

Operations Performance Metrics Monthly Report



June 2015 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 July 9, 2015.

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June 2015 Operations Performance Highlights

- Peak load of 28,100 MW occurred on 6/23/2015 HB 15
- All-time summer capability period peak load of 33,956 MW occurred on 7/19/2013 HB 16
- On June 22nd the NYISO declared the Alert State, operated in Thunderstorm Alert, and reduced power flows to 90% of ratings due to the K-9 intensity solar storm.
- 27 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.

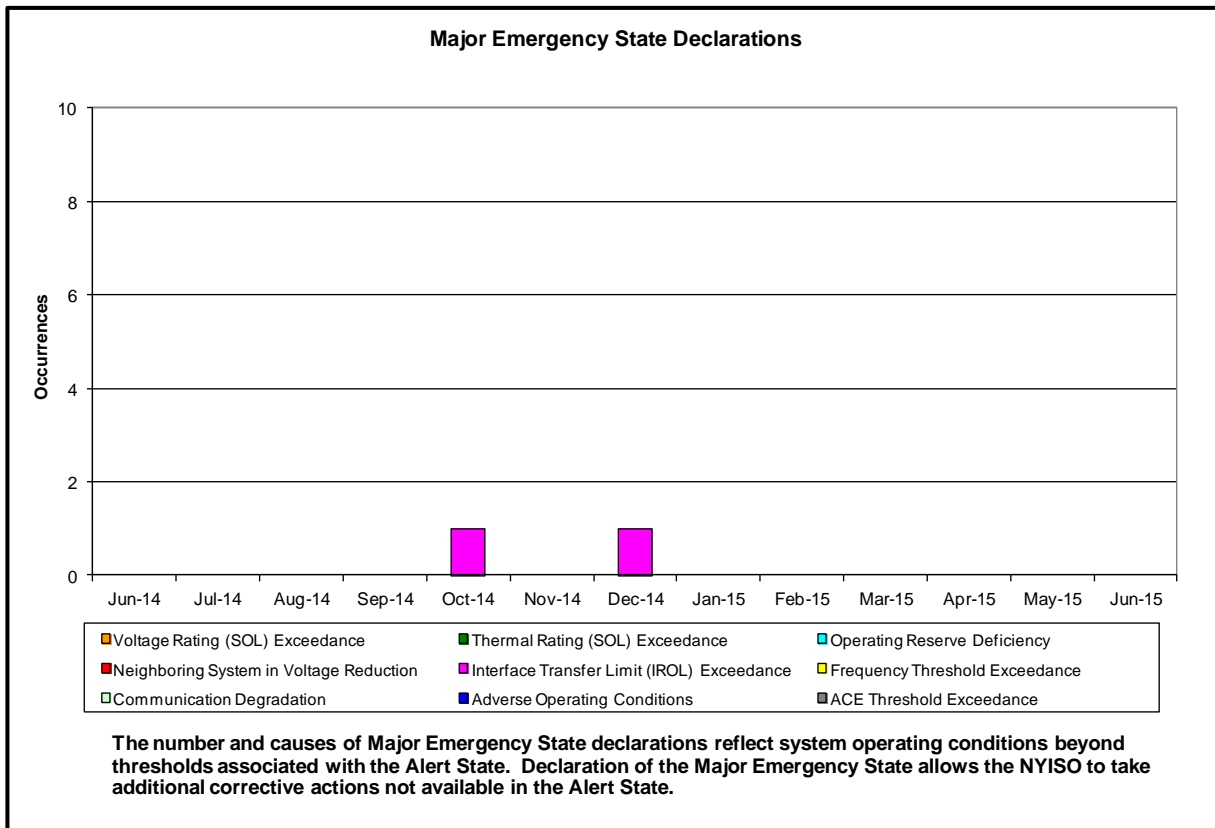
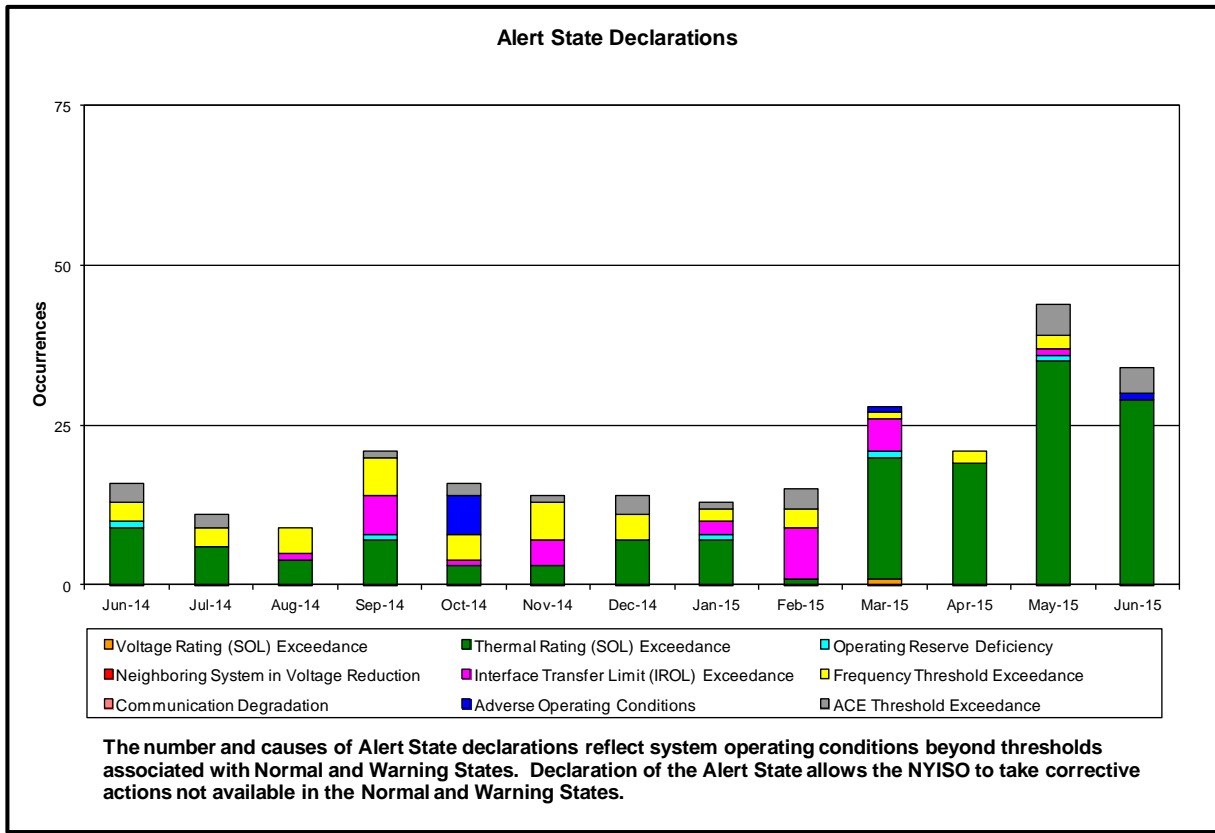
	Current Month Value (\$M)	Year-to-Date Value (\$M)
Regional Congestion Coordination	\$0.88	\$9.10
Regional PJM-NY RT Scheduling	\$0.39	\$3.74
Total	\$1.27	\$12.84

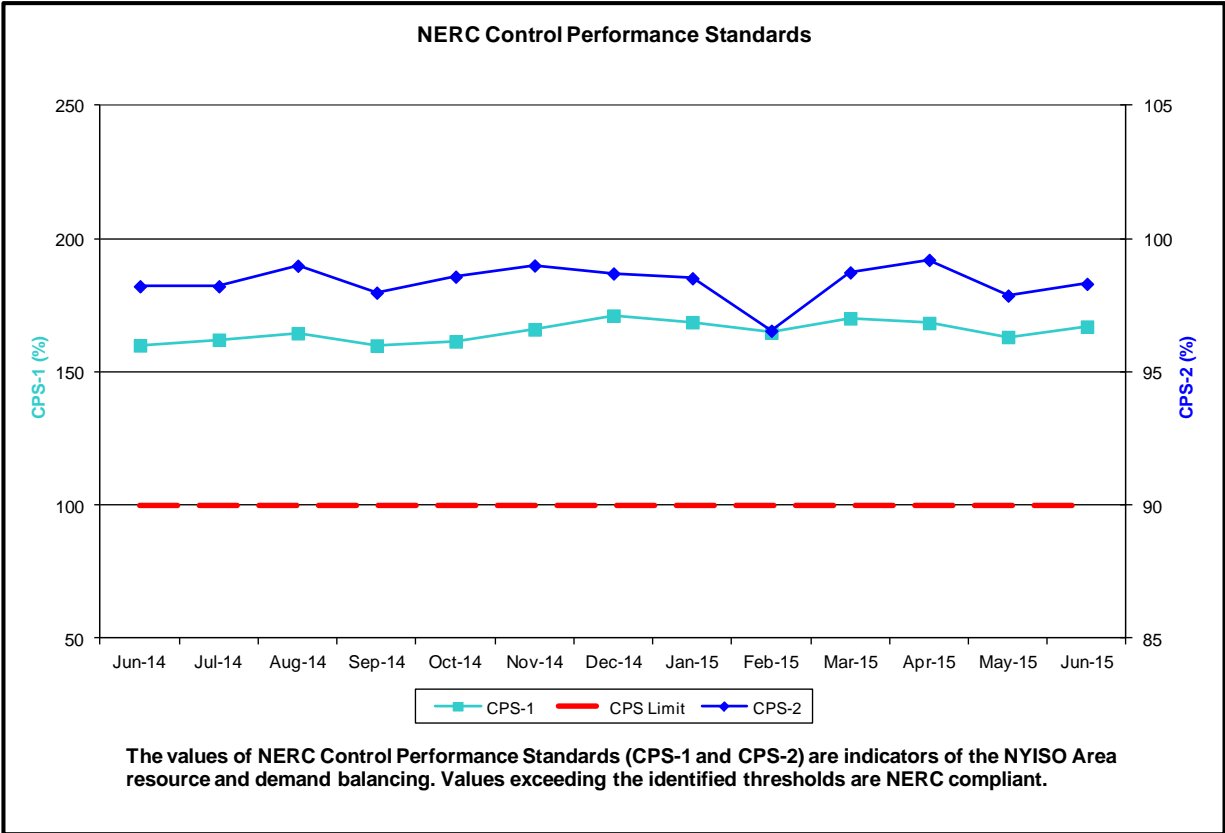
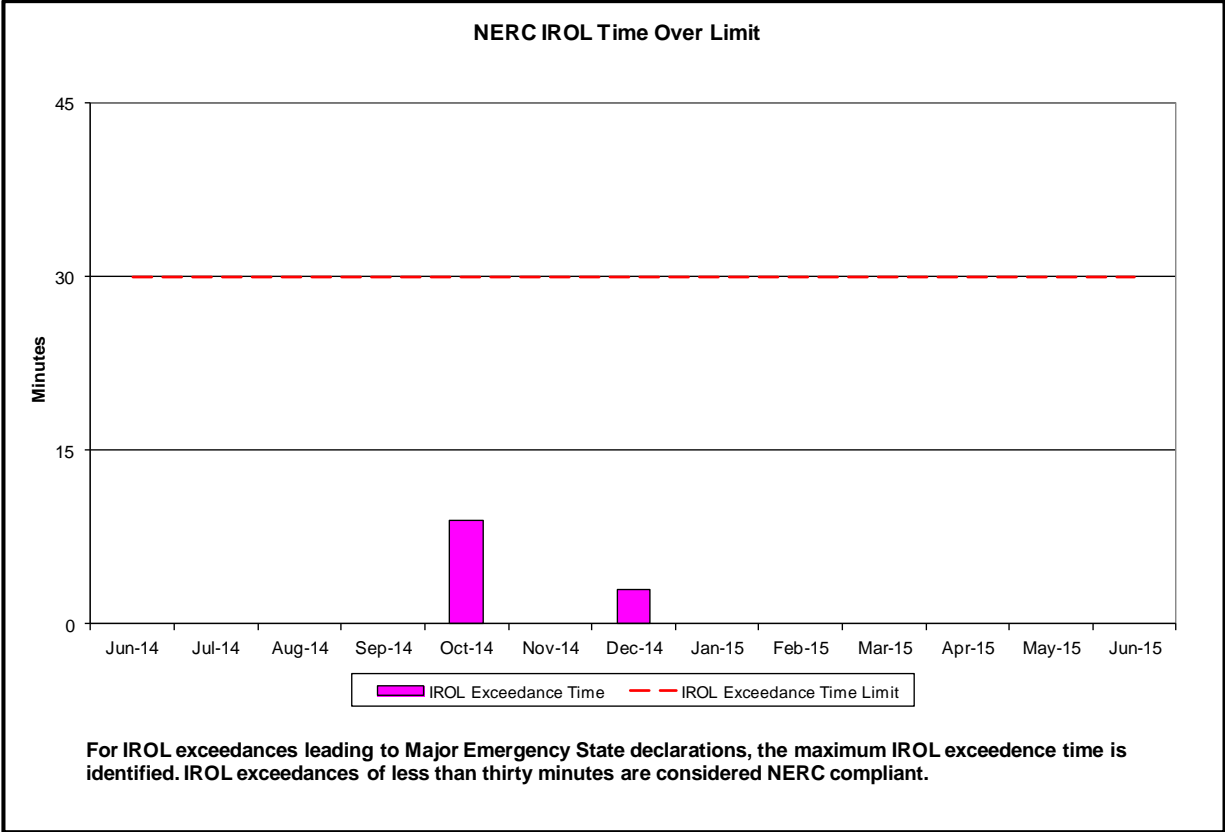
- Statewide uplift cost monthly average was **(\$0.03)/MWh**
- The following table identifies the Monthly ICAP spot market prices by locality and the price changes from the prior month.

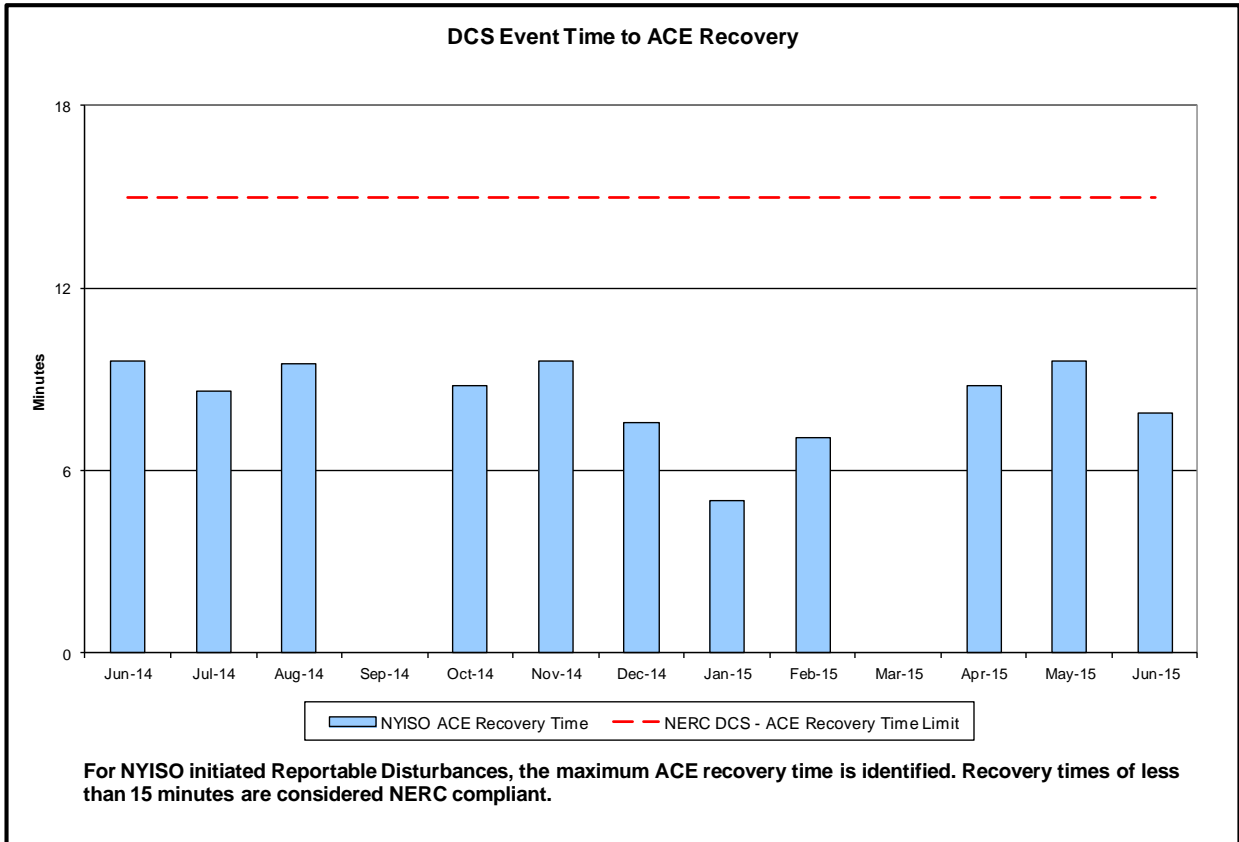
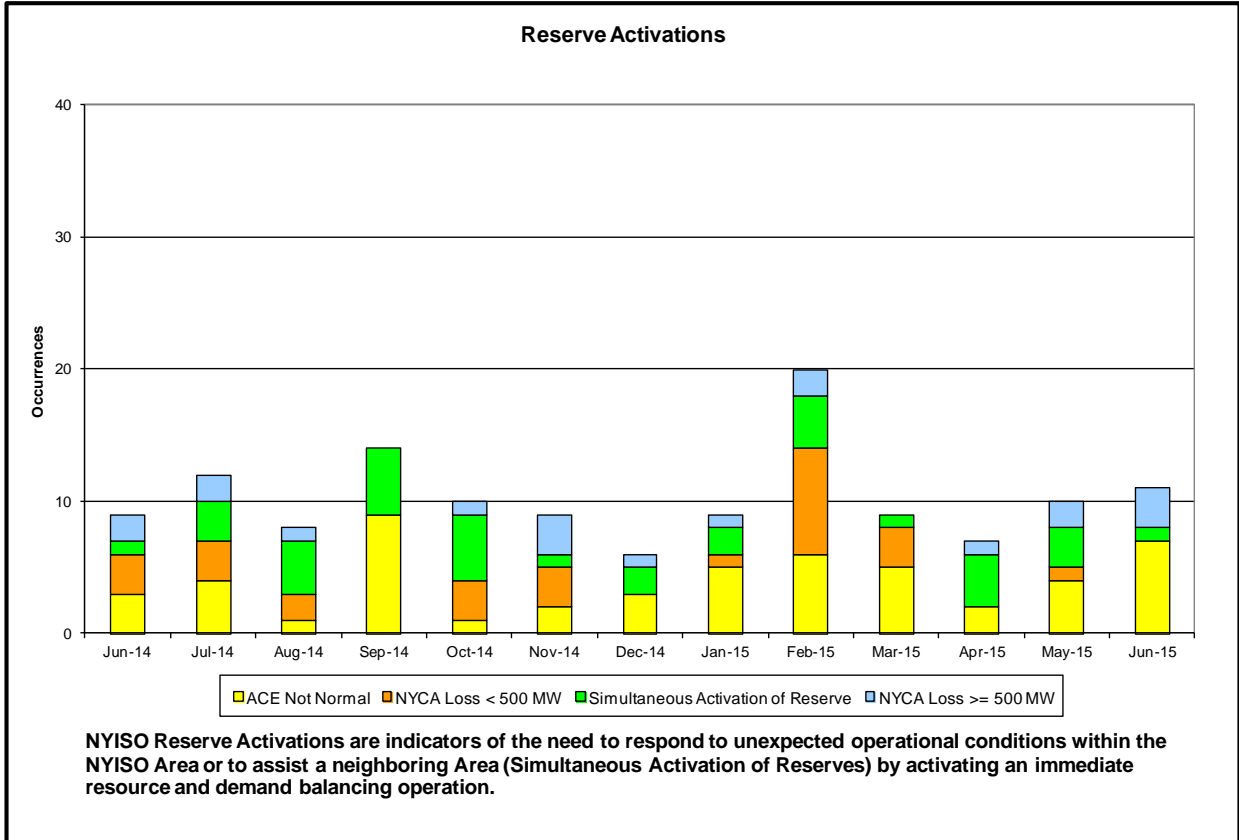
Spot Auction Price Results	NYCA	Lower Hudson Valley Zones	New York City Zone	Long Island Zone
July 2015 Spot Price	\$3.98	\$8.36	\$15.26	\$5.77
Change from Prior Month	(\$0.90)	(\$2.20)	(\$0.15)	\$0.00

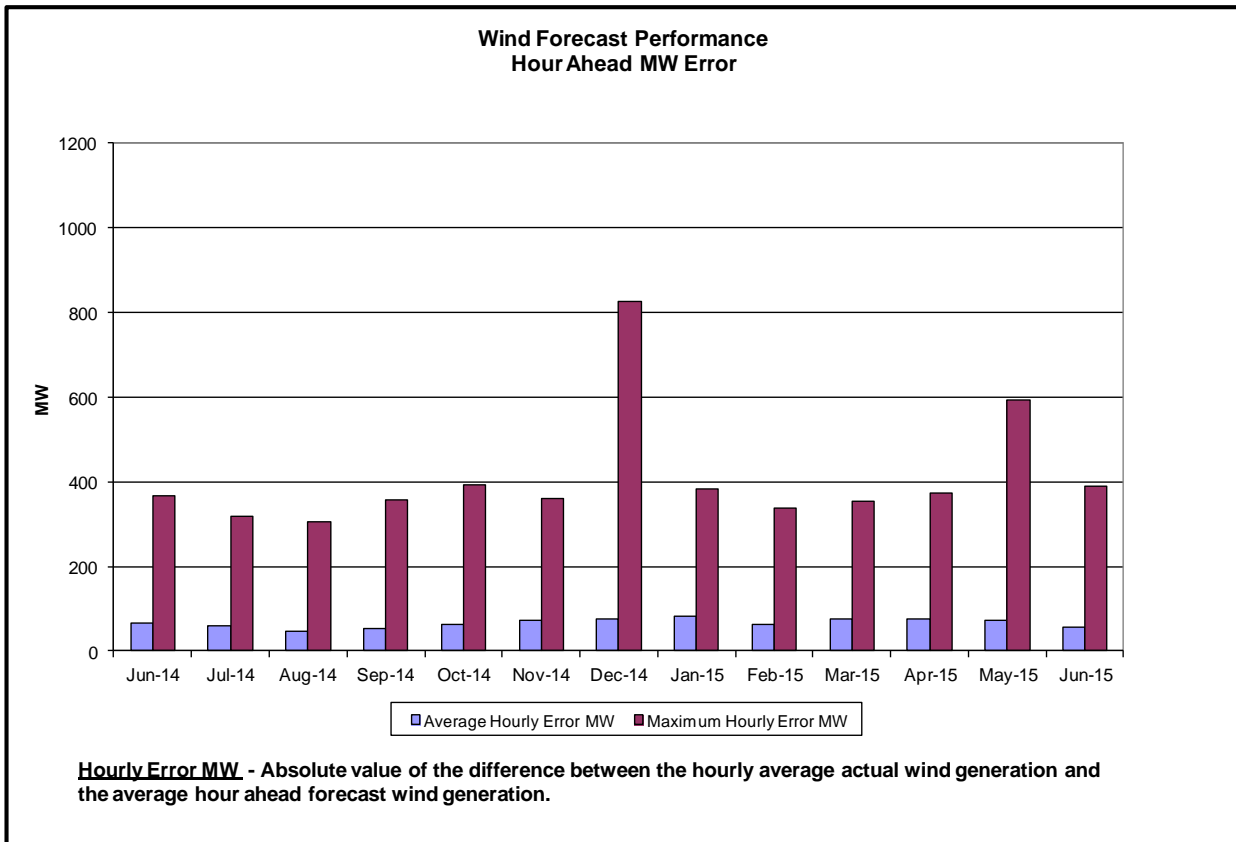
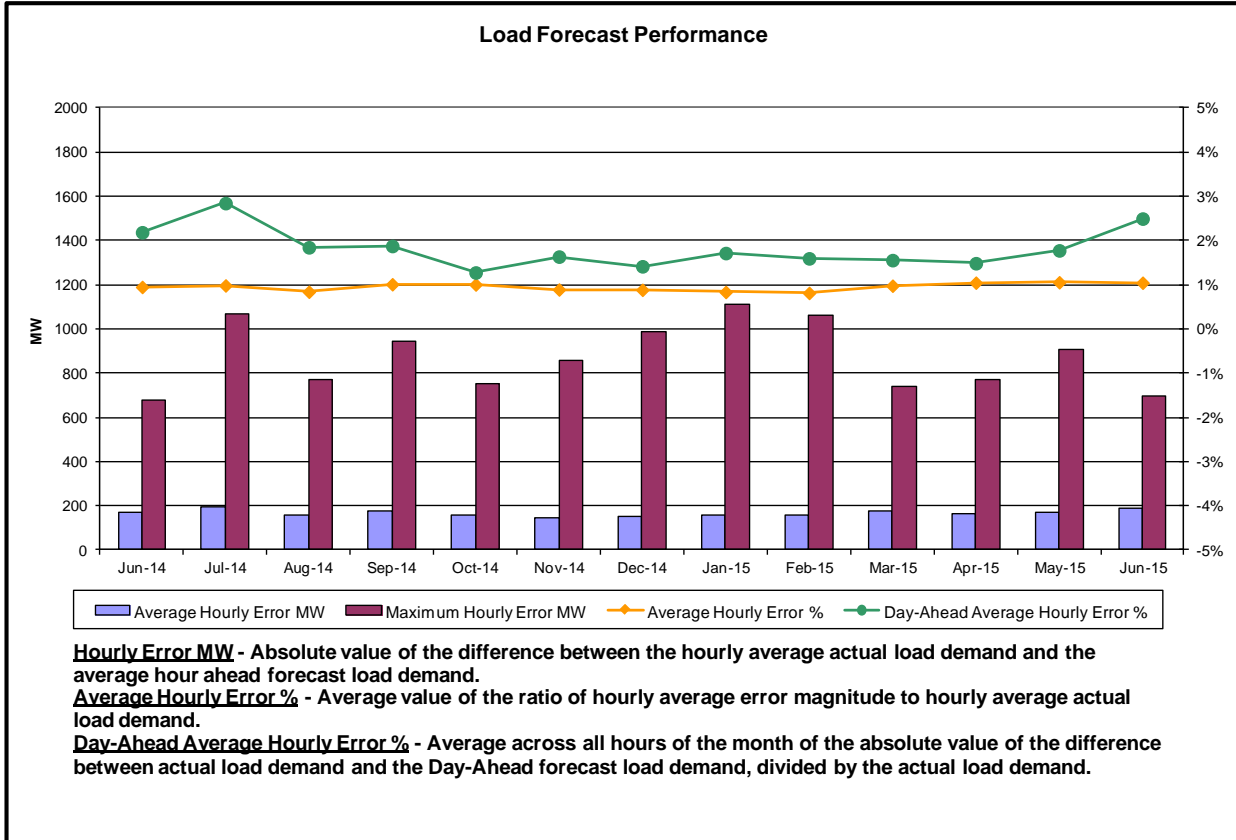
- NYCA - Price decreased by \$0.90 due primarily to a decrease in unoffered capacity and an increase in generation capacity.
- LHV - Price decreased by \$2.20 due primarily to a large increase in generation capacity.
- NYC - Price decreased by \$0.15 due to an increase in generation capacity.

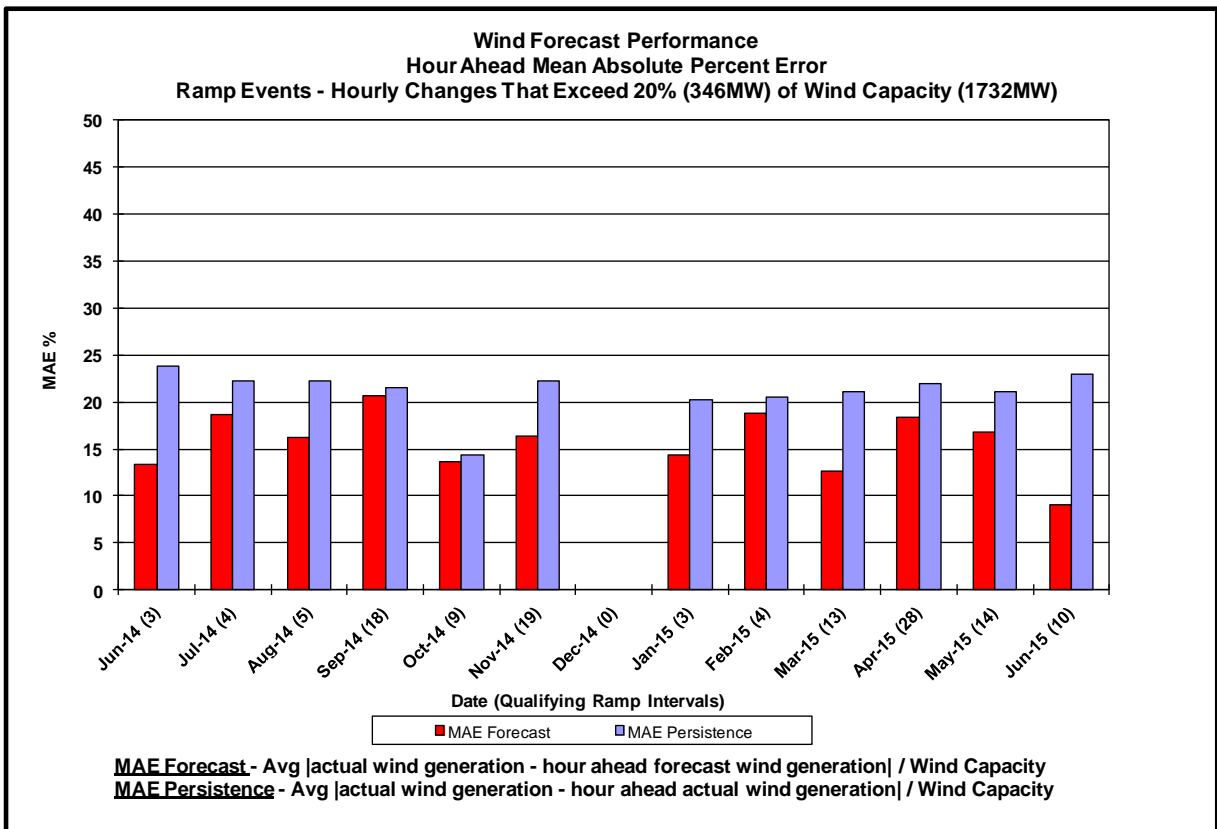
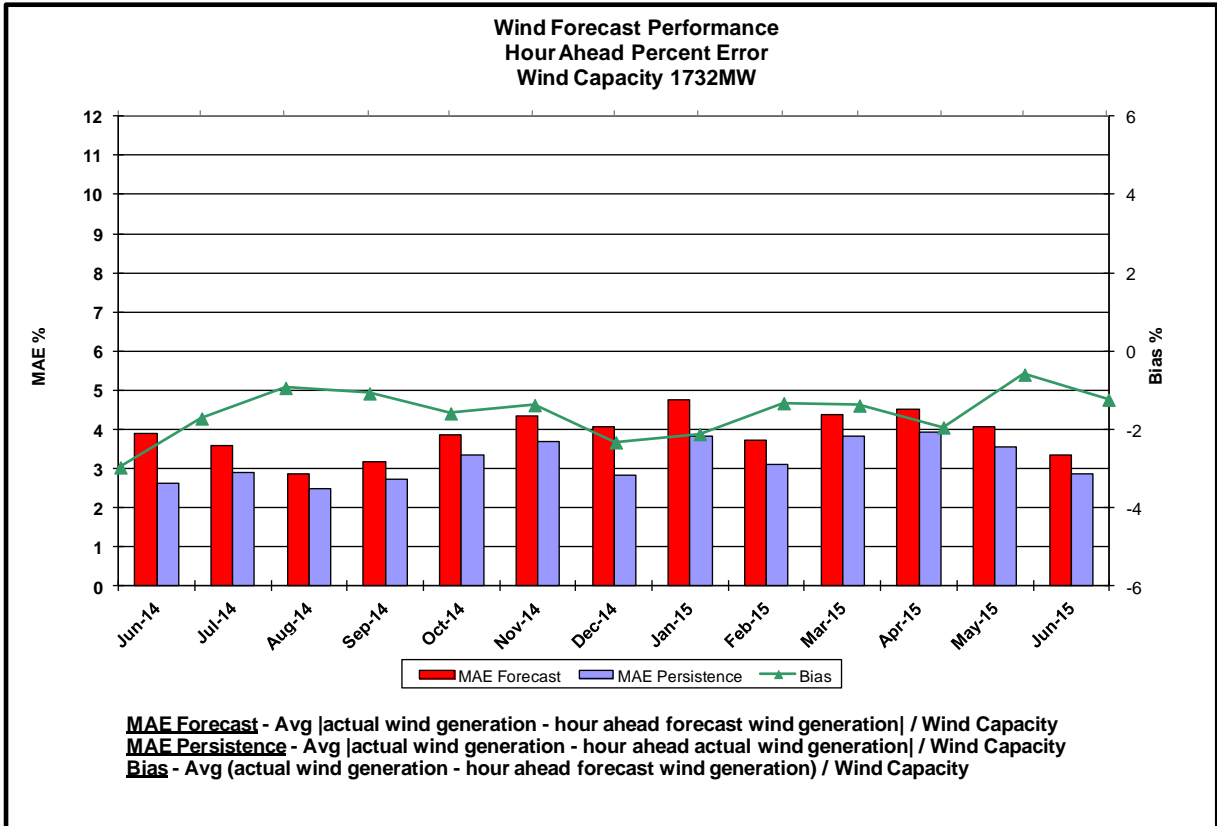
Reliability Performance Metrics

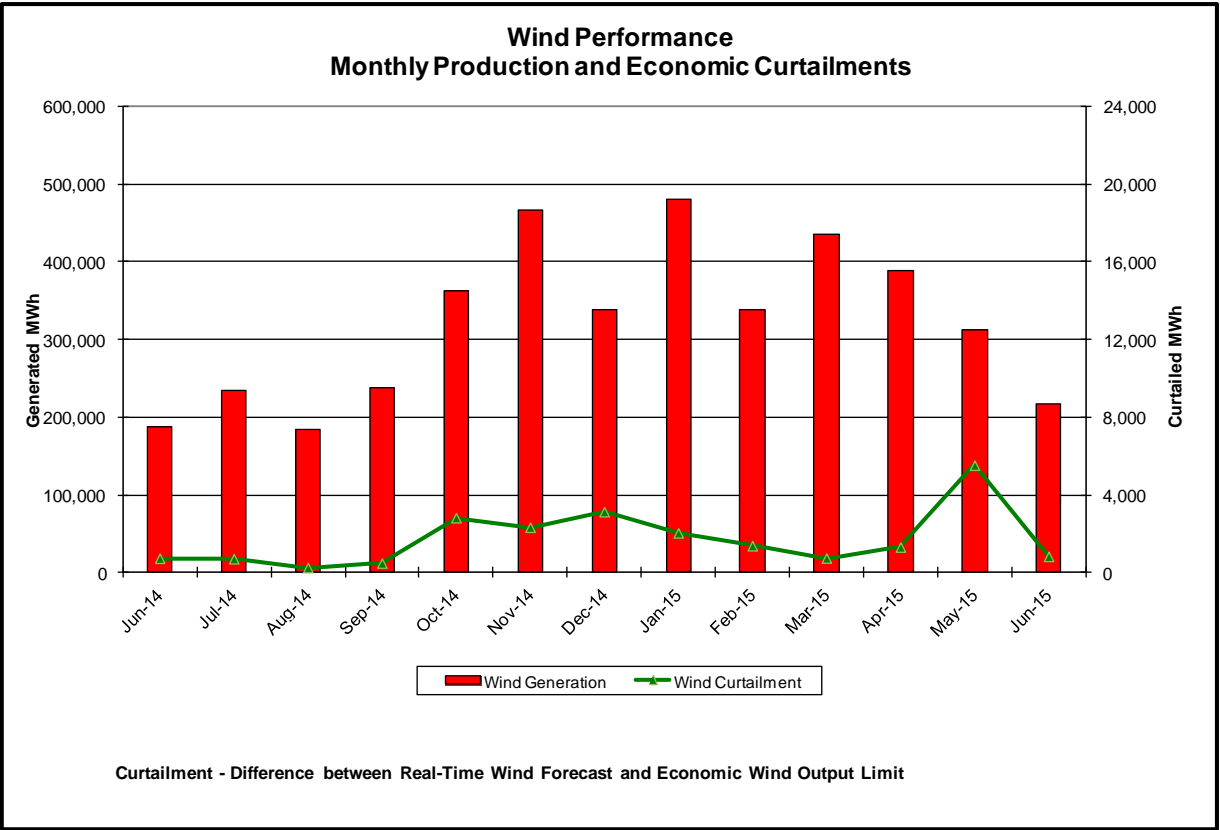
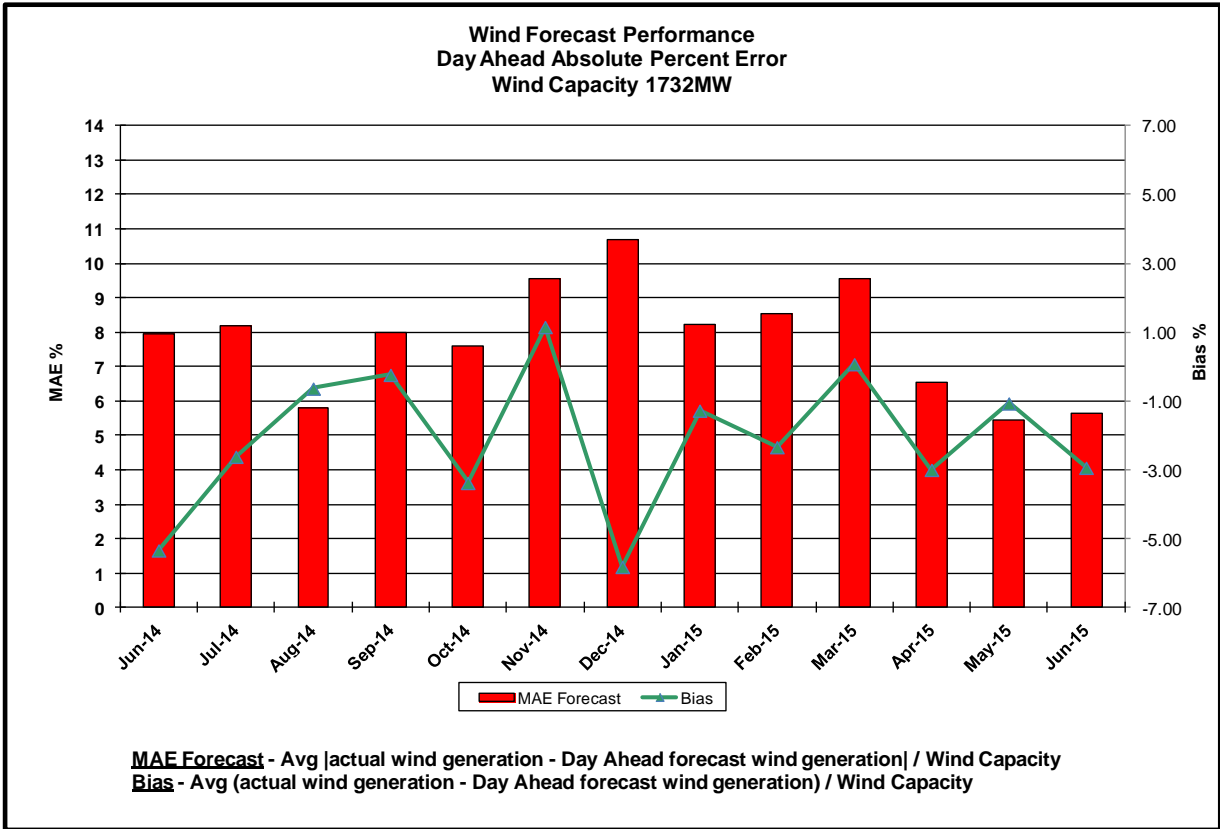


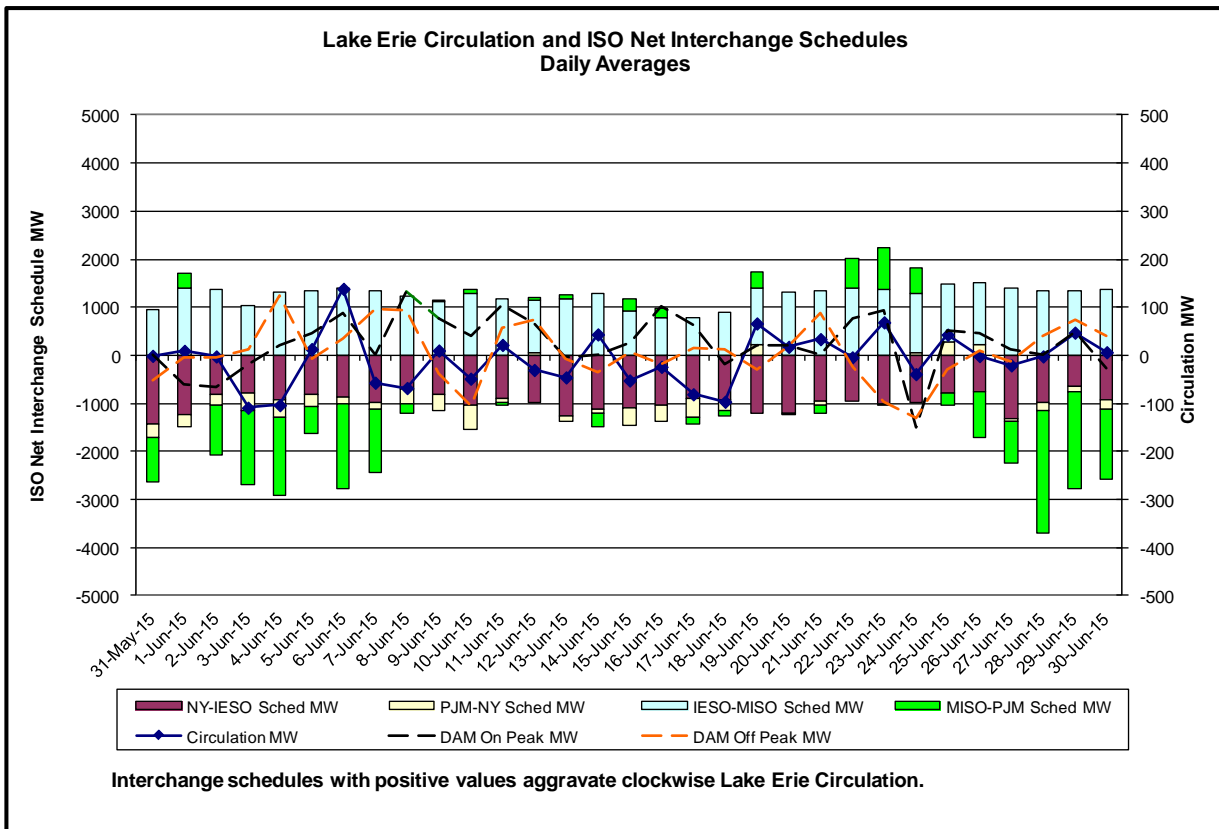
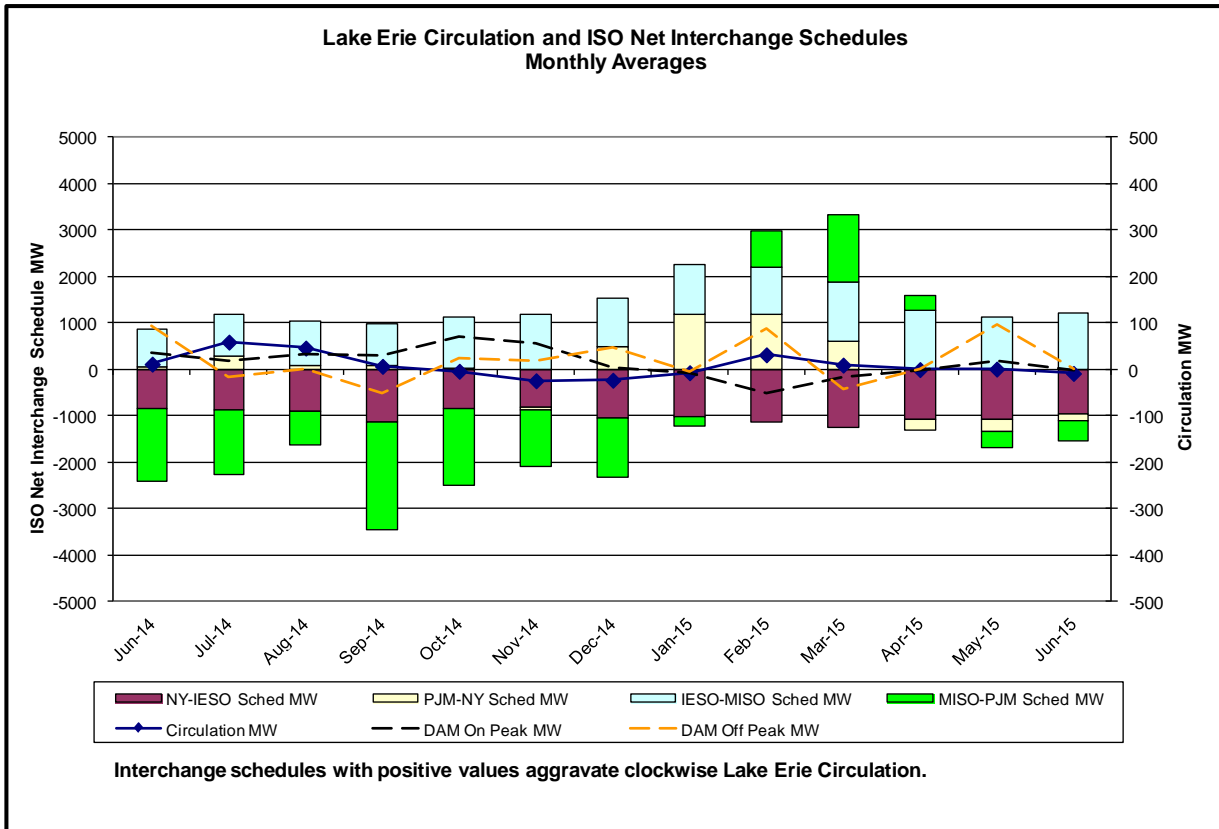




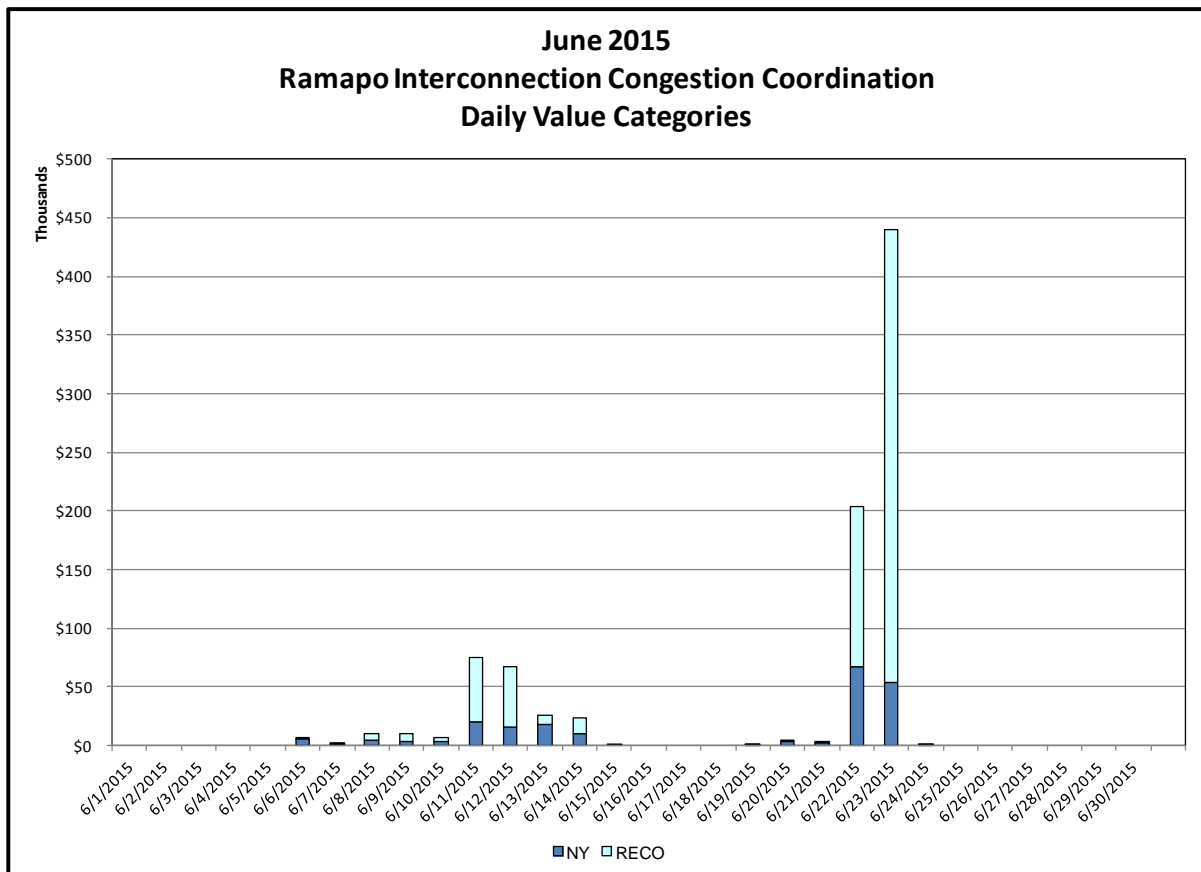
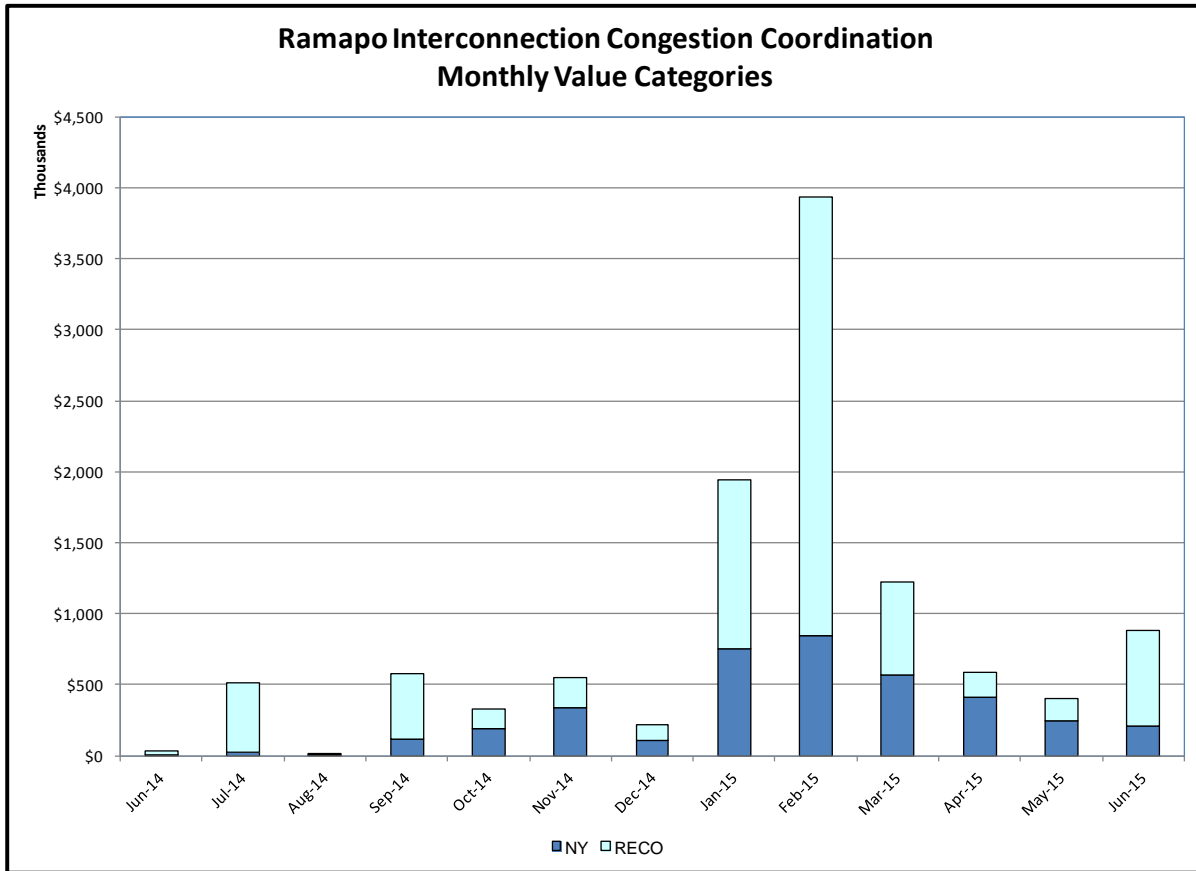






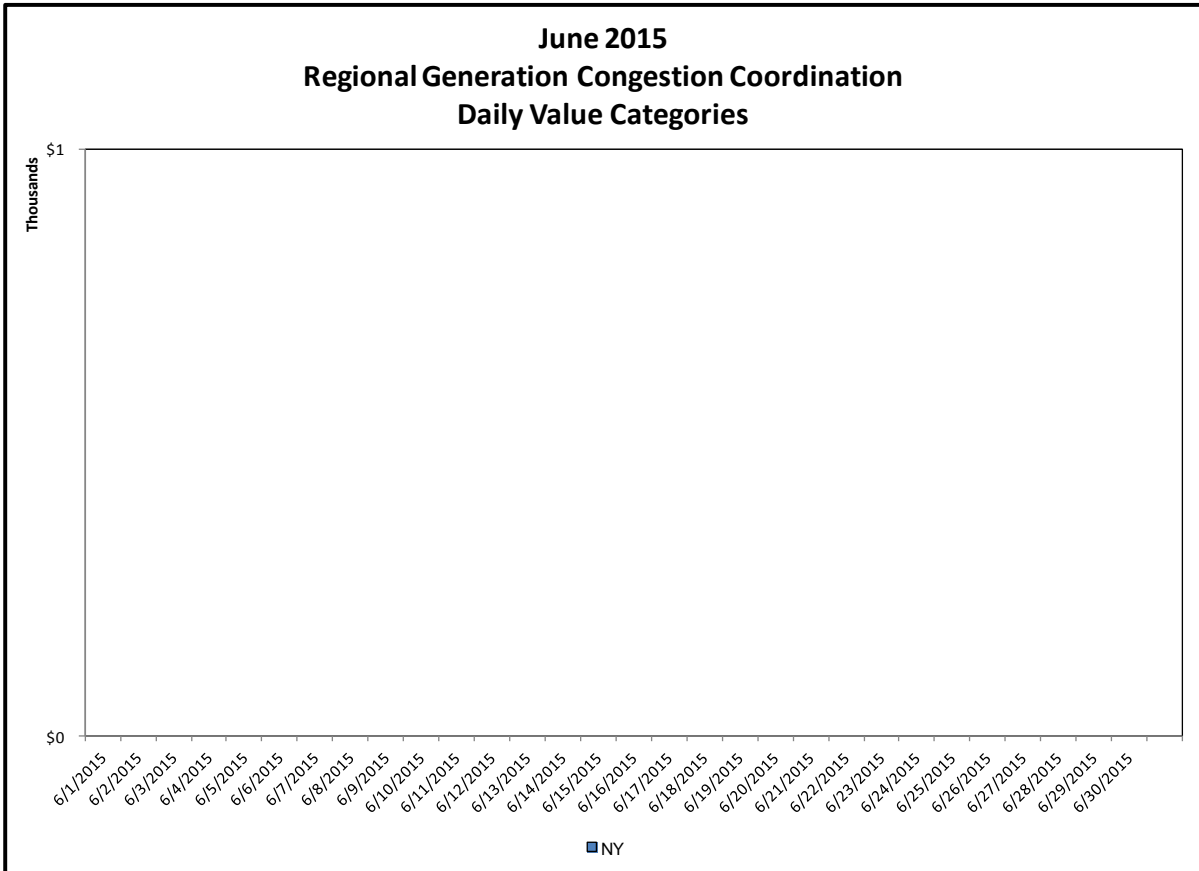
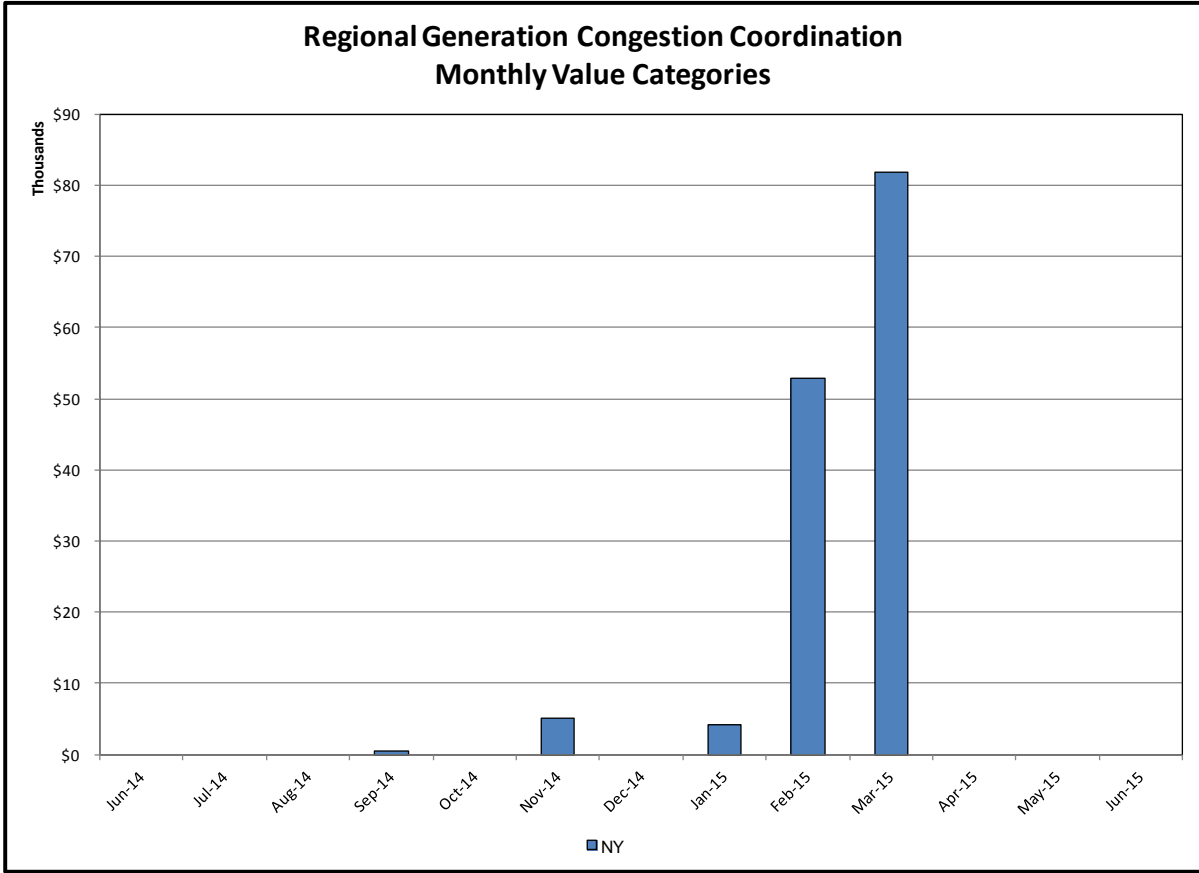


Broader Regional Market Performance Metrics



Ramapo Interconnection Congestion Coordination

<u>Category</u>	<u>Description</u>
NY	Represents the value NY realizes from Market-to-Market Ramapo Coordination. When experiencing congestion, this includes (1) the estimated savings to NY for additional deliveries into NY, plus (2) PJM compensation to NY for additional deliveries into PJM (as compared to the Ramapo Target level, excluding RECO). This is net of any settlements to PJM when they are congested.
RECO	Represents the value of PJM's obligation to deliver 80% of service to RECO load over Ramapo 5018. This includes (1) the estimated reduction in NYCA congestion due to the PJM delivery of RECO over Ramapo 5018, plus (2) PJM compensation to NY for NYCA congestion for the under-delivery or inability to deliver service to RECO load over Ramapo 5018.



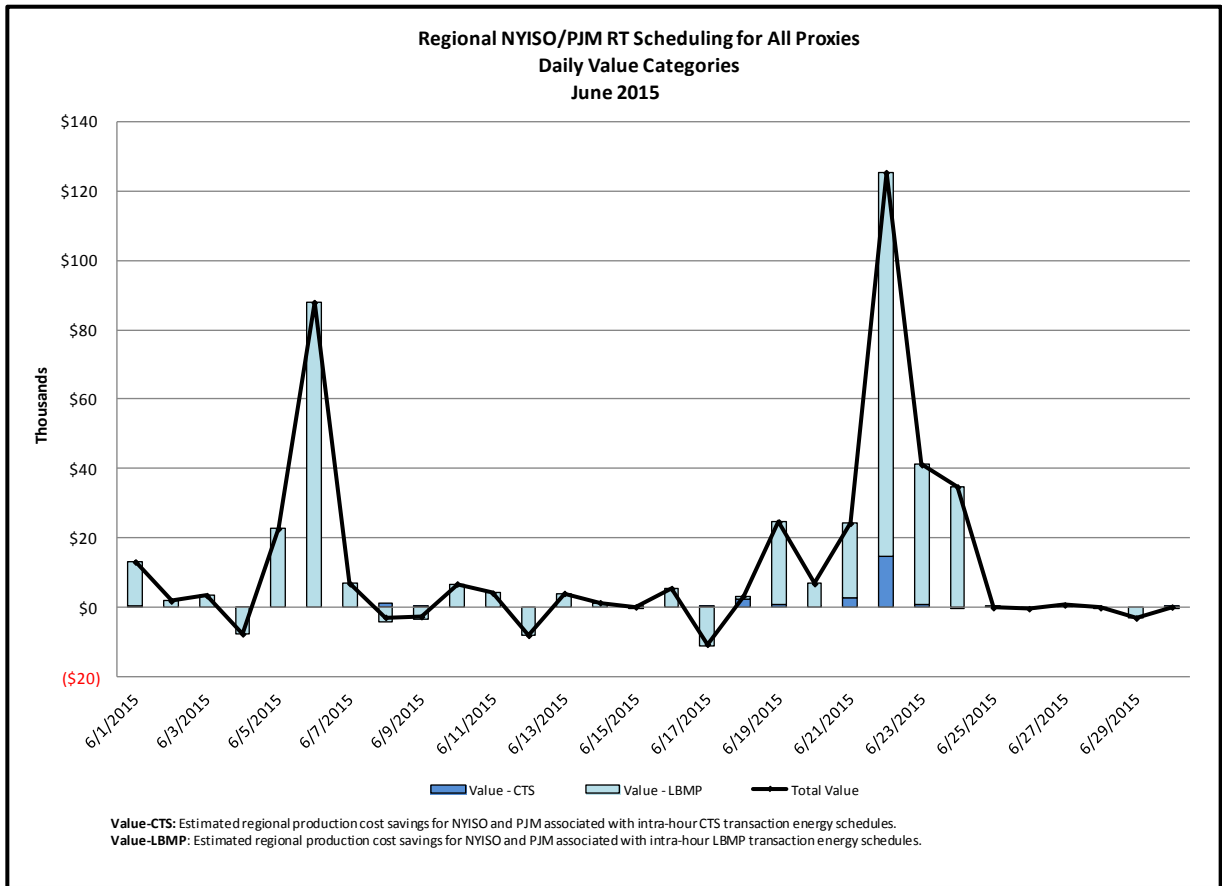
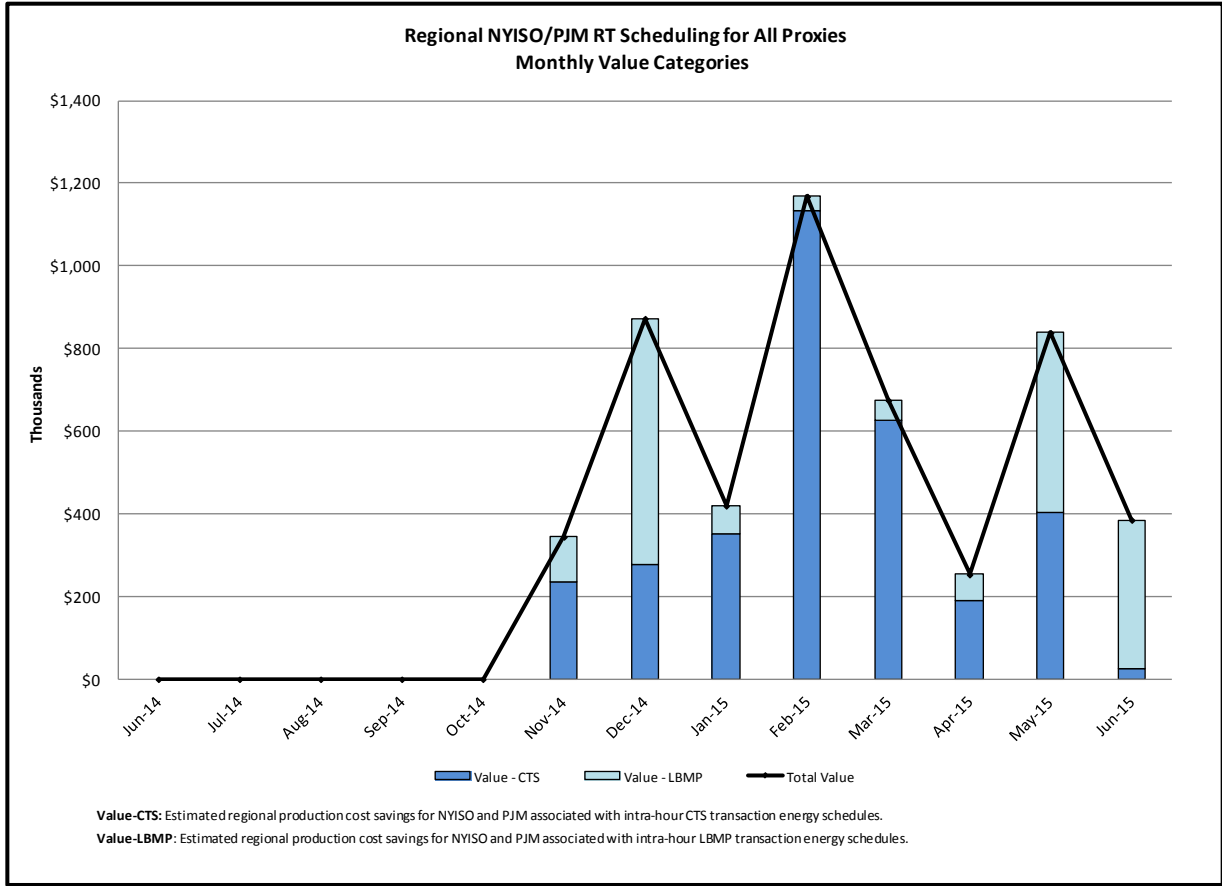
Regional Generation Congestion Coordination

Category

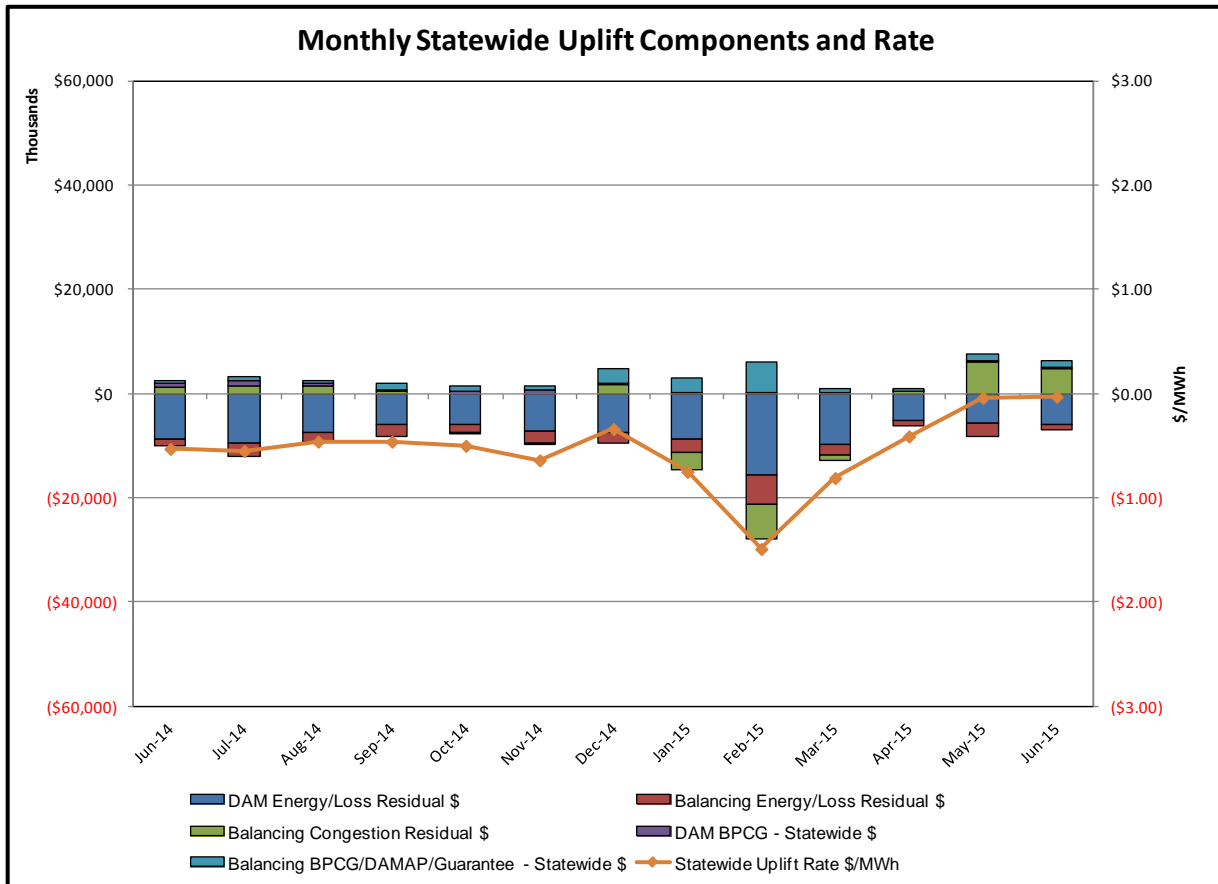
NY

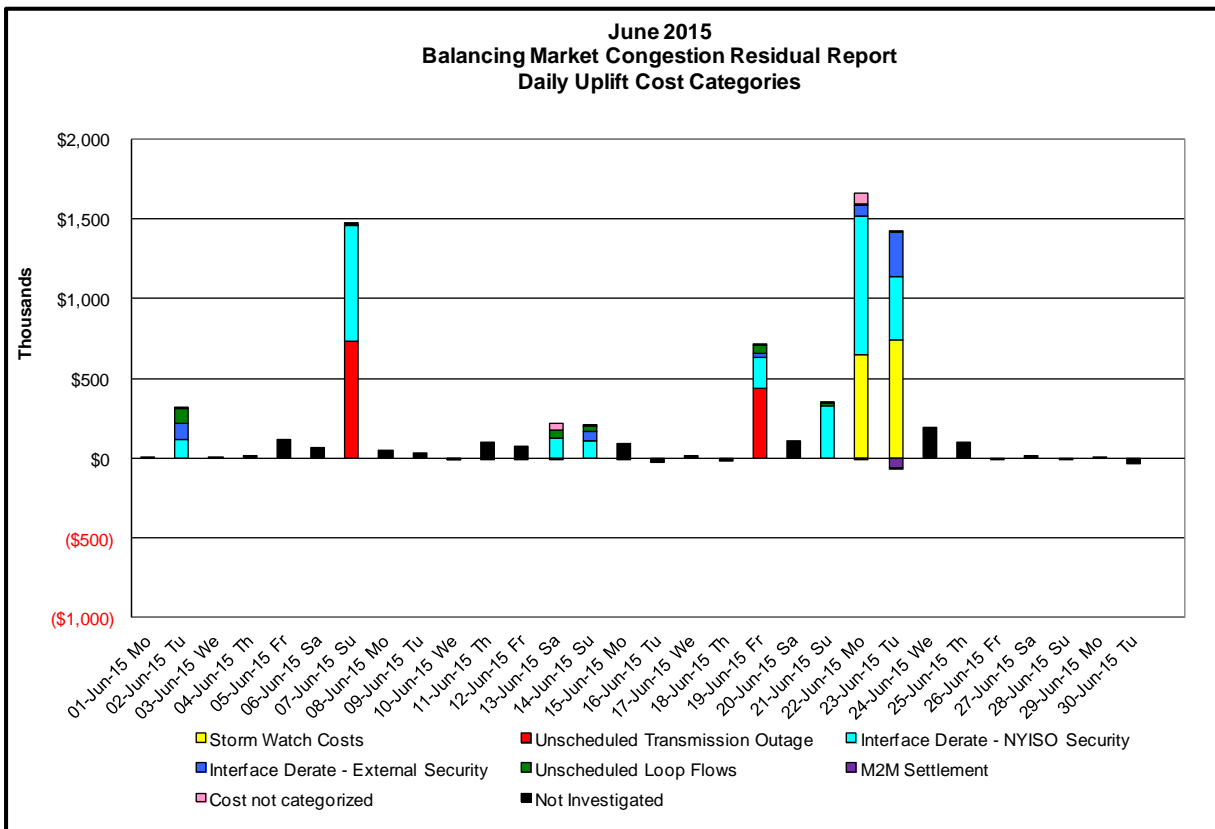
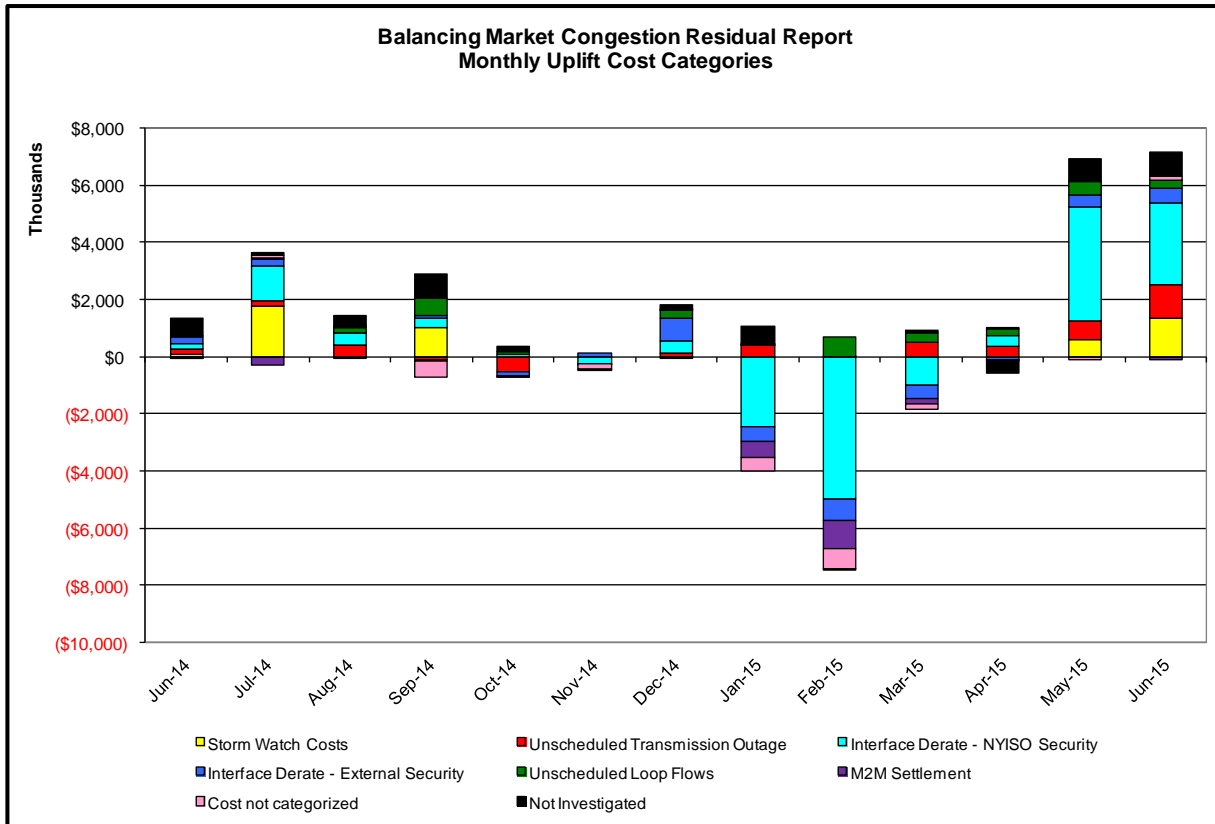
Description

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 investigated in June: 2,7,13,14,19,21,22,23

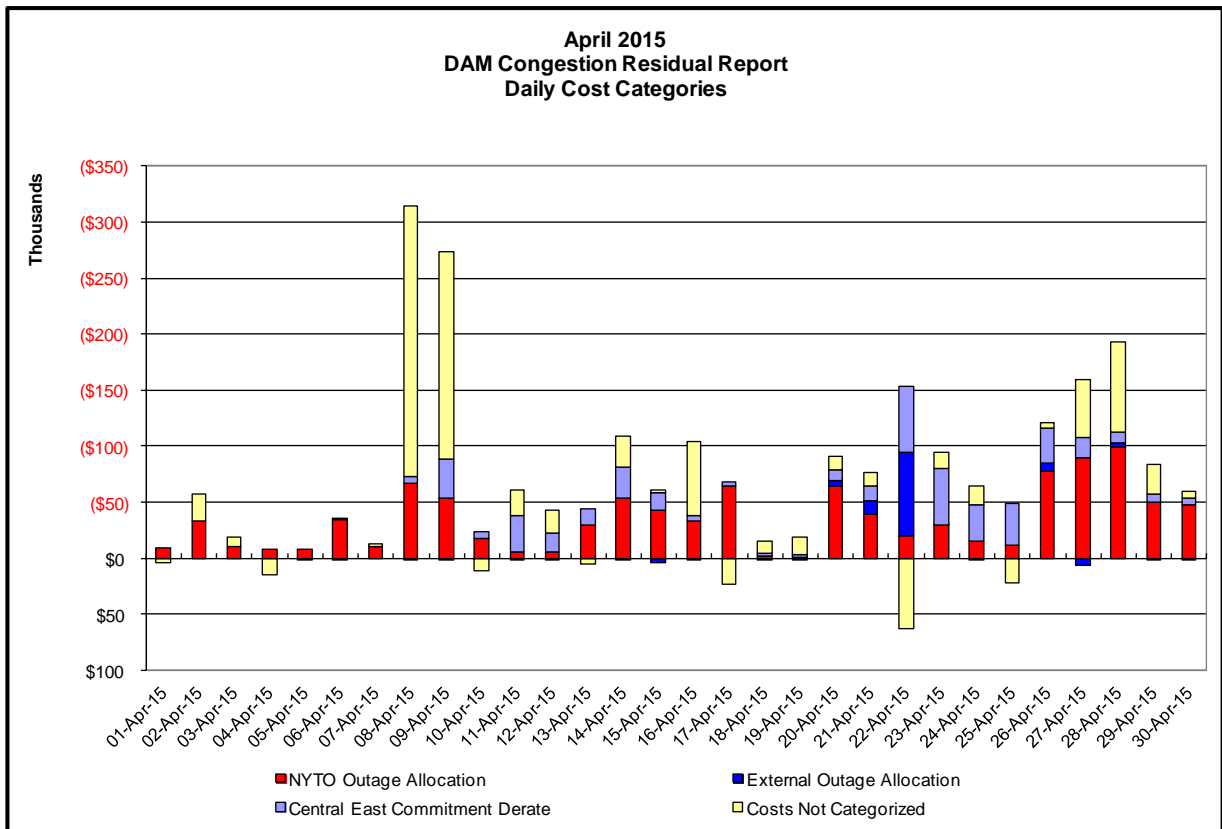
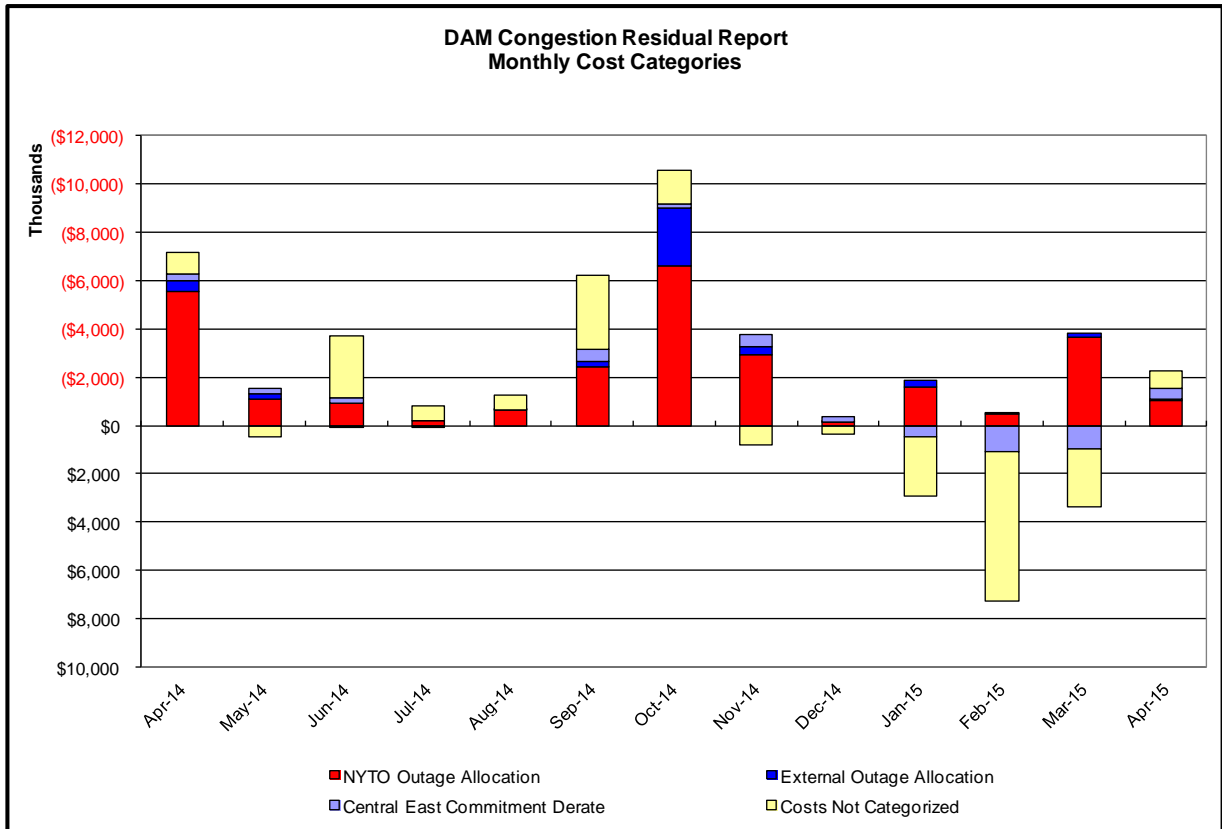
Event	Date (yyyymmdd)	Hours	Description
	6/2/2015	12-14	Derate Packard-Sawyer 230kV (#78) for I/o Packard-Sawyer 230kV (#77)
	6/2/2015	14-16	IESO_AC-NY Scheduling Limit
	6/2/2015	13-16	PJM_AC-NY Scheduling Limit
	6/2/2015	13,14	Lake Erie Clockwise Circulation, DAM-RTM exceeds 125MW; Packard-Sawyer 230KV (#78)
	6/7/2015	9	Extended outage of East Garden City Bk 2
	6/7/2015	12	Extended outage of Niagara 230/155kV T1
	6/7/2015	9,12	Derate Niagara-Packard 230kV (61) for I/o TWR:PACKARD 62 & BP76
	6/7/2015	14	IESO_AC-NY Scheduling Limit
	6/13/2015	1	Forced outage of Gilboa-Fraser 345kV (#GF5-35)
	6/13/2015	1	Derate East Garden City-Valley Stream 138kV (#262) for I/o SCB:NEWBRDG 1380 461 BK6
	6/13/2015	14,16,17	Derate Gowanus-Greenwood 138kV (#42232) TWR:GOETHALS 22 & 21
	6/13/2015	17	Lake Erie Clockwise Circulation, DAM-RTM exceeds 125MW; Packard-Sawyer 230KV (#78)
	6/14/2015	19,21	Derate Dunwoodie-Shore Road 345kV (#Y50) for I/o SCB:SPBK(RNS2):Y49 & M29
	6/14/2015	12-16,18,19,23	Derate East Garden City-Valley Stream 138kV (#262) for I/o BUS:BARRETT 292&459&G2&IC9-12
	6/14/2015	14-16	Derate Leeds-New Scotland 345kV (#93) for I/o Leeds-New Scotland 345kV (#94)
	6/14/2015	19,21	NE_NNC1385-NY Scheduling Limit
	6/14/2015	12-16	Lake Erie Clockwise Circulation, DAM-RTM exceeds 125MW; Leeds-New Scotland 345kV (#93)
	6/19/2015	0-14,17,18	Forced outage Dunwoodie-Shore Road 345kV (#Y50)
	6/19/2015	8	Derate East Garden City-Valley Stream 138kV (#262) for I/o SCB:NEWBRDG 1380 461 BK6
	6/19/2015	6-15,17-19	Derate Packard-Sawyer 230kV (#78) for I/o Packard-Sawyer 230kV (#77)
	6/19/2015	14	PJM_AC DNI Ramp Limit
	6/19/2015	6,7,10,19	Lake Erie Clockwise Circulation, DAM-RTM exceeds 125MW; Packard-Sawyer 230KV (#78)
	6/21/2015	16-20	Derate East Garden City-Valley Stream 138kV (#262) for I/o BUS:BARRETT 292&459&G2&IC9-12
	6/21/2015	9,11,14,16-21	Derate Packard-Sawyer 230kV (#78) for I/o Packard-Sawyer 230kV (#77)
	6/21/2015	9,20	Lake Erie Clockwise Circulation, DAM-RTM exceeds 125MW; Packard-Sawyer 230KV (#78)
	6/22/2015	16-23	Thunder Storm Alert
	6/22/2015	23	Derate East 179th Street-Hell Gate_E 138kV (#15054)
	6/22/2015	23	Derate Hudson Avenue-Jamaica 138kV (#701)
	6/22/2015	18-20	Derate Niagara-Packard 230kV (61) for I/o TWR:PACKARD 62 & BP76
	6/22/2015	7-9,11-17	Derate Packard-Sawyer 230kV (#78) for I/o Packard-Sawyer 230kV (#77)
	6/22/2015	17-21	Derate Packard-Sawyer 230kV (#77) for I/o Packard-Sawyer 230kV (#78)
	6/22/2015	17-23	Derate Scriba-Volney 345kV (#20-SV) for I/o Scriba-Volney 345kV (#21-SV)
	6/22/2015	7,9,15,16,18,23	NYCA DNI Ramp Limit
	6/22/2015	13,15,23	PJM_AC DNI Ramp Limit
	6/22/2015	9	Lake Erie Clockwise Circulation, DAM-RTM exceeds 125MW; Packard-Sawyer 230KV (#78)
	6/23/2015	13-22	Thunder Storm Alert
	6/23/2015	0	Derate Astoria East-Astoria Annex 138kV (#34091)
	6/23/2015	0	Derate Astoria East-Astoria Annex 138kV (#34091) for SCB:SPBK(RNS2):Y49 & M29
	6/23/2015	8	Uprate Central East
	6/23/2015	0	Derate East 179th Street-Hell Gate_E 138kV (#15053)
	6/23/2015	1	Uprate Freshkills-Willowbrook 138kV (#29211-2)
	6/23/2015	0	Derate Greenwood-Vernon 138kV (#31231)
	6/23/2015	20-22	Derate Greenwood/Staten Island
	6/23/2015	0	Derate Hudson Avenue-Jamaica 138kV (#701)
	6/23/2015	0	Derate Leeds-New Scotland 345kV (#93) for BUS:N.SCTLD #99&18&1&94&BK1&C2 (#94)
	6/23/2015	2	Derate Meyers-Weathersfield 230kV (#85/87)
	6/23/2015	10	Deratea Mott Haven-Rainey 345kV (#Q11) for I/o Mott Haven-Rainey 345kV (#Q12)
	6/23/2015	10	Derate Packard-Sawyer 230kV (#78) for I/o Packard-Sawyer 230kV (#77)
	6/23/2015	0	Derate Packard-Sawyer 230kV (#77) for I/o Packard-Sawyer 230kV (#78)
	6/23/2015	0,2,5	Derate Scriba-Volney 345kV (#20-SV) for I/o Scriba-Volney 345kV (#21-SV)
	6/23/2015	6,15,17,18	NYCA DNI Ramp Limit
	6/23/2015	8	IESO_AC DNI Ramp Limit
	6/23/2015	16,19	PJM_AC DNI Ramp Limit
	6/23/2015	2	PJM_AC-NY Scheduling Limit
	6/23/2015	0	Lake Erie Clockwise Circulation, DAM-RTM exceeds 125MW; Packard-Sawyer 230KV (#77)

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
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 Clockwise Lake Erie Loop Flows greater than 125 MW
M2M Settlement	Market-wide	Settlement result inclusive of coordinated redispatch and Ramapo flowgates	

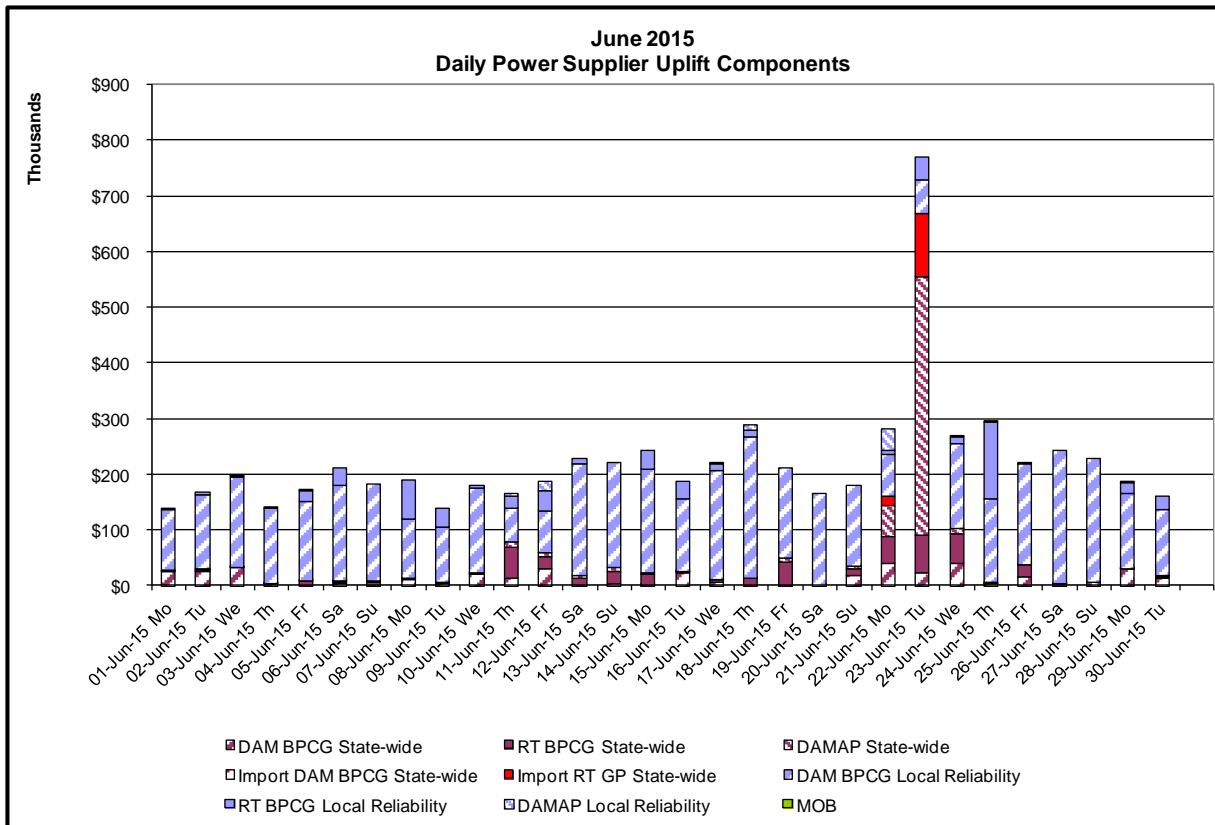
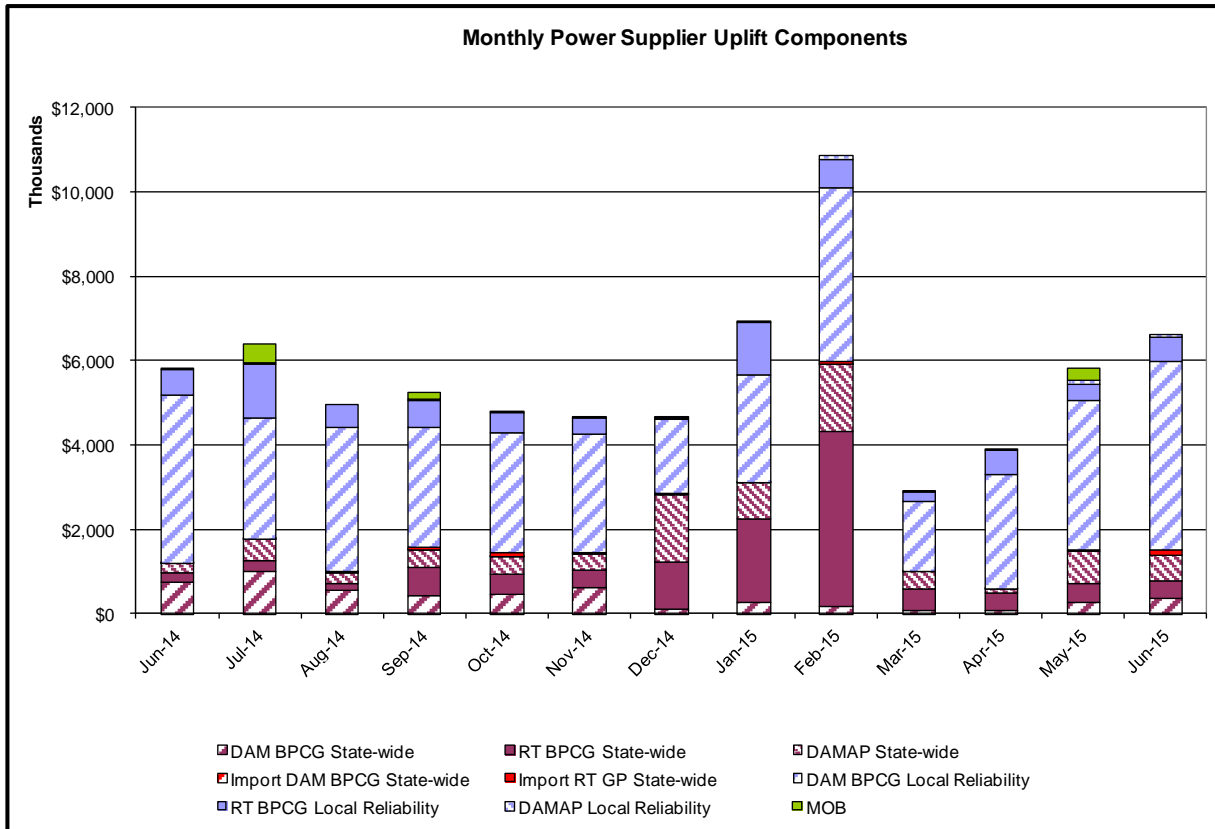
Monthly Balancing Market Congestion Report Assumptions/Notes

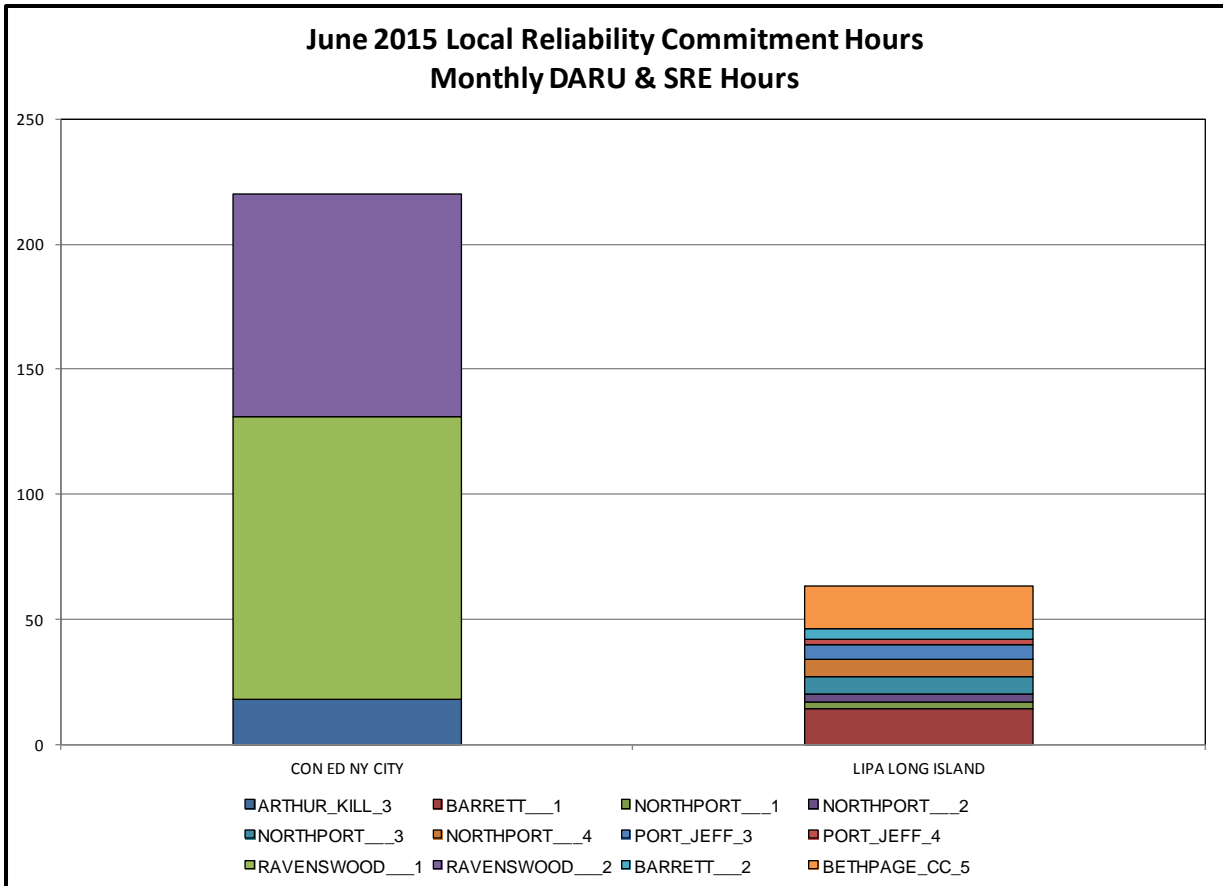
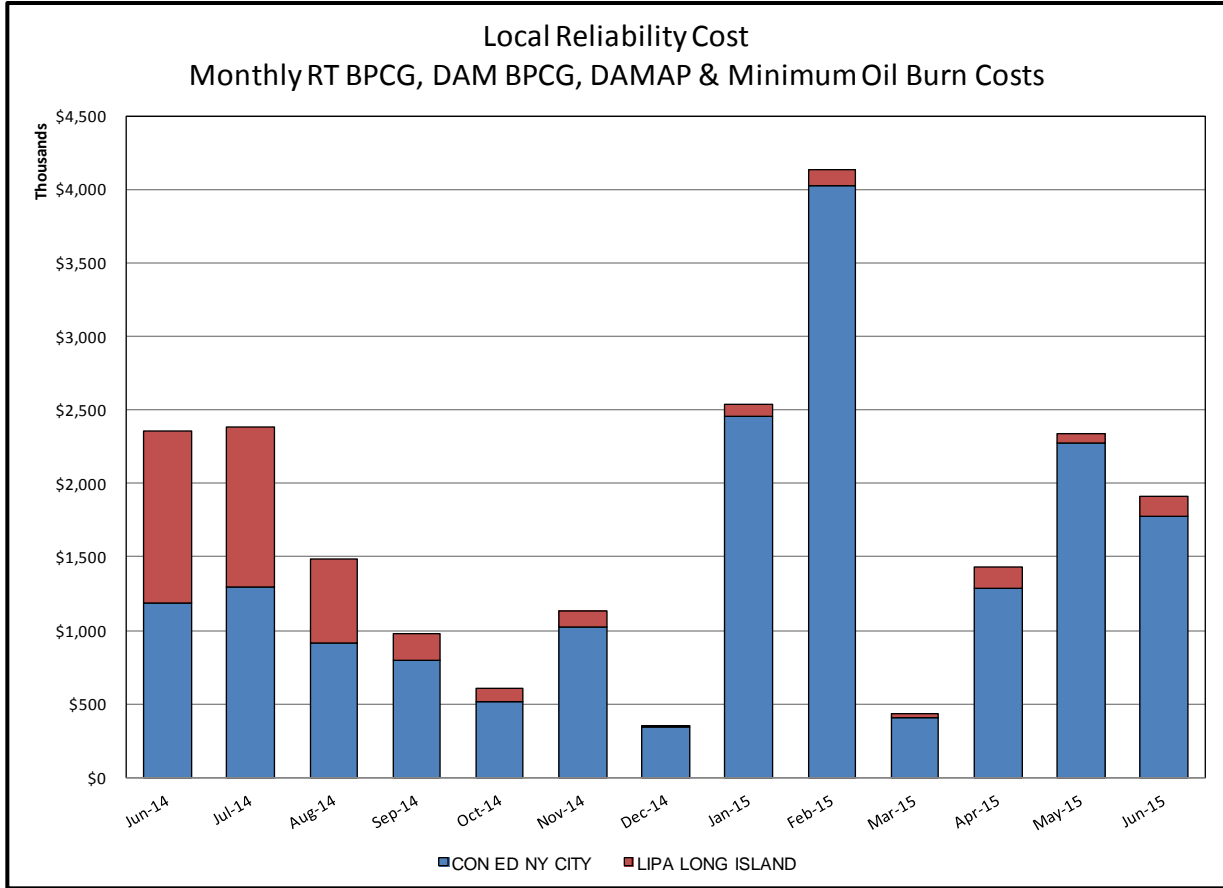
- 1) Storm Watch Costs are identified as daily total uplift costs
- 2) Days with a value of BMCR less M2M Settlement of \$100K/HR, shortfall of \$200K/Day or more, or surplus of \$100K/Day or more are investigated.
- 3) Uplift costs associated with multiple event types are apportioned equally by hour

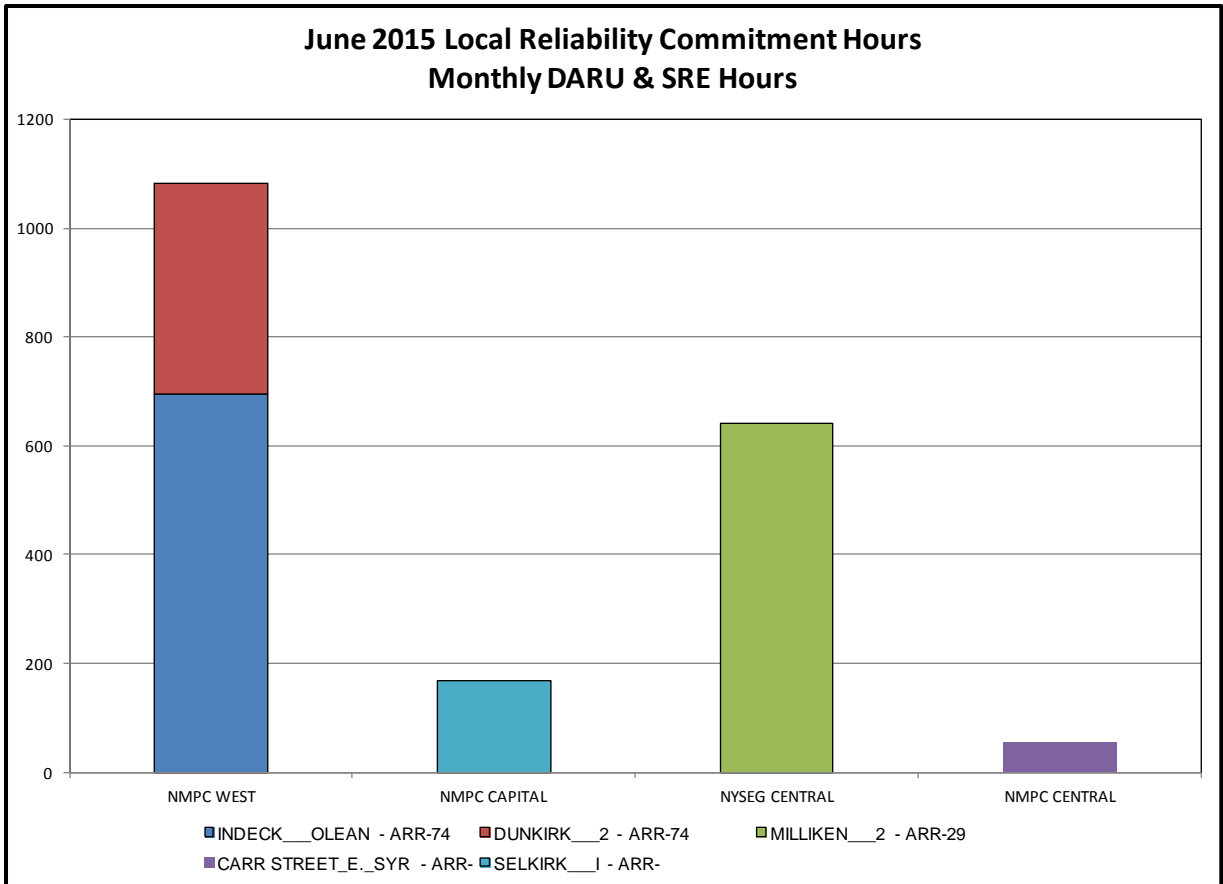
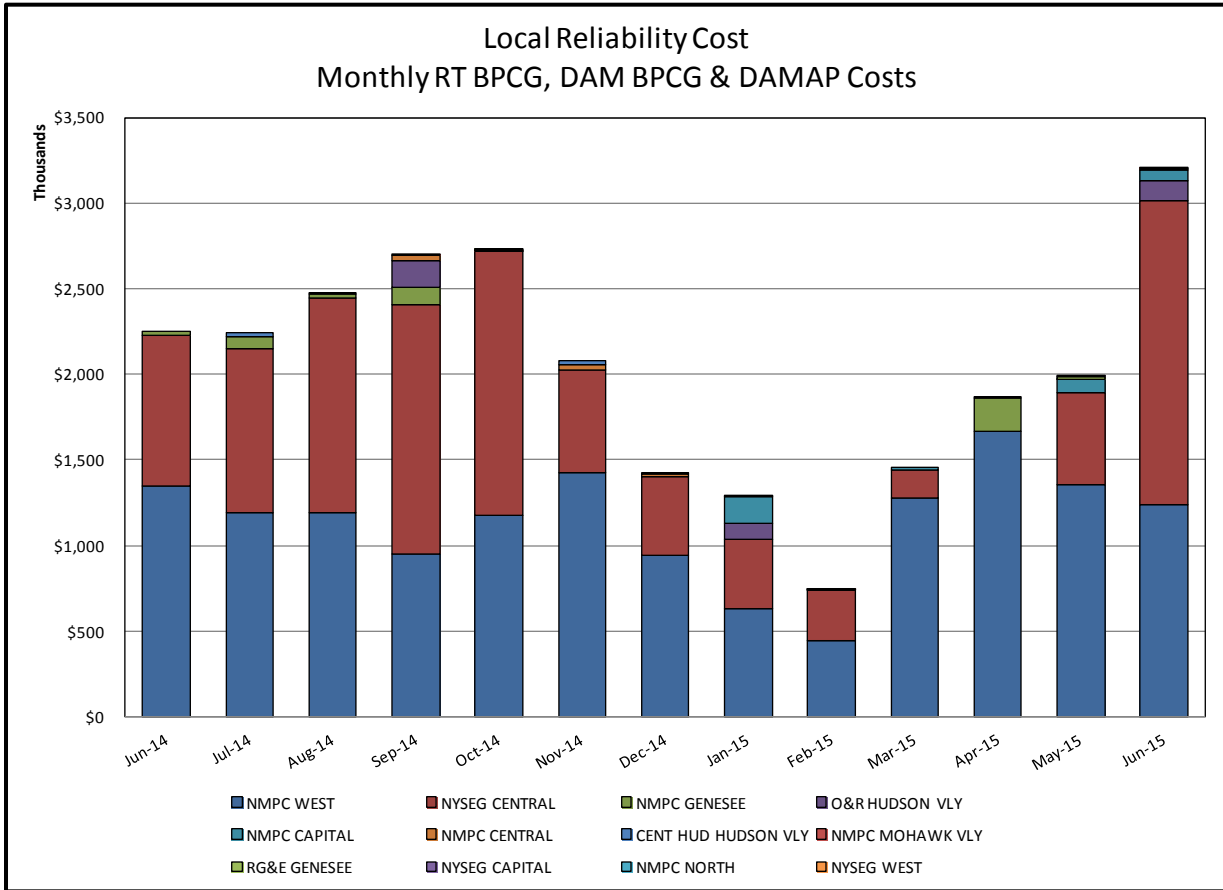


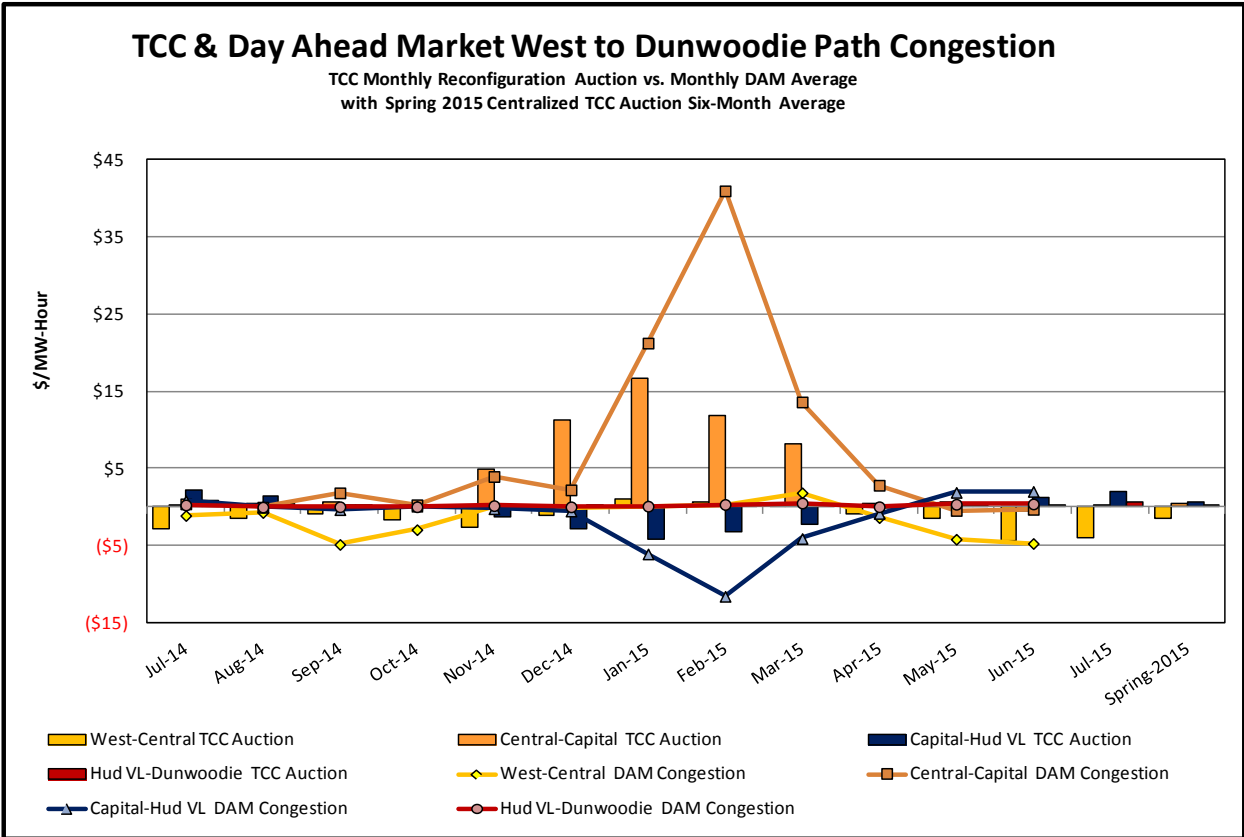
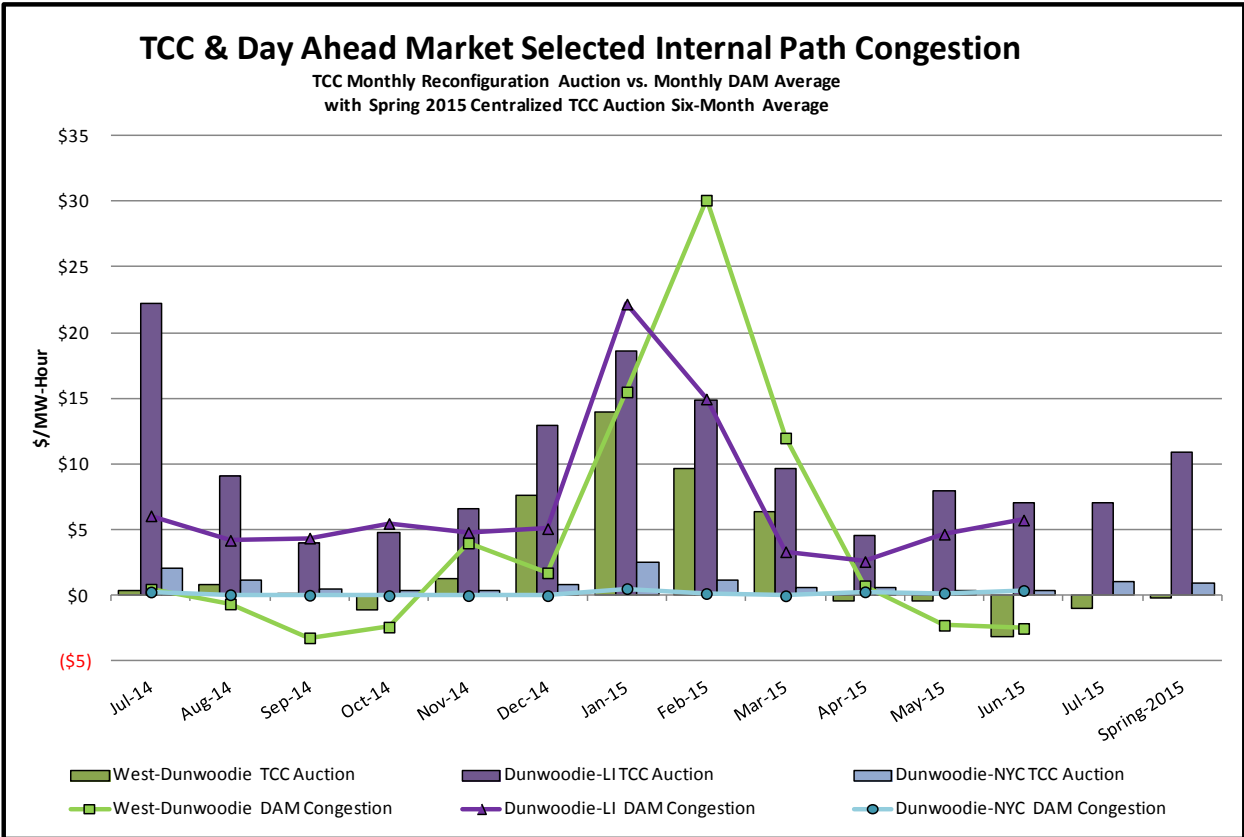
Day-Ahead Market Congestion Residual Categories

<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.
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.	









TCC & Day Ahead Market Selected External Path Congestion

TCC Monthly Reconfiguration Auction vs. Monthly DAM Average
with Spring 2015 Centralized TCC Auction Six-Month Average

