

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



## ***January 2011 Report***

### **Operations & Reliability Department New York Independent System Operator**

Prepared by NYISO Operations Analysis and Services, based on settlements initial invoice data obtained on or before February 9.

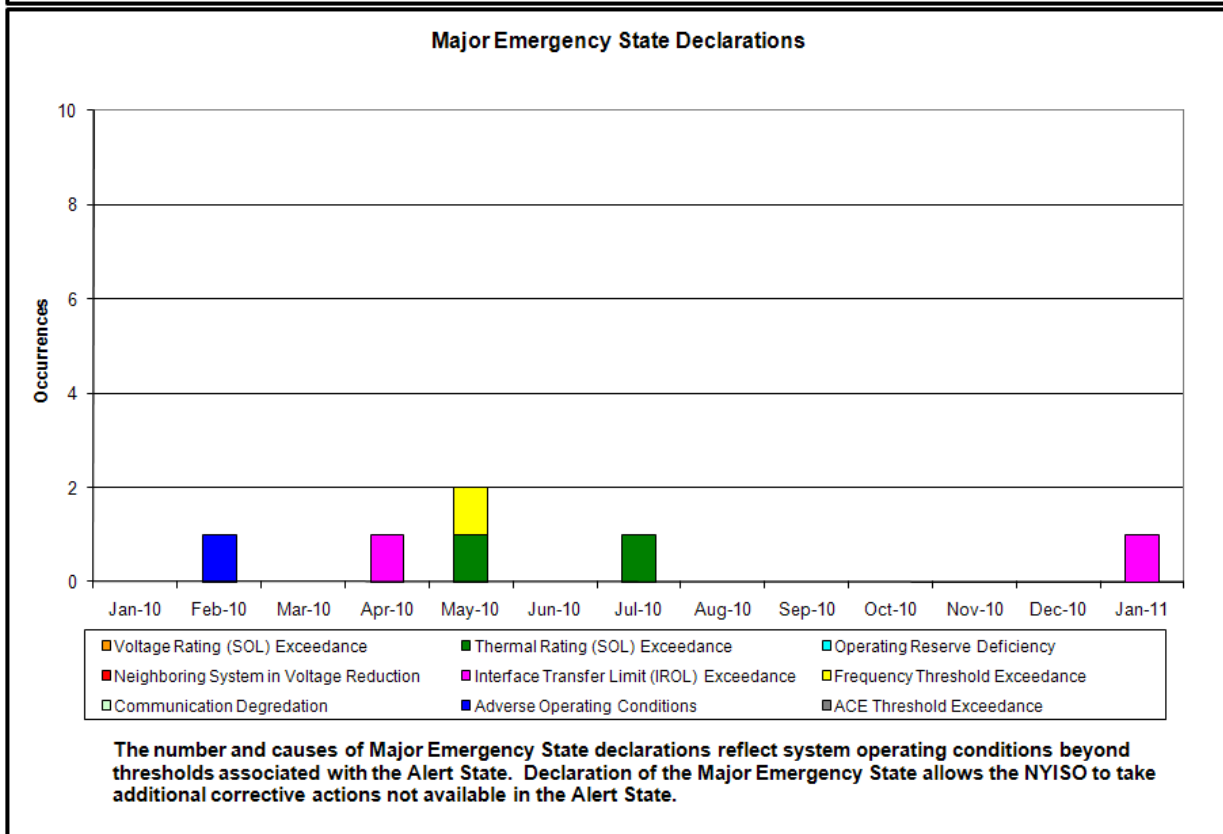
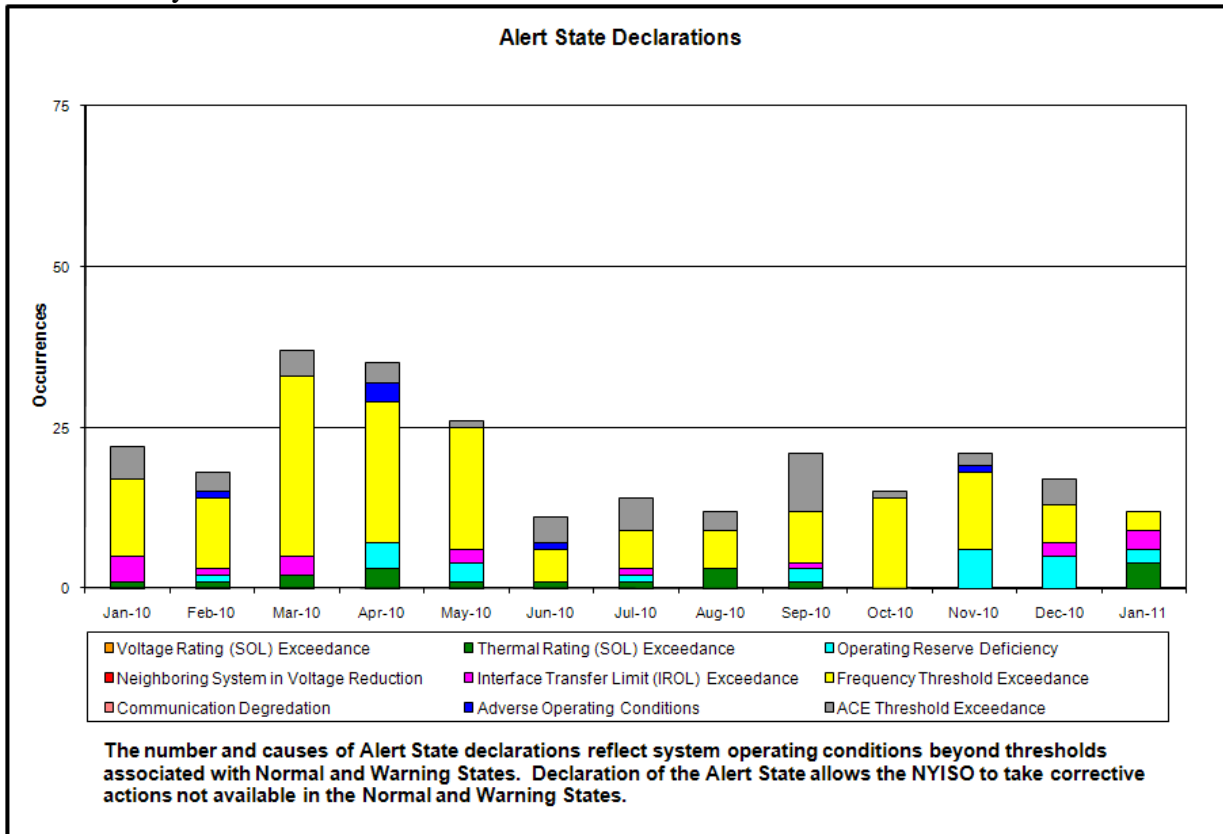
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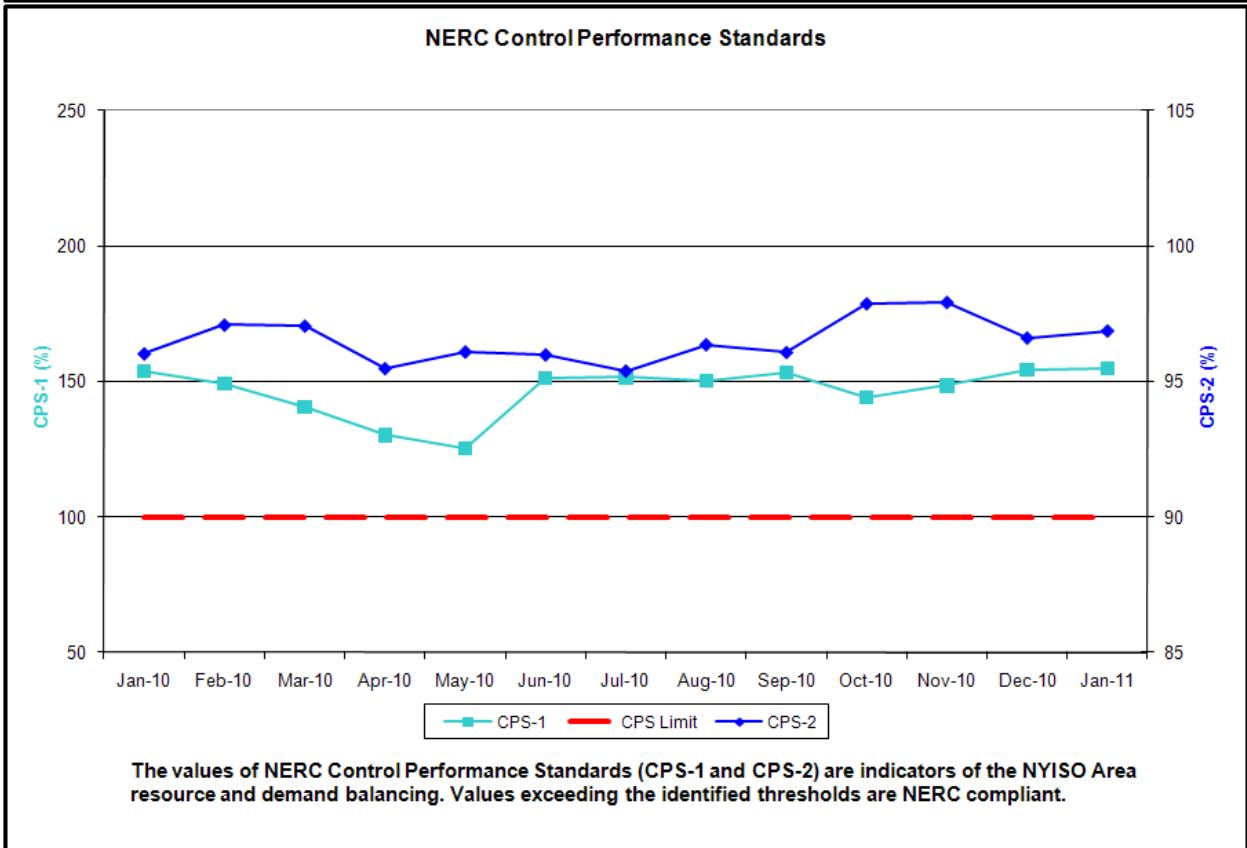
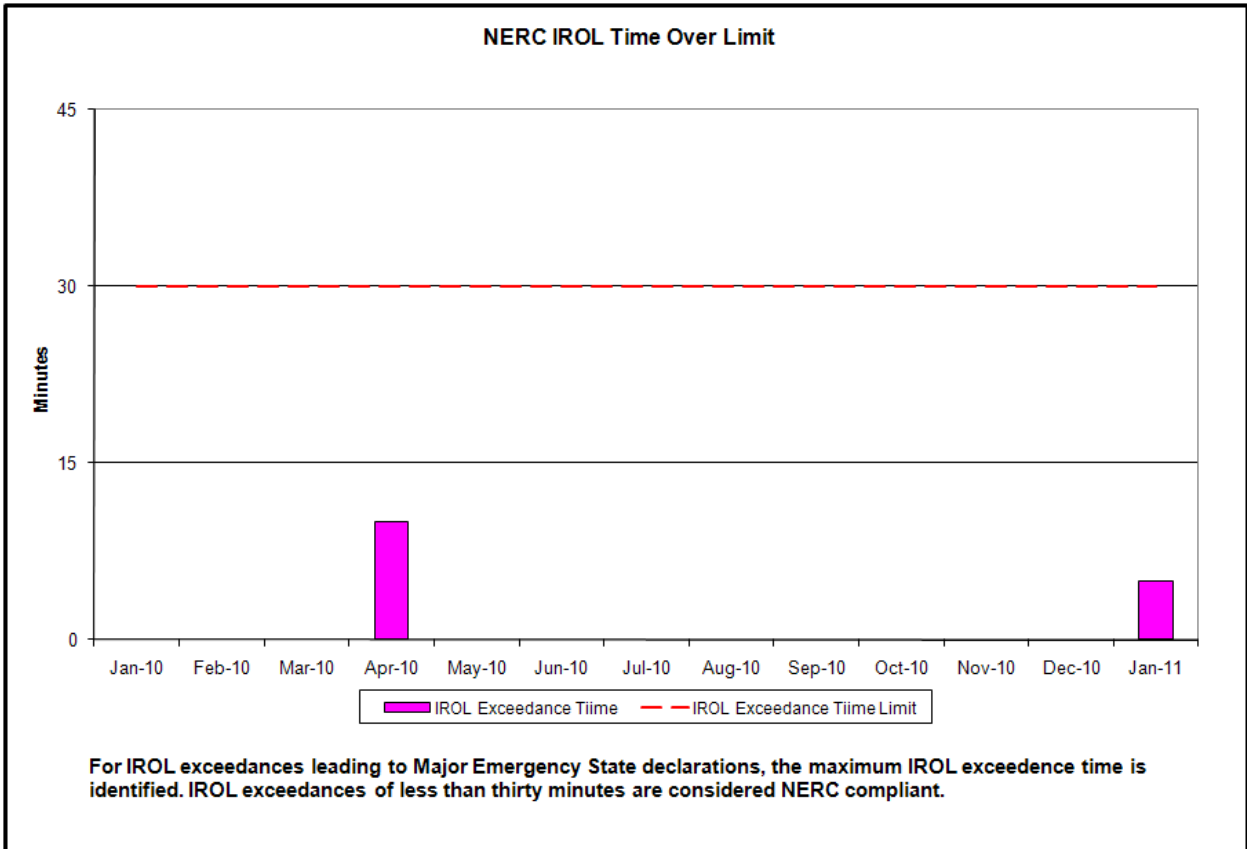
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## January 2011 Operations Performance Highlights

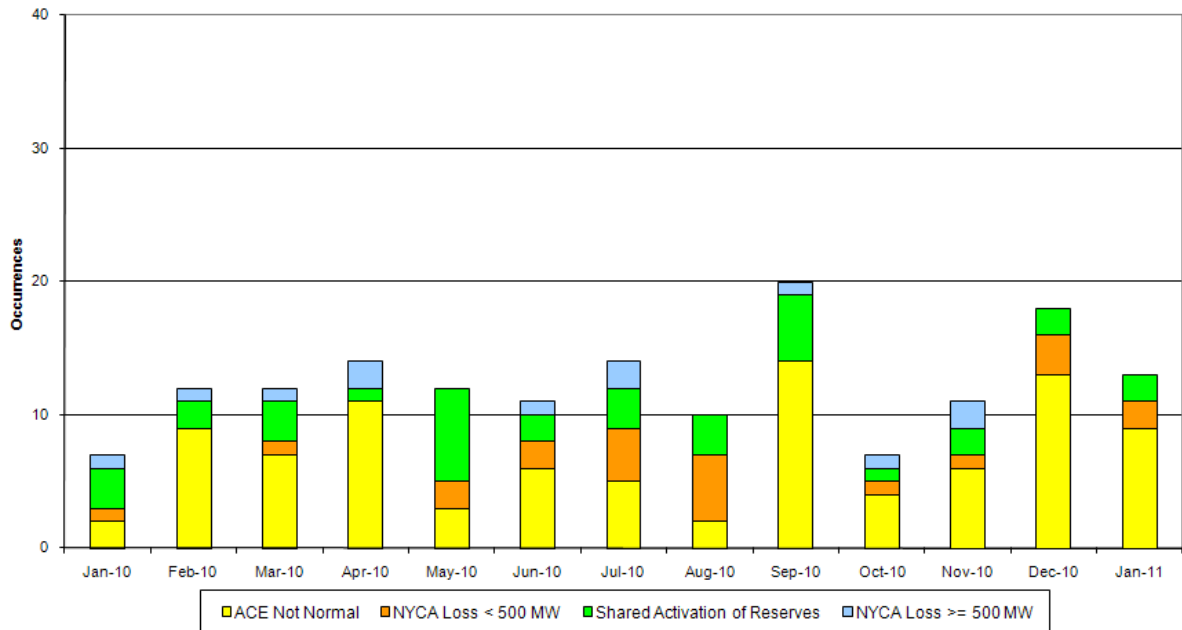
- Peak load of 24,342 MW occurred on January 24 for hour beginning 18
- Monthly Uplift Drivers - Increased Balancing Market Congestion Residual Costs
  - Forced Outage of Leeds-Hurley 345kV circuit
    - 2 days to return to service
  - Scheduled Outage of Rochester-Pannell Road 345kV circuit
    - Impacted by Lake Erie Loop flows
    - ISO/RG&E actions to mitigate congestion
  - Increased Clockwise Lake Erie Loop Flows
    - Increased IESO to MISO exports
    - Decreased PJM to MISO exports
    - PJM outage limited Ramapo 500kV intertie flows
    - Modifying Day-Ahead scheduling of Ramapo 500kV intertie flows to better reflect expected Real-Time operations
- Power Supplier Uplift charts now include Import Guarantee payments from December 2010 and beyond.

- Reliability Performance Metrics



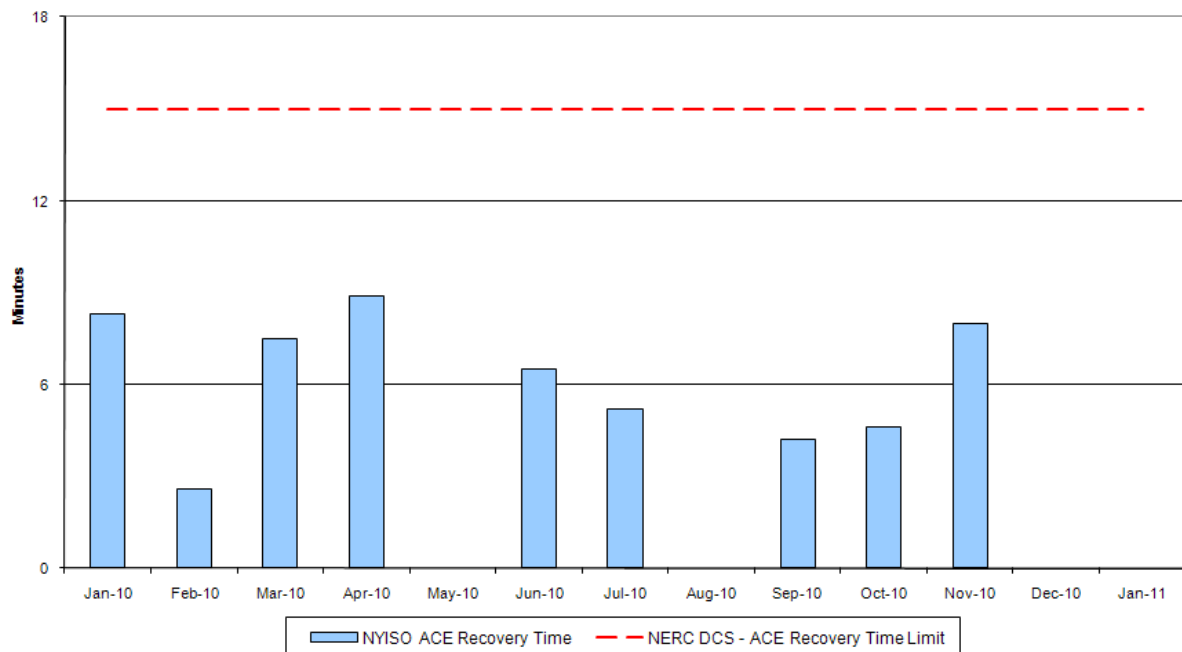


### Reserve Activations



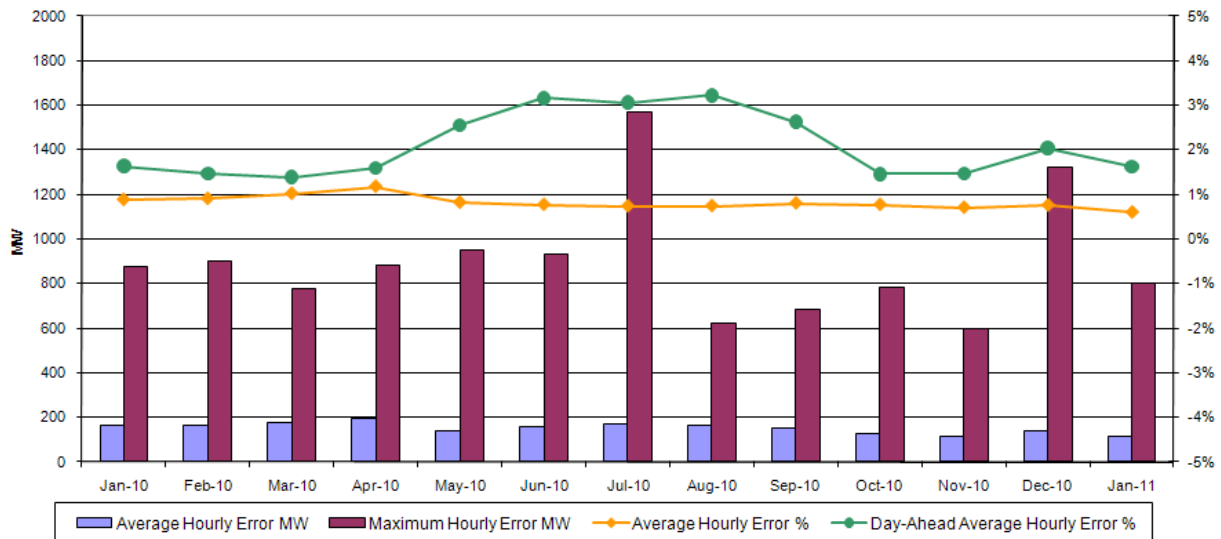
NYISO Reserve Activations are indicators of the need to respond to unexpected operational conditions within the NYISO Area or to assist a neighboring Area (Shared Activation of Reserves) by activating an immediate resource and demand balancing operation.

### DCS Event Time to ACE Recovery



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

### Load Forecast Performance

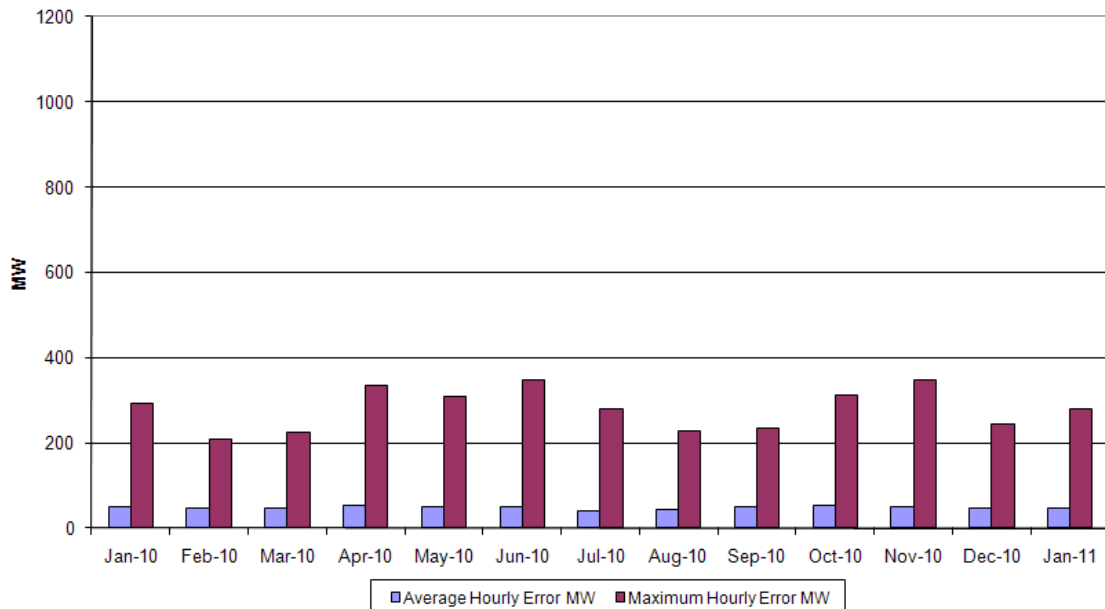


**Hourly Error MW** - Absolute value of the difference between the hourly average actual load demand and the average hour ahead forecast load demand.

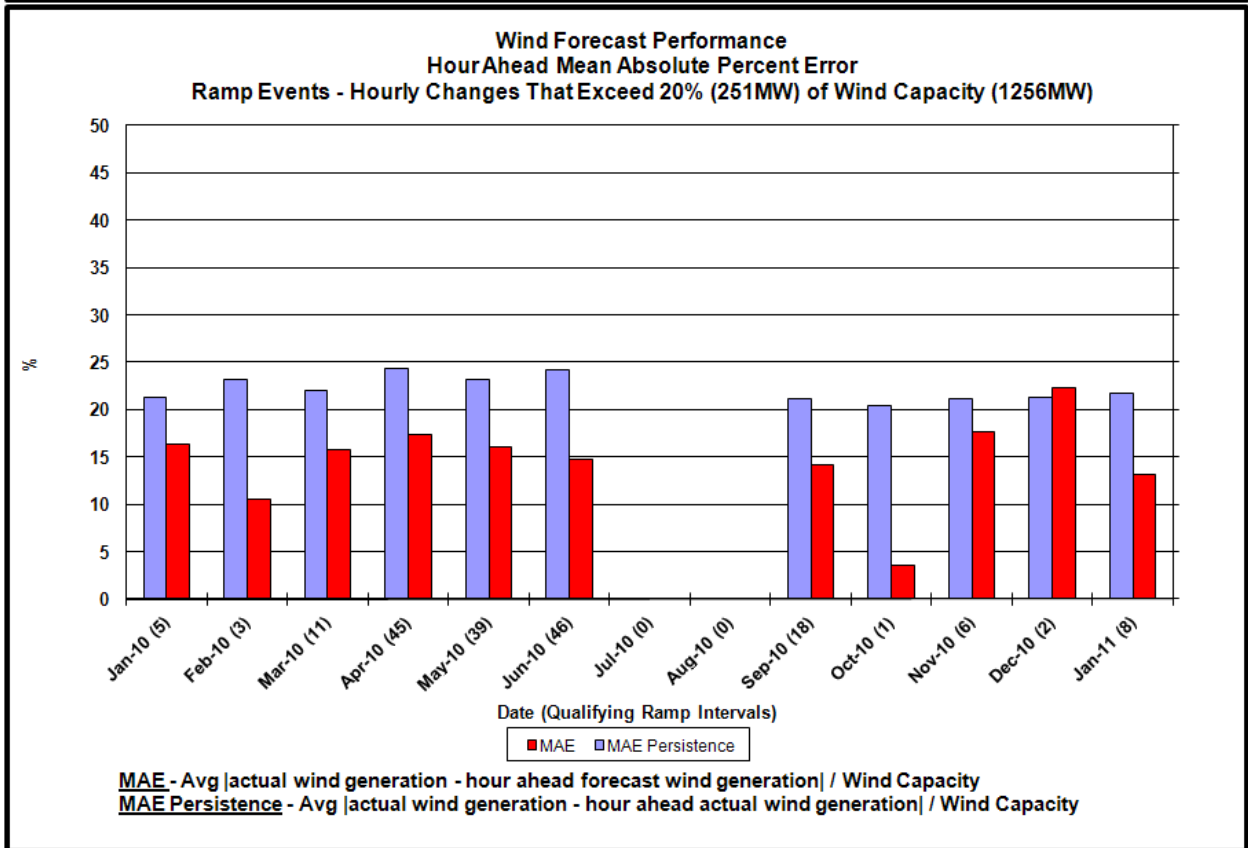
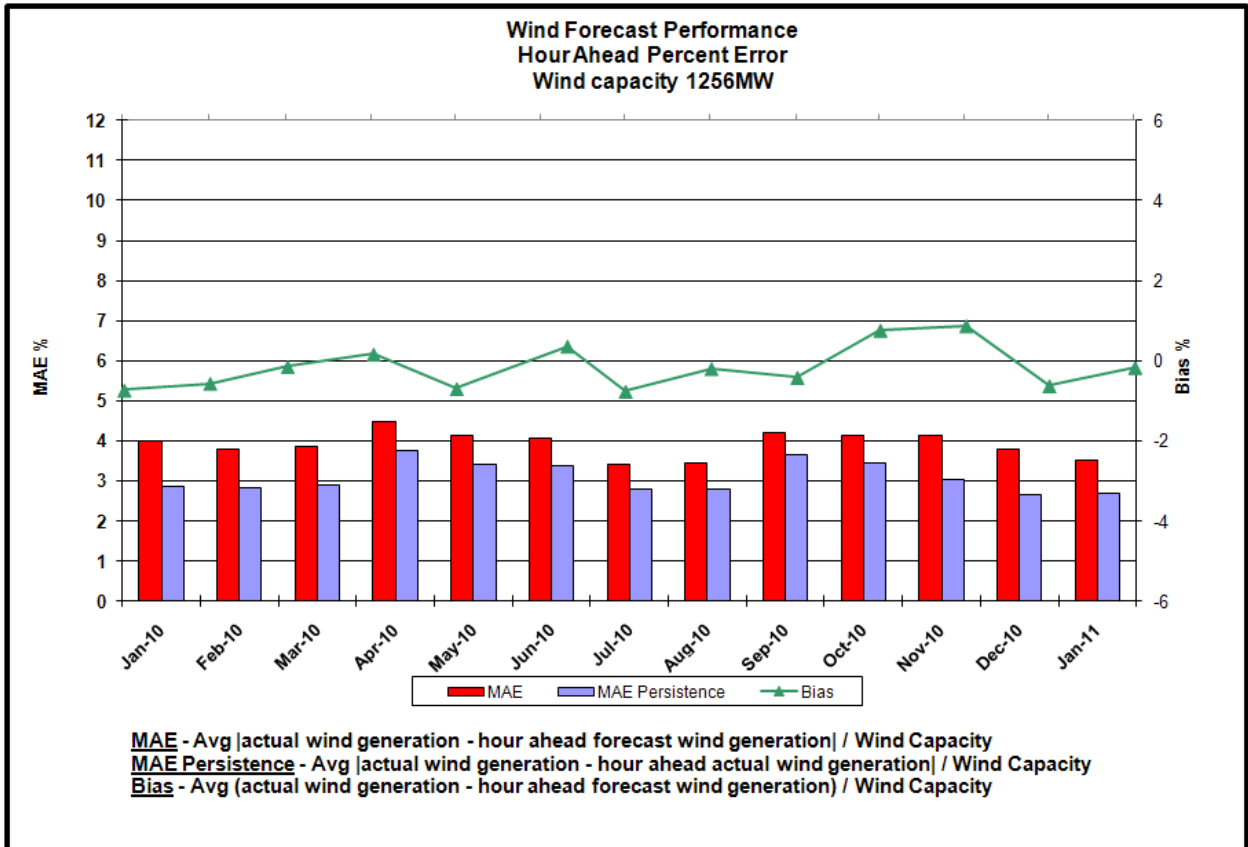
**Average Hourly Error %** - Average value of the ratio of hourly average error magnitude to hourly average actual load demand.

**Day-Ahead Average Hourly Error %** - 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.

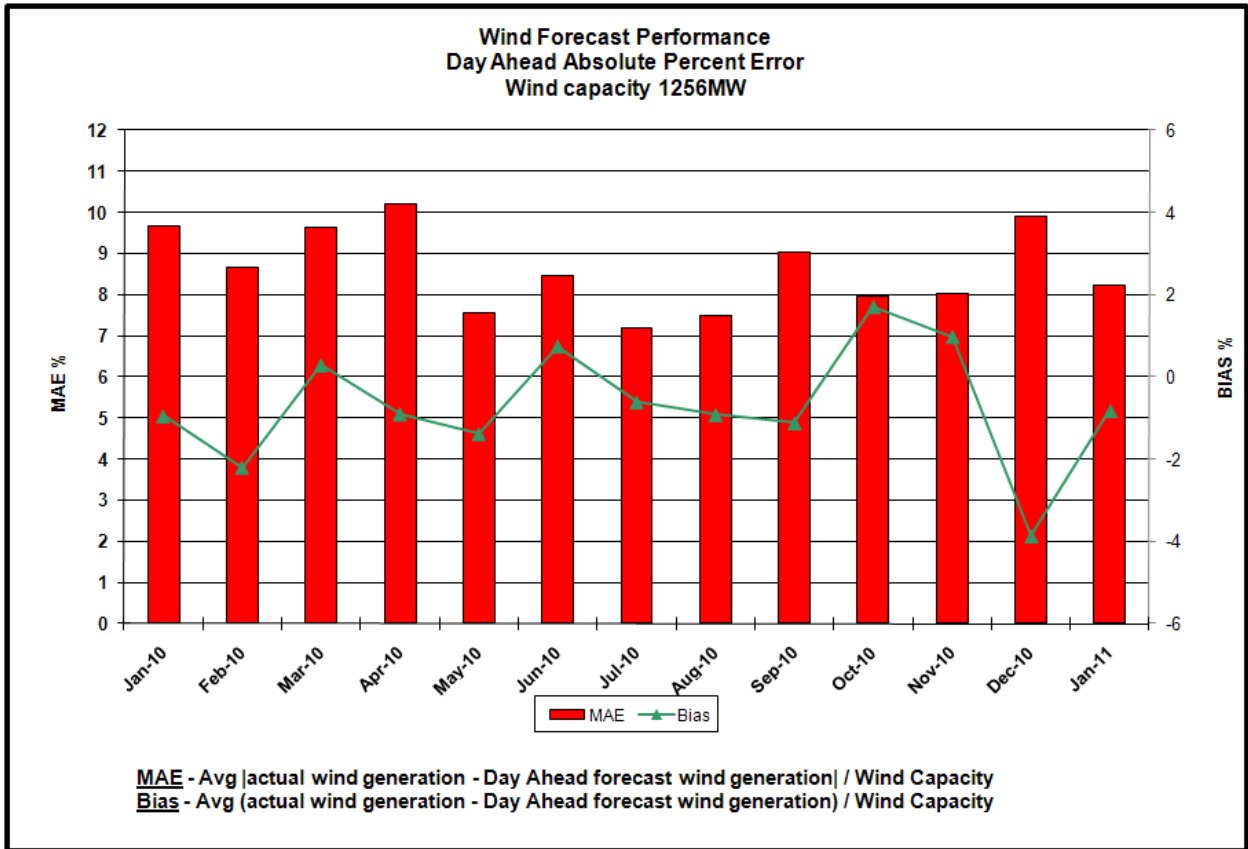
### Wind Forecast Performance Hour Ahead MW Error

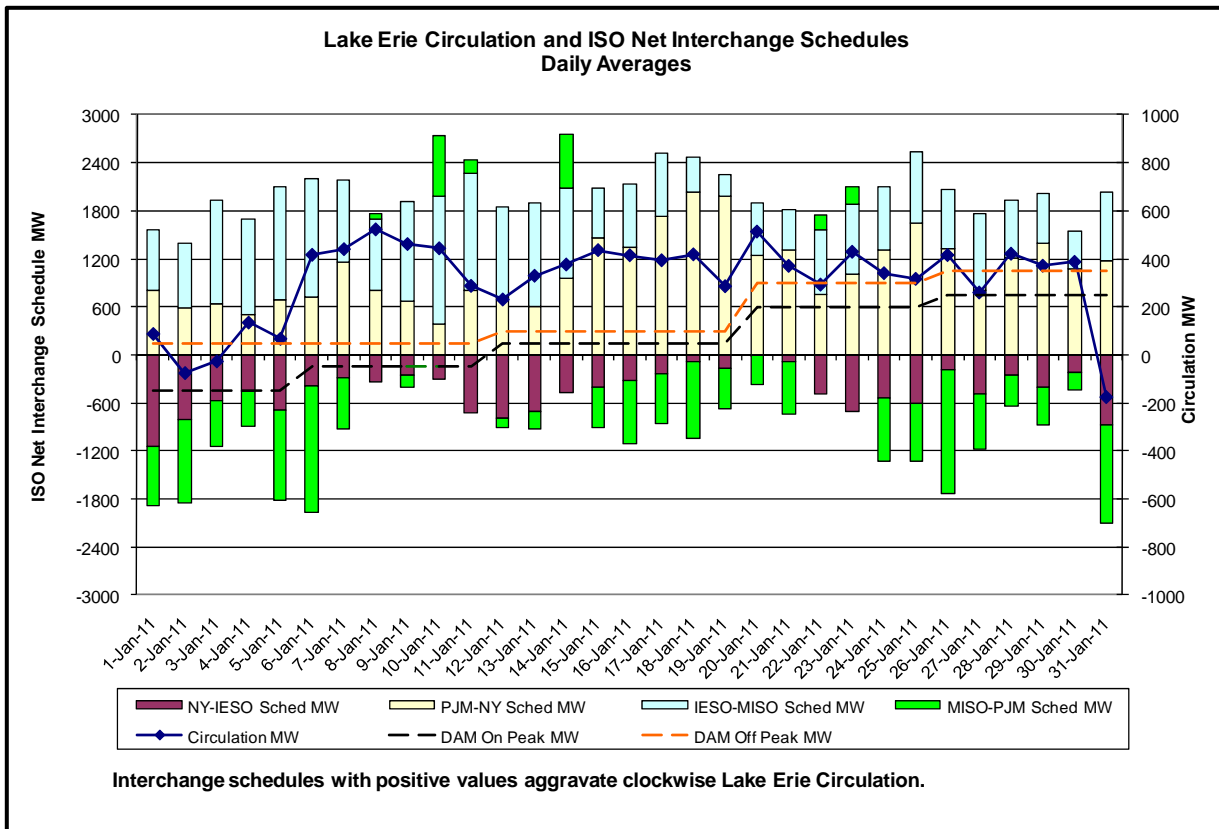
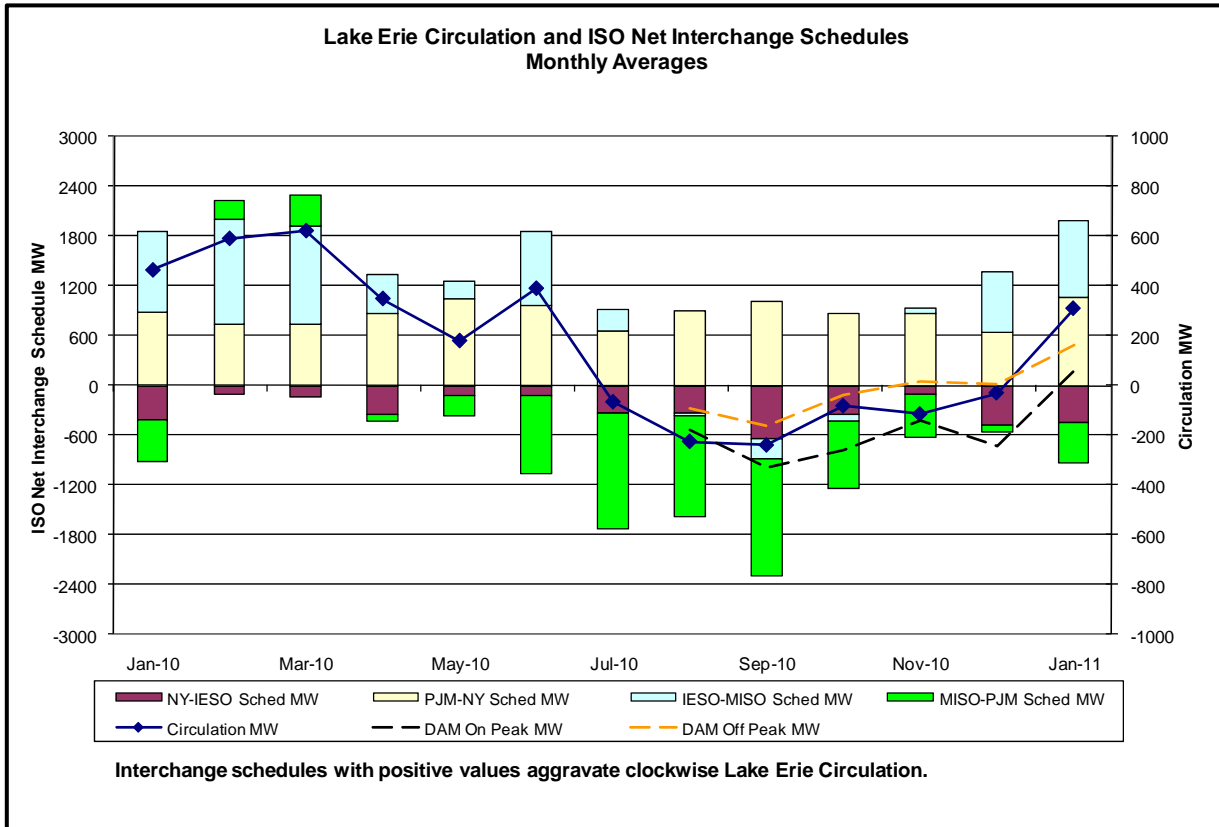


**Hourly Error MW** - Absolute value of the difference between the hourly average actual wind generation and the average hour ahead forecast wind generation.

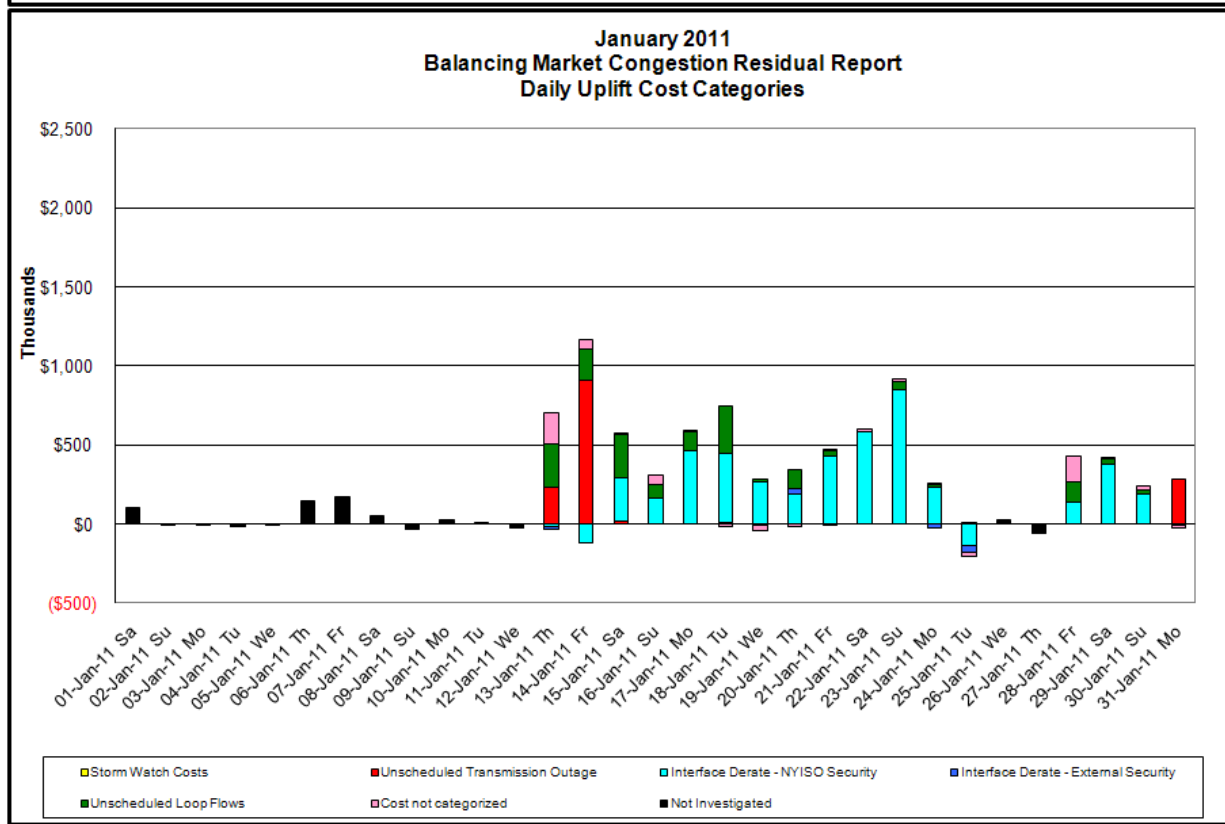
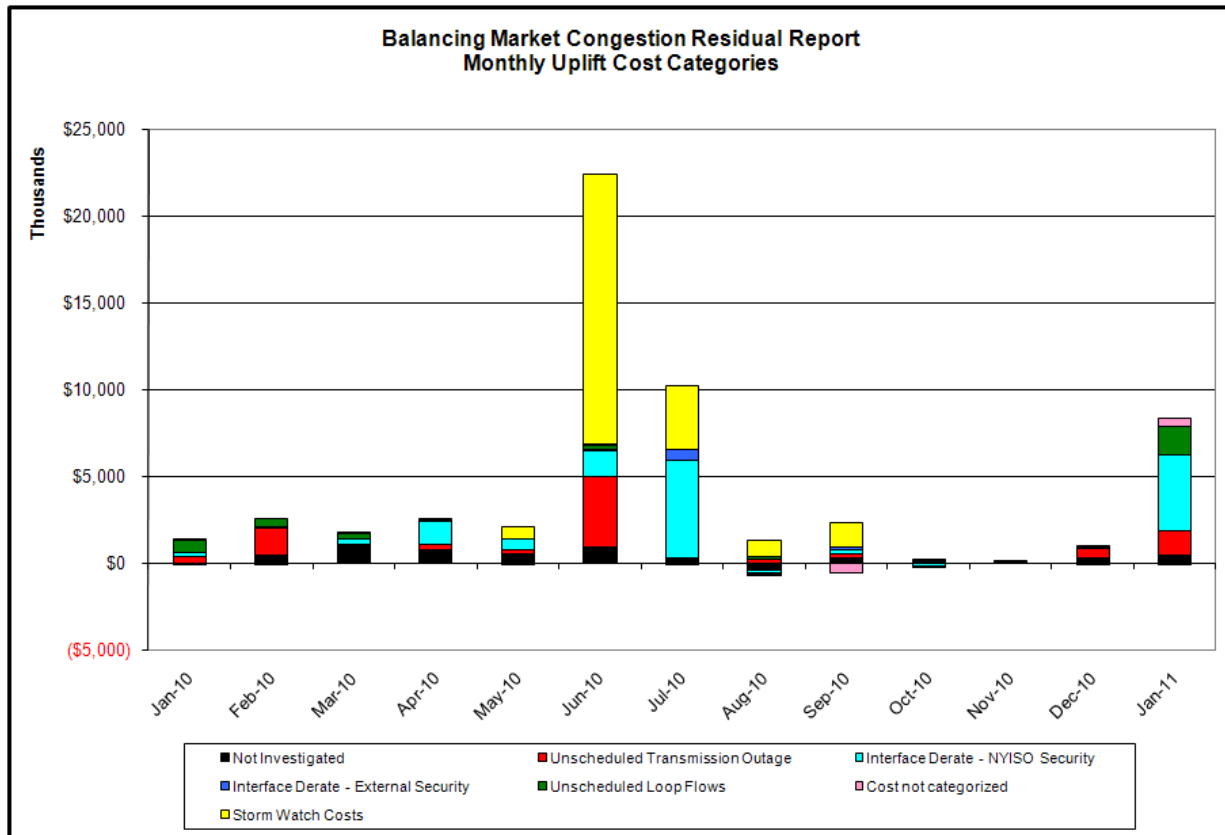








## Market Performance Metrics



Day's investigated in January: 13,14,15,16,17,18,19,20,21,22,23,24,25,28,29,30,31			
Event	Date (yyyy)	Hours	Description
	1/13/2011	19-21	Forced outage Roseton-Hurley Avenue 345kV (#303)
	1/13/2011	7, 23	NYCA DNI Ramp Limit
	1/13/2011	23	PJM DNI Ramp Limit
	1/13/2011	11-12,15-16,20-22	Lake Erie Clockwise Circulation, DAM-RTM exceeds 300MW; Central East
	1/14/2011	7-11,17,19	Forced outage Roseton-Hurley Avenue 345kV (#303)
	1/14/2011	5,6	NYCA DNI Ramp Limit
	1/14/2011	13,18	Uprate Central East
	1/14/2011	0,8,11	Lake Erie Clockwise Circulation, DAM-RTM exceeds 300MW; Central East
	1/15/2011	8-10	Forced outage Watercure-Homer City 345kV (#30), Watercure-Oakdale 345kV (#31), Watercure-Oakdale 230kV (#71), Watercure-Hillside 230kV (#69)
	1/15/2011	11-18,22-23	Derate Astoria East/Corona/Jamaica, Corona PAR inoperable
	1/15/2011	19,22	Derate Central East
	1/15/2011	8-9	Derate East Garden City-Valley Stream 138kV (#262) for I/o Freeport-Newbridge 138kV (#461)
	1/15/2011	1-3,5,8-11,13,15,22-23	Lake Erie Clockwise Circulation, DAM-RTM exceeds 300MW; Central East
	1/16/2011	0-2,4-11,13-14,16-17,21-23	Derate Central East
	1/16/2011	2,4-6,8-11,21-23	Lake Erie Clockwise Circulation, DAM-RTM exceeds 300MW; Central East
	1/17/2011	21-22	Derate Central East
	1/17/2011	9-22	Derate West Central
	1/17/2011	7-8	NYCA DNI Ramp Limit
	1/17/2011	21-23	Lake Erie Clockwise Circulation, DAM-RTM exceeds 300MW; Central East
	1/17/2011	13-14	Lake Erie Clockwise Circulation, DAM-RTM exceeds 300MW; West Central
	1/18/2011	19-20	Extended outage Mott Haven-Dunwoodie 345kV (#71)
	1/18/2011	16-18,20,21	Derate Dysinger East
	1/18/2011	0-1,3-9	Derate West Central
	1/18/2011	0-3,5,8-9	Derate Central East
	1/18/2011	11-13	Uprate Central East
	1/18/2011	13,15	Uprate Mott Haven-Dunwoodie 345kV (#72)
	1/18/2011	0-3,8-9	Lake Erie Clockwise Circulation, DAM-RTM exceeds 300MW; Central East
	1/18/2011	0-4,8-9	Lake Erie Clockwise Circulation, DAM-RTM exceeds 300MW; West Central
	1/18/2011	20-21	Lake Erie Clockwise Circulation, DAM-RTM exceeds 300MW; Dysinger East
	1/19/2011	23	NYCA DNI Ramp Limit
	1/19/2011	9-10,16-21	Derate Dysinger East
	1/19/2011	0-1,6,10,16,22	Derate Central East
	1/19/2011	23	PJM DNI Ramp Limit
	1/19/2011	15	PJM-NY Scheduling Limit
	1/19/2011	6,22	Lake Erie Clockwise Circulation, DAM-RTM exceeds 300MW; Central East
	1/20/2011	2,10,21-23	Derate Central East
	1/20/2011	10,13-23	Derate Dysinger East
	1/20/2011	0	OH DNI Ramp Limit
	1/20/2011	16,19-20	PJM DNI Ramp Limit
	1/20/2011	2,15,21-23	Lake Erie Clockwise Circulation, DAM-RTM exceeds 300MW; Central East
	1/20/2011	15-17,19-23	Lake Erie Clockwise Circulation, DAM-RTM exceeds 300MW; Dysinger East
	1/21/2011	6,7,9-15,17-22	Derate Dysinger East
	1/21/2011	0,9	Derate Central East
	1/21/2011	16,23	Uprate Central East
	1/21/2011	23	OH DNI Ramp Limit
	1/21/2011	0,12,22	Lake Erie Clockwise Circulation, DAM-RTM exceeds 300MW; Central East
	1/21/2011	12,22	Lake Erie Clockwise Circulation, DAM-RTM exceeds 300MW; Dysinger East
	1/22/2011	0,2,6-22	Derate Dysinger East
	1/22/2011	7-9,12-16,19	Derate Central East
	1/22/2011	23	Uprate Central East
	1/23/2011	5,7-23	Derate Dysinger East
	1/23/2011	8,18,23	Lake Erie Clockwise Circulation, DAM-RTM exceeds 300MW; Dysinger East
	1/24/2011	9-11,18-20	Uprate Dysinger East
	1/24/2011	0,2,3,5-8	Derate Dysinger East
	1/24/2011	18-20	Uprate West 49th Street-Sprainbrook (#M51) for I/o SCB RS3
	1/24/2011	15	Derate GownusN-Greenwood 138kV (#42231)
	1/24/2011	11	PJM DNI Ramp Limit
	1/24/2011	5	Lake Erie Clockwise Circulation, DAM-RTM exceeds 300MW; Dysinger East
	1/25/2011	8,9,10,16	NYCA DNI Ramp Limit
	1/25/2011	9,15,22	Derate Astoria West/Queensbridge, E. 179th St-Hellgate East 138kV (#15055)
	1/25/2011	2,9,22	Derate Central East
	1/25/2011	23	Uprate Central East
	1/25/2011	15	Derate Dunwoodie-Shore Road 345kV (#Y50) for I/o Sprainbrook-East Garden City 345kV (#Y49)
	1/25/2011	6-8,10-12,16-17	Uprate Dysinger East
	1/25/2011	3,15,21,22	PJM DNI Ramp Limit
	1/25/2011	4	HQ DNI Ramp Limit
	1/25/2011	20	HQ-NY Scheduling Limit
	1/25/2011	9,22	Lake Erie Clockwise Circulation, DAM-RTM exceeds 300MW; Central East, Dysinger East

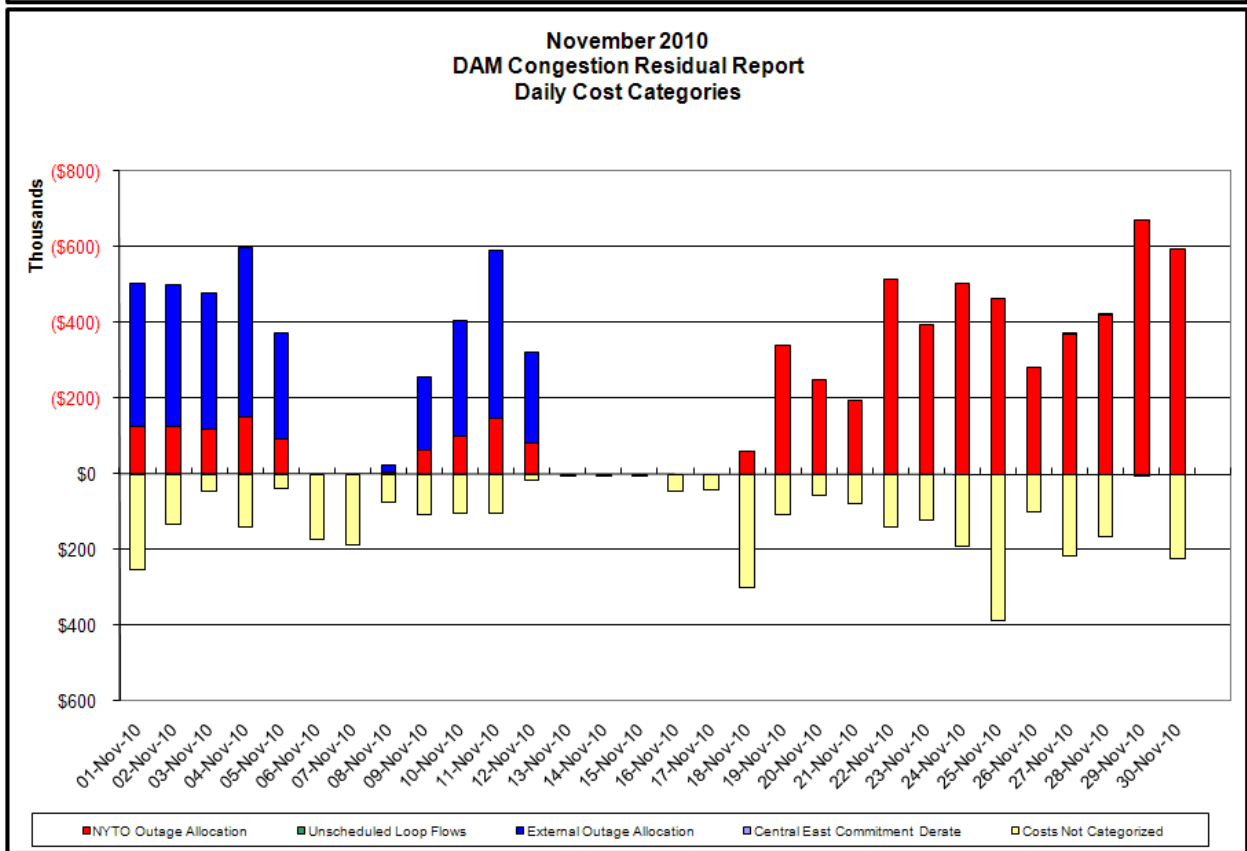
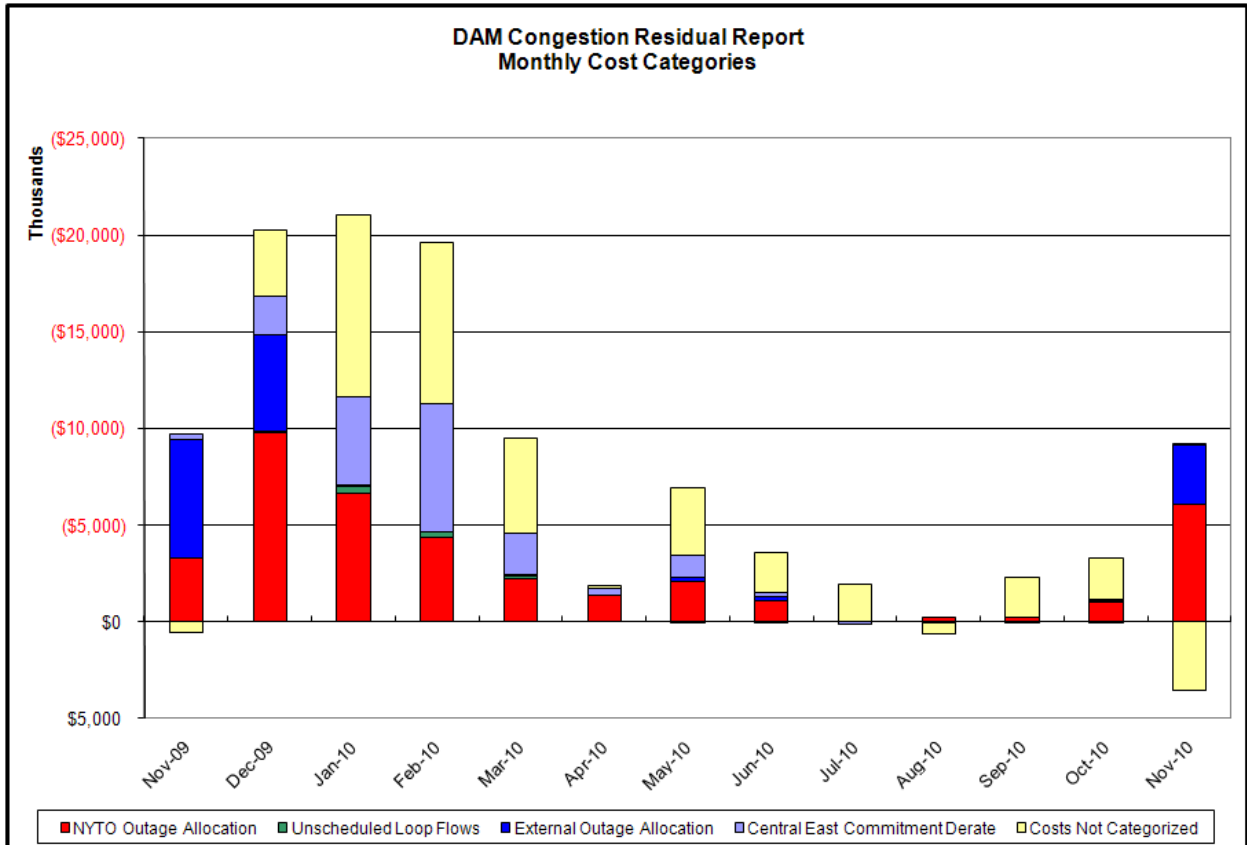
1/28/2011	15,20	Derate Rainey-Vernon 138kV (#36312)
1/28/2011	7	Uprate Dysinger East
1/28/2011	0-1,8,22	Derate Central East
1/28/2011	13,17	Derate Foxhills-WillowBrook 138kV (#29211-1)
1/28/2011	8,21-23	Lake Erie Clockwise Circulation, DAM-RTM exceeds 300MW; Central East
1/29/2011	16-21	Derate Astoria West/Queensbridge
1/29/2011	0-6,16-22	Derate Central East
1/29/2011	9-12,16	Derate Leeds-New Scotland 345kV (#93) for l/o Gilboa-Leeds 3345kV (#GL3)
1/29/2011	22	Lake Erie Clockwise Circulation, DAM-RTM exceeds 300MW; Central East
1/30/2011	0,1,3,4,10,11,16,21	Derate Central East
1/30/2011	1	Lake Erie Clockwise Circulation, DAM-RTM exceeds 300MW; Central East
1/31/2011	5,7-17	Forced outage Shore Road 345/138kV (#Bk2)
1/31/2011	2	PJM DNI Ramp Limit

**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 300MW

**Monthly Balancing Market Congestion Report Assumptions/Notes**

- 1) Storm Watch Costs are identified as daily total uplift costs
- 2) At a minimum those days with \$ 100 K/HR, shortfall of \$ 200 K/Day or more, or surplus of \$ 100 K/Day or more are investigated
- 3) Uplift costs associated with multiple event types are apportioned equally by hour
- 4) Investigations began with Dec 2008. Prior months are reported as Not Investigated.



**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.
Unscheduled Loop Flows	All TO by Monthly Allocation Factor	Residual impact of Lake Erie circulation, MW difference between the DAM and TCC Auction.	Lake Erie Loop Flow Assumptions
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.	

