

Operations Performance Metrics Monthly Report



September 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 October 8, 2015.

Table of Contents

- ◆ **Highlights**
 - *Operations Performance*

- ◆ **Reliability Performance Metrics**
 - *Alert State Declarations*
 - *Major Emergency State Declarations*
 - *IROL Exceedance Times*
 - *Balancing Area Control Performance*
 - *Reserve Activations*
 - *Disturbance Recovery Times*
 - *Load Forecasting Performance*
 - *Wind Forecasting Performance*
 - *Wind Curtailment Performance*
 - *Lake Erie Circulation and ISO Schedules*

- ◆ **Broader Regional Market Performance Metrics**
 - *Ramapo Interconnection Congestion Coordination Monthly Value*
 - *Ramapo Interconnection Congestion Coordination Daily Value*
 - *Regional Generation Congestion Coordination Monthly Value*
 - *Regional Generation Congestion Coordination Daily Value*
 - *Regional RT Scheduling - PJM Monthly Value*
 - *Regional RT Scheduling - PJM Daily Value*

- ◆ **Market Performance Metrics**
 - *Monthly Statewide Uplift Components and Rate*
 - *RTM Congestion Residuals Monthly Trend*
 - *RTM Congestion Residuals Daily Costs*
 - *RTM Congestion Residuals Event Summary*
 - *RTM Congestion Residuals Cost Categories*
 - *DAM Congestion Residuals Monthly Trend*
 - *DAM Congestion Residuals Daily Costs*
 - *DAM Congestion Residuals Cost Categories*
 - *NYCA Unit Uplift Components Monthly Trend*
 - *NYCA Unit Uplift Components Daily Costs*
 - *Local Reliability Costs Monthly Trend & Commitment Hours*
 - *TCC Monthly Clearing Price with DAM Congestion*
 - *ICAP Spot Market Clearing Price*
 - *UCAP Awards*

September 2015 Operations Performance Highlights

- Peak load of 31,058 MW occurred on 9/8/2015 HB 16
- All-time summer capability period peak load of 33,956 MW occurred on 7/19/2013 HB 16
- 0.2 hours of Thunder Storm Alerts were declared
- 0 hours of NERC TLR level 3 curtailment
- The Regional Scheduling charts (Monthly & Daily) on pg. 14 have been updated to include the forecasted and realized production cost savings to New York associated with both CTS & LBMP transaction energy schedules, and this change is reflected in the following table as well.
- The following table identifies the estimated production cost savings associated with the Broader Regional Market initiatives.

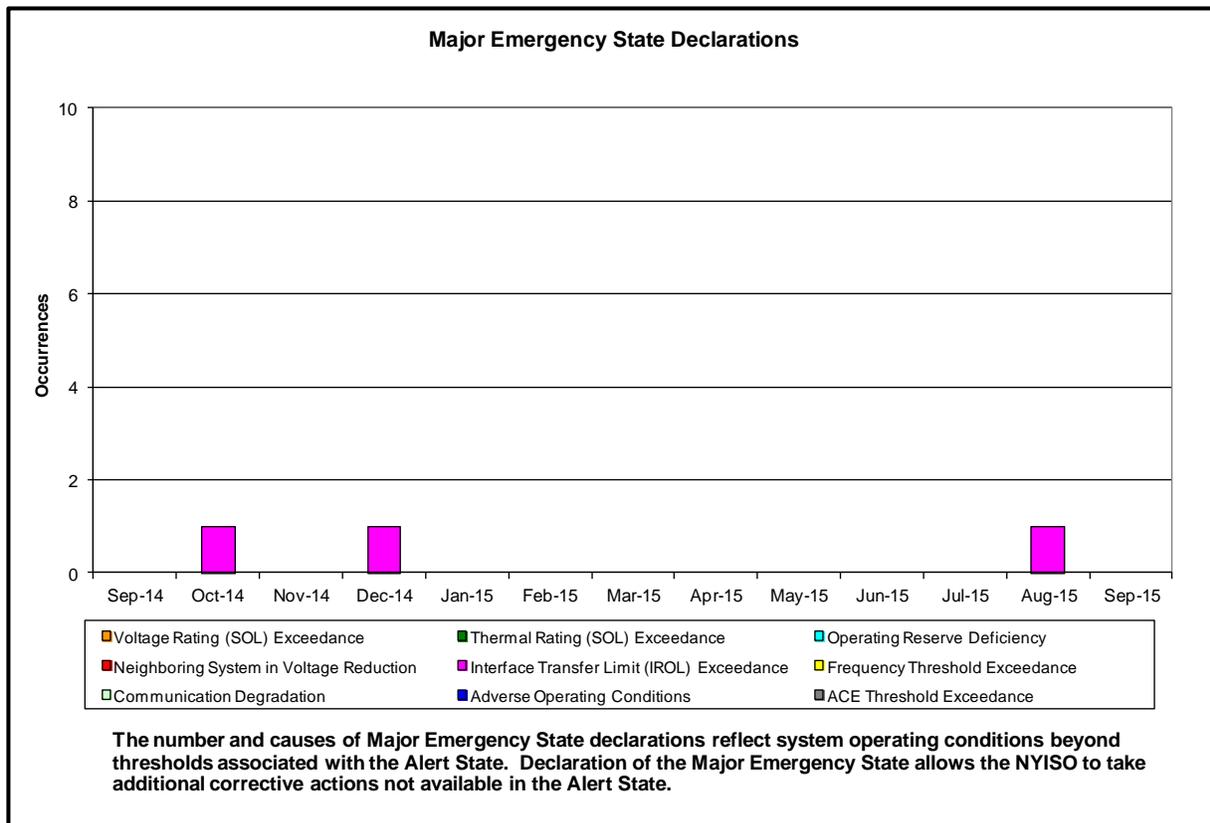
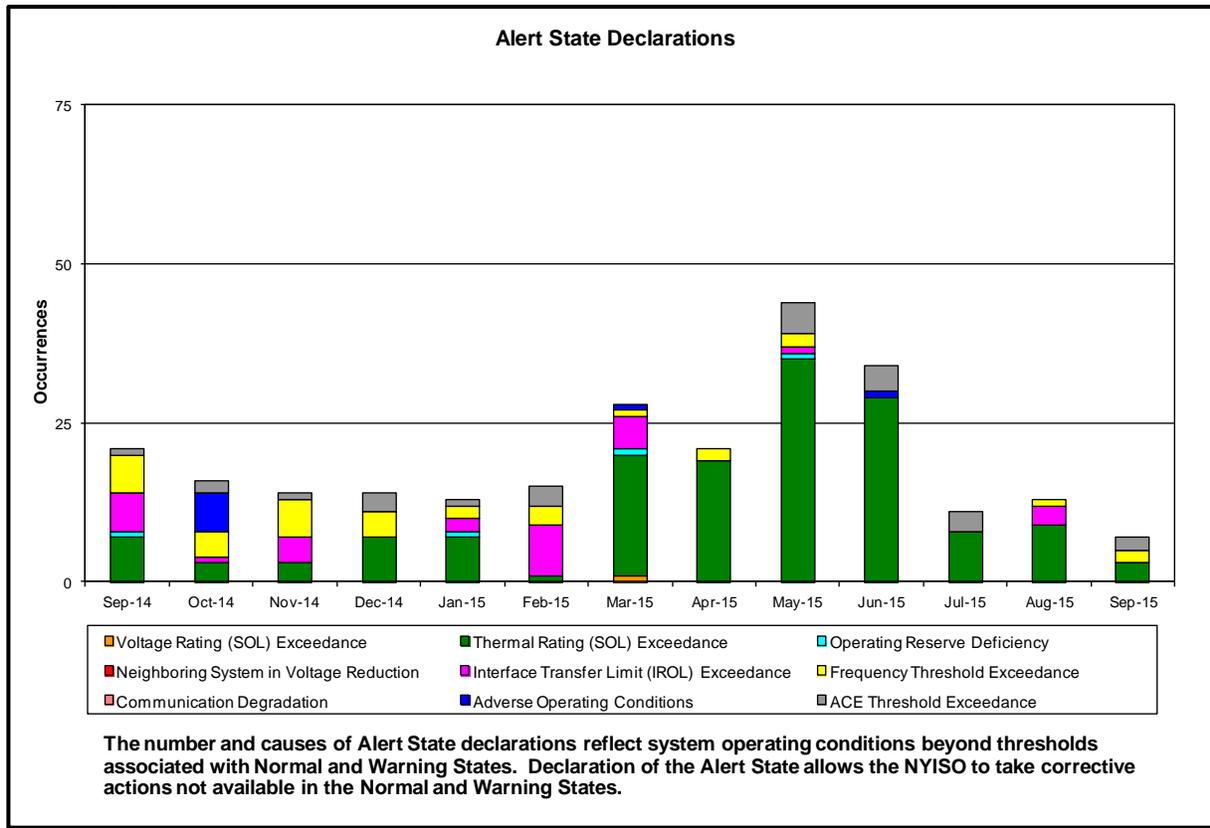
	Current Month Value (\$M)	Year-to-Date Value (\$M)
Regional Congestion Coordination	\$0.82	\$10.94
Regional PJM-NY RT Scheduling	\$0.09	\$2.59
Total	\$0.91	\$13.53

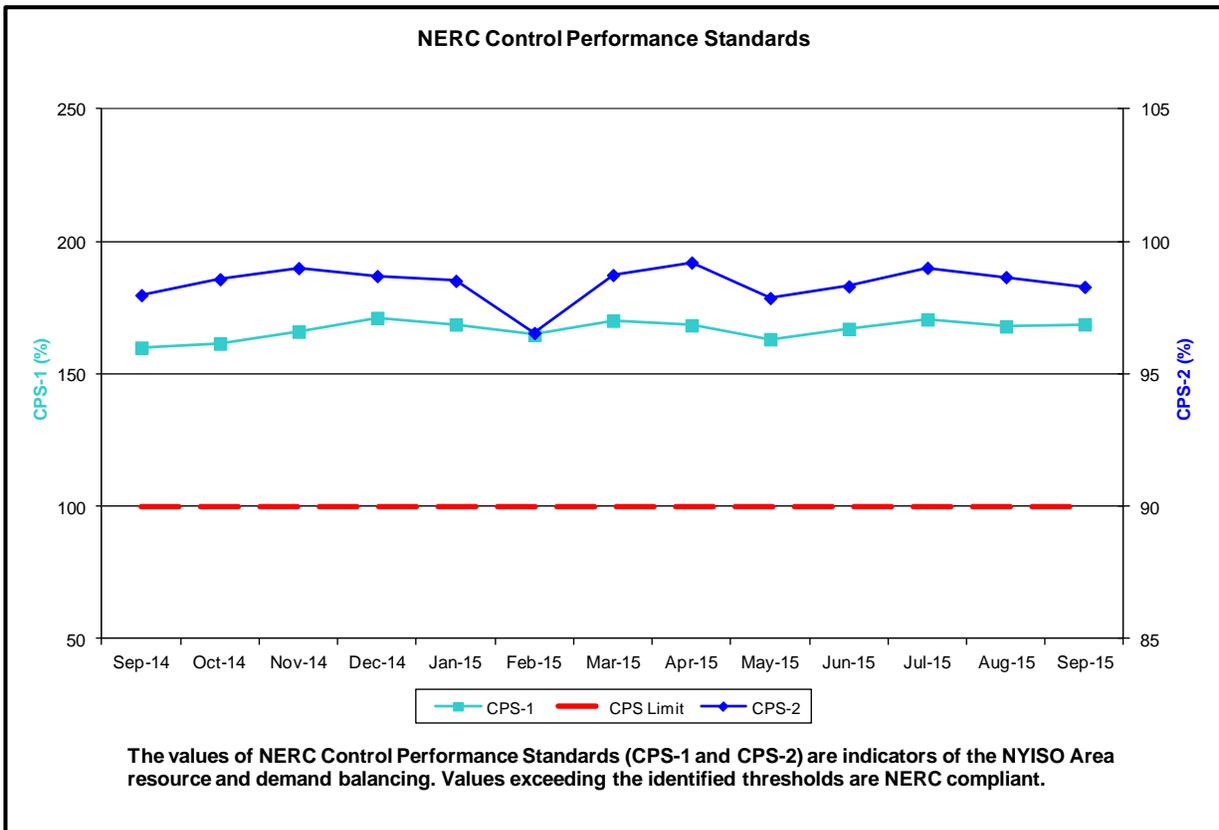
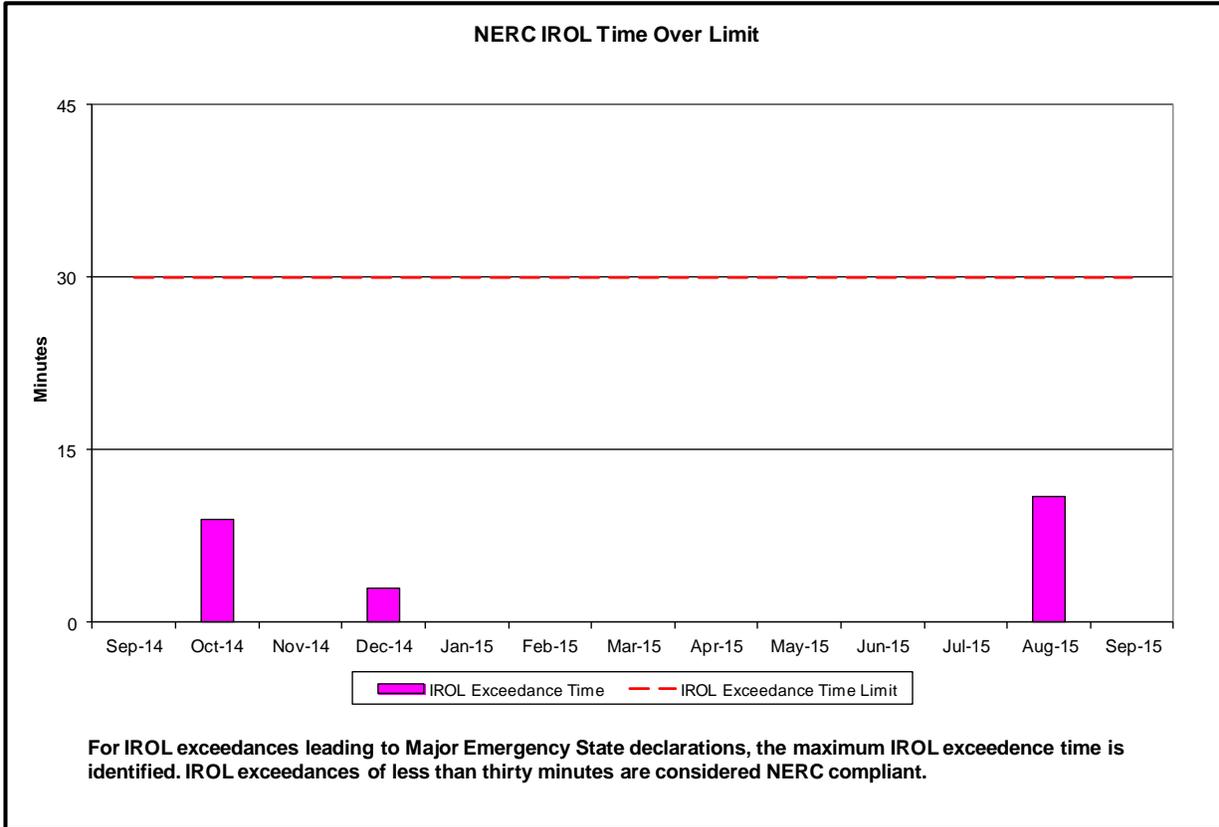
- Statewide uplift cost monthly average was **(\$0.36)/MWh**
- The following table identifies the Monthly ICAP spot market prices by locality and the price changes from the prior month.

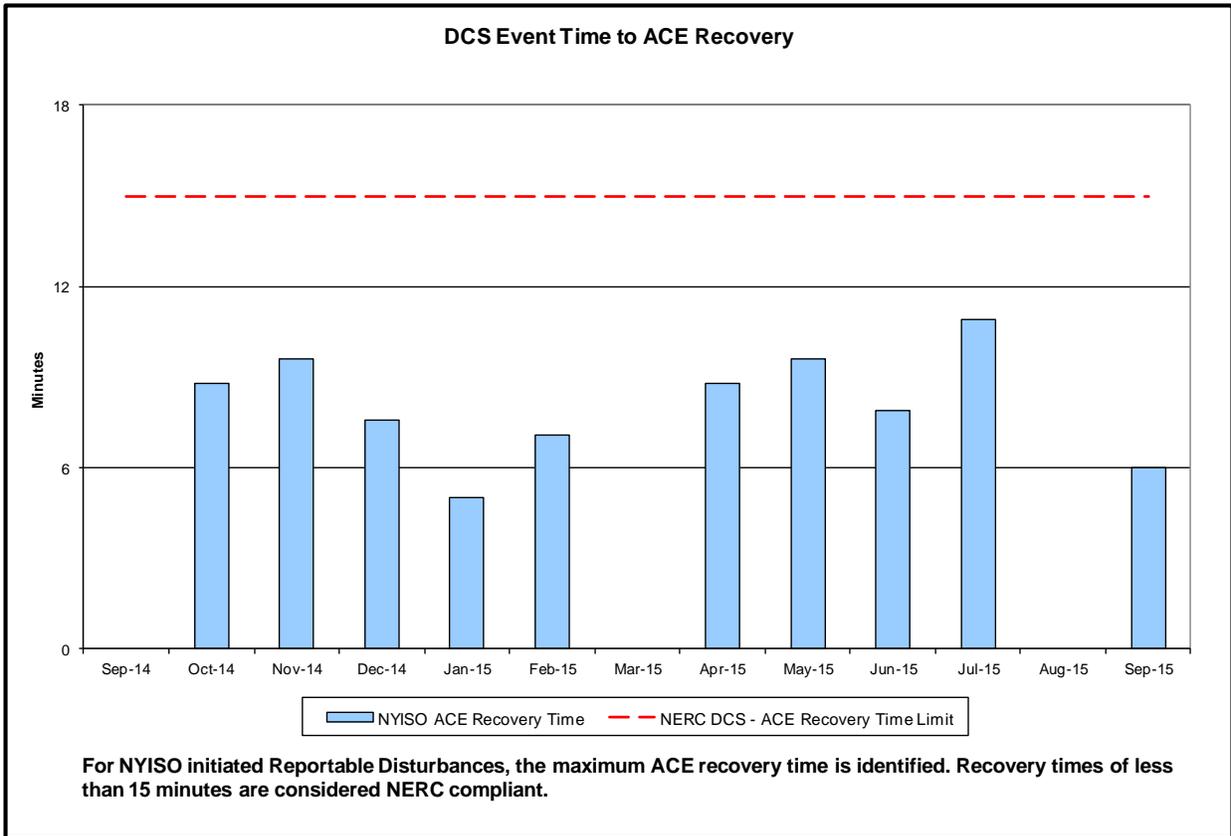
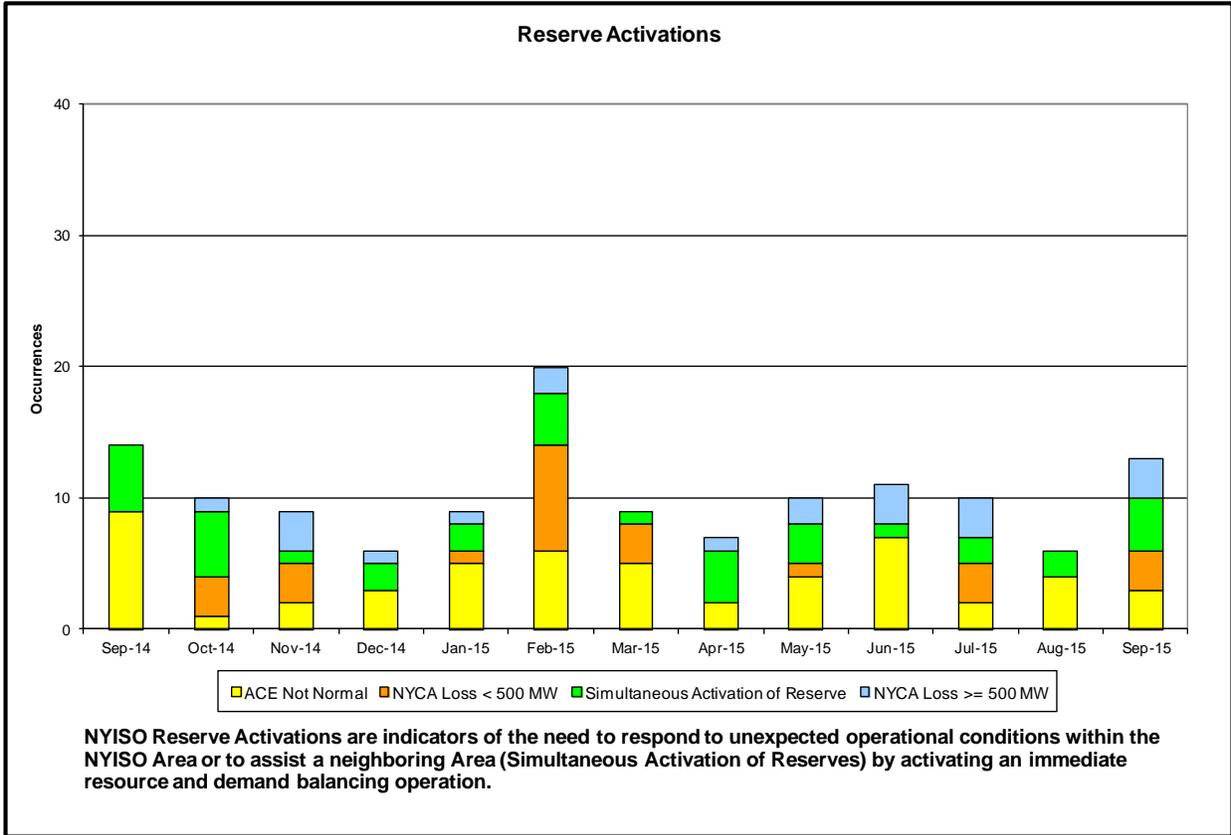
Spot Auction Price Results	NYCA	Lower Hudson Valley Zones	New York City Zone	Long Island Zone
October 2015 Spot Price	\$2.96	\$8.13	\$15.01	\$5.61
Change from Prior Month	(\$0.52)	(\$0.14)	(\$0.25)	(\$0.01)

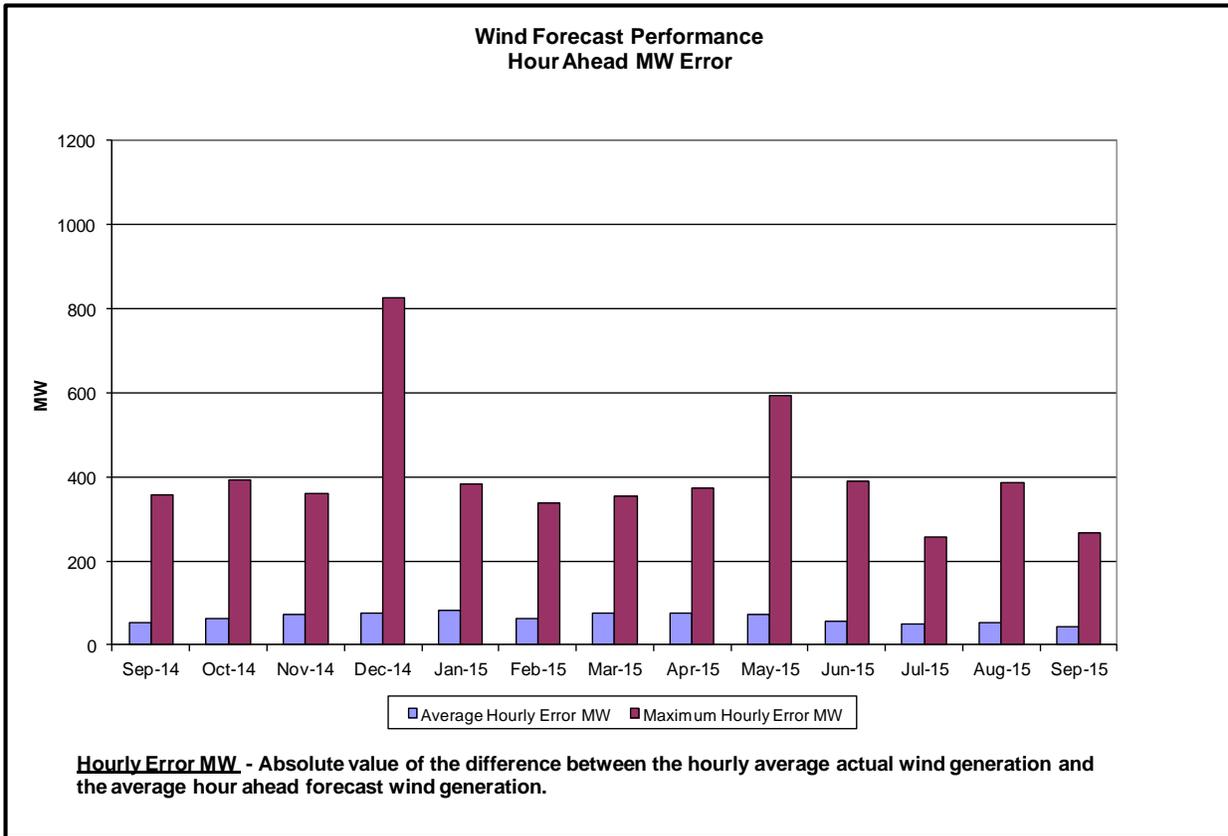
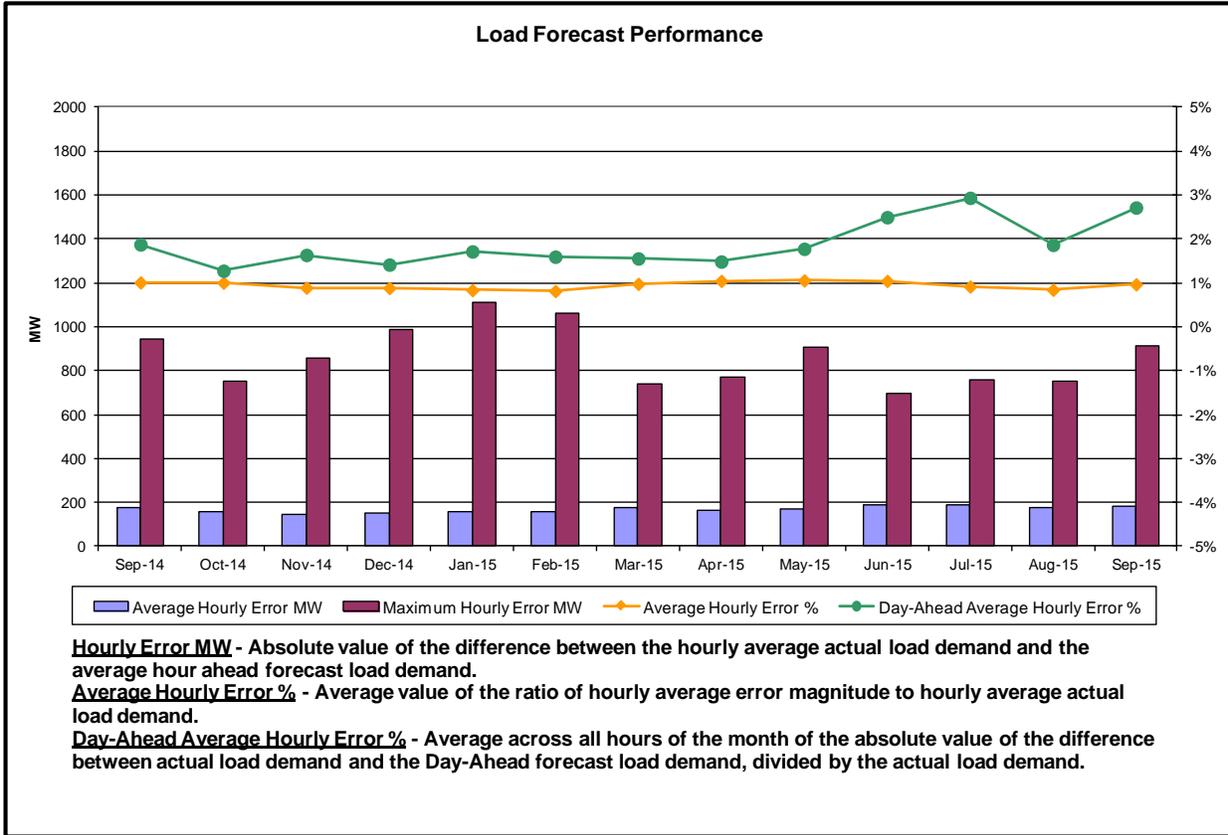
- NYCA - Price decreases by \$0.52 due to an approximate increase of 225.4 MW of UCAP sold.
- LHV - Price decreases by \$0.14 due to an approximate 22.6 MW increase in UCAP sold.
- NYC - Price decreases by \$0.25 due to an approximate 20.6 MW increase of UCAP sold.

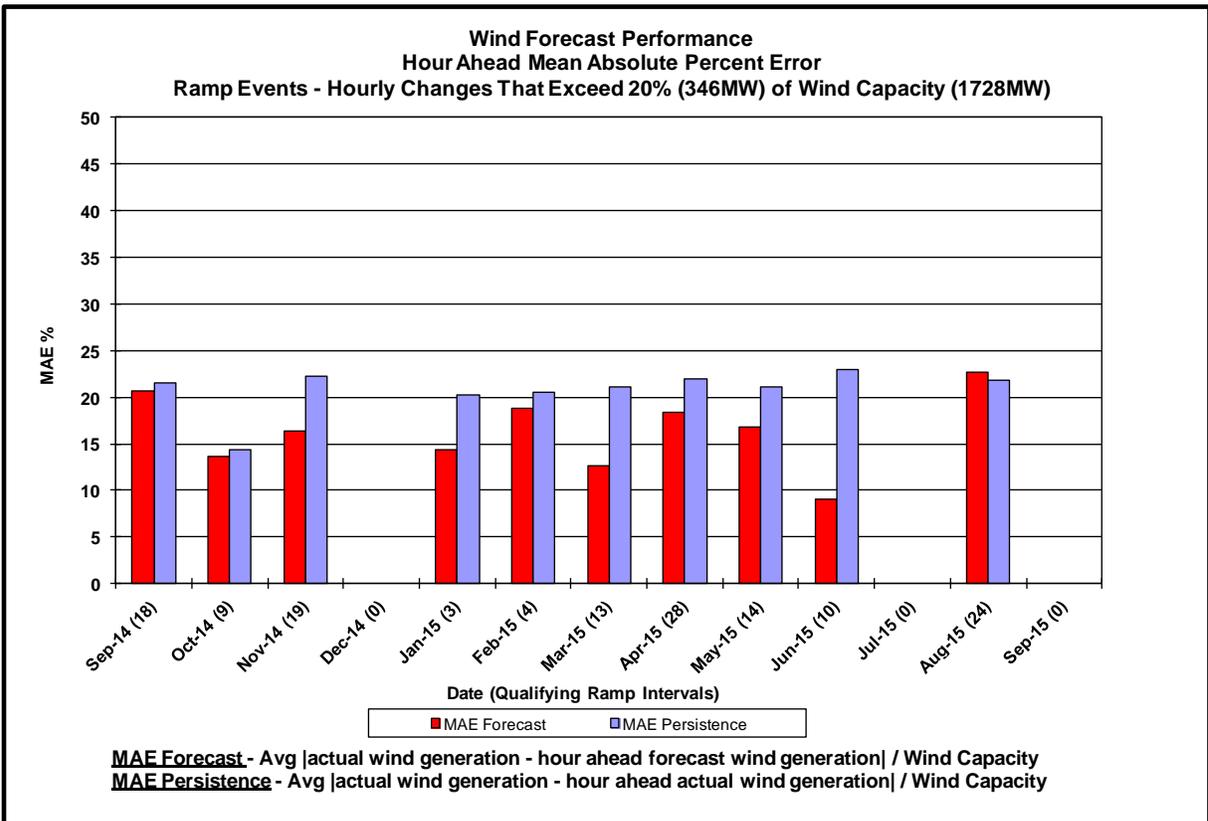
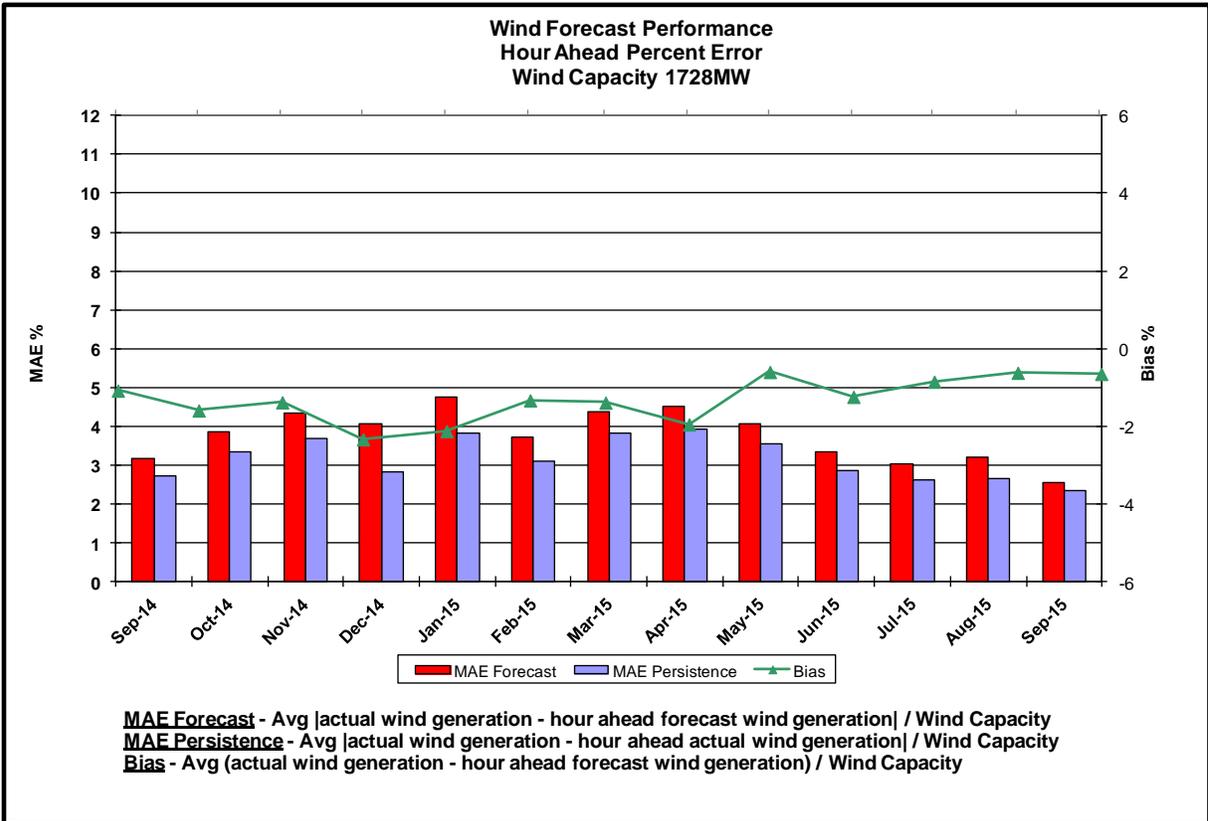
Reliability Performance Metrics

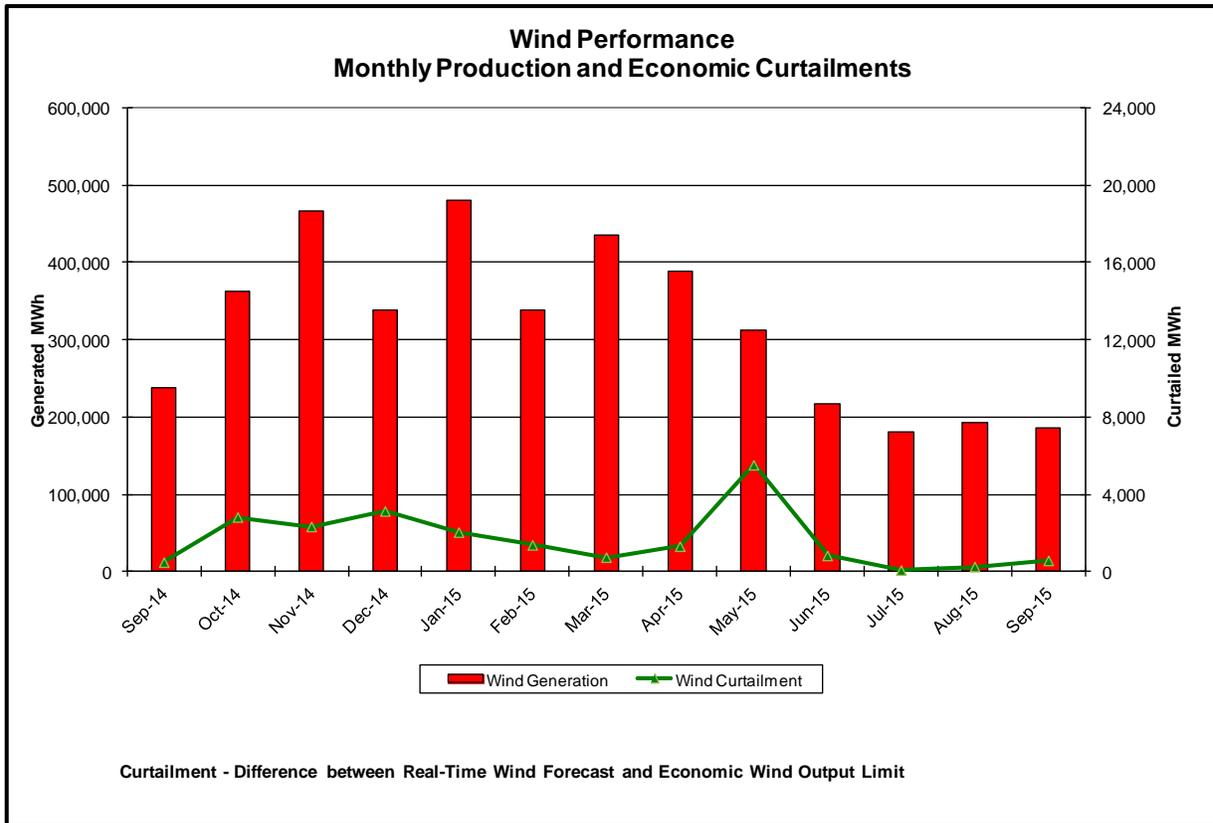
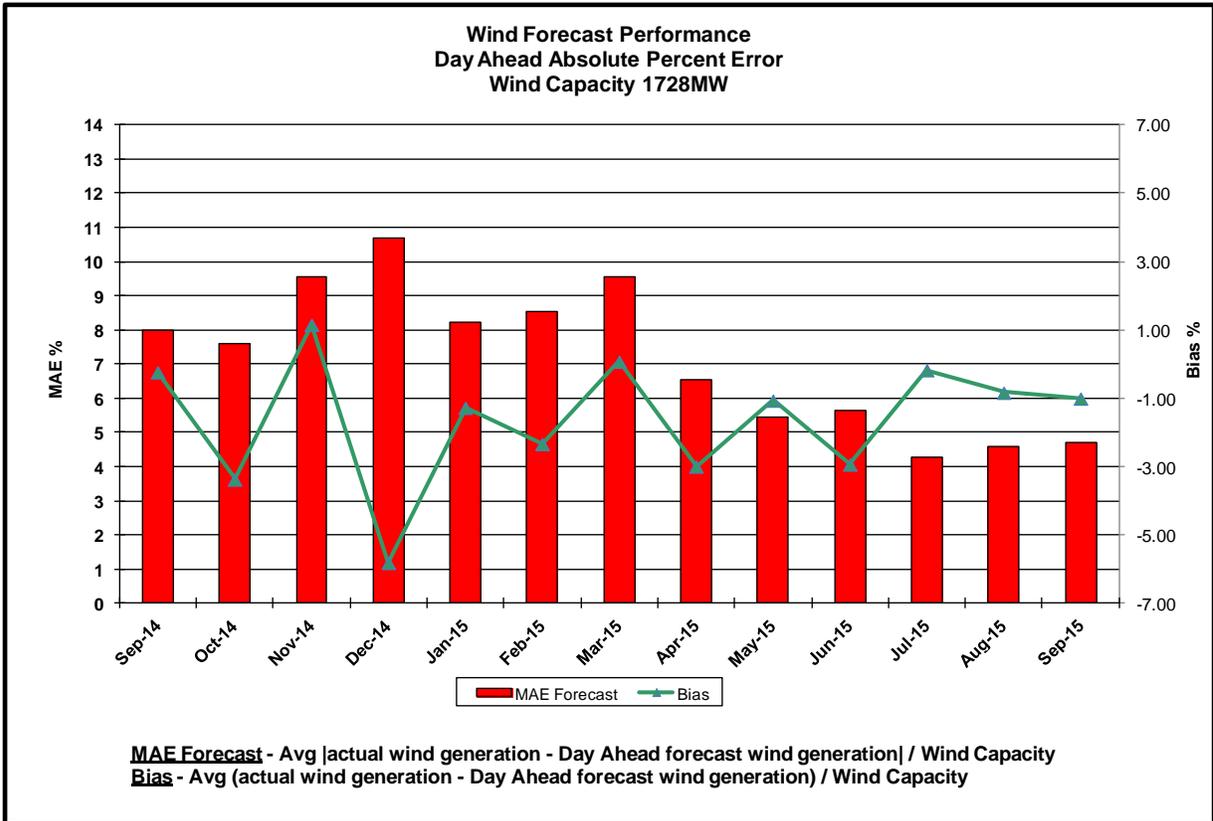


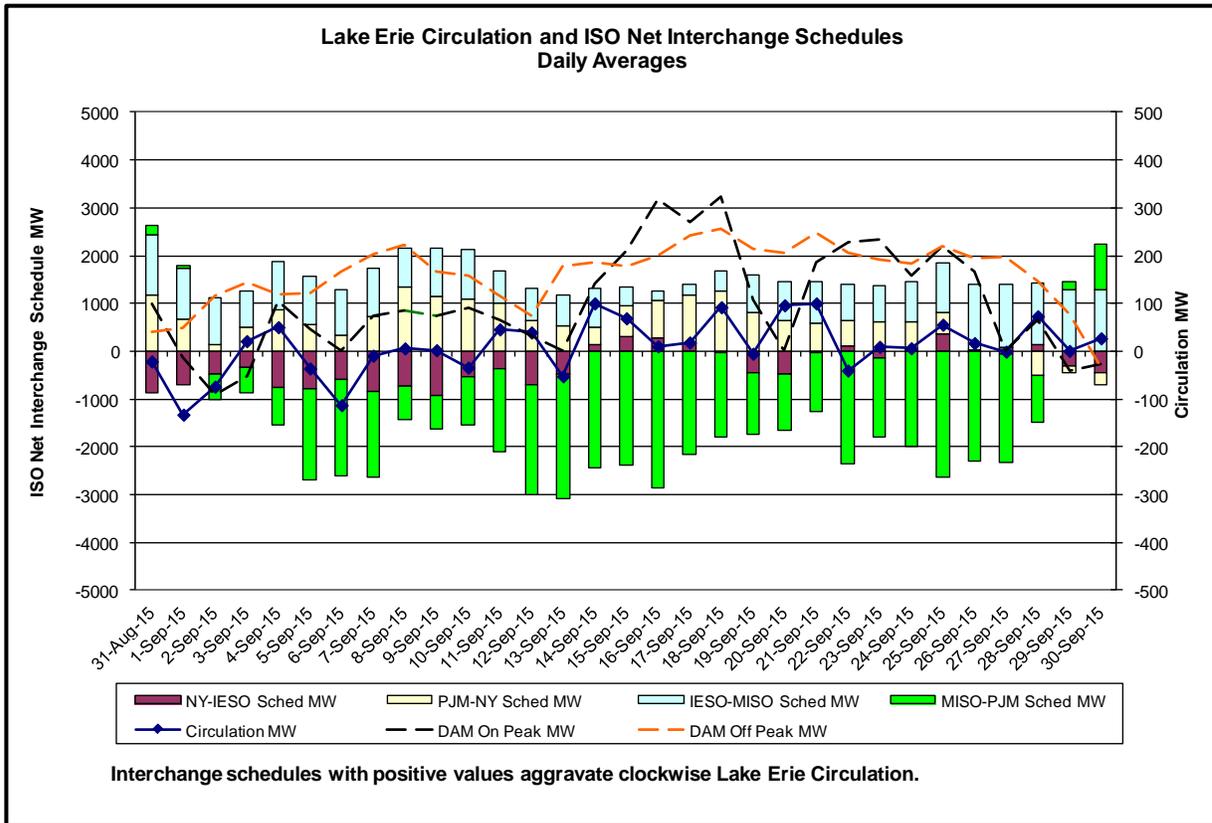
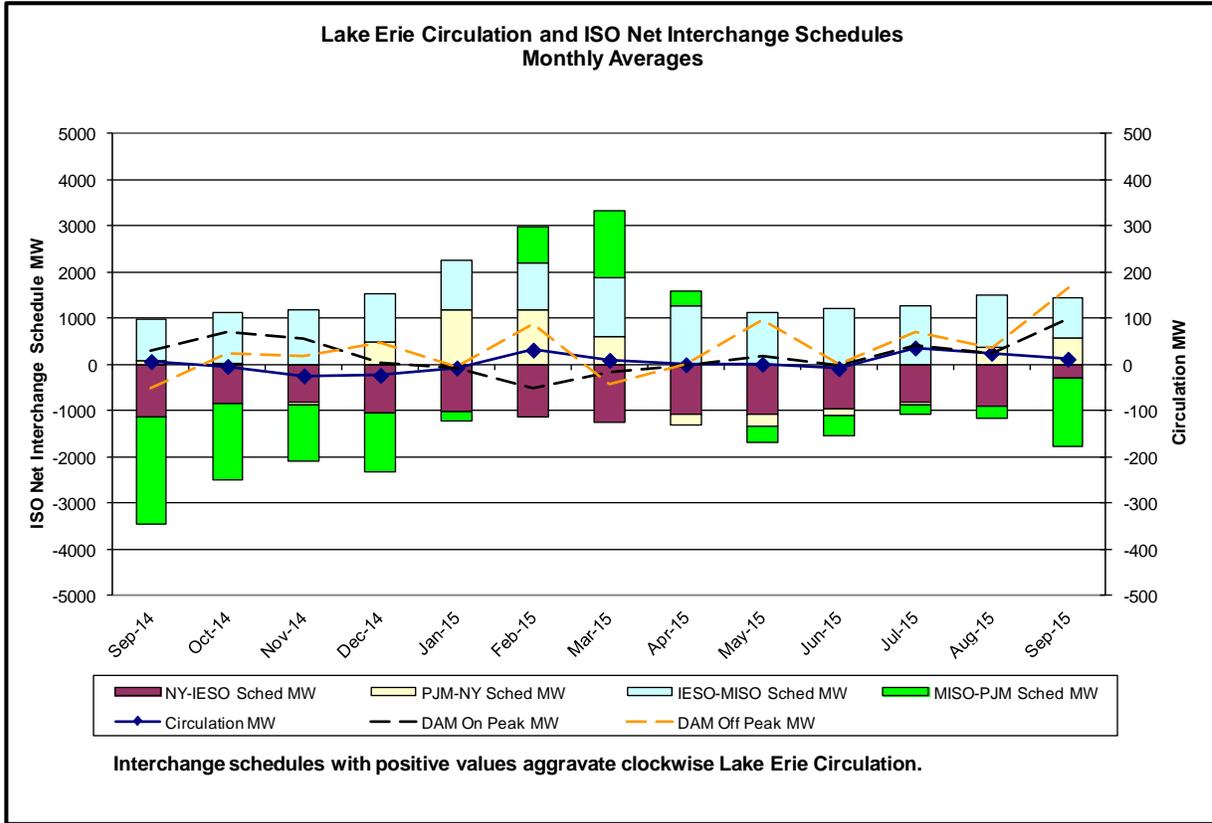




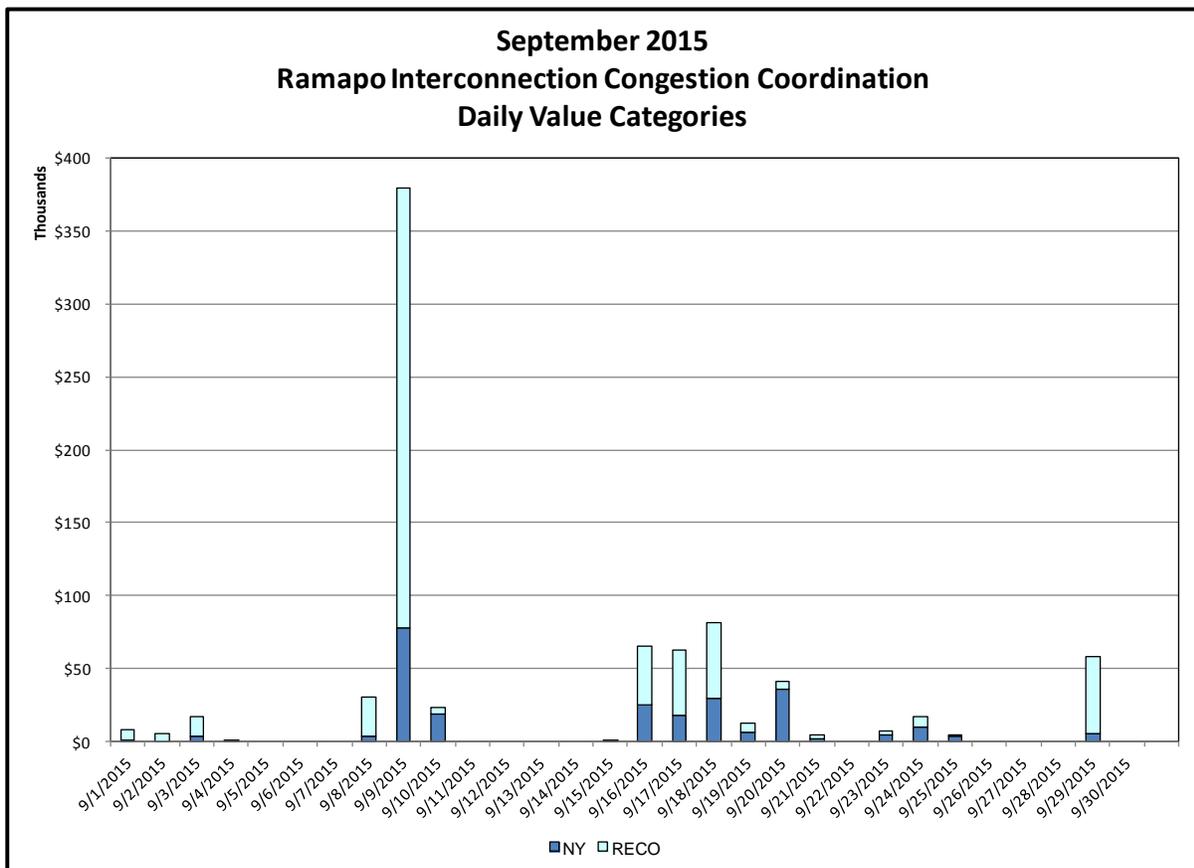
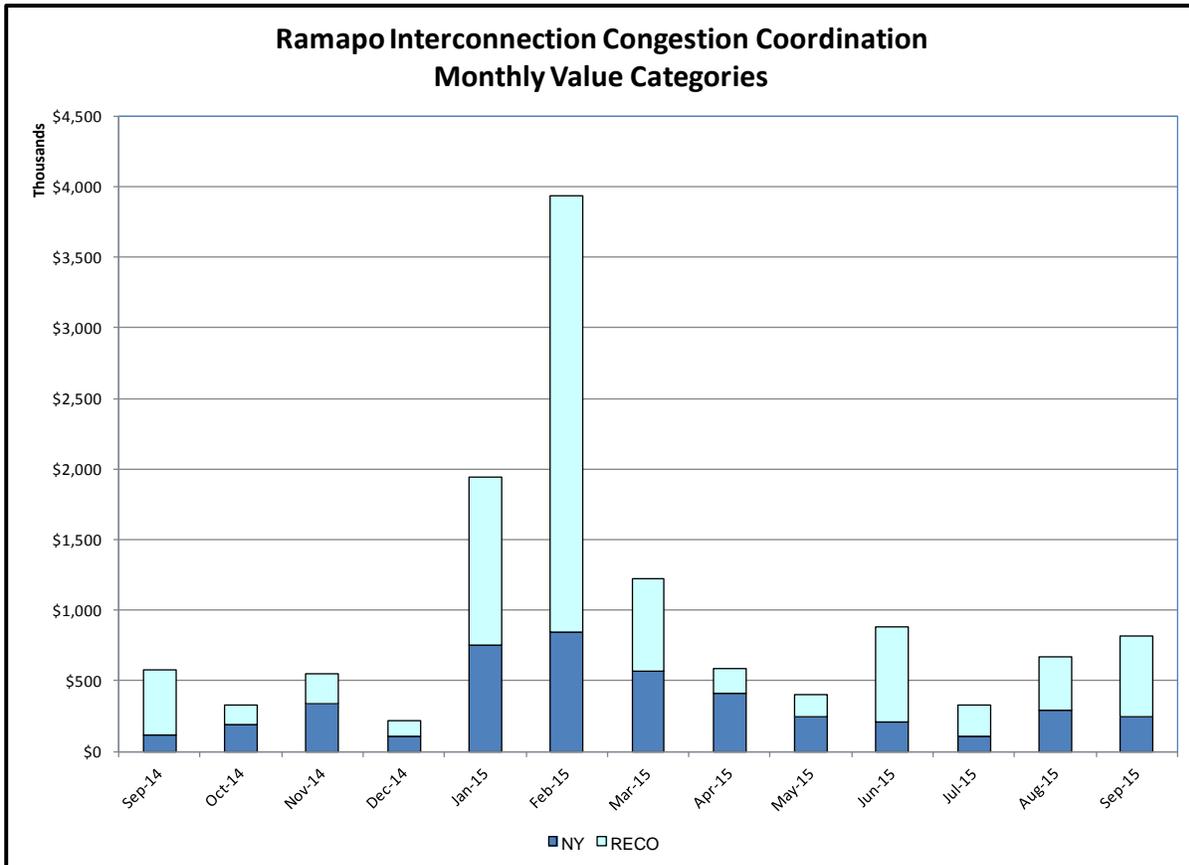






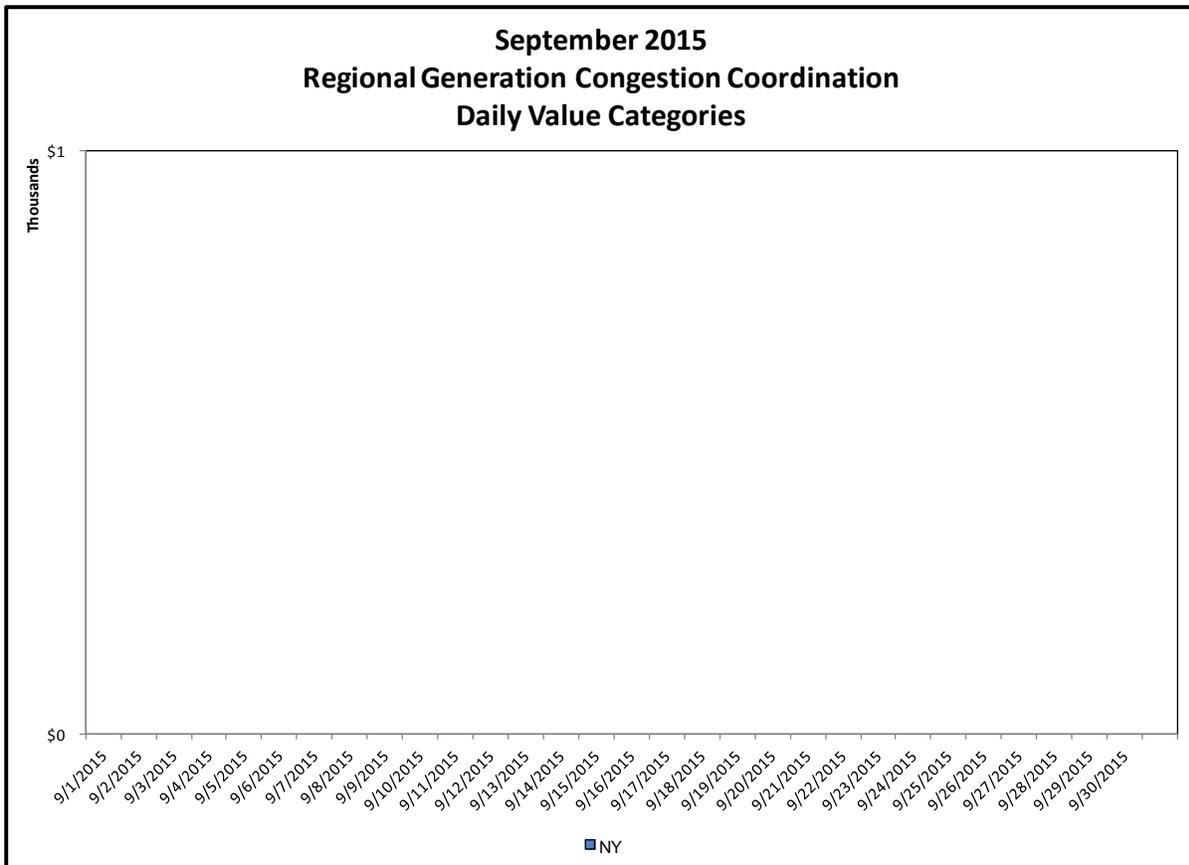
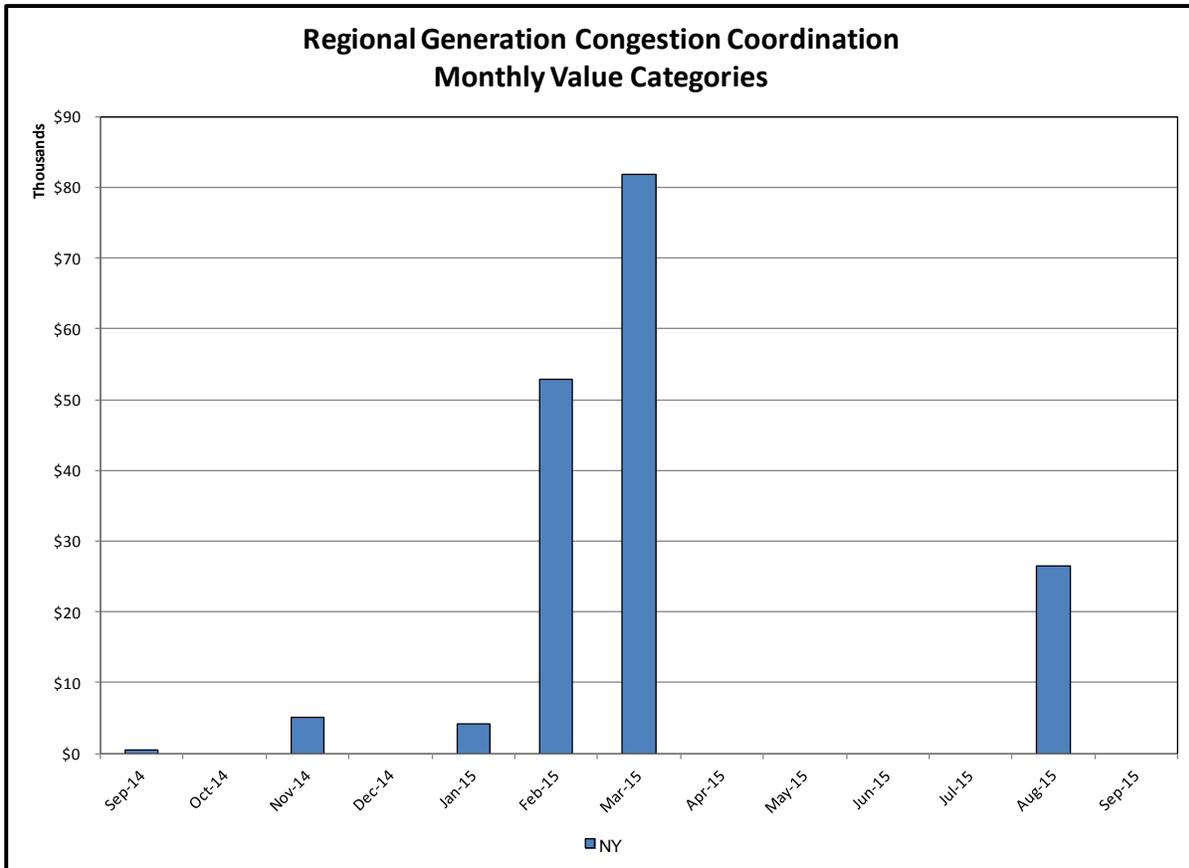


Broader Regional Market Performance Metrics



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.



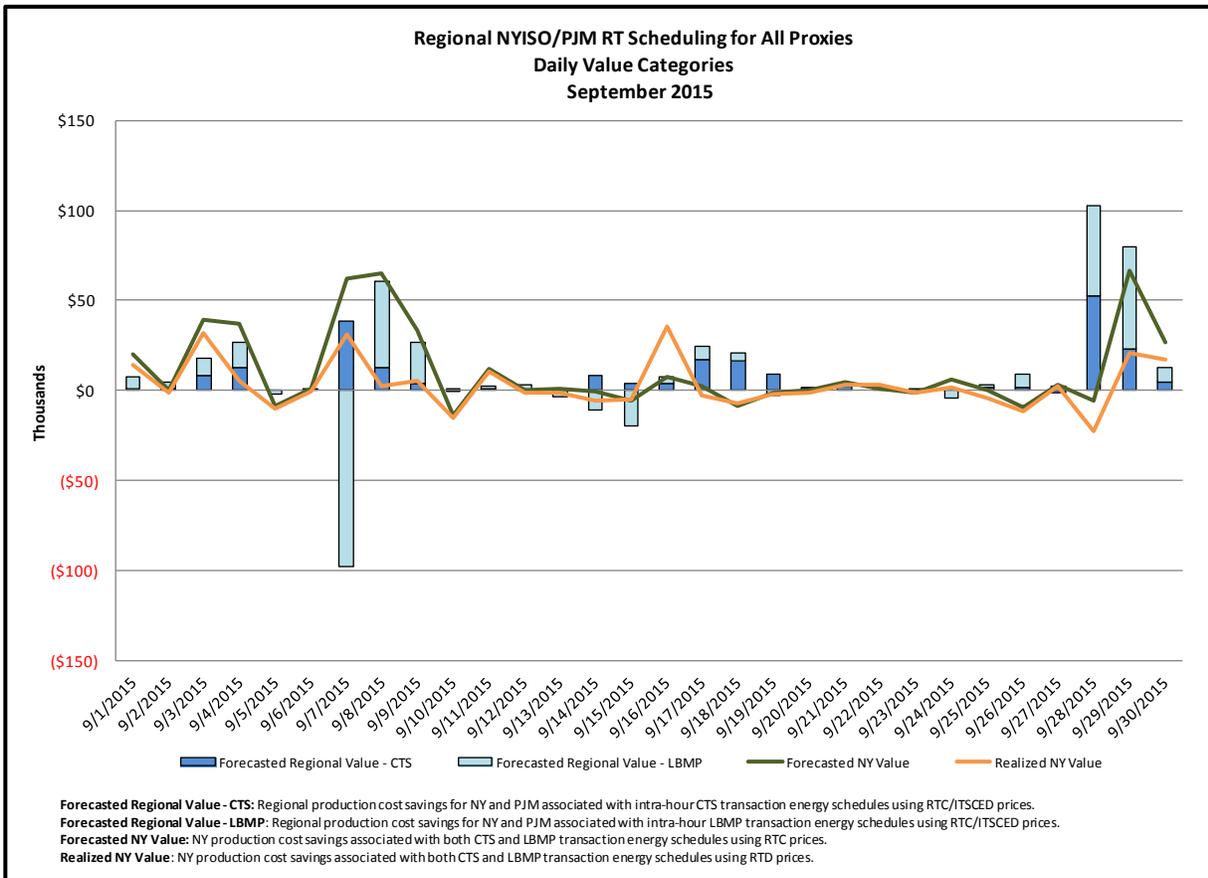
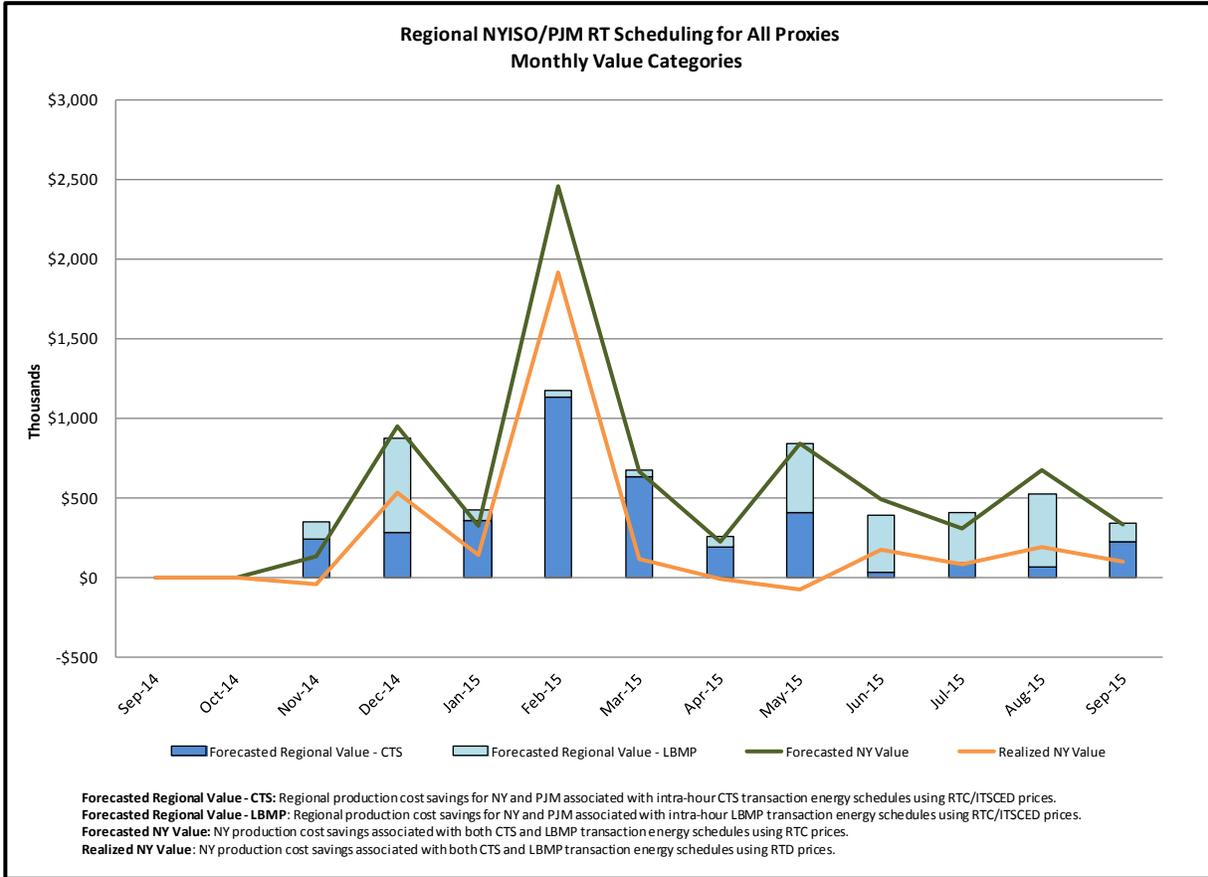
Regional Generation Congestion Coordination

Category

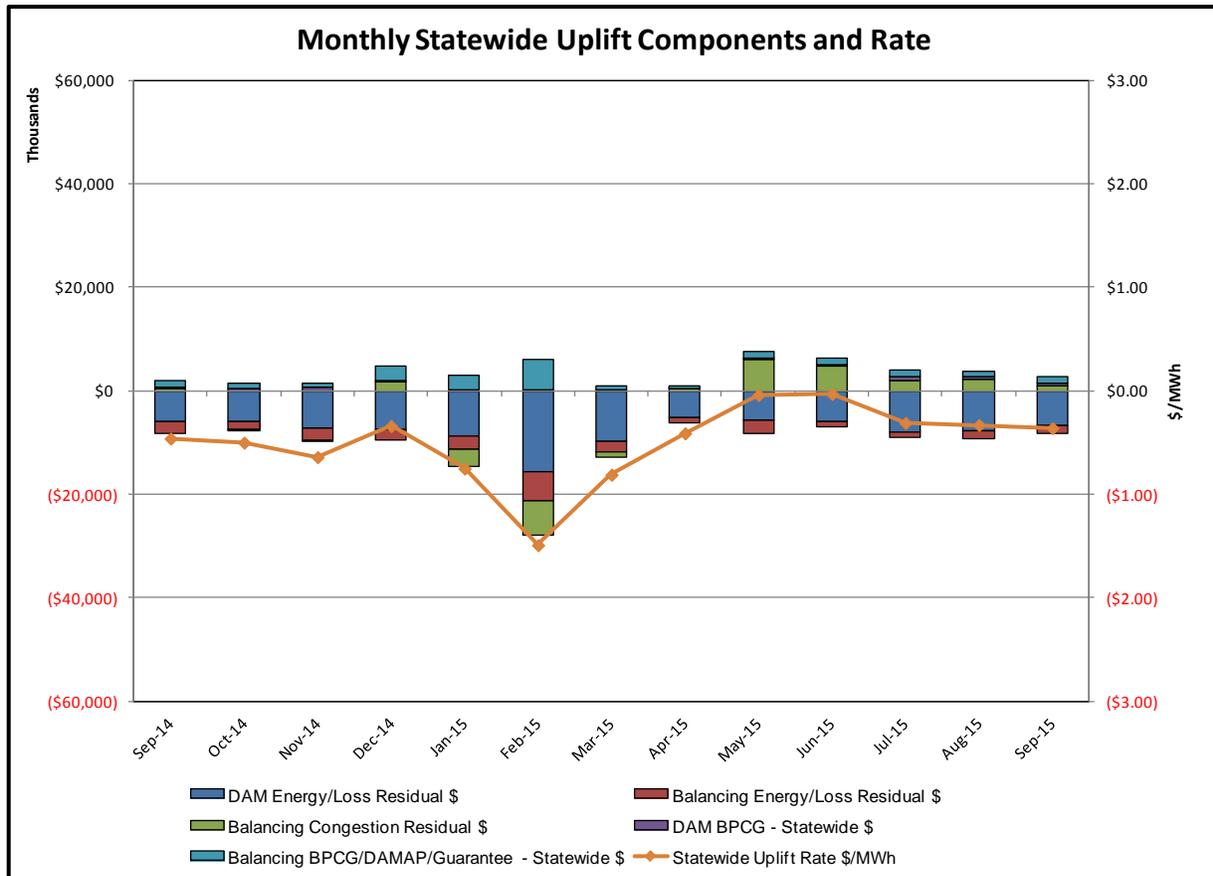
NY

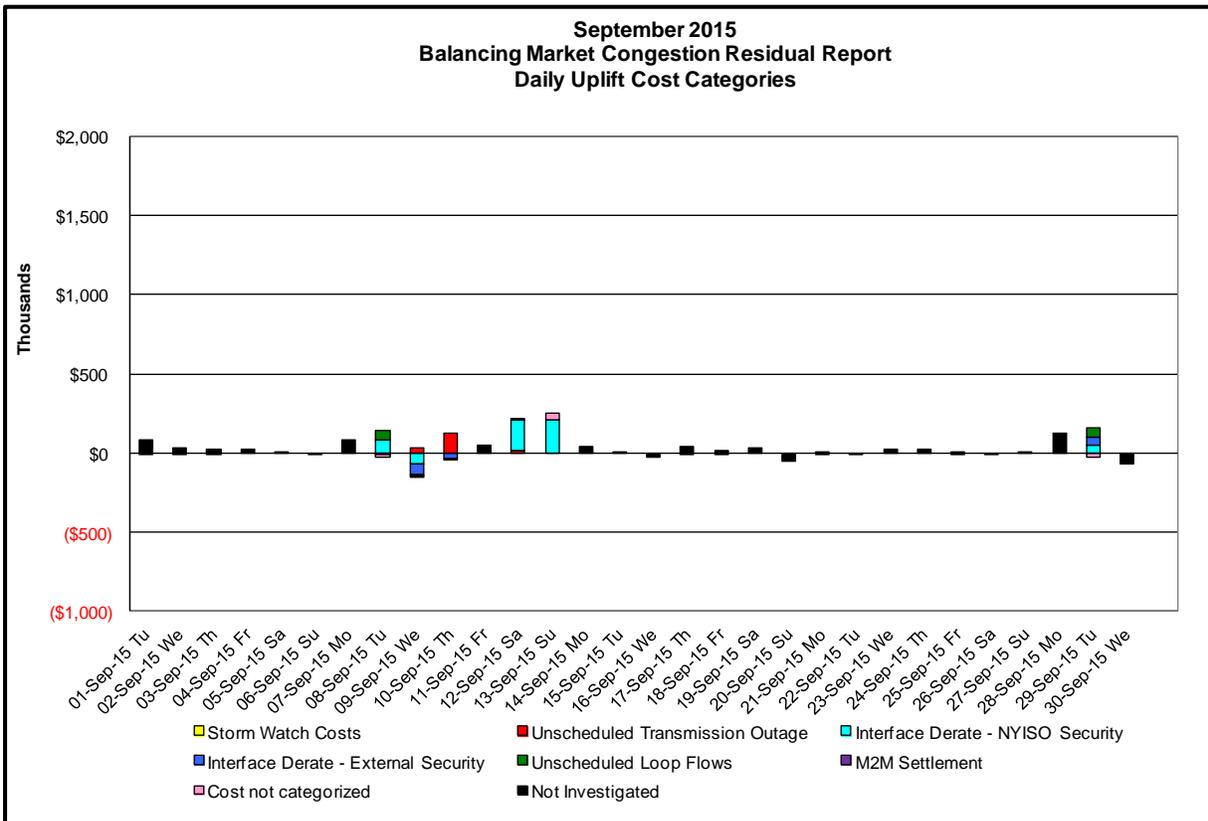
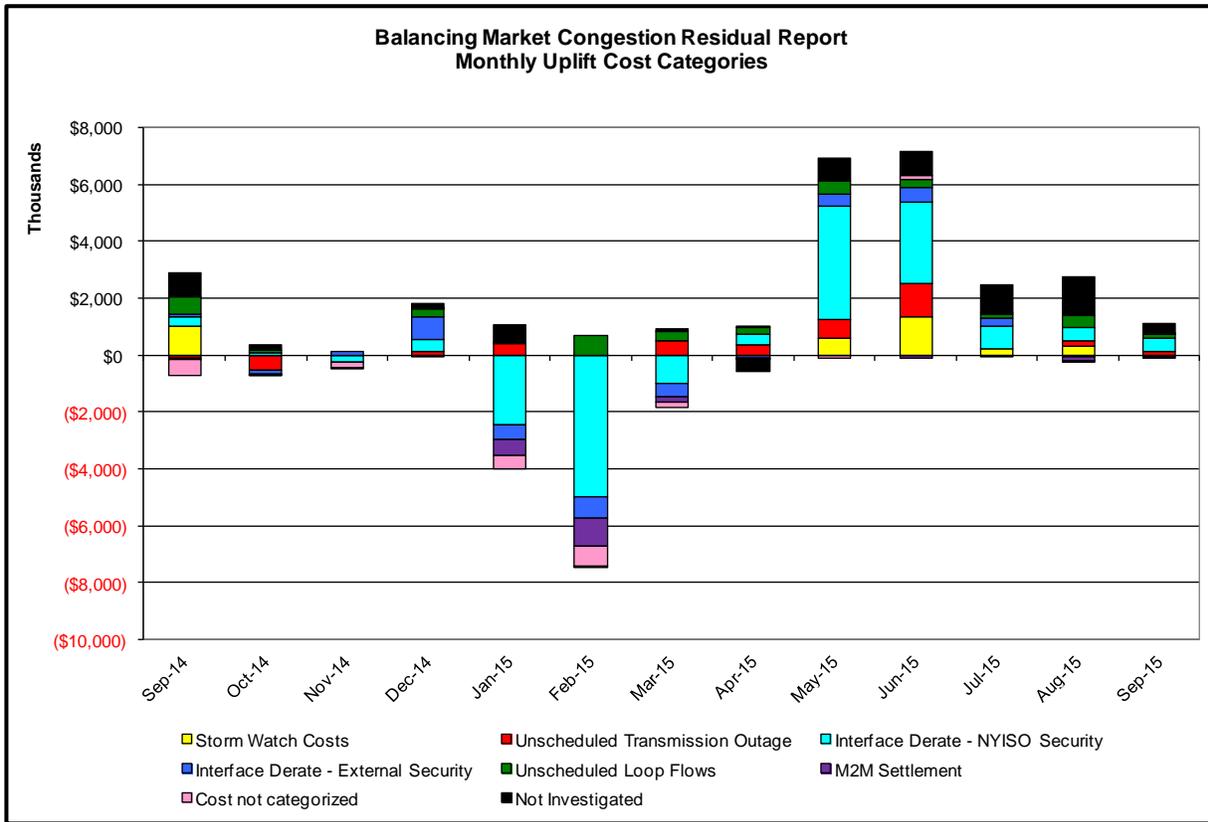
Description

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





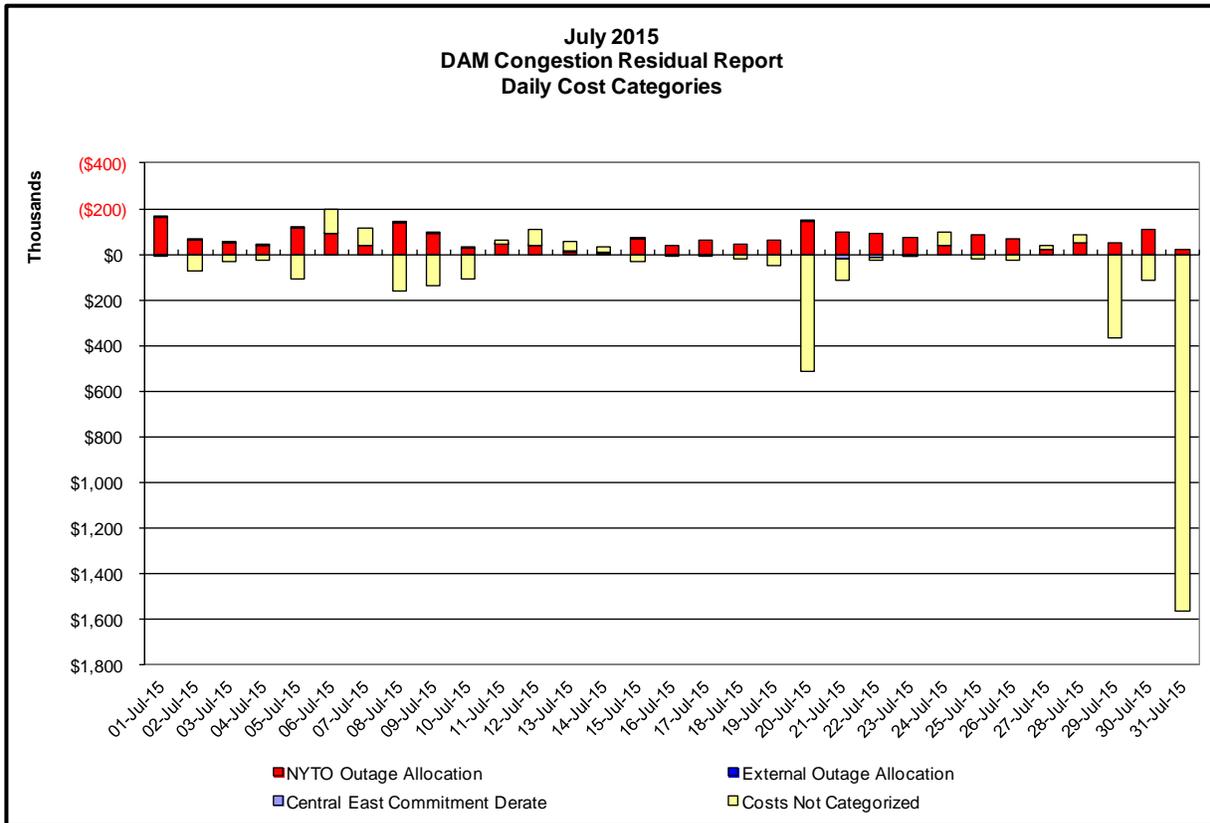
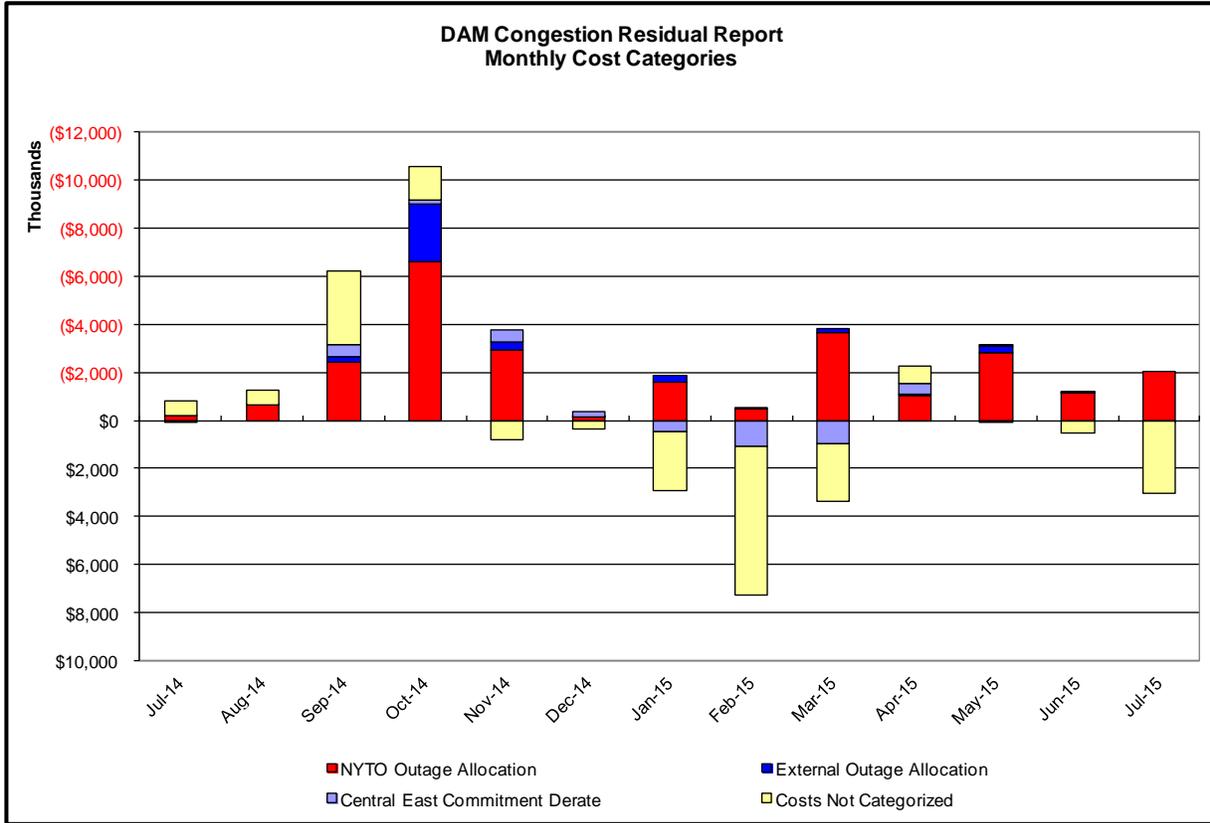
Day's investigated in September: 8,9,10,12,13,29			
Event	Date (yyyymmdd)	Hours	Description
	9/8/2015	12	Uprate Foxhills-Willowbrook 138kV (#29212-1)
	9/8/2015	12	Uprate Freshkill-Willowbrook 138kV (#29211-2)
	9/8/2015	14	Derate Dunwoodie-Shore Road 345kV (#Y50) I/o SCB:SPBK(RNS2):Y49 & M29
	9/8/2015	14	Derate Goethals-Gowanus 345kV (#26) I/o GOWANUS _GOETHALS_345_25
	9/8/2015	14	Derate Niagara-Packard 230kV (#62) I/o TWR:NIAGARA 61 & 64
	9/8/2015	14,16	Derate Packard-Sawyer 230kV (#78) I/o Packard-Sawyer 230kV (#77)
	9/8/2015	12	NE_AC-NY Scheduling Limit
	9/8/2015	14	Lake Erie Clockwise Circultion, DAM-RTM exceeds 125MW; Niagra-Packard 230kV (#62) and Packard-Sawyer 230kV (#78)
	9/9/2015	21,22	Forced outage Dunwoodie-Shore Road 345kV (#Y50)
	9/9/2015	14	Forced outage Barrett-Valley Stream 138kV (#292)
	9/9/2015	16,21	Derate Gowanus-Greenwood 138kV (#42231)
	9/9/2015	9,10	Derate Packard-Sawyer 230kV (#78) I/o Packard-Sawyer 230kV (#77)
	9/9/2015	14	Derate Leeds-Pleasant Valley 345kV (#92) for I/o Athens-Pleasant Valley 345kV (#91)
	9/9/2015	1,2	Uprate Central East
	9/9/2015	0,12,13	Uprate Freshkill-Willowbrook 138kV (#29211-2)
	9/9/2015	13,14,15,16	NYCA DNI Ramp Limit
	9/9/2015	13	HQ_CHAT-NY Scheduling Limit
	9/9/2015	12	NE_NNC1385-NY Scheduling limit
	9/9/2015	13,17,18	NE_AC-NY Scheduling Limit
	9/9/2015	13	PJM_AC DNI Ramp Limit
	9/10/2015	0,5,7	Forced outage Dunwoodie-Shore Road 345kV (#Y50)
	9/10/2015	14	IESO_AC DNI Ramp Limit
	9/10/2015	9-12,14	NE_AC-NY Scheduling Limit
	9/10/2015	11,12	NE_NNC1385-NY Scheduling limit
	9/12/2015	12	Extended outage Goethals-Freshkills 345kV (#21)
	9/12/2015	9,10,12-16,18,20-23	Derate Greenwood-Vernon 138kV (#31231) for I/o SCB:GOWANUS(6): 25&42232
	9/13/2015	16,23	NYCA DNI Ramp Limit
	9/13/2015	10,13-19	Derate Greenwood-Vernon 138kV (#31231) for I/o SCB:GOWANUS(6): 25&42232
	9/29/2015	11,17,19	Derate East 179th Street-HellGate East 138kV (#15053)
	9/29/2015	11,19	Derate East 179th Street-HellGate East 138kV (#15054)
	9/29/2015	11,17,19	Derate Farragut-Hudson Avenue 138kV (#32711)
	9/29/2015	17,19	Derate Huntley-Sawyer 230kV (#80) for I/o Niagara-Robinson Road 230kV (#64)
	9/29/2015	13,14	Uprate Leeds-Pleasant Valley 345kV (#92) for I/o Athens-Pleasant Valley 345kV (#91)
	9/29/2015	11,14,17	NYCA DNI Ramp Limit
	9/29/2015	19	HQ_CEDARS-NY Scheduling Limit
	9/29/2015	11,17,19	HQ_CHAT-NY Scheduling Limit
	9/29/2015	13	IESO_AC DNI Ramp Limit
	9/29/2015	14,17	PJM_AC-NY Scheduling Limit
	9/29/2015	17,19	Lake Erie Clockwise Circultion, DAM-RTM exceeds 125MW; Huntley-Sawyer 230kV (#80)

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	

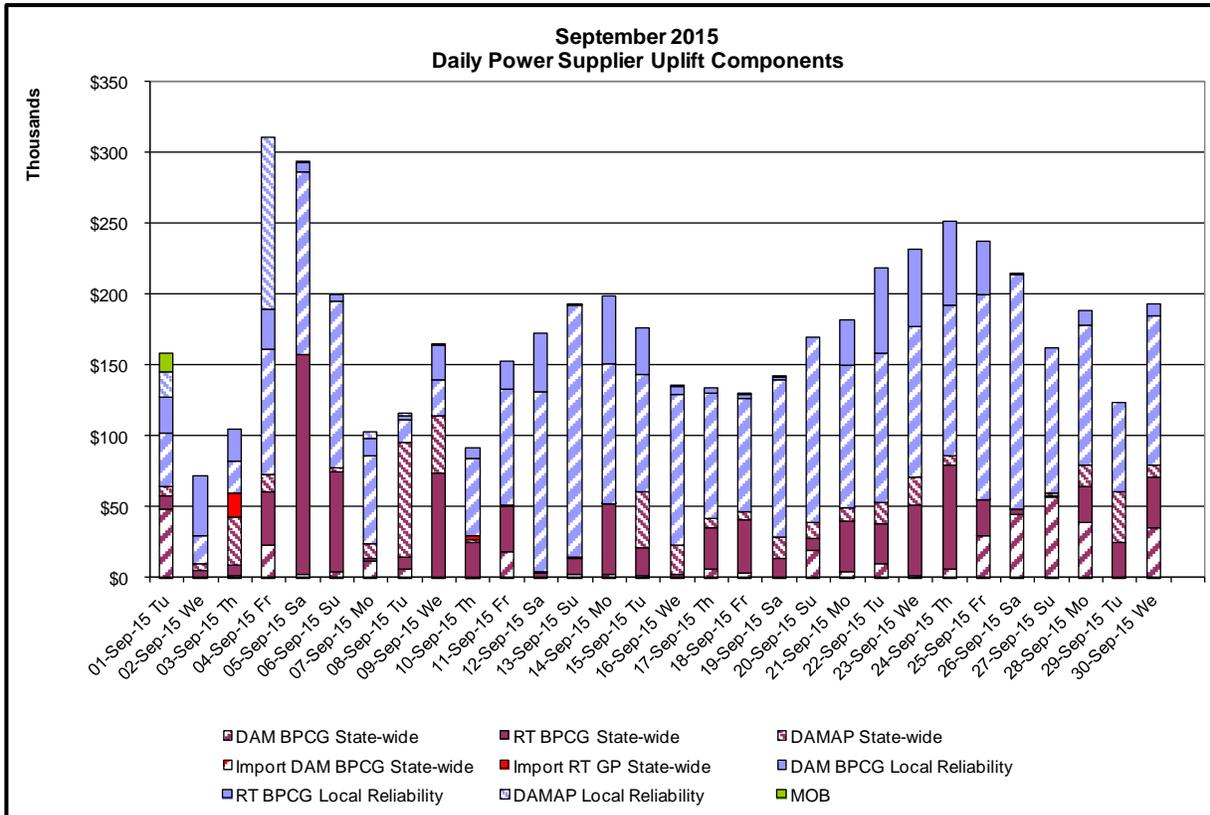
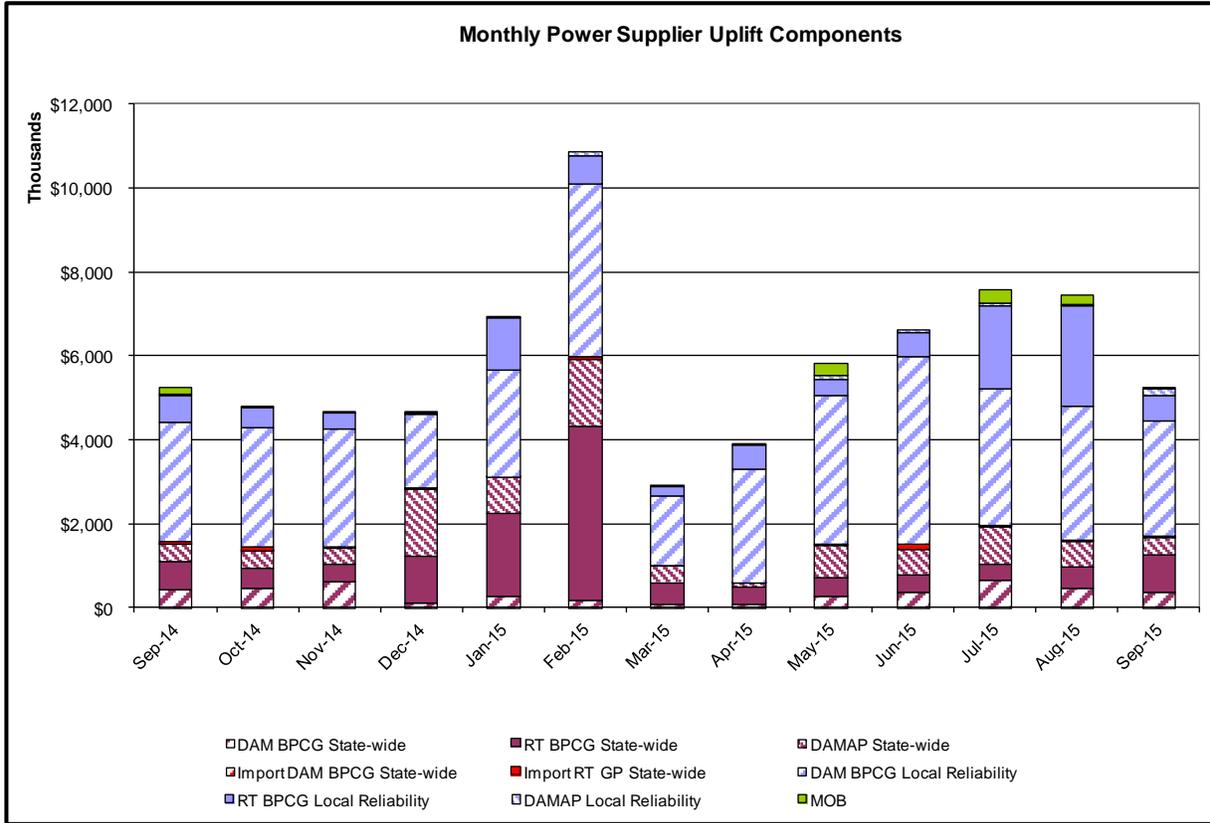
Monthly Balancing Market Congestion Report Assumptions/Notes

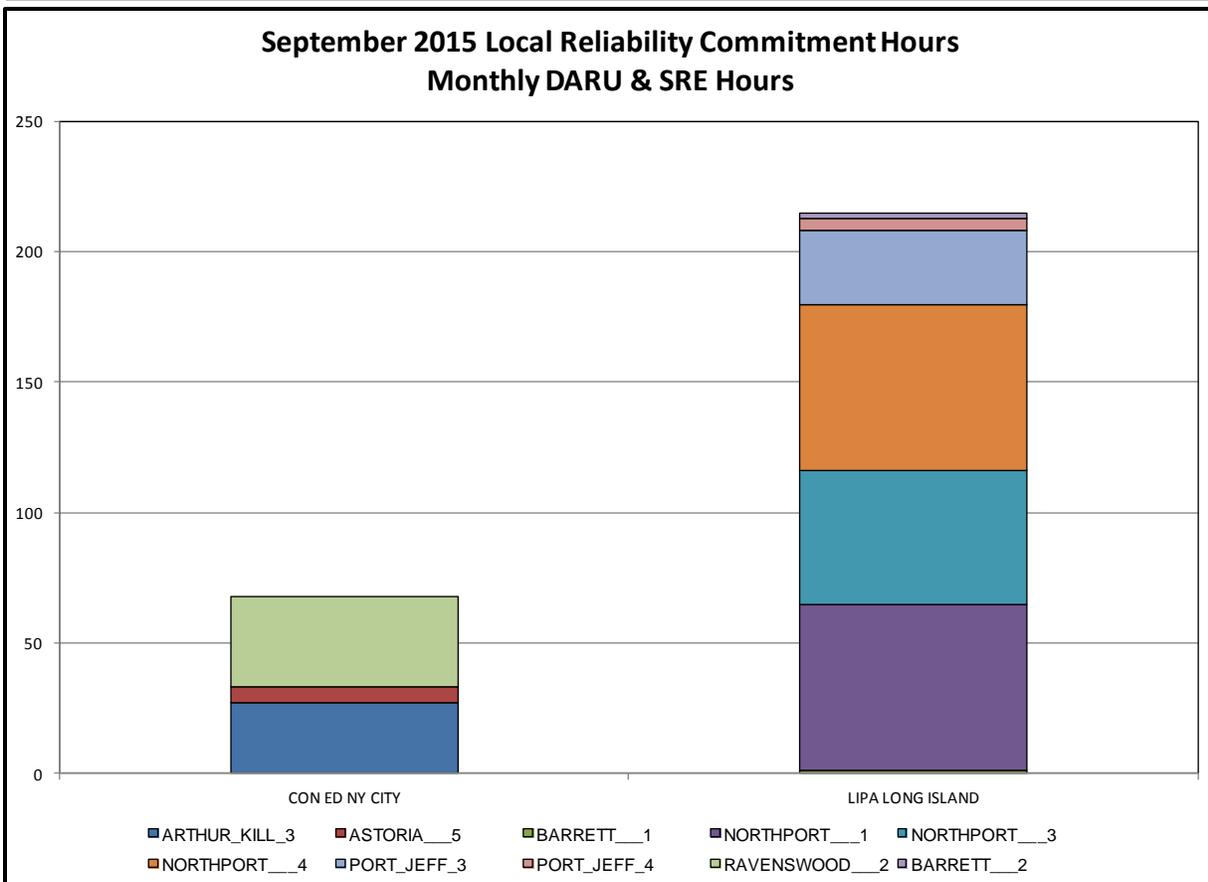
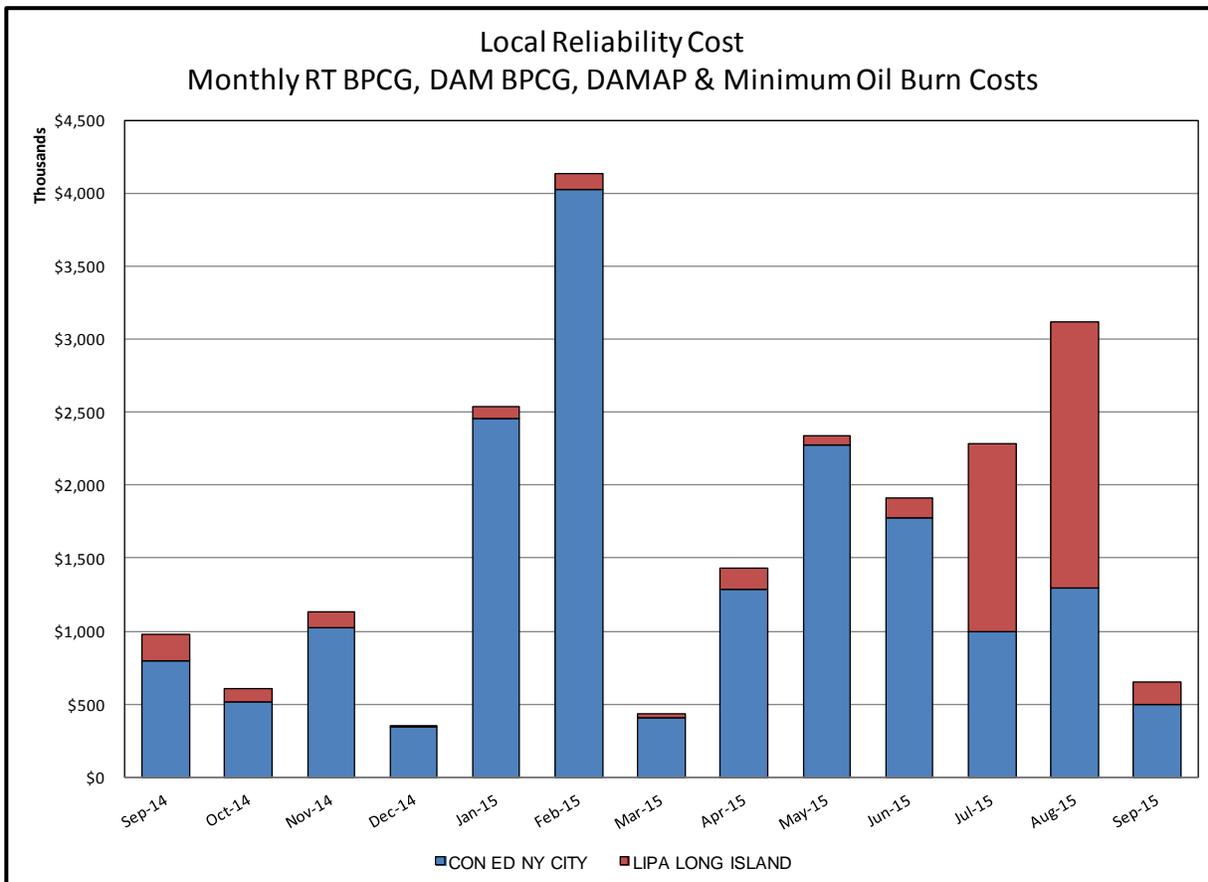
- 1) Storm Watch Costs are identified as daily total uplift costs
- 2) Days with a value of BMCR less M2M Settlement of \$100K/HR, shortfall of \$200K/Day or more, or surplus of \$100K/Day or more are investigated.
- 3) Uplift costs associated with multiple event types are apportioned equally by hour

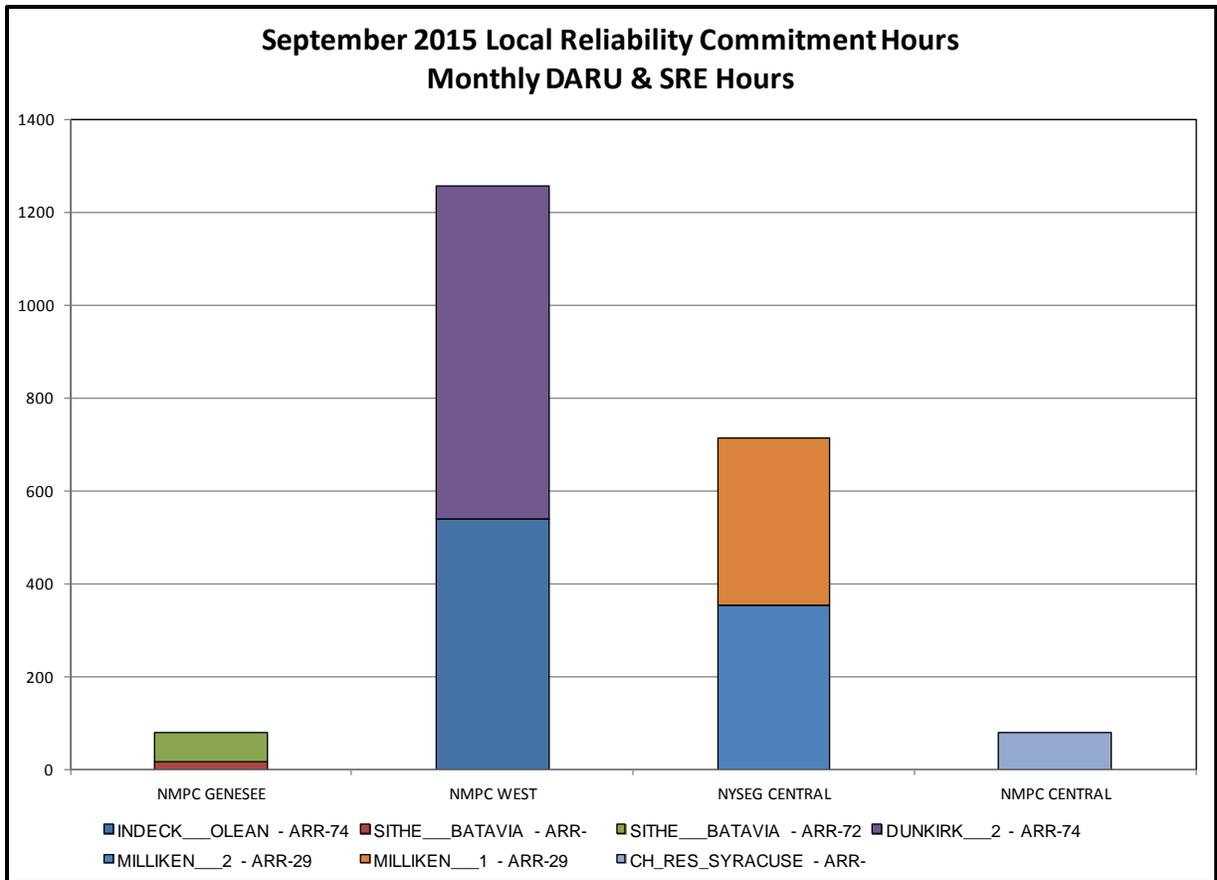
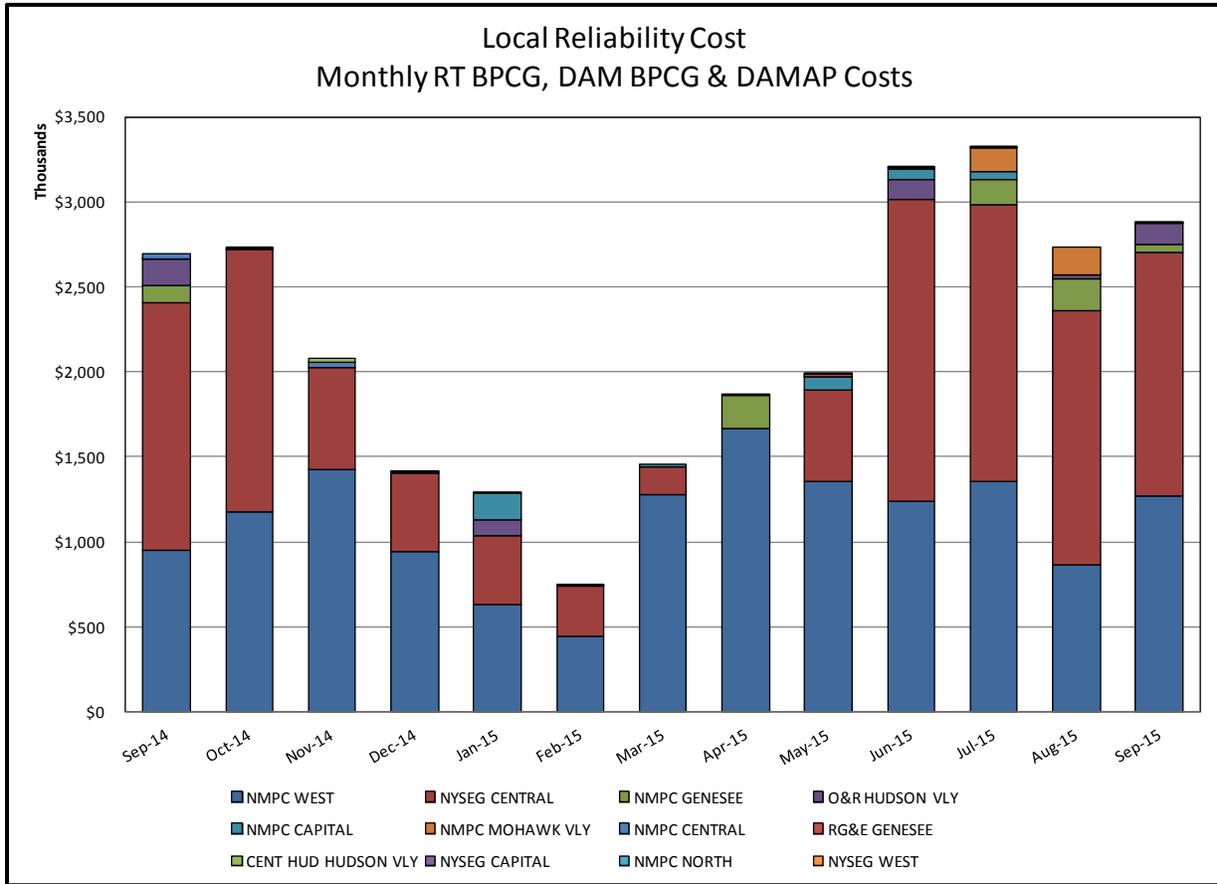


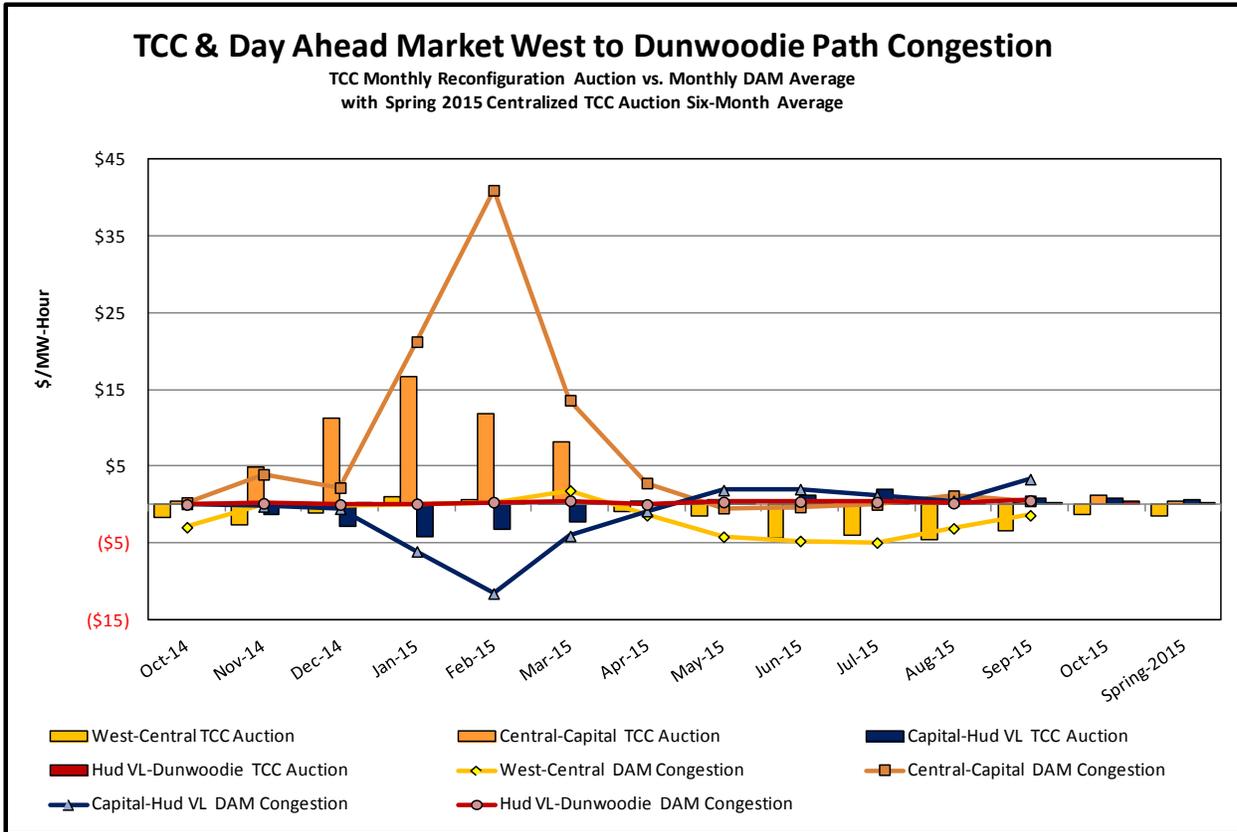
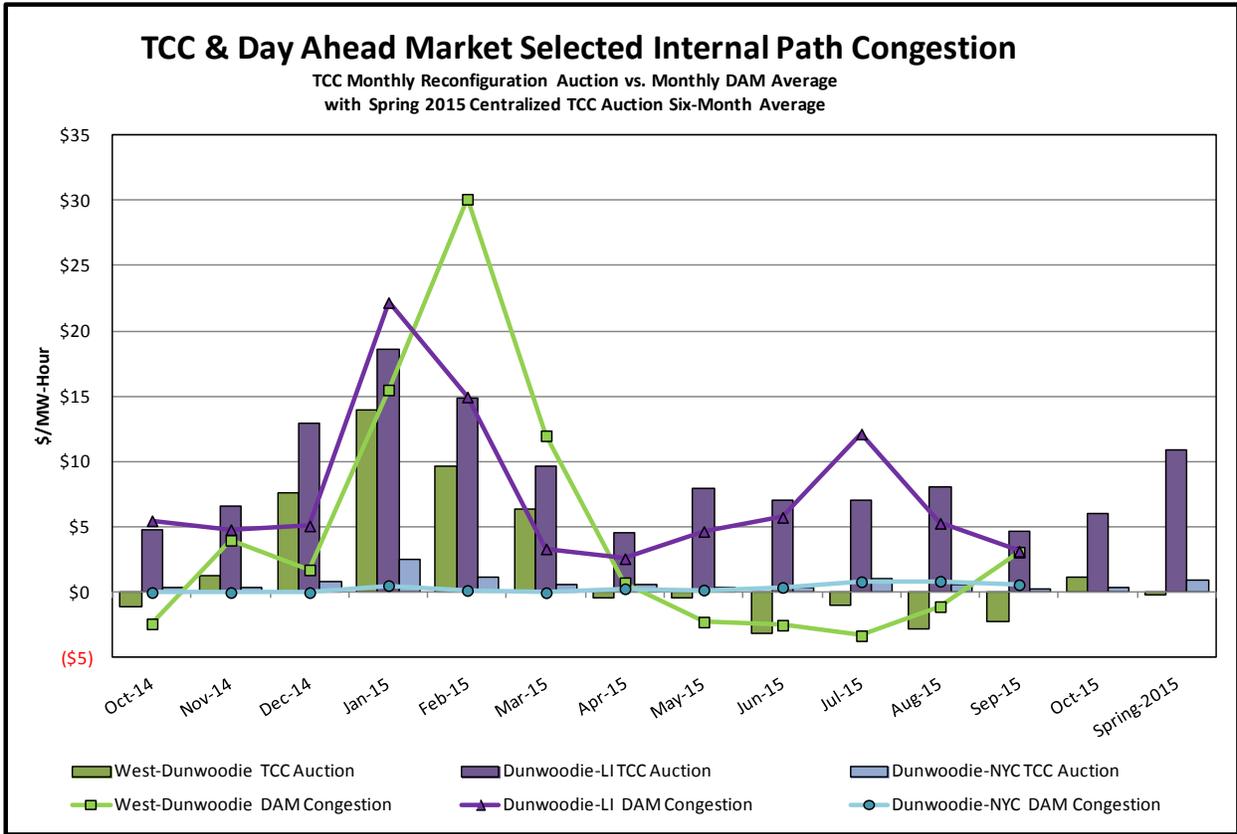
Day-Ahead Market Congestion Residual Categories

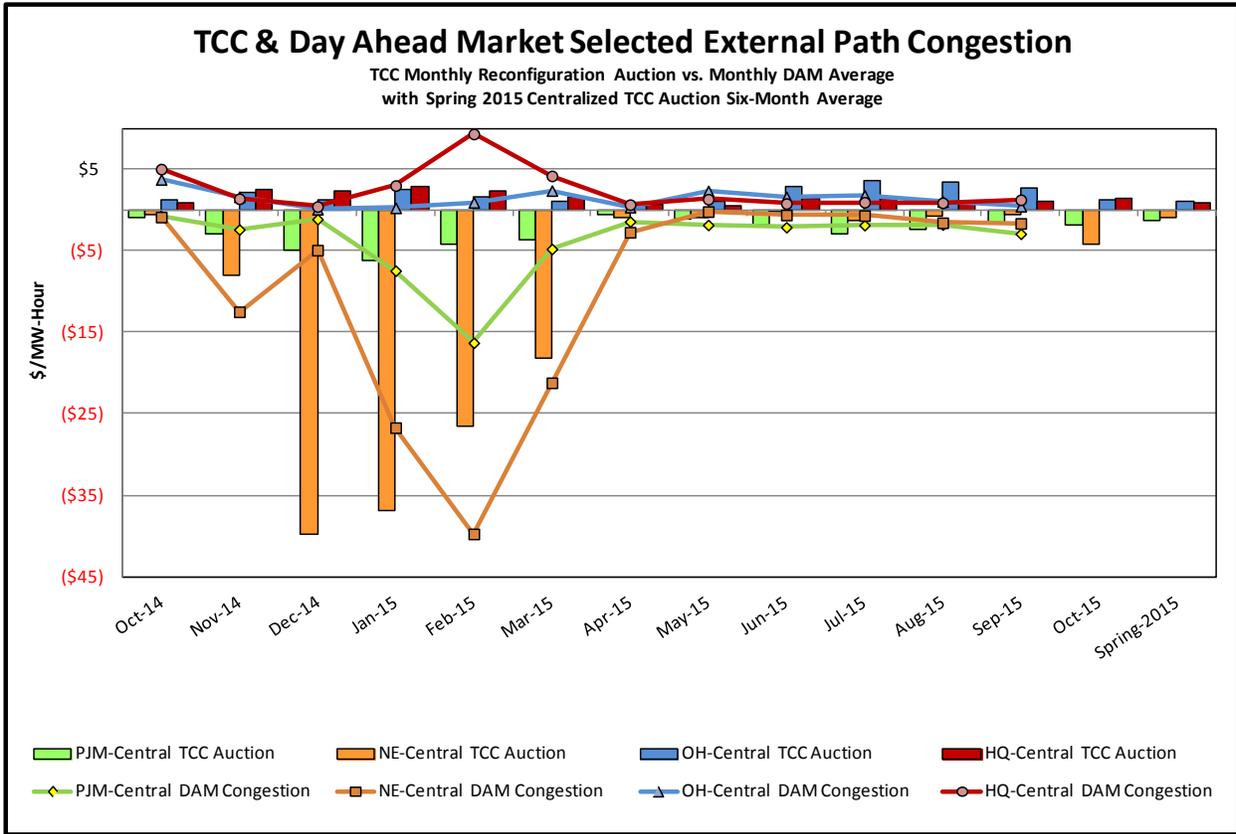
<u>Category</u>	<u>Cost Assignment</u>	<u>Events Types</u>	<u>Event Examples</u>
NYTO Outage Allocation	Responsible TO	Direct allocation to NYTO's responsible for transmission equipment status change.	DAM scheduled outage for equipment modeled in-service for the TCC Auction.
External Outage Allocation	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.	











+

