Operations Performance Metrics Monthly Report









March 2019 Report

Operations & Reliability Department New York Independent System Operator



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March 2019 Operations Performance Highlights

- Peak load of 22,257 MW occurred on 03/06/2019 HB 18
- All-time winter capability period peak load of 25,738 MW occurred on 1/7/2014 HB 18
- 2:37 hours of Thunder Storm Alerts were declared
- 0 hours of NERC TLR level 3 curtailment
- The following table identifies the estimated production cost savings associated with the Broader Regional Market initiatives.

	Current Month	Year-to-Date
	Value (\$M)	Value (\$M)
NY Savings from PJM-NY Congestion Coordination	\$0.56	\$5.06
NY Savings from PJM-NY Coordinated Transaction Scheduling	(\$0.10)	\$0.30
NY Savings from NE-NY Coordinated Transaction Scheduling	\$0.17	(\$0.04)
Total NY Savings	\$0.63	\$5.32
Regional Savings from PJM-NY Coordinated Transaction Scheduling	\$0.50	\$1.36
Regional Savings from NE-NY Coordinated Transaction Scheduling	\$0.04	\$0.19
Total Regional Savings	\$0.54	\$1.55

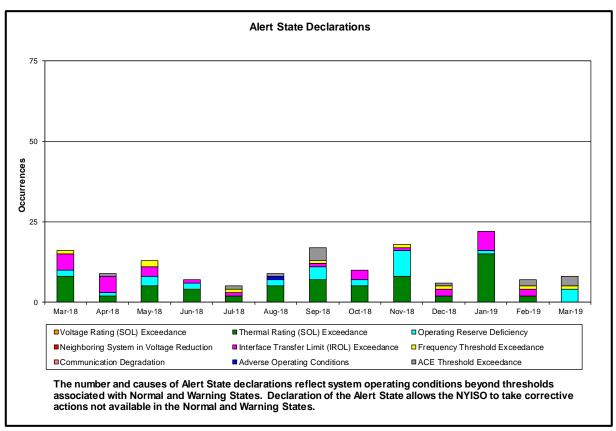
- Statewide uplift cost monthly average was (\$0.64)/MWh
- The following table identifies the Monthly ICAP spot market prices and the price delta.

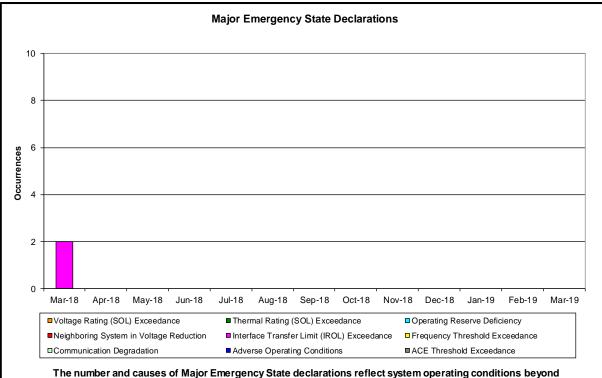
Spot Auction Price Results	NYCA	Lower Hudson Valley Zones	New York City Zone	Long Island Zone
April 2019 Spot Price	\$0.26	\$1.45	\$1.45	\$0.41
March 2019 Spot Price	\$1.09	\$1.54	\$1.54	\$1.09
Delta	(\$0.83)	(\$0.09)	(\$0.09)	(\$0.68)

- NYCA Price decrease by \$0.83 due to an increase in net imports.
- LI Price decrease by \$0.68 due to price not being set by NYCA.



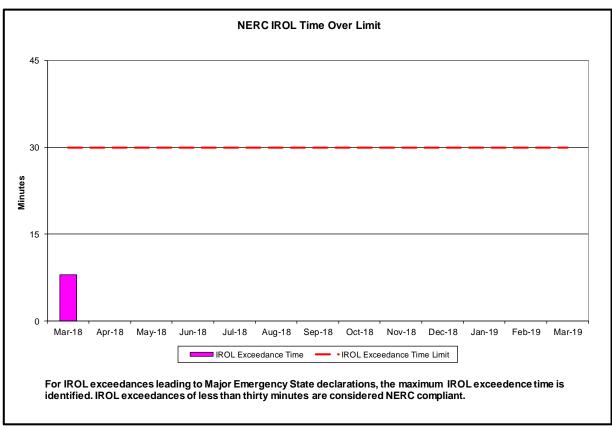
Reliability Performance Metrics

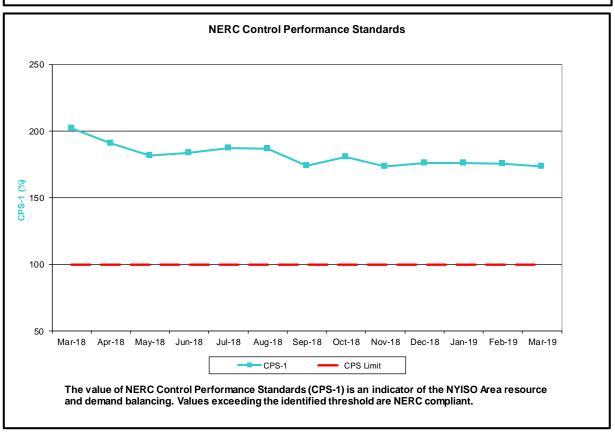




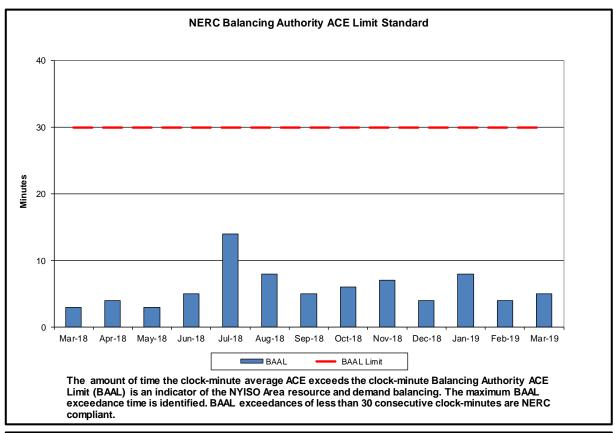
thresholds associated with the Alert State. Declaration of the Major Emergency State allows the NYISO to take additional corrective actions not available in the Alert State.

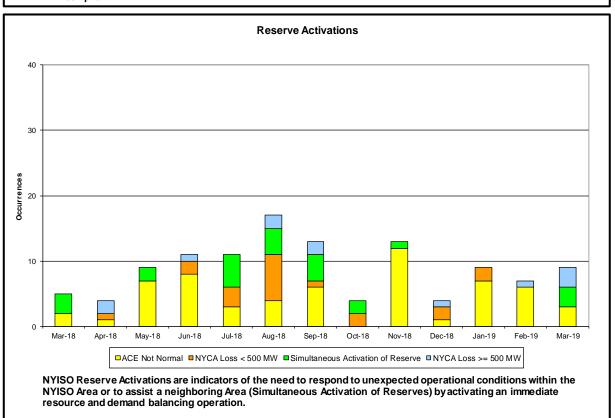




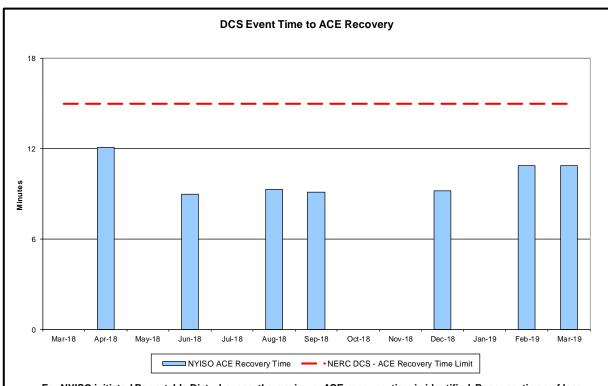




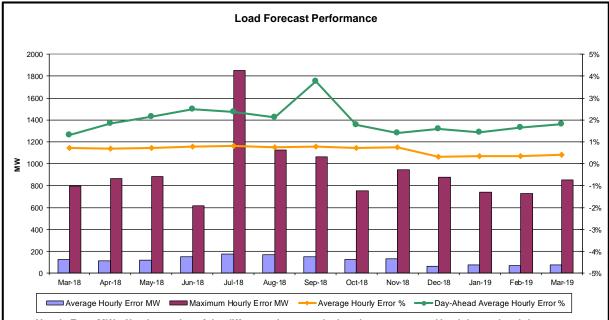








For NYISO initiated Reportable Disturbances, the maximum ACE recovery time is identified. Recovery times of less than 15 minutes are considered NERC compliant.

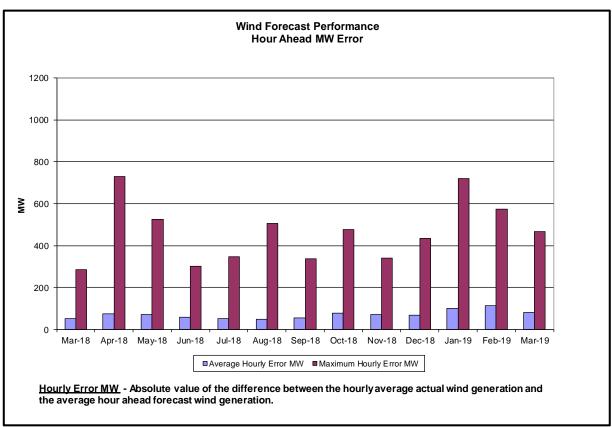


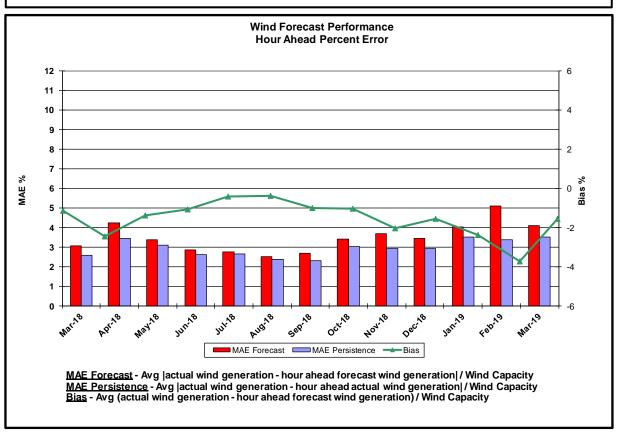
<u>Hourly Error MW</u> - Absolute value of the difference between the hourly average actual load demand and the average hour ahead forecast load demand.

<u>Average Hourly Error %</u> - Average value of the ratio of hourly average error magnitude to hourly average actual load demand.

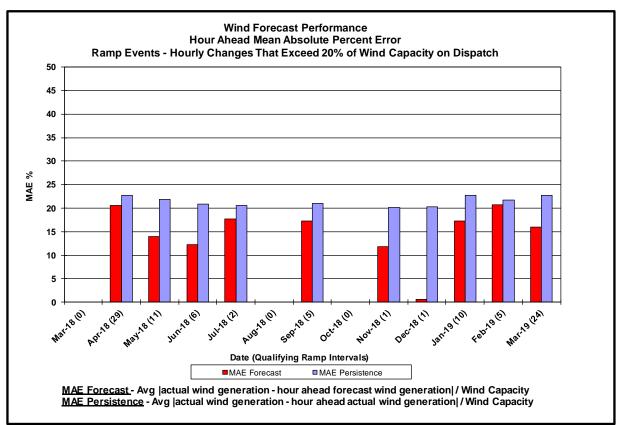
<u>Day-Ahead Average Hourly Error %</u> - Average across all hours of the month of the absolute value of the difference between actual load demand and the Day-Ahead forecast load demand, divided by the actual load demand.

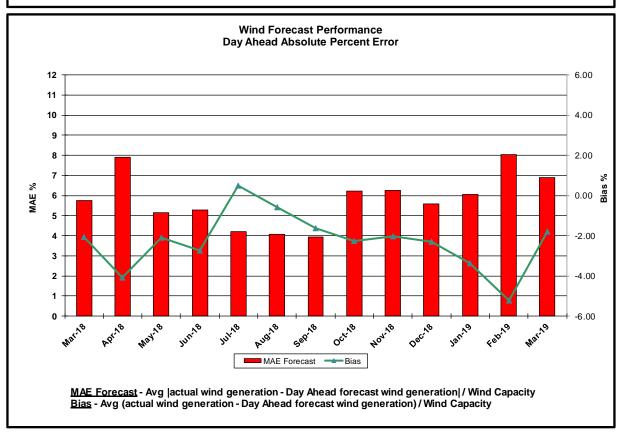




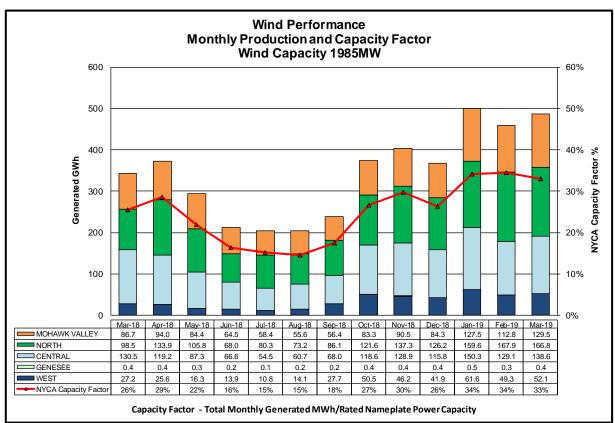


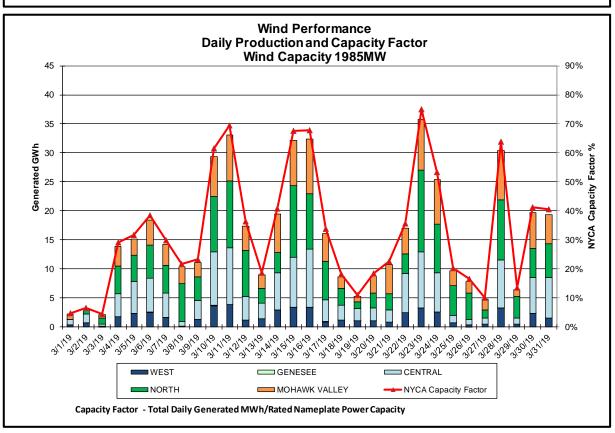




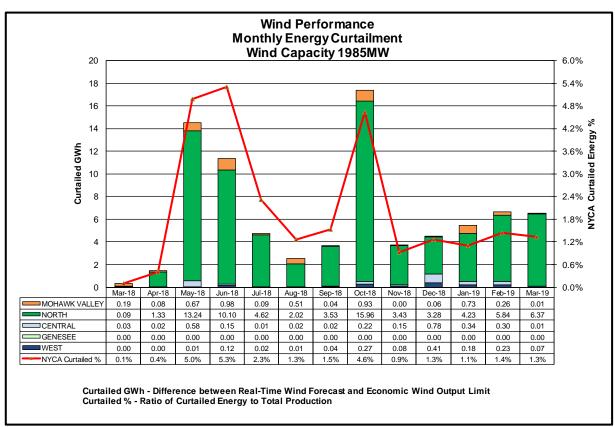


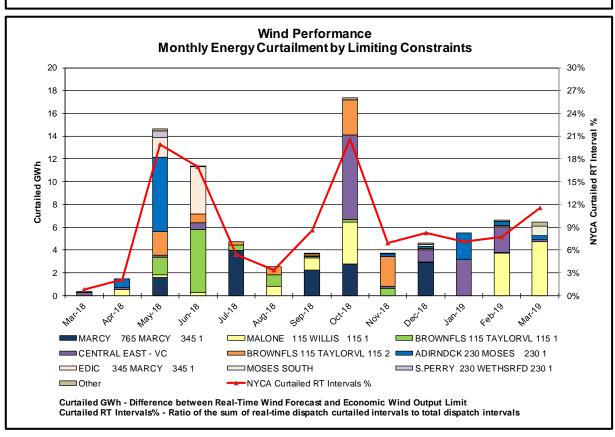




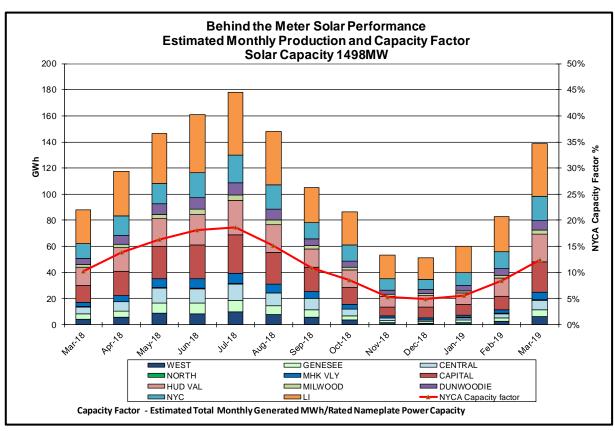


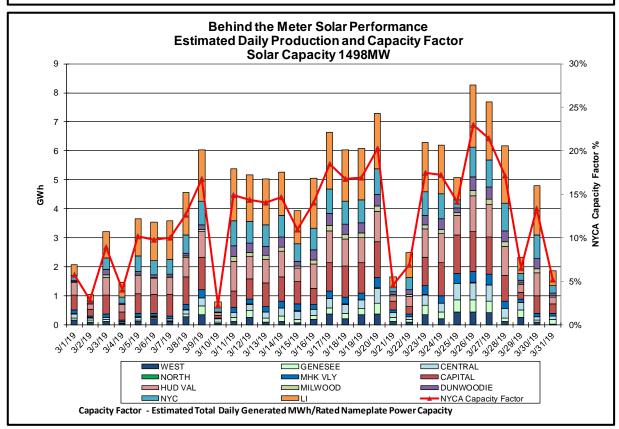




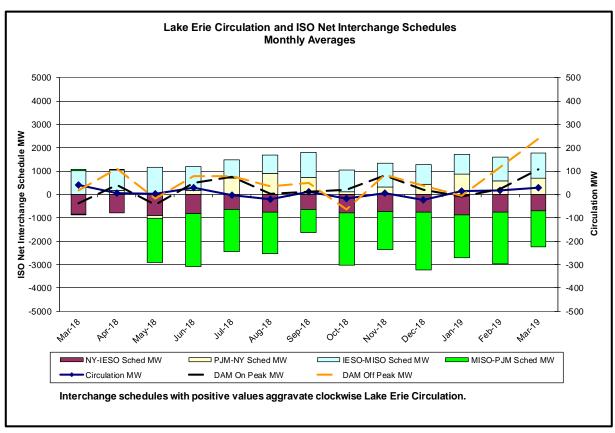


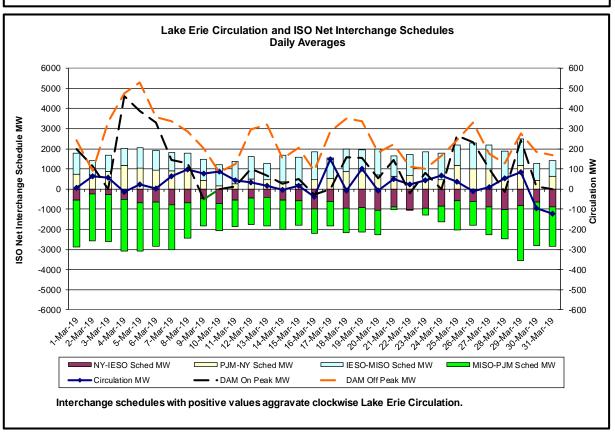






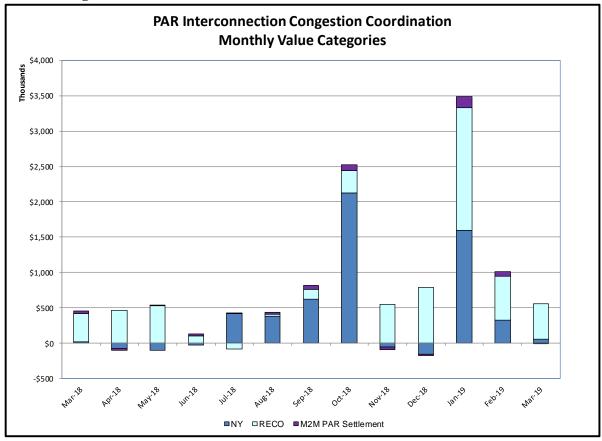


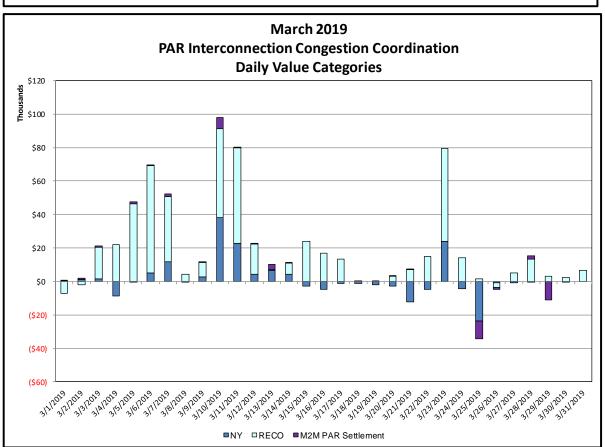






Broader Regional Market Performance Metrics







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

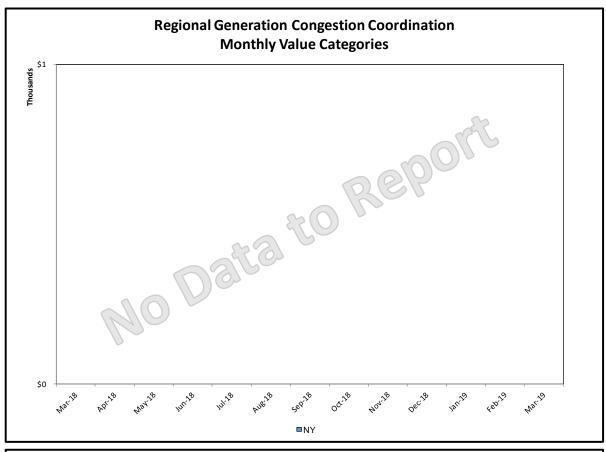
of RECO over Ramapo 5018.

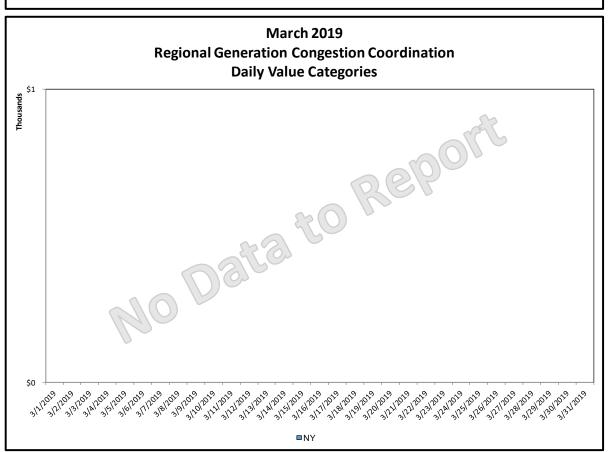
M2M PAR Settlement Market-to-Market PAR Coordination settlement on coordinated flowgates. Through April 2017

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.







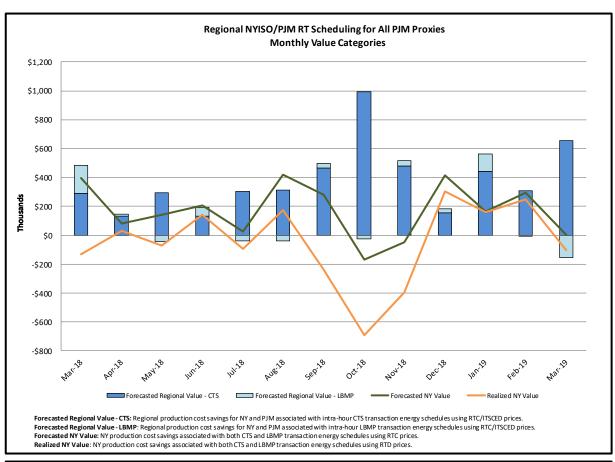


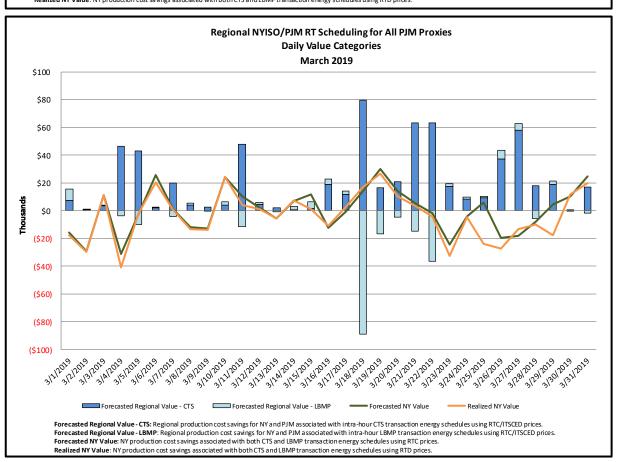
Regional Generation Congestion Coordination

<u>Category</u> NY

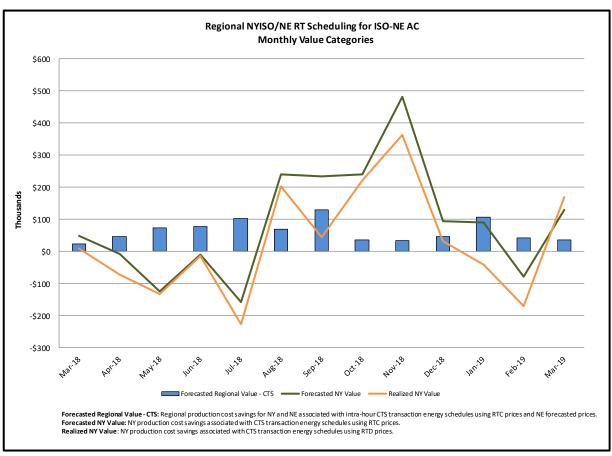
<u>Description</u>
NYISO savings that result from PJM payments to NYISO when PJM's transmission use (PJM's market flow) is greater than PJM's entitlement of the NY transmission system and NYISO is incurring Western or Central NY congestion. Additionally, NYISO savings may result from the more efficient regional utilization of PJM's generation resources to directly address Western or Central NY transmission congestion.

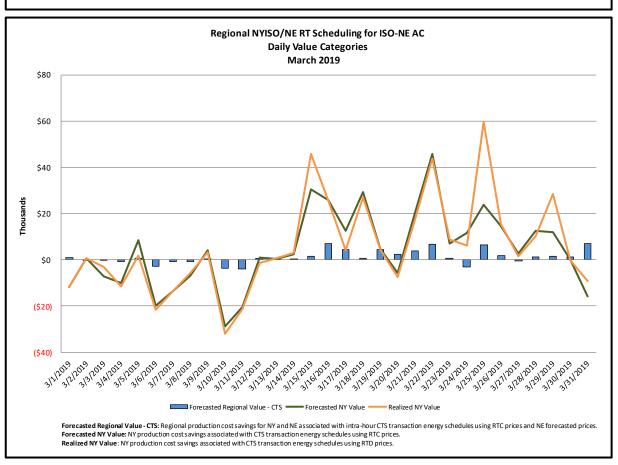






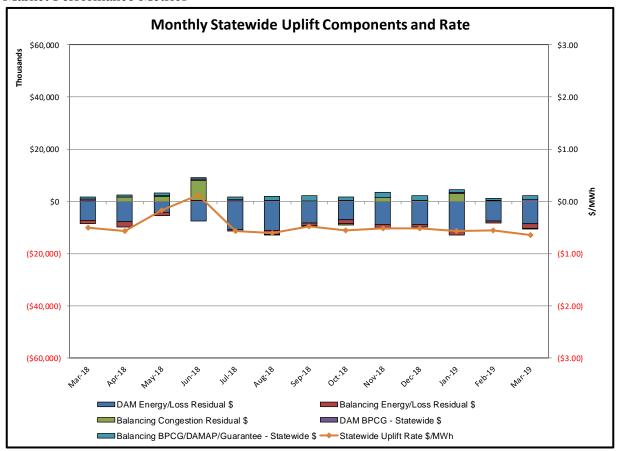




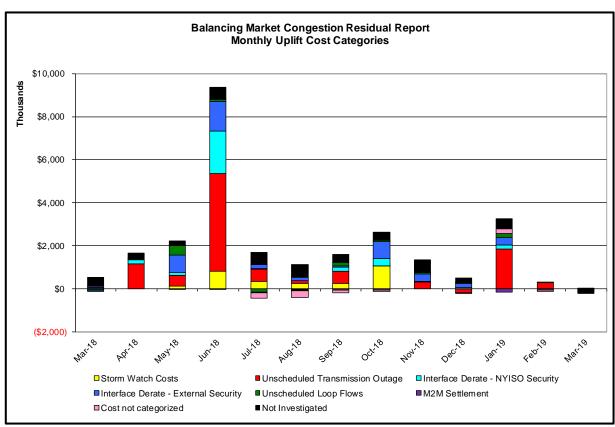


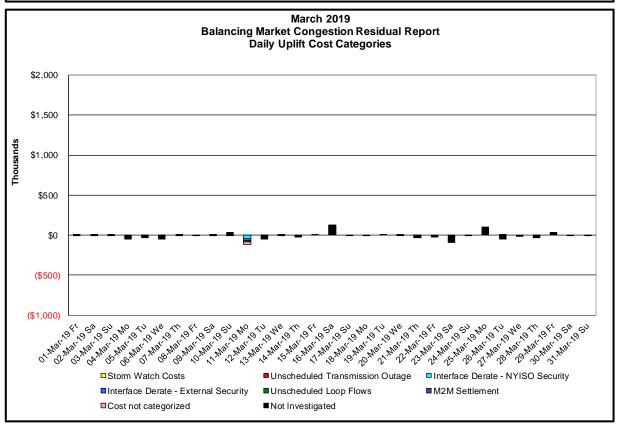


Market Performance Metrics









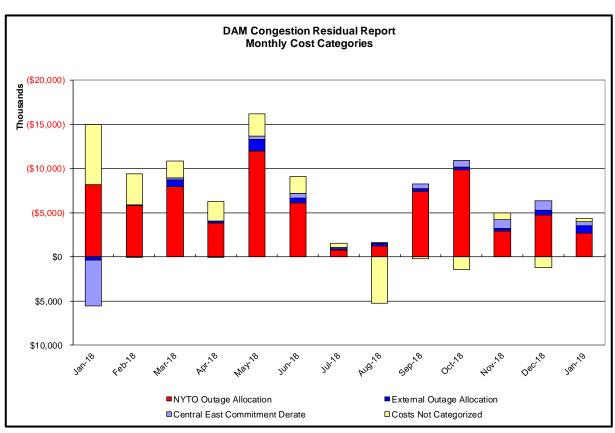


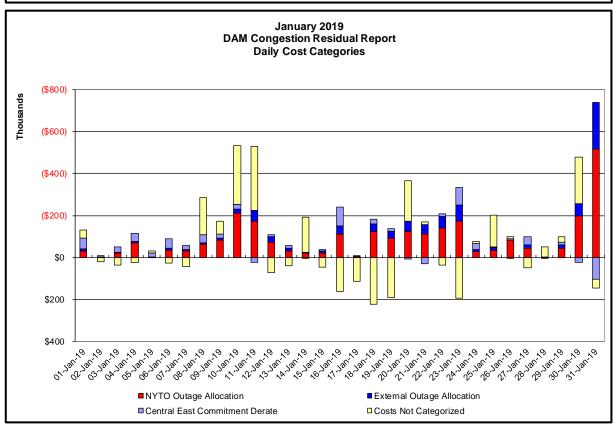
Day's in	vestigated in March:11		
Event	Date (yyyymmdd)	Hours	Description
	3/11/2019	7-9,1723	Uprate Central East
	3/11/2019	7	NYCA DNI Ramp Limit
	3/11/2019	7-9,18,21,23	NE_AC-NY Scheduling Limit
	3/11/2019	7,8,19-21	Lake Erie Circulation, DAM-RTM exceeds +/-125MW; Central East

<u>Category</u> Storm Watch	<u>Cost Assignment</u> Zone J	<u>Events Types</u> Thunderstorm Alert (TSA)	Event Examples TSA Activations
Unscheduled Transmission Outage	Market-wide	Reduction in DAM to RTM transfers related to unscheduled transmission outage	Forced Line Outage, Unit AVR Outages
Interface Derate - NYISO Security	Market-wide	Reduction in DAM to RTM transfers not related to transmission outage	Interface Derates due to RTM voltages
Interface Derate - External Security	Market-wide	Reduction 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 Congestic	on Report Assumpti	ons/Notes	

- 2) Days with a value of BMCR less M2M Settlement of \$100K/HR, shortfall of \$200K/investigated.
 3) Uplift costs associated with multiple event types are apportioned equally by hour









Day-Ahead Market Congestion Residual Categories			
<u>Category</u> NYTO Outage Allocation	<u>Cost Assignment</u> Responsible TO	Events Types Direct allocation to NYTO's responsible for transmission equipment status change.	Event Examples DAM scheduled outage for equipment modeled inservice for the TCC Auction.
External Outage Allocation	All TO by Monthly Allocation Factor	Direct allocation to transmission equipment status change caused by change in status of external equipment.	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.	



