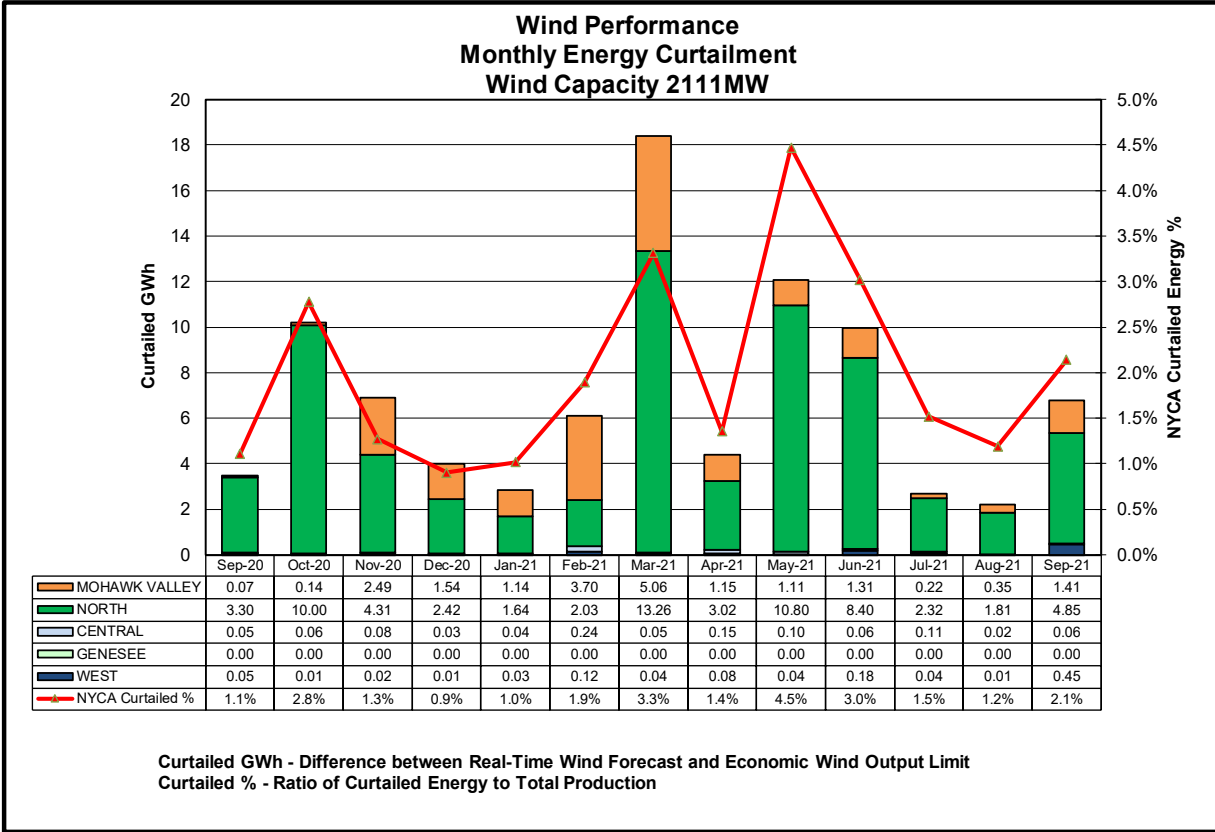


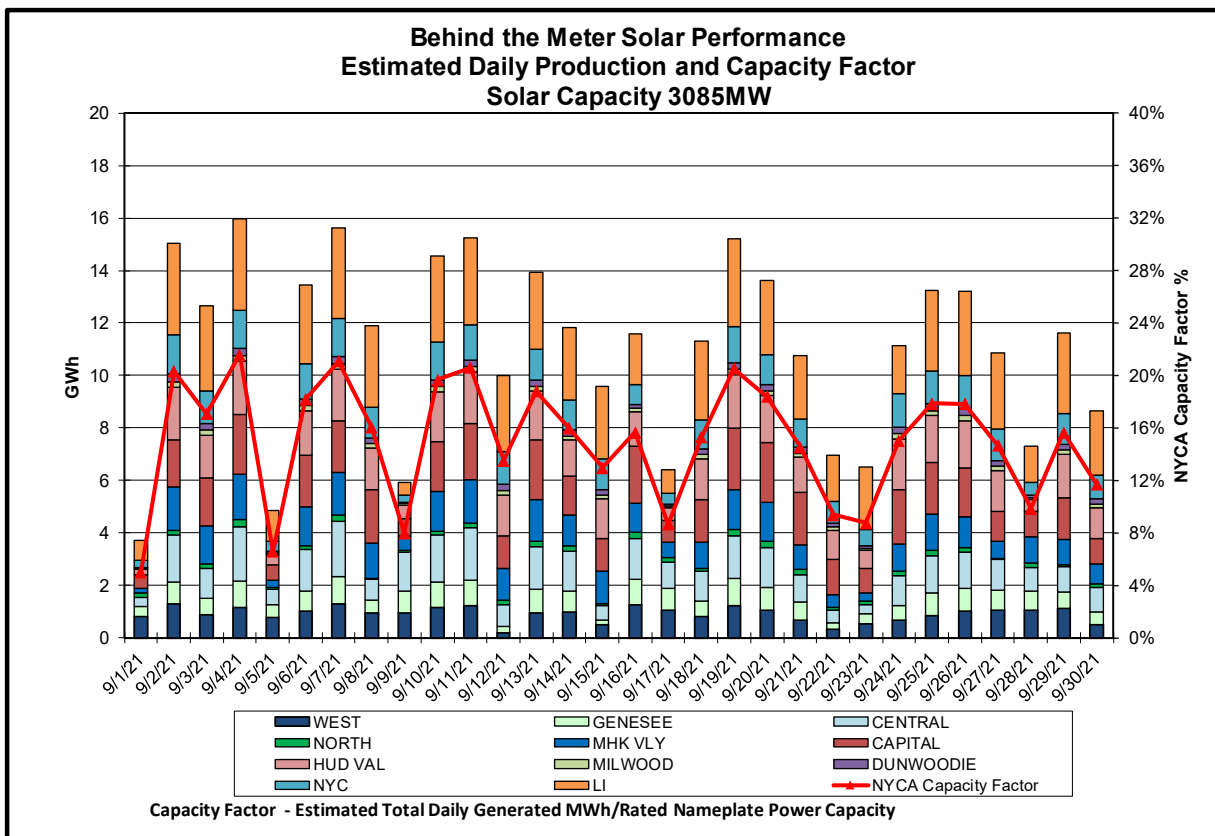
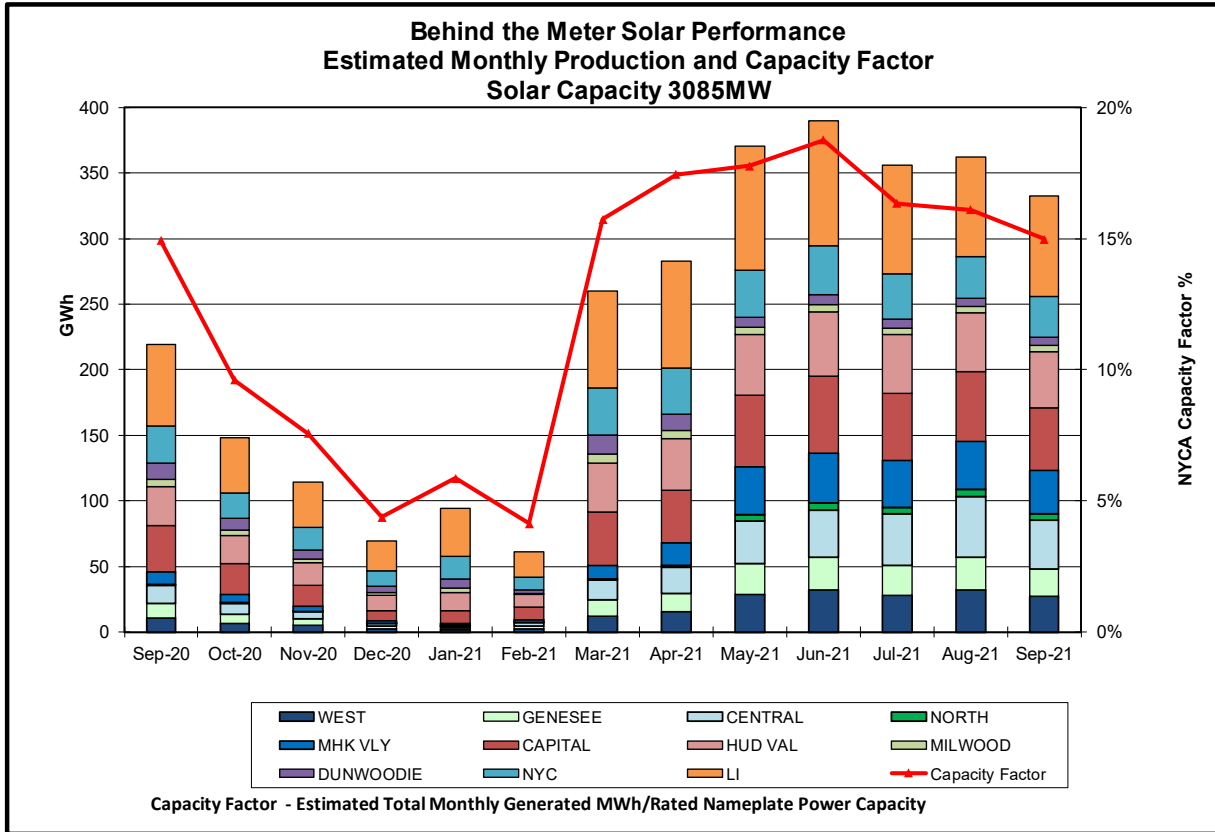


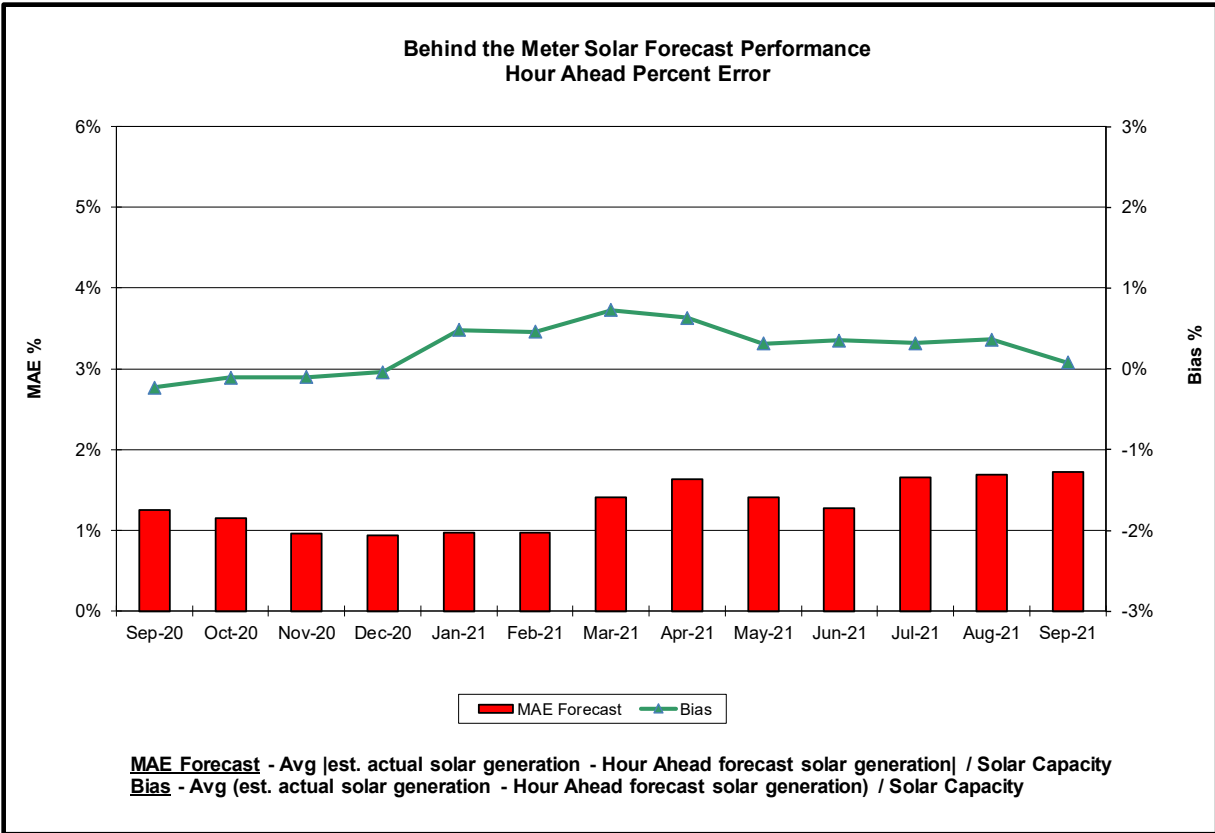
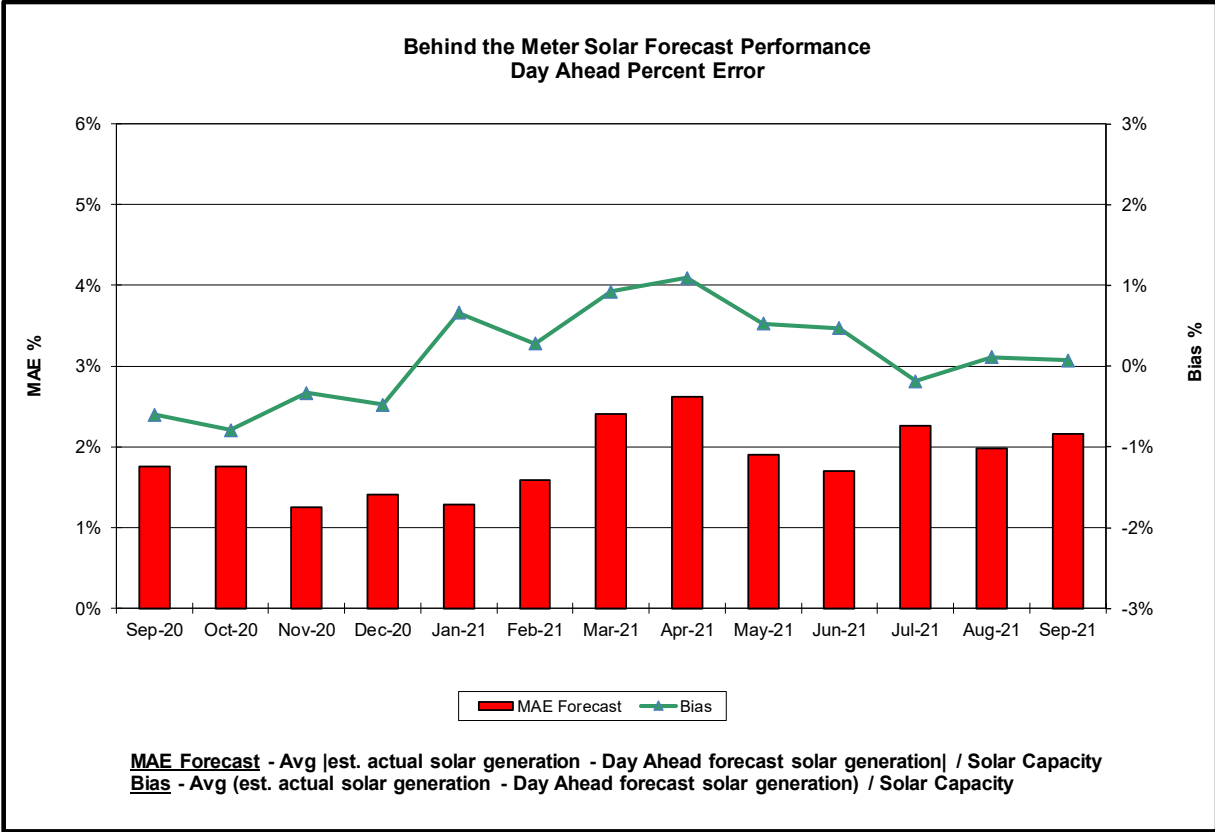


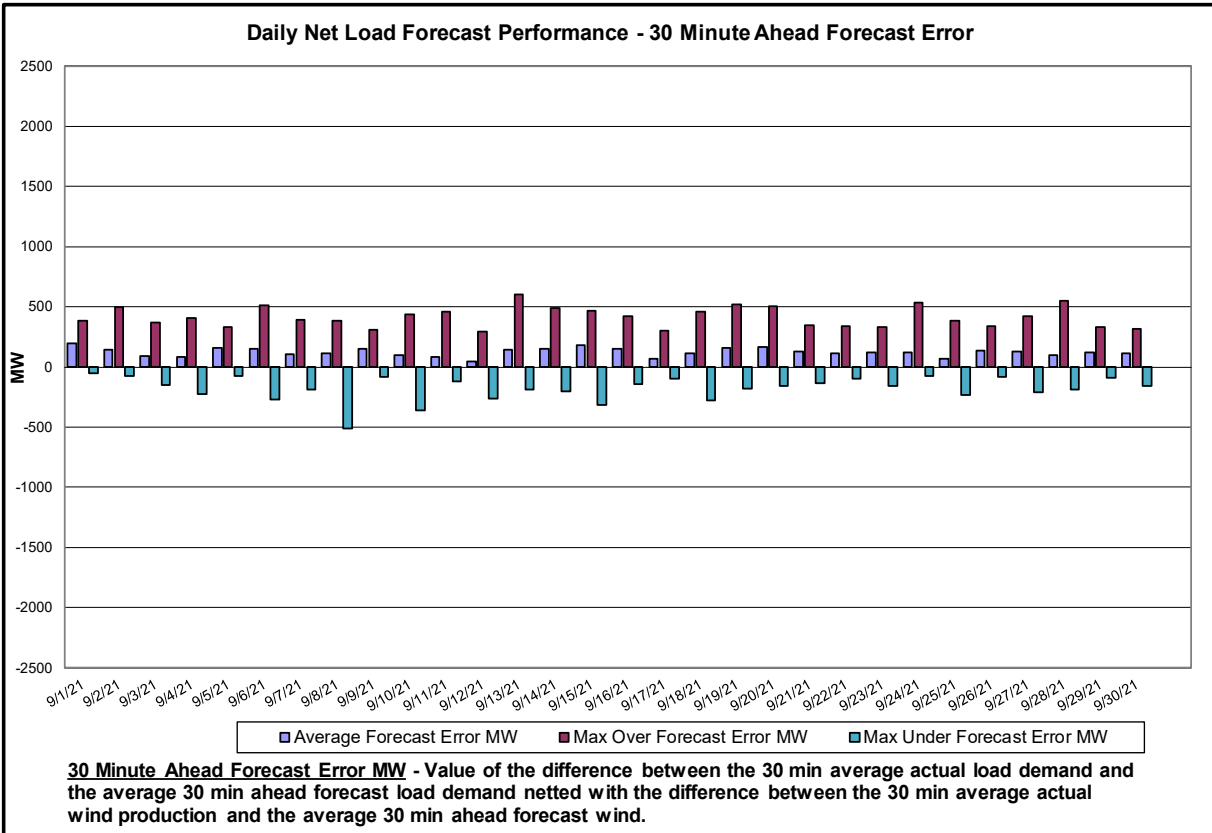
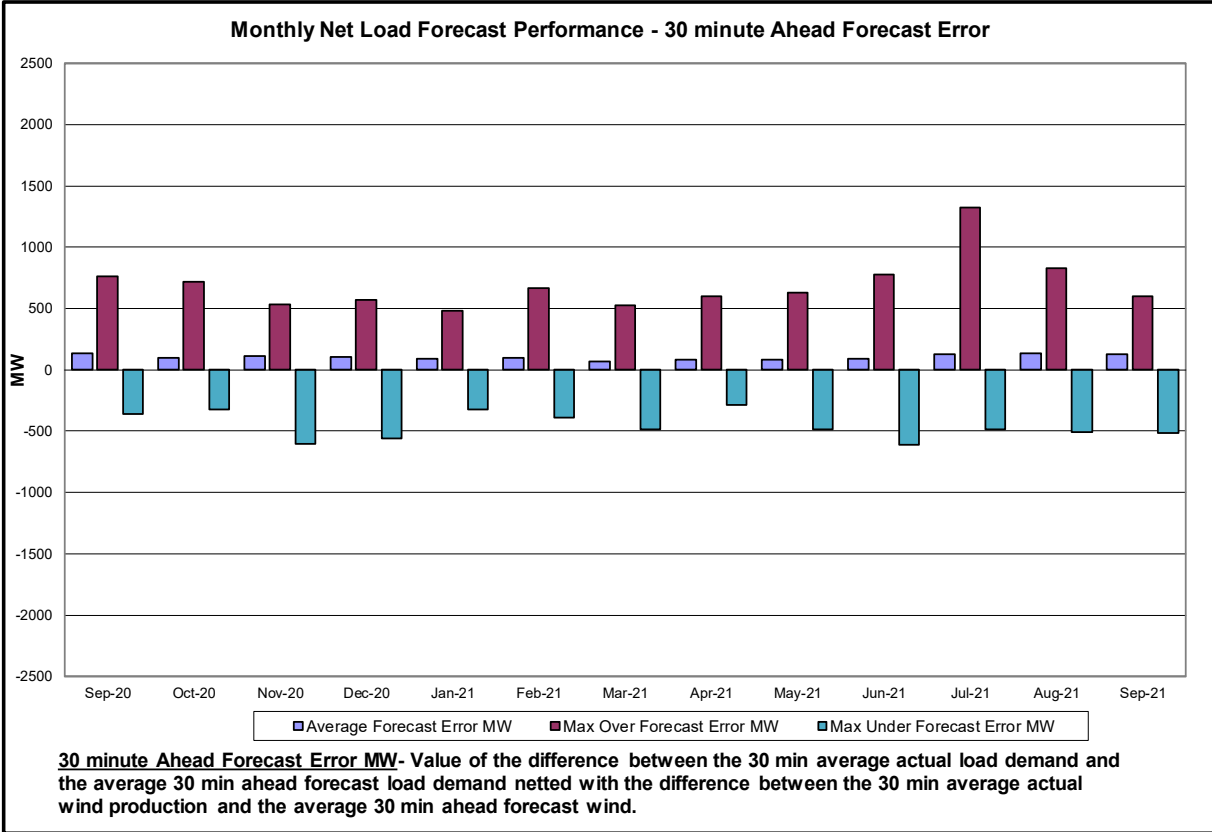


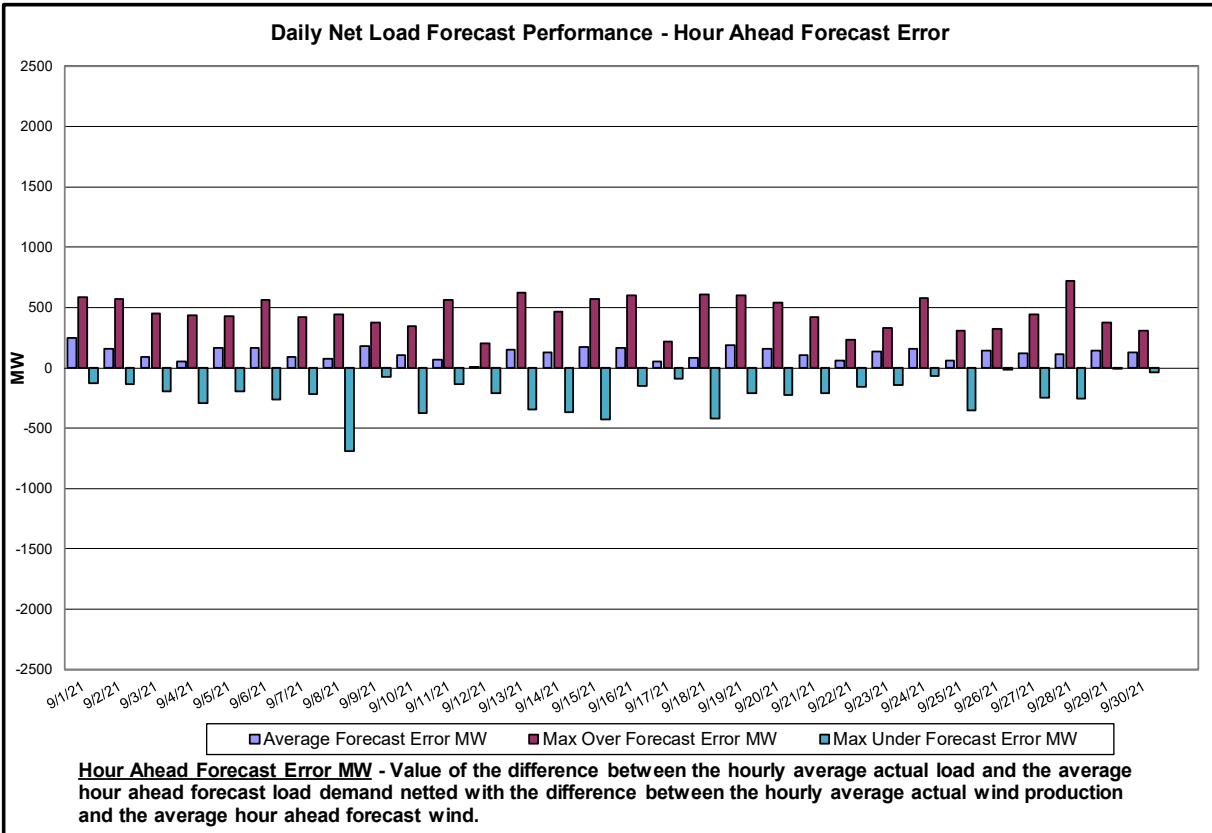
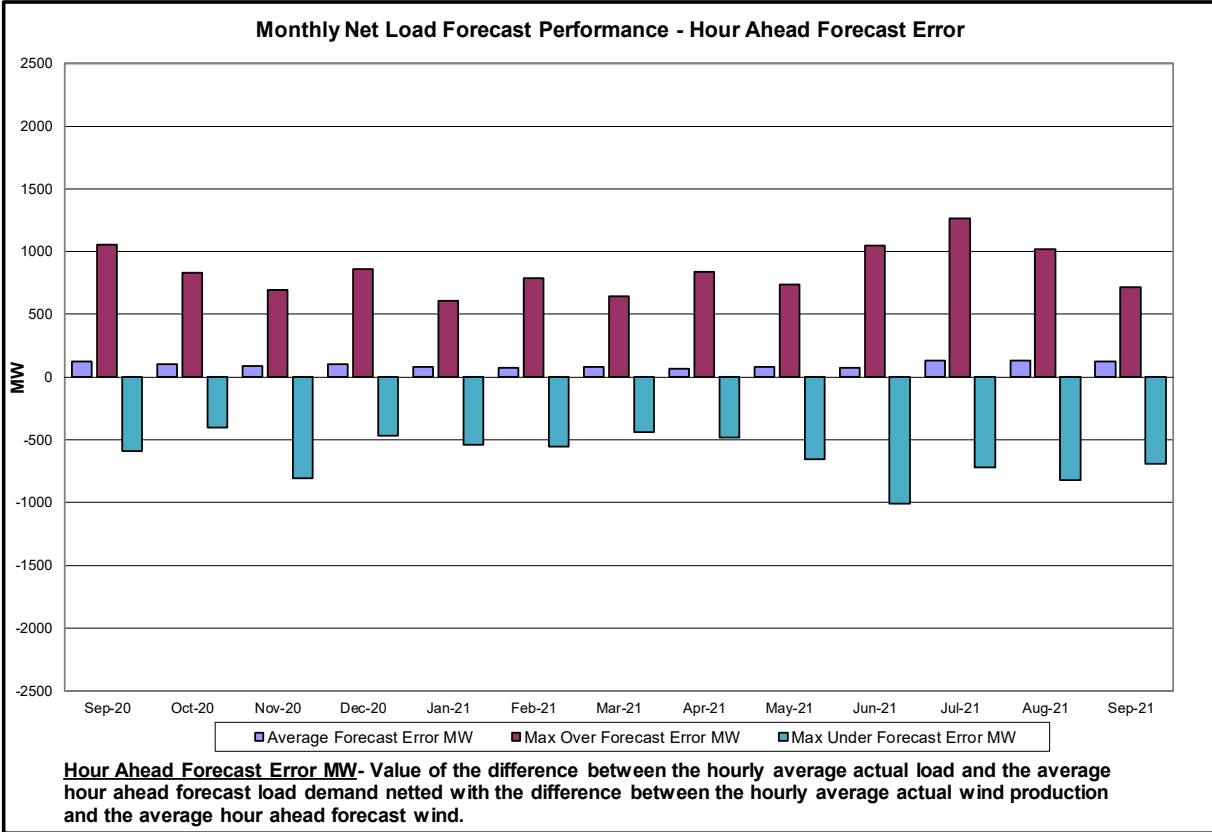


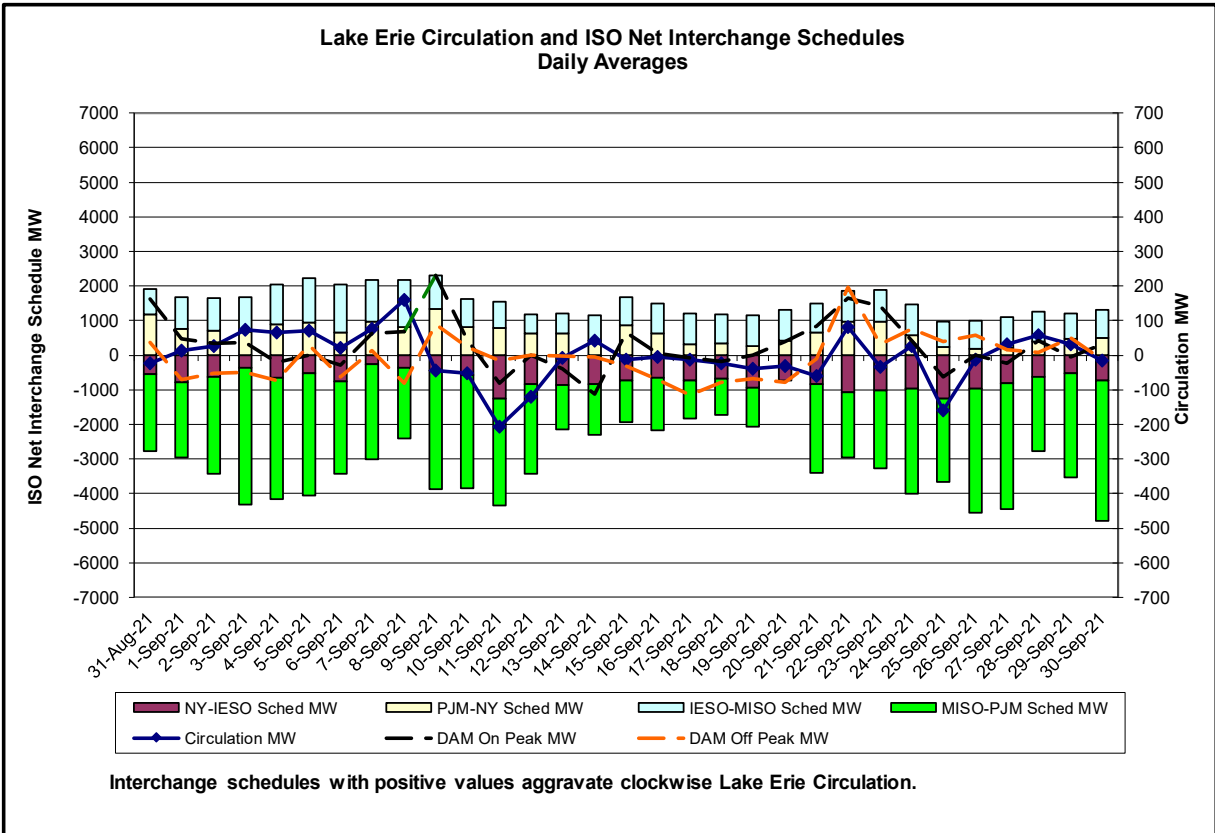
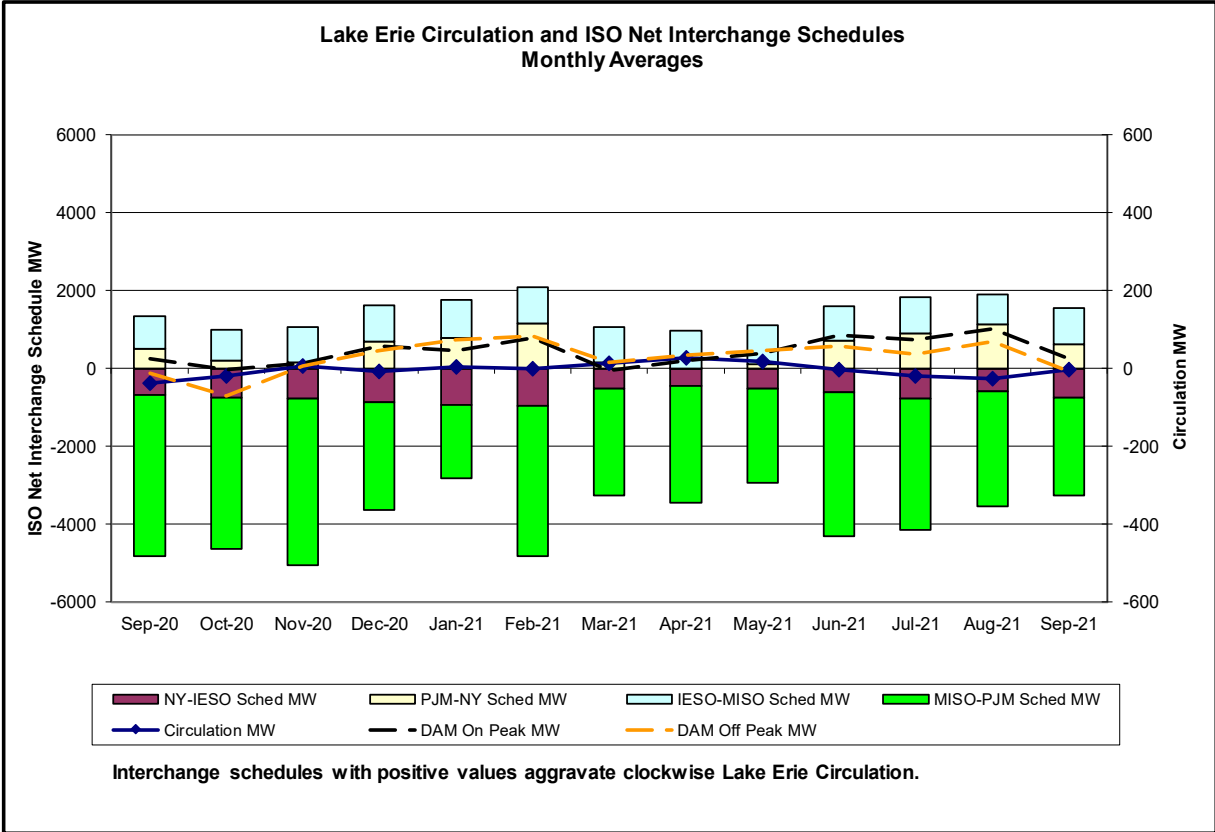






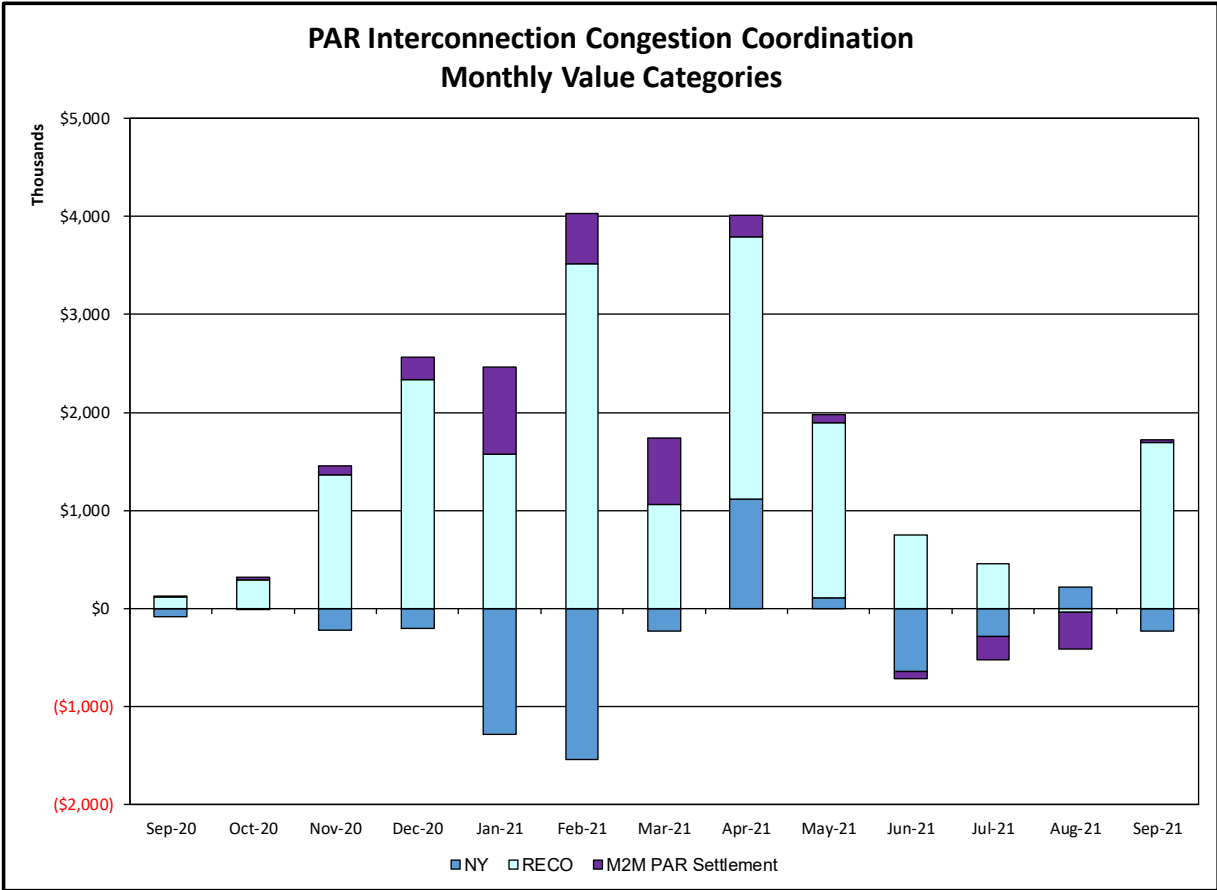


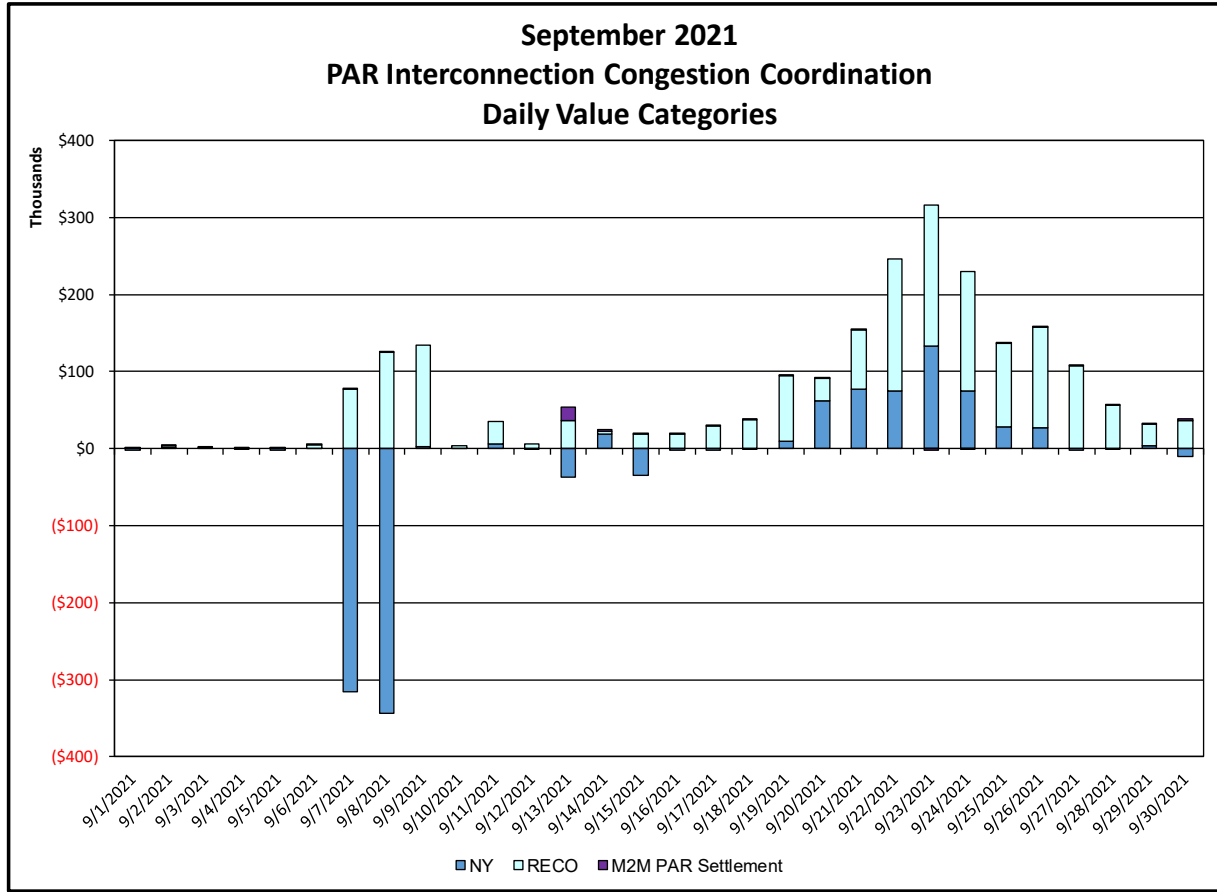




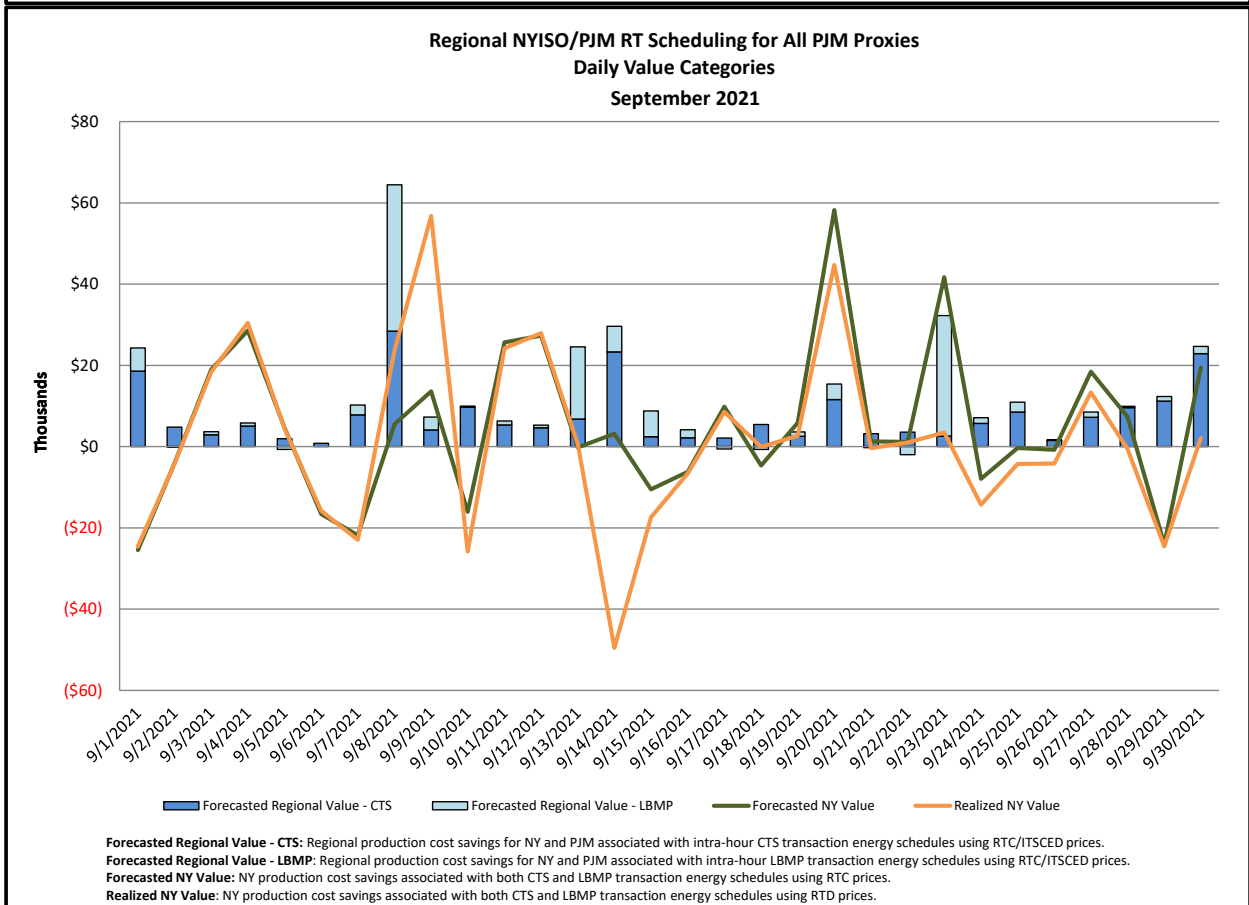
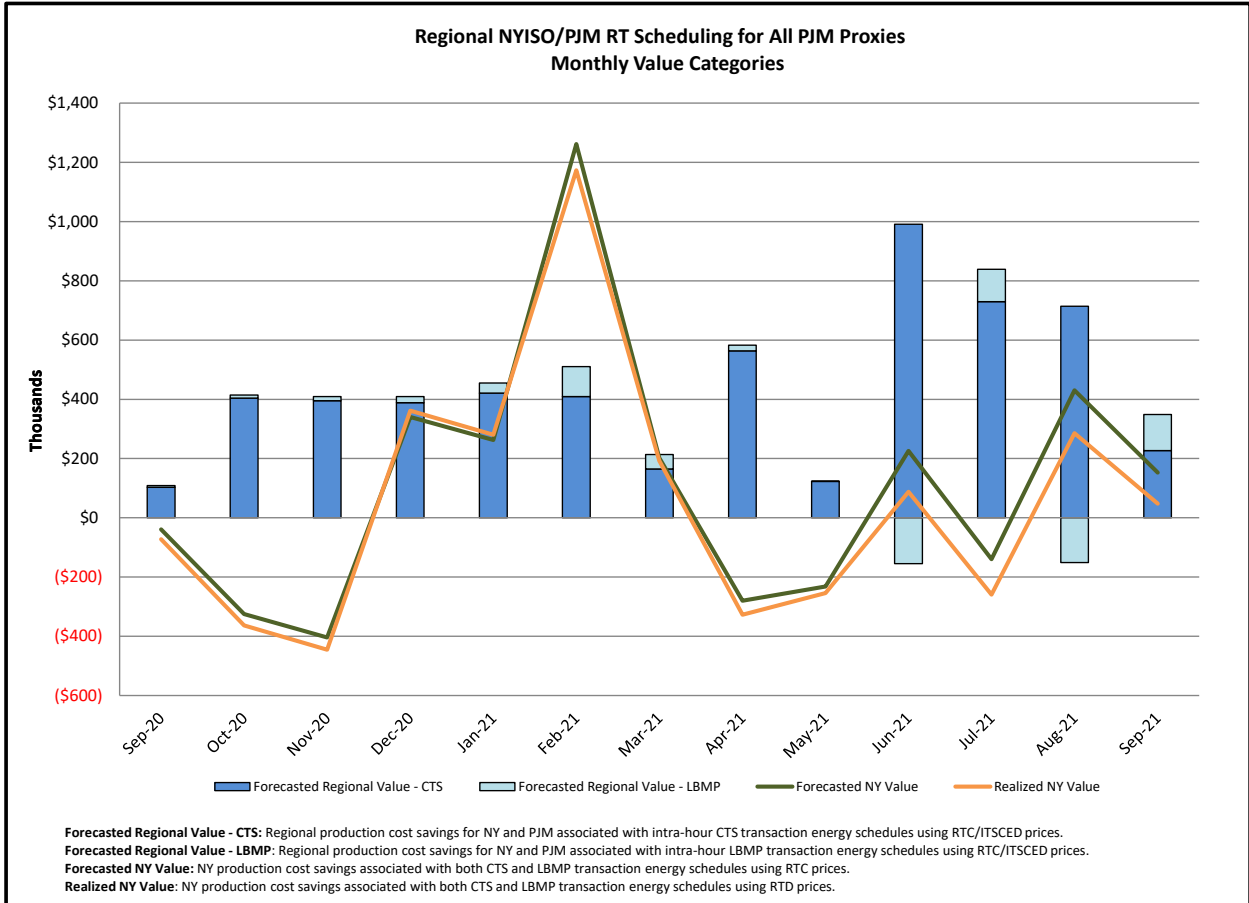


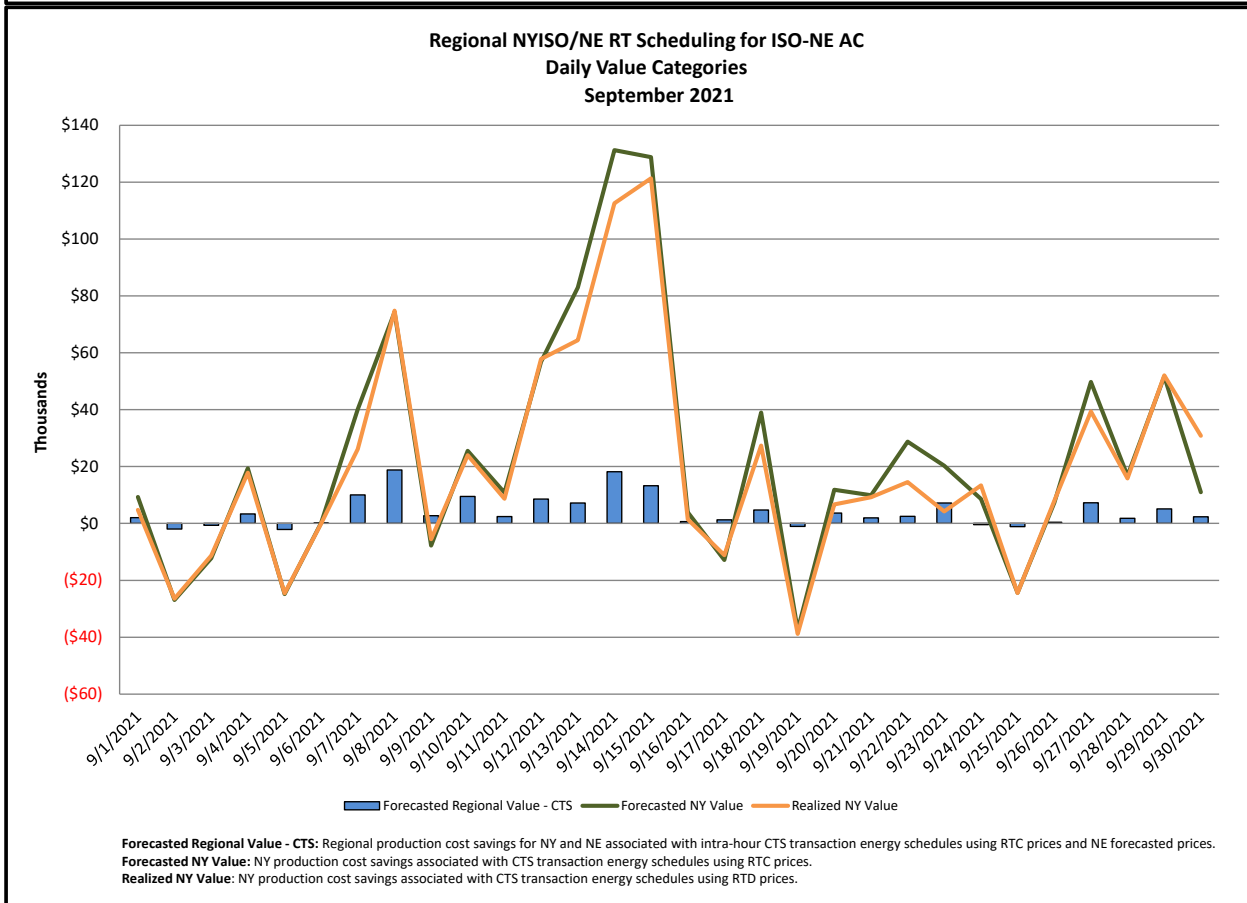
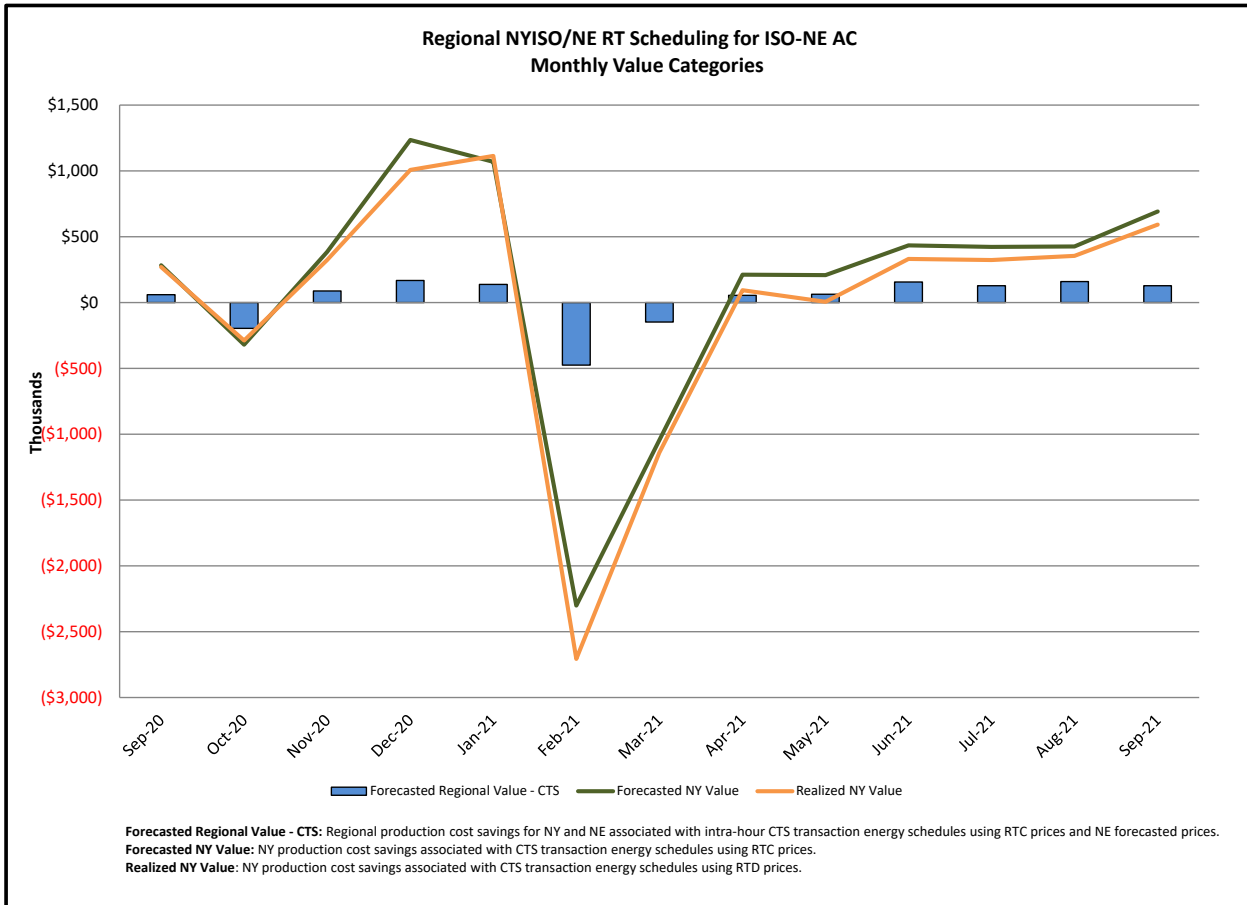
Broader Regional Market Performance Metrics



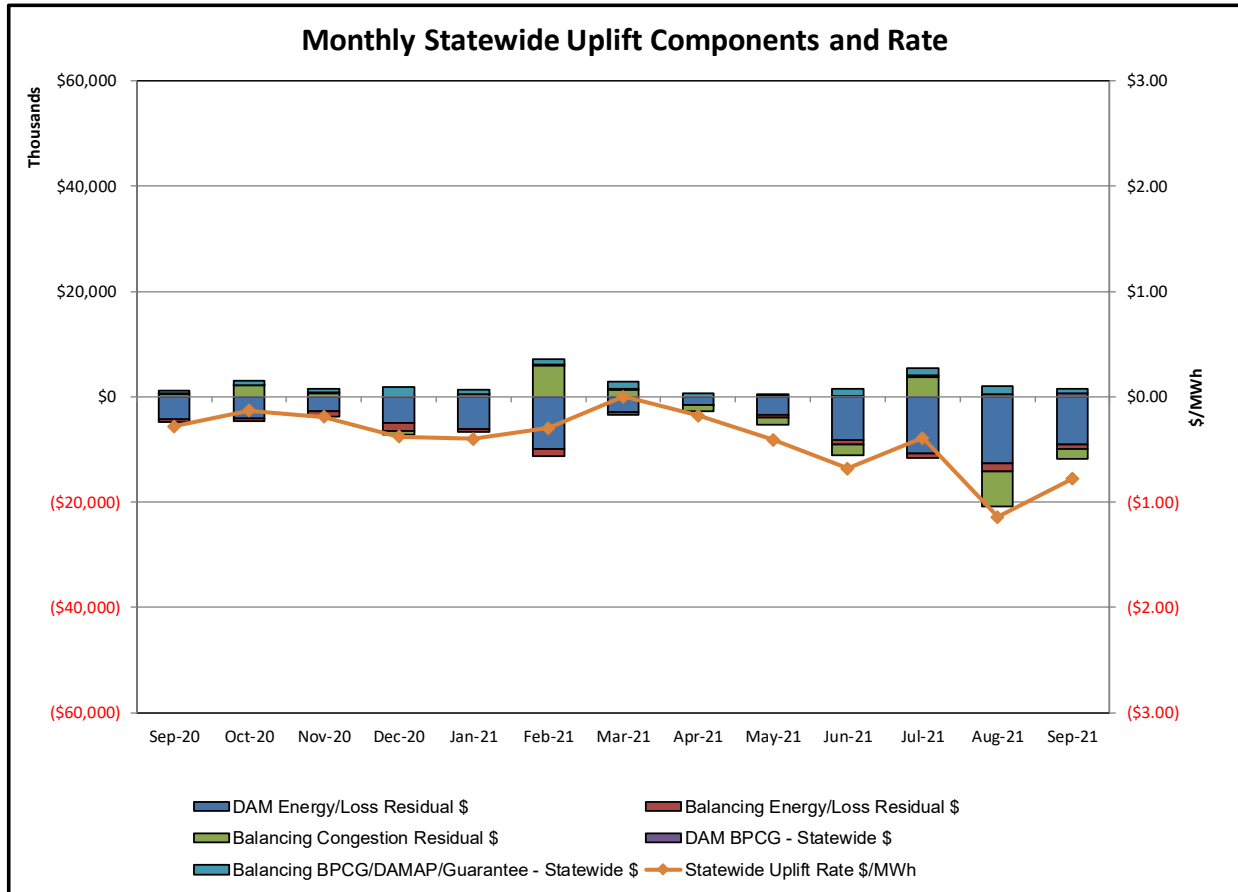


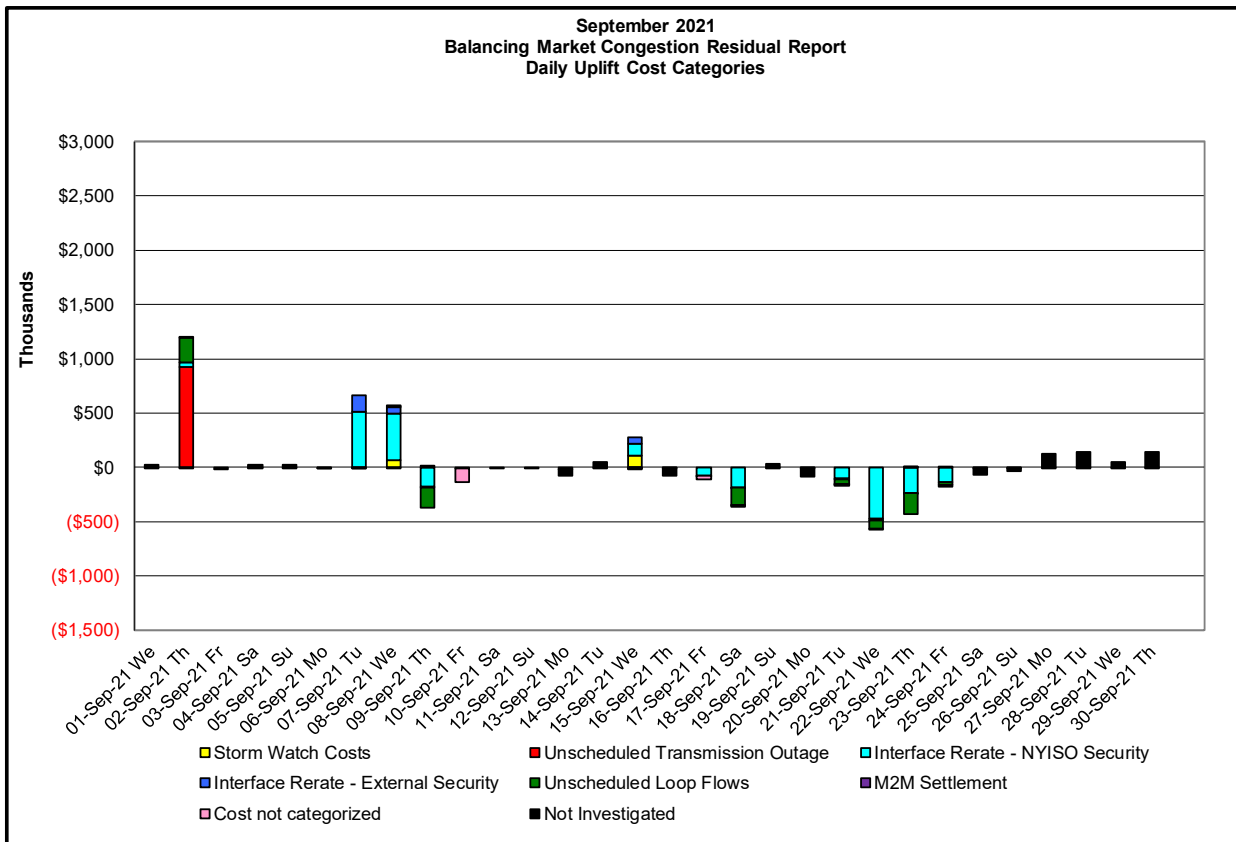
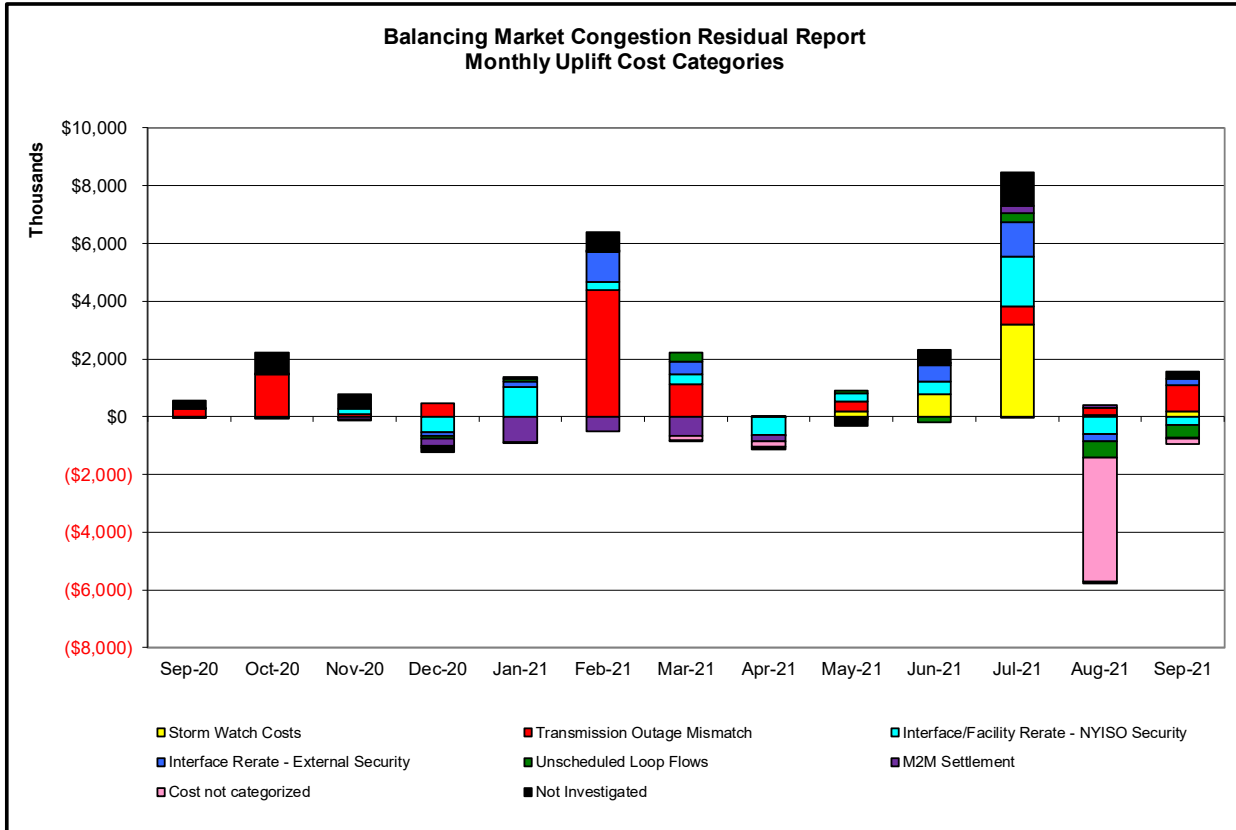
| <b>PAR Interconnection Congestion Coordination</b> |  |
|--|--|
| <u>Category</u>                                    | <u>Description</u>   |
| <b>NY</b>  | Represents the value NY realizes from Market-to-Market PAR Coordination when experiencing congestion. This is the estimated savings to NY for 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 September: 2, 7, 8, 9, 10, 15, 17, 18, 21, 22, 23, 24 |                 |  |
|---|-----------------|--|
| Event   | Date (yyyymmdd) | Description  |
|   | 9/2/2021        | 17-22 Forced Outage Jamaica-Lake Success (#903) PAR  |
|   | 9/2/2021        | 11, 12, 14-16 Derate MottHaven-Dunwoodie 345kV (#71) for I/o MottHaven-Dunwoodie 345kV (#72)                                       |
|   | 9/2/2021        | 11, 17, 18 Lake Erie Circulation, DAM-RTM exceeds +/-125MW; West   |
|   | 9/7/2021        | 13, 16 NYCA DNI Ramp Limit   |
|   | 9/7/2021        | 8-20, 23 Derate Chester-Shoemaker 138kV (#27) I/o \$SCB RCK TVRN 4455 W/311 O/S  |
|   | 9/7/2021        | 20-23 Derate Chester-Shoemaker 138kV (#27) I/o SCB:ROCKTVRN(4455)44&TR3&C1&C2  |
|   | 9/7/2021        | 13, 14, 17, 18, 22 NE AC DNI Ramp Limit  |
|   | 9/7/2021        | 20 PJM AC DNI Ramp Limit   |
|   | 9/8/2021        | 21, 22 Thunder Storm Alert, Buchanan North 345/138kV (#TA5), Buchanan-Ladentown 345kV (#Y88)                                       |
|   | 9/8/2021        | 10, 21 NYCA DNI Ramp Limit   |
|   | 9/8/2021        | 10-16 Derate Chester-Shoemaker 138kV (#27) I/o SCB:ROCKTVRN(4455)44&TR3&C1&C2  |
|   | 9/8/2021        | 23 Uprate Gardenville-Langner Rd 115kV (#180) I/o TWR:PACKARD 77 & 78  |
|   | 9/8/2021        | 23 Uprate Niagara-Packard 115kV (#194) I/o Niagara-Packard (#193)  |
|   | 9/8/2021        | 10, 11, 16 NE AC DNI Ramp Limit  |
|   | 9/8/2021        | 10, 17 Lake Erie Circulation, DAM-RTM exceeds +/-125MW; West   |
|   | 9/9/2021        | 13, 14 Uprate Gardenville - Langer Road 115kV (#180) for I/o TWR:PACKARD 77 & 78   |
|   | 9/9/2021        | 14, 15 Uprate Niagara-Packard 115kV (#193) for I/o Niagara-Packard 115kV (#193 & #194)   |
|   | 9/9/2021        | 14 Uprate Niagara Boulevard-Packard 115kV (#181-922) for I/o TWR:PACKARD 77 & 78   |
|   | 9/9/2021        | 15 NE AC-NY Scheduling Limit   |
|   | 9/9/2021        | 13-15 Lake Erie Circulation, DAM-RTM exceeds +/-125MW; West  |
|   | 9/10/2021       | 23 IESO AC DNI Ramp Limit  |
|   | 9/15/2021       | 17-21 Thunder Storm Alert, Pleasant Valley-Leeds 345kV (#92), East 13th Street-Farragut 345kV (#45), Chestor-Shoemaker 138kV (#27) |
|   | 9/15/2021       | 4, 9, 16-18, 20, 22 Derate Adirondack-Moses 230kV (#MA1) I/o SIN:MSU1&7040& HQ GN&LD PROXY   |
|   | 9/15/2021       | 0 Uprate Central East  |
|   | 9/15/2021       | 15 Uprate Freshkills-Willowbrook 138kV (#29211)  |
|   | 9/15/2021       | 9, 16-20, 22 Derate Niagara Blvd-Packard 115kV (#181-922)  |
|   | 9/15/2021       | 15 HQ CHAT-NY Scheduling Limit   |
|   | 9/15/2021       | 4, 18, 21 NE AC DNI Ramp Limit   |
|   | 9/15/2021       | 2, 4 NE AC-NY Scheduling Limit   |
|   | 9/15/2021       | 15, 16, 22 Lake Erie Circulation, DAM-RTM exceeds +/-125MW; West   |
|   | 9/17/2021       | 9 Uprate Brentwood-Pilgrim 69kV (#768) for I/o BUS:PILGRIM 660 765&BK3   |
|   | 9/17/2021       | 0, 1, 3-5, 8-10 Uprate Central East/Porter-Rotterdam 230kV (#31) for I/o BUS:N.SCTLD #99&18&1&94&BK1&C2                            |
|   | 9/18/2021       | 16 NYCA DNI Ramp Limit   |
|   | 9/18/2021       | 0, 1, 8, 19 Uprate Central East/Porter-Rotterdam 230kV (#31) for I/o BUS:N.SCTLD #99&18&1&94&BK1&C2                                |
|   | 9/18/2021       | 8 Uprate ConEd-LIPA  |
|   | 9/18/2021       | 15, 16 Derate Niagara Blvd-Packard 115kV (#181-922) for I/o TWR:PACKARD 77 & 78  |
|   | 9/18/2021       | 19 NE AC DNI Ramp Limit  |
|   | 9/18/2021       | 2, 8, 15, 16 Lake Erie Circulation, DAM-RTM exceeds +/-125MW; Central East, West   |
|   | 9/21/2021       | 12 NYCA DNI Ramp Limit   |
|   | 9/21/2021       | 0-4, 6-8, 17, 19, 21-23 Uprate Central East/Porter-Rotterdam 230kV (#31) for I/o BUS:N.SCTLD #99&18&1&94&BK1&C2                    |
|   | 9/21/2021       | 12 Uprate East13thStation-West49thSt 345kV (#M54) I/o SCB:SPBK(RS3):W75&99941  |
|   | 9/21/2021       | 7, 8, 12, 17, 19, 21 Uprate East 179th Street-HellGate 138kV (#15055)  |
|   | 9/21/2021       | 17 Uprate Freshkills-Willowbrook 138kV (#29212)  |
|   | 9/21/2021       | 16 Derate East13thStation-West49thSt 345kV (#M54) I/o SCB:SPBK(RS3):W75&99941  |
|   | 9/21/2021       | 16 Derate Gardenville-Langner Rd 115kV (#180) I/o TWR:PACKARD 77 & 78  |
|   | 9/21/2021       | 1, 2 NE AC DNI Ramp Limit  |
|   | 9/21/2021       | 0 PJM AC DNI Ramp Limit  |
|   | 9/21/2021       | 1, 2, 7, 8, 12, 21, 22 Lake Erie Circulation, DAM-RTM exceeds +/-125MW; Central East, West   |
|   | 9/22/2021       | 22 NYCA DNI Ramp Limit   |
|   | 9/22/2021       | 1-6, 8-23 Uprate Central East/Porter-Rotterdam 230kV (#31) for I/o BUS:N.SCTLD #99&18&1&94&BK1&C2                                  |
|   | 9/22/2021       | 6, 8-13, 22 Uprate East 179th Street-HellGate 138kV (#15055)   |
|   | 9/22/2021       | 21 NE AC DNI Ramp Limit  |
|   | 9/22/2021       | 2-5, 9, 19, 22, 23 Lake Erie Circulation, DAM-RTM exceeds +/-125MW; Central East, West   |
|   | 9/23/2021       | 10 NYCA DNI Ramp Limit   |
|   | 9/23/2021       | 0-8, 10-14, 16-20 Uprate Central East/Porter-Rotterdam 230kV (#31) for I/o BUS:N.SCTLD #99&18&1&94&BK1&C2                          |
|   | 9/23/2021       | 22, 23 Derate Adirondack-Moses 230kV (#) for I/o SIN:MSU1&7040& HQ GN&LD PROXY   |
|   | 9/23/2021       | 8, 9 Uprate Brentwood-Pilgrim 69kV (#768) for I/o BUS:PILGRIM 660 765&BK3  |
|   | 9/23/2021       | 15 Derate East13thStation-West49thSt 345kV (#M54) I/o SCB:SPBK(RS3):W75&99941  |
|   | 9/23/2021       | 7-11, 19, 20 Uprate East 179th Street-HellGate 138kV (#15055)  |
|   | 9/23/2021       | 15, 17 NE NNC1385 - NY Scheduling Limit  |
|   | 9/23/2021       | 16 NE AC DNI Ramp Limit  |
|   | 9/23/2021       | 0, 8-14, 16-19 Lake Erie Circulation, DAM-RTM exceeds +/-125MW; Central East, West   |
|   | 9/24/2021       | 0-4, 6, 9, 12, 14, 18, 20, 21, 23 Uprate Central East  |
|   | 9/24/2021       | 12, 14-18, 23 Uprate East 179th Street-HellGate 138kV (#15055)   |
|   | 9/24/2021       | 10, 11, 13 Derate Niagara Boulevard-Packard 115kV (#181-922) for I/o TWR:PACKARD 77 & 78   |
|   | 9/24/2021       | 10, 11, 13 Derate Military Road-Summit 115kV(#129) for I/o TWR:PACKARD 77 & 78   |
|   | 9/24/2021       | 0, 1, 18, 23 Lake Erie Circulation, DAM-RTM exceeds +/-125MW; Central East, West   |

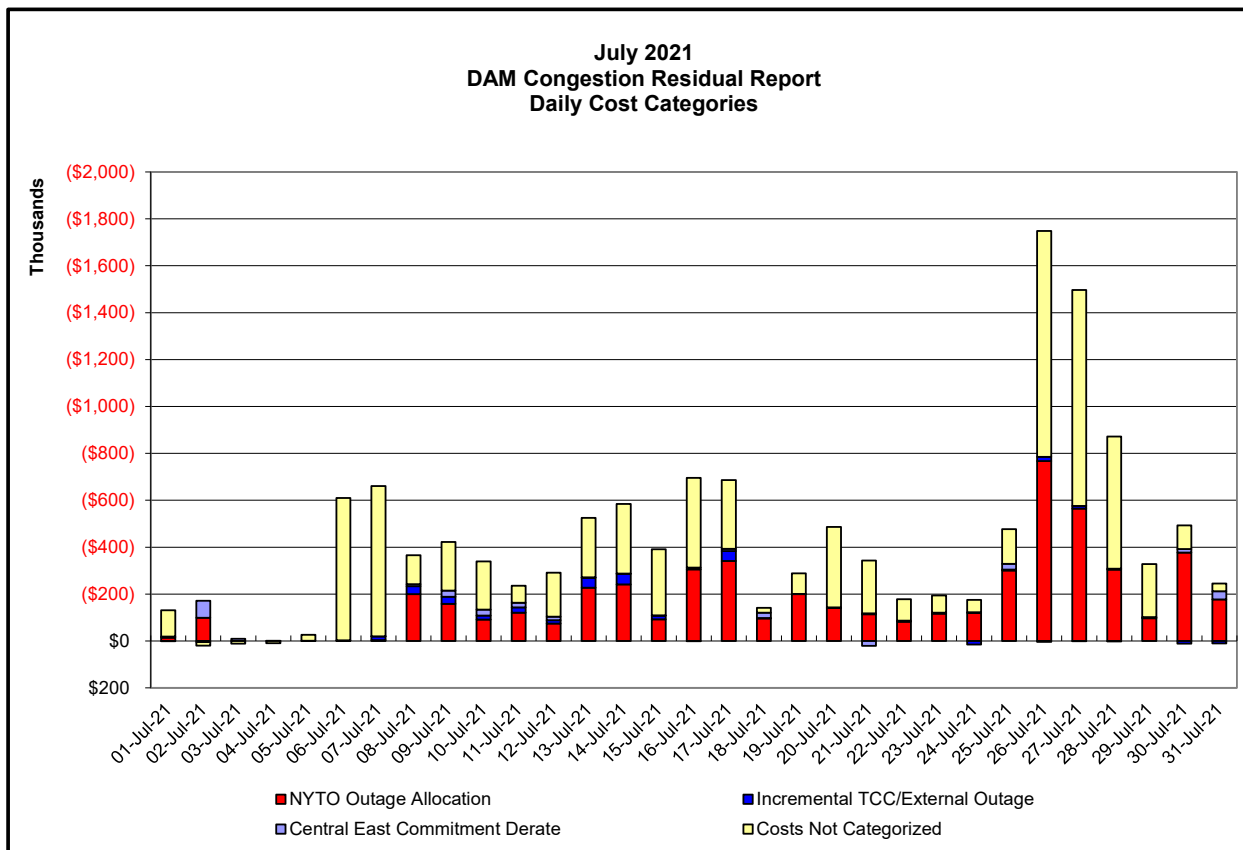
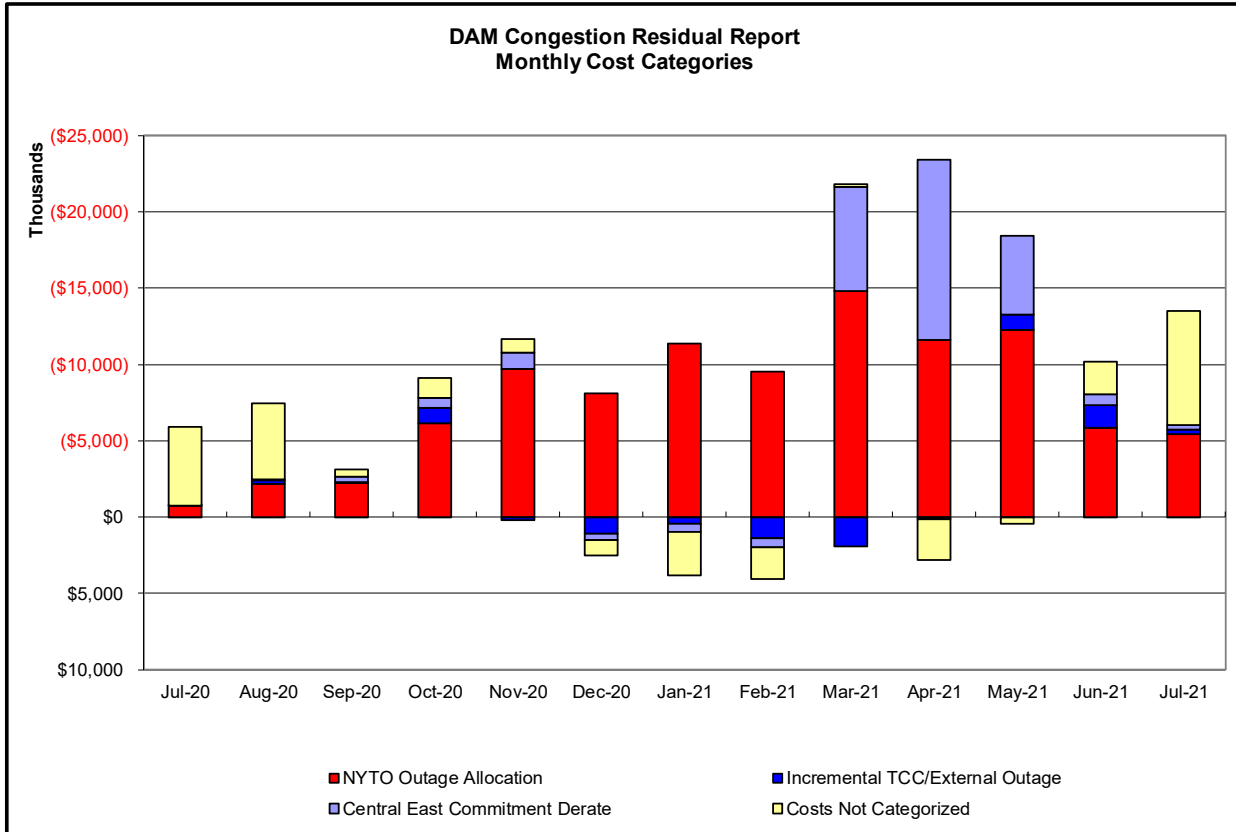
**Real-Time Balancing Market Congestion Residual (Uplift Cost) Categories**

| <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.   |  |

