



# **Monthly Report**

**January 2019**

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



## ***January 2019 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 February 08, 2019.

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## January 2019 Operations Performance Highlights

- Peak load of 24,728 MW occurred on 01/21/2019 HB 18
- All-time winter capability period peak load of 25,738 MW occurred on 1/7/2014 HB 18
- 0 hours of Thunder Storm Alerts were declared
- 36.23 hours of NERC TLR level 3 curtailment
- The following table identifies the estimated production cost savings associated with the Broader Regional Market initiatives.

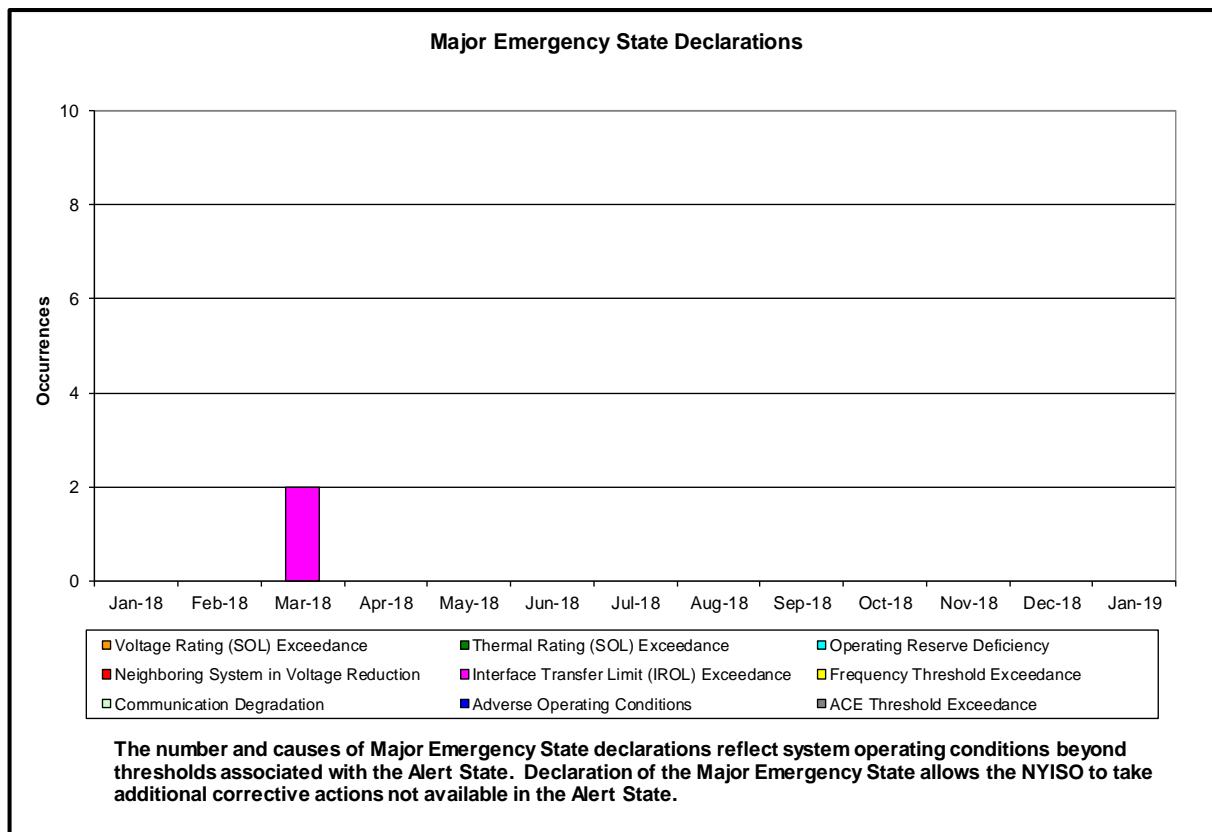
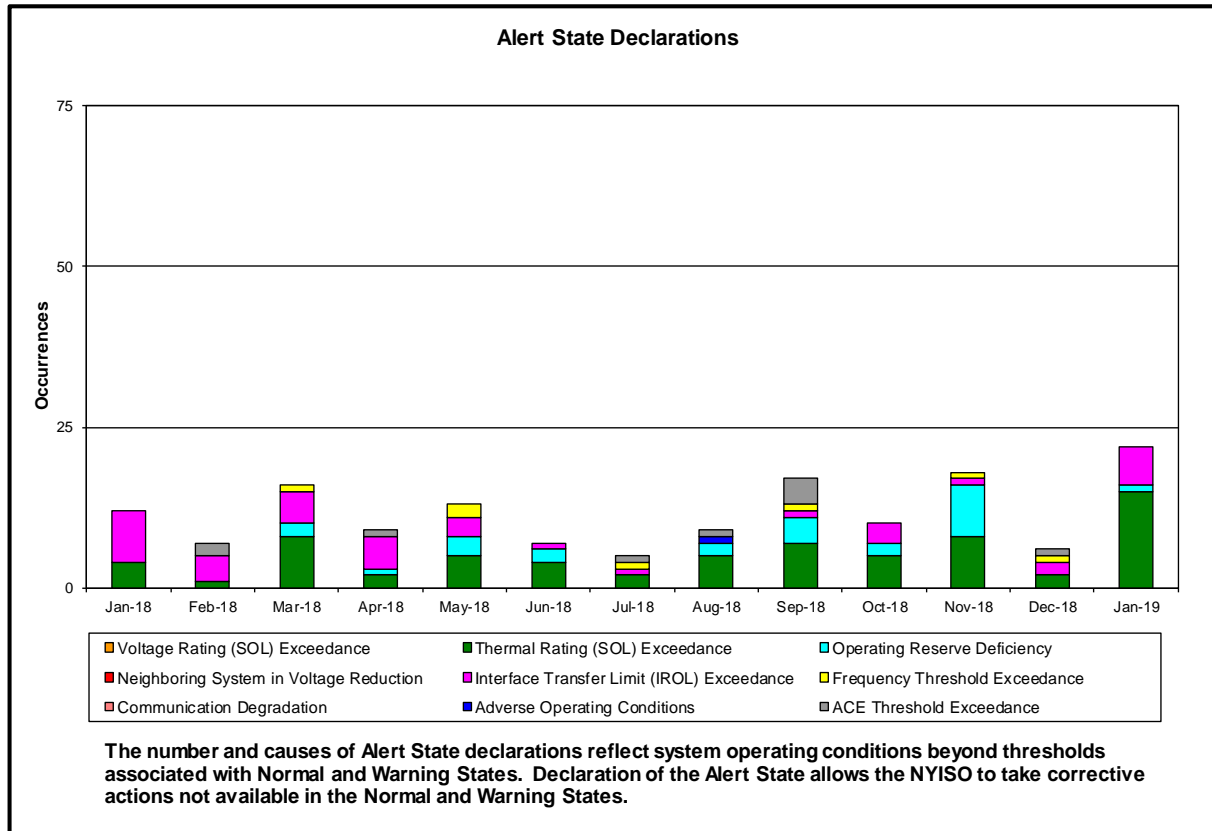
	Current Month Value (\$M)	Year-to-Date Value (\$M)
<b>NY Savings from PJM-NY Congestion Coordination</b>	\$3.49	\$3.49
<b>NY Savings from PJM-NY Coordinated Transaction Scheduling</b>	\$0.16	\$0.16
<b>NY Savings from NE-NY Coordinated Transaction Scheduling</b>	(\$0.04)	(\$0.04)
<b>Total NY Savings</b>	\$3.61	\$3.61
<b>Regional Savings from PJM-NY Coordinated Transaction Scheduling</b>	\$0.56	\$0.56
<b>Regional Savings from NE-NY Coordinated Transaction Scheduling</b>	\$0.11	\$0.11
<b>Total Regional Savings</b>	\$0.67	\$0.67

- Statewide uplift cost monthly average was (\$0.57)/MWh
- The following table identifies the Monthly ICAP spot market prices and the price delta.

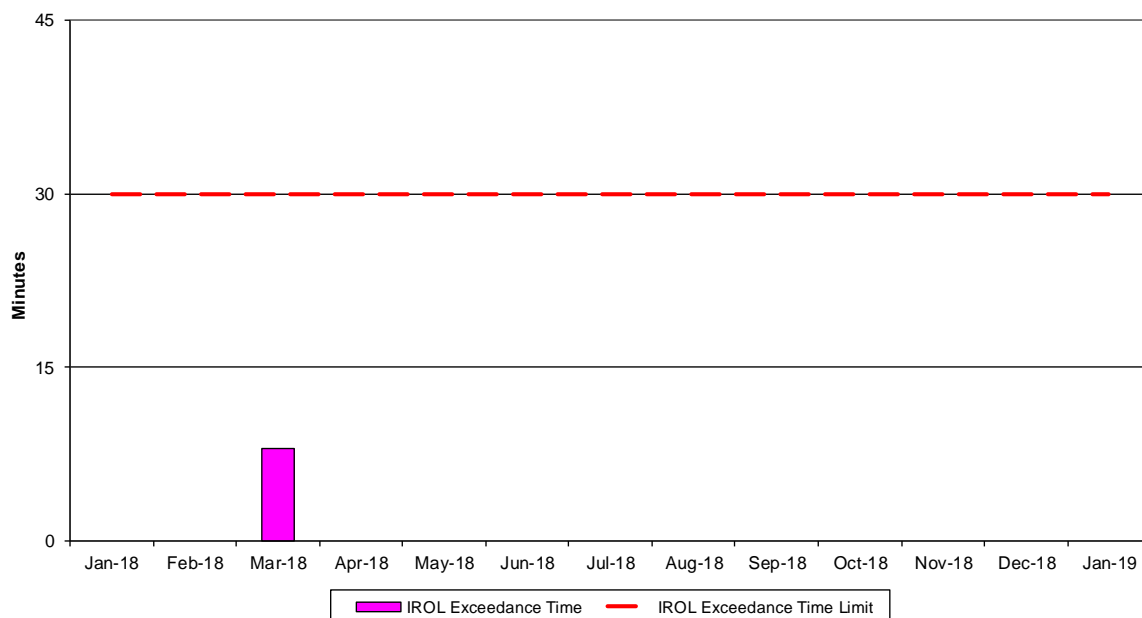
Spot Auction Price Results	NYCA	Lower Hudson Valley Zones	New York City Zone	Long Island Zone
February 2019 Spot Price	\$0.84	\$1.51	\$1.51	\$0.84
January 2019 Spot Price	\$0.13	\$1.52	\$1.52	\$0.43
Delta	\$0.71	(\$0.01)	(\$0.01)	\$0.41

- NYCA - Price increase due to changes in gen UCAP offers and exports.
- LI - Price was set by the NYCA price

## Reliability Performance Metrics

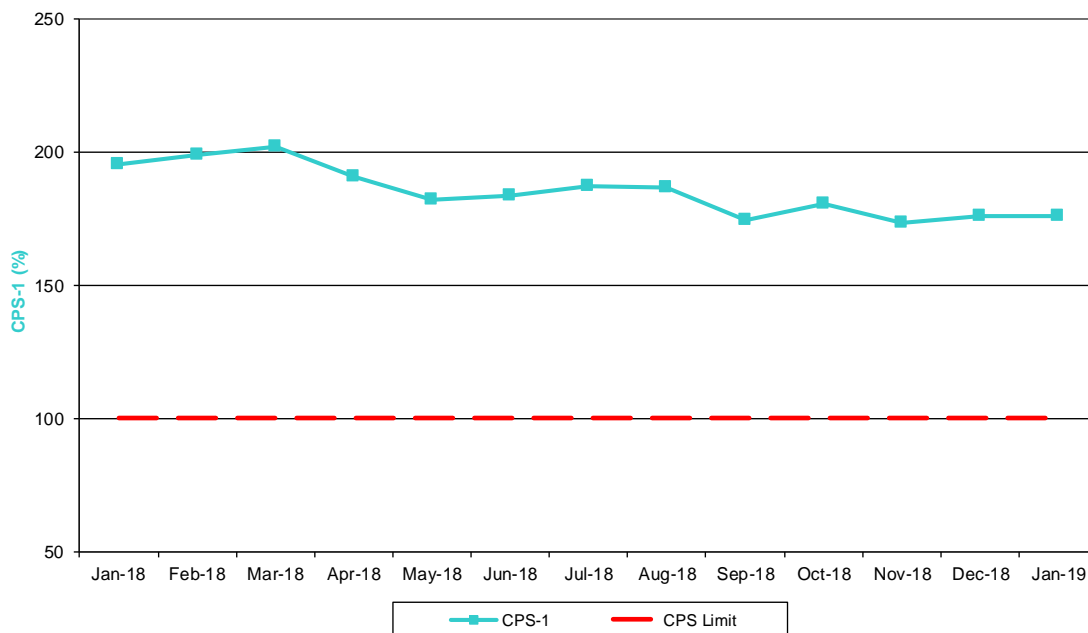


### NERC IROL Time Over Limit



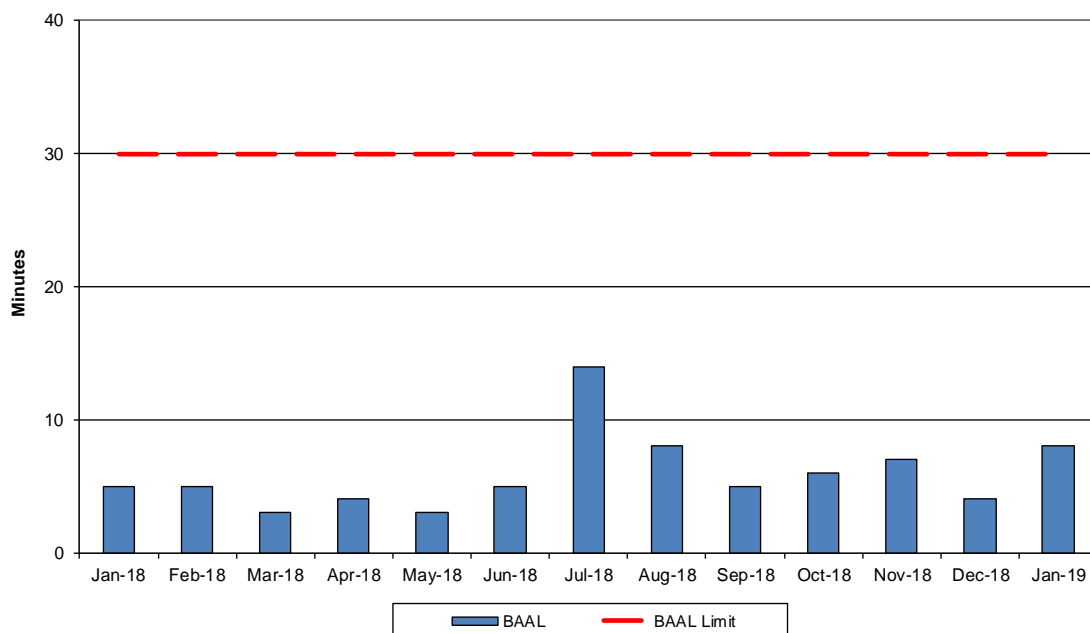
For IROL exceedances leading to Major Emergency State declarations, the maximum IROL exceedance time is identified. IROL exceedances of less than thirty minutes are considered NERC compliant.

### NERC Control Performance Standards



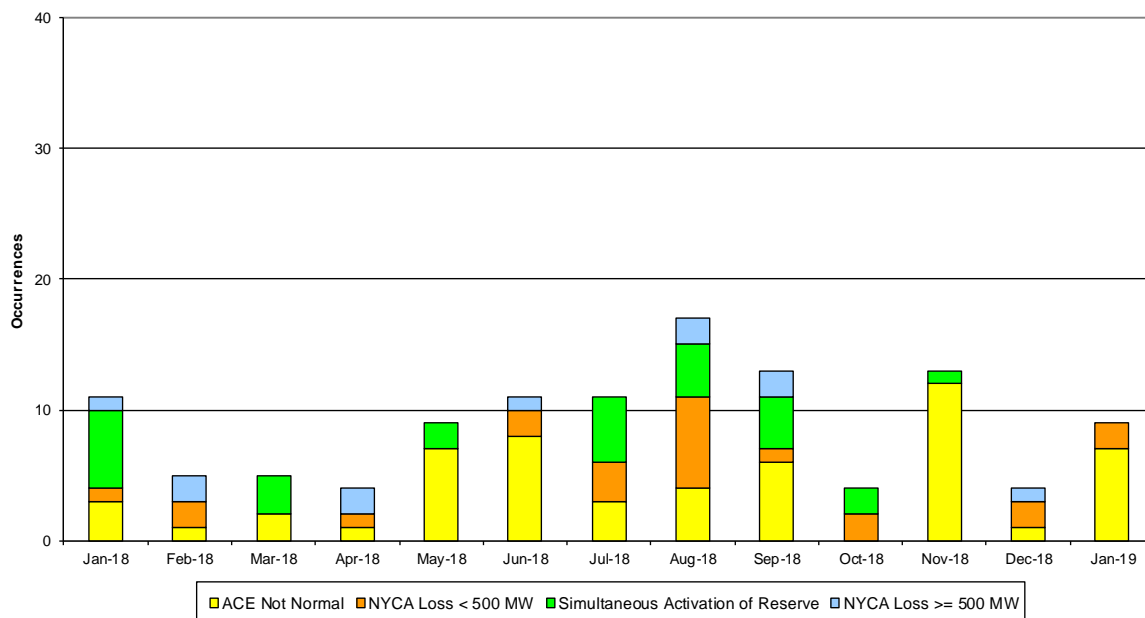
The value of NERC Control Performance Standards (CPS-1) is an indicator of the NYISO Area resource and demand balancing. Values exceeding the identified threshold are NERC compliant.

### NERC Balancing Authority ACE Limit Standard



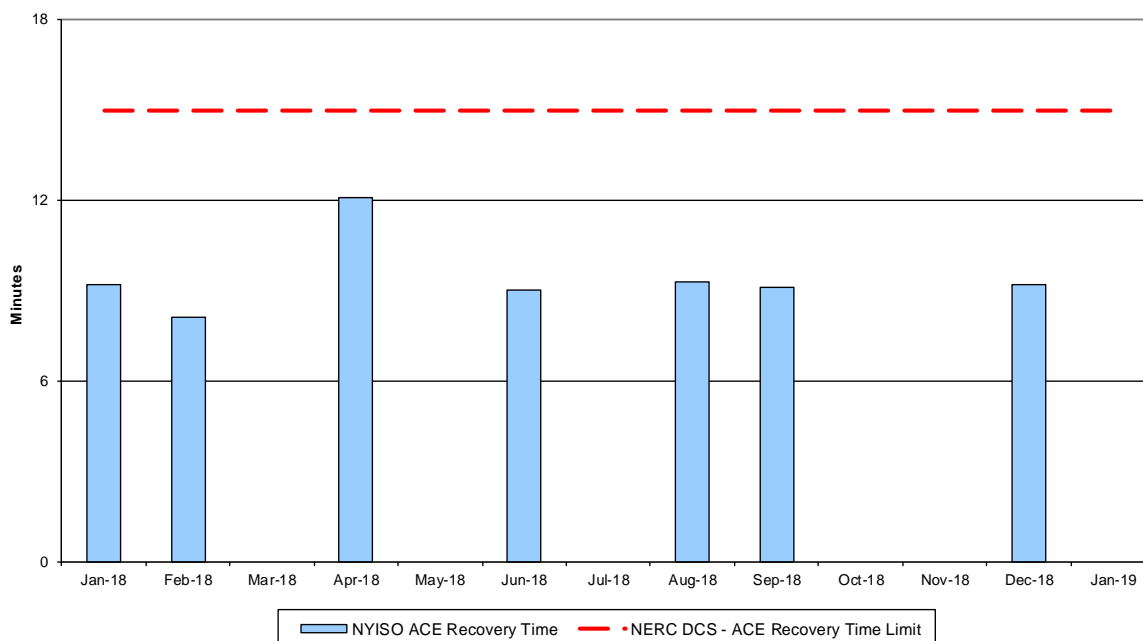
The amount of time the clock-minute average ACE exceeds the clock-minute Balancing Authority ACE Limit (BAAL) is an indicator of the NYISO Area resource and demand balancing. The maximum BAAL exceedance time is identified. BAAL exceedances of less than 30 consecutive clock-minutes are NERC compliant.

### Reserve Activations



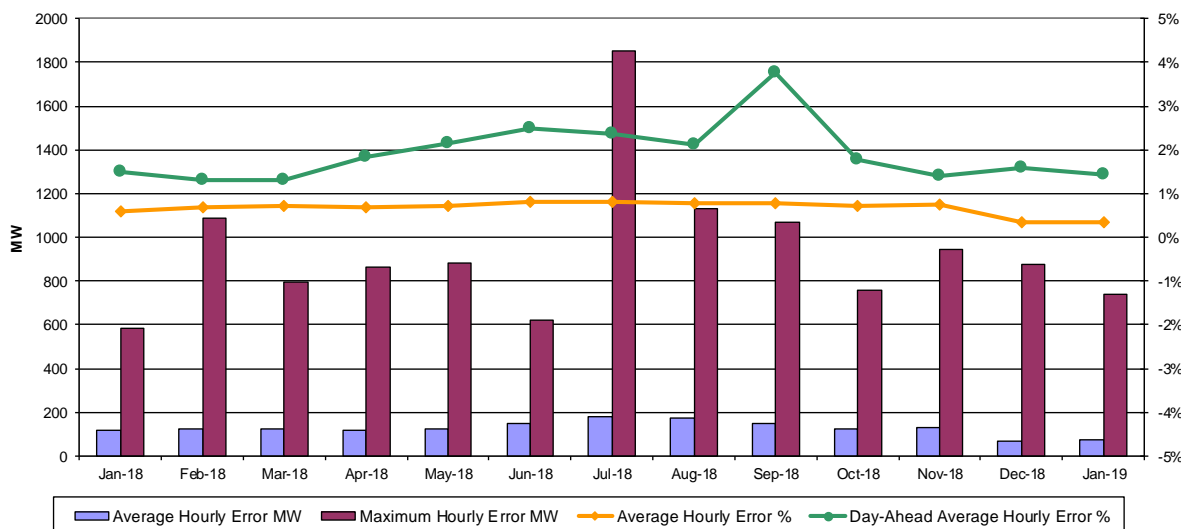
NYISO Reserve Activations are indicators of the need to respond to unexpected operational conditions within the NYISO Area or to assist a neighboring Area (Simultaneous Activation of Reserves) by activating an immediate resource and demand balancing operation.

### 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.

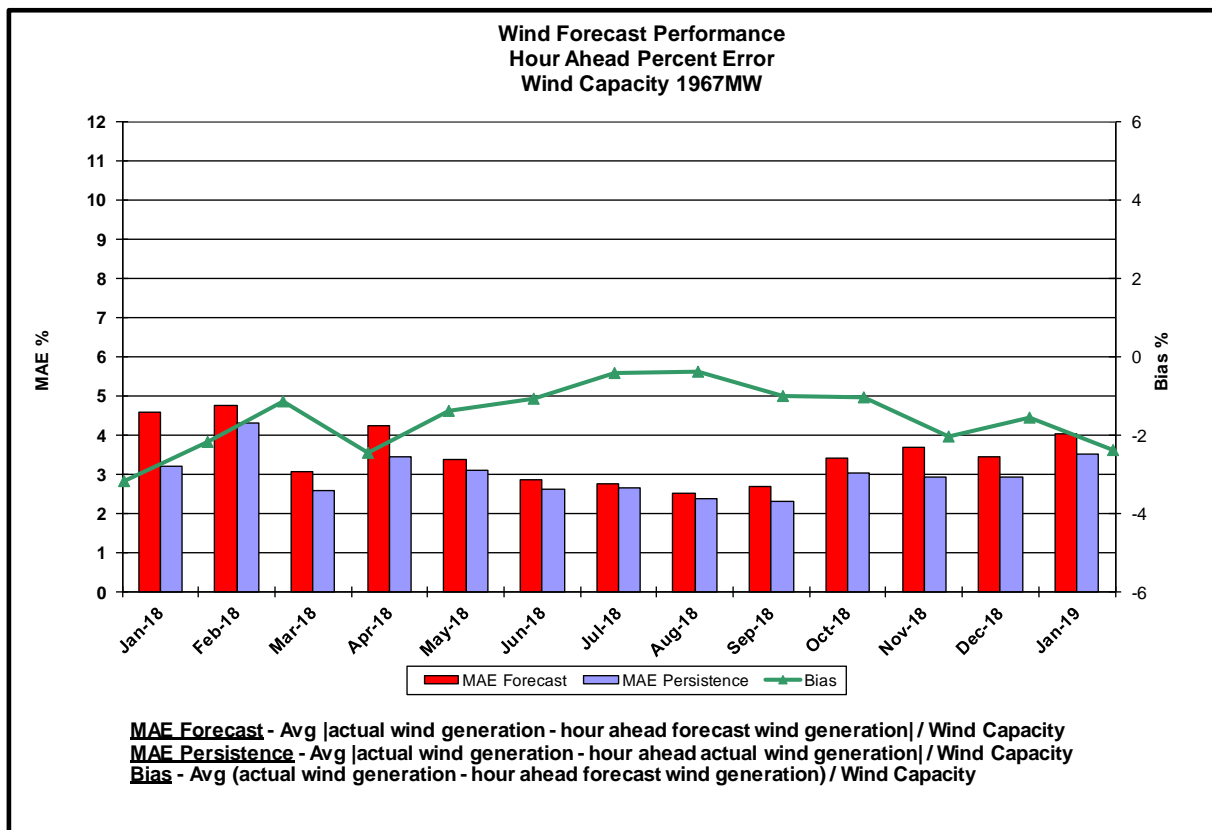
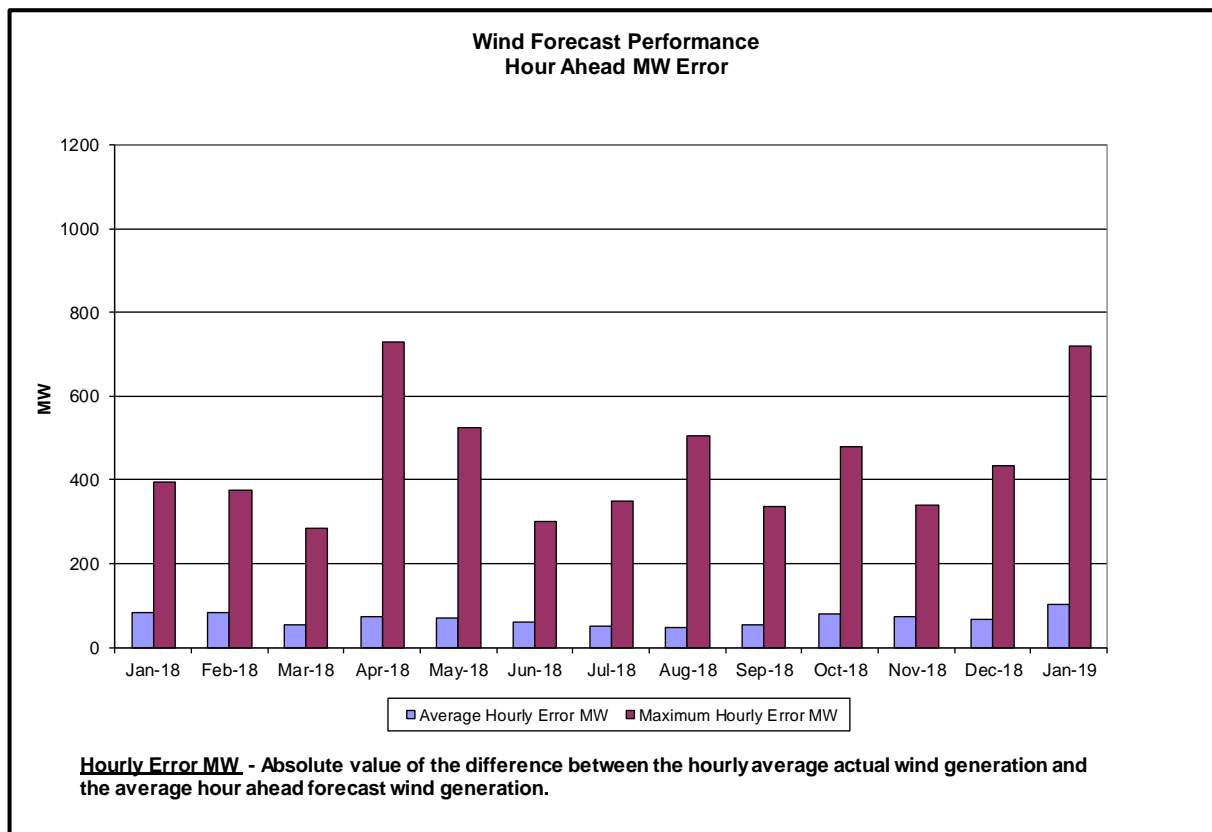
### Load Forecast Performance

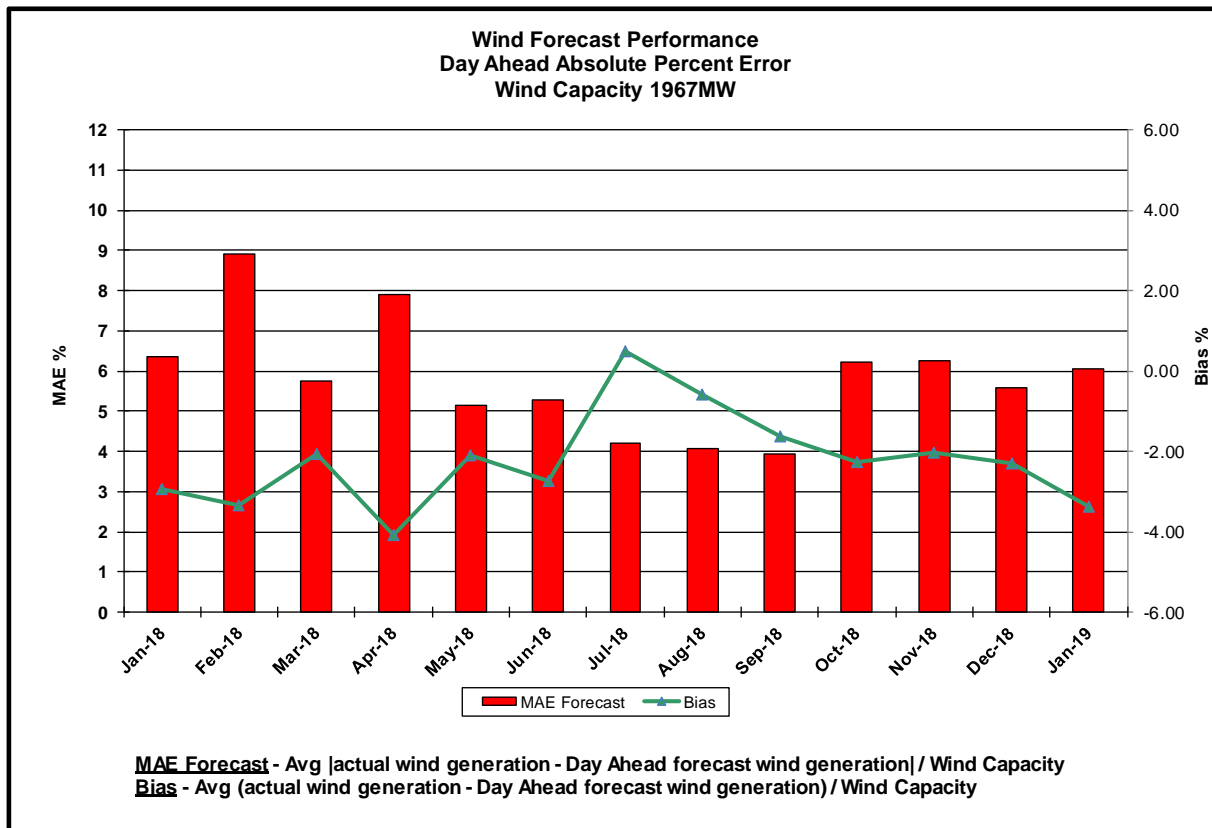
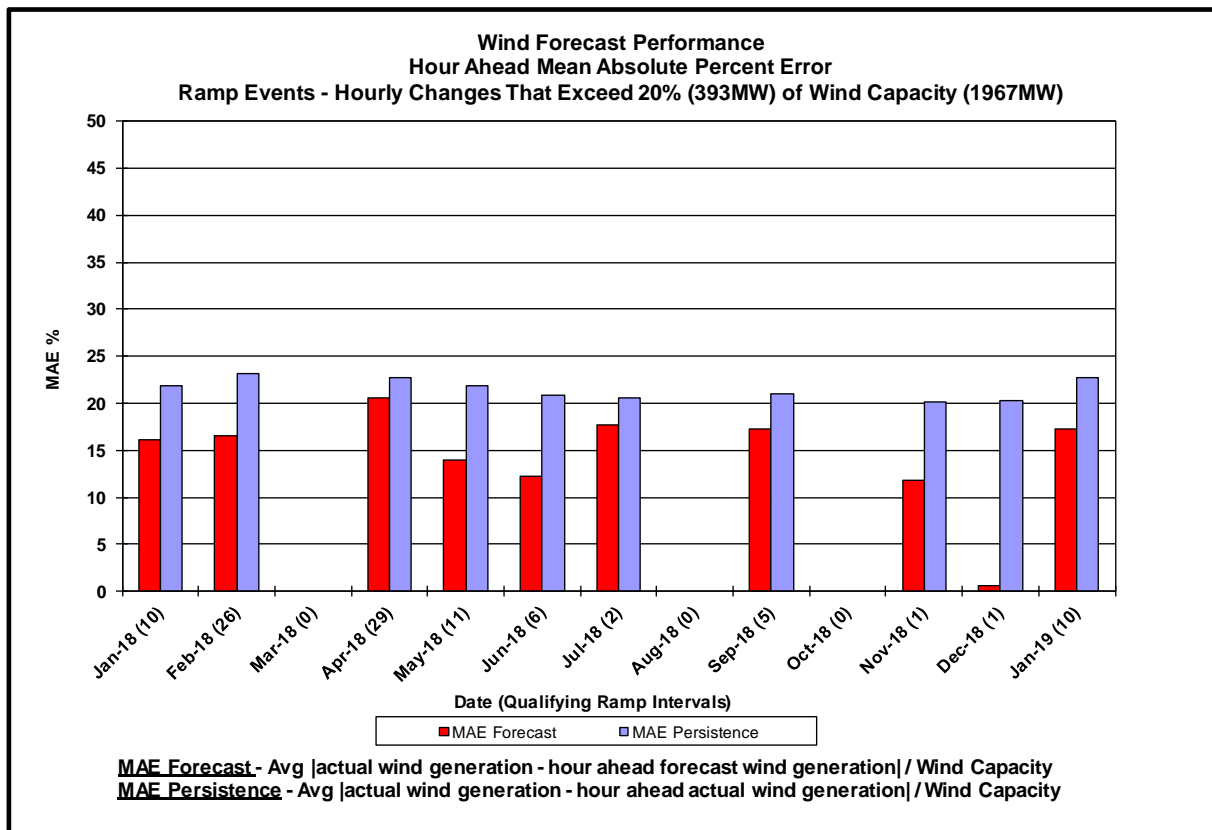


**Hourly Error MW** - Absolute value of the difference between the hourly average actual load demand and the average hour ahead forecast load demand.

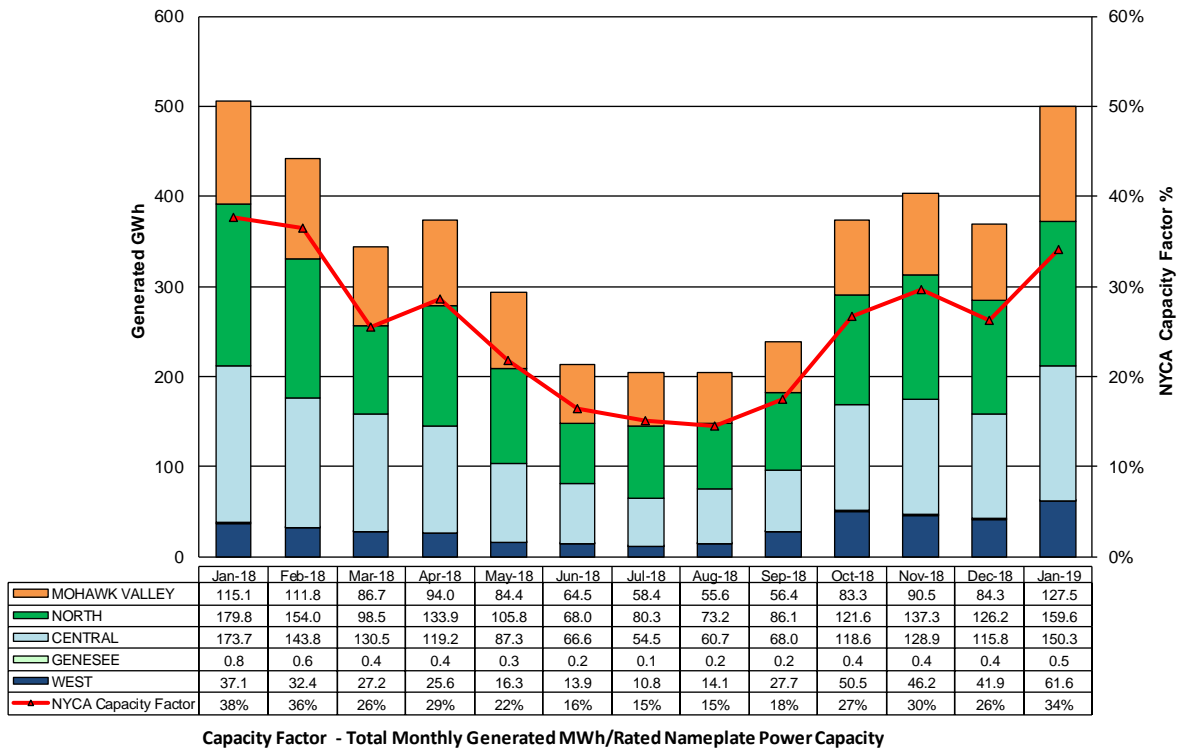
**Average Hourly Error %** - Average value of the ratio of hourly average error magnitude to hourly average actual load demand.

**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.

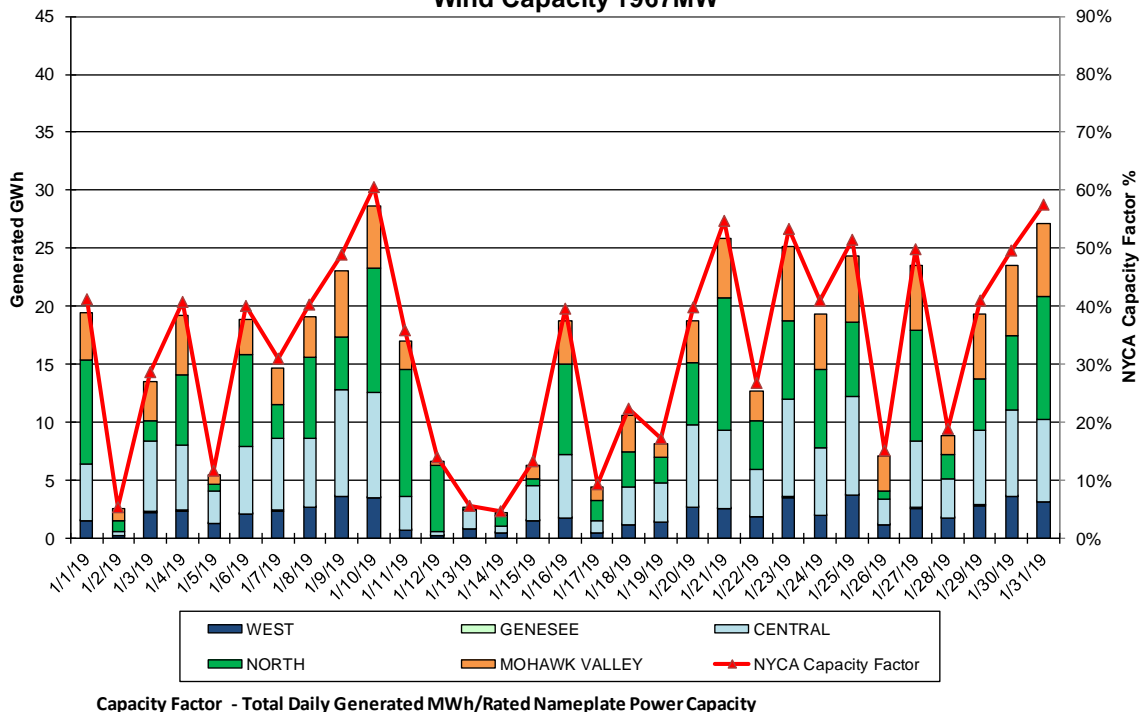


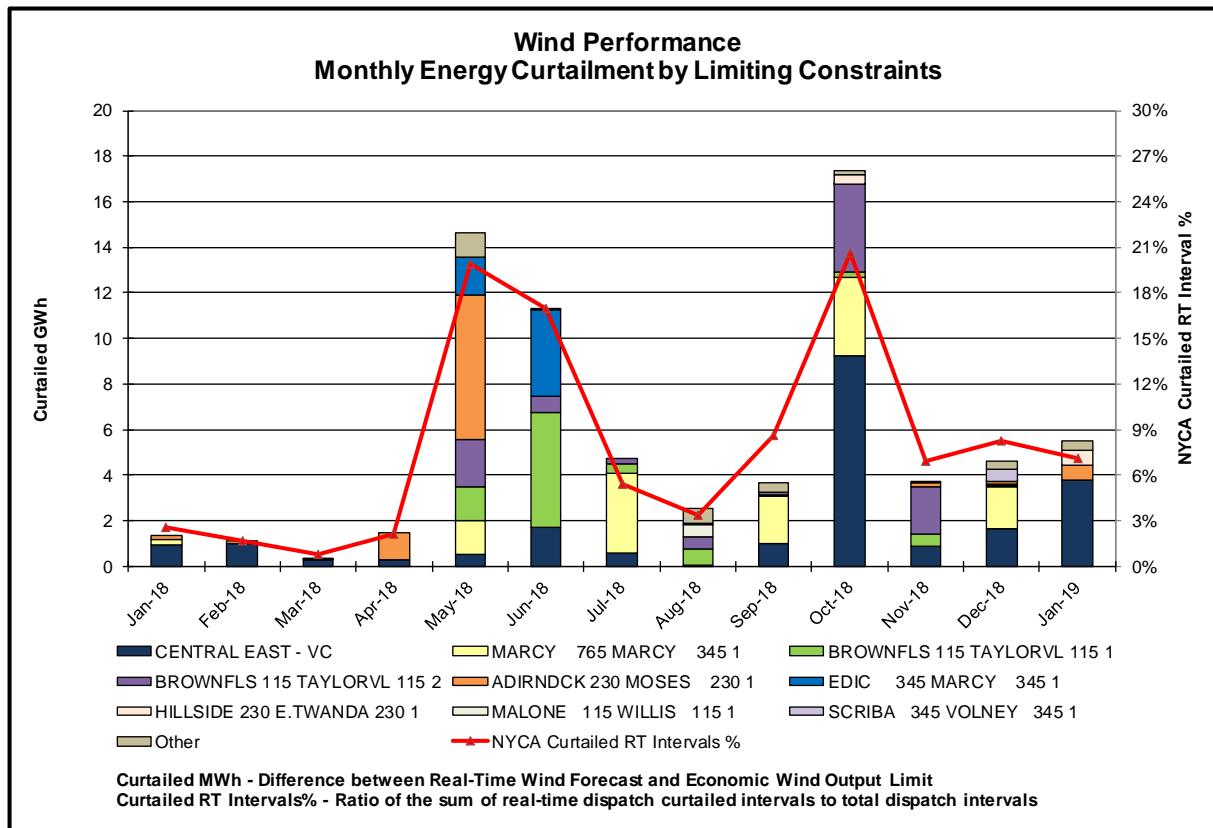
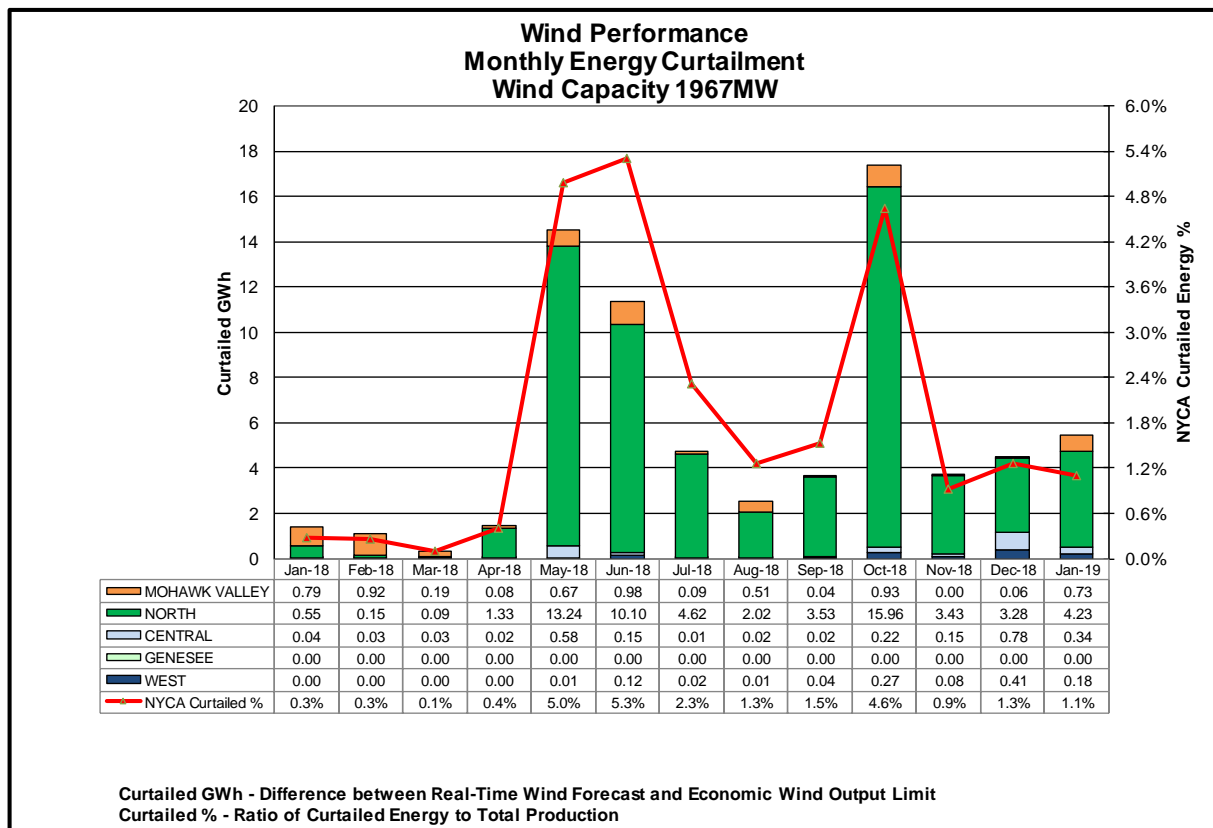


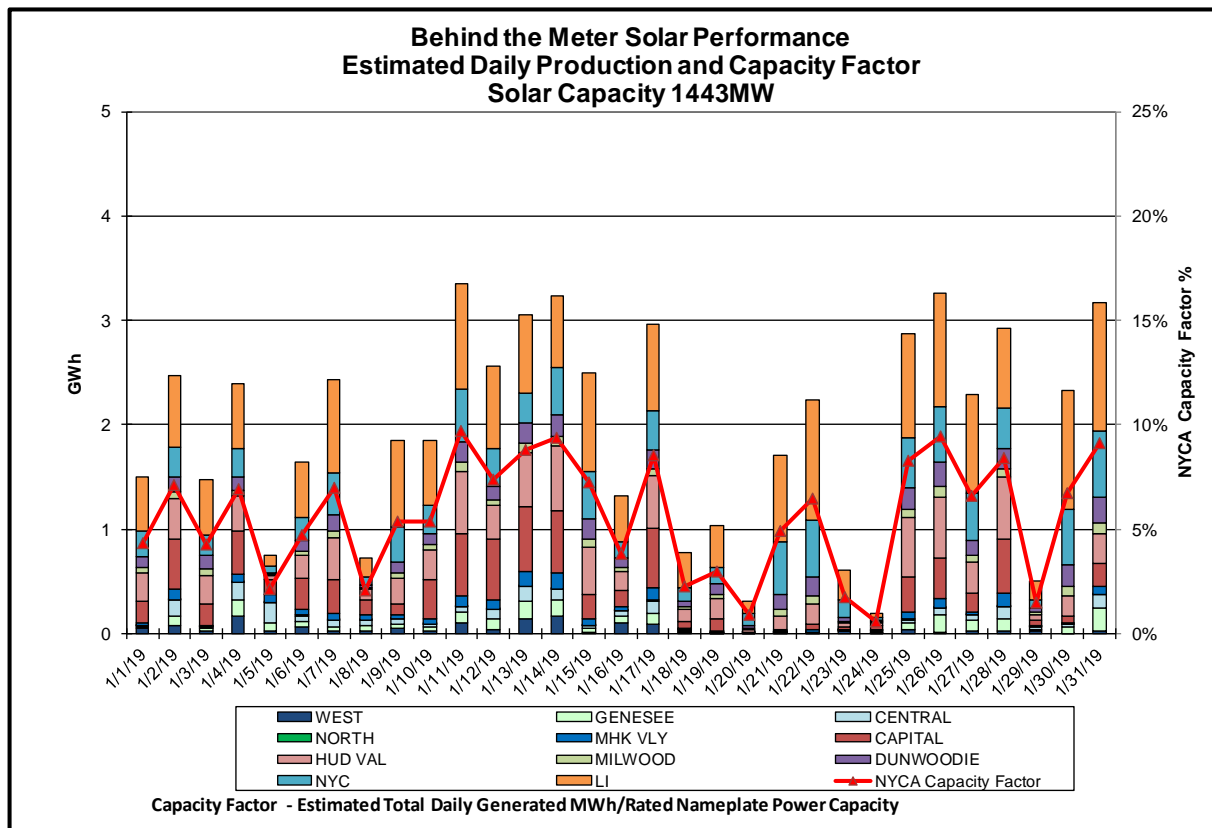
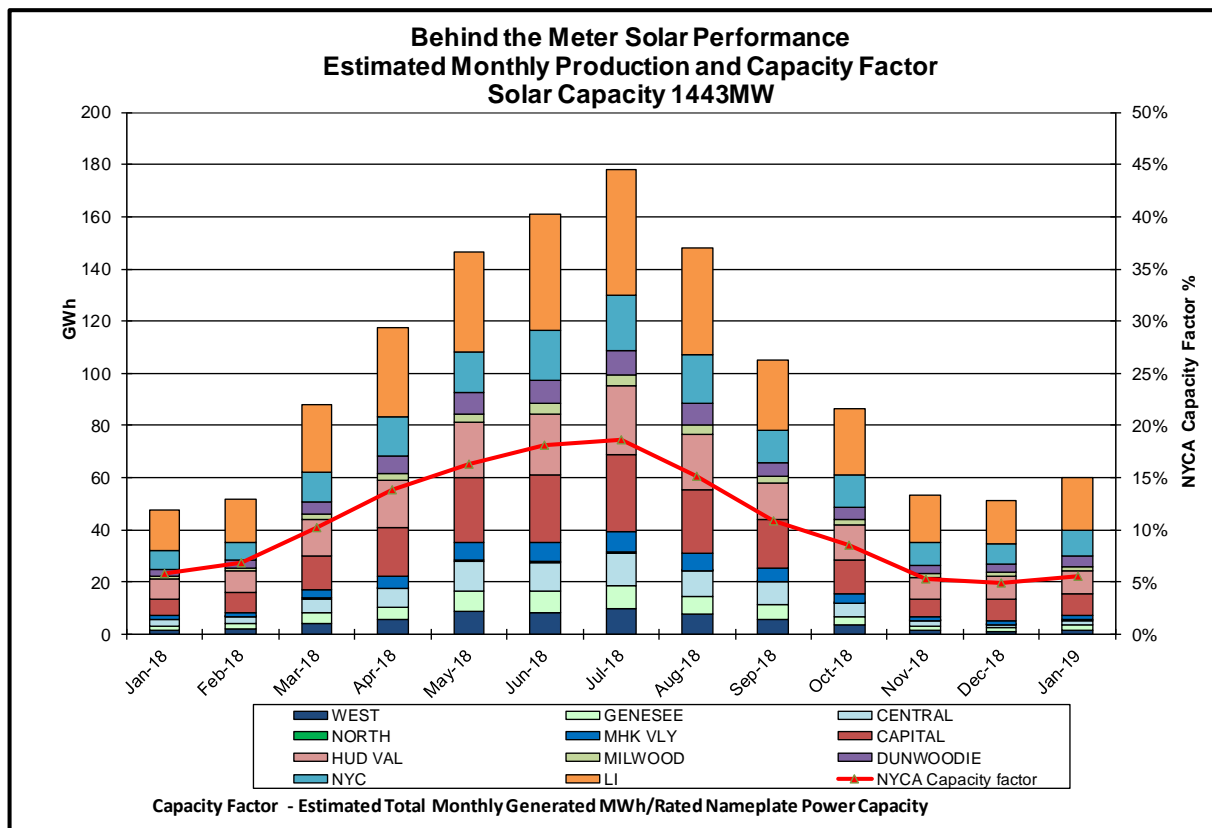
### Wind Performance Monthly Production and Capacity Factor Wind Capacity 1967MW

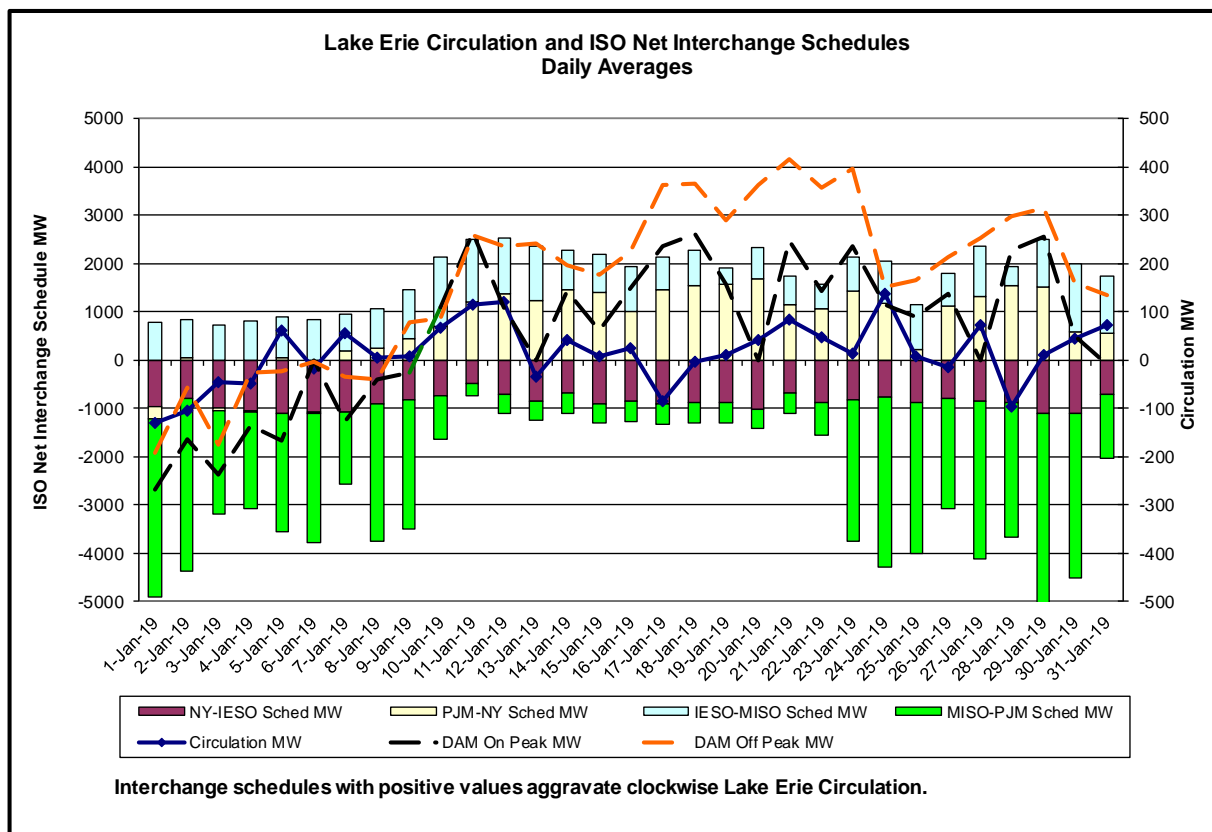
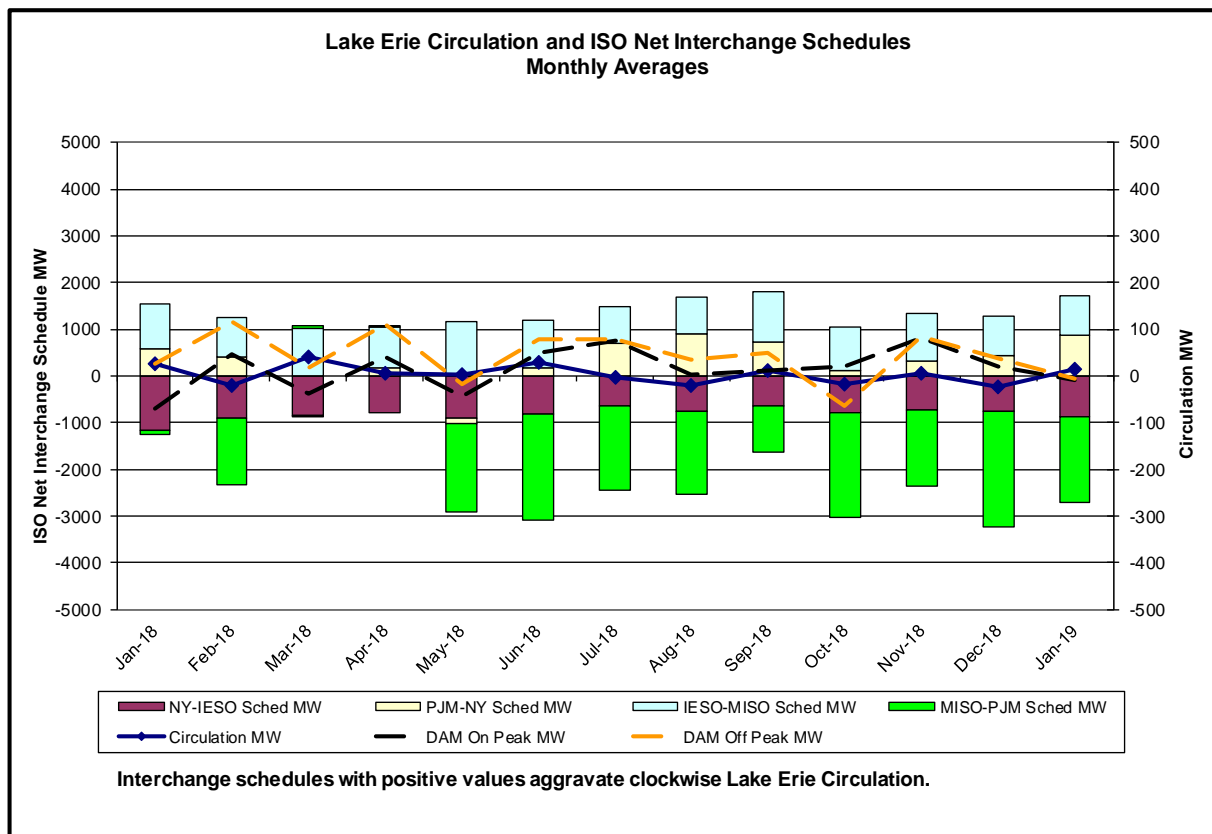


### Wind Performance Daily Production and Capacity Factor Wind Capacity 1967MW

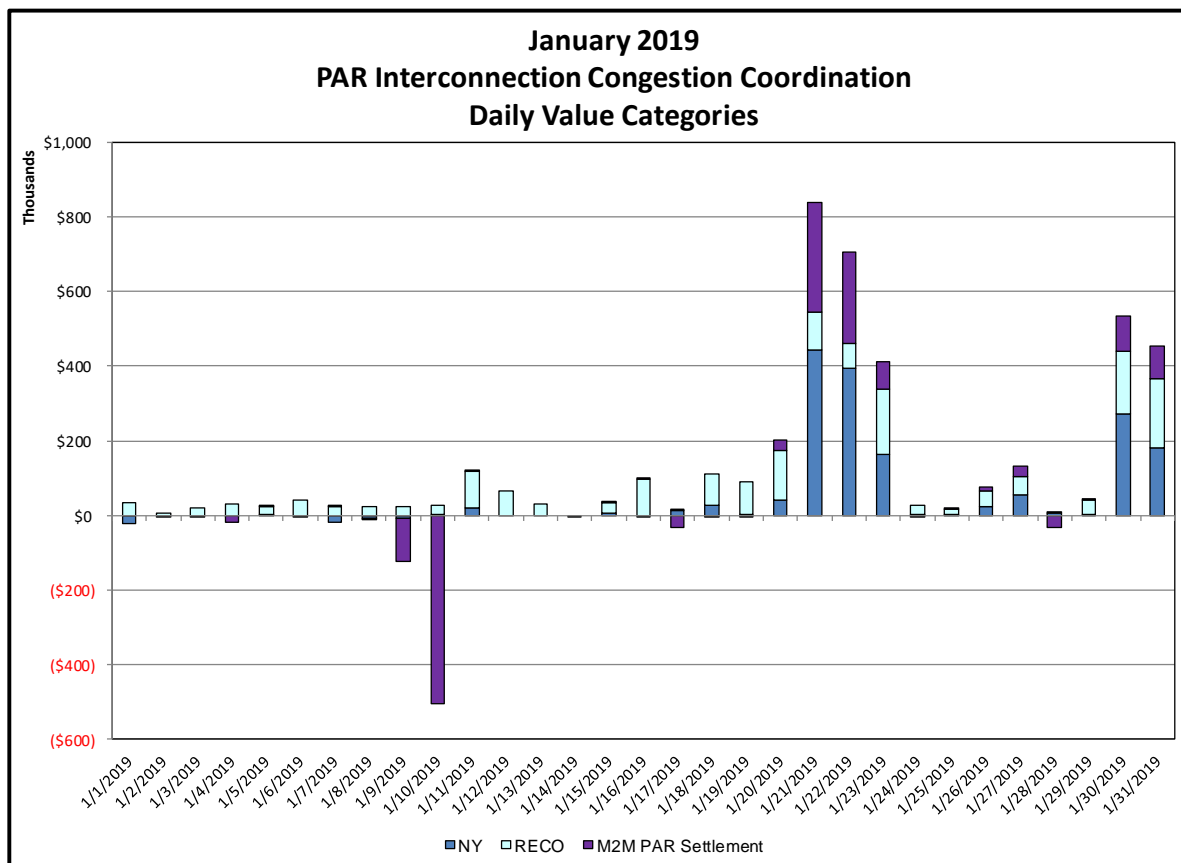
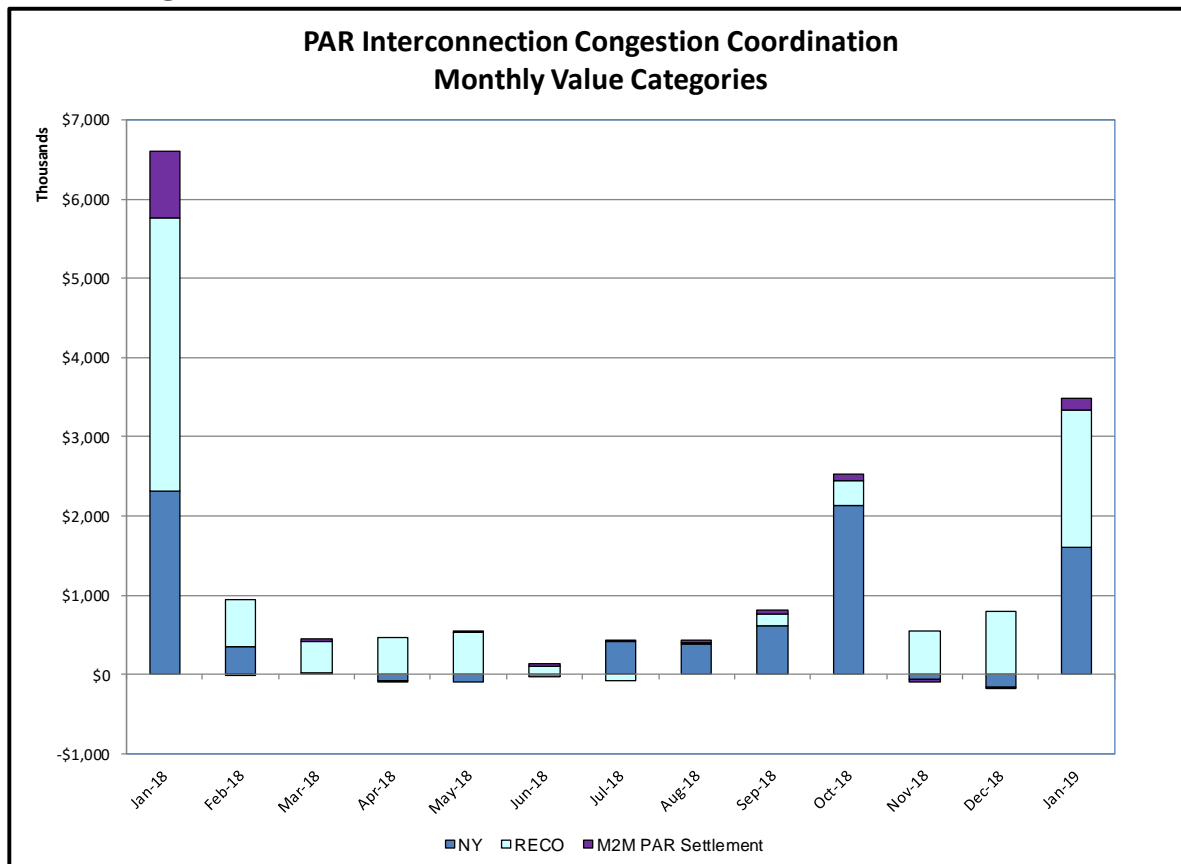






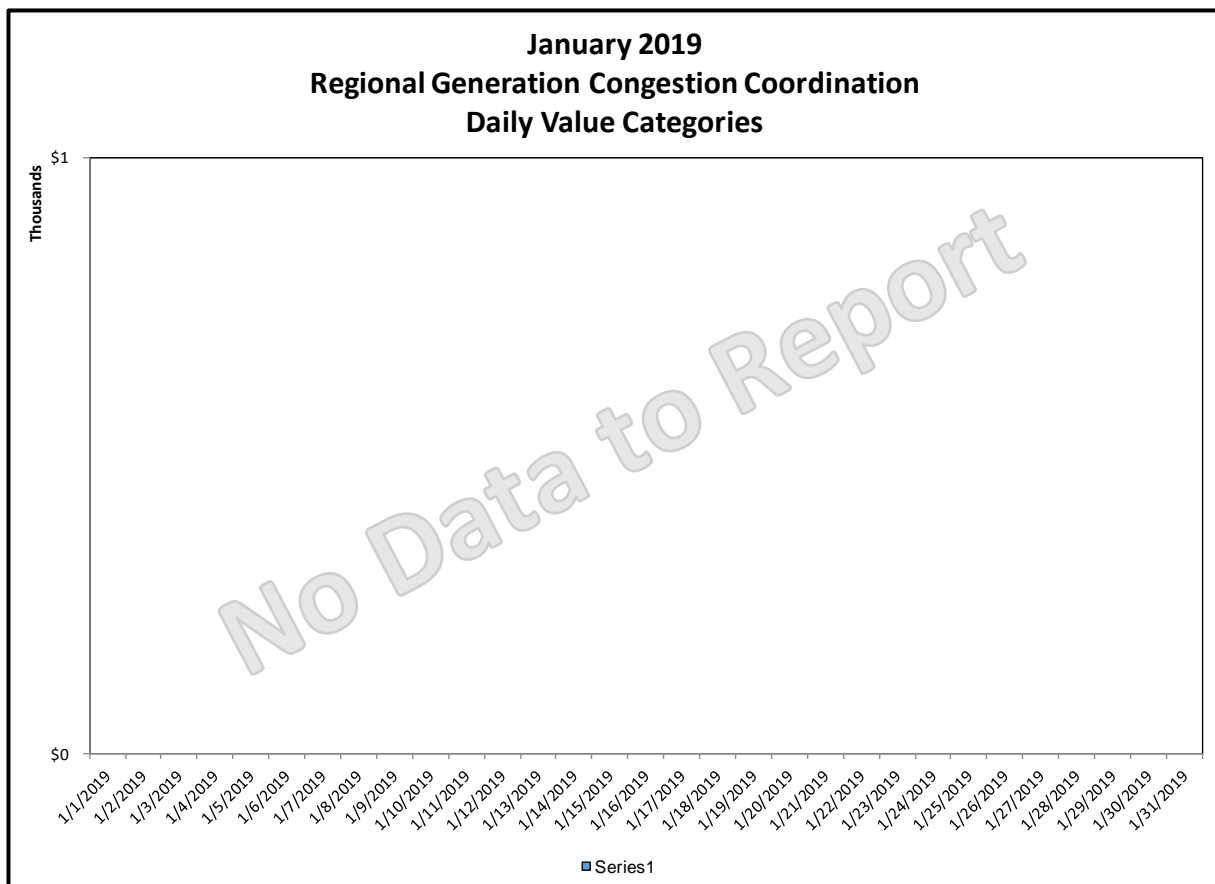
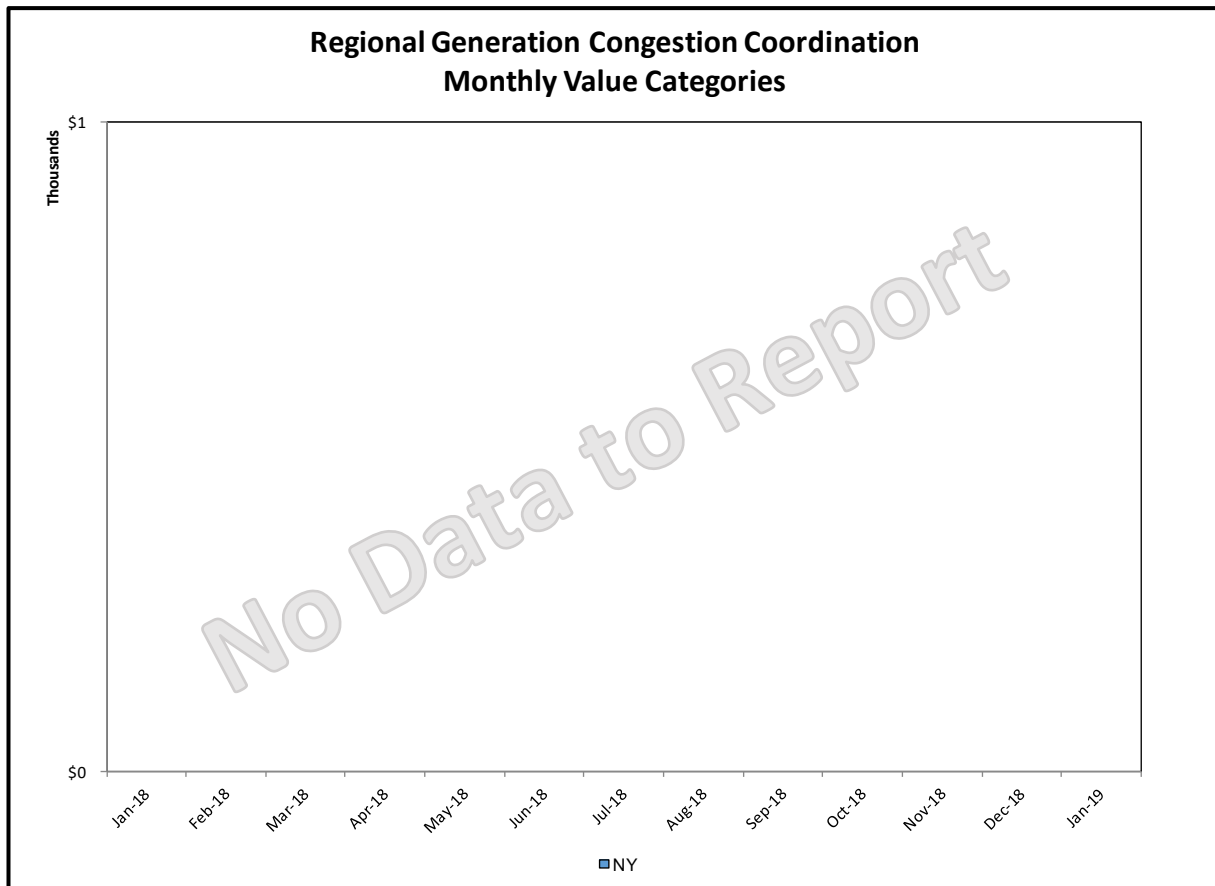


## Broader Regional Market Performance Metrics



### 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.



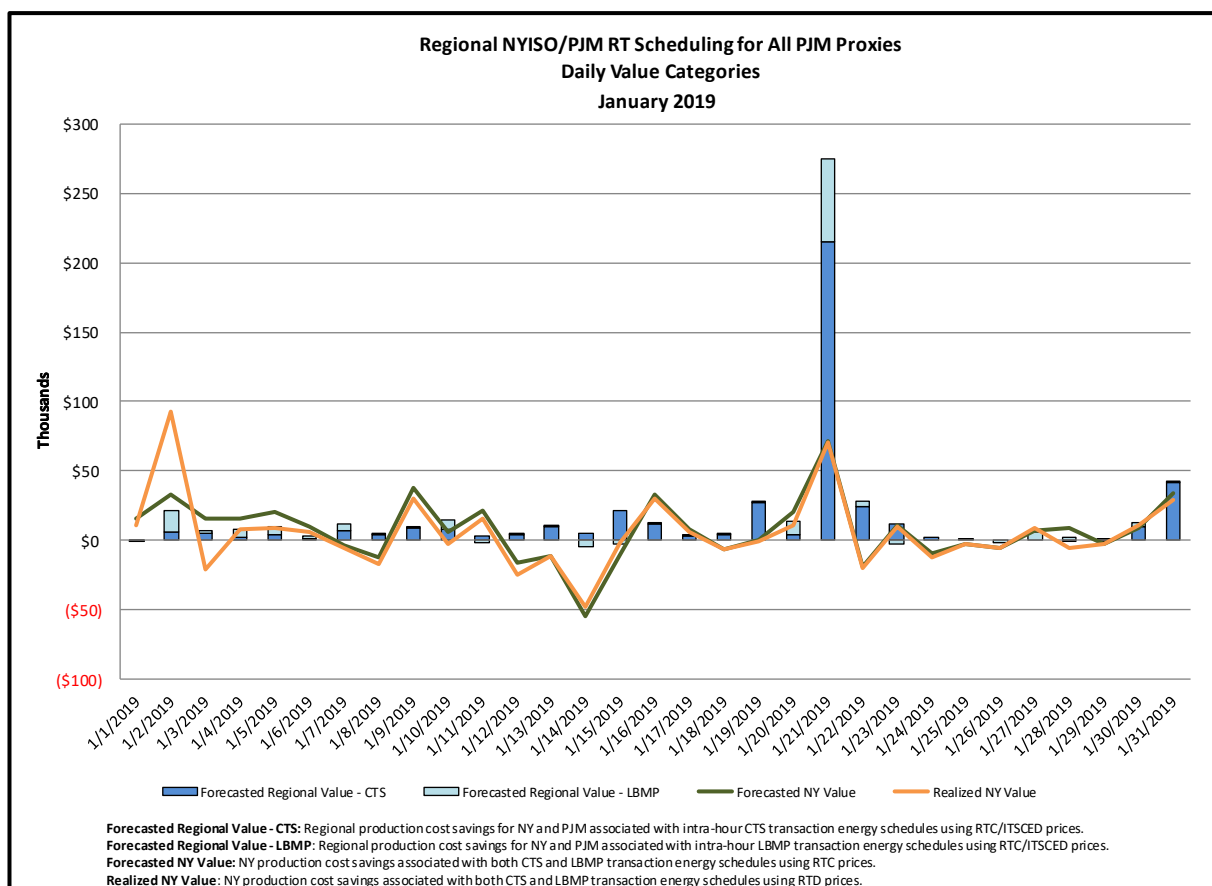
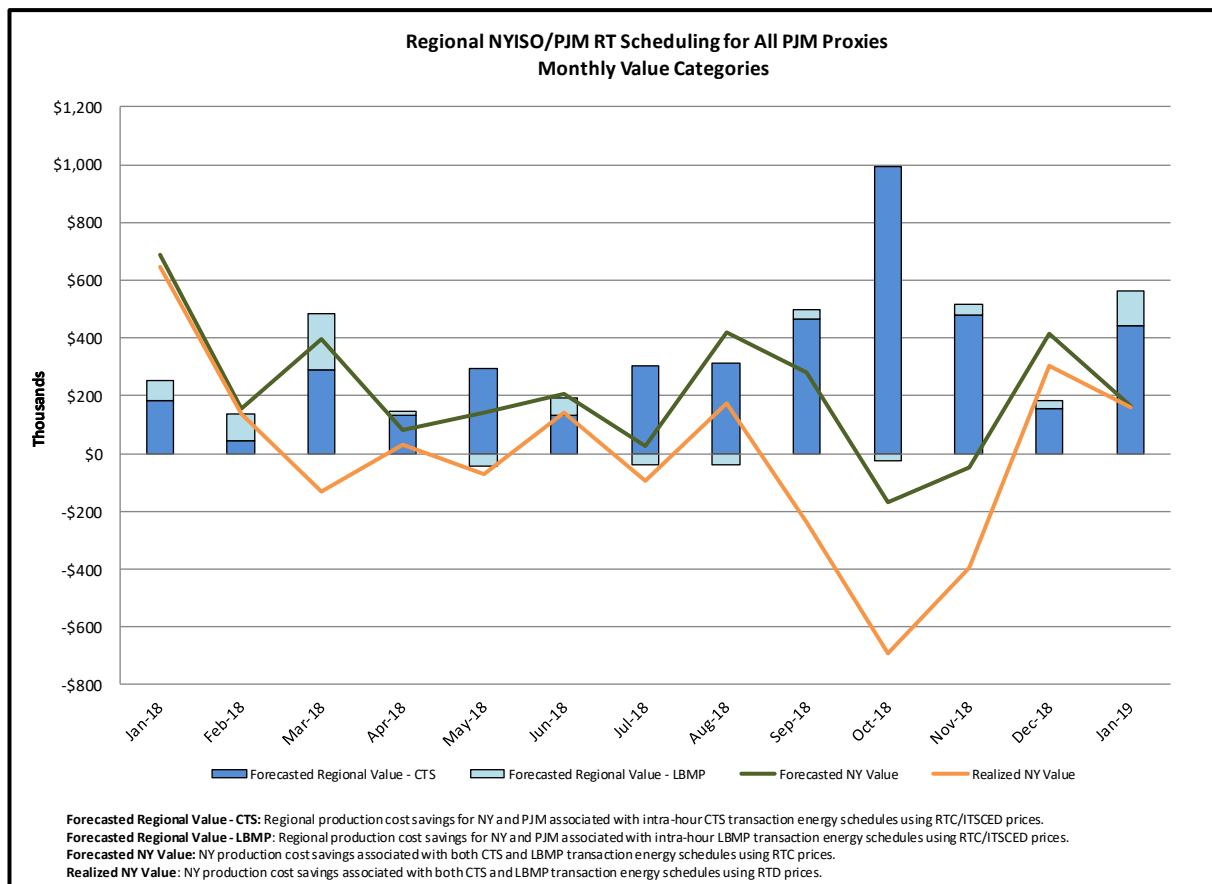
### **Regional Generation Congestion Coordination**

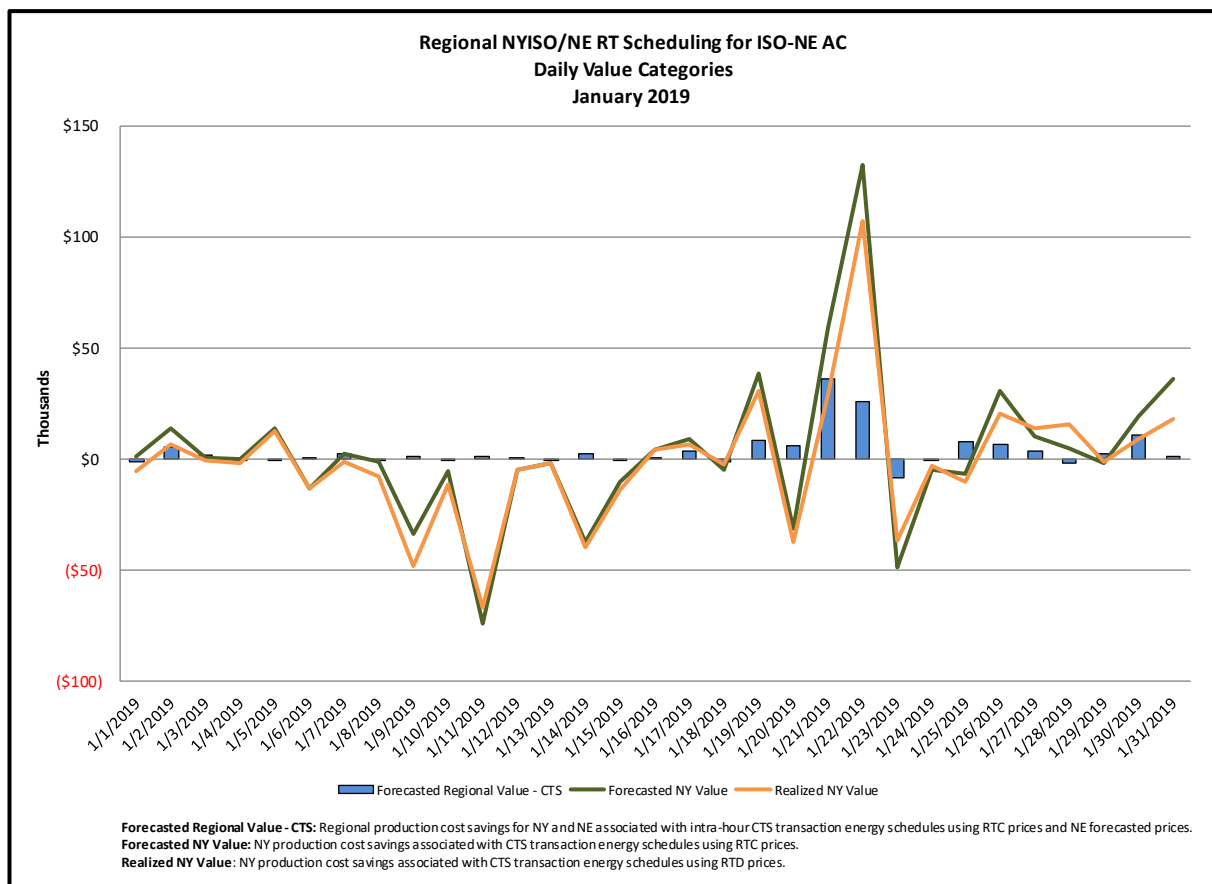
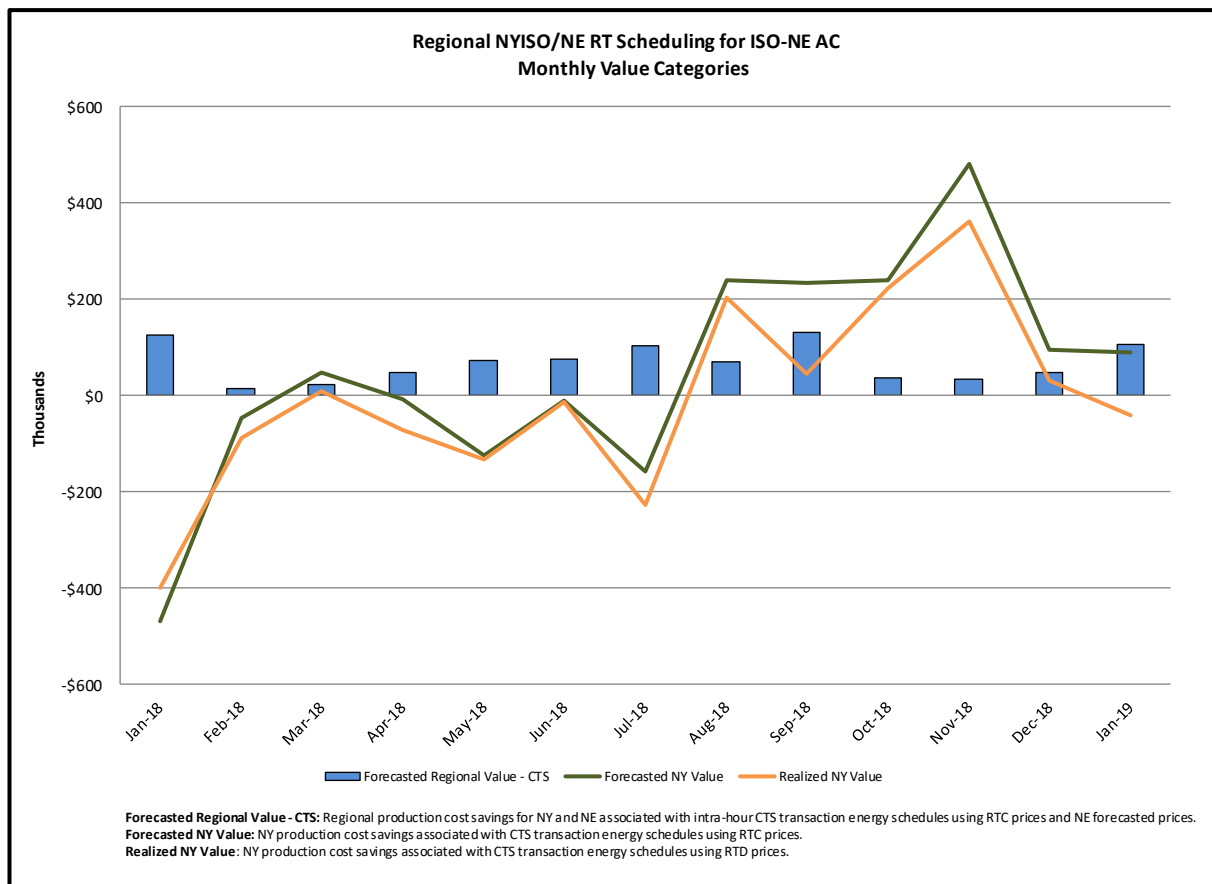
#### **Category**

NY

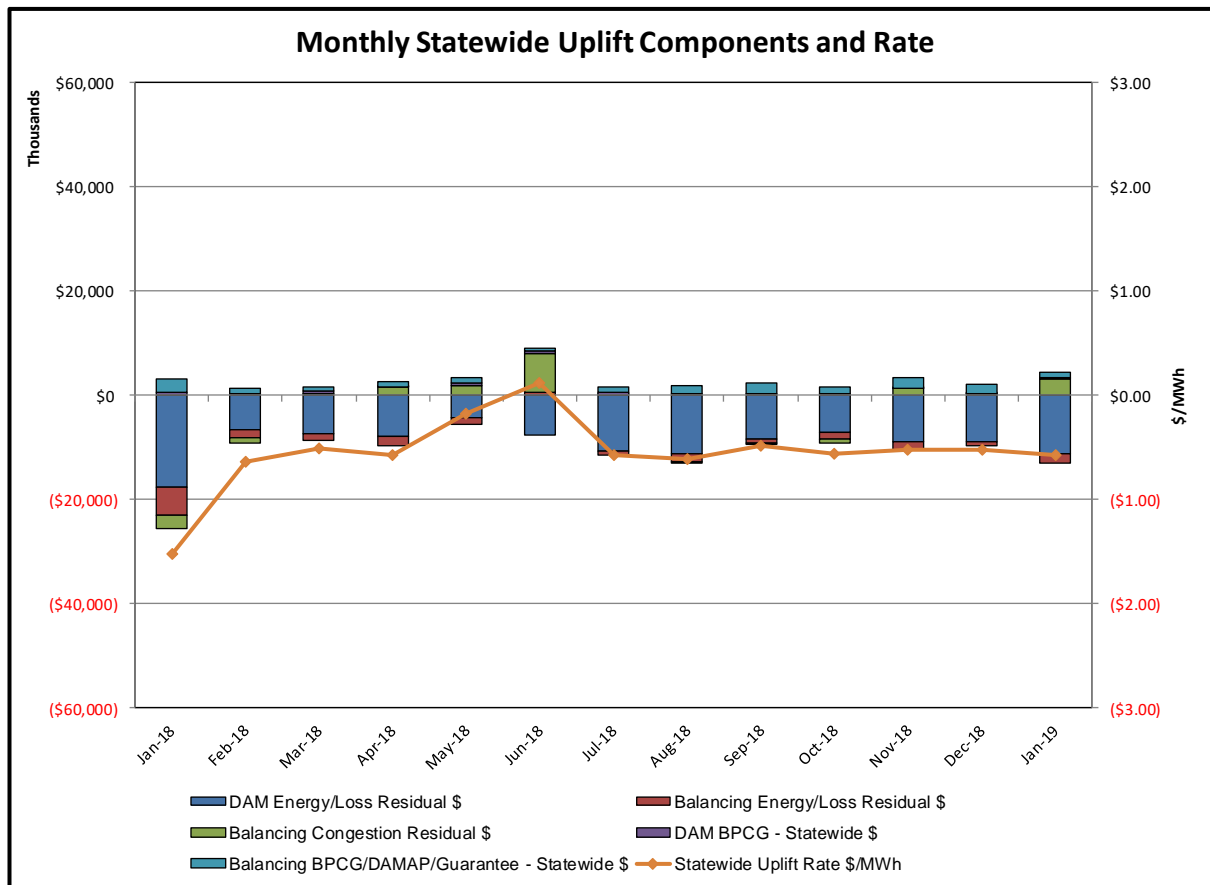
#### **Description**

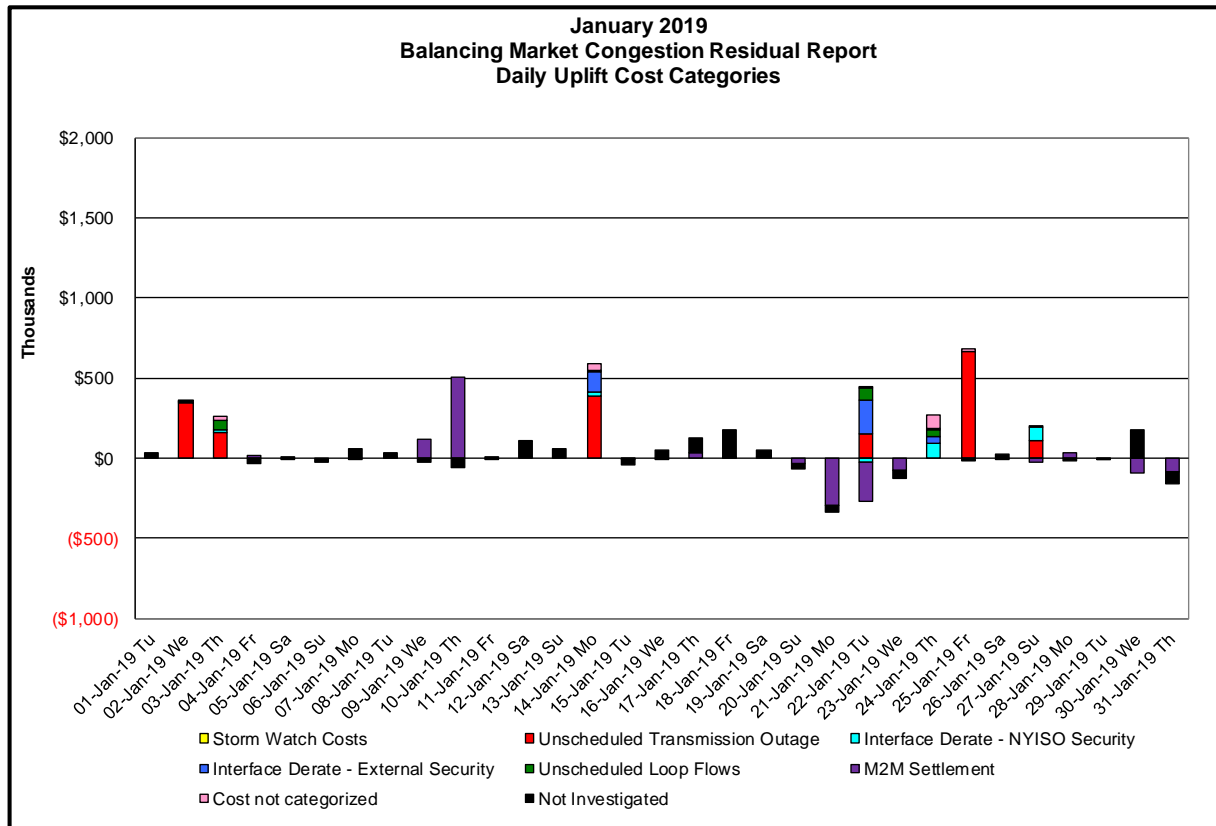
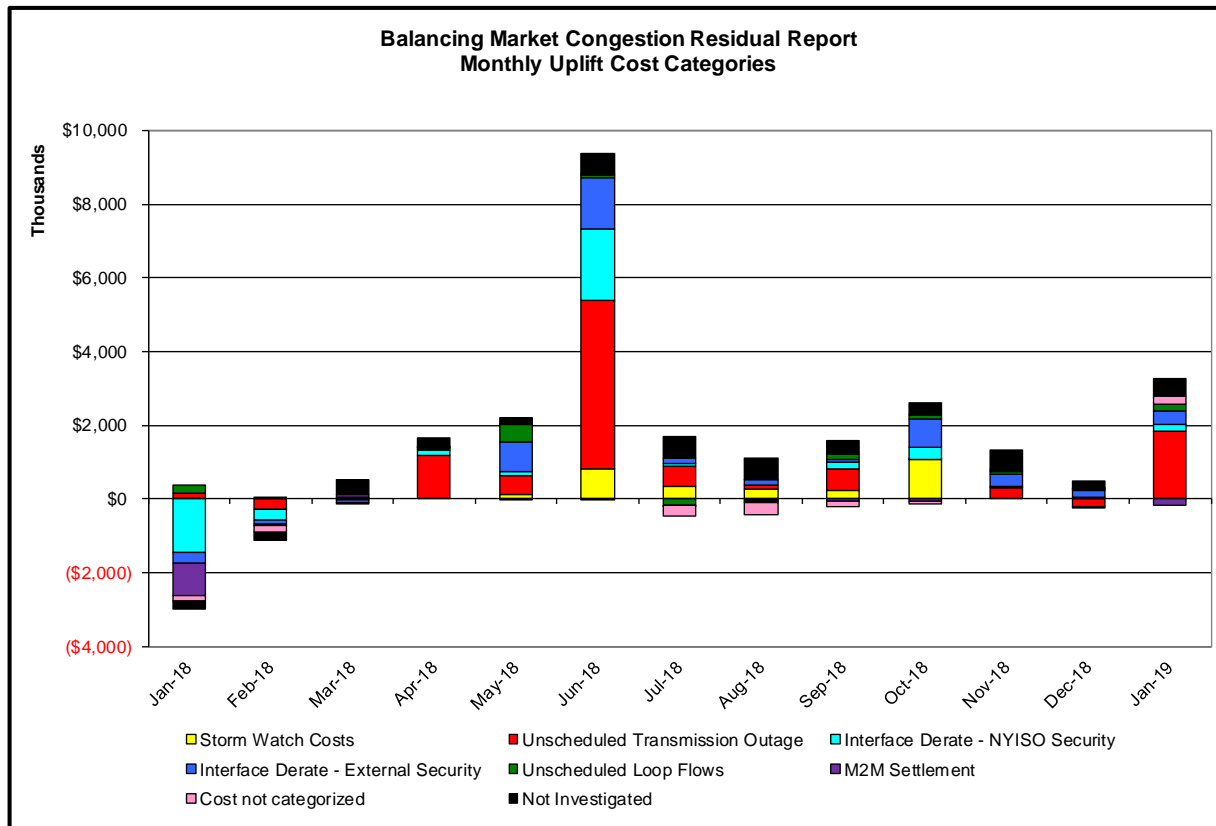
NYISO savings that result from PJM payments to NYISO when PJM's transmission use (PJM's market flow) is greater than PJM's entitlement of the NY transmission system and NYISO is incurring Western or Central NY congestion. Additionally, NYISO savings may result from the more efficient regional utilization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





## Market Performance Metrics





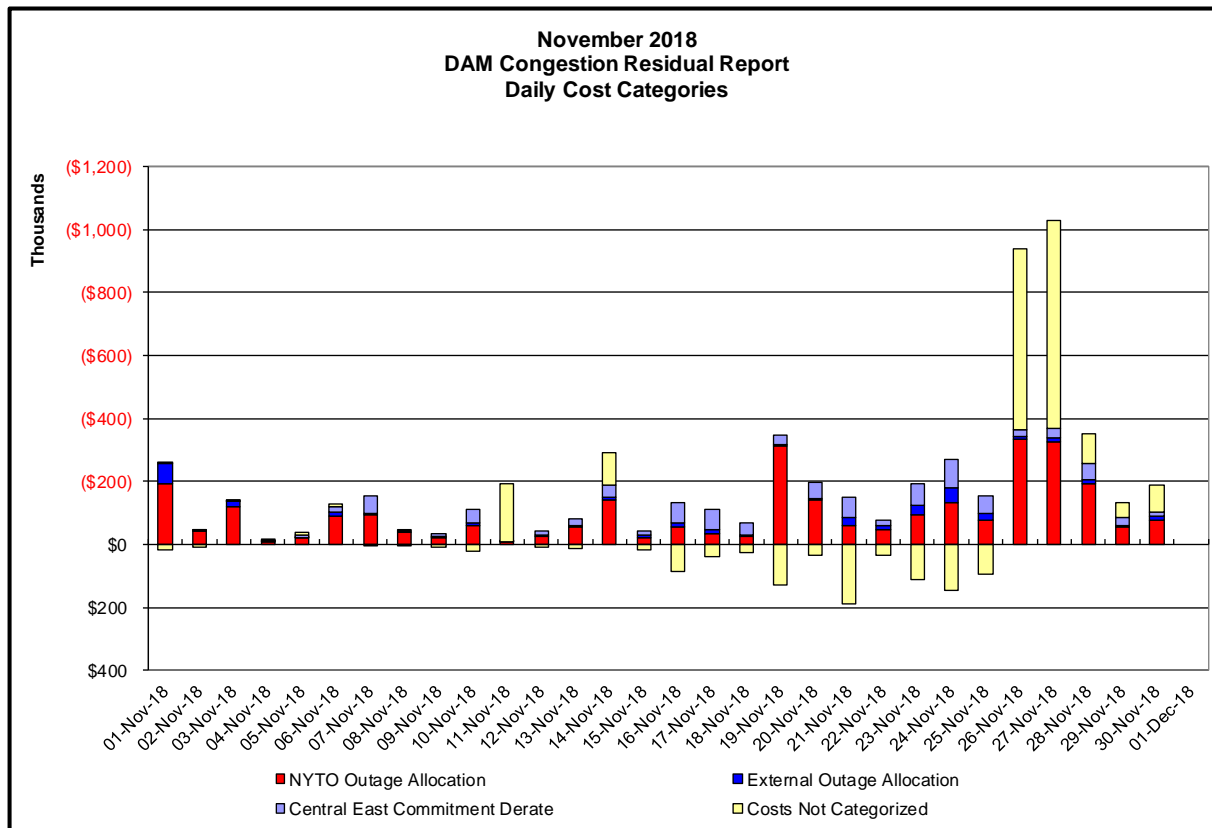
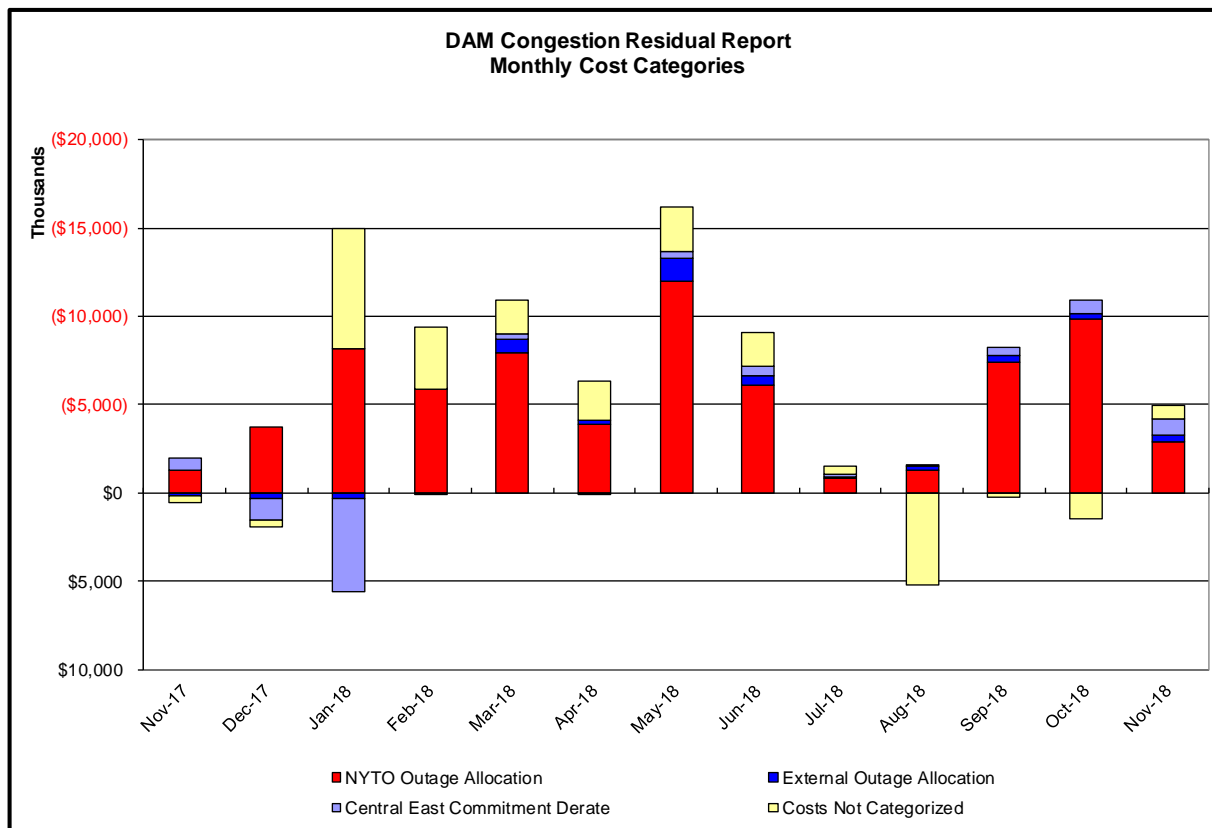
Day's investigated in January: 2,3,14,22,24,25,27			
Event	Date (yyyymmdd)	Hours	Description
	1/2/2019	8-13,15,17-19	Forced Outage Goethals 345kV Brk 3
	1/2/2019	15	Lake Erie Circulation, DAM-RTM exceeds +/-125MW; West 115kV
	1/3/2019	7-10,15,16,18	Forced Outage Goethals 345kV Brk 3
	1/3/2019	7	NYCA DNI Ramp Limit
	1/3/2019	18	Lake Erie Circulation, DAM-RTM exceeds +/-125MW; Central East
	1/3/2019	9,16,18	Lake Erie Circulation, DAM-RTM exceeds +/-125MW; West 115kV
	1/14/2019	16-20	Extended outage of Beck-Packard 230kV (#BP76)
	1/14/2019	14	NYCA DNI Ramp Limit
	1/14/2019	11-14	HQ_CEDARS - NY Scheduling Limit
	1/14/2019	11-15	HQ_CHAT - NY Scheduling Limit
	1/14/2019	7	PJM_AC - NY Scheduling Limit
	1/14/2019	19	Lake Erie Circulation, DAM-RTM exceeds +/-125MW; West 115kV
	1/22/2019	2,9-13	Forced Outage Packard-Gardenville 115kV (#182)
	1/22/2019	3,9	NYCA DNI Ramp Limit
	1/22/2019	3,16,20	Uprate Central East
	1/22/2019	0,2,9-15	HQ_CEDARS - NY Scheduling Limit
	1/22/2019	0,2,10-15,22	HQ_CHAT - NY Scheduling Limit
	1/22/2019	2,4,6	NE_AC DNI Ramp Limit
	1/22/2019	15,16	PJM_AC - NY Scheduling Limit
	1/22/2019	3,4	PJM_AC DNI Ramp Limit
	1/22/2019	0,1,3,16,22	Lake Erie Circulation, DAM-RTM exceeds +/-125MW; Central East
	1/24/2019	9,10,15,19-21	NYCA DNI Ramp Limit
	1/24/2019	0	Uprate Central East
	1/24/2019	10,15	PJM_AC-NY Scheduling Limit
	1/24/2019	20	PJM_AC DNI Ramp Limit
	1/24/2019	12,13,20,21	Lake Erie Circulation, DAM-RTM exceeds +/-125MW; Central East
	1/24/2019	12,13,20,21	Lake Erie Circulation, DAM-RTM exceeds +/-125MW; West 115kV
	1/25/2019	9-20,23	Forced Outage West 49th St-Sprainbrook 345kV (#M51)
	1/25/2019	5	NE_AC DNI Ramp Limit
	1/27/2019	14-16	Forced Outage West 49th St-Sprainbrook 345kV (#M51)
	1/27/2019	14-16	Forced Outage Huntley-Gardenville 115kV (#39)
	1/27/2019	3-6	Derate Central East

### 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 Lake Erie Loop Flows exceeding +/- 125 MW
M2M Settlement	Market-wide	Settlement result inclusive of coordinated redispatch and Ramapo flowgates	

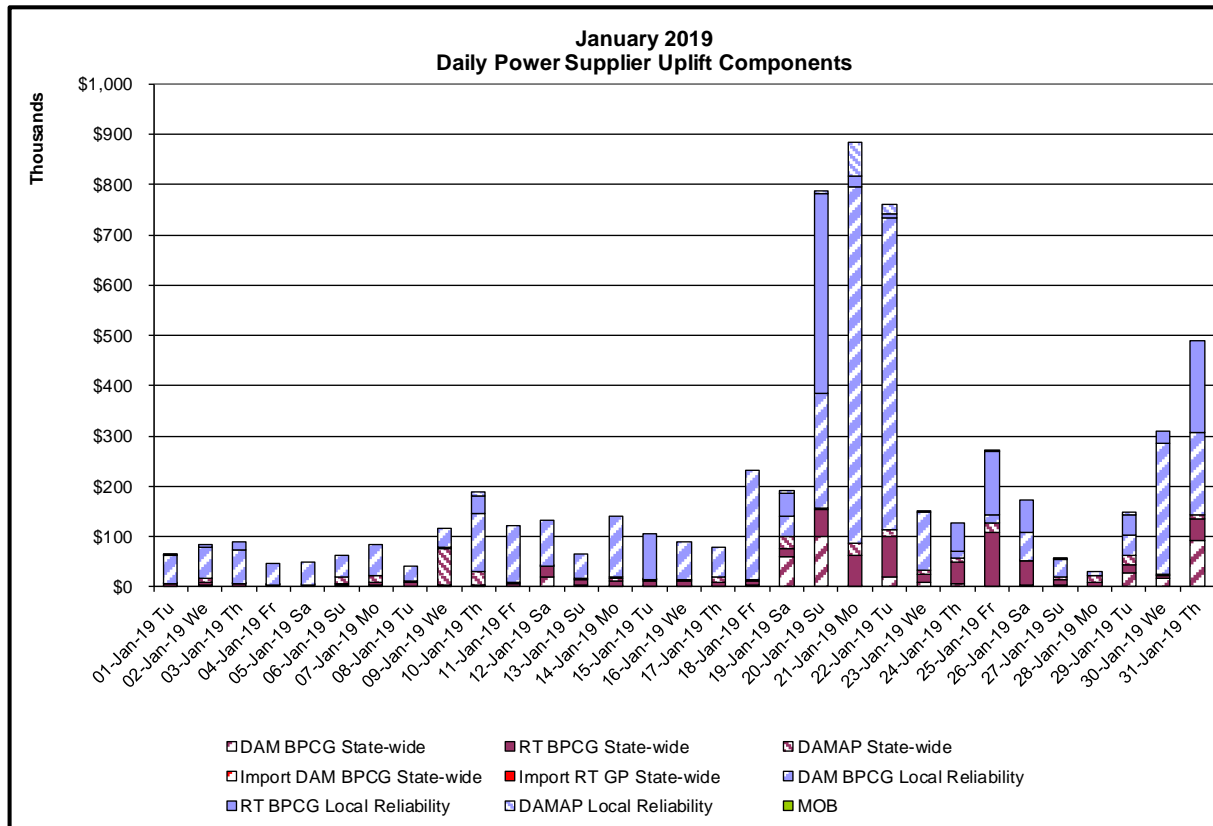
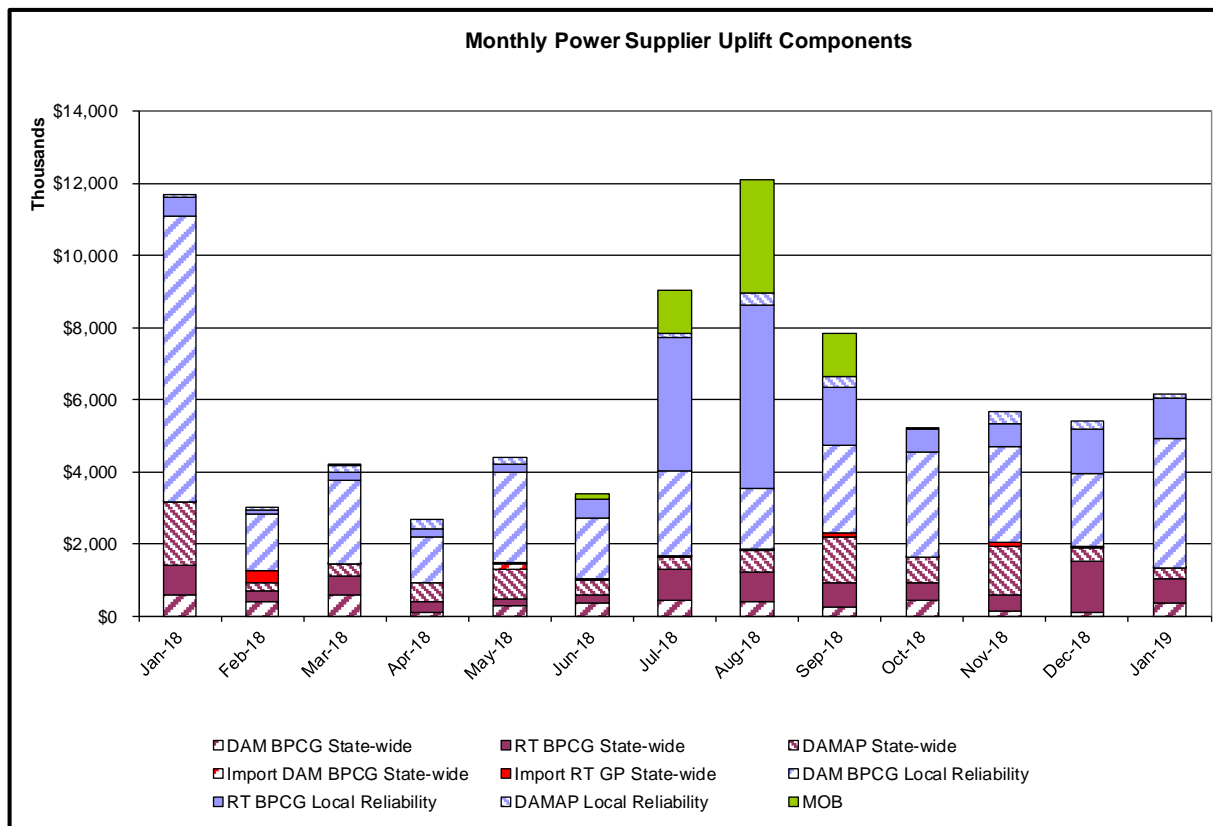
#### Monthly Balancing Market Congestion Report Assumptions/Notes

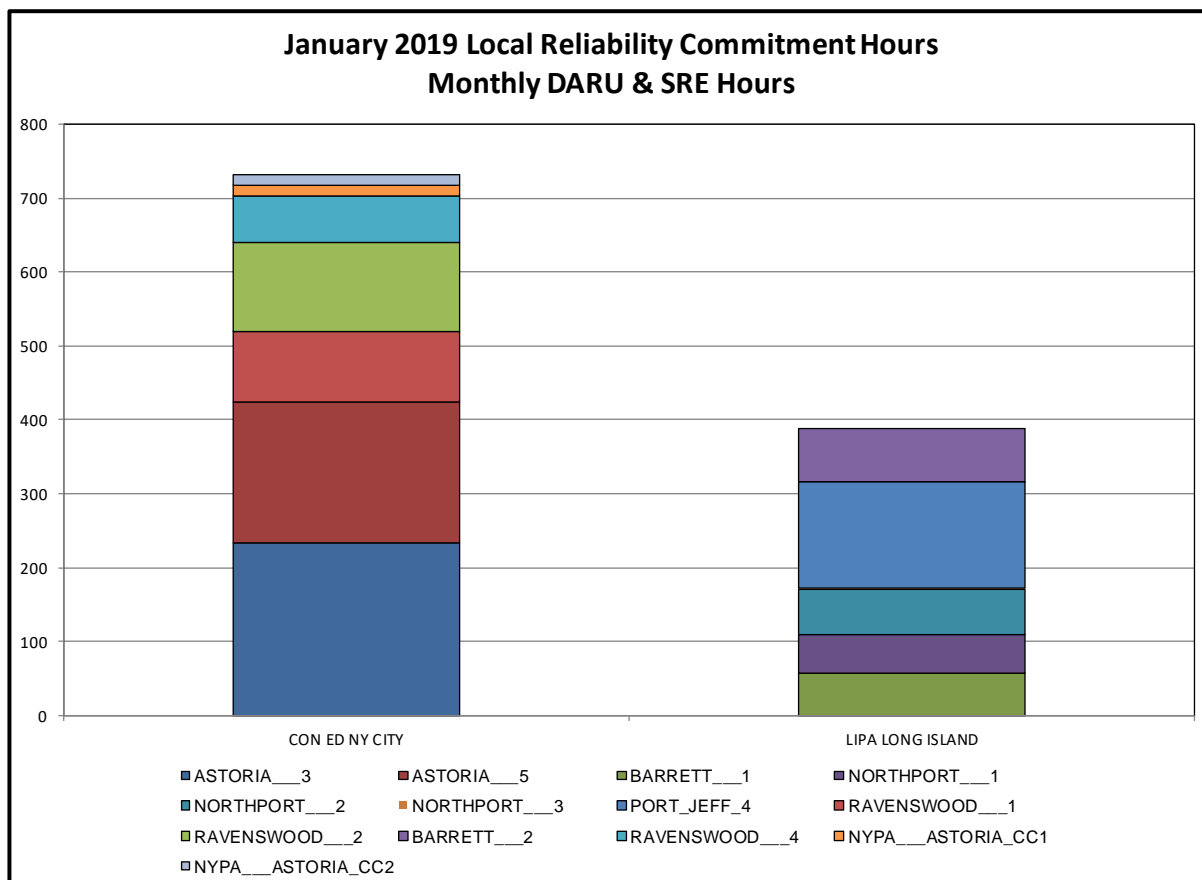
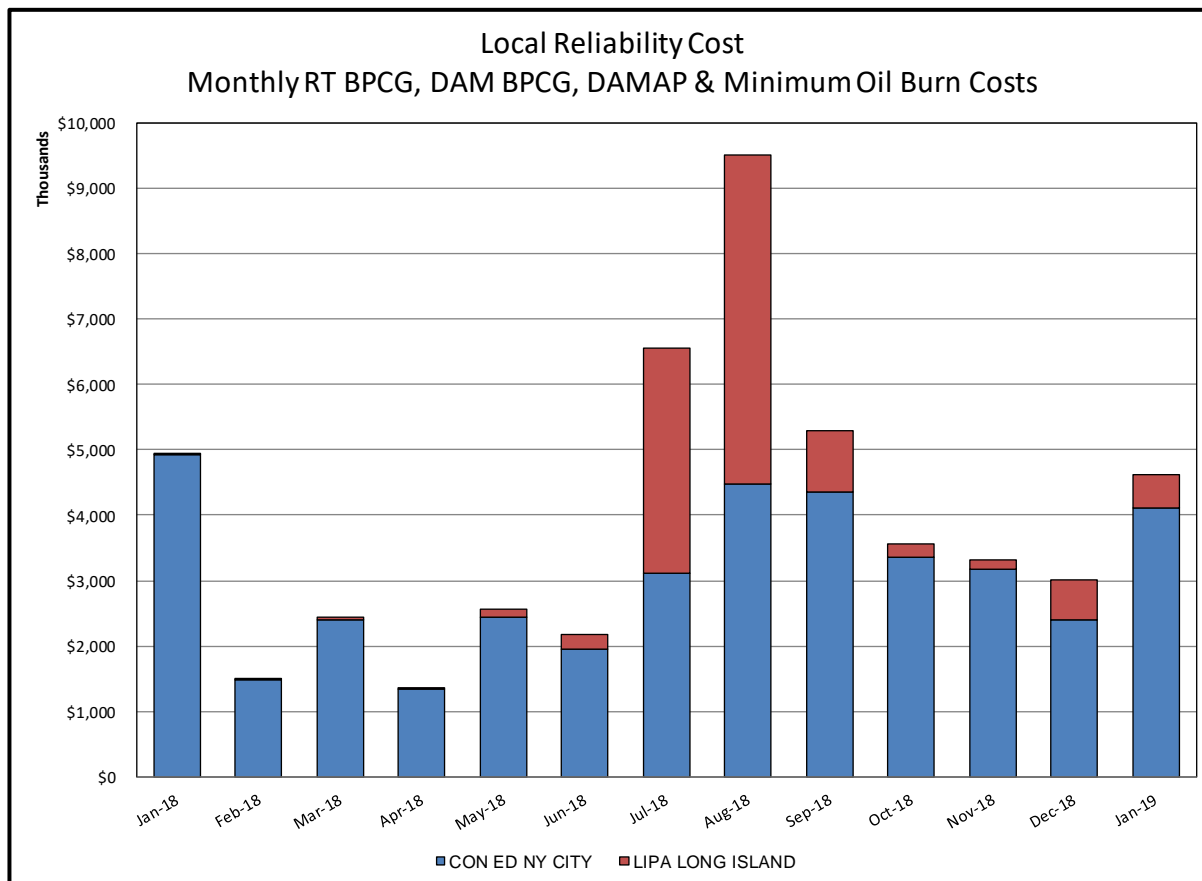
- 1) Storm Watch Costs are identified as daily total uplift costs
- 2) Days with a value of BMCR less M2M Settlement of \$100K/HR, shortfall of \$200K/Day or more, or surplus of \$100K/Day or more are investigated.
- 3) Uplift costs associated with multiple event types are apportioned equally by hour

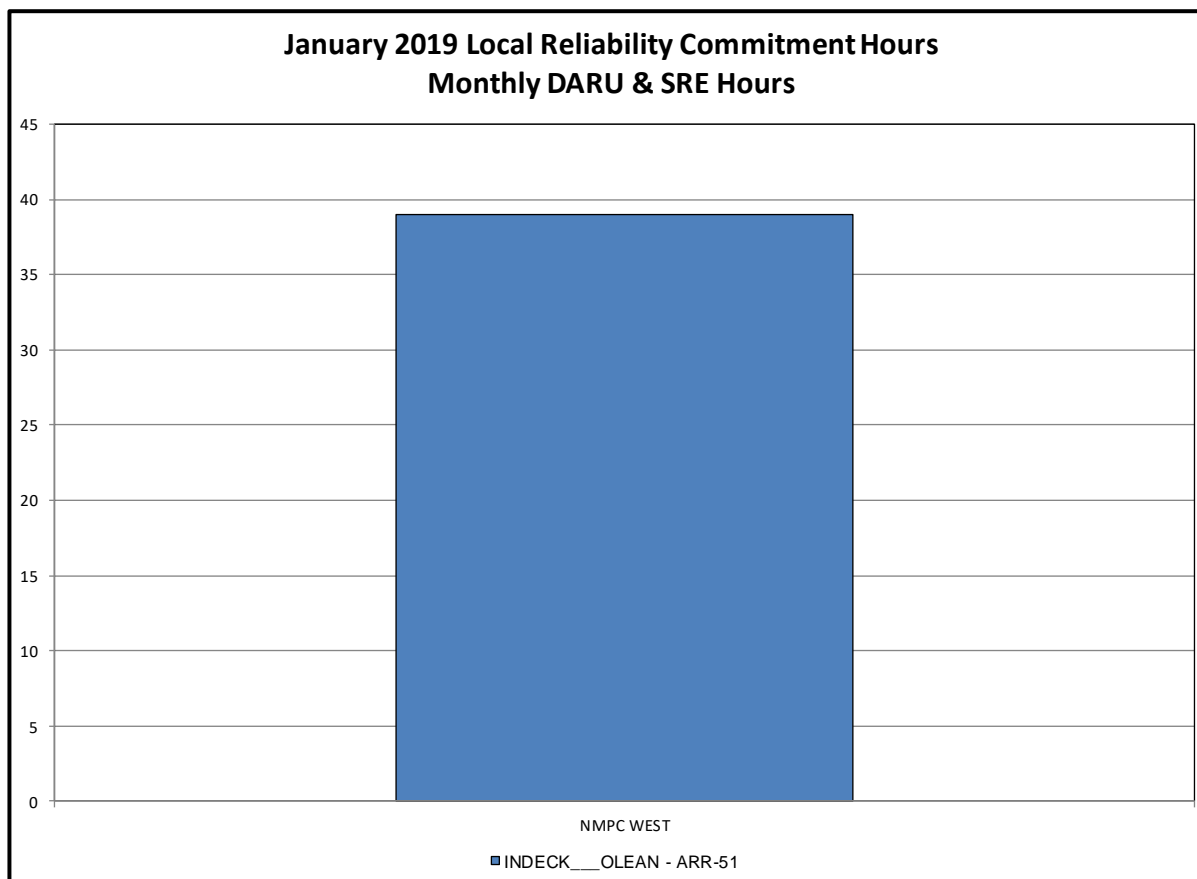
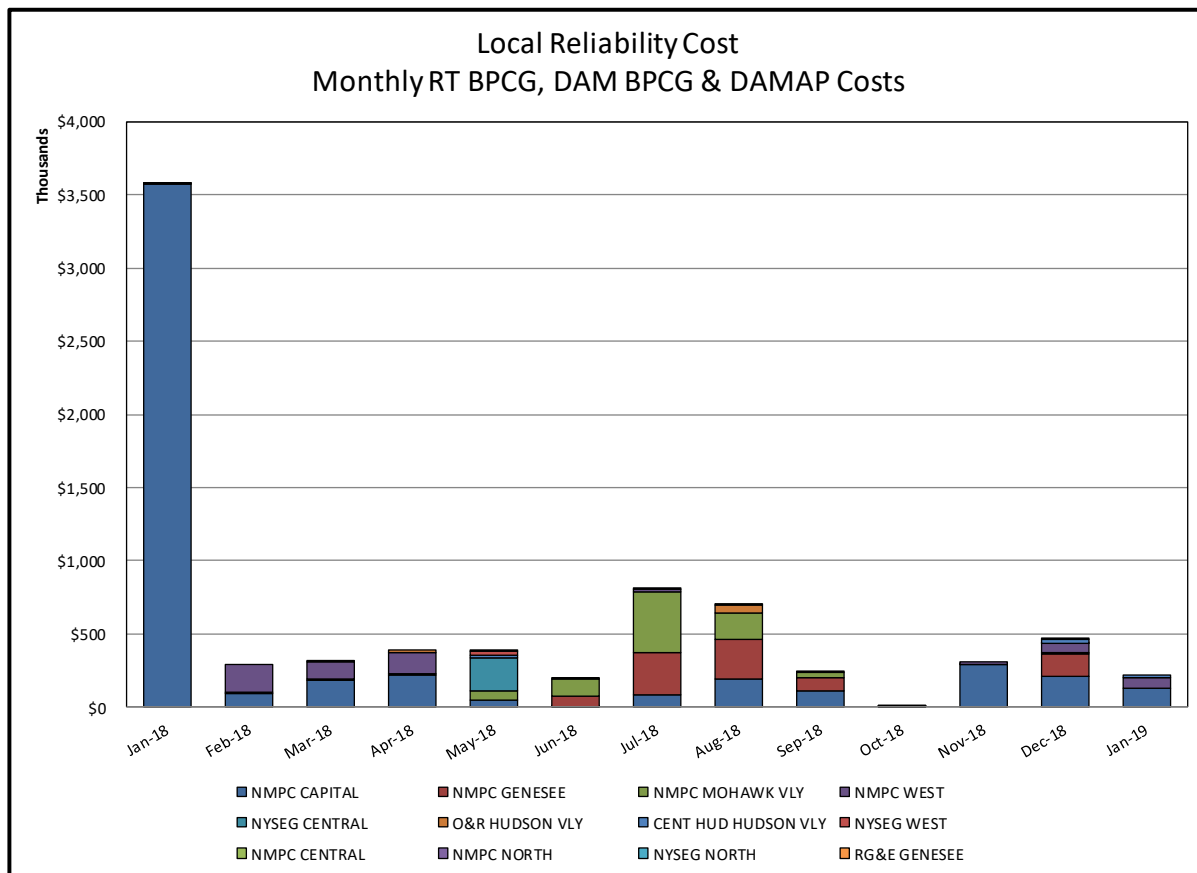


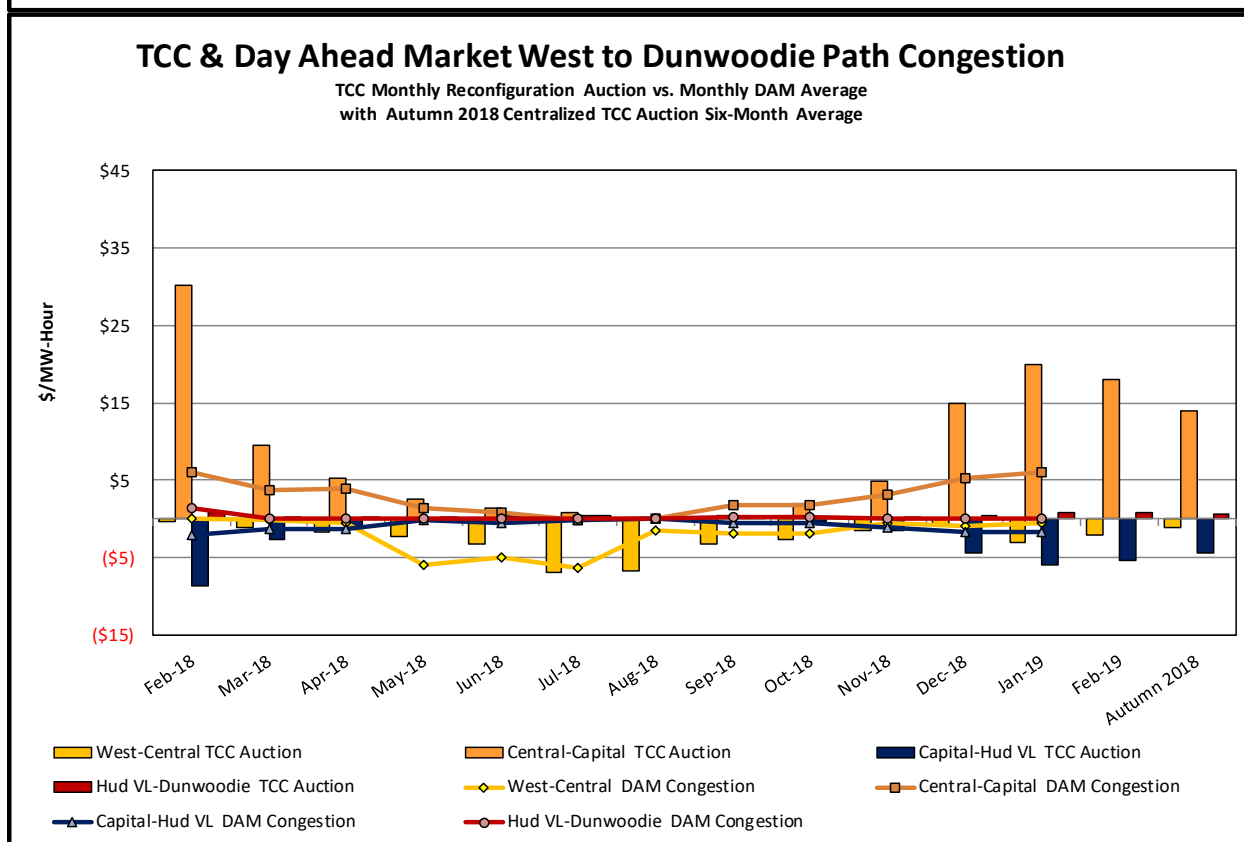
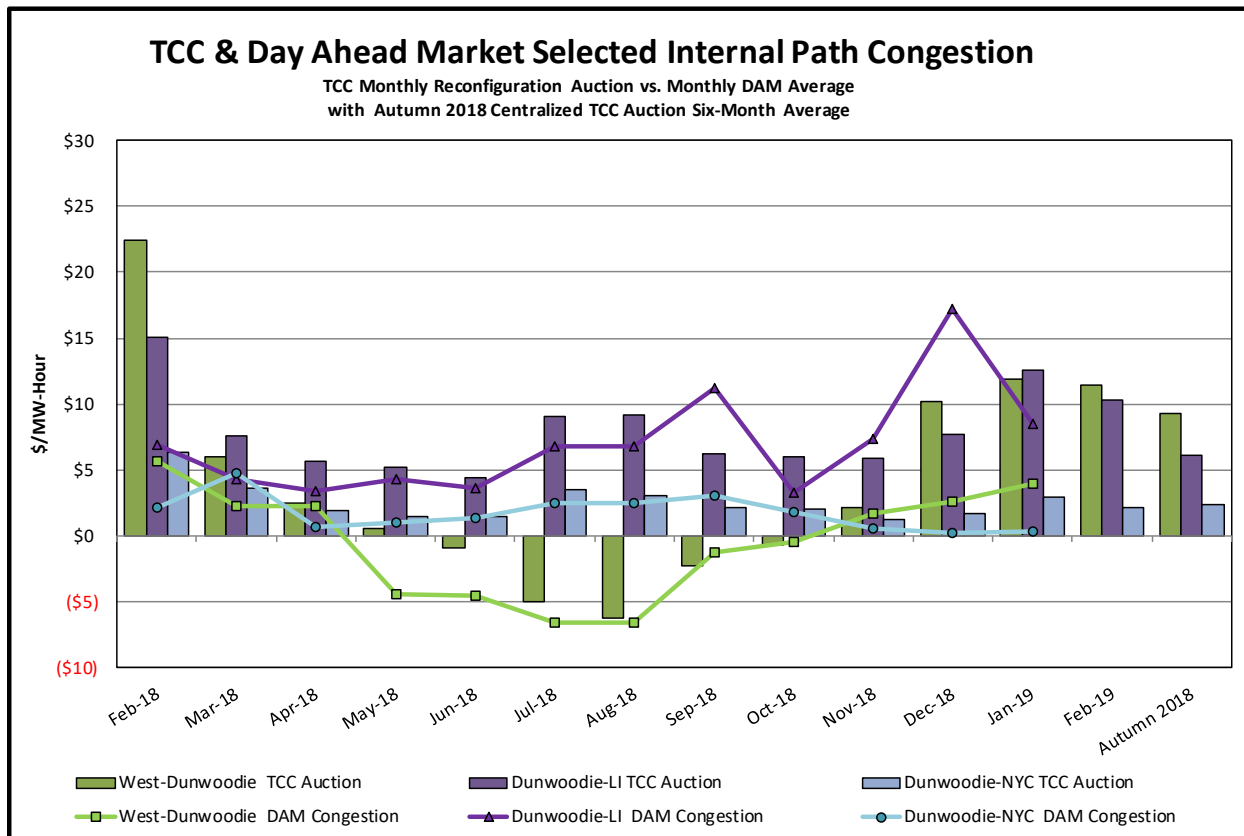
### Day-Ahead Market Congestion Residual Categories

<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.
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.	



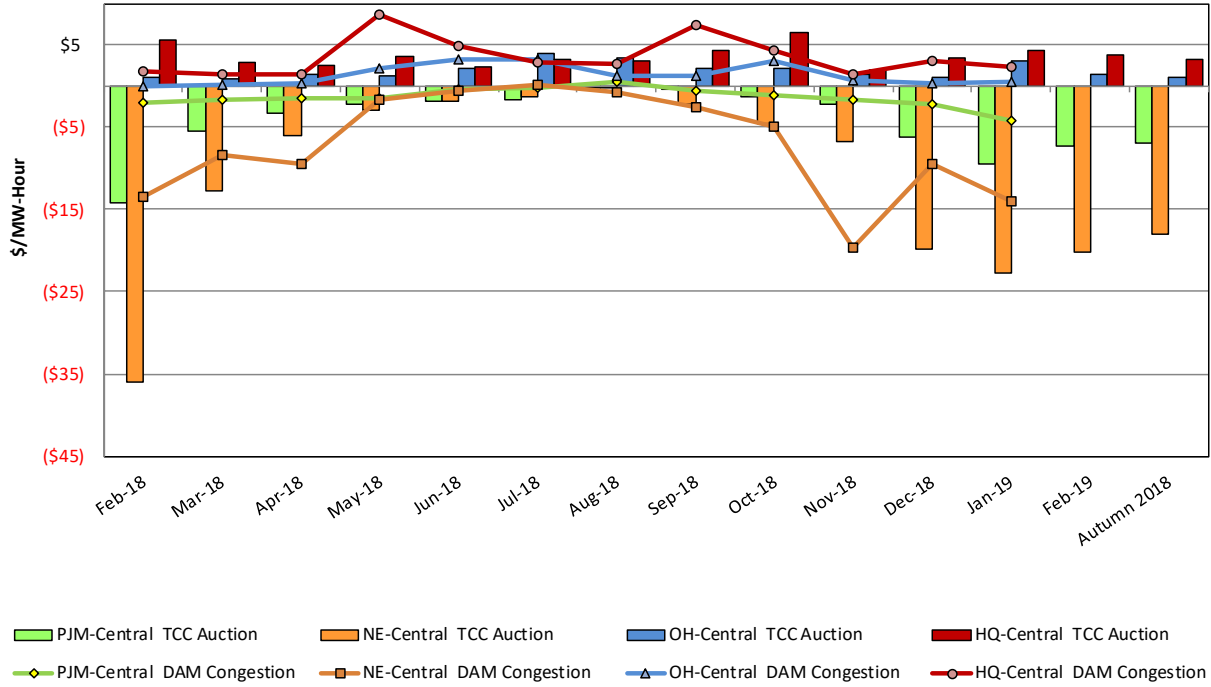




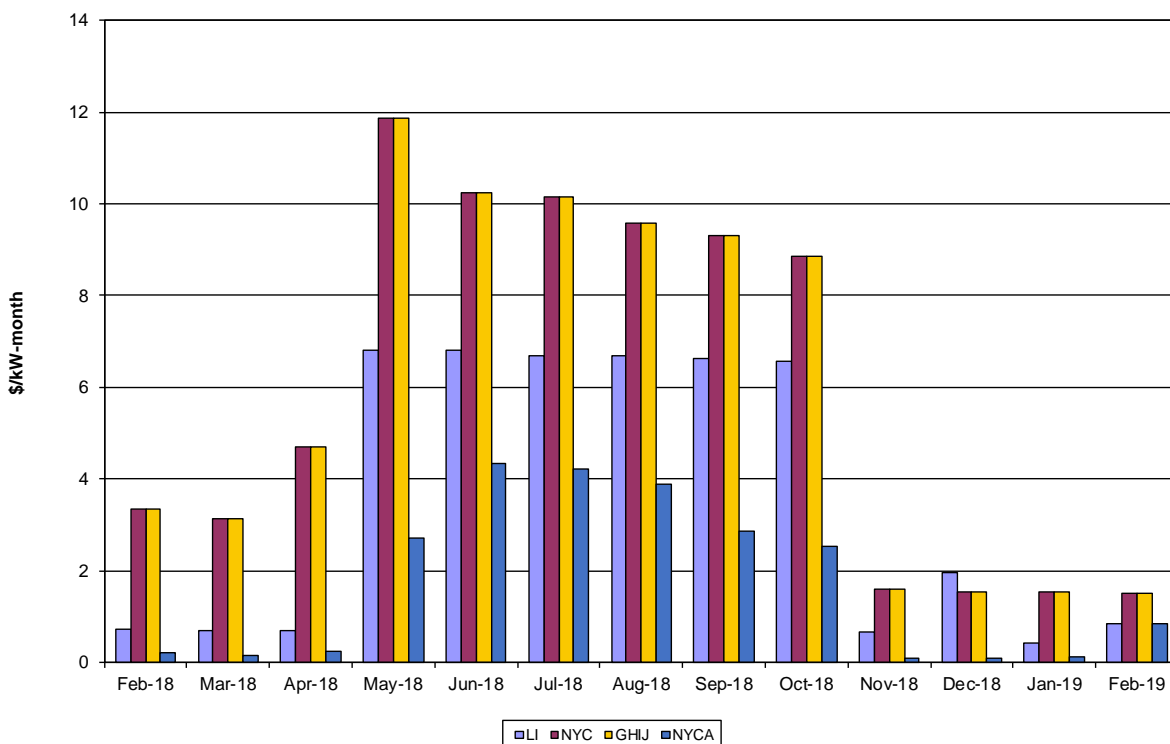


## TCC & Day Ahead Market Selected External Path Congestion

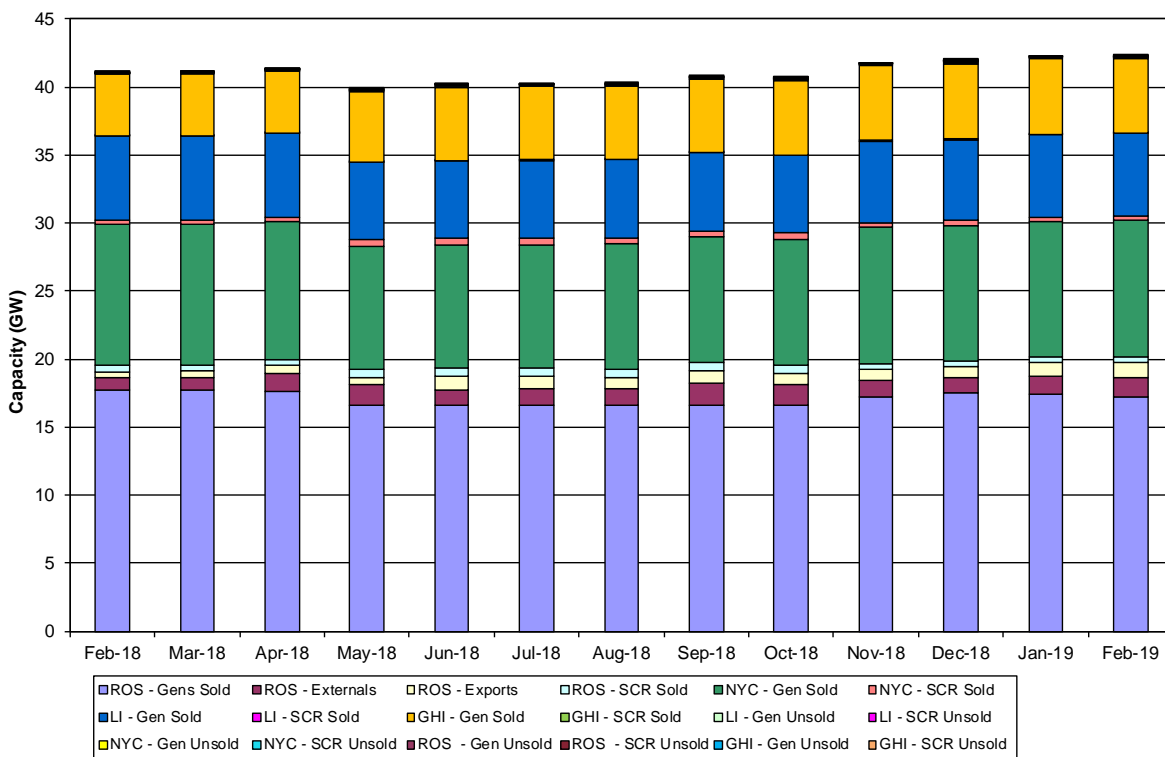
TCC Monthly Reconfiguration Auction vs. Monthly DAM Average  
with Autumn 2018 Centralized TCC Auction Six-Month Average



ICAP Spot Market Clearing Price



UCAP Sales

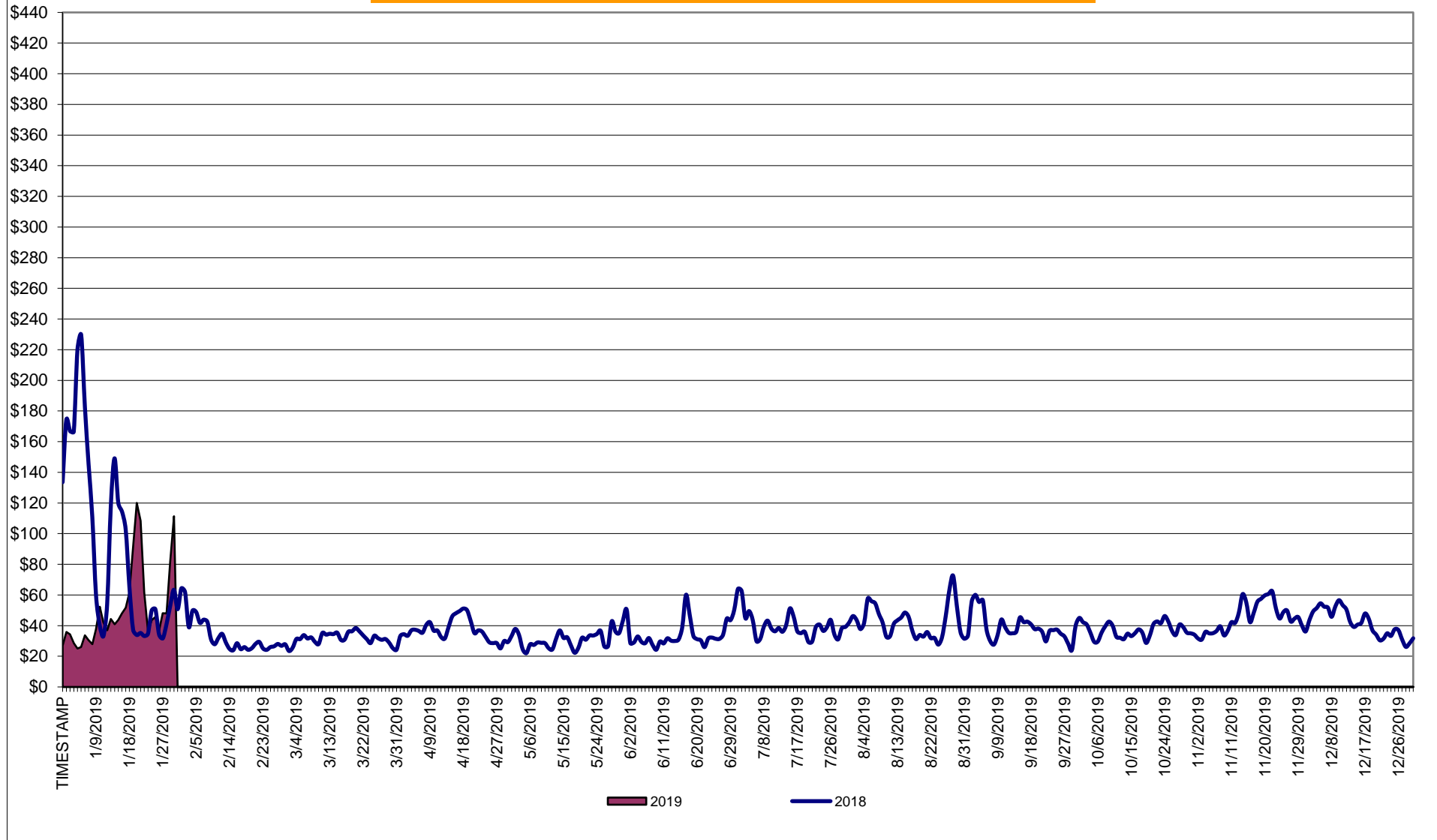


# Market Performance Highlights

## January 2019

- LBMP for January is \$50.93/MWh; higher than \$40.31/MWh in December 2018 and lower than \$99.55/MWh in January 2018.
  - Day Ahead and Real Time Load Weighted LBMPs are higher compared to December.
- January 2019 average year-to-date monthly cost of \$52.99/MWh is a 48% decrease from \$101.54/MWh in January 2018.
- Average daily sendout is 449 GWh/day in January; higher than 425 GWh/day in December 2018 and lower than 463 GWh/day in January 2018.
- Natural gas and distillate prices were higher compared to the previous month.
  - Natural Gas (Transco Z6 NY) was \$6.11/MMBtu, up from \$4.10/MMBtu in December.
  - Natural gas prices are down 65.9% year-over-year.
  - Jet Kerosene Gulf Coast was \$13.25/MMBtu, up from \$12.54/MMBtu in December.
  - Ultra Low Sulfur No.2 Diesel NY Harbor was \$13.20/MMBtu, up from \$12.84/MMBtu in December.
  - Distillate prices are down 9.7% year-over-year.
- Uplift per MWh is higher compared to the previous month.
  - Uplift (not including NYISO cost of operations) is (\$0.25)/MWh; higher than (\$0.29)/MWh in December.
    - Local Reliability Share is \$0.32/MWh, higher than \$0.23/MWh in December.
    - Statewide Share is (\$0.57)/MWh, lower than (\$0.52)/MWh in December.
  - TSA \$ per NYC MWh is \$0.00/MWh.
  - Total uplift costs (Schedule 1 components including NYISO Cost of Operations) are higher than December.

**Daily NYISO Average Cost/MWh (Energy & Ancillary Services)\***  
**2018 Annual Average \$44.92/MWh**  
**January 2018 YTD Average \$101.54/MWh**  
**January 2019 YTD Average \$52.99/MWh**



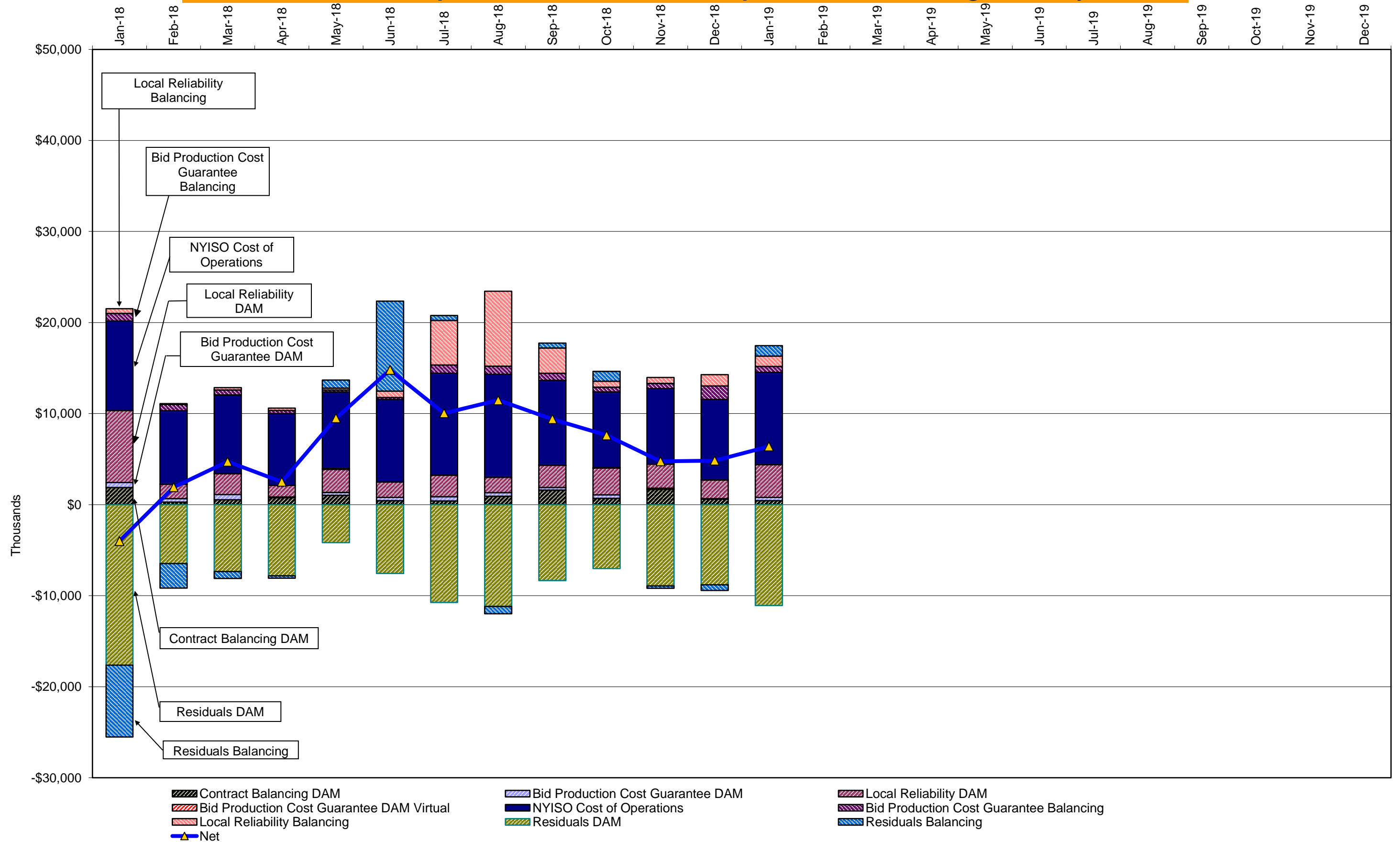
\* Excludes ICAP payments.

**NYISO Average Cost/MWh (Energy and Ancillary Services) \***  
**from the LBMP Customer point of view**

<b>2019</b>	<u>January</u>	<u>February</u>	<u>March</u>	<u>April</u>	<u>May</u>	<u>June</u>	<u>July</u>	<u>August</u>	<u>September</u>	<u>October</u>	<u>November</u>	<u>December</u>
LBMP	50.93											
NTAC	0.51											
Reserve	0.54											
Regulation	0.13											
NYISO Cost of Operations	0.68											
FERC Fee Recovery	0.08											
Uplift	(0.25)											
Uplift: Local Reliability Share	0.32											
Uplift: Statewide Share	(0.57)											
Voltage Support and Black Start	0.37											
<b>Avg Monthly Cost</b>	<b>52.99</b>											
 Avg YTD Cost	 52.99											
 TSA \$ per NYC MWh	 0.00											
 <b>2018</b>	 <u>January</u>	 <u>February</u>	 <u>March</u>	 <u>April</u>	 <u>May</u>	 <u>June</u>	 <u>July</u>	 <u>August</u>	 <u>September</u>	 <u>October</u>	 <u>November</u>	 <u>December</u>
LBMP	99.55	33.83	29.91	35.00	28.78	32.53	39.58	42.56	38.70	35.85	43.15	40.31
NTAC	0.71	0.58	0.88	1.09	0.88	1.00	0.93	0.72	0.40	0.36	1.18	0.93
Reserve	0.92	0.65	0.64	0.81	0.68	0.57	0.49	0.51	0.52	0.80	0.66	0.54
Regulation	0.15	0.15	0.16	0.12	0.14	0.16	0.09	0.09	0.09	0.16	0.17	0.17
NYISO Cost of Operations	0.65	0.65	0.66	0.65	0.66	0.67	0.67	0.66	0.66	0.63	0.63	0.63
FERC Fee Recovery	0.08	0.10	0.09	0.10	0.09	0.09	0.06	0.06	0.08	0.09	0.09	0.08
Uplift	(0.92)	(0.50)	(0.31)	(0.45)	0.05	0.30	(0.13)	(0.02)	(0.11)	(0.30)	(0.27)	(0.29)
Uplift: Local Reliability Share	0.59	0.14	0.19	0.12	0.22	0.18	0.44	0.59	0.37	0.27	0.25	0.23
Uplift: Statewide Share	(1.52)	(0.64)	(0.51)	(0.57)	(0.17)	0.12	(0.57)	(0.61)	(0.48)	(0.56)	(0.52)	(0.52)
Voltage Support and Black Start	0.40	0.41	0.42	0.41	0.42	0.42	0.42	0.42	0.42	0.40	0.40	0.40
<b>Avg Monthly Cost</b>	<b>101.54</b>	<b>35.87</b>	<b>32.45</b>	<b>37.74</b>	<b>31.70</b>	<b>35.73</b>	<b>42.12</b>	<b>45.01</b>	<b>40.76</b>	<b>38.00</b>	<b>46.01</b>	<b>42.78</b>
 Avg YTD Cost	 101.54	 72.85	 60.06	 54.82	 50.20	 47.70	 46.64	 46.37	 45.75	 45.03	 45.11	 44.92
 TSA \$ per NYC MWh	 0.00	 0.00	 0.04	 0.00	 0.08	 0.39	 0.21	 0.14	 0.33	 0.75	 0.00	 0.00

\* Excludes ICAP payments.  
Market Mitigation and Analysis  
Prepared: 2/8/2019 11:12 AM

# NYISO Dollar Flows - Uplift - OATT Schedule 1 components - Data through January 31, 2019



DAM Contract Balancing amounts are for payments made to generating units to make them whole for being dispatched below their Day-Ahead schedule, as a result of out-of-merit dispatches.

DAM Bid Production Cost Guarantees for Virtual Transactions are included in the chart and are shown from the inception of Virtual Transactions. These values are small and cannot be identified on the chart.

DAM residuals consist of both energy and loss revenue collections and payments. By design, there is a net over collection of revenues due to the difference between the marginal losses paid to generation and the average losses charged to loads.

## NYISO Markets Transactions

<u>2019</u>	<u>January</u>	<u>February</u>	<u>March</u>	<u>April</u>	<u>May</u>	<u>June</u>	<u>July</u>	<u>August</u>	<u>September</u>	<u>October</u>	<u>November</u>	<u>December</u>
<b><u>Day Ahead Market MWh</u></b>	15,299,458											
DAM LSE Internal LBMP Energy Sales	57%											
DAM External TC LBMP Energy Sales	6%											
DAM Bilateral - Internal Bilaterals	29%											
DAM Bilateral - Import/Non-LBMP Market Bilaterals	5%											
DAM Bilateral - Export/Non-LBMP Market Bilaterals	1%											
DAM Bilateral - Wheel Through Bilaterals	2%											
<b><u>Balancing Energy Market MWh</u></b>	-322,442											
Balancing Energy LSE Internal LBMP Energy Sales	-120%											
Balancing Energy External TC LBMP Energy Sales	65%											
Balancing Energy Bilateral - Internal Bilaterals	-4%											
Balancing Energy Bilateral - Import/Non-LBMP Market Bilaterals	0%											
Balancing Energy Bilateral - Export/Non-LBMP Market Bilaterals	3%											
Balancing Energy Bilateral - Wheel Through Bilaterals	-45%											
<b><u>Transactions Summary</u></b>												
LBMP	63%											
Internal Bilaterals	29%											
Import Bilaterals	5%											
Export Bilaterals	1%											
Wheels Through	1%											
<b><u>Market Share of Total Load</u></b>												
Day Ahead Market	102.2%											
Balancing Energy +	-2.2%											
Total MWH	14,977,016											
Average Daily Energy Sendout/Month GWh	449											

<u>2018</u>	<u>January</u>	<u>February</u>	<u>March</u>	<u>April</u>	<u>May</u>	<u>June</u>	<u>July</u>	<u>August</u>	<u>September</u>	<u>October</u>	<u>November</u>	<u>December</u>
<b><u>Day Ahead Market MWh</u></b>	15,153,751	12,643,854	13,521,386	12,158,686	12,721,073	13,983,384	16,839,994	17,195,447	14,432,632	13,548,828	13,506,134	14,450,460
DAM LSE Internal LBMP Energy Sales	59%	57%	58%	60%	61%	61%	65%	65%	61%	57%	58%	56%
DAM External TC LBMP Energy Sales	4%	3%	2%	2%	2%	1%	1%	2%	3%	6%	6%	6%
DAM Bilateral - Internal Bilaterals	29%	31%	32%	30%	29%	30%	26%	25%	28%	29%	30%	30%
DAM Bilateral - Import/Non-LBMP Market Bilaterals	5%	5%	5%	5%	5%	5%	4%	4%	5%	5%	2%	5%
DAM Bilateral - Export/Non-LBMP Market Bilaterals	2%	2%	2%	2%	2%	1%	1%	1%	1%	2%	2%	2%
DAM Bilateral - Wheel Through Bilaterals	1%	2%	2%	2%	2%	2%	2%	2%	2%	1%	1%	2%
<b><u>Balancing Energy Market MWh</u></b>	-149,619	-299,377	-386,811	-72,862	-29,539	-354,112	-80,438	-44,732	-210,436	-314,885	-304,277	-428,748
Balancing Energy LSE Internal LBMP Energy Sales	-147%	-101%	-128%	-208%	-458%	-113%	-123%	-75%	-82%	-105%	-100%	-94%
Balancing Energy External TC LBMP Energy Sales	74%	24%	37%	189%	564%	29%	129%	209%	14%	30%	18%	27%
Balancing Energy Bilateral - Internal Bilaterals	9%	5%	0%	-11%	29%	5%	18%	23%	7%	2%	3%	3%
Balancing Energy Bilateral - Import/Non-LBMP Market Bilaterals	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	10%	0%
Balancing Energy Bilateral - Export/Non-LBMP Market Bilaterals	22%	9%	6%	34%	51%	3%	14%	25%	3%	0%	0%	0%
Balancing Energy Bilateral - Wheel Through Bilaterals	-58%	-36%	-15%	-103%	-287%	-23%	-138%	-281%	-42%	-27%	-31%	-36%
<b><u>Transactions Summary</u></b>												
LBMP	63%	59%	59%	62%	63%	61%	66%	68%	64%	63%	64%	61%
Internal Bilaterals	30%	32%	33%	30%	29%	31%	27%	25%	28%	30%	31%	31%
Import Bilaterals	5%	5%	6%	5%	5%	5%	4%	4%	5%	5%	3%	5%
Export Bilaterals	2%	2%	2%	2%	2%	1%	1%	1%	1%	2%	2%	2%
Wheels Through	1%	1%	1%	1%	1%	2%	1%	1%	2%	1%	1%	1%
<b><u>Market Share of Total Load</u></b>												
Day Ahead Market	101.0%	102.4%	102.9%	100.6%	100.2%	102.6%	100.5%	100.3%	101.5%	102.4%	102.3%	103.1%
Balancing Energy +	-1.0%	-2.4%	-2.9%	-0.6%	-0.2%	-2.6%	-0.5%	-0.3%	-1.5%	-2.4%	-2.3%	-3.1%
Total MWH	15,004,132	12,344,477	13,134,575	12,085,824	12,691,534	13,629,272	16,759,556	17,150,715	14,222,196	13,233,943	13,201,857	14,021,712
Average Daily Energy Sendout/Month GWh	463	426	413	390	397	445	529	537	458	399	411	425

+ Balancing Energy: Load(MW) purchased at Real Time LBMP.

\* The signs for the detail section intuitively reflect the direction of power flow eliminating the use of double negatives when Balancing Energy is negative.

Notes: Percent totals may not equal 100% due to rounding.

Virtual Transactions are not reflected in this chart.

### NYISO Markets 2019 Energy Statistics

	<u>January</u>	<u>February</u>	<u>March</u>	<u>April</u>	<u>May</u>	<u>June</u>	<u>July</u>	<u>August</u>	<u>September</u>	<u>October</u>	<u>November</u>	<u>December</u>
<b><u>DAY AHEAD LBMP</u></b>												
Price *	\$45.01											
Standard Deviation	\$25.67											
Load Weighted Price **	\$46.88											
<b><u>RTC LBMP</u></b>												
Price *	\$40.86											
Standard Deviation	\$23.02											
Load Weighted Price **	\$42.39											
<b><u>REAL TIME LBMP</u></b>												
Price *	\$39.54											
Standard Deviation	\$26.03											
Load Weighted Price **	\$41.24											
Average Daily Energy Sendout/Month GWh	449											

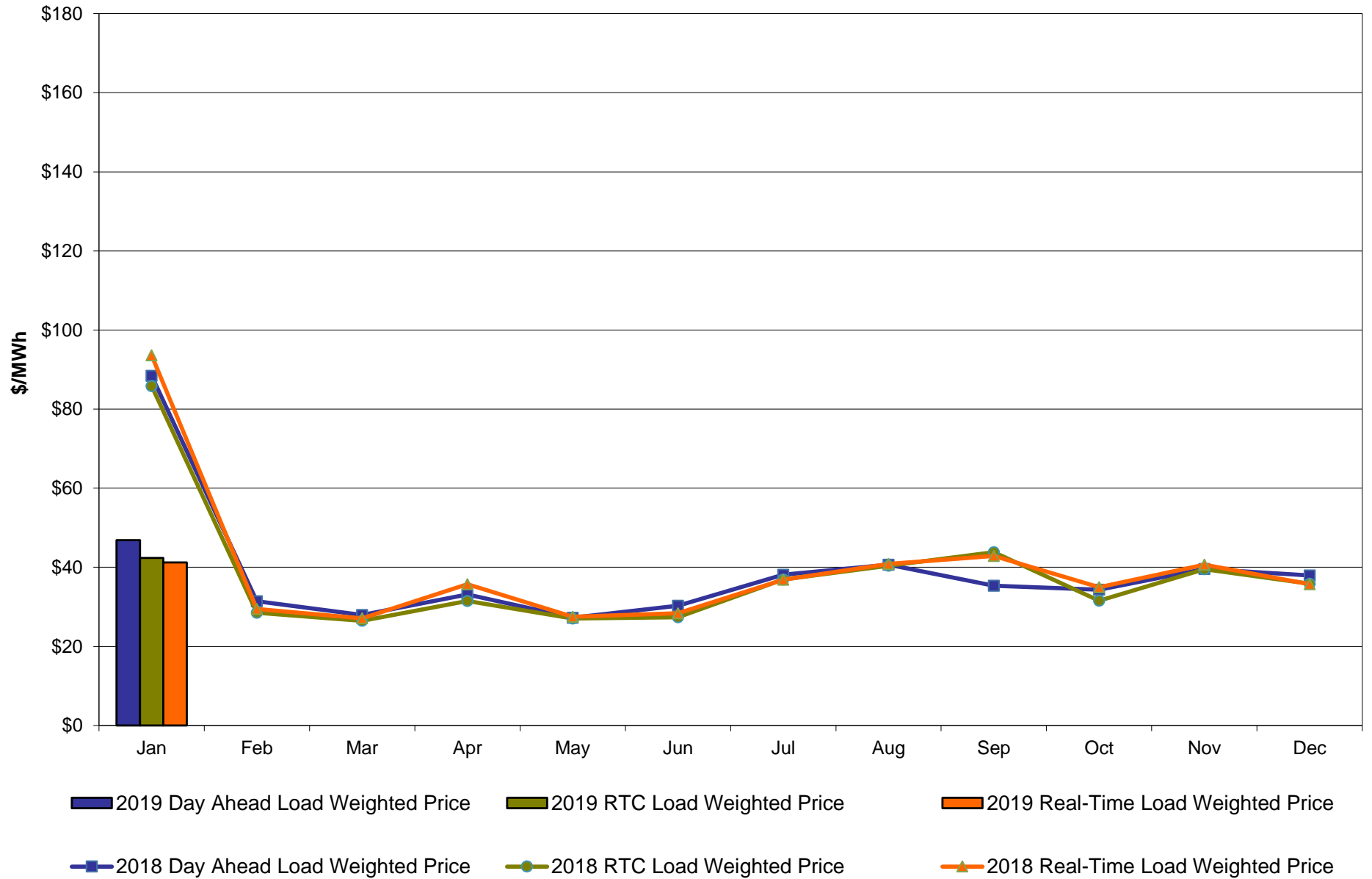
### NYISO Markets 2018 Energy Statistics

	<u>January</u>	<u>February</u>	<u>March</u>	<u>April</u>	<u>May</u>	<u>June</u>	<u>July</u>	<u>August</u>	<u>September</u>	<u>October</u>	<u>November</u>	<u>December</u>
<b><u>DAY AHEAD LBMP</u></b>												
Price *	\$83.53	\$30.37	\$27.37	\$32.40	\$25.97	\$28.41	\$35.73	\$38.00	\$33.28	\$33.27	\$38.36	\$36.88
Standard Deviation	\$58.94	\$12.38	\$6.34	\$9.06	\$9.22	\$11.42	\$15.25	\$16.51	\$12.01	\$9.24	\$11.36	\$11.61
Load Weighted Price **	\$88.42	\$31.44	\$27.95	\$33.14	\$27.26	\$30.27	\$38.14	\$40.64	\$35.33	\$34.33	\$39.55	\$37.96
<b><u>RTC LBMP</u></b>												
Price *	\$81.65	\$27.73	\$25.99	\$30.80	\$25.40	\$26.06	\$34.65	\$38.13	\$39.52	\$30.92	\$38.37	\$35.01
Standard Deviation	\$60.83	\$11.96	\$8.99	\$14.30	\$20.37	\$12.78	\$17.44	\$20.05	\$61.50	\$13.43	\$17.24	\$12.27
Load Weighted Price **	\$85.85	\$28.54	\$26.46	\$31.47	\$27.08	\$27.35	\$36.93	\$40.40	\$43.83	\$31.55	\$39.53	\$35.84
<b><u>REAL TIME LBMP</u></b>												
Price *	\$87.94	\$28.50	\$26.49	\$34.53	\$25.57	\$26.31	\$34.34	\$38.07	\$38.15	\$33.88	\$39.18	\$34.74
Standard Deviation	\$87.41	\$17.36	\$12.25	\$26.57	\$23.49	\$24.34	\$18.44	\$27.21	\$46.81	\$37.42	\$26.15	\$17.44
Load Weighted Price **	\$93.59	\$29.49	\$27.09	\$35.72	\$27.47	\$28.38	\$36.84	\$40.87	\$42.87	\$34.94	\$40.63	\$35.70
Average Daily Energy Sendout/Month GWh	463	426	413	390	397	445	529	537	458	399	411	425

\* Average zonal load weighted prices.

\*\* Average zonal load weighted prices, load weighted in each hour.

# **NYISO Monthly Average Internal LBMPs 2018- 2019**

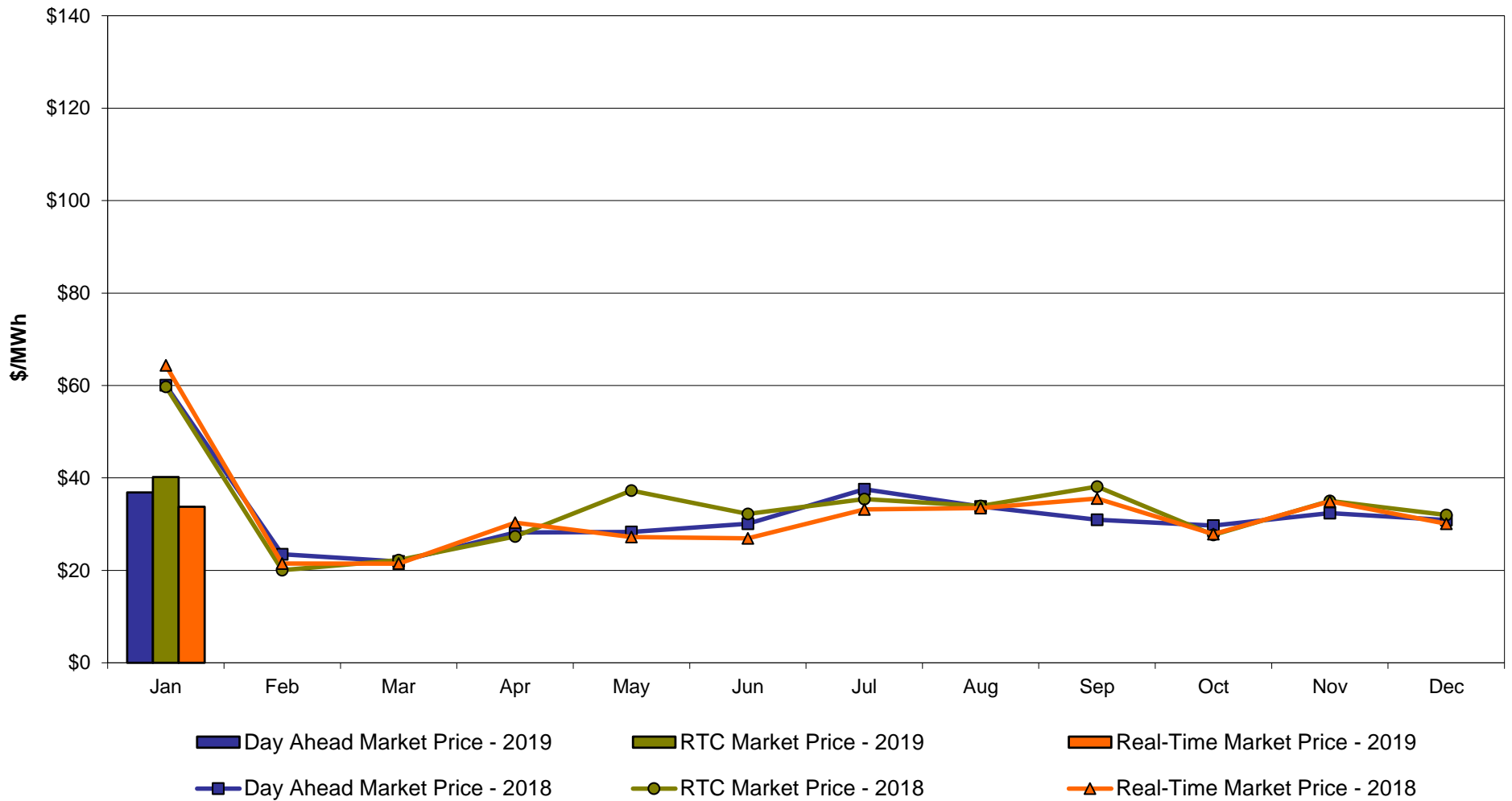


**January 2019 Zonal LBMP Statistics for NYISO (\$/MWh)**

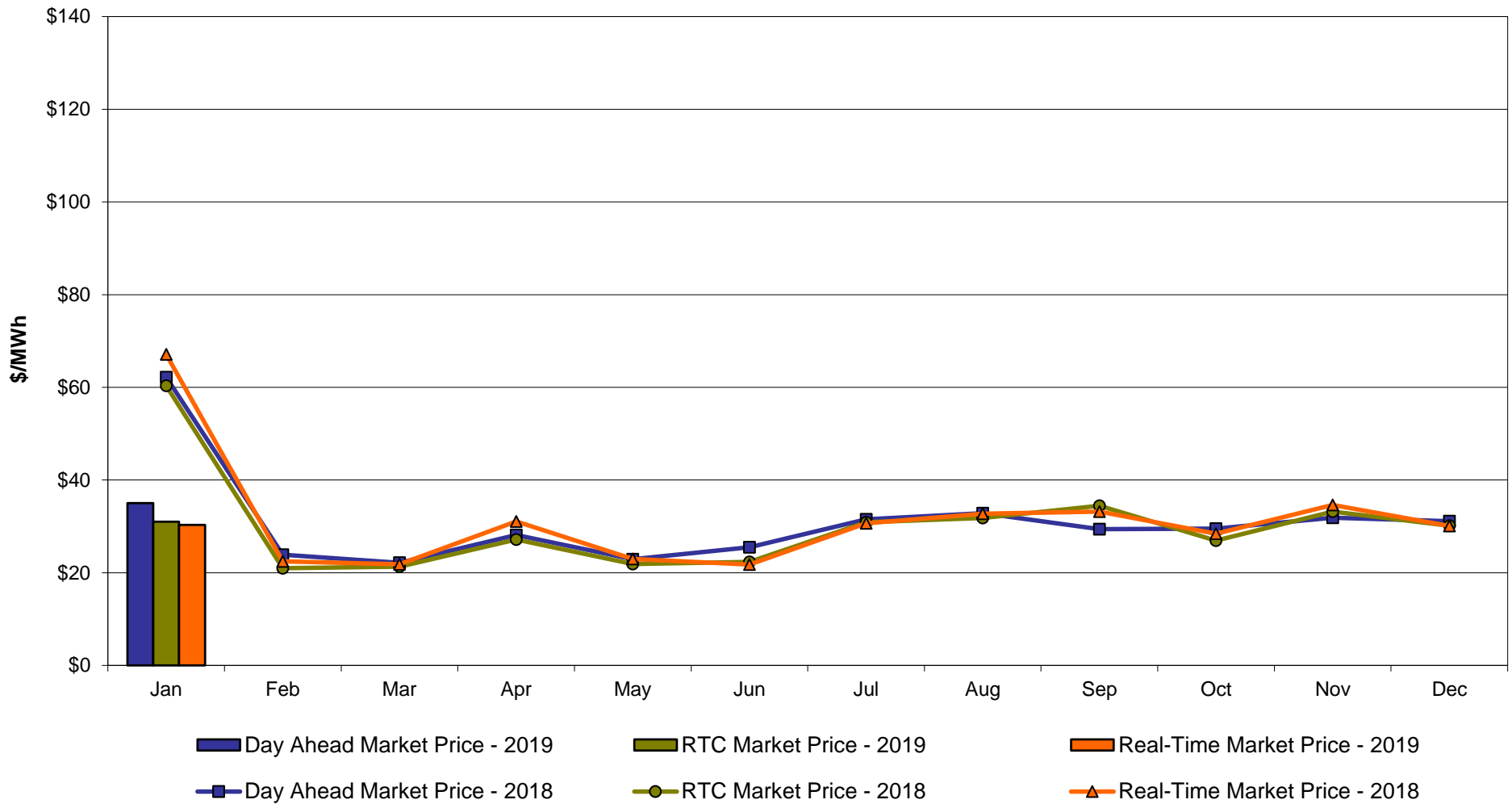
	<b><u>WEST</u></b> <b><u>Zone A</u></b>	<b><u>GENESEE</u></b> <b><u>Zone B</u></b>	<b><u>NORTH</u></b> <b><u>Zone D</u></b>	<b><u>CENTRAL</u></b> <b><u>Zone C</u></b>	<b><u>MOHAWK</u></b> <b><u>VALLEY</u></b> <b><u>Zone E</u></b>	<b><u>CAPITAL</u></b> <b><u>Zone F</u></b>	<b><u>HUDSON</u></b> <b><u>VALLEY</u></b> <b><u>Zone G</u></b>	<b><u>MILLWOOD</u></b> <b><u>Zone H</u></b>	<b><u>DUNWOODIE</u></b> <b><u>Zone I</u></b>	<b><u>NEW YORK</u></b> <b><u>CITY</u></b> <b><u>Zone J</u></b>	<b><u>LONG</u></b> <b><u>ISLAND</u></b> <b><u>Zone K</u></b>
<b><u>DAY AHEAD LBMP</u></b>											
Unweighted Price *	36.84	33.08	31.06	35.02	35.99	51.03	47.38	47.79	47.76	49.20	56.48
Standard Deviation	21.65	19.36	20.46	20.49	21.55	29.17	26.99	27.23	27.19	29.44	31.54
<b><u>RTC LBMP</u></b>											
Unweighted Price *	40.22	28.83	28.44	31.02	32.21	45.02	42.72	43.08	42.96	44.02	50.32
Standard Deviation	39.68	17.66	19.80	18.92	19.89	27.93	25.33	25.84	25.67	25.72	34.17
<b><u>REAL TIME LBMP</u></b>											
Unweighted Price *	33.74	28.35	27.94	30.34	31.59	44.37	42.01	42.37	42.26	43.78	48.25
Standard Deviation	29.03	21.71	23.76	22.68	23.94	31.19	28.71	29.20	29.03	31.00	32.55
	<b><u>ONTARIO</u></b> <b><u>IESO</u></b>	<b><u>HYDRO</u></b> <b><u>QUEBEC</u></b> <b><u>(Wheel)</u></b>	<b><u>HYDRO</u></b> <b><u>QUEBEC</u></b> <b><u>(Import/Export)</u></b>	<b><u>PJM</u></b>	<b><u>NEW</u></b> <b><u>ENGLAND</u></b>	<b><u>CROSS</u></b> <b><u>SOUND</u></b> <b><u>CABLE</u></b> <b><u>Controllable</u></b> <b><u>Line</u></b>	<b><u>NORTHPORT-</u></b> <b><u>NORWALK</u></b> <b><u>Controllable</u></b> <b><u>Line</u></b>	<b><u>NEPTUNE</u></b> <b><u>Controllable</u></b> <b><u>Line</u></b>	<b><u>LINDEN VFT</u></b> <b><u>Controllable</u></b> <b><u>Line</u></b>	<b><u>HUDSON</u></b> <b><u>Controllable</u></b> <b><u>Line</u></b>	<b><u>Dennison</u></b> <b><u>Controllable</u></b> <b><u>Line</u></b>
	<b><u>Zone O</u></b>	<b><u>Zone M</u></b>	<b><u>Zone M</u></b>	<b><u>Zone P</u></b>	<b><u>Zone N</u></b>						
<b><u>DAY AHEAD LBMP</u></b>											
Unweighted Price *	32.55	31.48	31.47	39.91	51.59	55.11	54.71	52.25	48.26	48.78	30.48
Standard Deviation	18.82	20.25	20.25	21.83	28.15	31.32	30.17	30.31	28.79	28.88	20.20
<b><u>RTC LBMP</u></b>											
Unweighted Price *	26.89	22.73	22.73	35.67	50.95	50.65	49.16	47.60	42.78	44.02	27.92
Standard Deviation	16.21	21.58	21.58	21.60	29.95	37.10	32.13	31.62	26.22	25.71	19.55
<b><u>REAL TIME LBMP</u></b>											
Unweighted Price *	25.92	23.91	23.89	33.84	46.90	48.62	47.76	45.77	36.30	44.12	23.88
Standard Deviation	38.24	23.41	23.42	24.20	30.41	34.13	31.49	30.22	69.93	31.74	22.51

\* Straight LBMP averages

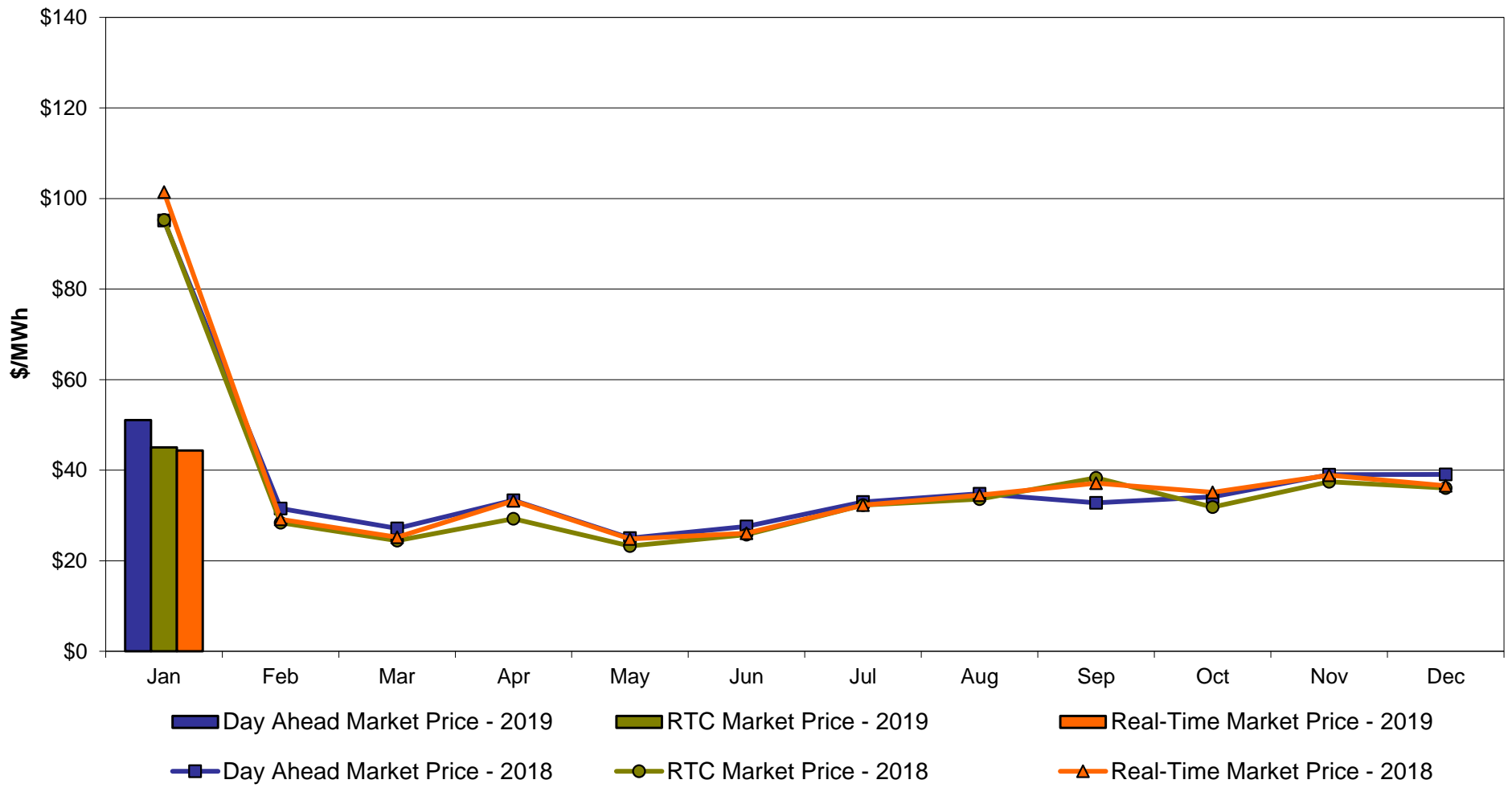
**West Zone A**  
**Monthly Average LBMP Prices 2018 - 2019**



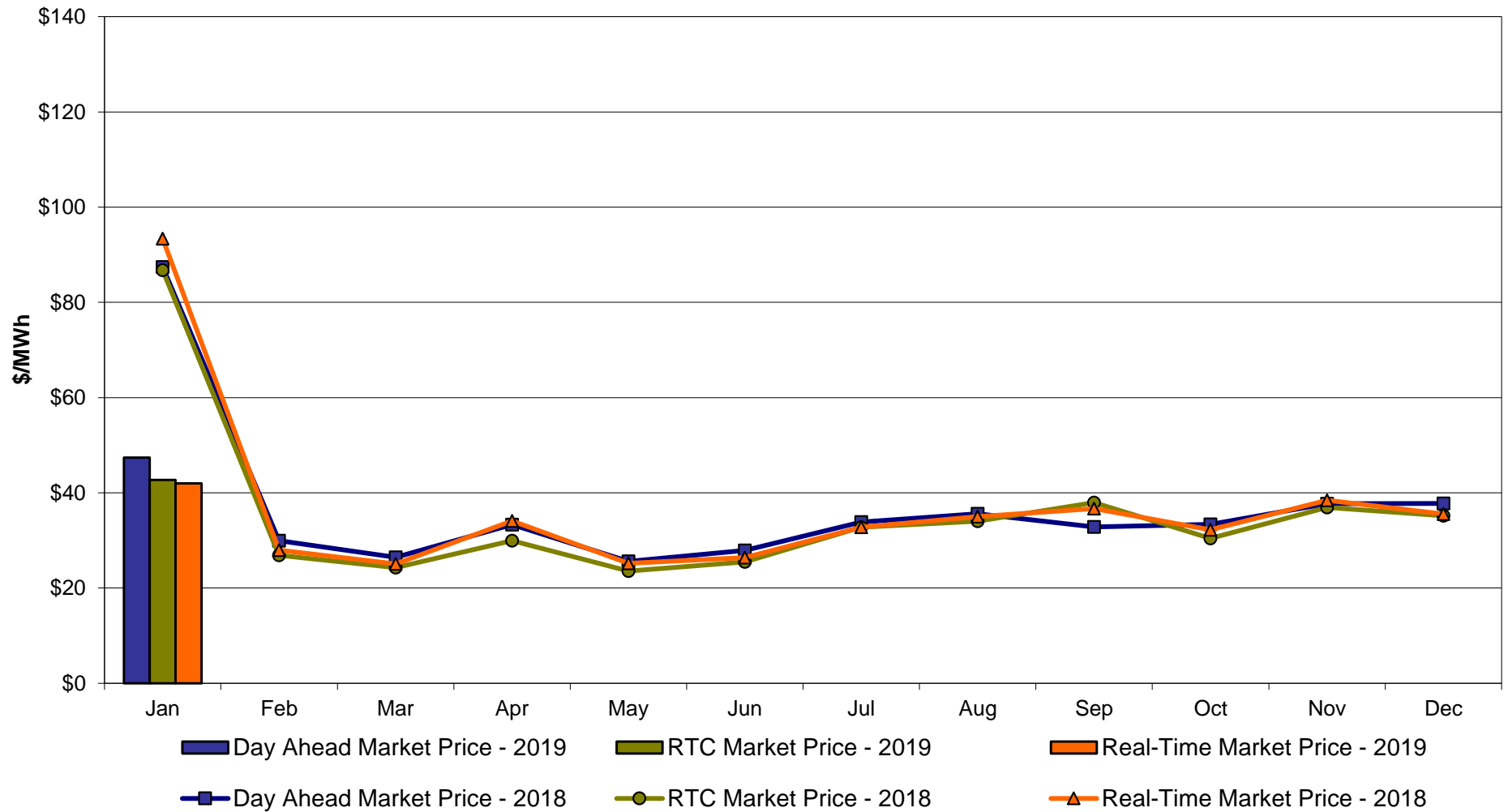
# Central Zone C Monthly Average LBMP Prices 2018 - 2019



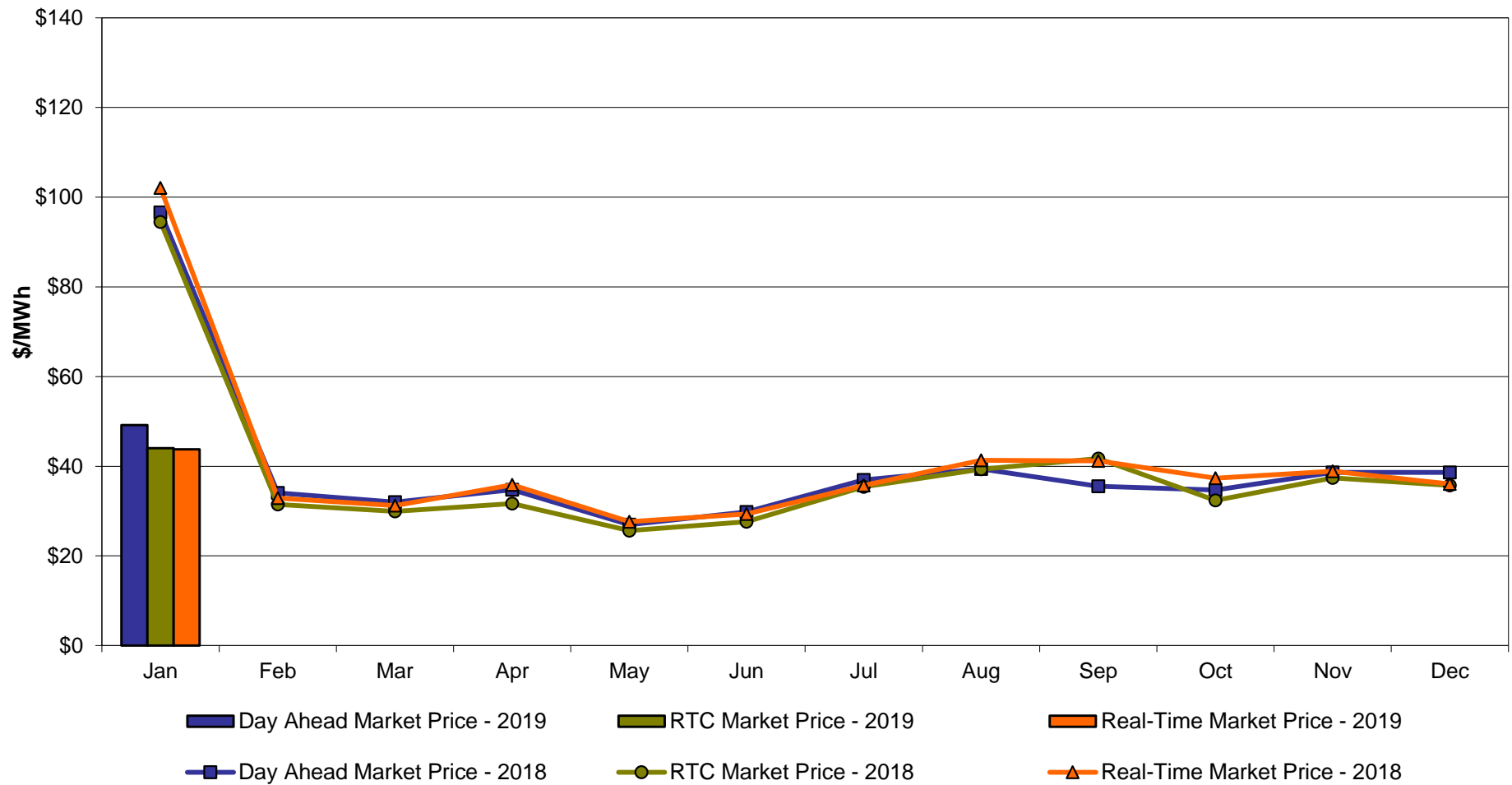
# **Capital Zone F** **Monthly Average LBMP Prices 2018 - 2019**



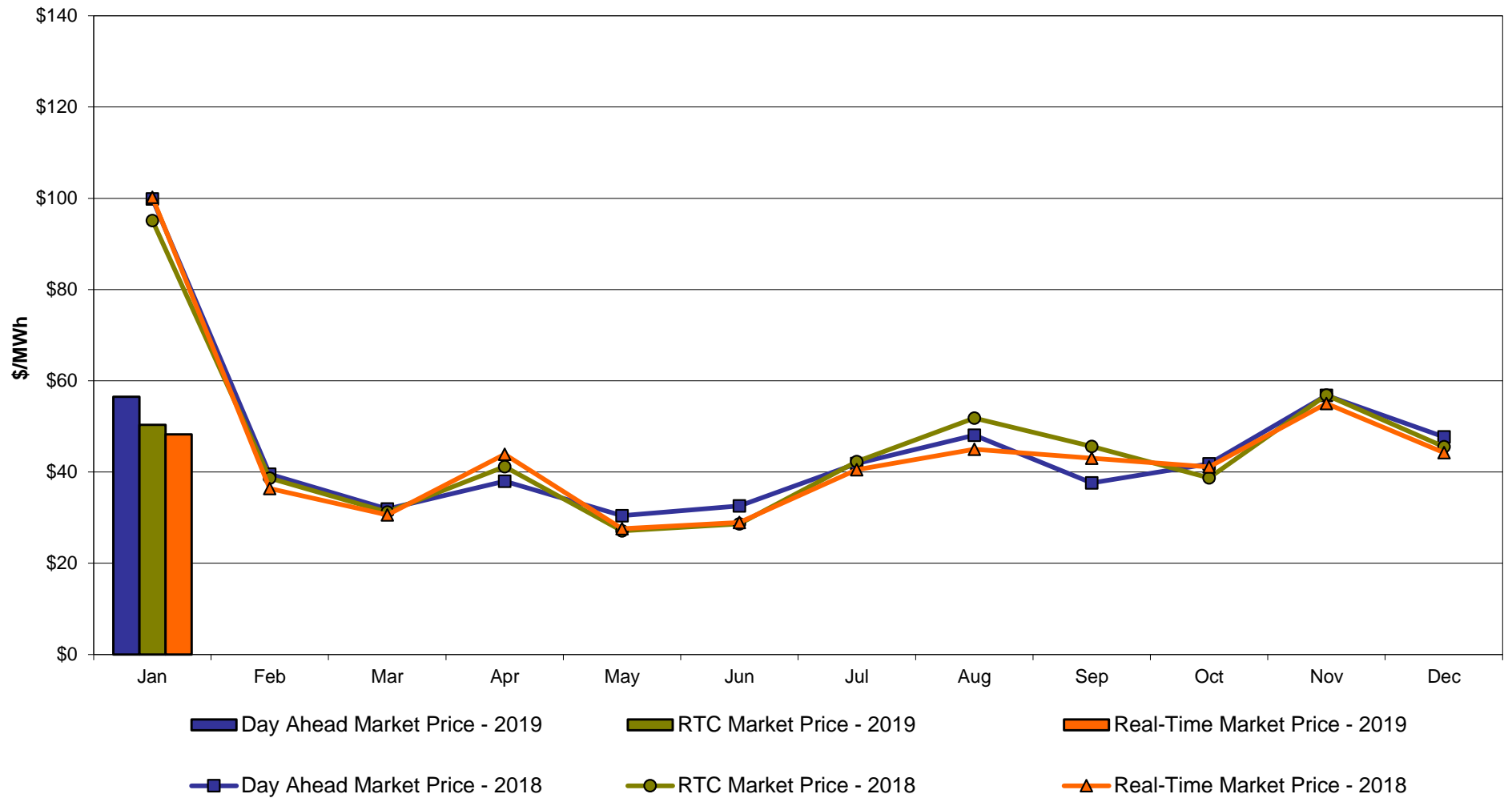
# **Hudson Valley Zone G** **Monthly Average LBMP Prices 2018 - 2019**



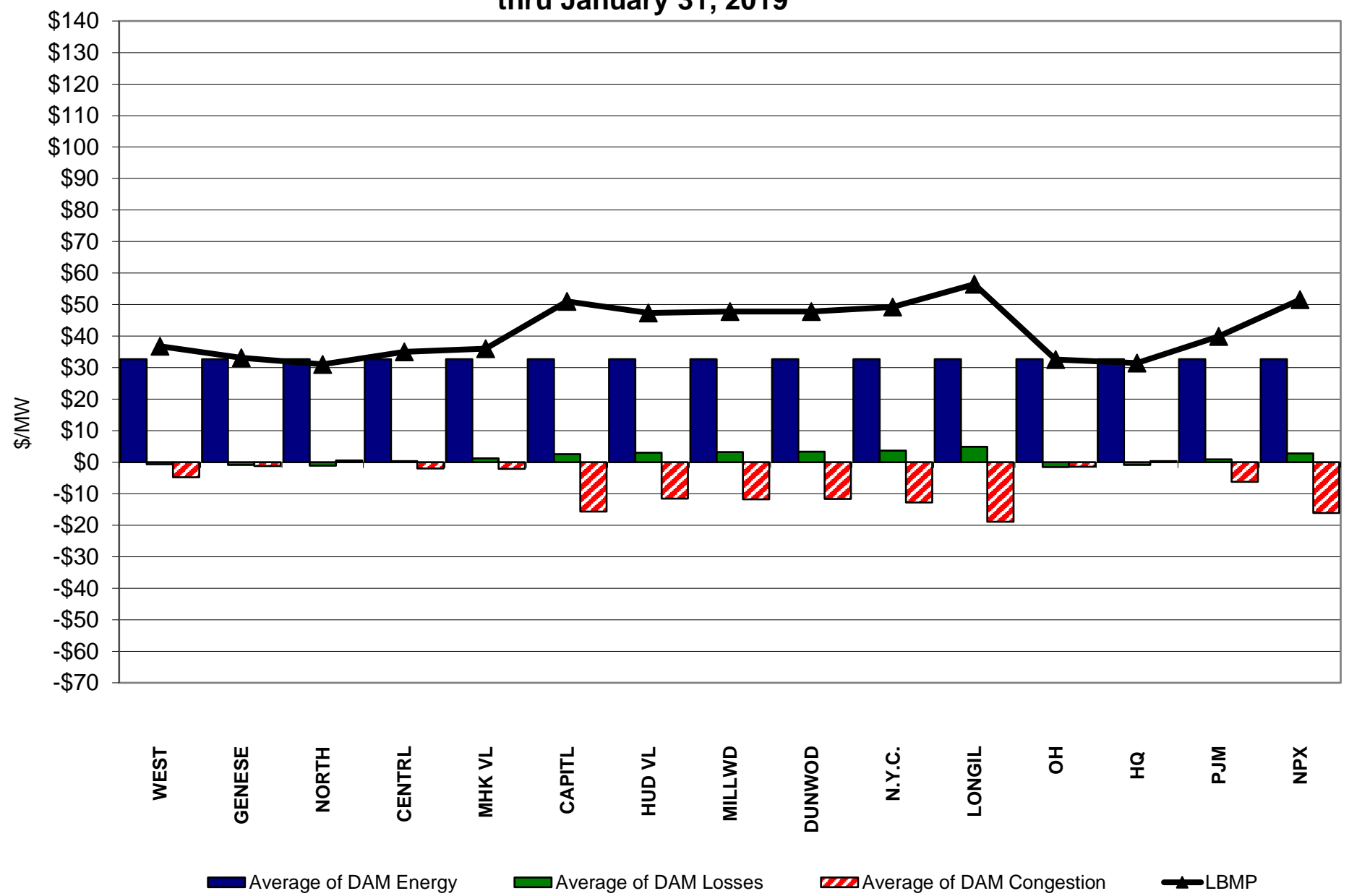
# **NYC Zone J** **Monthly Average LBMP Prices 2018 - 2019**



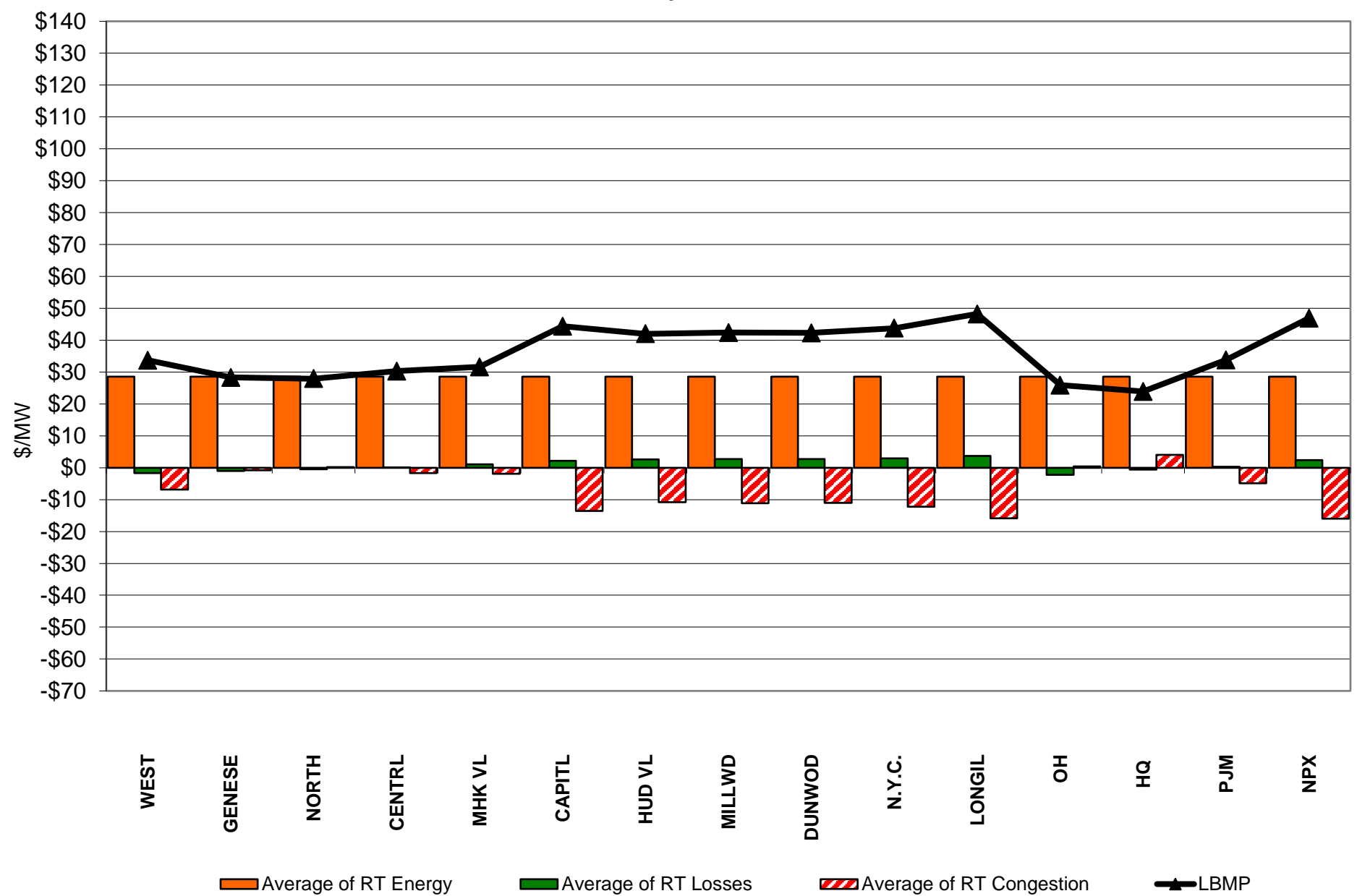
# Long Island Zone K Monthly Average LBMP Prices 2018 - 2019



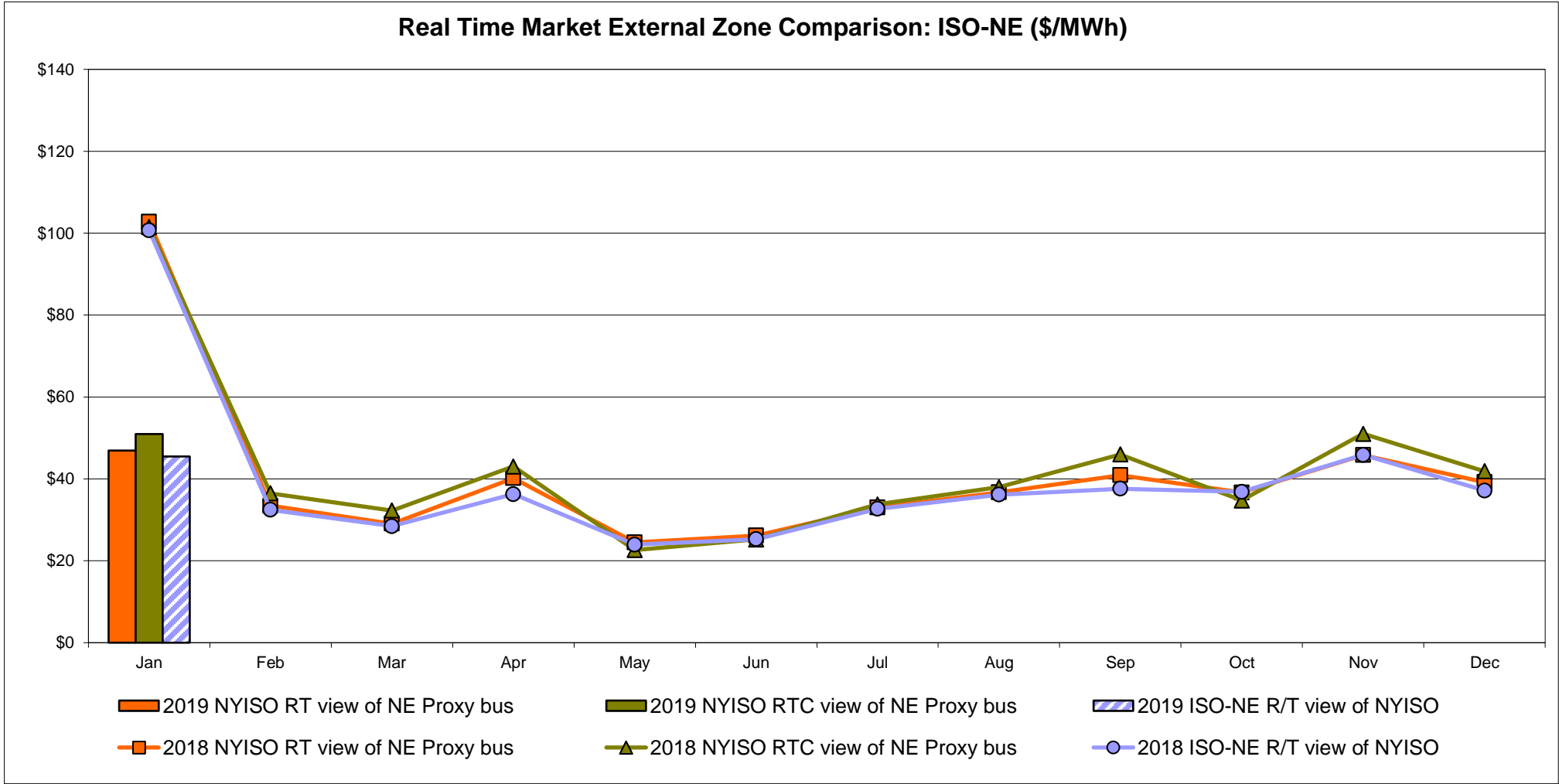
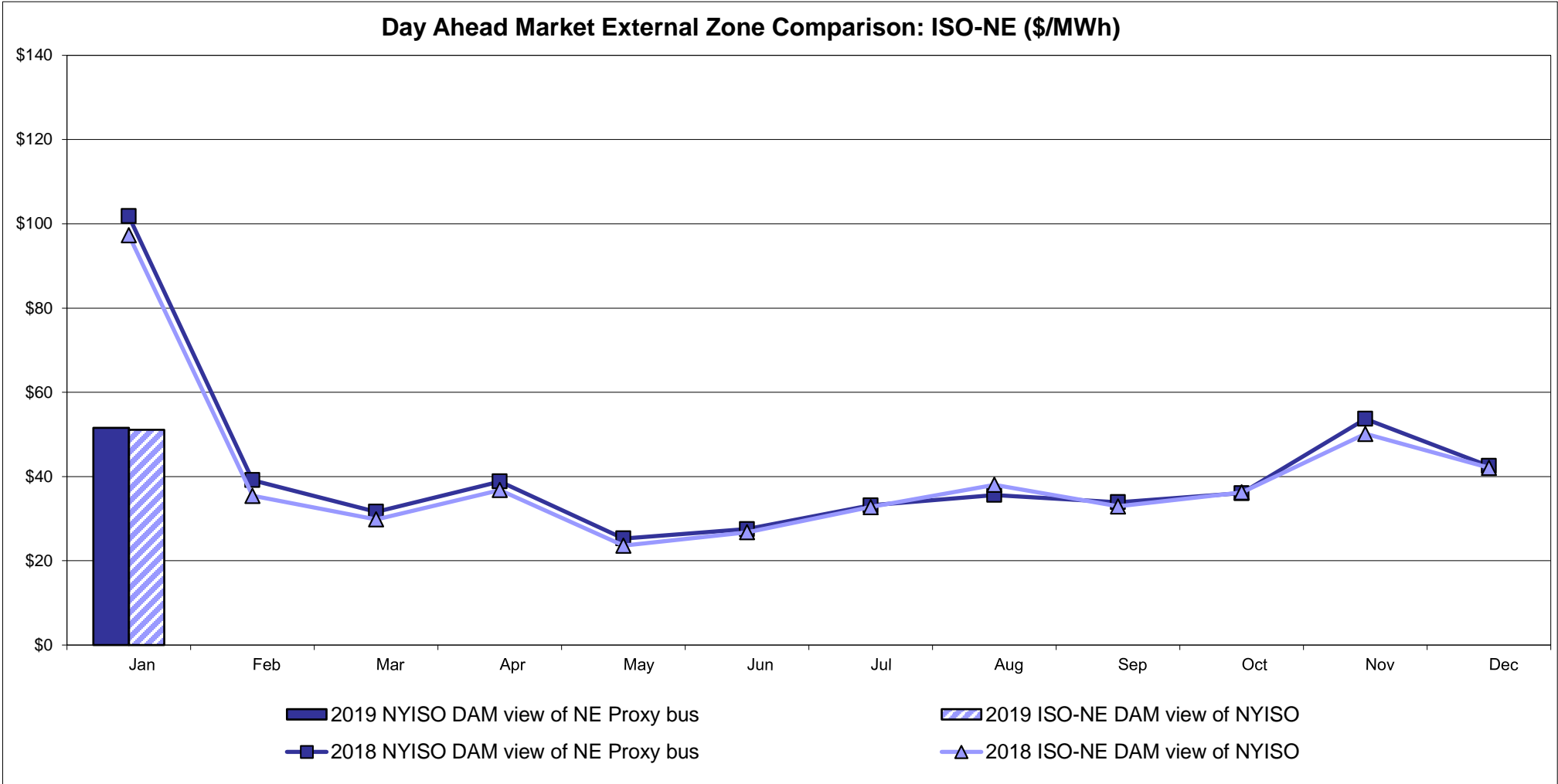
**DAM Zonal Unweighted Monthly Average LBMP Components  
thru January 31, 2019**



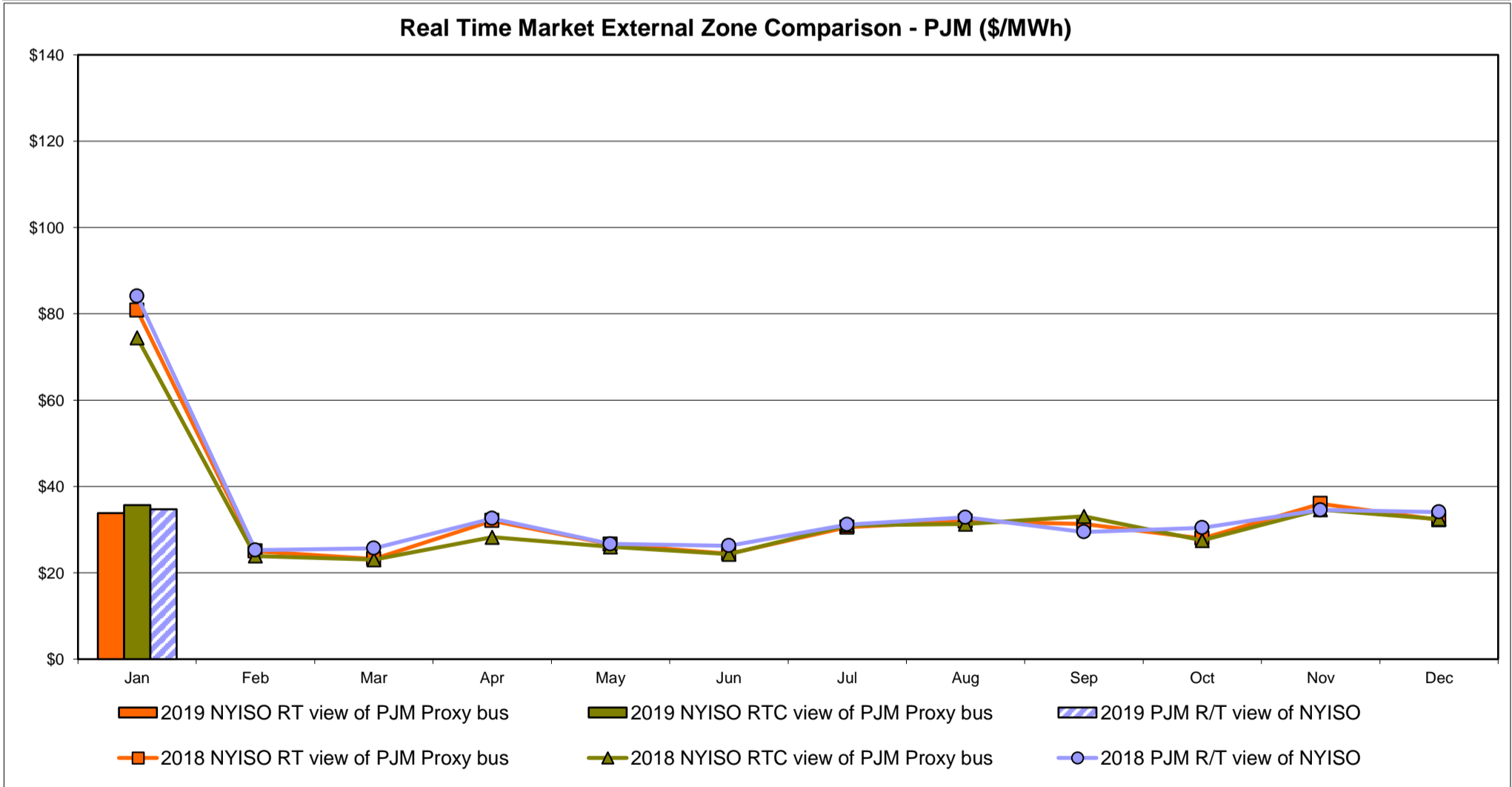
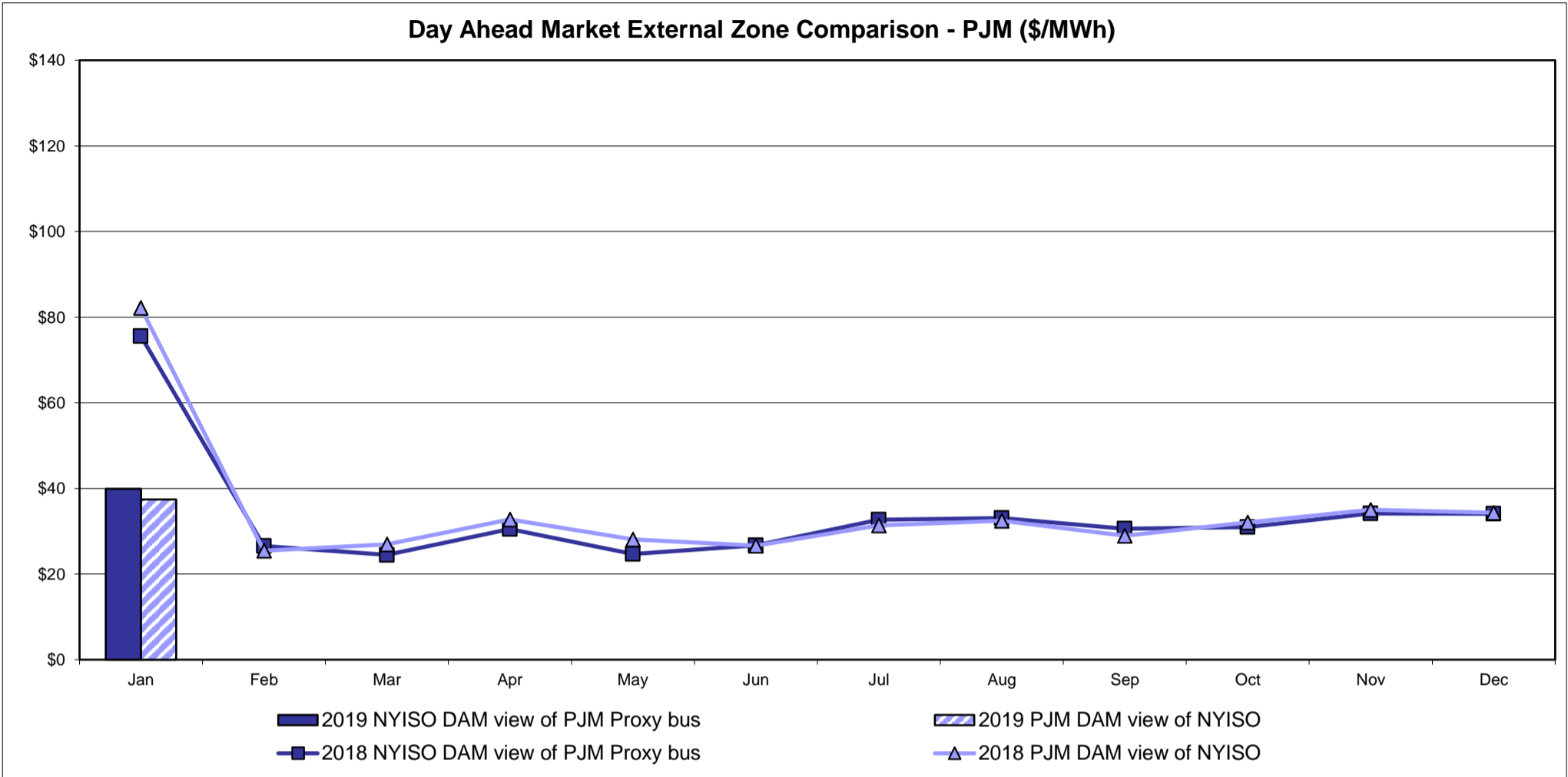
**RT Zonal Unweighted Monthly Average LBMP Components  
thru January 31, 2019**



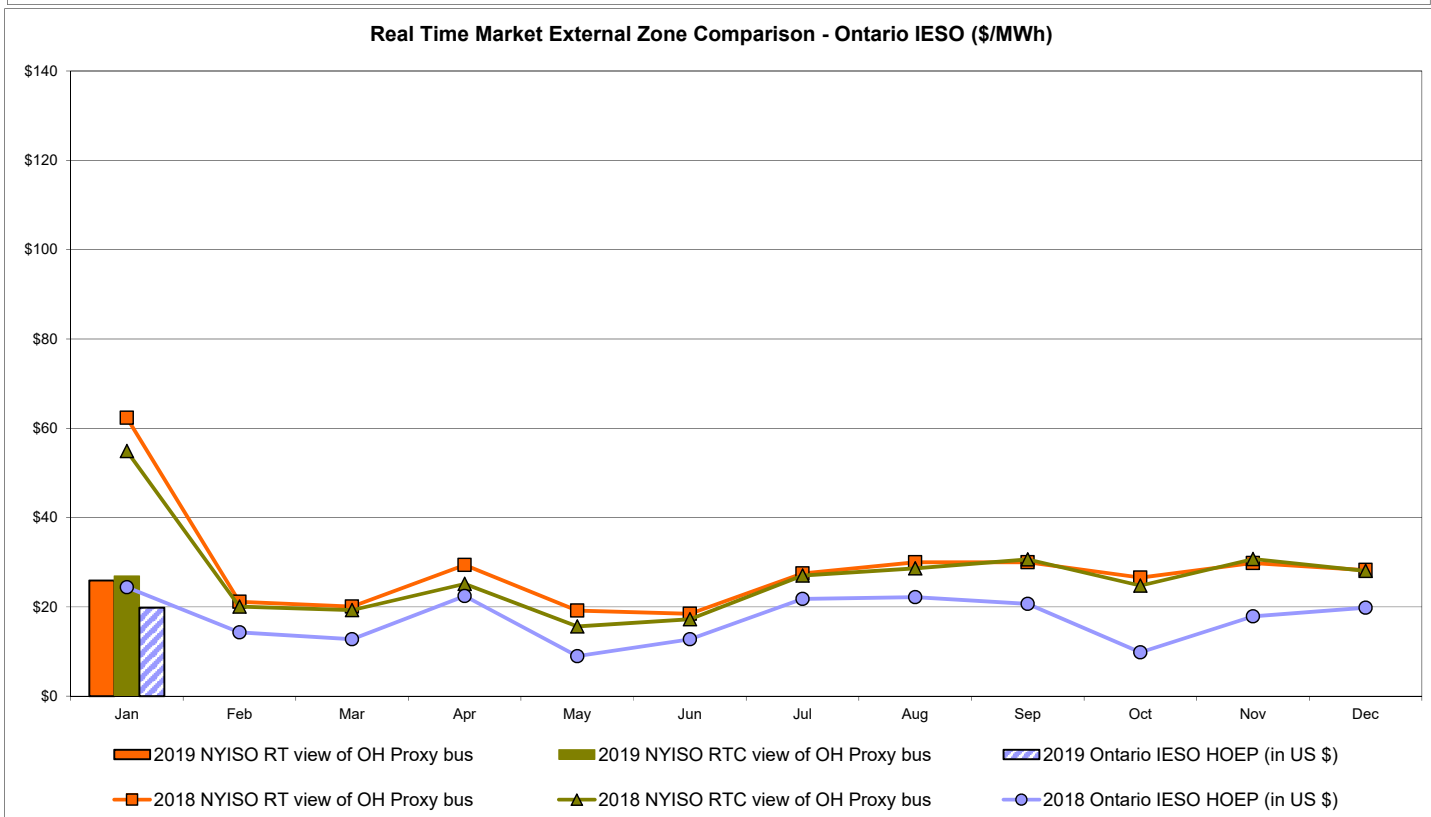
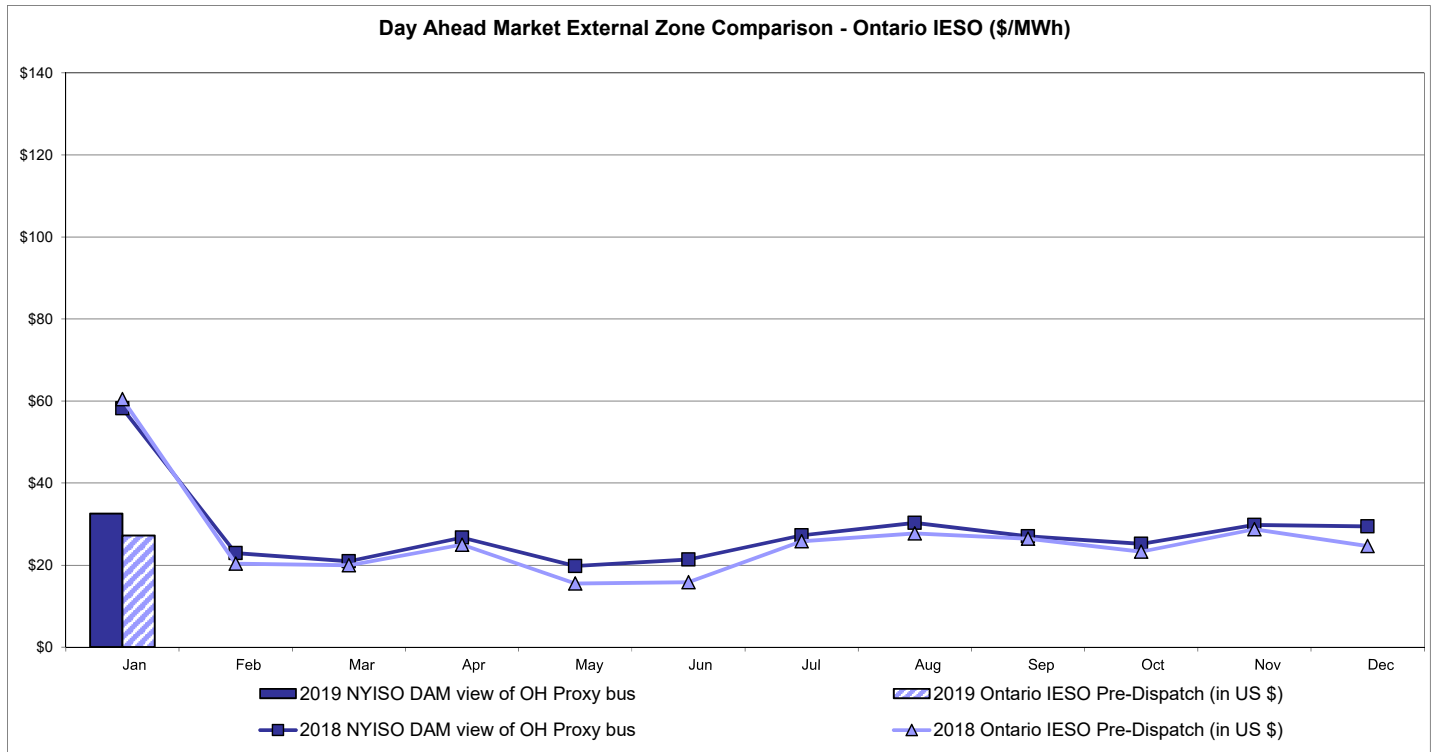
External Comparison ISO-New England



# External Comparison PJM

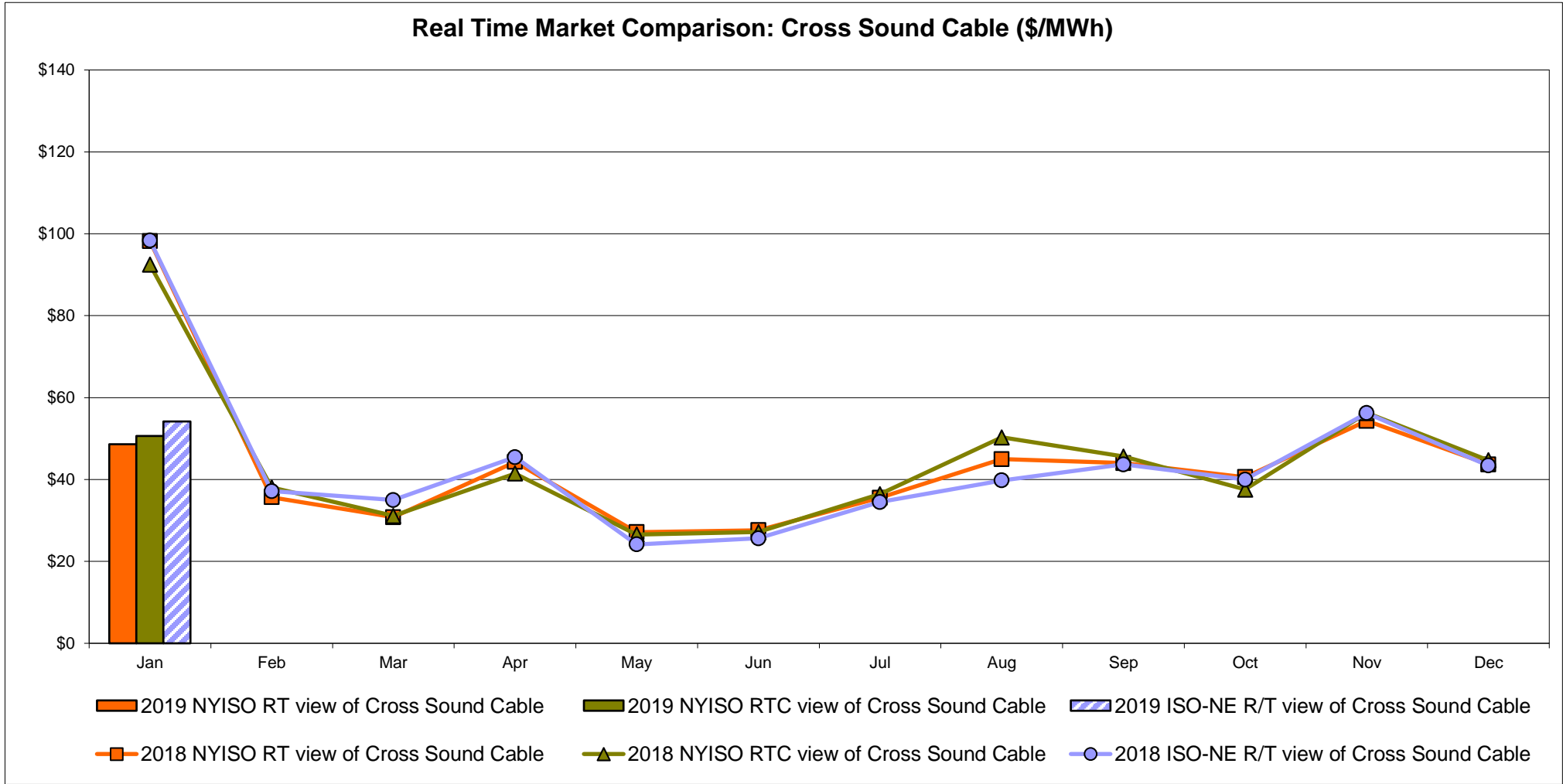
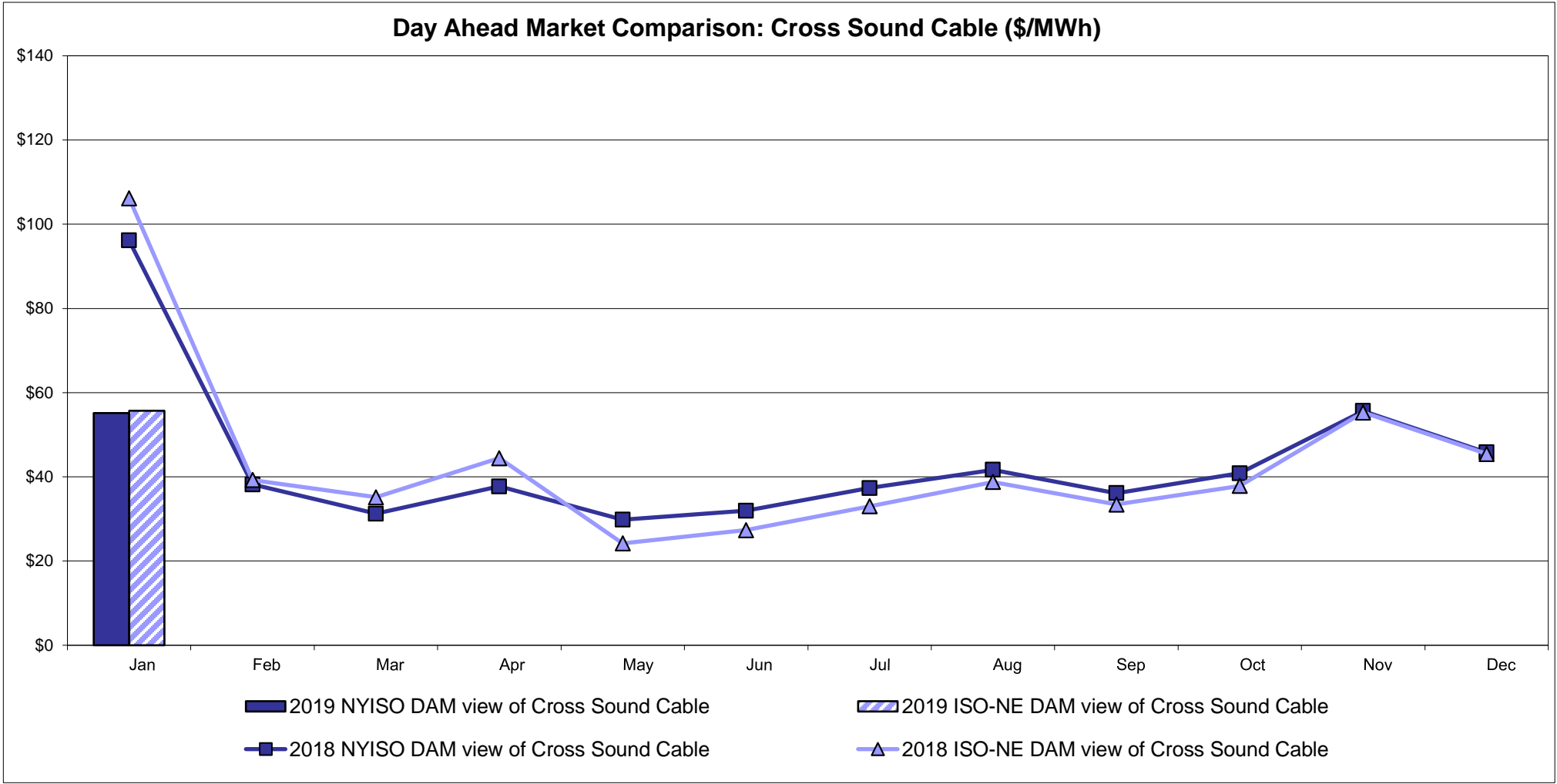


## External Comparison Ontario IESO



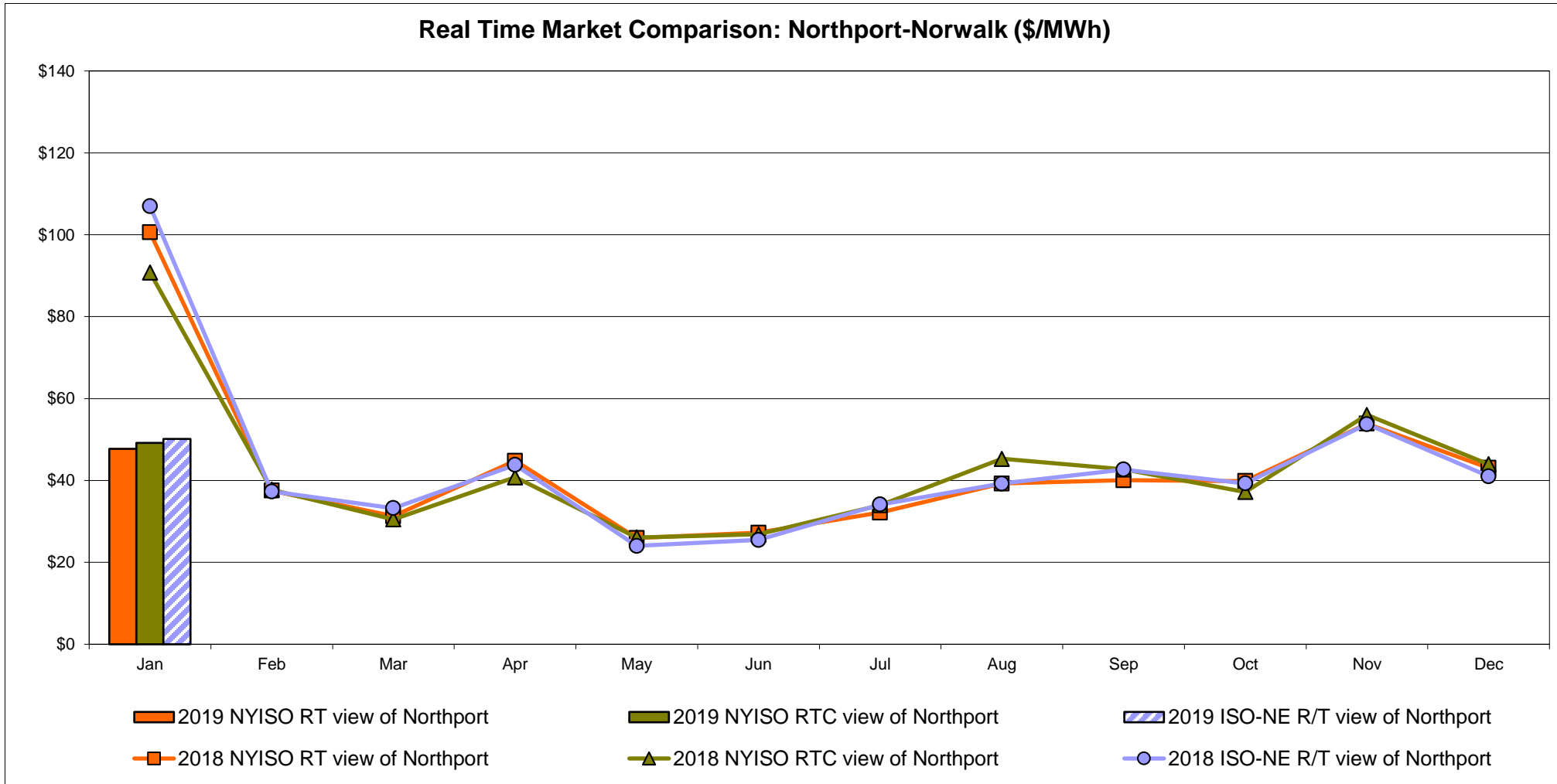
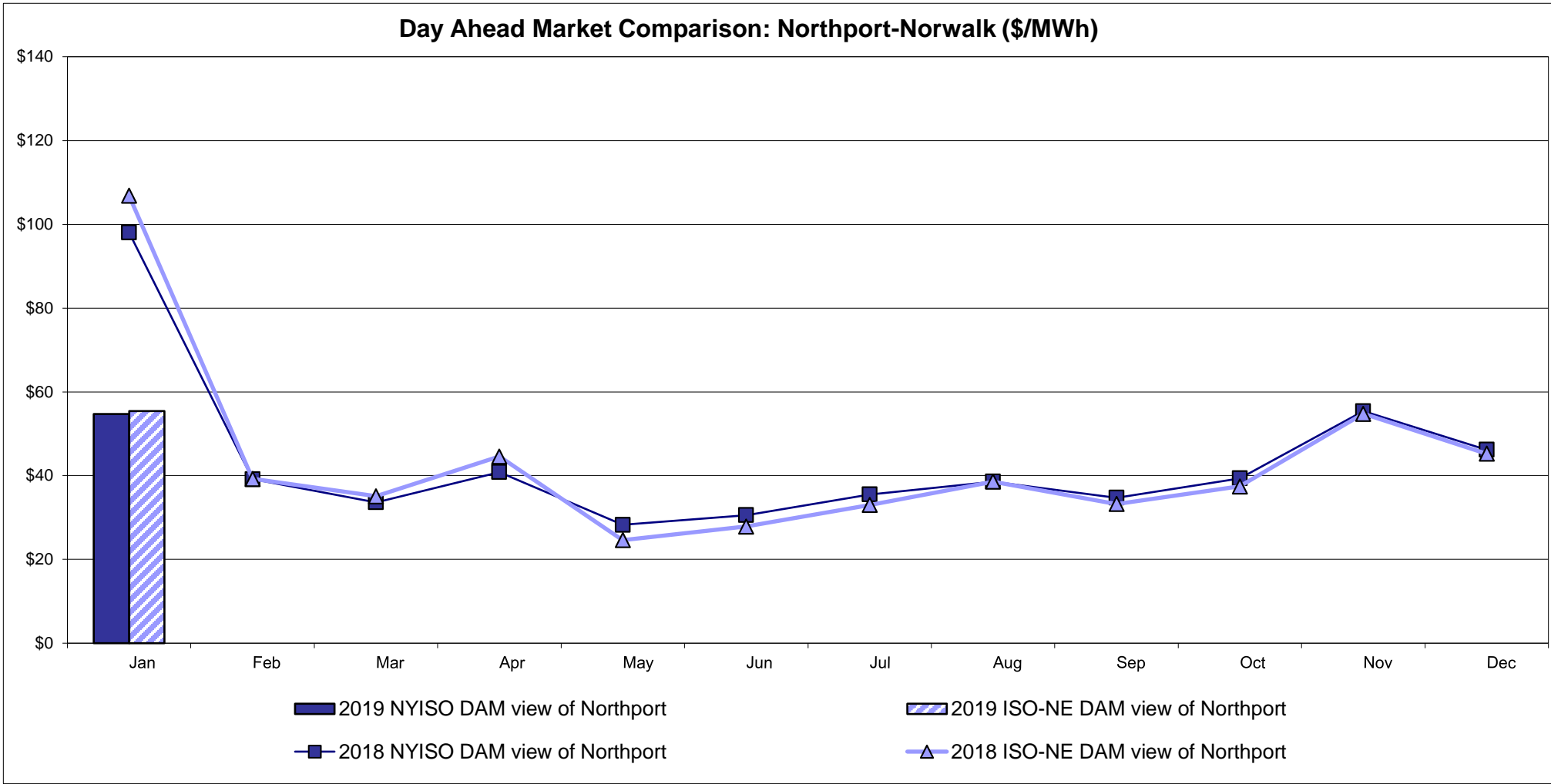
Notes: Exchange factor used for January 2019 was 0.75187969924812 to US  
 HOEP: Hourly Ontario Energy Price  
 Pre-Dispatch: Projected Energy Price

# External Controllable Line: Cross Sound Cable (New England)



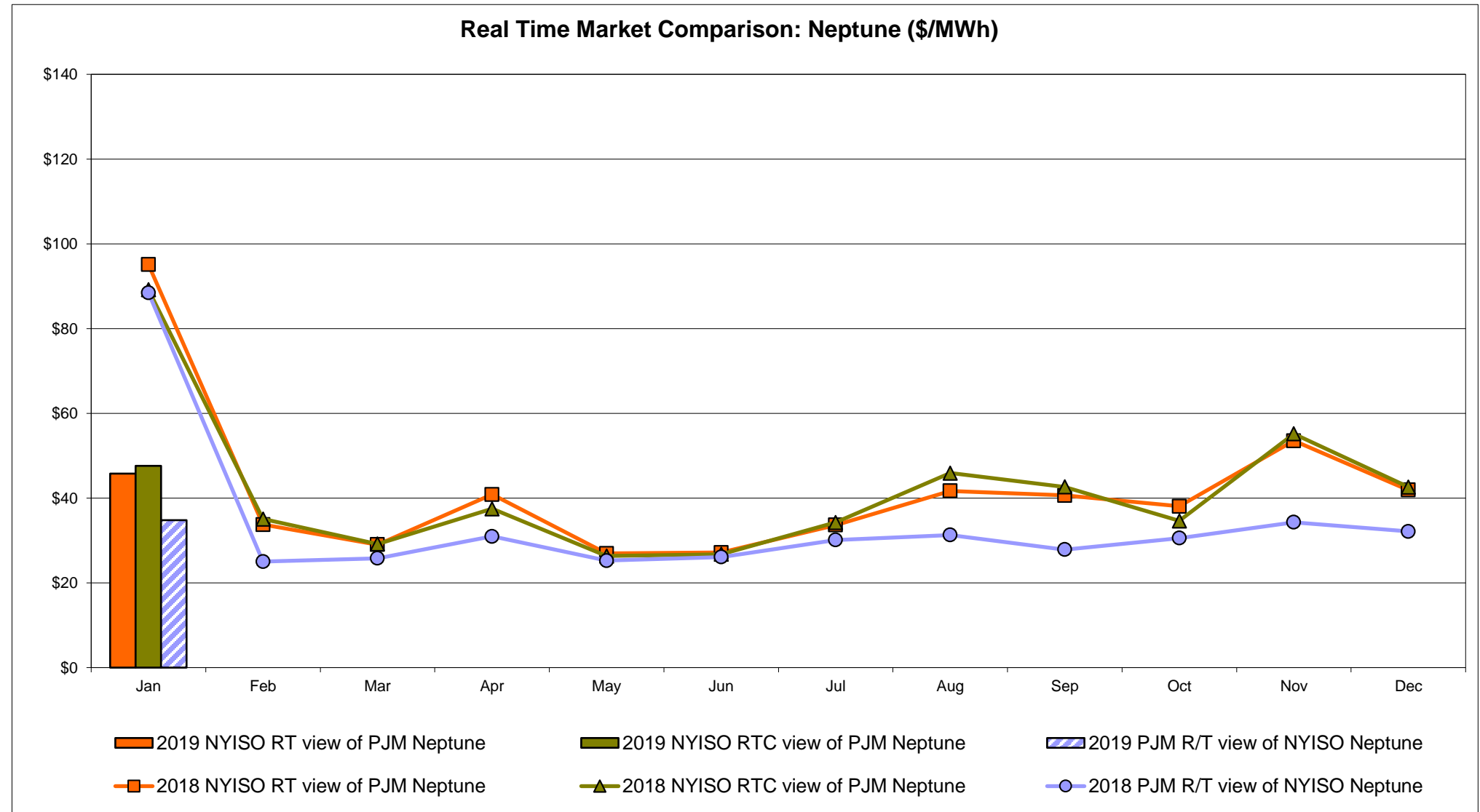
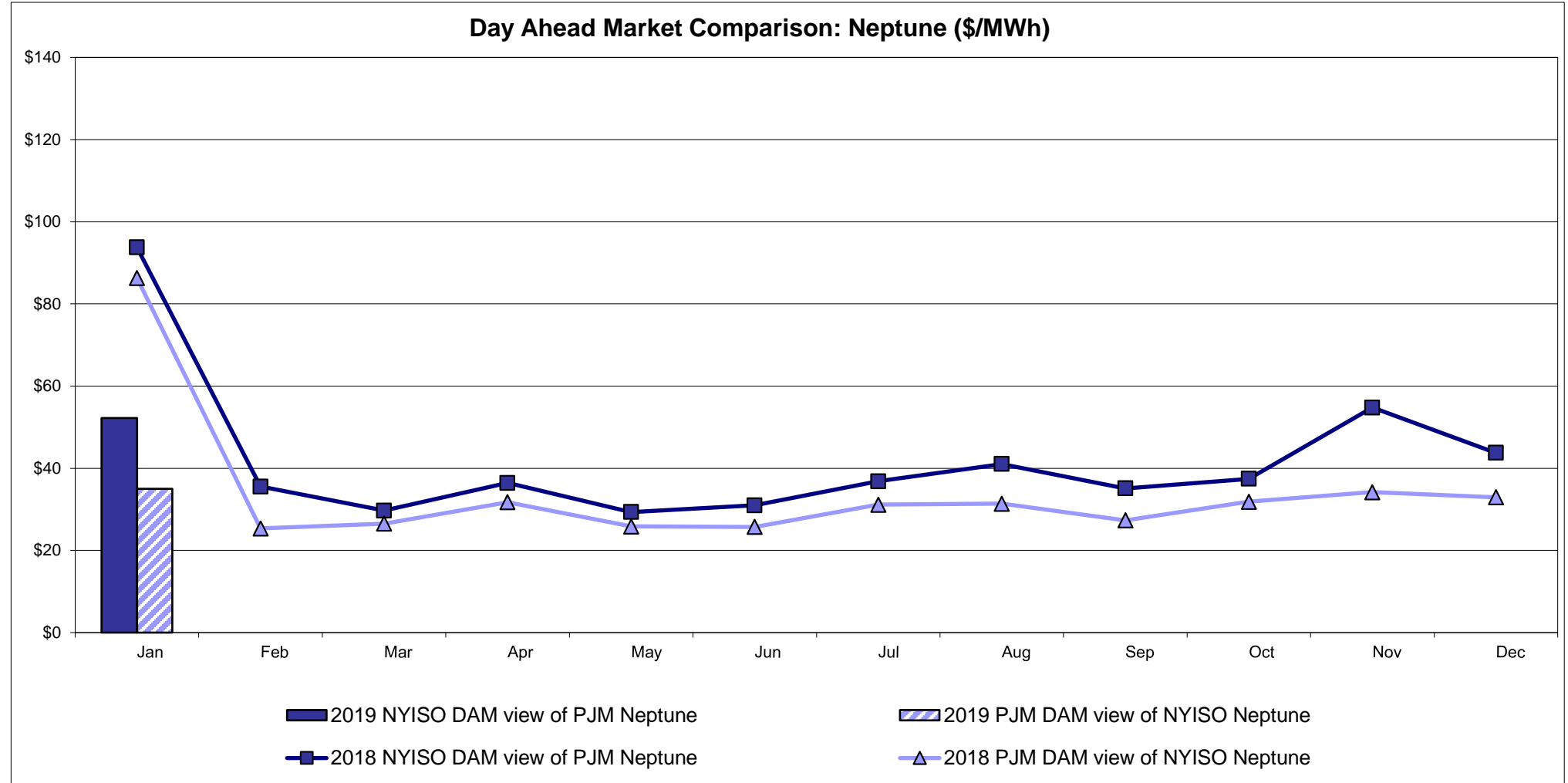
Note:  
ISO-NE Forecast is an advisory posting @ 18:00 day before.  
The DAM and R/T prices at the Shorham 13899 interface are used for ISO-NE.  
The DAM and R/T prices at the CSC interface are used for NYISO.

# External Controllable Line: Northport - Norwalk (New England)

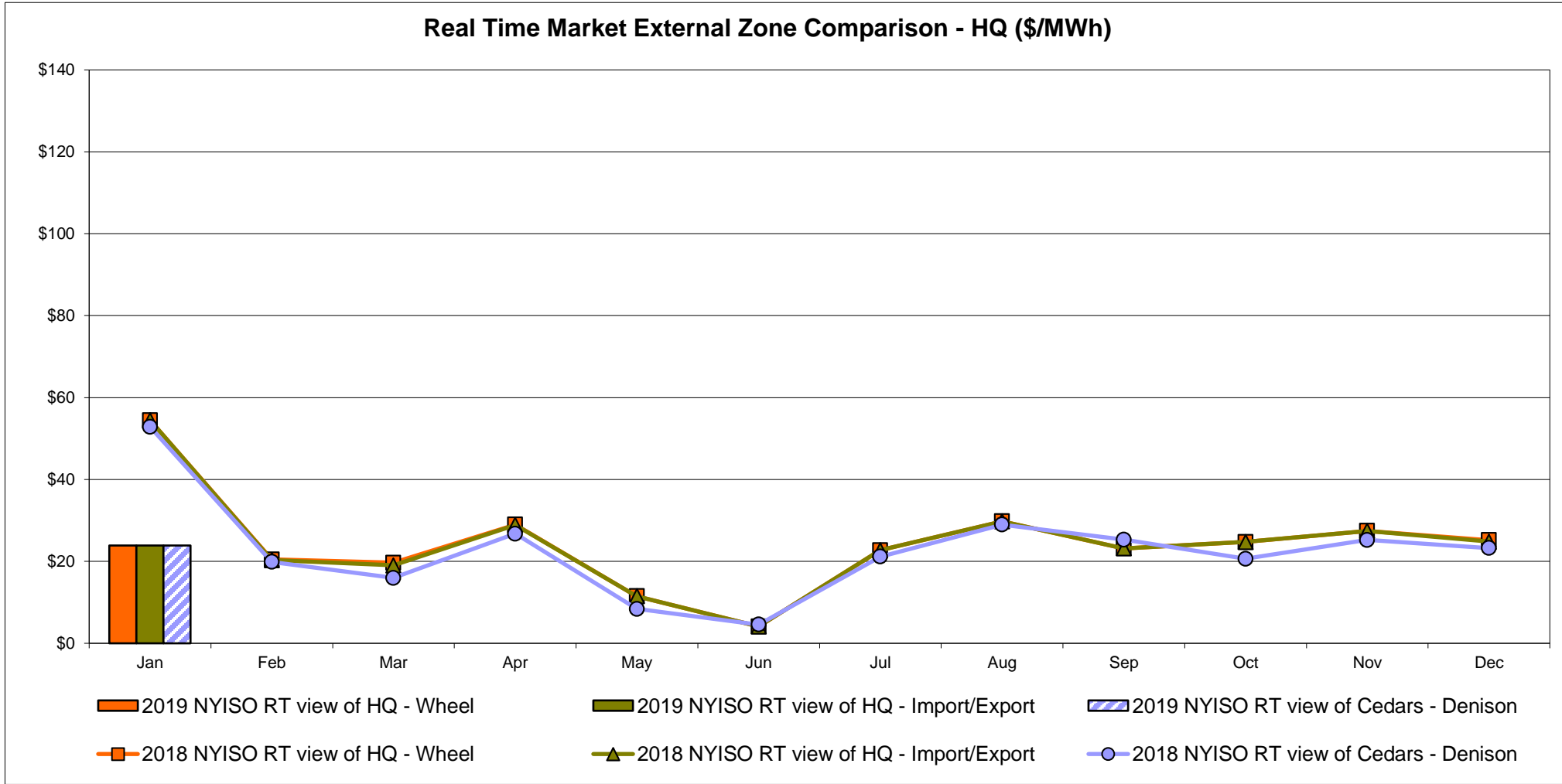
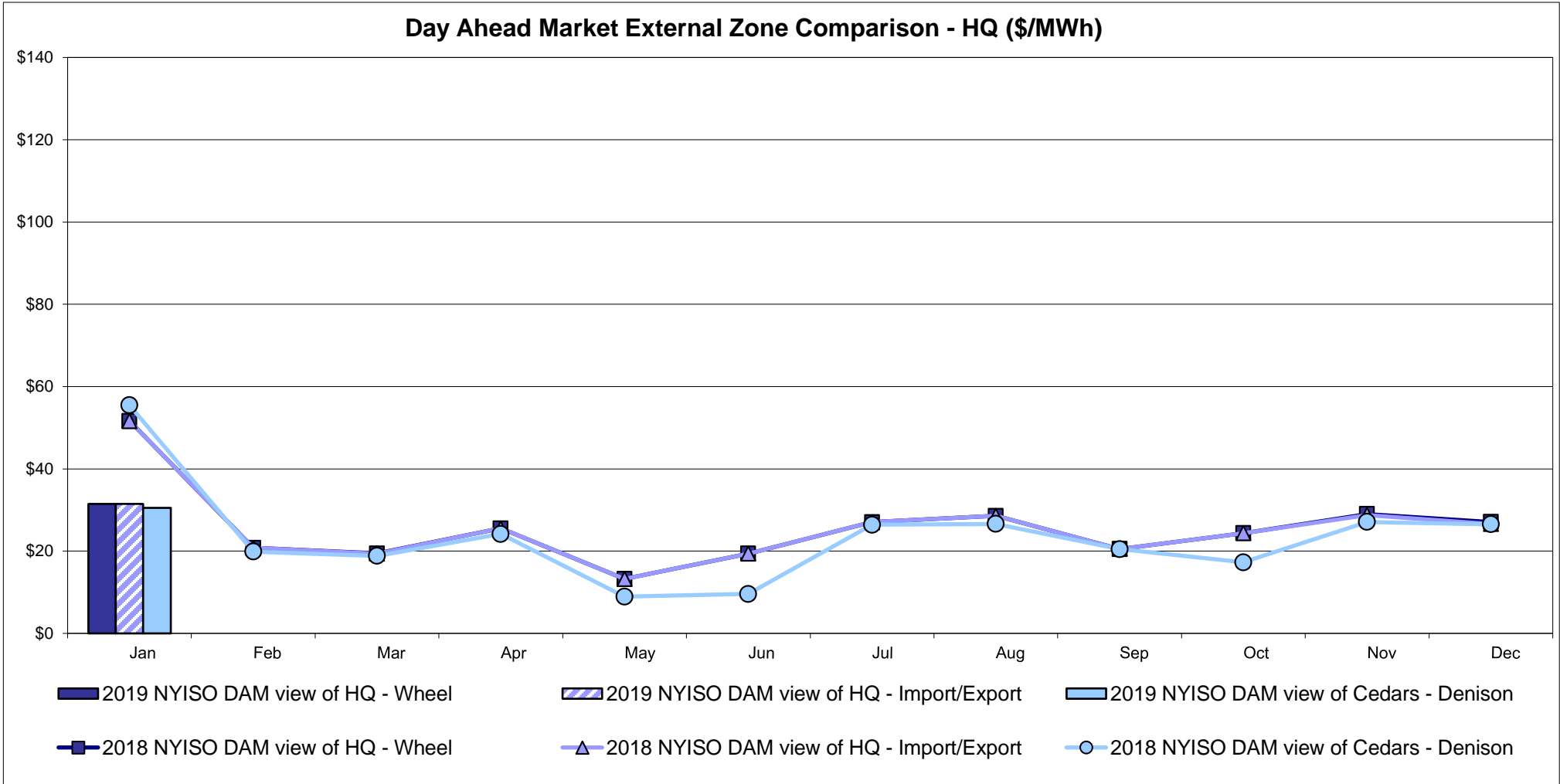


Note:  
ISO-NE Forecast is an advisory posting @ 18:00 day before.  
The DAM and R/T prices at the Northport 138 interface are used for ISO-NE.  
The DAM and R/T prices at the 1385 interface are used for NYISO.

External Controllable Line: Neptune (PJM)

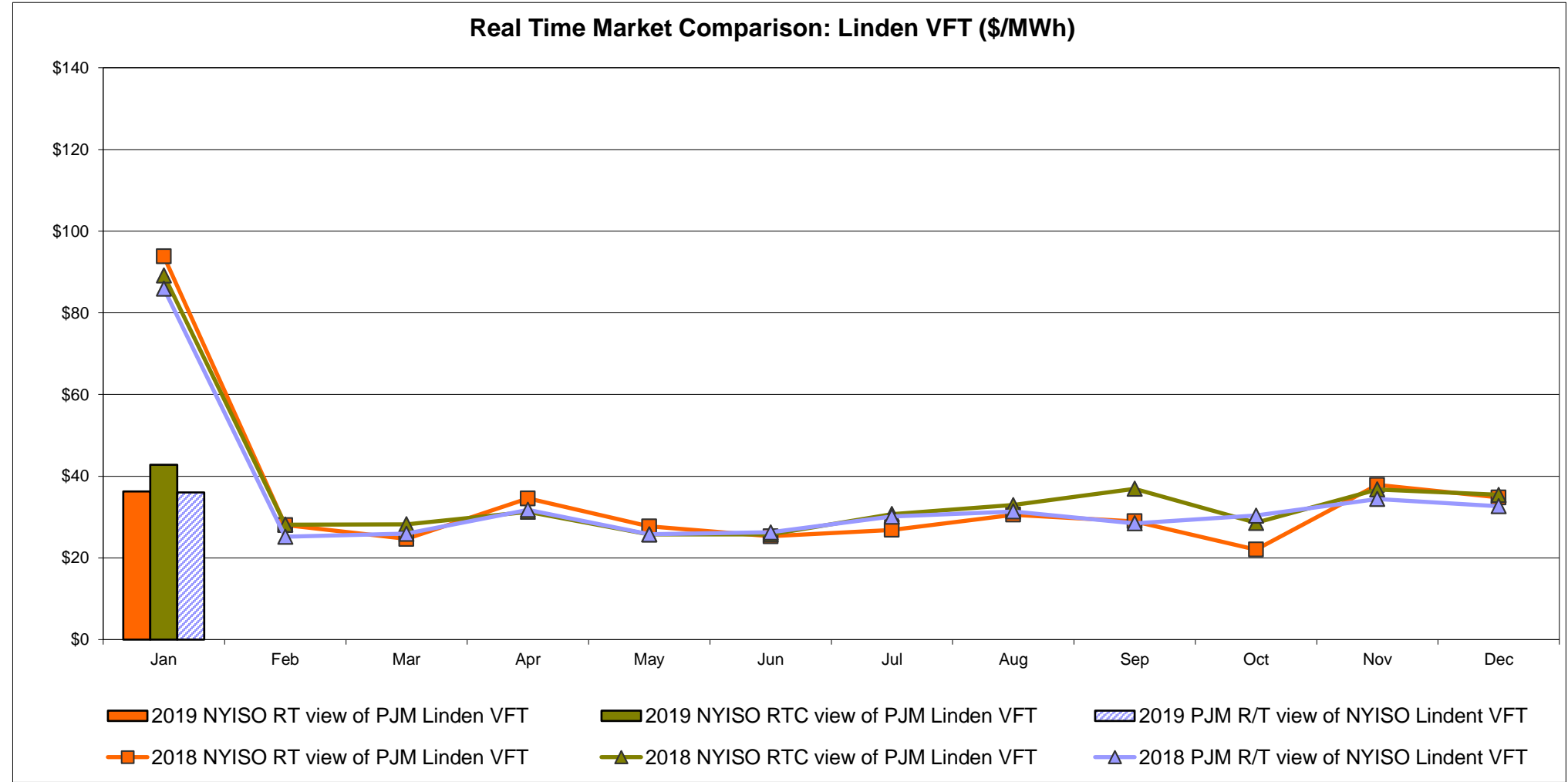
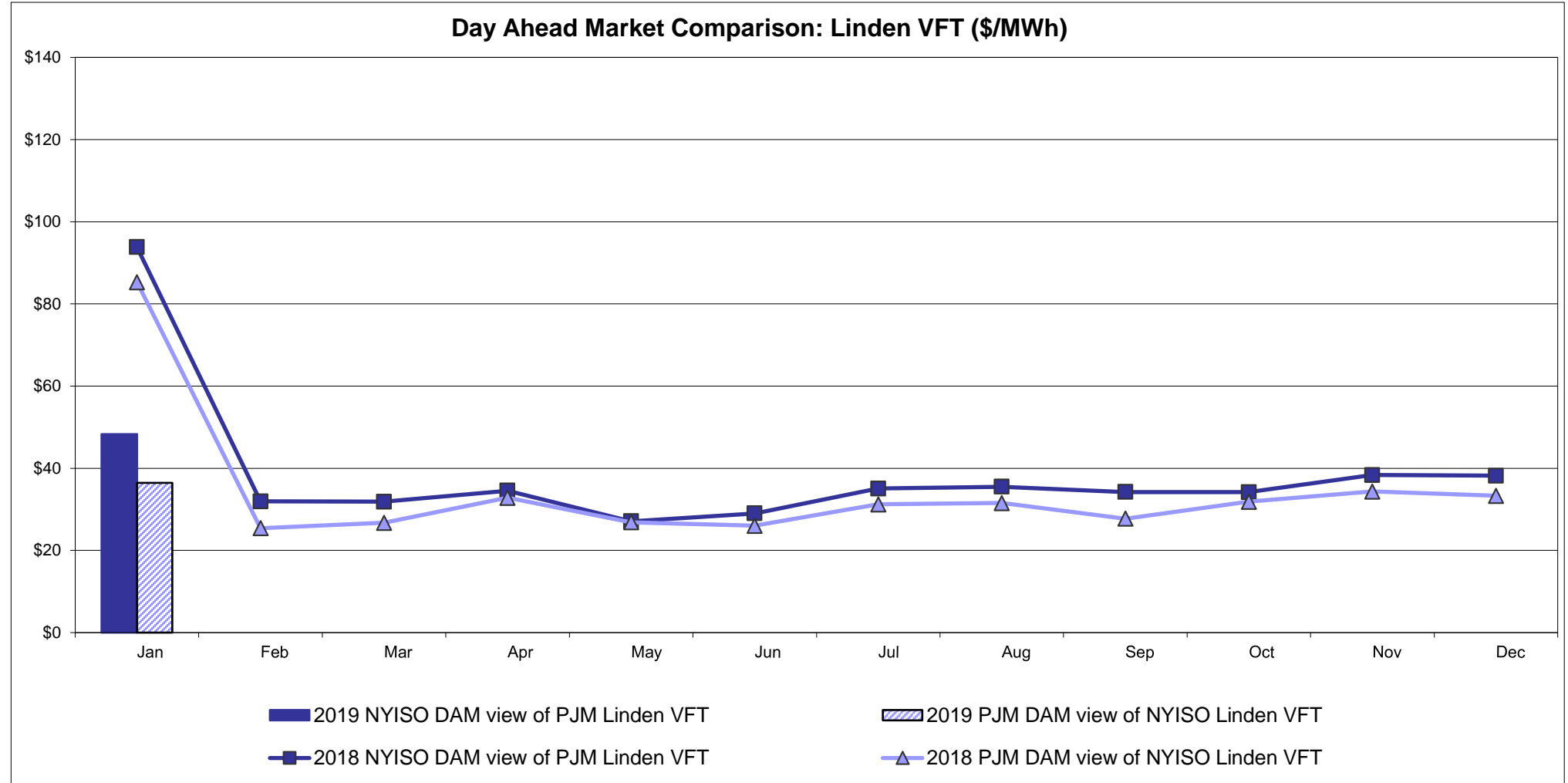


External Comparison Hydro-Quebec

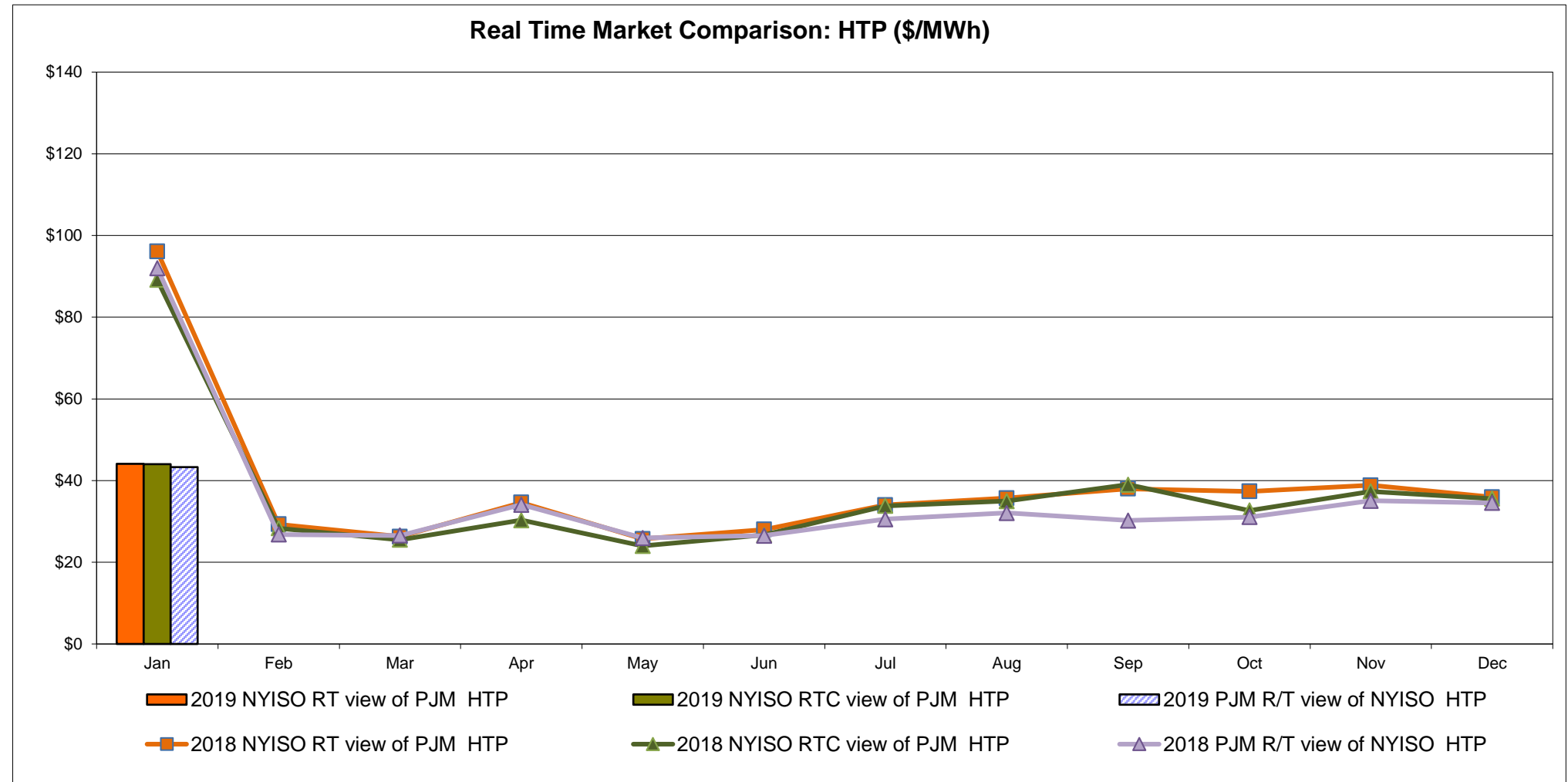
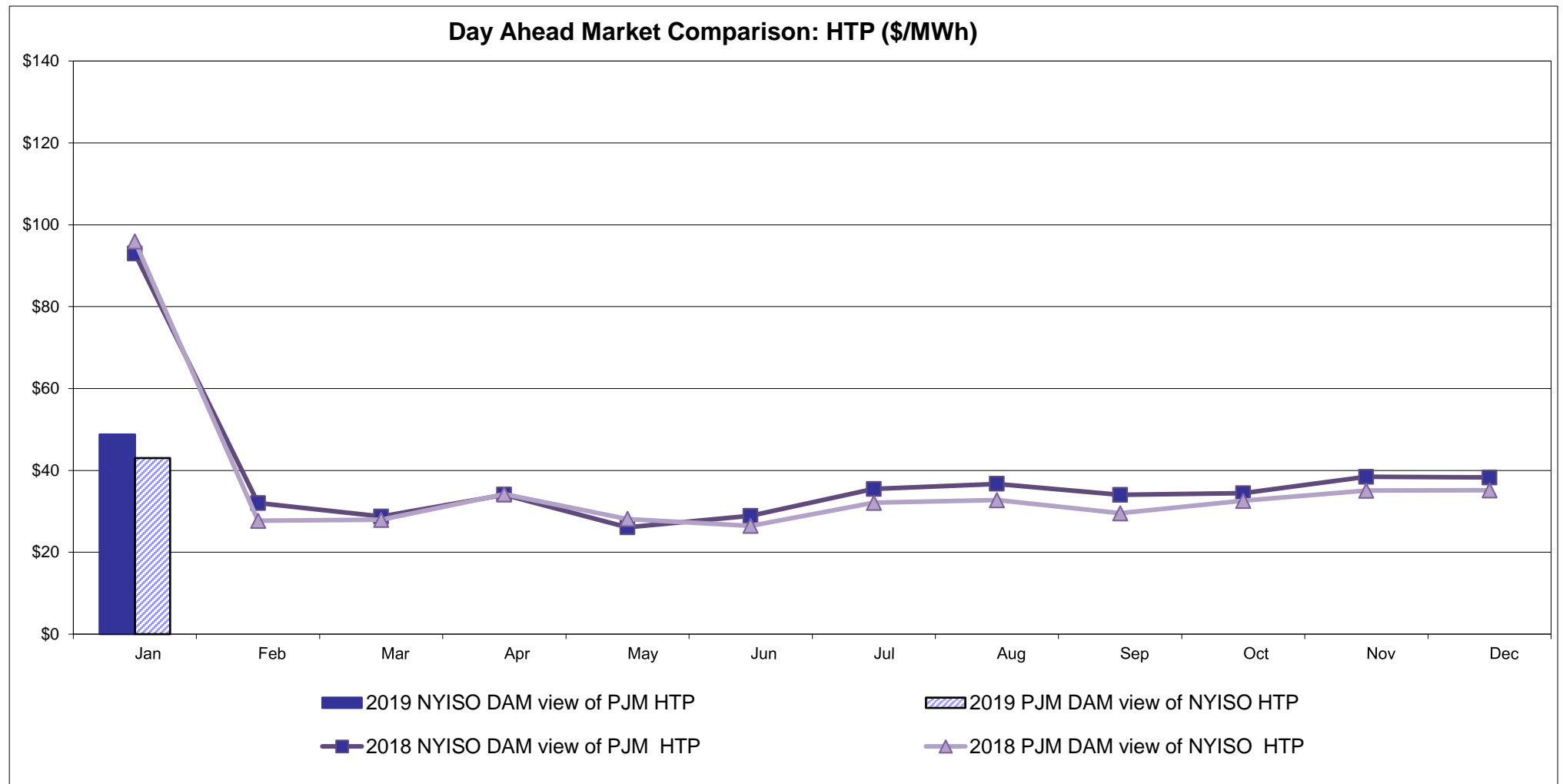


Note:  
Hydro-Quebec Prices are unavailable.

External Controllable Line: Linden VFT (PJM)



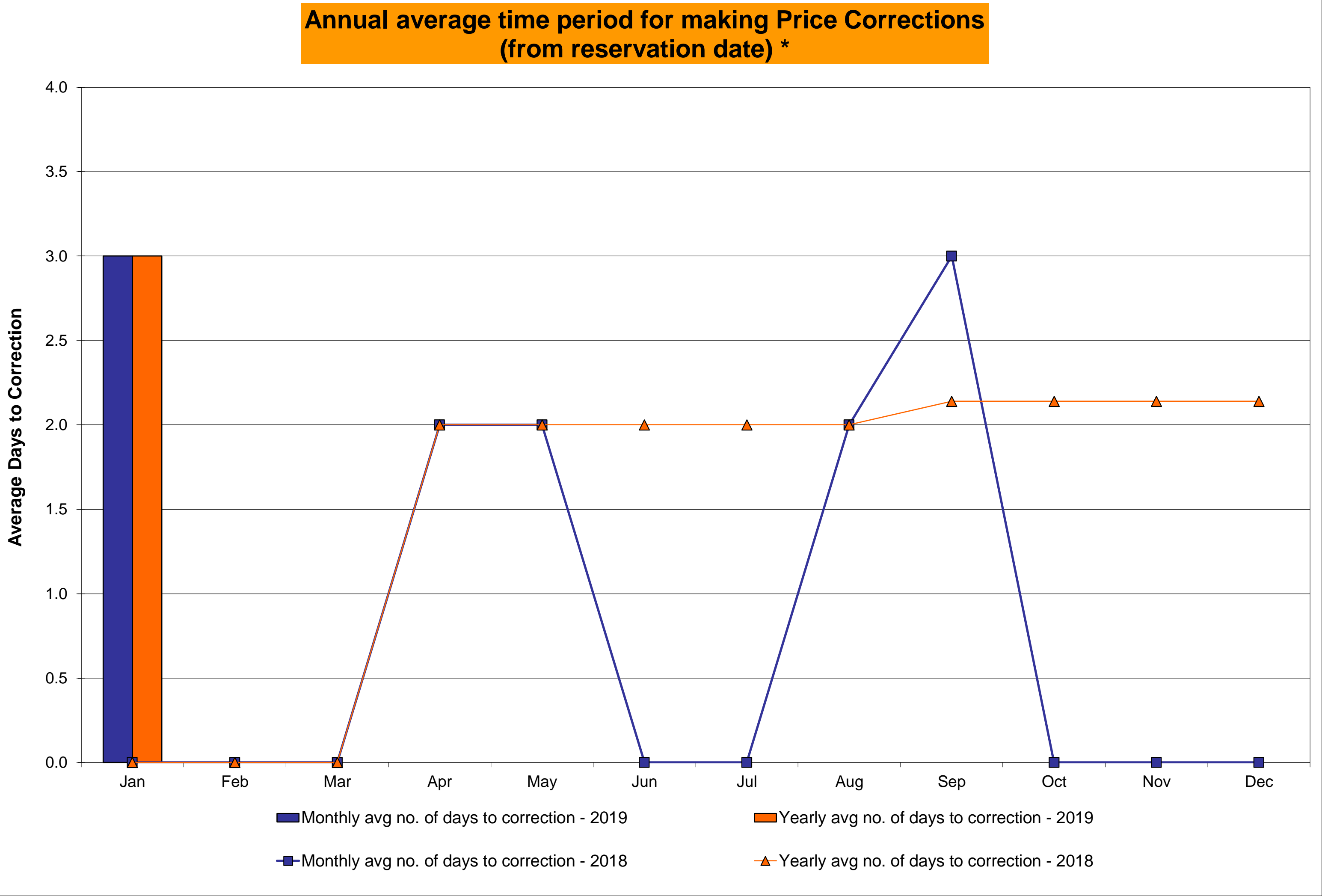
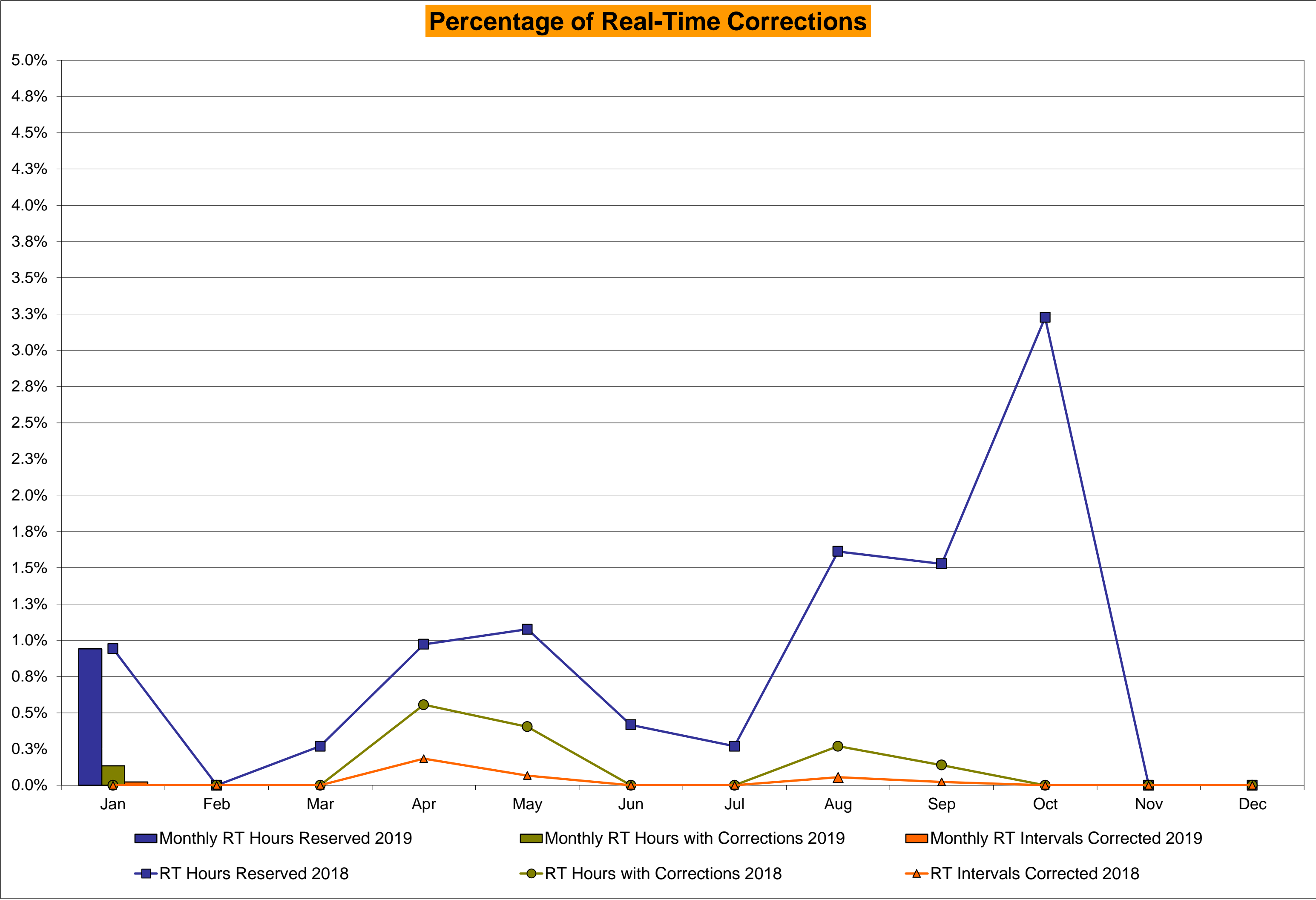
External Controllable Line: Hudson (PJM)



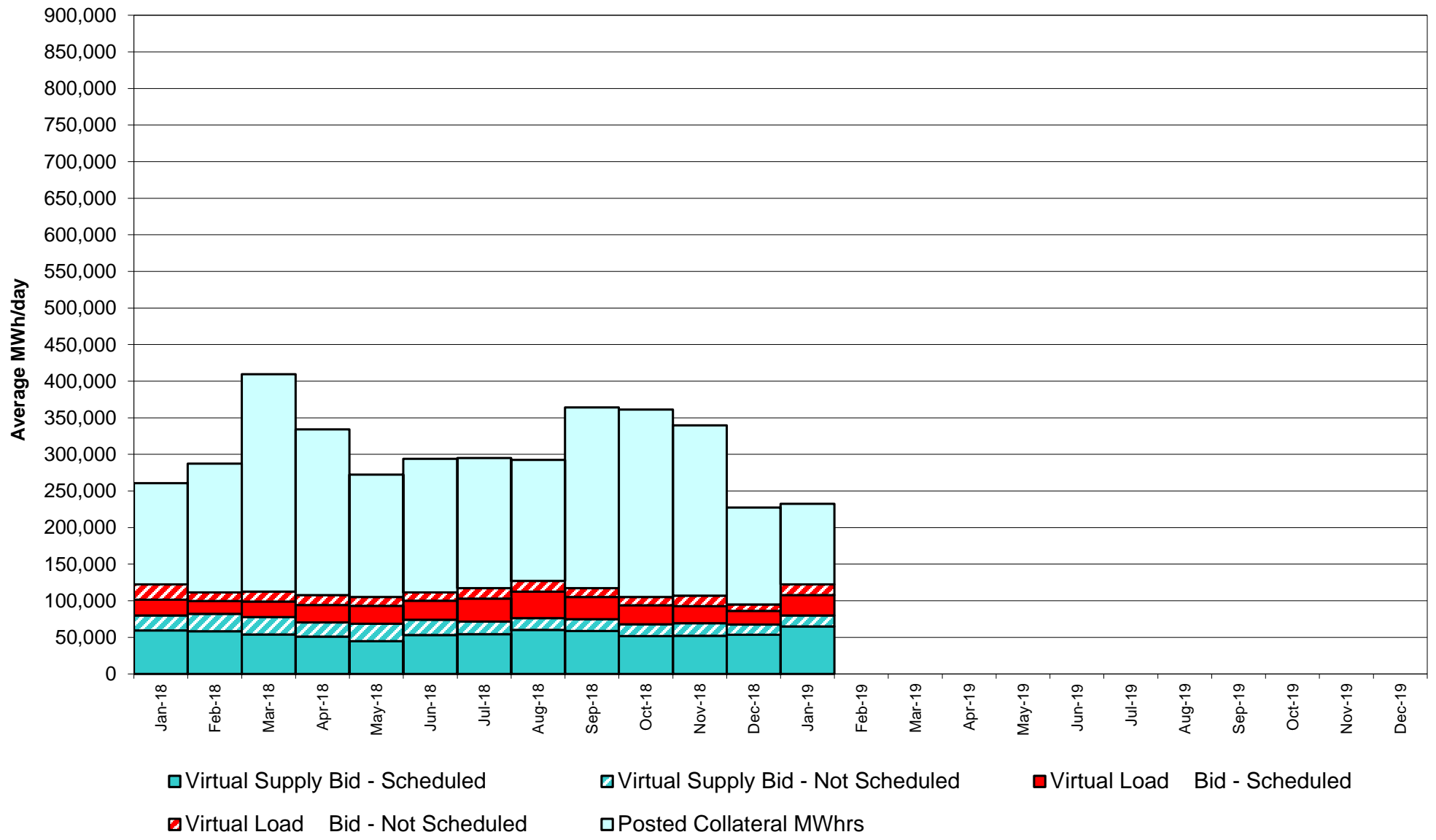
## NYISO Real Time Price Correction Statistics

<b>2019</b>		<u>January</u>	<u>February</u>	<u>March</u>	<u>April</u>	<u>May</u>	<u>June</u>	<u>July</u>	<u>August</u>	<u>September</u>	<u>October</u>	<u>November</u>	<u>December</u>
<b><u>Hour Corrections</u></b>													
Number of hours with corrections	in the month	1											
Number of hours	in the month	744											
% of hours with corrections	in the month	0.13%											
% of hours with corrections	year-to-date	0.13%											
<b><u>Interval Corrections</u></b>													
Number of intervals corrected	in the month	2											
Number of intervals	in the month	9,071											
% of intervals corrected	in the month	0.02%											
% of intervals corrected	year-to-date	0.02%											
<b><u>Hours Reserved</u></b>													
Number of hours reserved	in the month	7											
Number of hours	in the month	744											
% of hours reserved	in the month	0.94%											
% of hours reserved	year-to-date	0.94%											
<b><u>Days to Correction</u> *</b>													
Avg. number of days to correction	in the month	3.00											
Avg. number of days to correction	year-to-date	3.00											
<b><u>Days Without Corrections</u></b>													
Days without corrections	in the month	30											
Days without corrections	year-to-date	30											
<b>2018</b>		<u>January</u>	<u>February</u>	<u>March</u>	<u>April</u>	<u>May</u>	<u>June</u>	<u>July</u>	<u>August</u>	<u>September</u>	<u>October</u>	<u>November</u>	<u>December</u>
<b><u>Hour Corrections</u></b>													
Number of hours with corrections	in the month	0	0	0	4	3	0	0	2	1	0	0	0
Number of hours	in the month	744	672	743	720	744	720	744	744	720	744	721	744
% of hours with corrections	in the month	0.00%	0.00%	0.00%	0.56%	0.40%	0.00%	0.00%	0.27%	0.14%	0.00%	0.00%	0.00%
% of hours with corrections	year-to-date	0.00%	0.00%	0.00%	0.14%	0.19%	0.16%	0.14%	0.15%	0.15%	0.14%	0.12%	0.11%
<b><u>Interval Corrections</u></b>													
Number of intervals corrected	in the month	0	0	0	16	6	0	0	5	2	0	0	0
Number of intervals	in the month	9,021	8,112	9,002	8,717	9,033	8,723	9,021	9,071	8,723	8,990	8,763	8,993
% of intervals corrected	in the month	0.00%	0.00%	0.00%	0.18%	0.07%	0.00%	0.00%	0.06%	0.02%	0.00%	0.00%	0.00%
% of intervals corrected	year-to-date	0.00%	0.00%	0.00%	0.05%	0.05%	0.04%	0.04%	0.04%	0.04%	0.03%	0.03%	0.03%
<b><u>Hours Reserved</u></b>													
Number of hours reserved	in the month	7	0	2	7	8	3	2	12	11	24	0	0
Number of hours	in the month	744	672	743	720	744	720	744	744	720	744	721	744
% of hours reserved	in the month	0.94%	0.00%	0.27%	0.97%	1.08%	0.42%	0.27%	1.61%	1.53%	3.23%	0.00%	0.00%
% of hours reserved	year-to-date	0.94%	0.49%	0.42%	0.56%	0.66%	0.62%	0.57%	0.70%	0.79%	1.04%	0.95%	0.87%
<b><u>Days to Correction</u> *</b>													
Avg. number of days to correction	in the month	0.00	0.00	0.00	2.00	2.00	0.00	0.00	2.00	3.00	0.00	0.00	0.00
Avg. number of days to correction	year-to-date	0.00	0.00	0.00	2.00	2.00	2.00	2.00	2.00	2.14	2.14	2.14	2.14
<b><u>Days Without Corrections</u></b>													
Days without corrections	in the month	31	28	31	28	28	30	31	30	29	31	30	31
Days without corrections	year-to-date	31	59	90	118	146	176	207	237	266	297	327	358

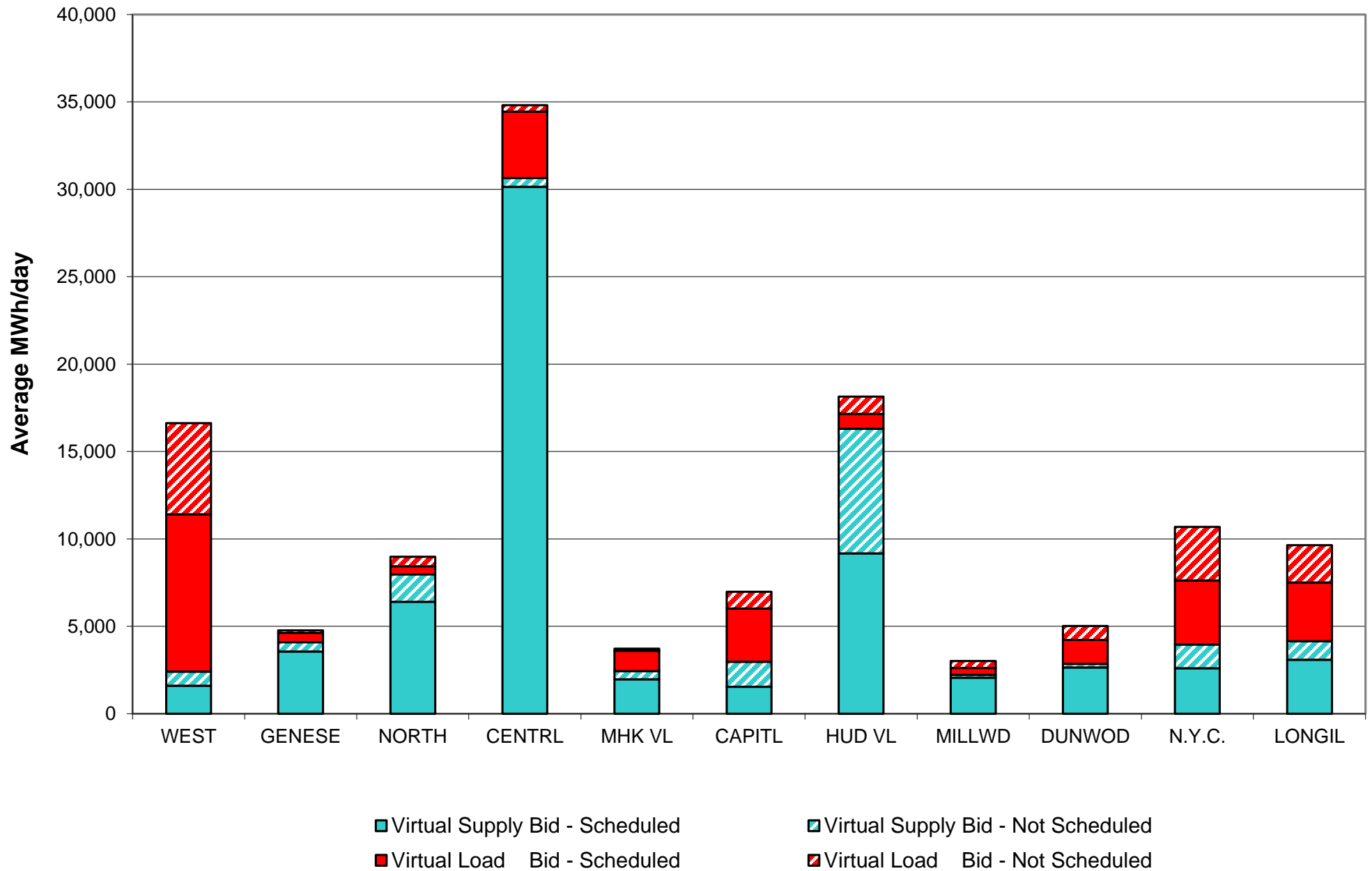
\*Calendar days from reservation date; for June 2018 forward, business days from market date



# NYISO Virtual Trading Average MWh per day



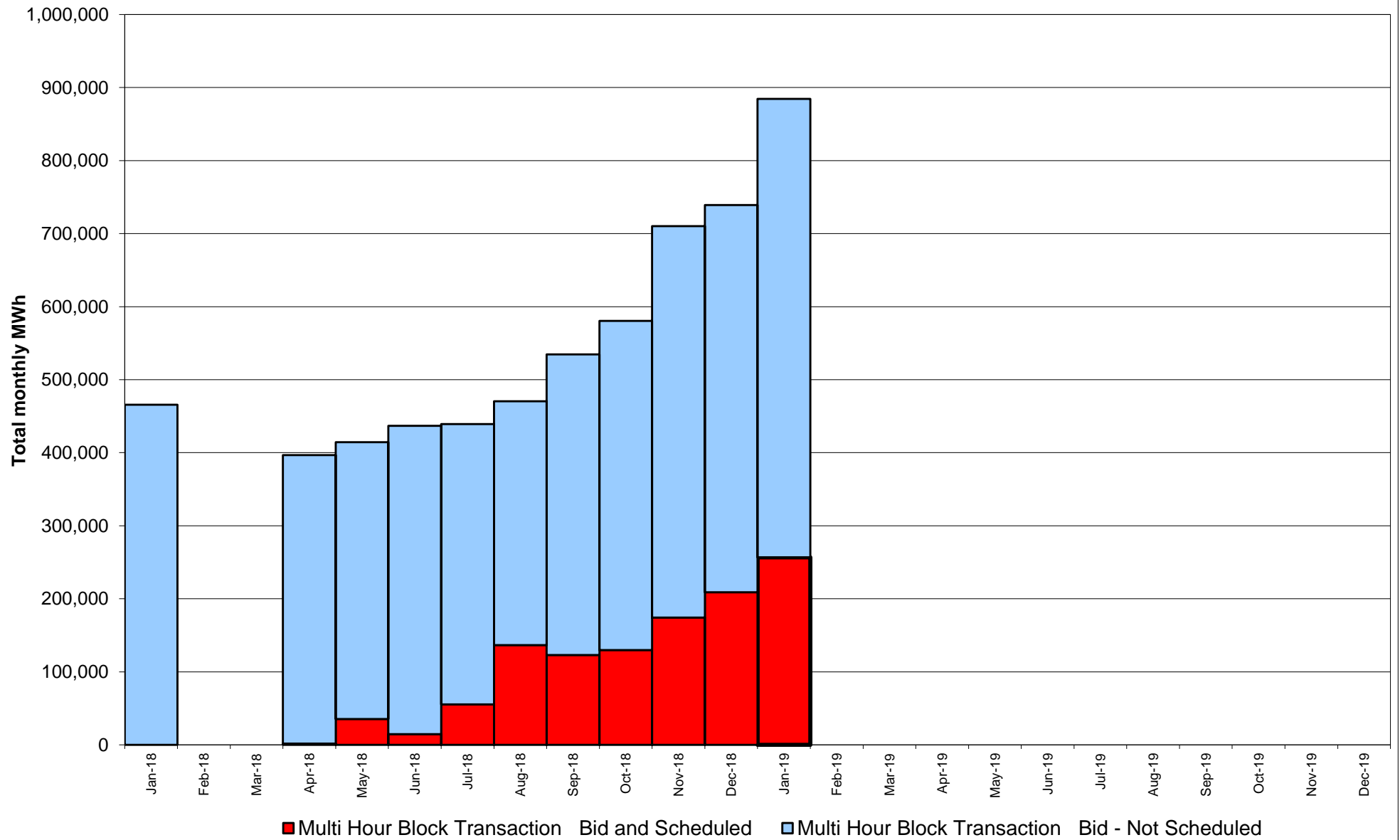
# Virtual Load and Supply Zonal Statistics through January 31, 2019



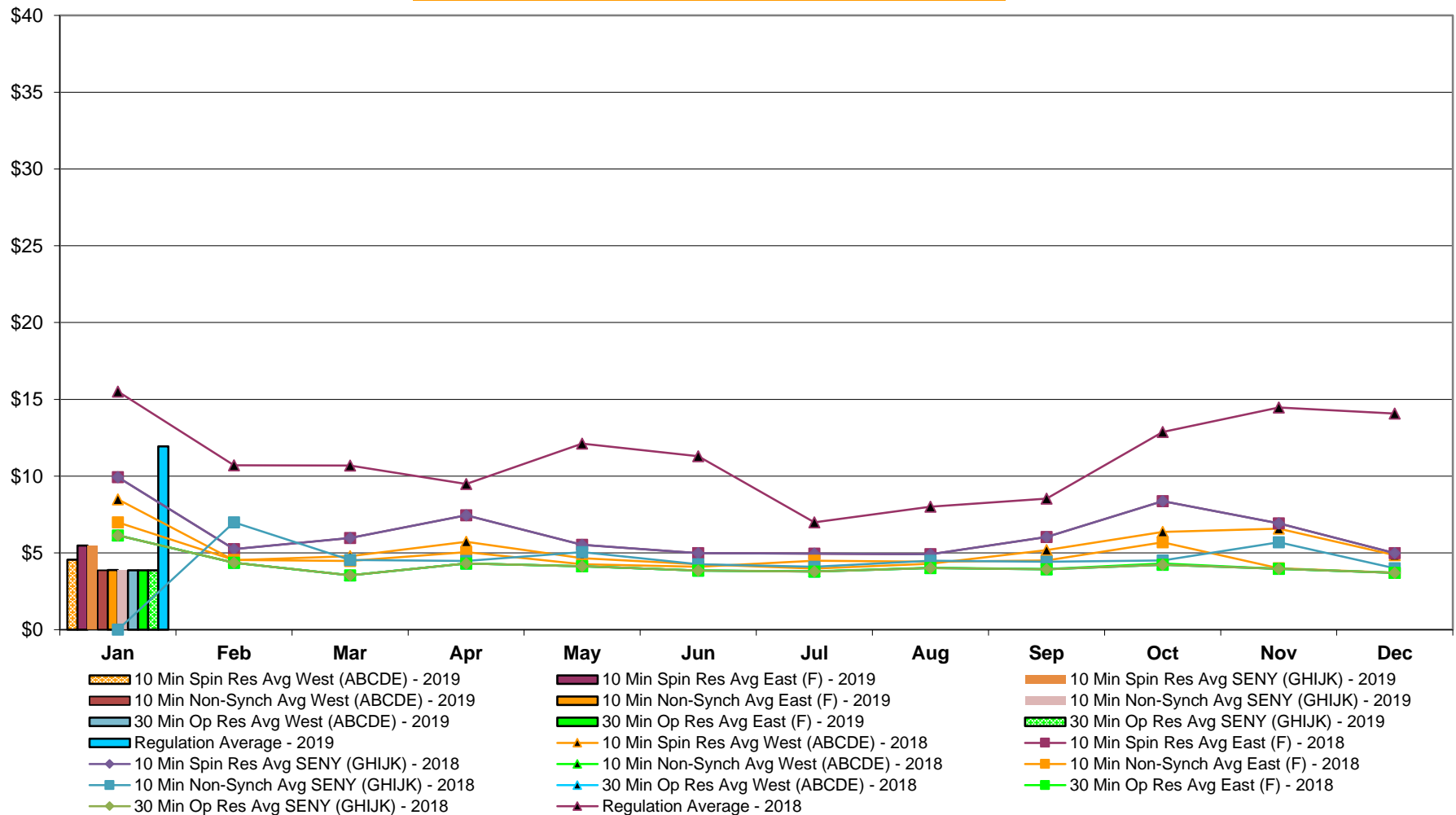
## Virtual Load and Supply Zonal Statistics (Average MWh/day) - 2019

		Virtual Load Bid		Virtual Supply Bid				Virtual Load Bid		Virtual Supply Bid				Virtual Load Bid		Virtual Supply Bid	
Zone	Date	Scheduled	Not Scheduled	Scheduled	Not Scheduled		Zone	Date	Scheduled	Not Scheduled	Scheduled	Not Scheduled		Zone	Date	Scheduled	Not Scheduled
WEST	Jan-19	9,007	5,211	1,609	797		MHK VL	Jan-19	1,171	117	1,965	471		DUNWOD	Jan-19	1,370	798
	Feb-19							Feb-19							Feb-19		
	Mar-19							Mar-19							Mar-19		
	Apr-19							Apr-19							Apr-19		
	May-19							May-19							May-19		
	Jun-19							Jun-19							Jun-19		
	Jul-19							Jul-19							Jul-19		
	Aug-19							Aug-19							Aug-19		
	Sep-19							Sep-19							Sep-19		
	Oct-19							Oct-19							Oct-19		
	Nov-19							Nov-19							Nov-19		
	Dec-19							Dec-19							Dec-19		
GENESE	Jan-19	527	153	3,560	529		CAPITL	Jan-19	3,042	962	1,550	1,424		N.Y.C.	Jan-19	3,665	3,061
	Feb-19							Feb-19							Feb-19		
	Mar-19							Mar-19							Mar-19		
	Apr-19							Apr-19							Apr-19		
	May-19							May-19							May-19		
	Jun-19							Jun-19							Jun-19		
	Jul-19							Jul-19							Jul-19		
	Aug-19							Aug-19							Aug-19		
	Sep-19							Sep-19							Sep-19		
	Oct-19							Oct-19							Oct-19		
	Nov-19							Nov-19							Nov-19		
	Dec-19							Dec-19							Dec-19		
NORTH	Jan-19	484	540	6,406	1,553		HUD VL	Jan-19	856	980	9,176	7,130		LONGIL	Jan-19	3,362	2,135
	Feb-19							Feb-19							Feb-19		
	Mar-19							Mar-19							Mar-19		
	Apr-19							Apr-19							Apr-19		
	May-19							May-19							May-19		
	Jun-19							Jun-19							Jun-19		
	Jul-19							Jul-19							Jul-19		
	Aug-19							Aug-19							Aug-19		
	Sep-19							Sep-19							Sep-19		
	Oct-19							Oct-19							Oct-19		
	Nov-19							Nov-19							Nov-19		
	Dec-19							Dec-19							Dec-19		
CENTRL	Jan-19	3,795	374	30,145	507		MILLWD	Jan-19	405	386	2,051	169		NYISO	Jan-19	27,683	14,720
	Feb-19							Feb-19							Feb-19		
	Mar-19							Mar-19							Mar-19		
	Apr-19							Apr-19							Apr-19		
	May-19							May-19							May-19		
	Jun-19							Jun-19							Jun-19		
	Jul-19							Jul-19							Jul-19		
	Aug-19							Aug-19							Aug-19		
	Sep-19							Sep-19							Sep-19		
	Oct-19							Oct-19							Oct-19		
	Nov-19							Nov-19							Nov-19		
	Dec-19							Dec-19							Dec-19		

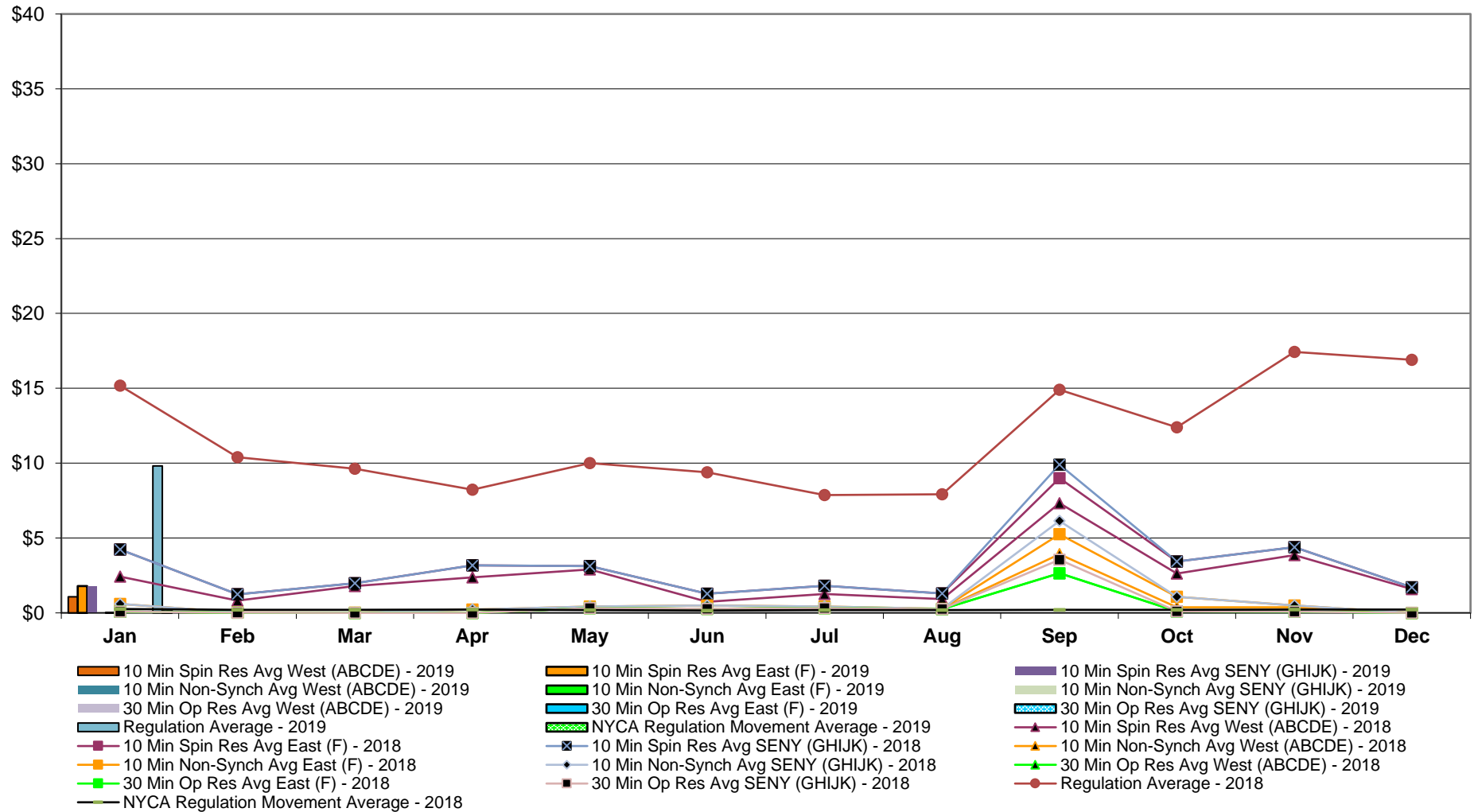
# NYISO Multi Hour Block Transactions Monthly Total MWh



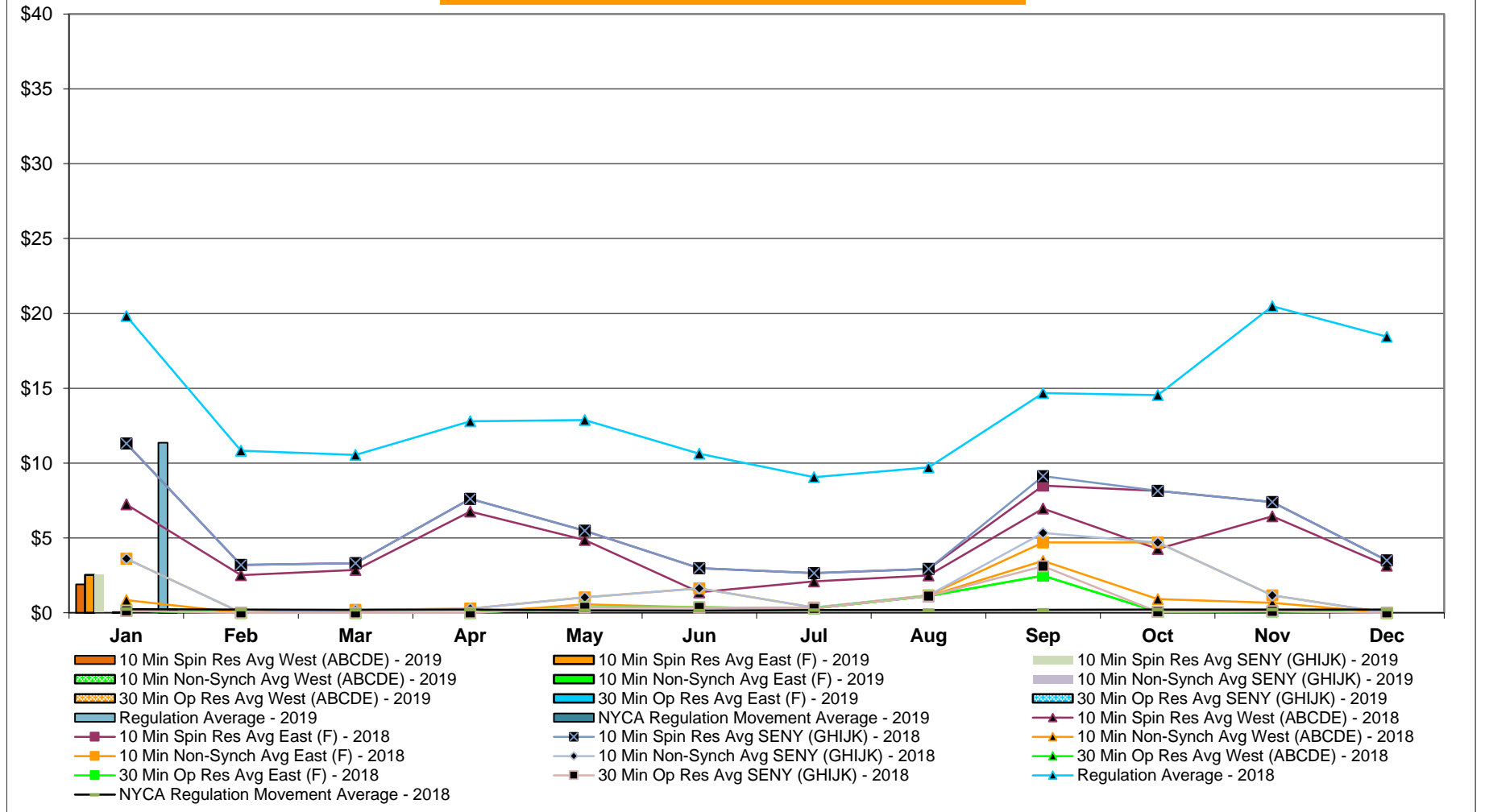
# **NYISO Monthly Average Ancillary Service Prices Day Ahead Market 2018 - 2019**



## NYISO Monthly Average Ancillary Service Prices RTC Market 2018 - 2019



# **NYISO Monthly Average Ancillary Service Prices Real Time Market 2018 - 2019**



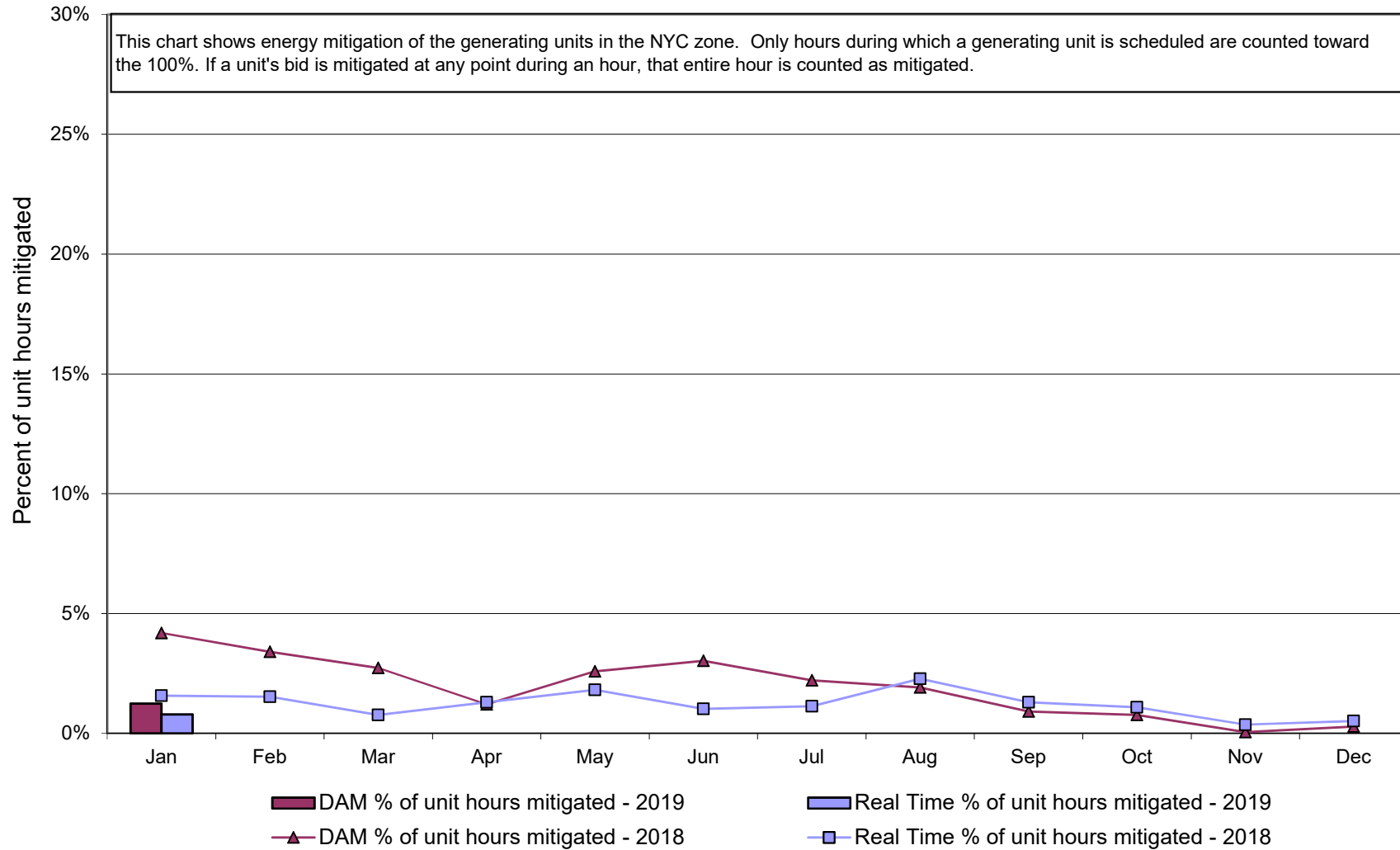
## NYISO Markets Ancillary Services Statistics - Unweighted Price (\$/MWH)

<b>2019</b>	<u>January</u>	<u>February</u>	<u>March</u>	<u>April</u>	<u>May</u>	<u>June</u>	<u>July</u>	<u>August</u>	<u>September</u>	<u>October</u>	<u>November</u>	<u>December</u>
<b><u>Day Ahead Market</u></b>												
10 Min Spin SENY (GHIJK)	5.47											
10 Min Spin East (F)	5.47											
10 Min Spin West (ABCDE)	4.56											
10 Min Non Synch SENY (GHIJK)	3.88											
10 Min Non Synch East (F)	3.88											
10 Min Non Synch West (ABCDE)	3.86											
30 Min SENY (GHIJK)	3.86											
30 Min East (F)	3.86											
30 Min West (ABCDE)	3.86											
Regulation	11.94											
<b><u>RTC Market</u></b>												
10 Min Spin SENY (GHIJK)	1.80											
10 Min Spin East (F)	1.80											
10 Min Spin West (ABCDE)	1.08											
10 Min Non Synch SENY (GHIJK)	0.01											
10 Min Non Synch East (F)	0.01											
10 Min Non Synch West (ABCDE)	0.00											
30 Min SENY (GHIJK)	0.00											
30 Min East (F)	0.00											
30 Min West (ABCDE)	0.00											
Regulation	9.81											
NYCA Regulation Movement	0.23											
<b><u>Real Time Market</u></b>												
10 Min Spin SENY (GHIJK)	2.53											
10 Min Spin East (F)	2.53											
10 Min Spin West (ABCDE)	1.89											
10 Min Non Synch SENY (GHIJK)	0.03											
10 Min Non Synch East (F)	0.03											
10 Min Non Synch West (ABCDE)	0.00											
30 Min SENY (GHIJK)	0.00											
30 Min East (F)	0.00											
30 Min West (ABCDE)	0.00											
Regulation	11.36											
NYCA Regulation Movement	0.22											
<b>2018</b>	<u>January</u>	<u>February</u>	<u>March</u>	<u>April</u>	<u>May</u>	<u>June</u>	<u>July</u>	<u>August</u>	<u>September</u>	<u>October</u>	<u>November</u>	<u>December</u>
<b><u>Day Ahead Market</u></b>												
10 Min Spin SENY (GHIJK)	9.93	5.24	5.97	7.45	5.52	4.98	4.95	4.91	6.04	8.37	6.93	4.99
10 Min Spin East (F)	9.93	5.24	5.97	7.45	5.52	4.98	4.95	4.91	6.04	8.37	6.93	4.99
10 Min Spin West (ABCDE)	8.49	4.53	4.78	5.73	4.65	4.26	3.98	4.30	5.18	6.36	6.57	4.86
10 Min Non Synch SENY (GHIJK)	6.99	4.54	4.48	5.05	4.26	4.09	4.49	4.43	4.51	5.69	4.00	3.71
10 Min Non Synch East (F)	6.99	4.54	4.48	5.05	4.26	4.09	4.49	4.43	4.51	5.69	4.00	3.71
10 Min Non Synch West (ABCDE)	6.15	4.36	3.54	4.31	4.13	3.85	3.80	4.03	3.95	4.31	3.97	3.70
30 Min SENY (GHIJK)	6.14	4.36	3.54	4.31	4.13	3.85	3.79	4.02	3.94	4.22	3.97	3.70
30 Min East (F)	6.14	4.36	3.54	4.31	4.13	3.85	3.79	4.02	3.94	4.22	3.97	3.70
30 Min West (ABCDE)	6.14	4.36	3.54	4.31	4.13	3.85	3.79	4.02	3.94	4.22	3.97	3.70
Regulation	15.51	10.70	10.68	9.49	12.11	11.30	6.99	8.00	8.54	12.88	14.47	14.07
<b><u>RTC Market</u></b>												
10 Min Spin SENY (GHIJK)	4.23	1.24	1.98	3.17	3.13	1.28	1.81	1.29	9.90	3.43	4.39	1.71
10 Min Spin East (F)	4.23	1.24	1.98	3.17	3.13	1.28	1.81	1.29	9.00	3.43	4.39	1.71
10 Min Spin West (ABCDE)	2.43	0.82	1.79	2.38	2.91	0.74	1.27	0.93	7.33	2.63	3.85	1.58
10 Min Non Synch SENY (GHIJK)	0.59	0.03	0.01	0.22	0.42	0.49	0.42	0.27	6.14	1.07	0.50	0.00
10 Min Non Synch East (F)	0.59	0.03	0.01	0.22	0.42	0.49	0.42	0.27	5.25	1.07	0.50	0.00
10 Min Non Synch West (ABCDE)	0.08	0.02	0.00	0.00	0.33	0.27	0.33	0.25	3.92	0.38	0.38	0.00
30 Min SENY (GHIJK)	0.08	0.02	0.00	0.00	0.32	0.27	0.33	0.25	3.55	0.11	0.09	0.00
30 Min East (F)	0.08	0.02	0.00	0.00	0.32	0.27	0.33	0.25	2.65	0.11	0.09	0.00
30 Min West (ABCDE)	0.08	0.02	0.00	0.00	0.32	0.27	0.33	0.25	2.65	0.11	0.09	0.00
Regulation	15.17	10.40	9.63	8.22	10.01	9.39	7.87	7.92	14.90	12.40	17.43	16.90
NYCA Regulation Movement	0.26	0.21	0.20	0.22	0.19	0.16	0.19	0.19	0.20	0.21	0.22	0.22
<b><u>Real Time Market</u></b>												
10 Min Spin SENY (GHIJK)	11.31	3.19	3.31	7.62	5.48	2.98	2.65	2.93	9.13	8.14	7.39	3.49
10 Min Spin East (F)	11.31	3.19	3.31	7.62	5.48	2.98	2.65	2.93	8.50	8.14	7.39	3.49
10 Min Spin West (ABCDE)	7.24	2.52	2.86	6.77	4.86	1.37	2.10	2.50	6.96	4.26	6.45	3.15
10 Min Non Synch SENY (GHIJK)	3.61	0.01	0.19	0.28	1.03	1.63	0.35	1.16	5.33	4.70	1.16	0.00
10 Min Non Synch East (F)	3.61	0.01	0.19	0.28	1.03	1.63	0.35	1.16	4.70	4.70	1.16	0.00
10 Min Non Synch West (ABCDE)	0.85	0.00	0.00	0.00	0.57	0.37	0.29	1.12	3.47	0.92	0.67	0.00
30 Min SENY (GHIJK)	0.13	0.00	0.00	0.00	0.37	0.37	0.29	1.12	3.11	0.06	0.10	0.00
30 Min East (F)	0.13	0.00	0.00	0.00	0.37	0.37	0.29	1.12	2.48	0.06	0.10	0.00
30 Min West (ABCDE)	0.13	0.00	0.00	0.00	0.37	0.37	0.29	1.12	2.48	0.06	0.10	0.00
Regulation	19.82	10.82	10.54	12.80	12.88	10.62	9.06	9.71	14.67	14.54	20.48	18.44
NYCA Regulation Movement	0.24	0.21	0.20	0.21	0.17	0.15	0.18	0.18	0.20	0.21	0.22	0.21

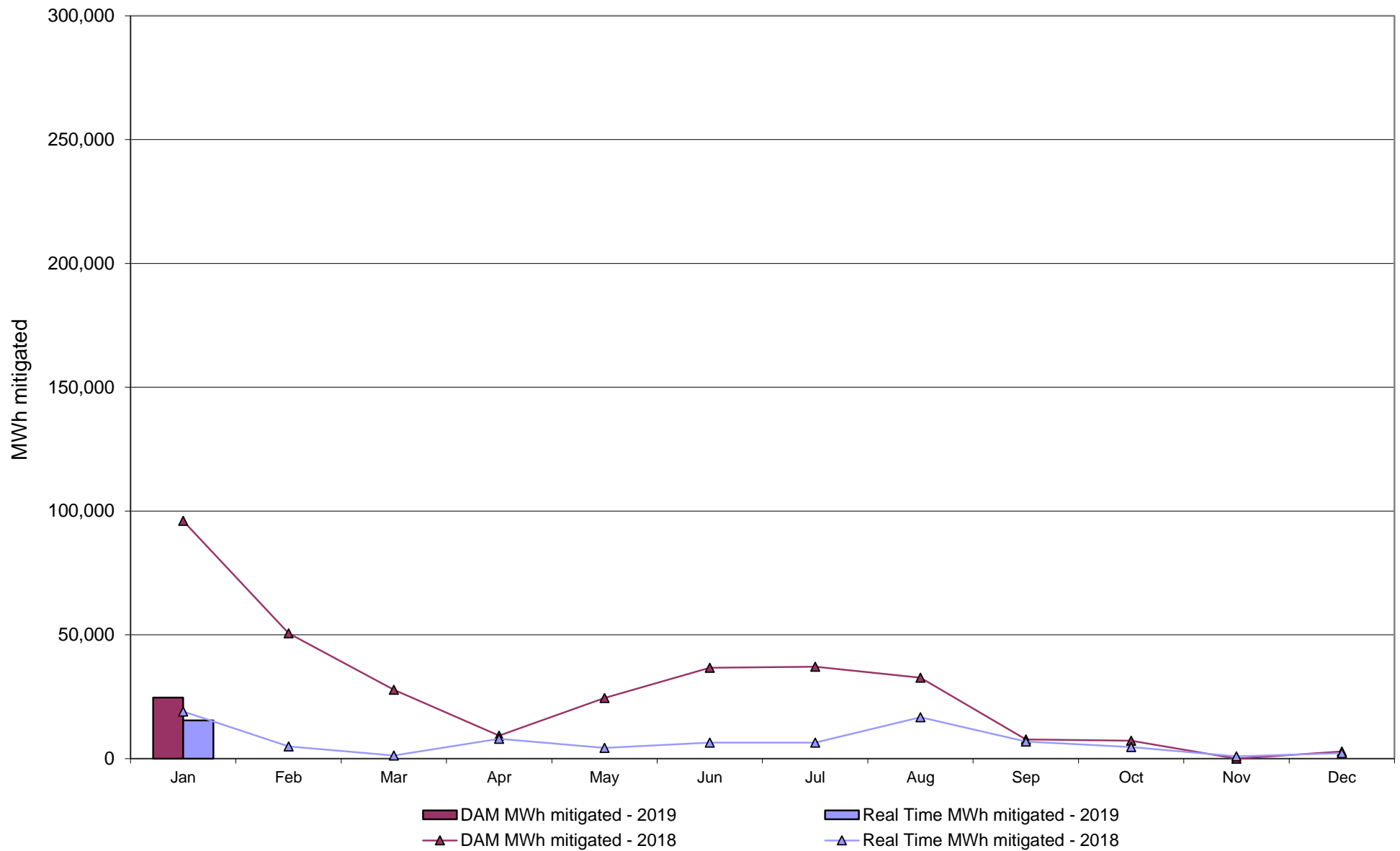
## NYISO In City Energy Mitigation - AMP (NYC Zone) 2018 - 2019

### Percentage of committed unit-hours mitigated

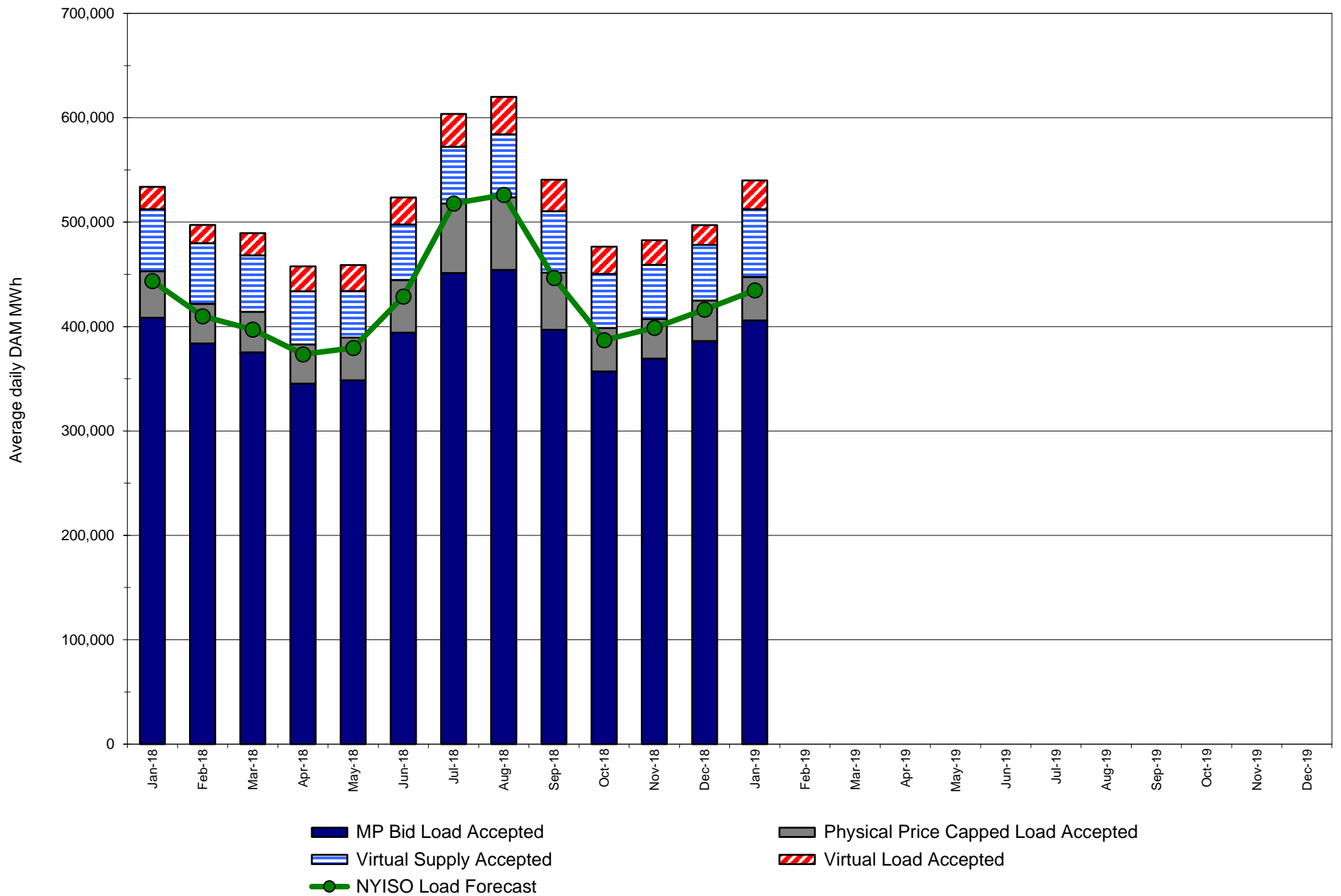
This chart shows energy mitigation of the generating units in the NYC zone. Only hours during which a generating unit is scheduled are counted toward the 100%. If a unit's bid is mitigated at any point during an hour, that entire hour is counted as mitigated.



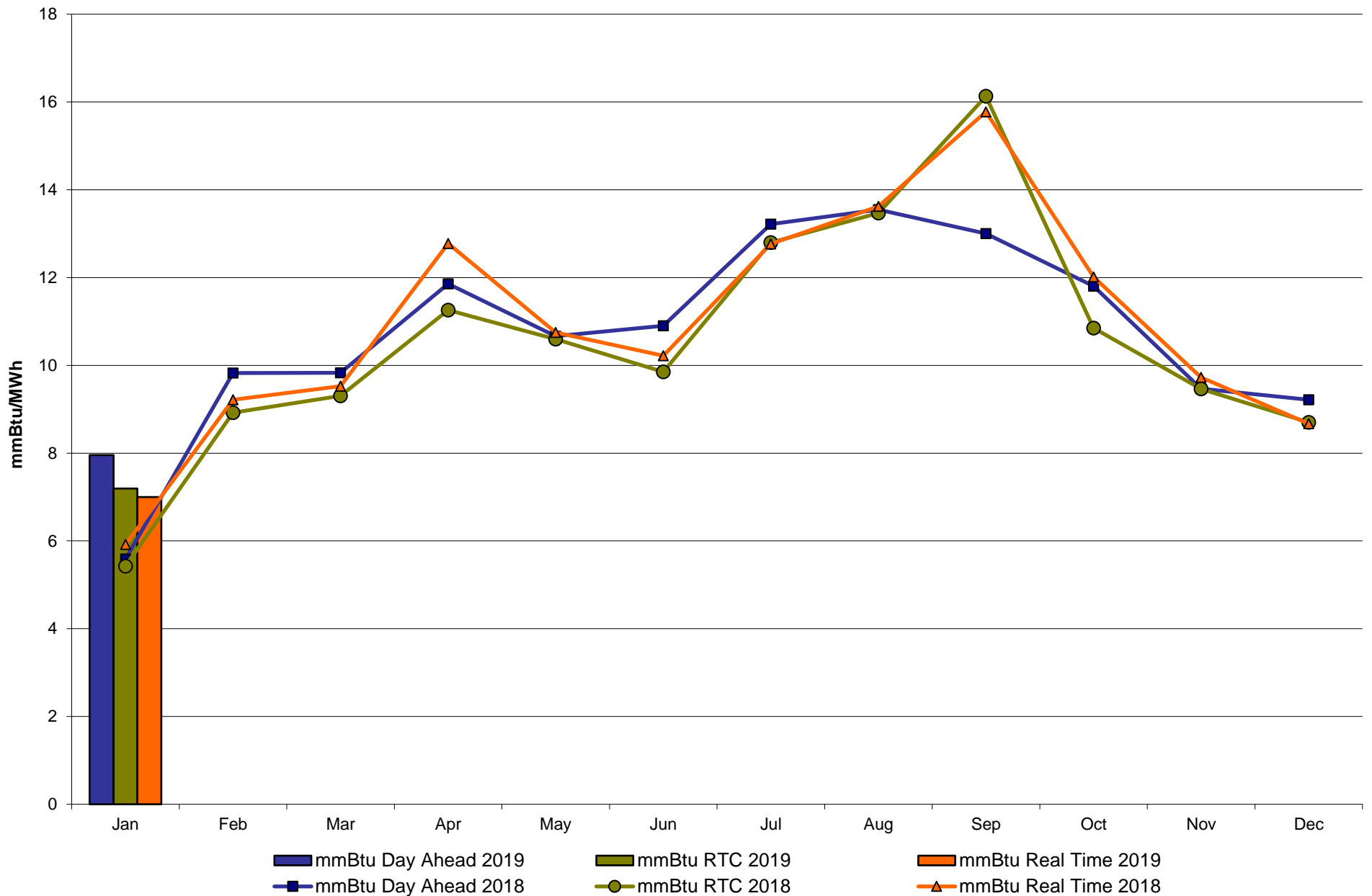
# **NYISO In City Energy Mitigation (NYC Zone) 2018 - 2019** **Monthly megawatt hours mitigated**



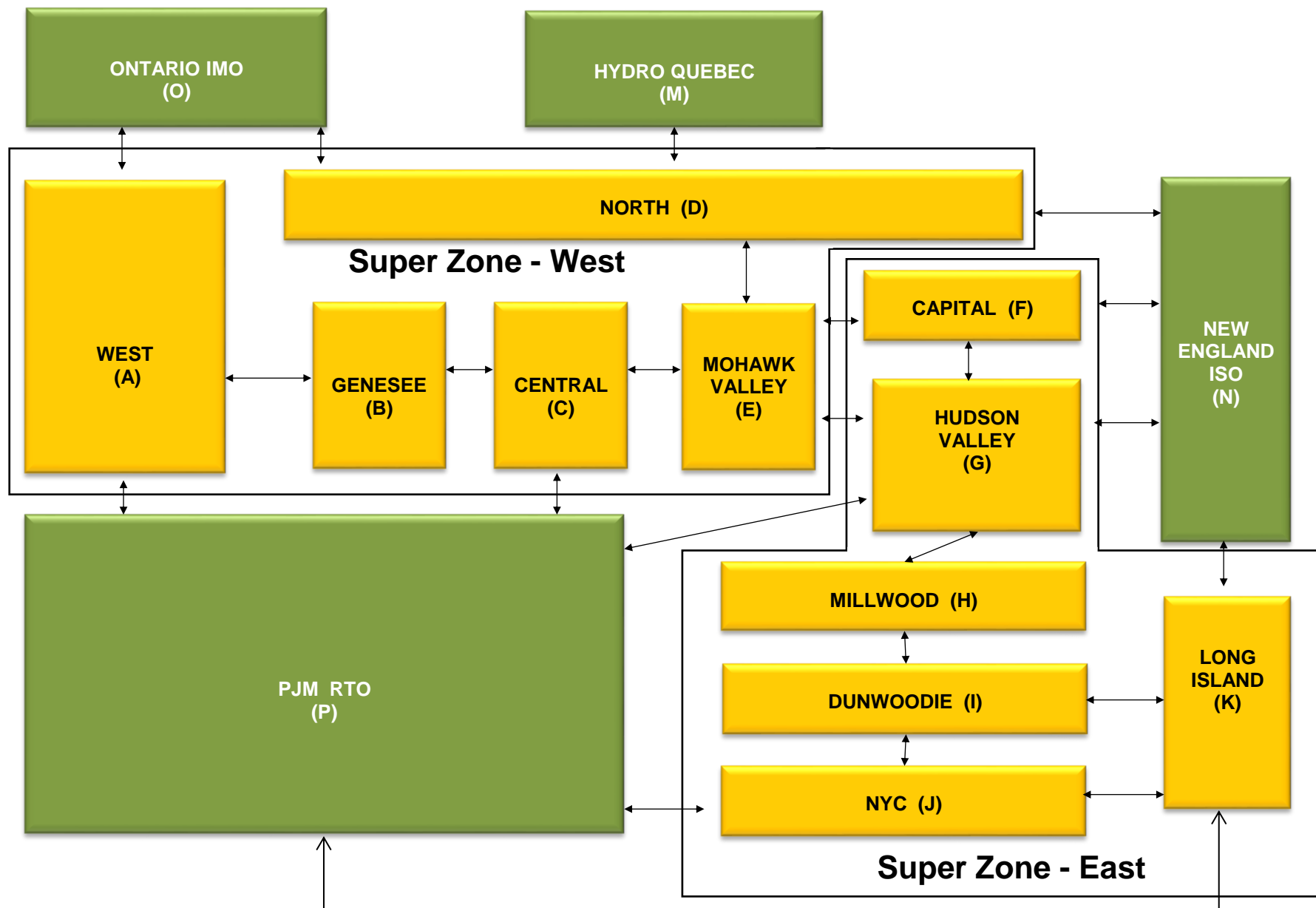
# NYISO Average Daily DAM Load Bid Summary



# Monthly Implied Heat Rate 2018-2019



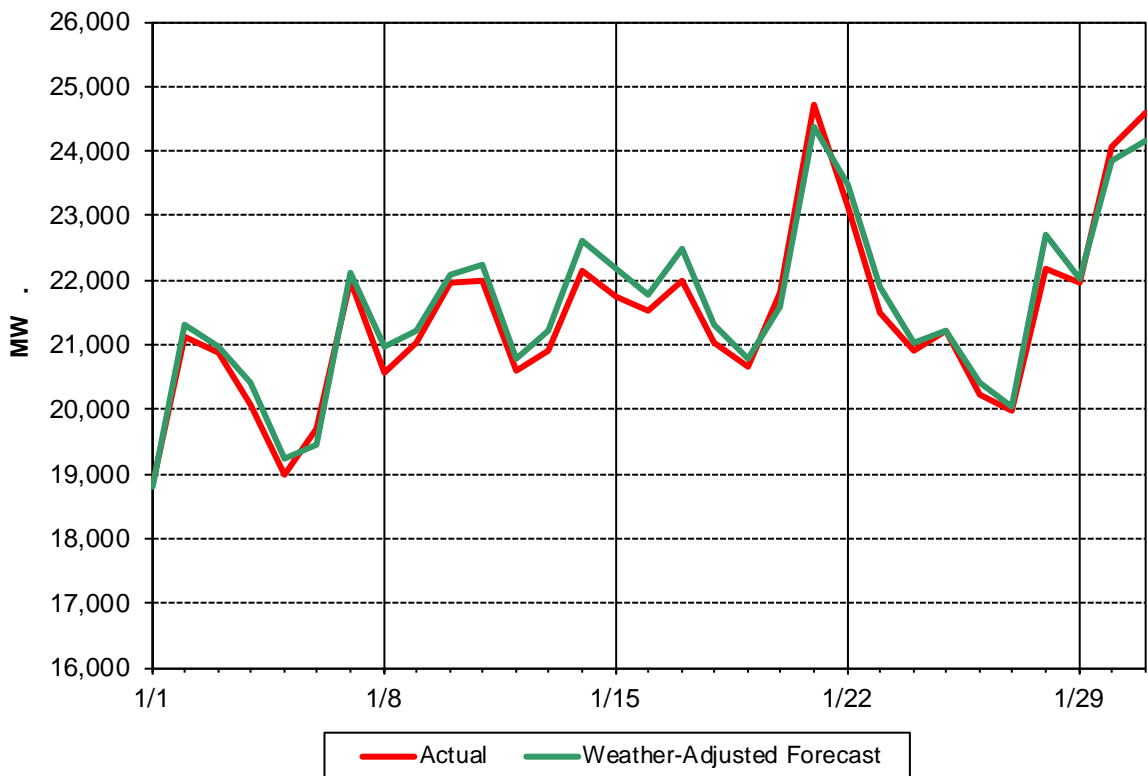
# NYISO LBMP ZONES



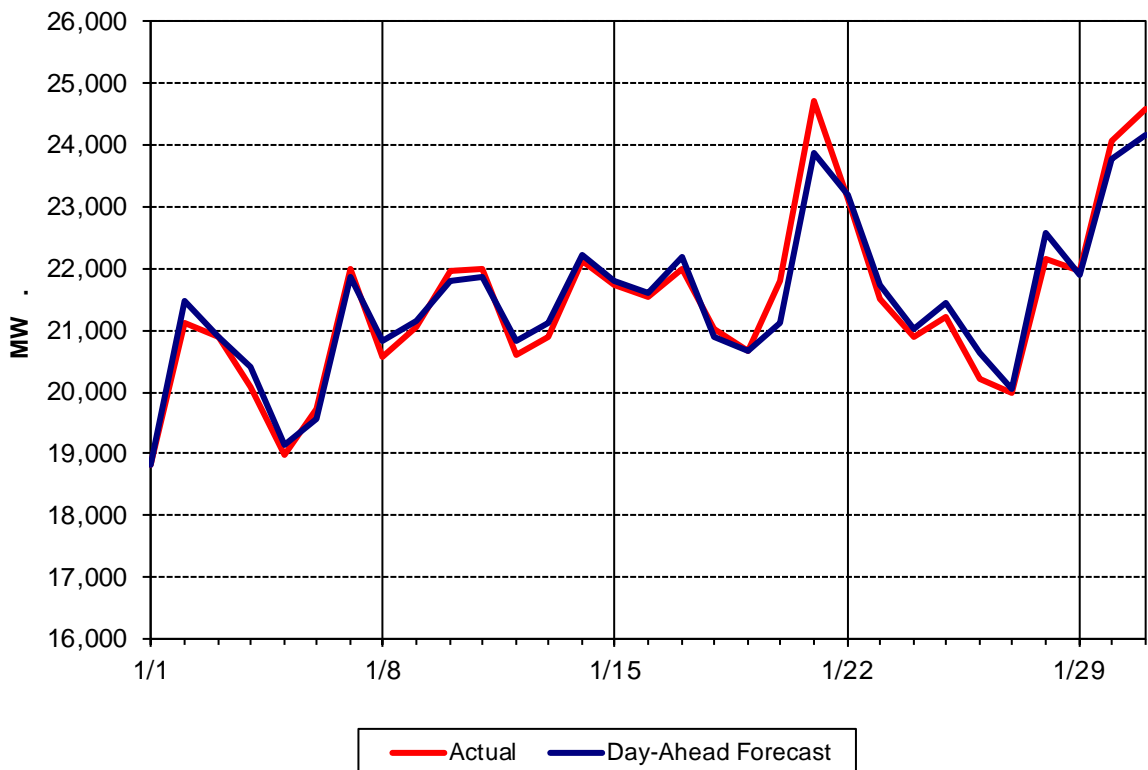
### Billing Codes for Chart C

<u>Chart - C Category Name</u>	<u>Billing Code</u>	<u>Billing Category Name</u>
Bid Production Cost Guarantee Balancing	81203	Balancing NYISO Bid Production Cost Guarantee - Internal Units
Bid Production Cost Guarantee Balancing	81204	Balancing NYISO Bid Production Cost Guarantee - External Units
Bid Production Cost Guarantee Balancing	81205	Balancing NYISO Bid Production Cost Guarantee Expenditure due to Curtailed Imports
Bid Production Cost Guarantee Balancing	81208	Balancing NYISO Bid Production Cost Guarantee - Internal Units
Bid Production Cost Guarantee Balancing	81209	Balancing NYISO Bid Production Cost Guarantee - External Units
Bid Production Cost Guarantee Balancing	81213	Balancing NYISO Bid Production Cost Guarantee Expenditure due to Curtailed Imports
Bid Production Cost Guarantee DAM	81201	DAM NYISO Bid Production Cost Guarantee - Internal Units
Bid Production Cost Guarantee DAM	84001	EDRP/SCR Demand Response - Local
Bid Production Cost Guarantee DAM	84101	EDRP/SCR Demand Response - NYISO Wide
Bid Production Cost Guarantee DAM	81401	DAM Price Responsive Load Program
Bid Production Cost Guarantee DAM	81202	DAM NYISO Bid Production Cost Guarantee - External Units
Bid Production Cost Guarantee DAM	81206	DAM NYISO Bid Production Cost Guarantee - Internal Units
Bid Production Cost Guarantee DAM	81207	DAM NYISO Bid Production Cost Guarantee - External Units
Bid Production Cost Guarantee DAM Virtual	81501	DAM Virtual Bid Production Cost Guarantee
DAM Contract Balancing	81315	DAM Contract Balancing
DAM Contract Balancing	81317	DAM Contract Balancing
Local Reliability Balancing	81002	Balancing Local Reliability Bid Production Cost Guarantee
Local Reliability Balancing	83901	Margin Restoration (MOB) Revenue
Local Reliability DAM	81001	DAM Local Reliability Bid Production Cost Guarantee
NYISO Cost of Operations	80901	NYISO Cost Of Operations
NYISO Cost of Operations	80902	NYISO Cost Of Operations
NYISO Cost of Operations	83501	NYISO Cost Of Operations
NYISO Cost of Operations	83502	NYISO Cost Of Operations
Residuals Balancing	81302	Balancing Market Energy Residual
Residuals Balancing	81304	Balancing Market Loss Residual
Residuals Balancing	81305	Balancing Market Congestion Balancing
Residuals Balancing	81306	Emergency Energy Purchases
Residuals Balancing	81307	Emergency Energy Sales
Residuals Balancing	81309	Balancing Market Energy Residual
Residuals Balancing	81311	Balancing Market Loss Residual
Residuals Balancing	81312	Balancing Market Congestion Balancing
Residuals Balancing	81313	Emergency Energy Purchases
Residuals Balancing	81314	Emergency Energy Sales
Residuals DAM	81301	Day Ahead Market Energy Residual
Residuals DAM	81303	Day Ahead Market Loss Residual
Residuals DAM	81308	Day Ahead Market Energy Residual
Residuals DAM	81310	Day Ahead Market Loss Residual

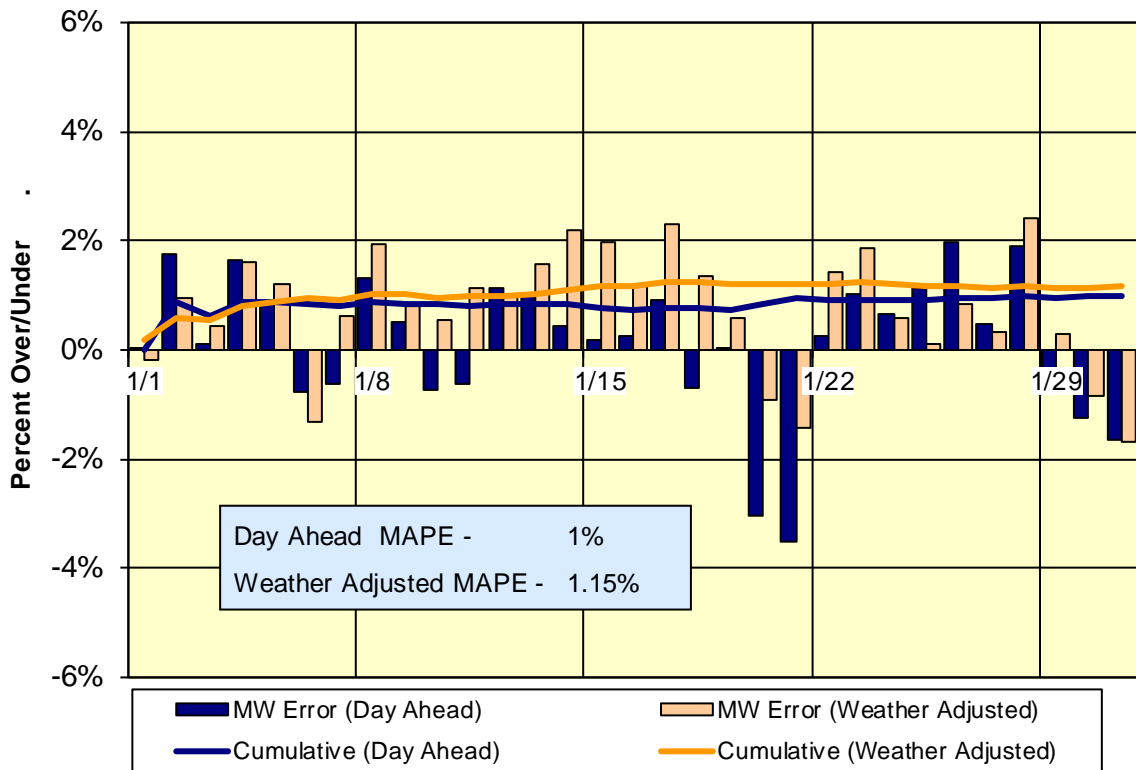
**NYISO Daily Peak Load - January 2019**  
**Actual vs. Weather-Adjusted Forecast**



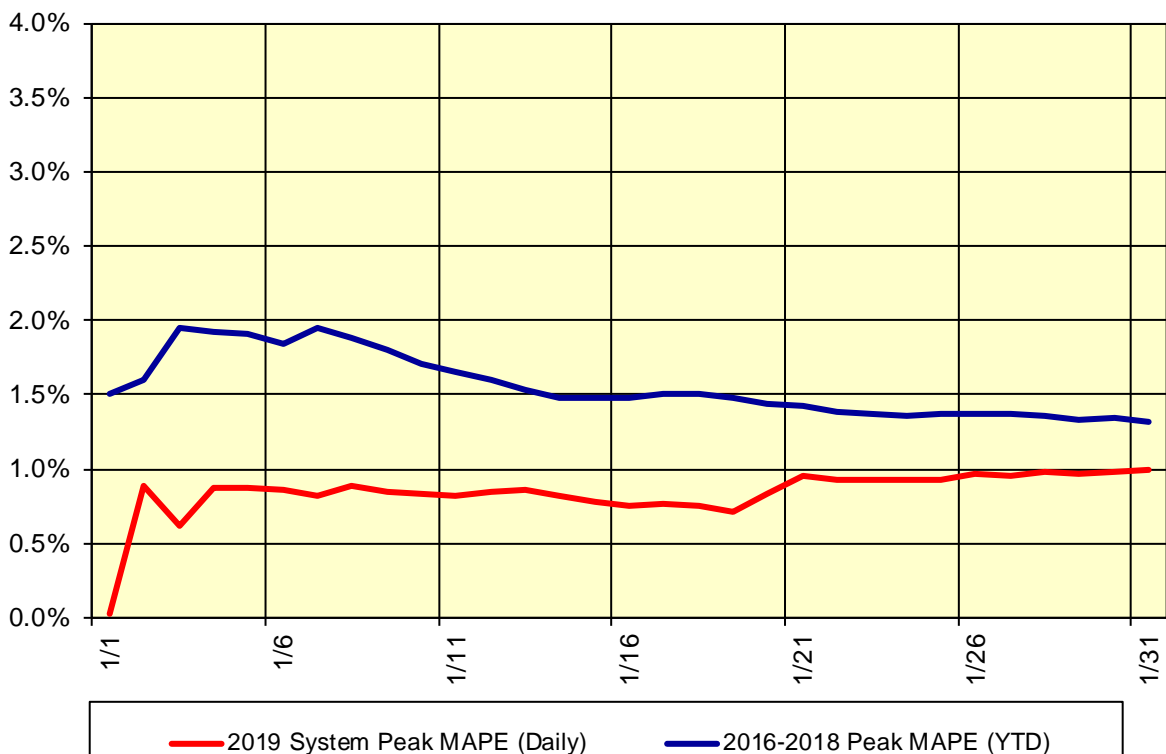
**NYISO Daily Peak Load - January 2019**  
**Actual vs. Forecast**



# Day Ahead Peak Forecast - January 2019 Percent Error - Actual & Weather Adjusted



## Day-Ahead Forecast Accuracy - Cumulative Performance 2019 Year-to-Date



**Summary Description of Regulatory Filings, Investigations,  
Rulemakings and Related Orders in NYISO Matters – January 2019**

<b>Filing Date</b>	<b>Filing Summary</b>	<b>Docket</b>	<b>Order Date</b>	<b>Order Summary</b>
09/07/2018 11/15/2018	NYISO Order No. 844 compliance filing re: uplift cost reporting requirements NYISO Order 844 amended compliance filing re: reporting of uplift paid to Suppliers at external proxy generator buses	ER18-2400-000 ER18-2400-001	01/04/2019	Order accepted compliance filing, as amended, subject to submission of a compliance filing specifying the effective date of the tariff revisions related to the Operator-Initiated Commitment Report at least two weeks in advance of the intended effective date; revisions related to Zonal Uplift Report to be effective 03/15/2019
01/08/2019	NYISO motion to intervene and comment re: NYSRC filing of a 17.0% IRM for the 2019-2020 Capability Year	ER19-659-000		
01/11/2019	NYISO filing on behalf of New York State Electric & Gas Corporation re: cost reimbursement agreement (SA 2444) between NYSEG and Mid-Atlantic Interstate Transmission	ER19-797-000		
01/15/2019	NYISO informational compliance filing re: annual Demand Side Management programs report	ER01-3001-000		
01/15/2019	NYISO confidential filing to the PSC re: three-month Reliability Commitment Data Report for the period ending 12/31/2018	PSC Matter No. 10-02007		
01/17/2019	NYISO filing to the PSC re: report of funds received from the credit facilities authorized in Case 15-E-0655 for the period 01/01/2018 - 12/31/2018	PSC Case No. 15-E-0655		
01/17/2019	NYISO answer to NY Transco comments re: NYISO's 12/11/2018 filing of tariff revisions regarding the Public Policy Transmission Planning Process	ER19-528-000		
01/22/2019	NYISO filing to the PSC re: comments in support of the PSC NOPR in "Proposed Public Policy Transmission Needs/Public Policy Requirements"	PSC Case No. 18-E-0623		
01/23/2019	NYISO filing to the PSC re: comments in support of the proposed rulemaking on the New York State Reliability Council's establishment of an Installed Reserve Margin of 17.0% for the New York Control Area	PSC Case No. 07-E-0088		