



# **Monthly Report**

A Report by the  
New York Independent System Operator

**December 2022**

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



## ***December 2022 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 January 10, 2023.

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## December 2022 Operations Performance Highlights

- December 2022 peak load of 22,004 MW occurred on 12/24/2022 HB 17
- Winter 2022-2023 capability period peak load to date of 22,004MW occurred on 12/24/2022 HB 17
- All-time winter capability period peak load of 25,738 MW occurred on 01/07/2014 HB 18
- 0.06 hours of Thunderstorm Alerts were declared
- 24 hours of NERC TLR level 3 curtailment
- Autumn 2022-2023 January Balance of Period auction clearing price for the January period Central-Capital is 107.75 \$/MWh
- The NYISO purchased emergency energy from ISO-NE and IESO to facilitate energy deliveries to PJM on 12/24, for HB8

Installed Wind, Solar and Energy Storage Resource Nameplate Values:

Land-Based Wind	Behind-the-Meter Solar	Front-of-the-Meter Solar	Energy Storage Resource (ESR)
2,191 MW	4,255 MW	94 MW	20 MW

Estimated production cost savings associated with the Broader Regional Market initiatives:

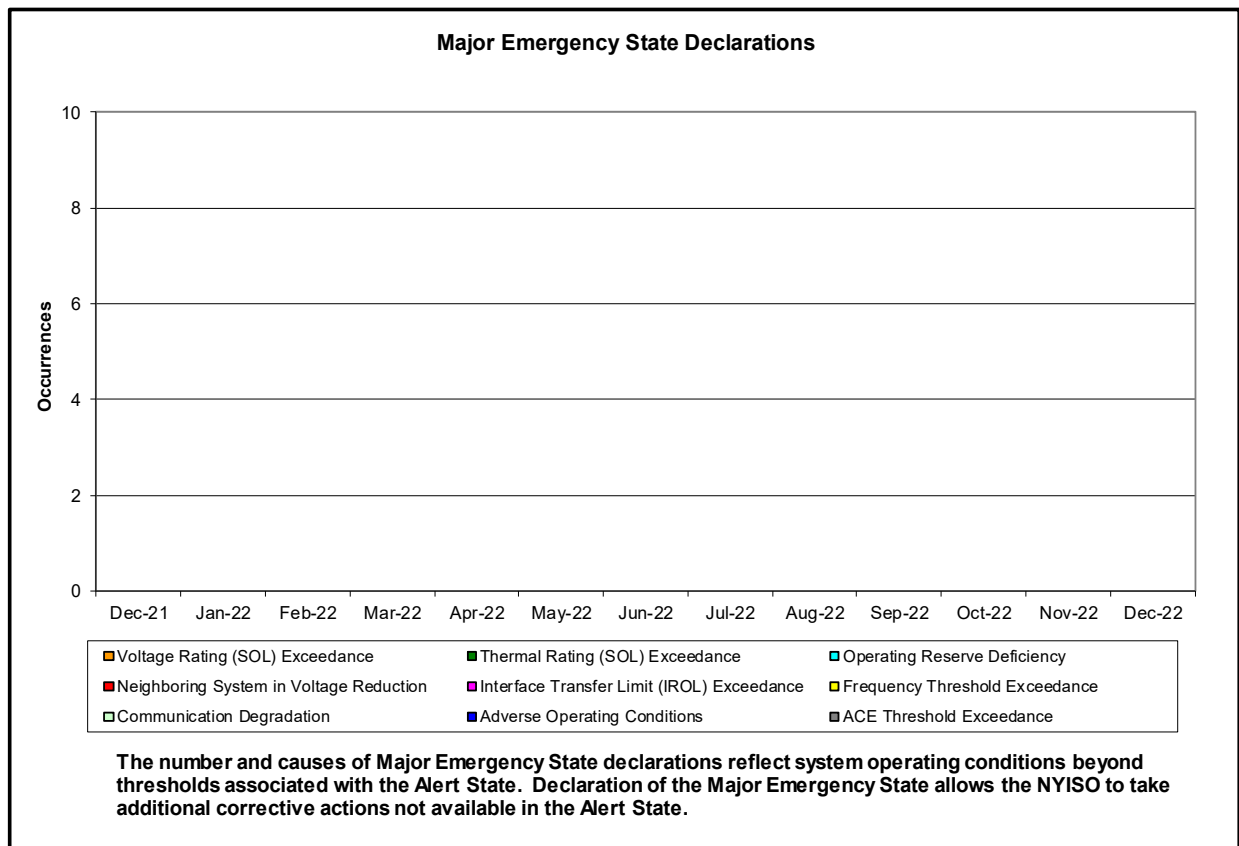
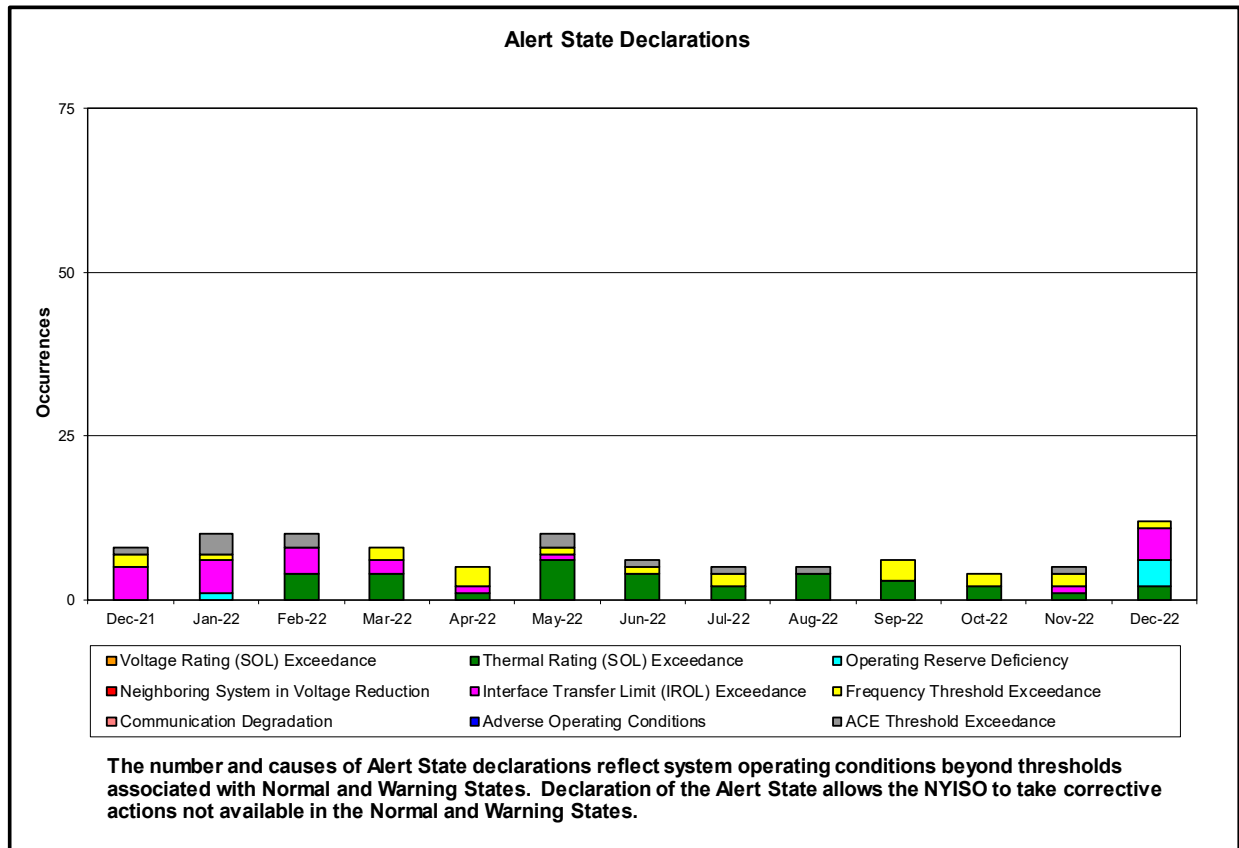
	Current Month Value (\$M)	Year-to-Date Value (\$M)
<b>NY Savings from PJM-NY Congestion Coordination</b>	\$5.06	\$45.81
<b>NY Savings from PJM-NY Coordinated Transaction Scheduling</b>	\$0.92	\$2.45
<b>NY Savings from NE-NY Coordinated Transaction Scheduling</b>	\$0.17	\$8.29
<b>Total NY Savings</b>	<b>\$6.15</b>	<b>\$56.55</b>
<b>Regional Savings from PJM-NY Coordinated Transaction Scheduling</b>	\$0.98	\$7.63
<b>Regional Savings from NE-NY Coordinated Transaction Scheduling</b>	\$0.25	\$3.60
<b>Total Regional Savings</b>	<b>\$1.23</b>	<b>\$11.23</b>

- Statewide uplift cost monthly average was (\$1.02)/MWh.
- The following table identifies the Monthly ICAP spot market prices and the price delta.

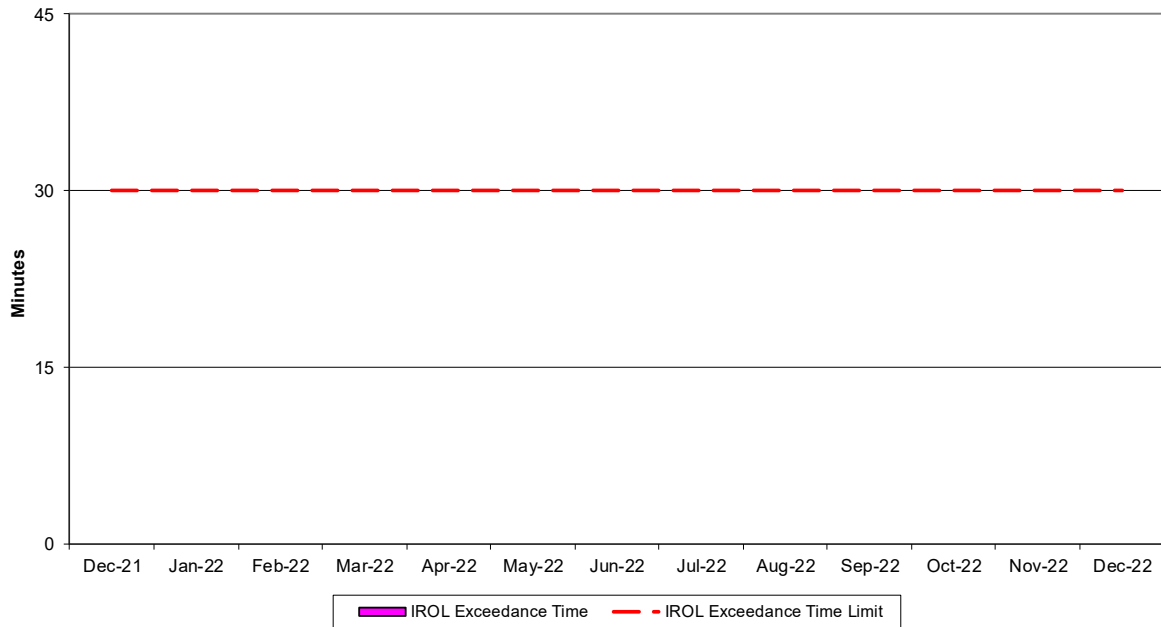
Spot Auction Price Results	NYCA	Lower Hudson Valley Zones	New York City Zone	Long Island Zone
January 2023 Spot Price	\$4.39	\$4.39	\$4.39	\$4.39
December 2022 Spot Price	\$2.06	\$2.06	\$2.06	\$2.06
Delta	\$2.33	\$2.33	\$2.33	\$2.33

- Price increases were driven by a decline in net imports to NYCA

## Reliability Performance Metrics

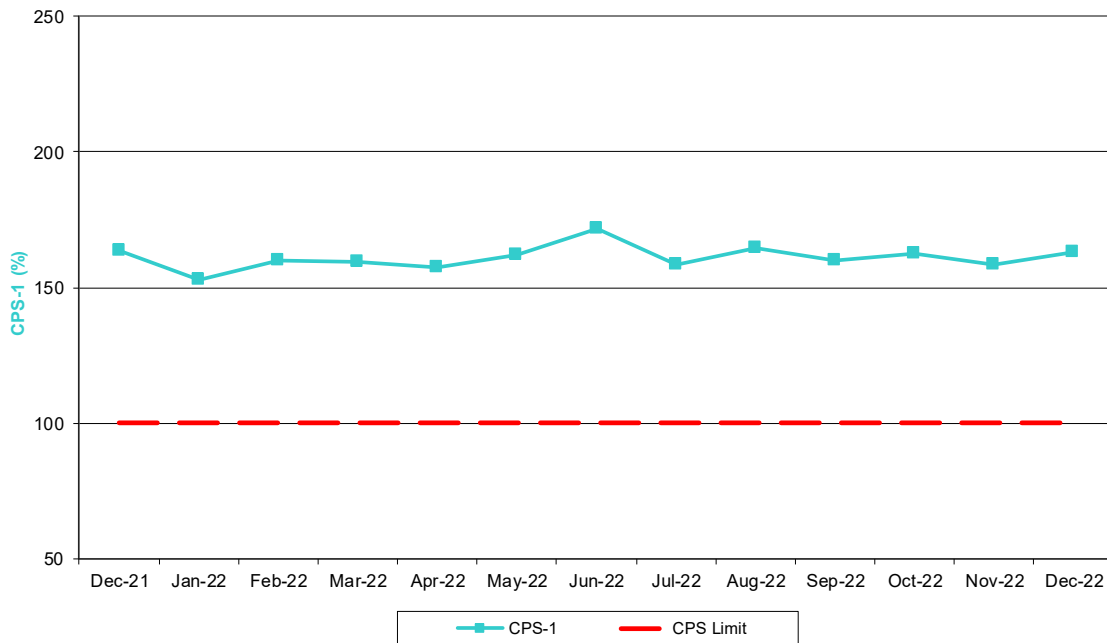


### NERC IROL Time Over Limit



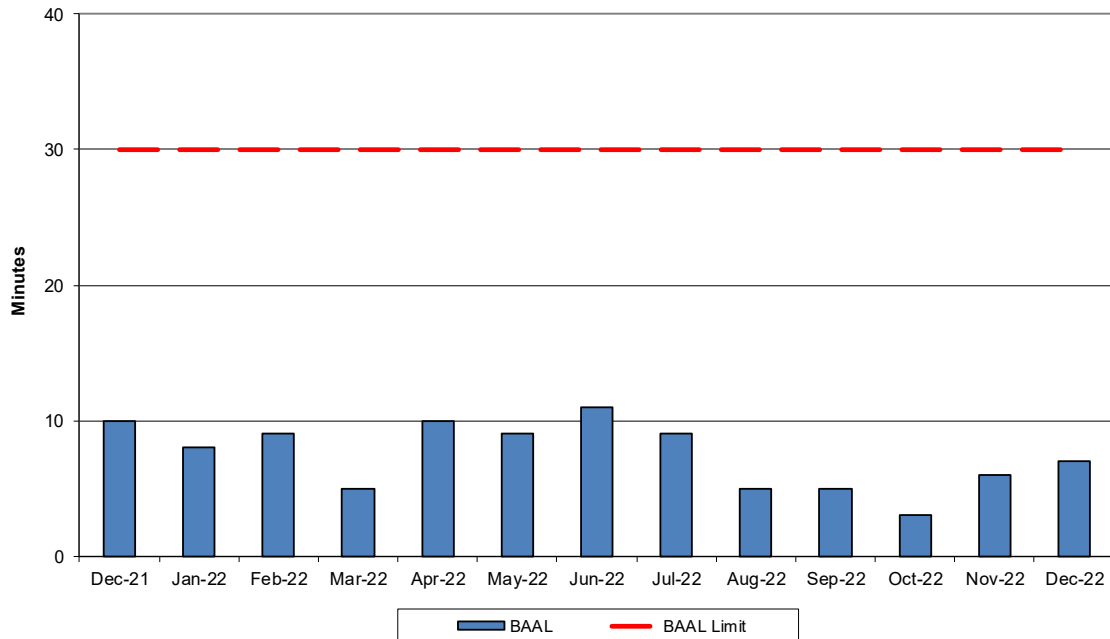
For IROL exceedances leading to Major Emergency State declarations, the maximum IROL exceedance time is identified. IROL exceedances of less than thirty minutes are considered NERC compliant.

### NERC Control Performance Standards



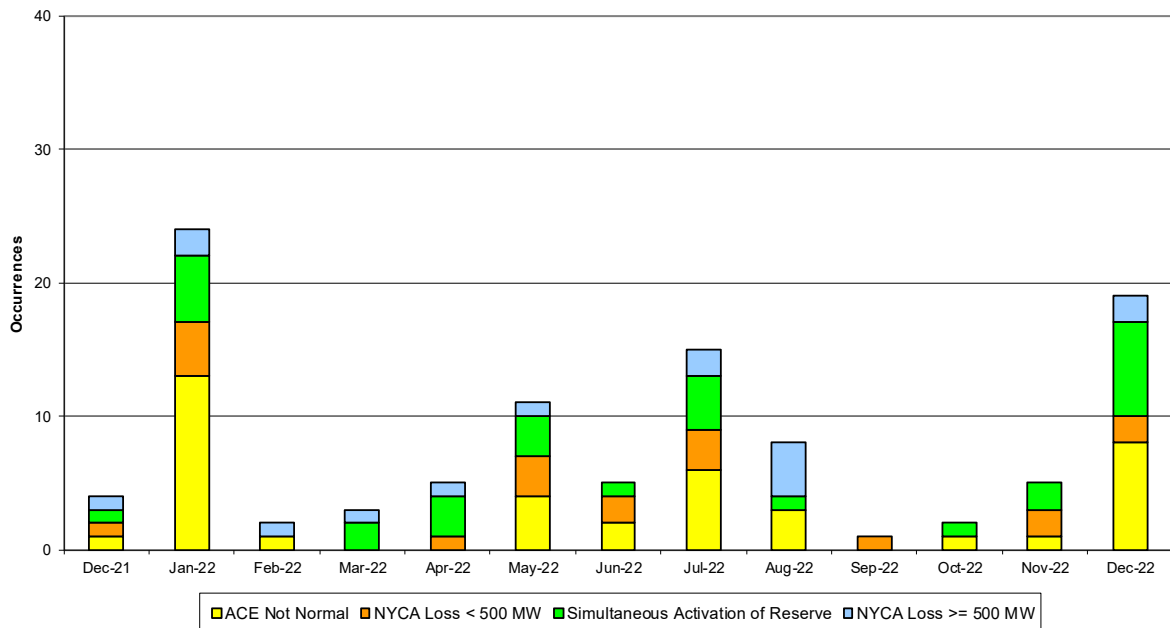
The value of NERC Control Performance Standards (CPS-1) is an indicator of the NYISO Area resource and demand balancing. Values exceeding the identified threshold are NERC compliant.

### 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.

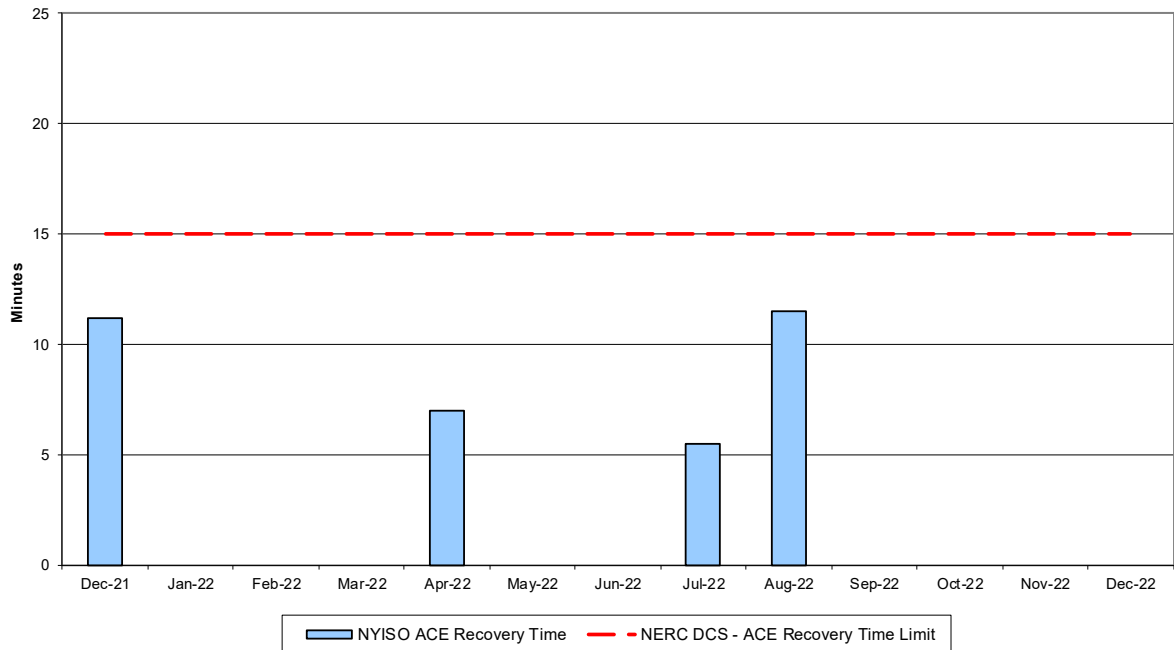
### Reserve Activations



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.

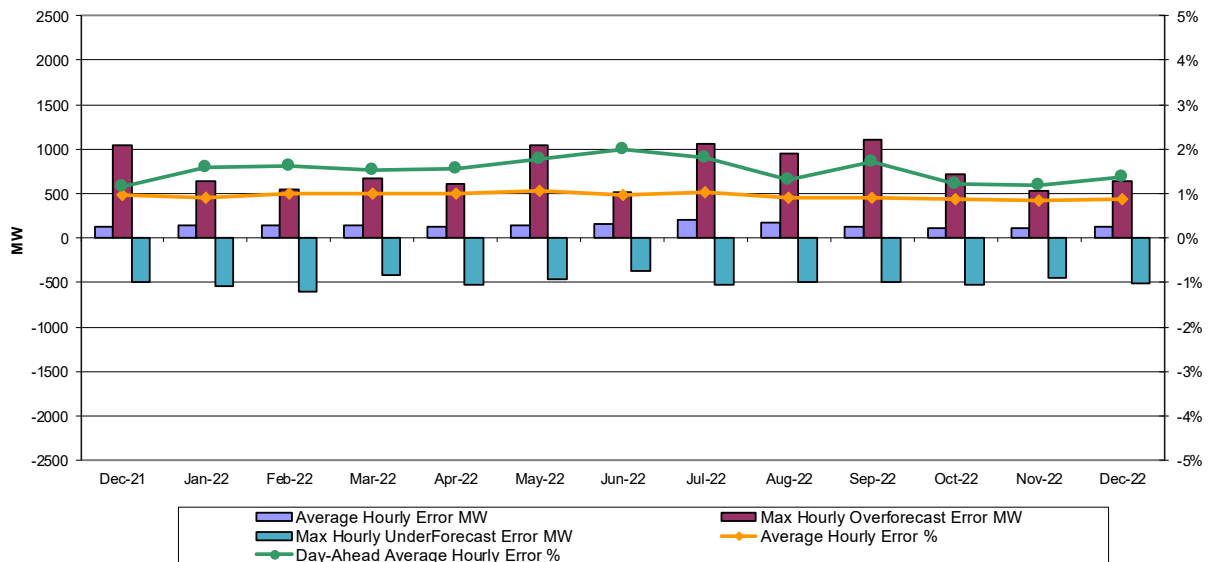


### DCS Event Time to ACE Recovery



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

### Load Forecast Performance

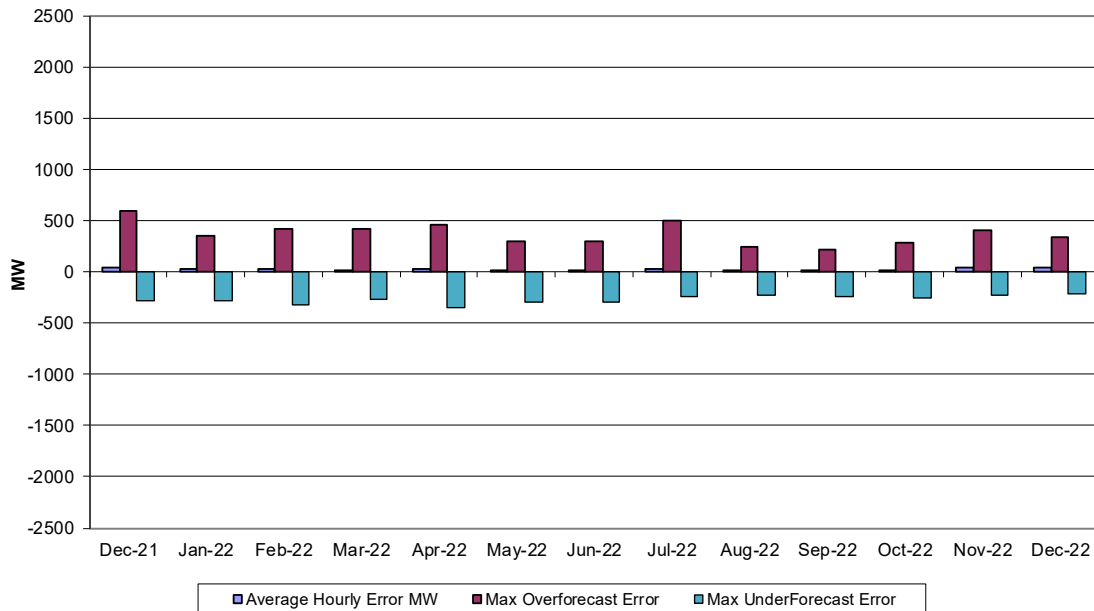


**Hourly Error MW** - Value of the difference between the hourly average actual load demand and the average hour ahead forecast load demand.

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

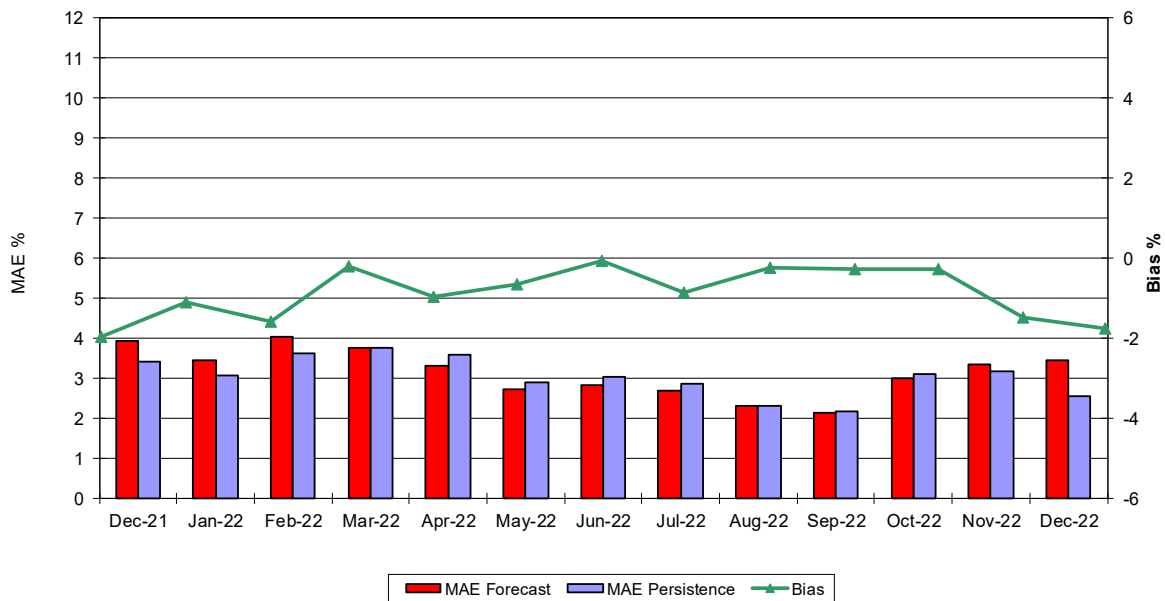
**Day-Ahead Average Hourly Error %** - Average across all hours of the month of the absolute value of the difference between actual load demand and the Day-Ahead forecast load demand, divided by the actual load demand.

### Wind Forecast Performance Hour Ahead MW Error

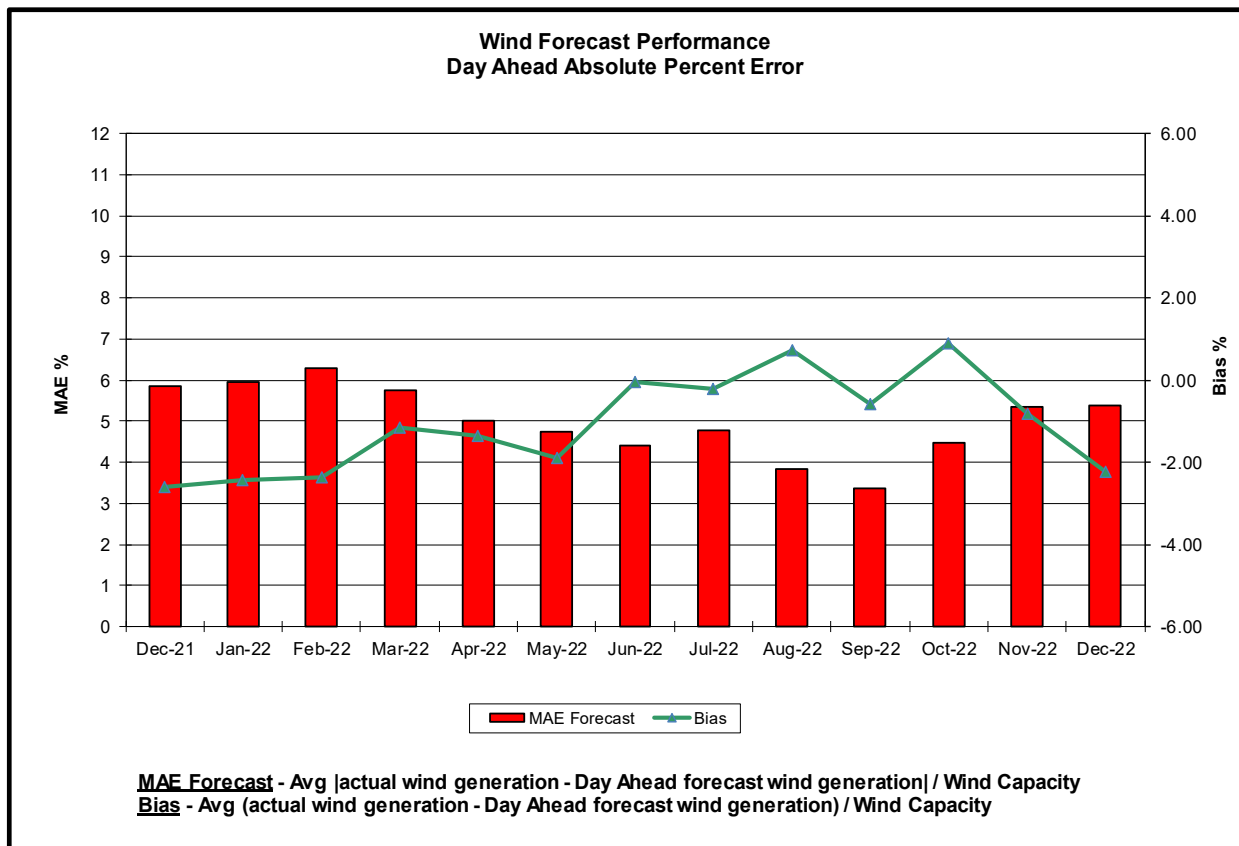
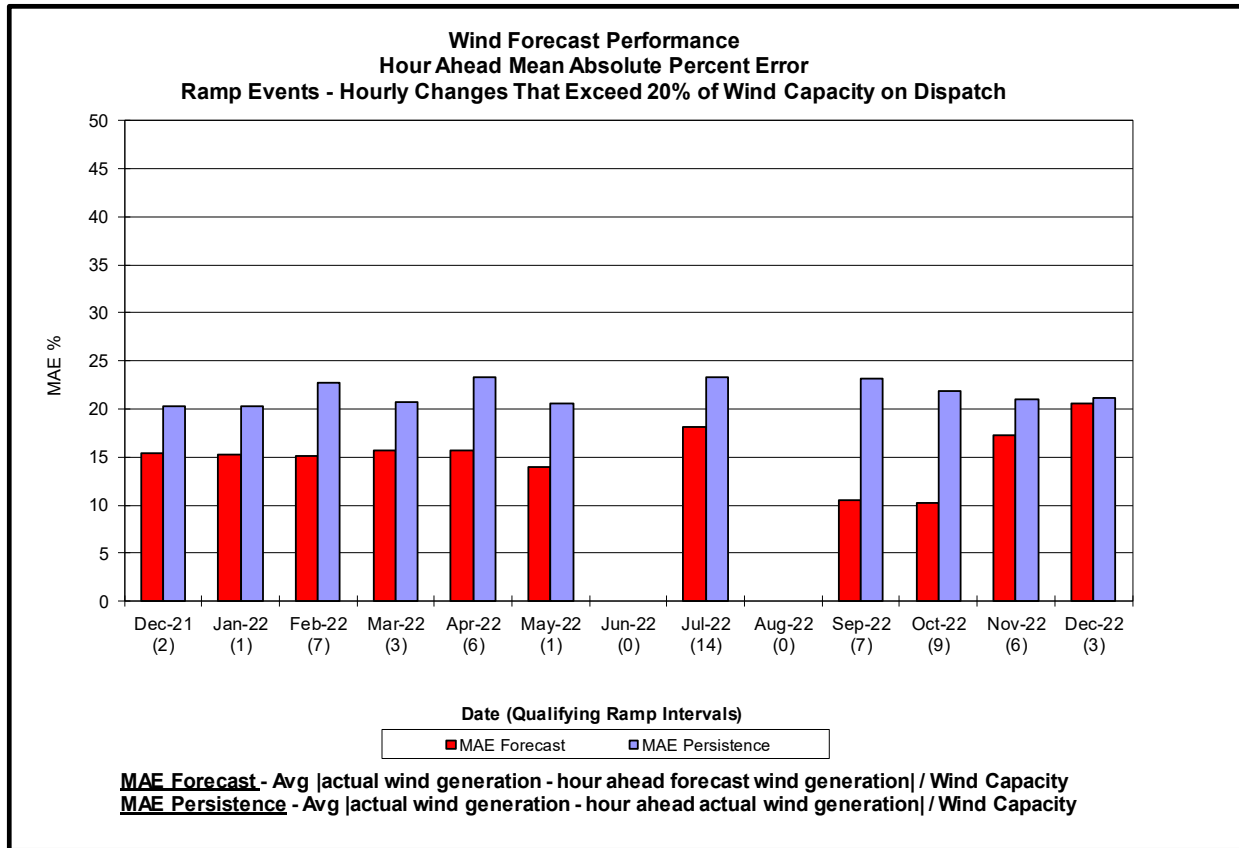


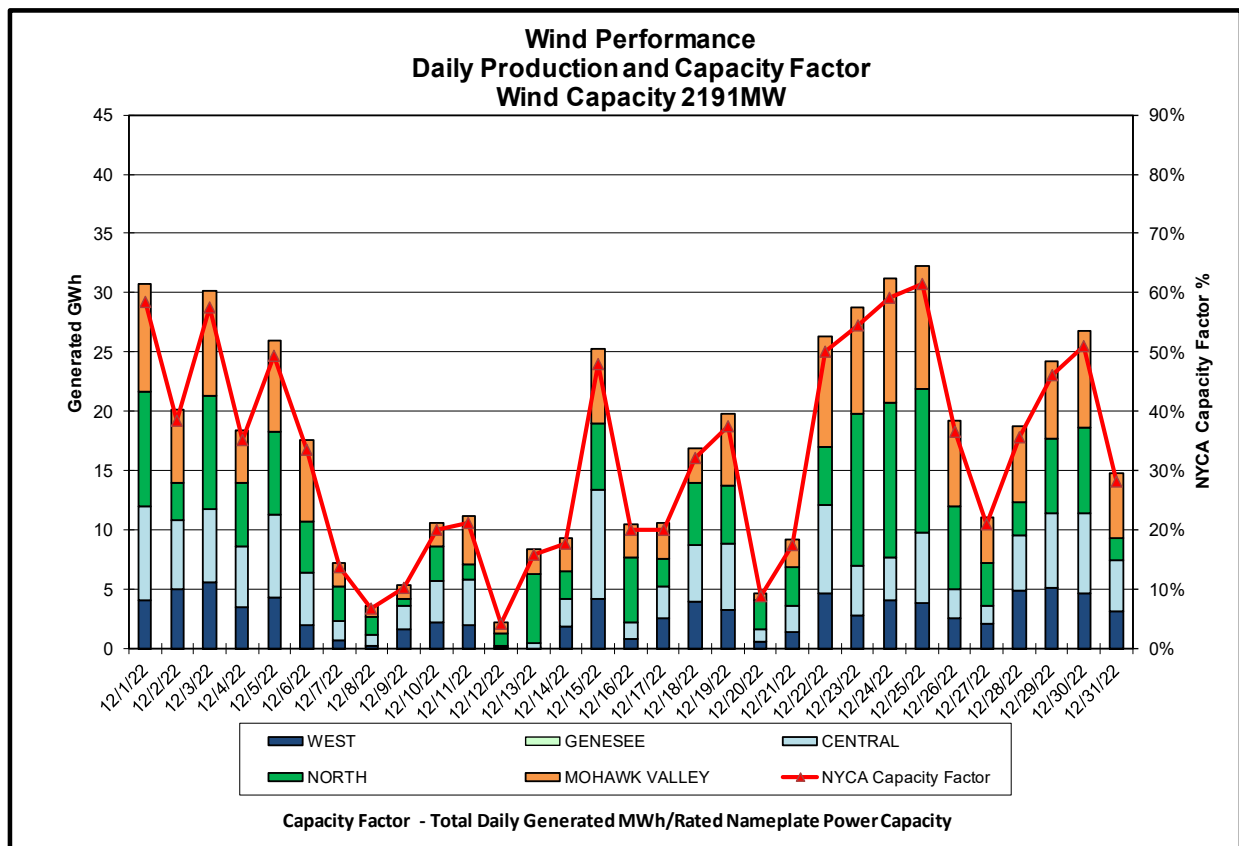
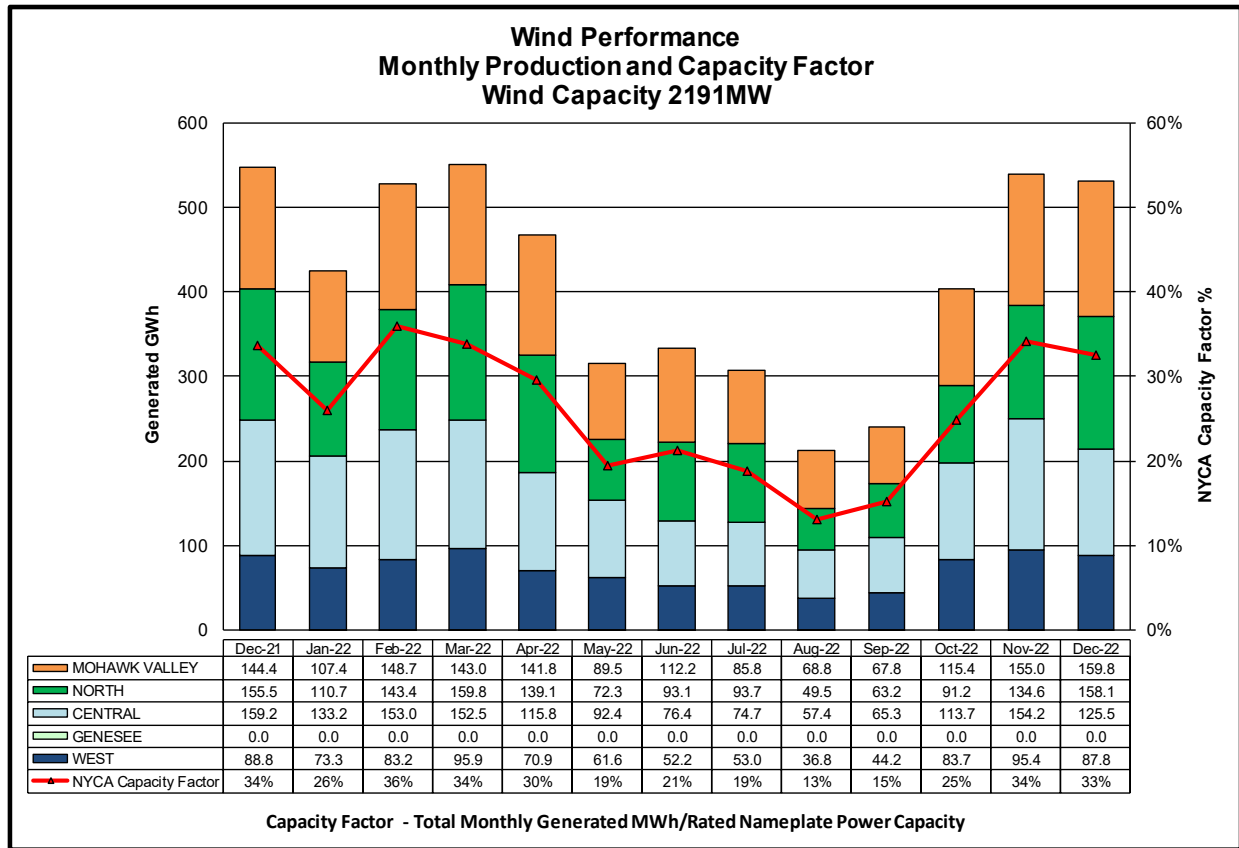
**Hourly Error MW** - Value of the difference between the hourly average actual wind generation and the average hour ahead forecast wind generation.

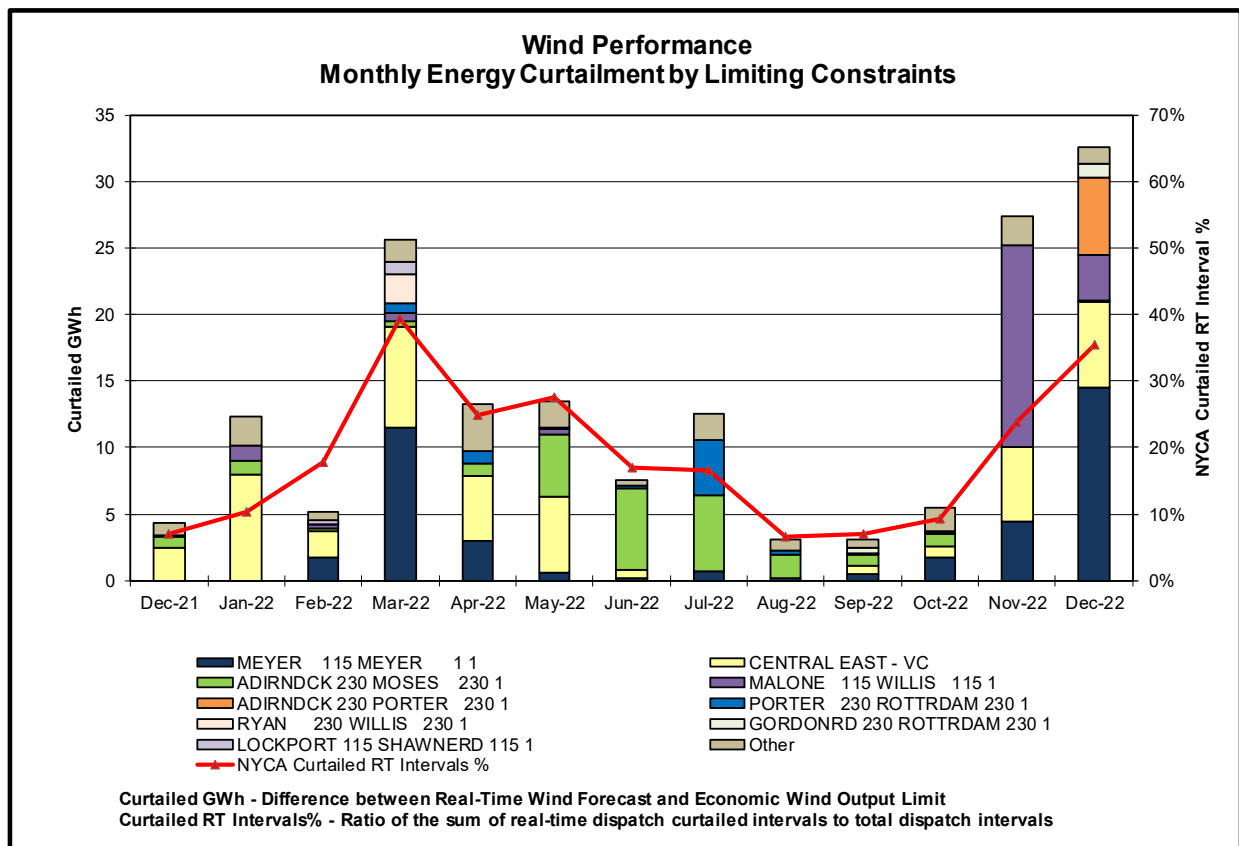
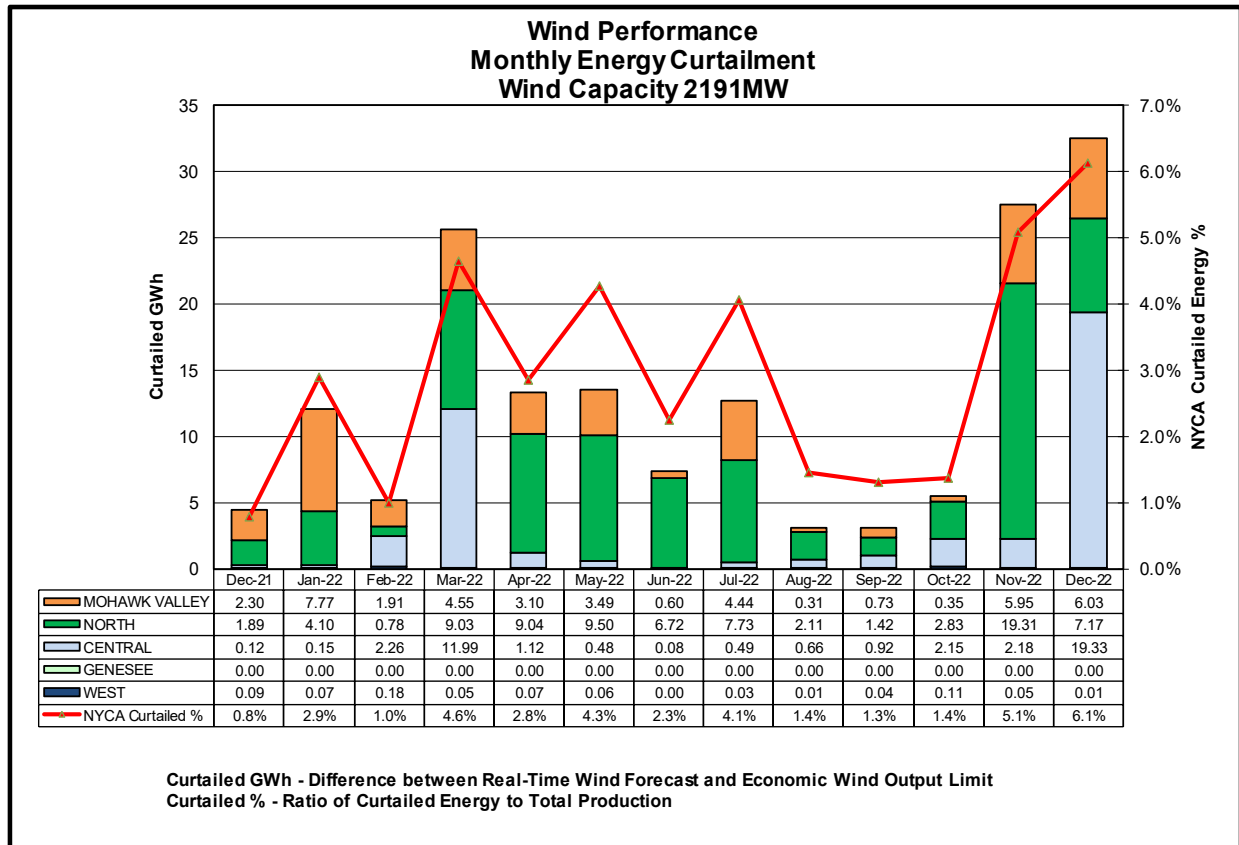
### Wind Forecast Performance Hour Ahead Percent Error

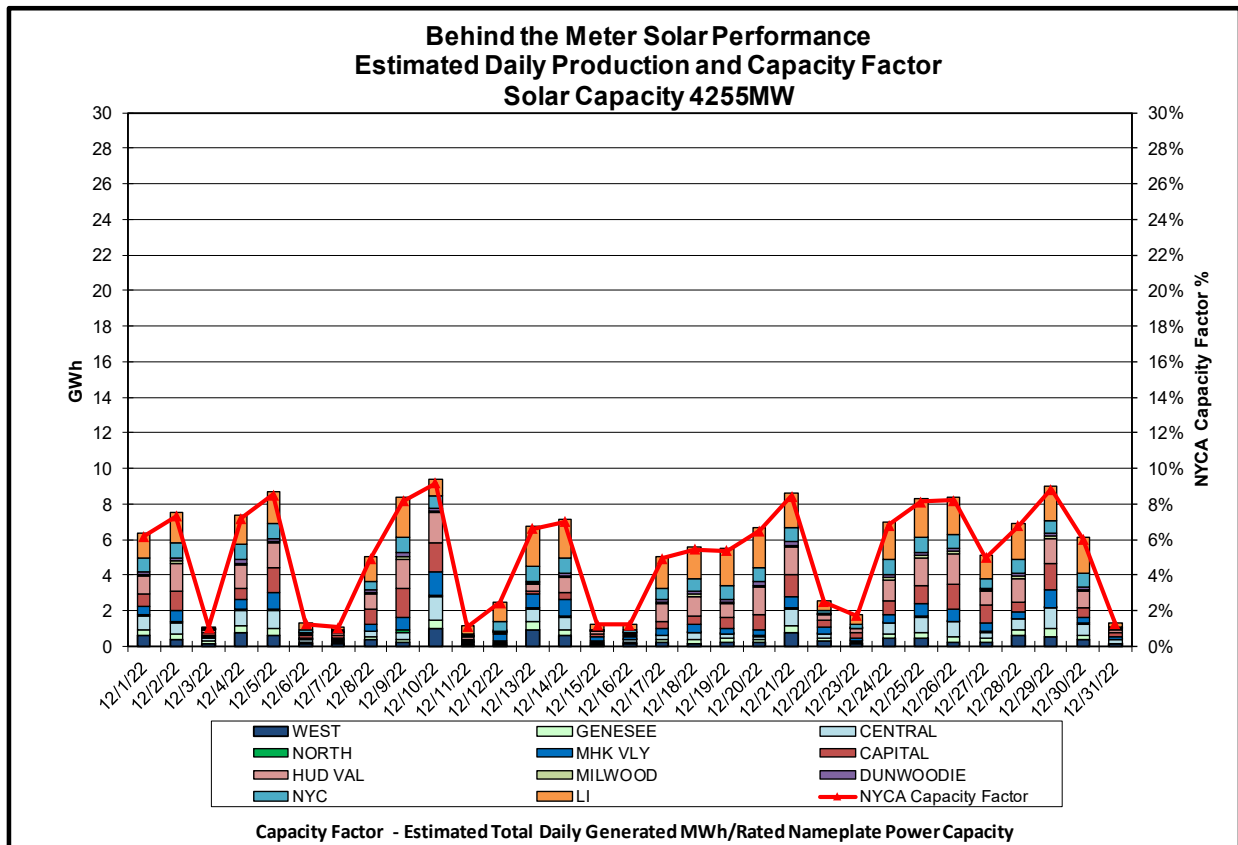
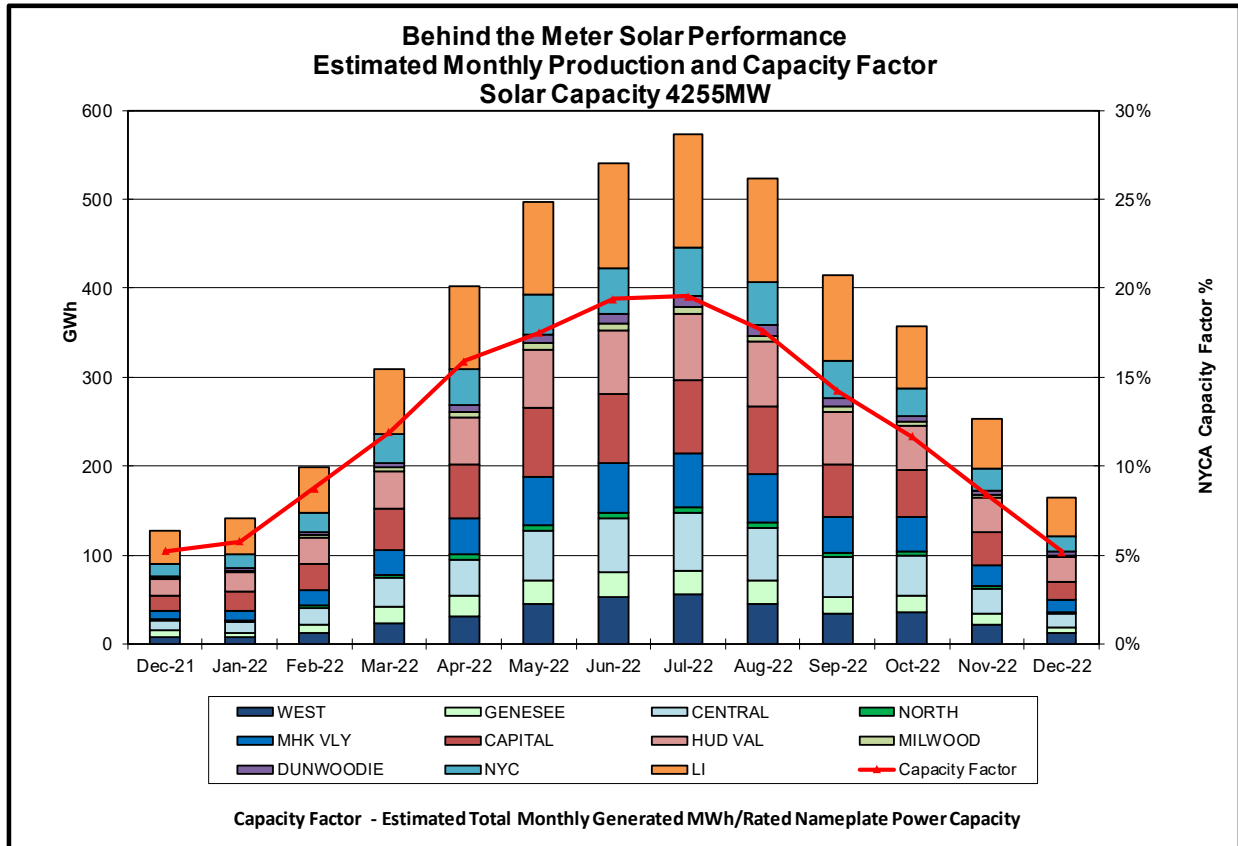


**MAE Forecast** - Avg |actual wind generation - hour ahead forecast wind generation| / Wind Capacity  
**MAE Persistence** - Avg |actual wind generation - hour ahead actual wind generation| / Wind Capacity  
**Bias** - Avg (actual wind generation - hour ahead forecast wind generation) / Wind Capacity

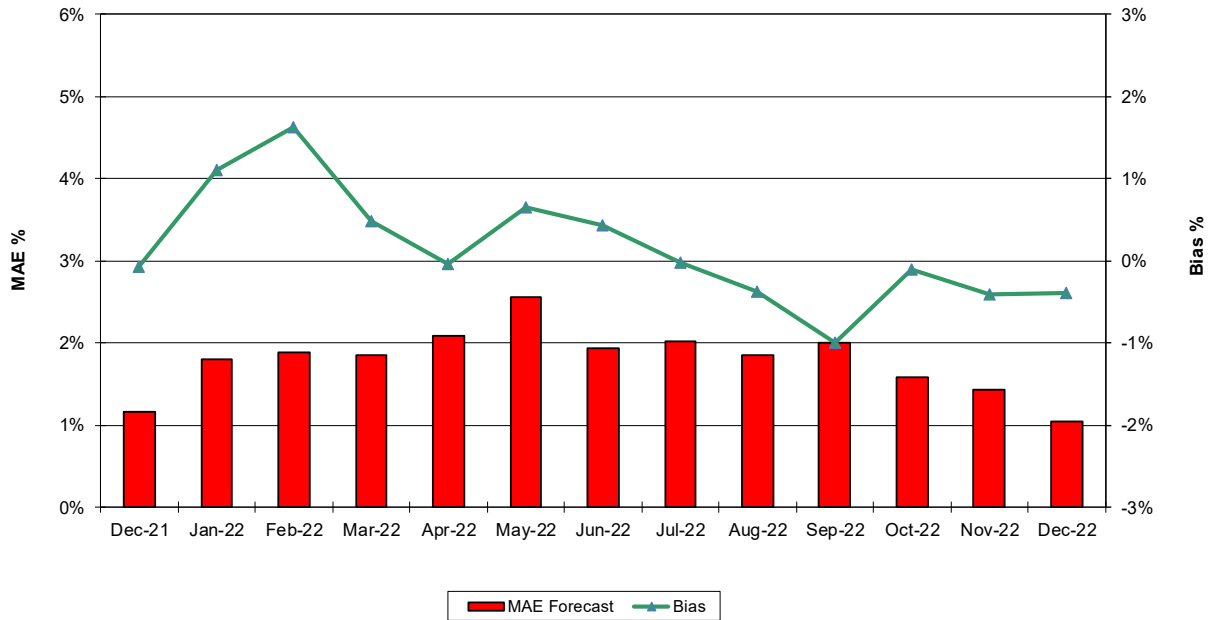






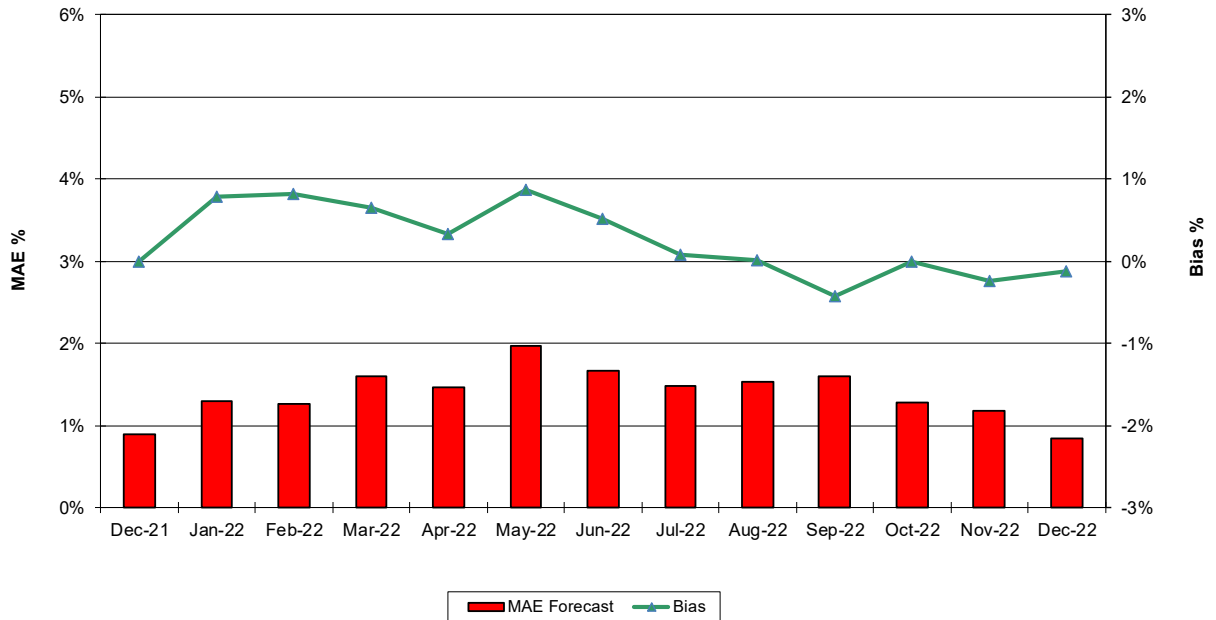


### Behind the Meter Solar Forecast Performance Day Ahead Percent Error

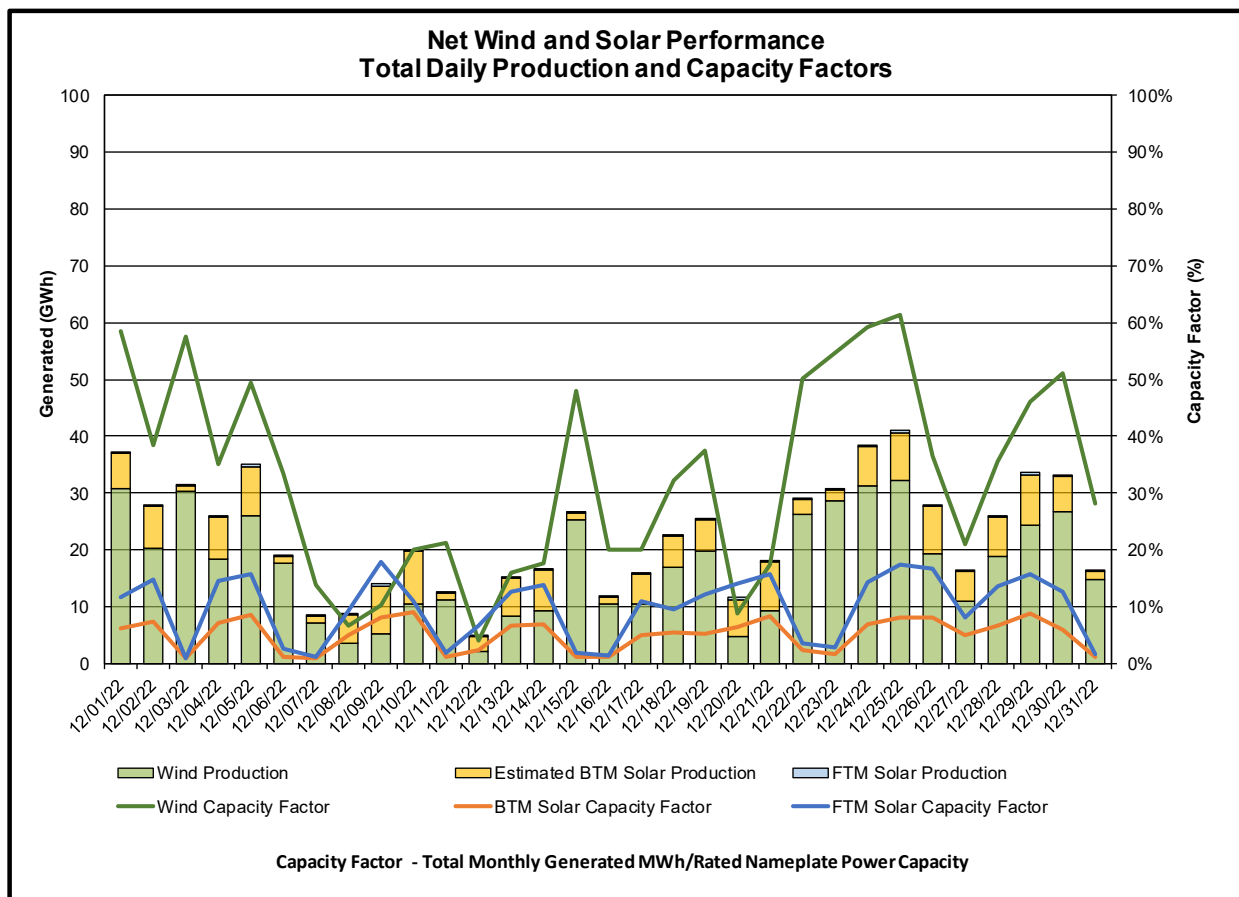
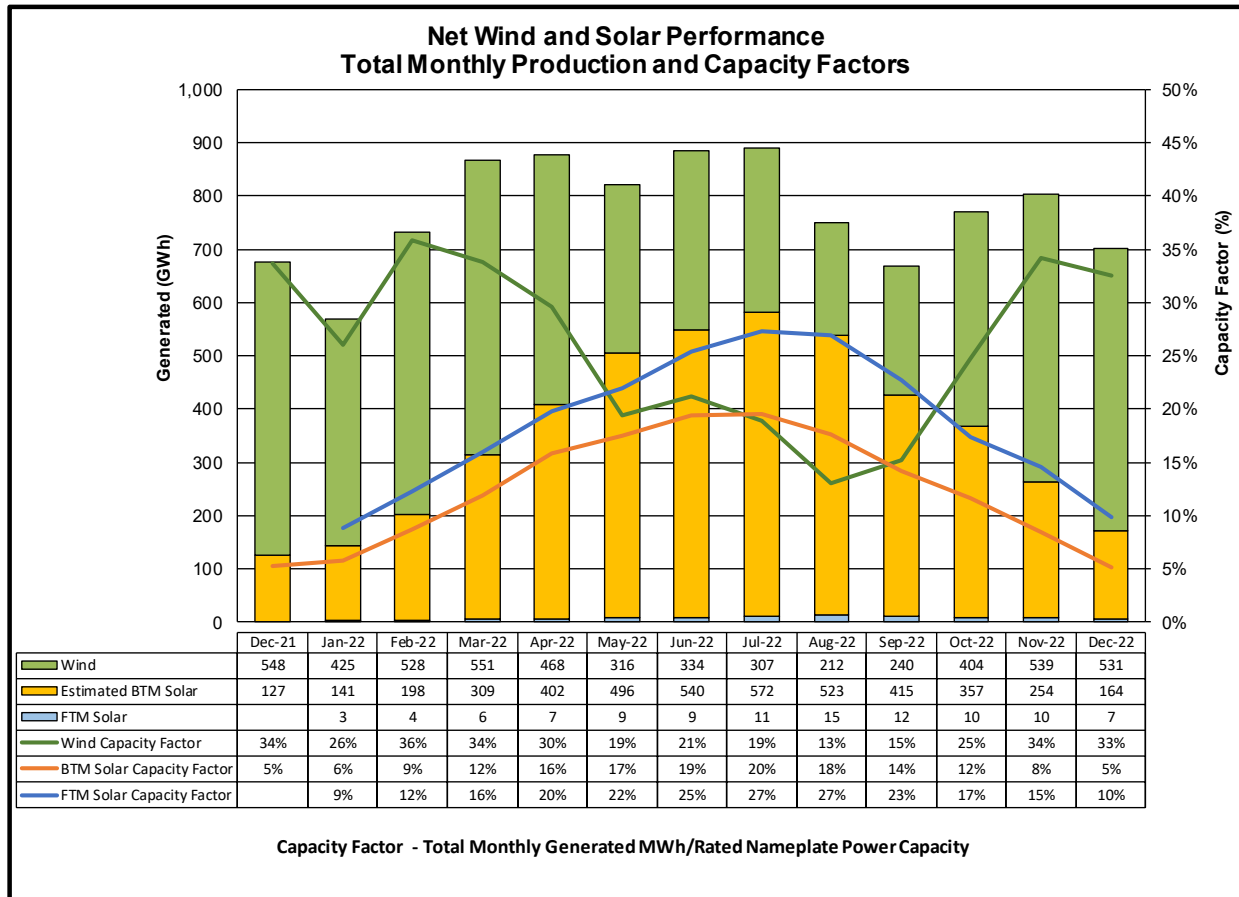


**MAE Forecast** - Avg |est. actual solar generation - Day Ahead forecast solar generation| / Solar Capacity  
**Bias** - Avg (est. actual solar generation - Day Ahead forecast solar generation) / Solar Capacity

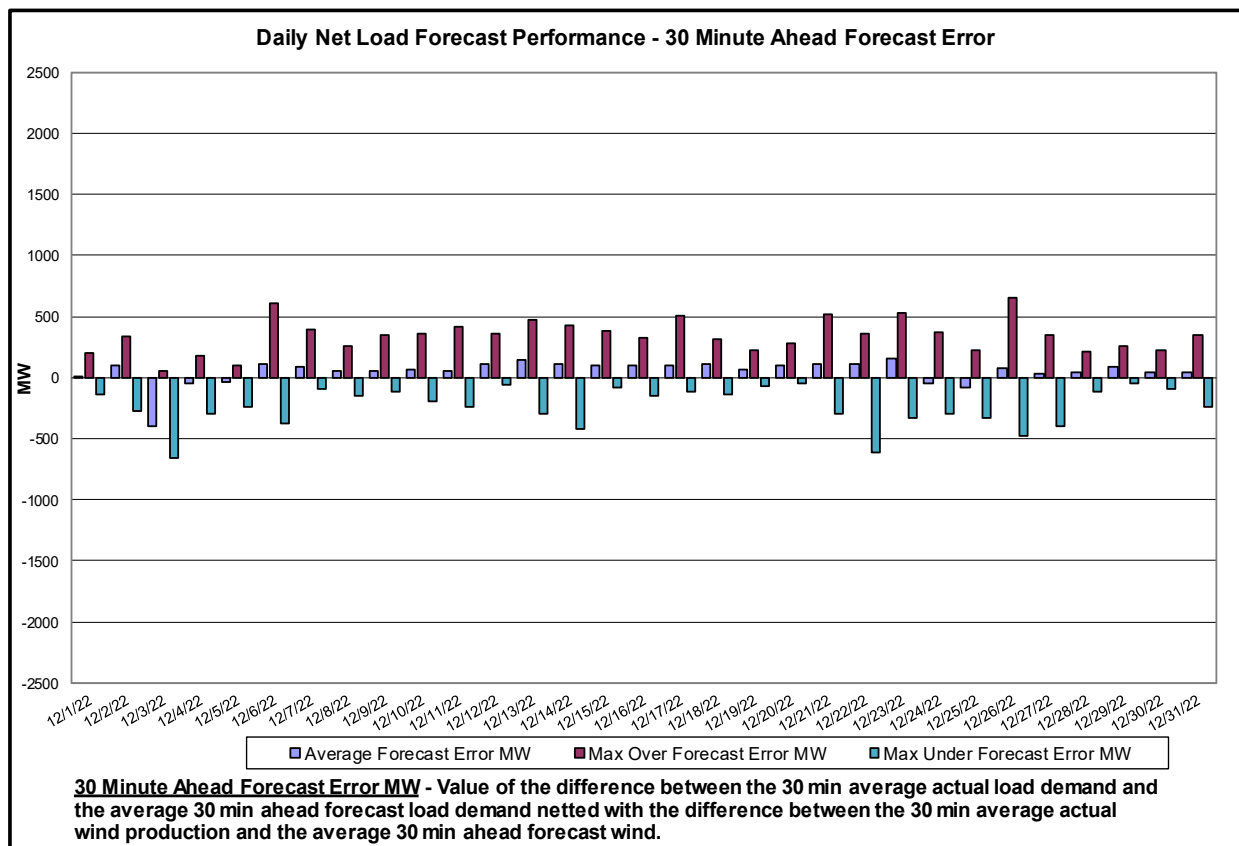
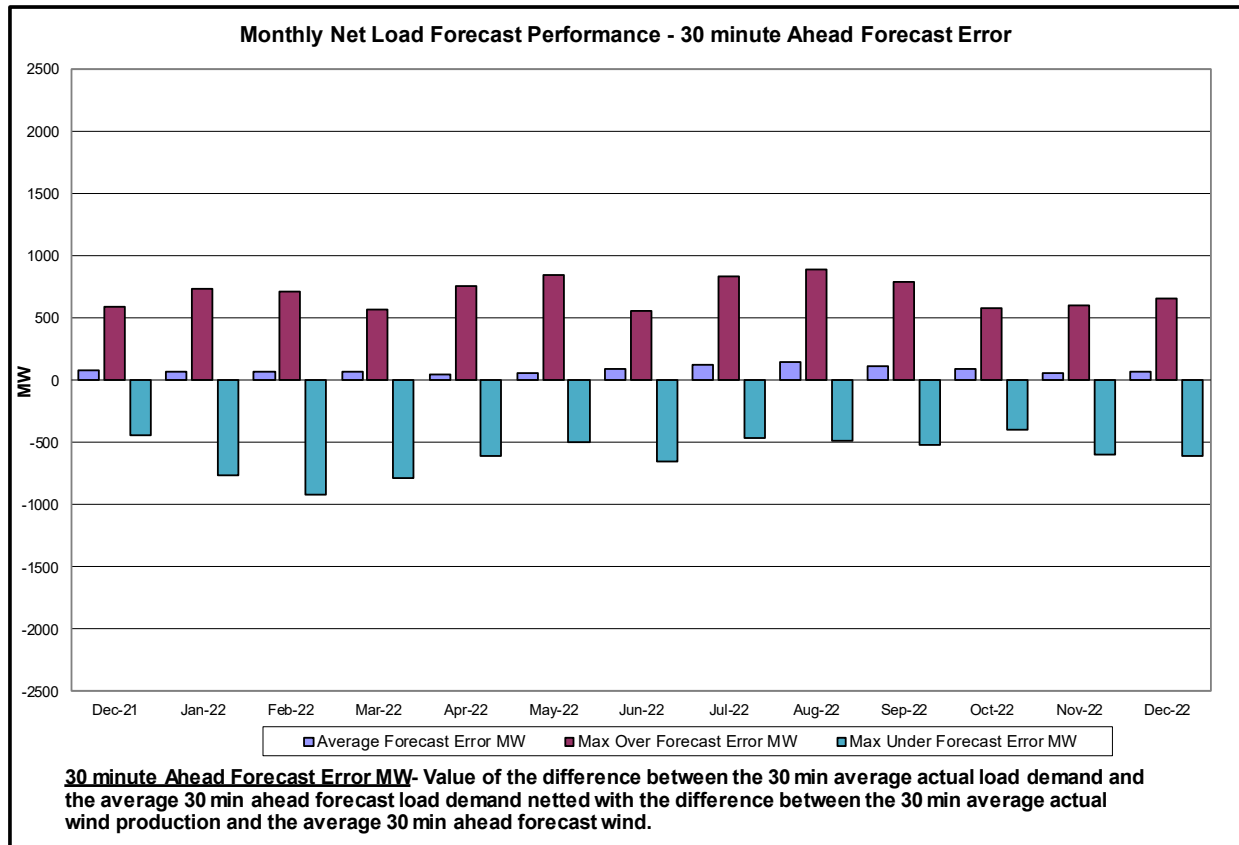
### Behind the Meter Solar Forecast Performance Hour Ahead Percent Error

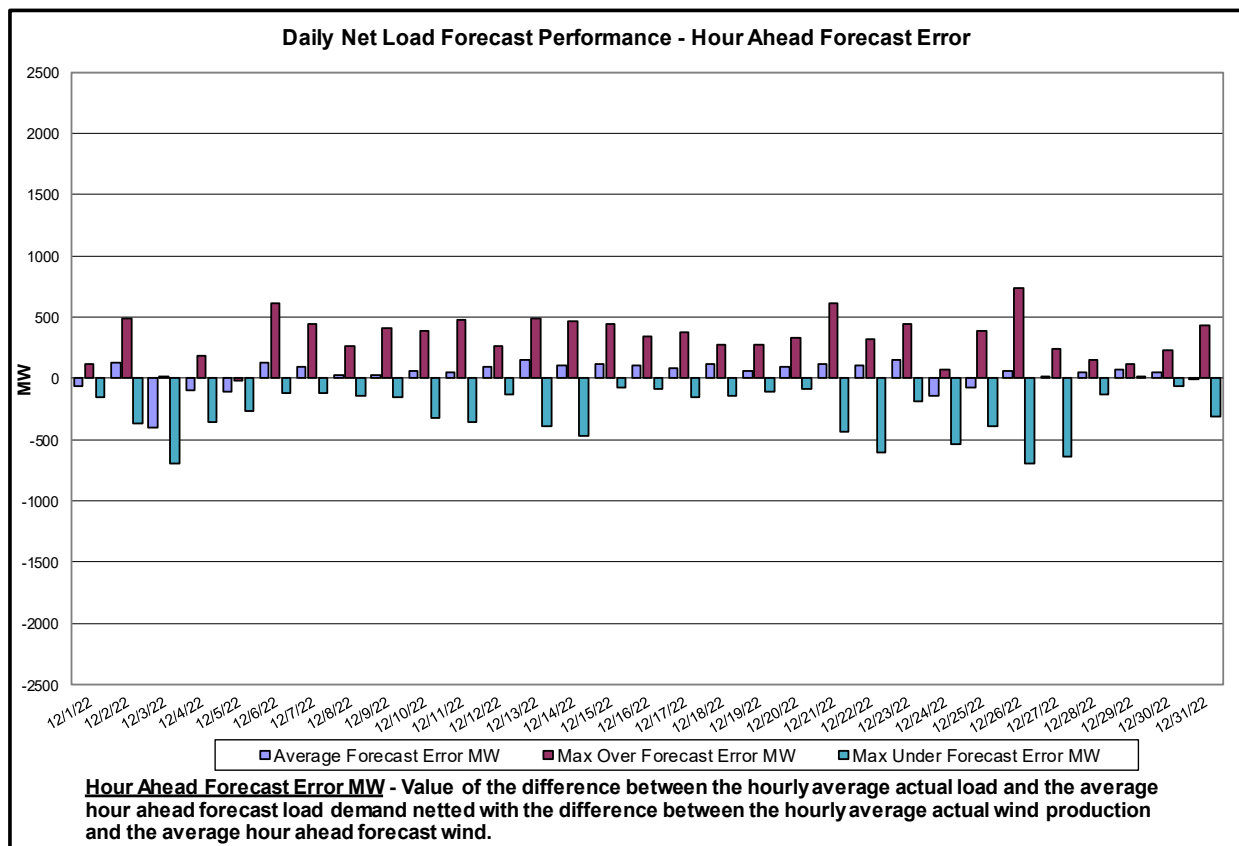
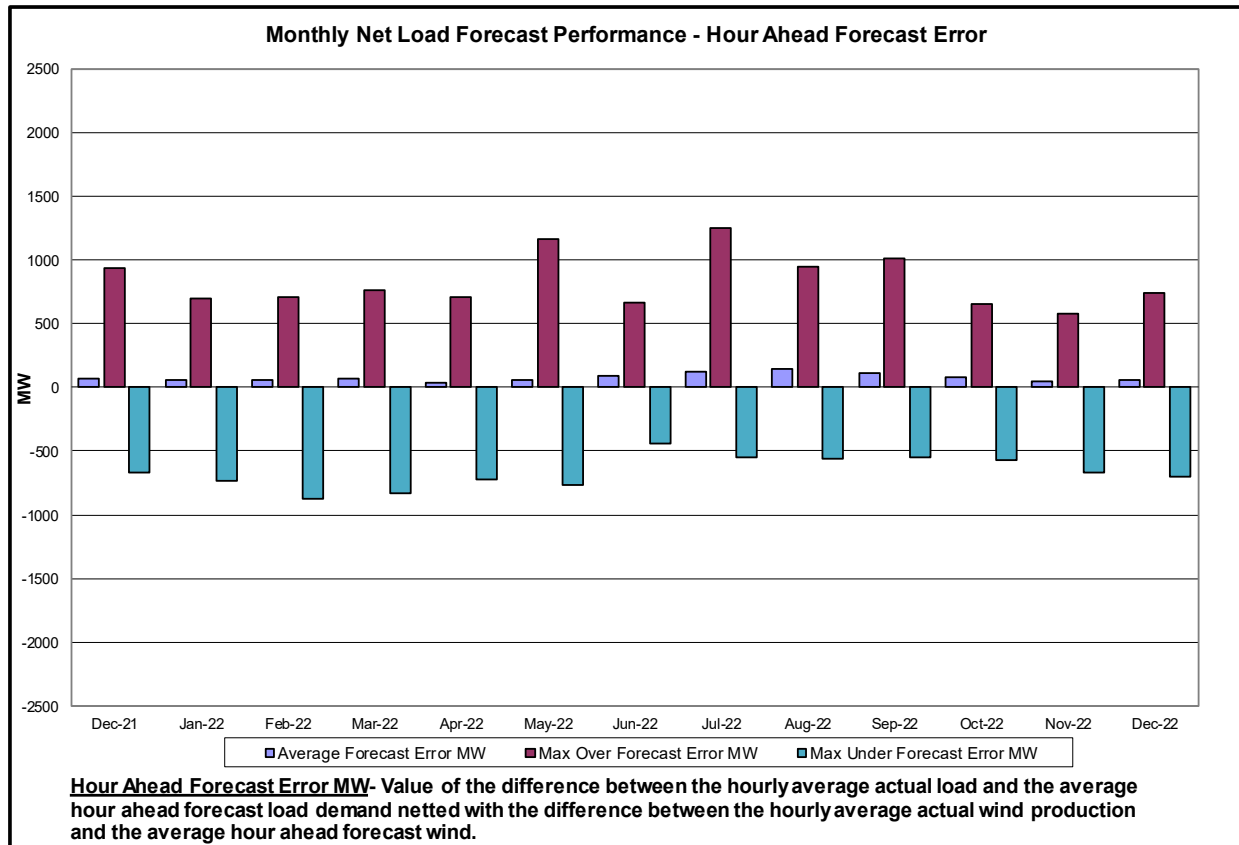


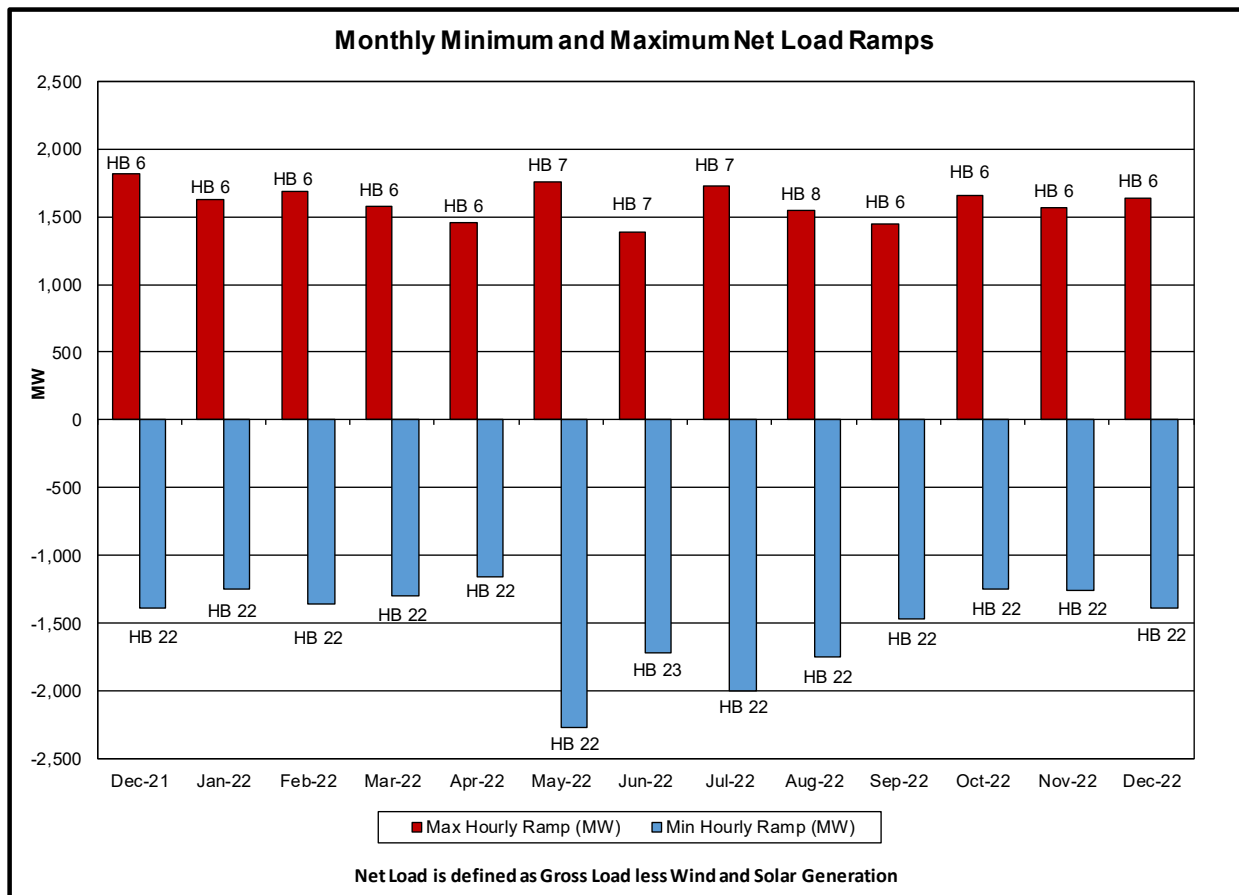
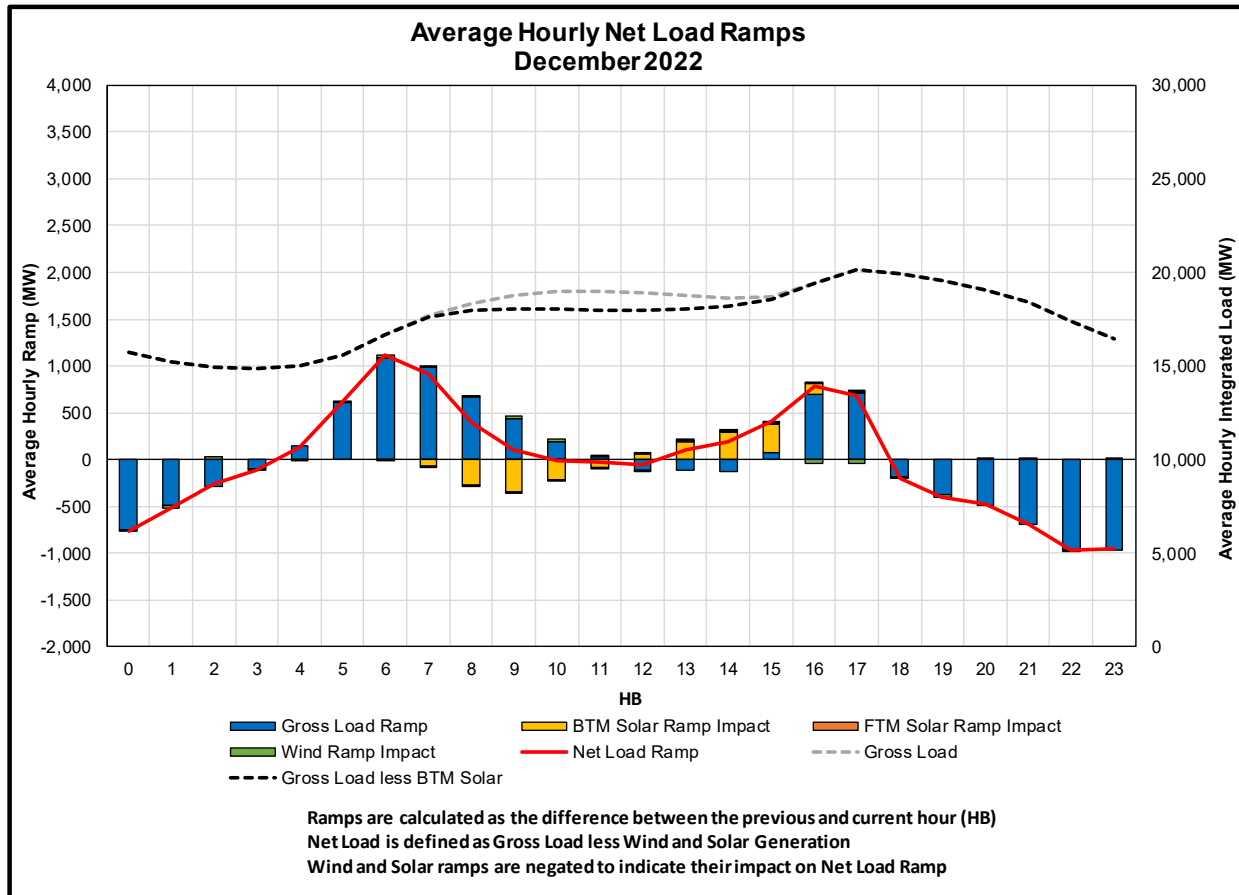
**MAE Forecast** - Avg |est. actual solar generation - Hour Ahead forecast solar generation| / Solar Capacity  
**Bias** - Avg (est. actual solar generation - Hour Ahead forecast solar generation) / Solar Capacity

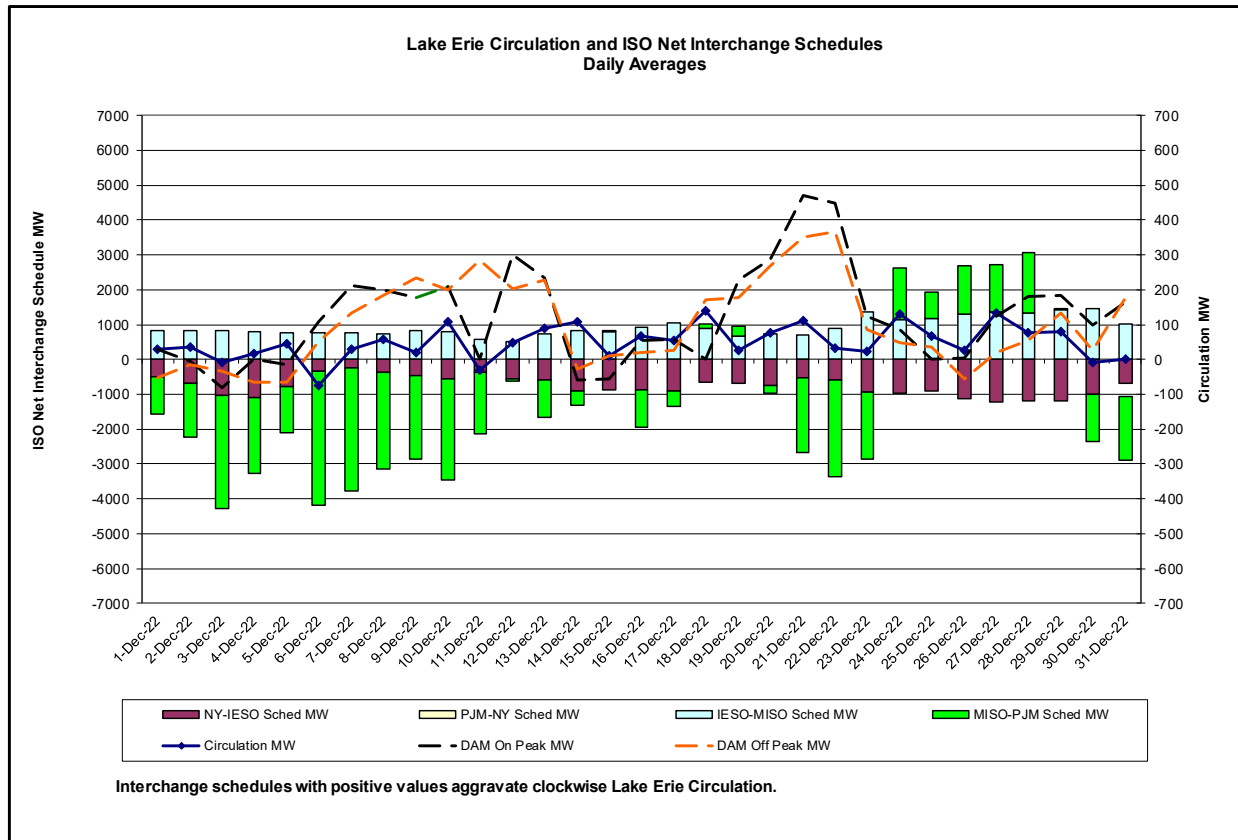
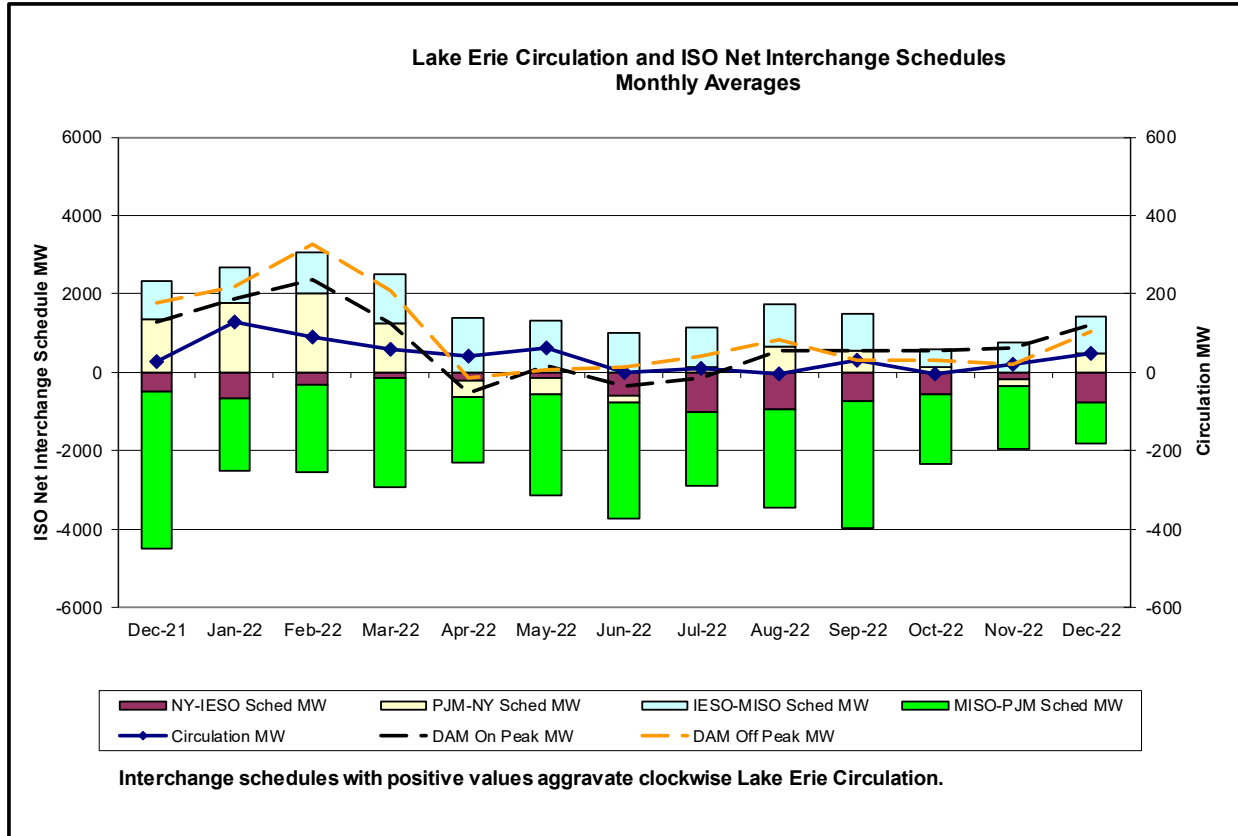




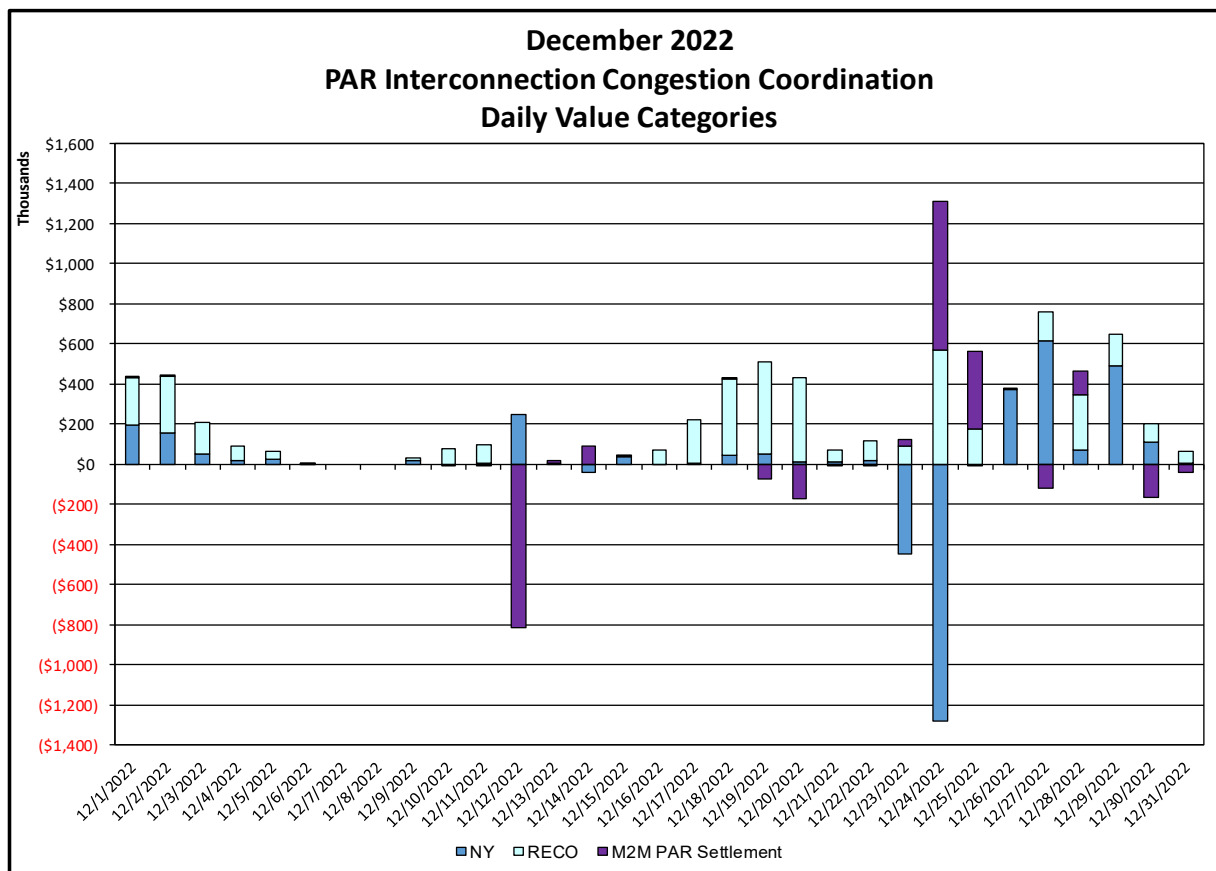
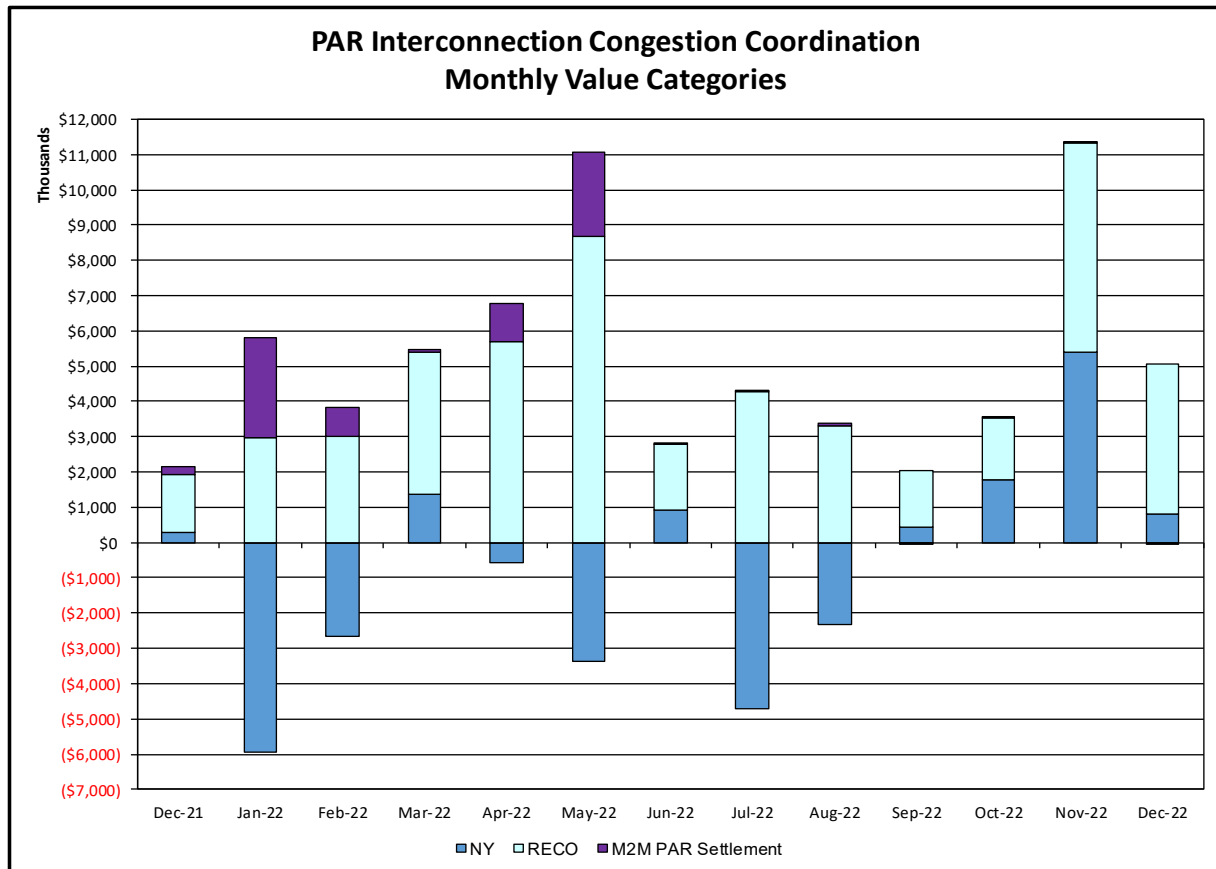




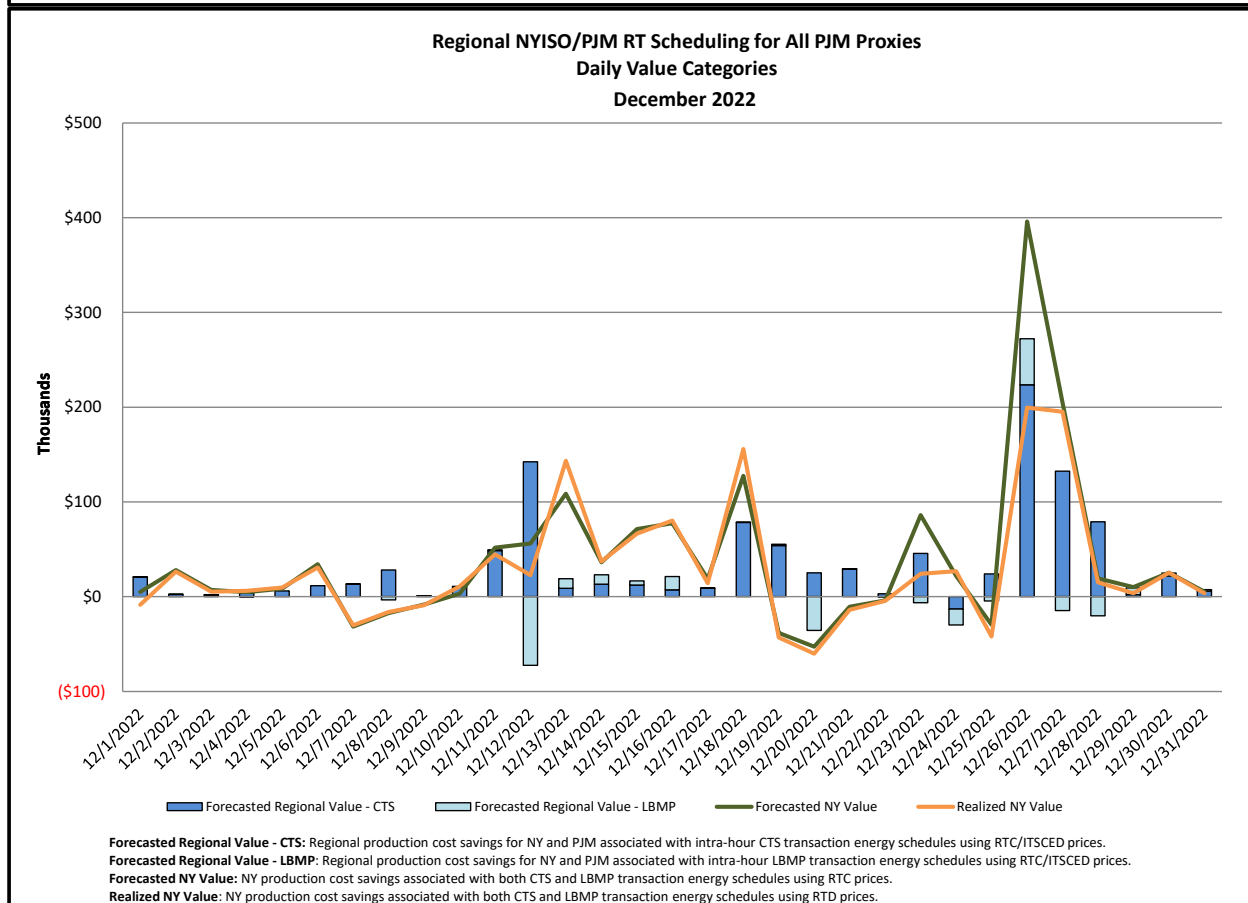
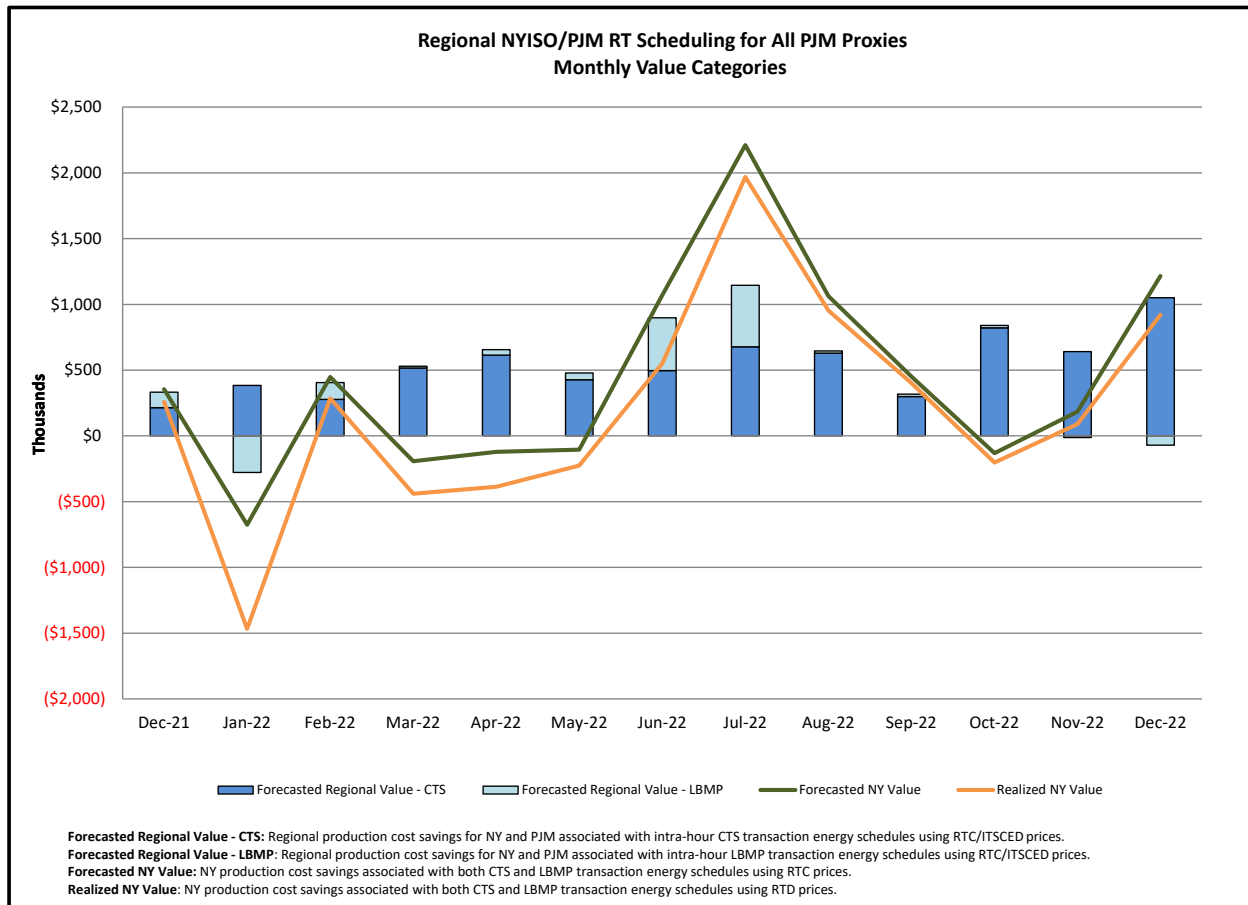




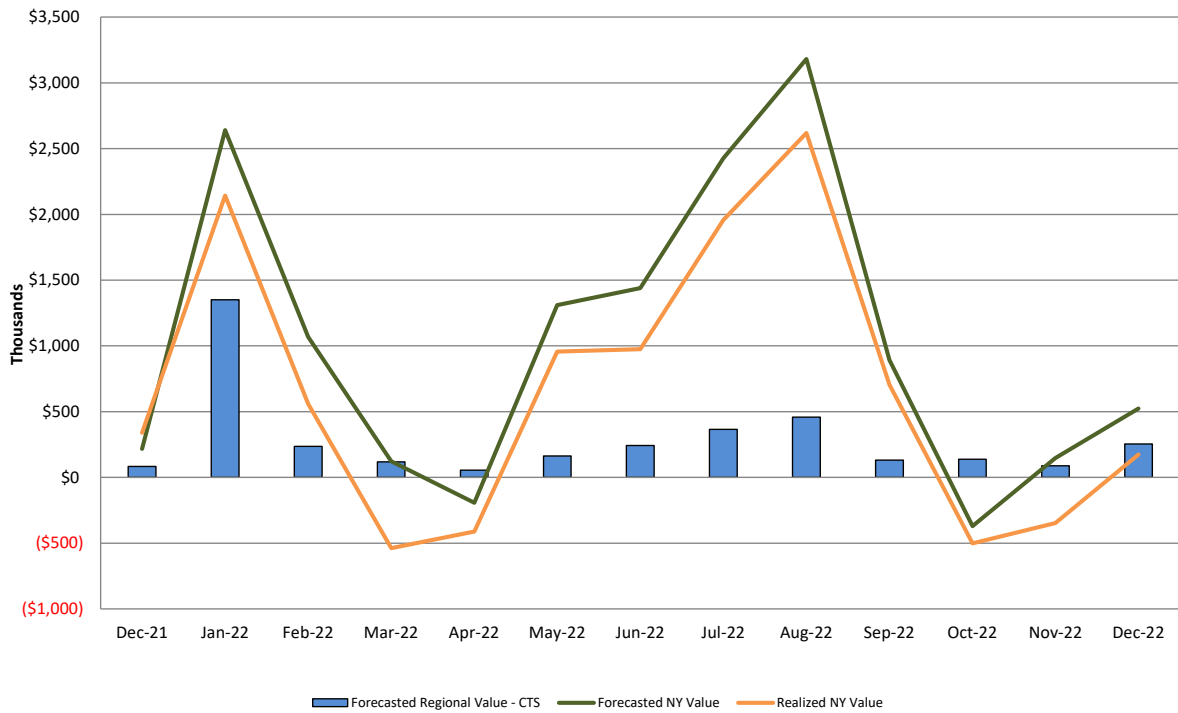
## Broader Regional Market Performance Metrics



<b><u>PAR Interconnection Congestion Coordination</u></b>	
<b><u>Category</u></b>	<b><u>Description</u></b>
<b>NY</b>	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
<b>RECO</b>	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.
<b>M2M PAR Settlement</b>	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.

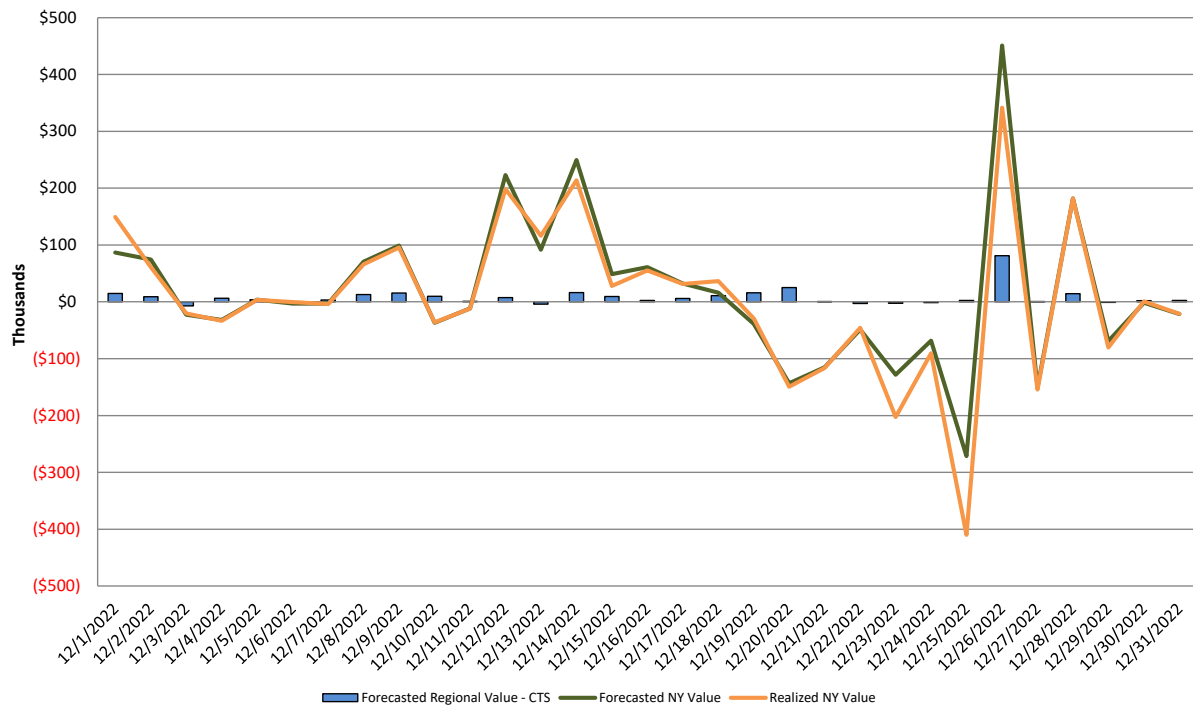


### Regional NYISO/NE RT Scheduling for ISO-NE AC Monthly Value Categories



**Forecasted Regional Value - CTS:** Regional production cost savings for NY and NE associated with intra-hour CTS transaction energy schedules using RTC prices and NE forecasted prices.  
**Forecasted NY Value:** NY production cost savings associated with CTS transaction energy schedules using RTC prices.  
**Realized NY Value:** NY production cost savings associated with CTS transaction energy schedules using RTD prices.

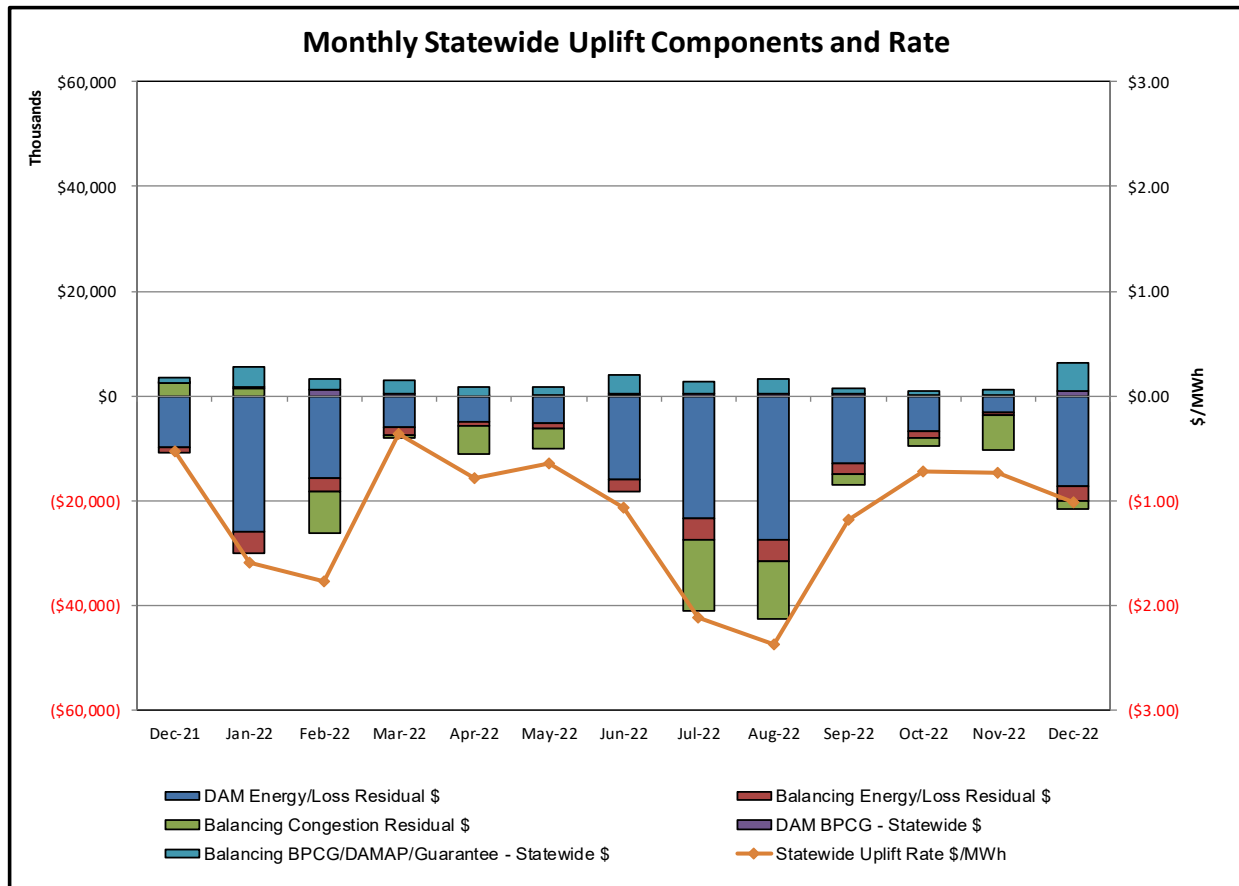
### Regional NYISO/NE RT Scheduling for ISO-NE AC Daily Value Categories December 2022

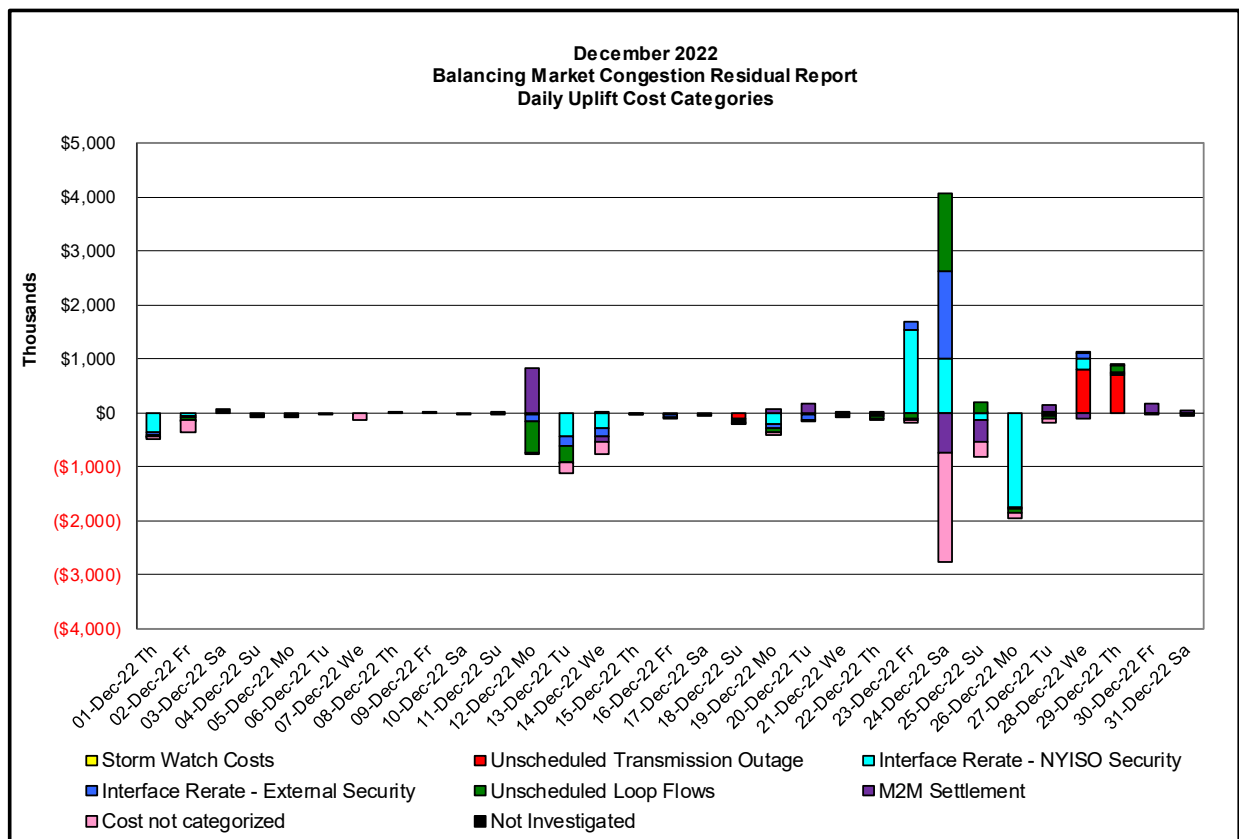
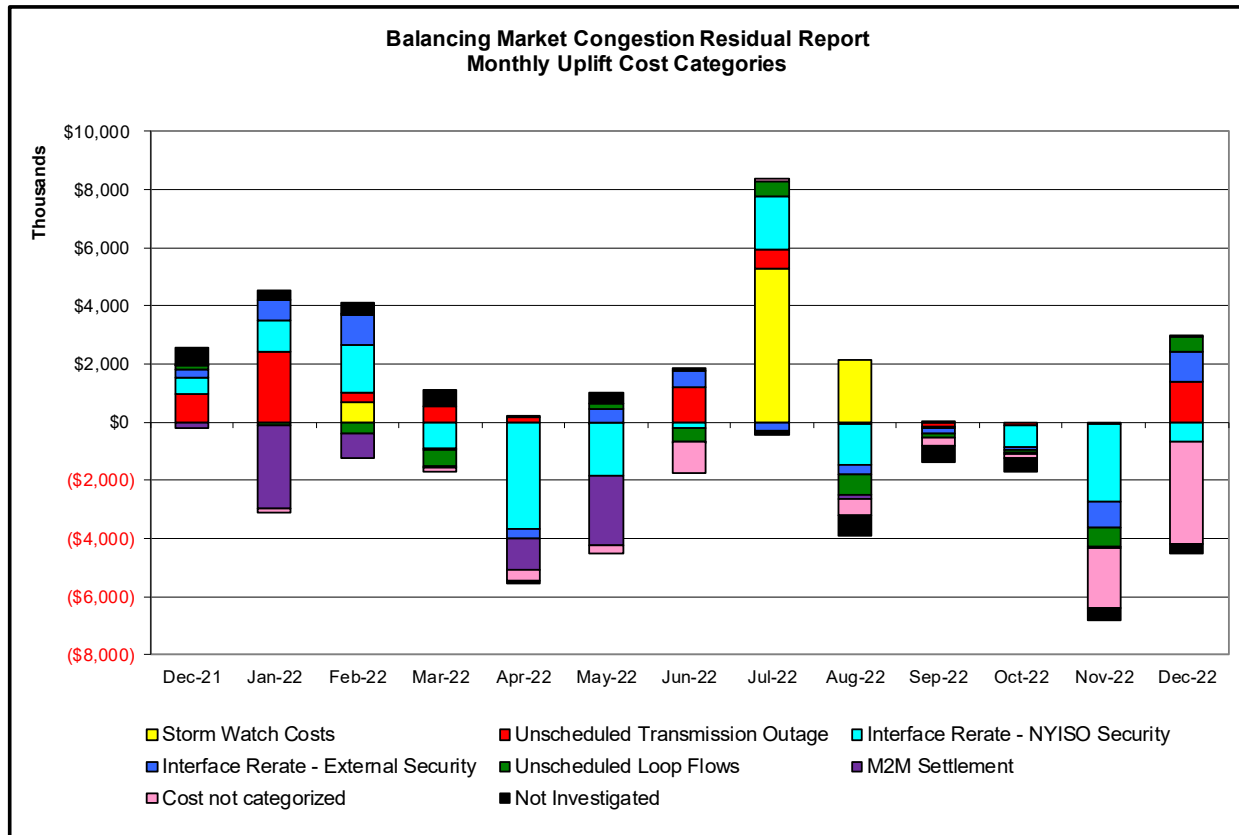


**Forecasted Regional Value - CTS:** Regional production cost savings for NY and NE associated with intra-hour CTS transaction energy schedules using RTC prices and NE forecasted prices.  
**Forecasted NY Value:** NY production cost savings associated with CTS transaction energy schedules using RTC prices.  
**Realized NY Value:** NY production cost savings associated with CTS transaction energy schedules using RTD prices.



## Market Performance Metrics





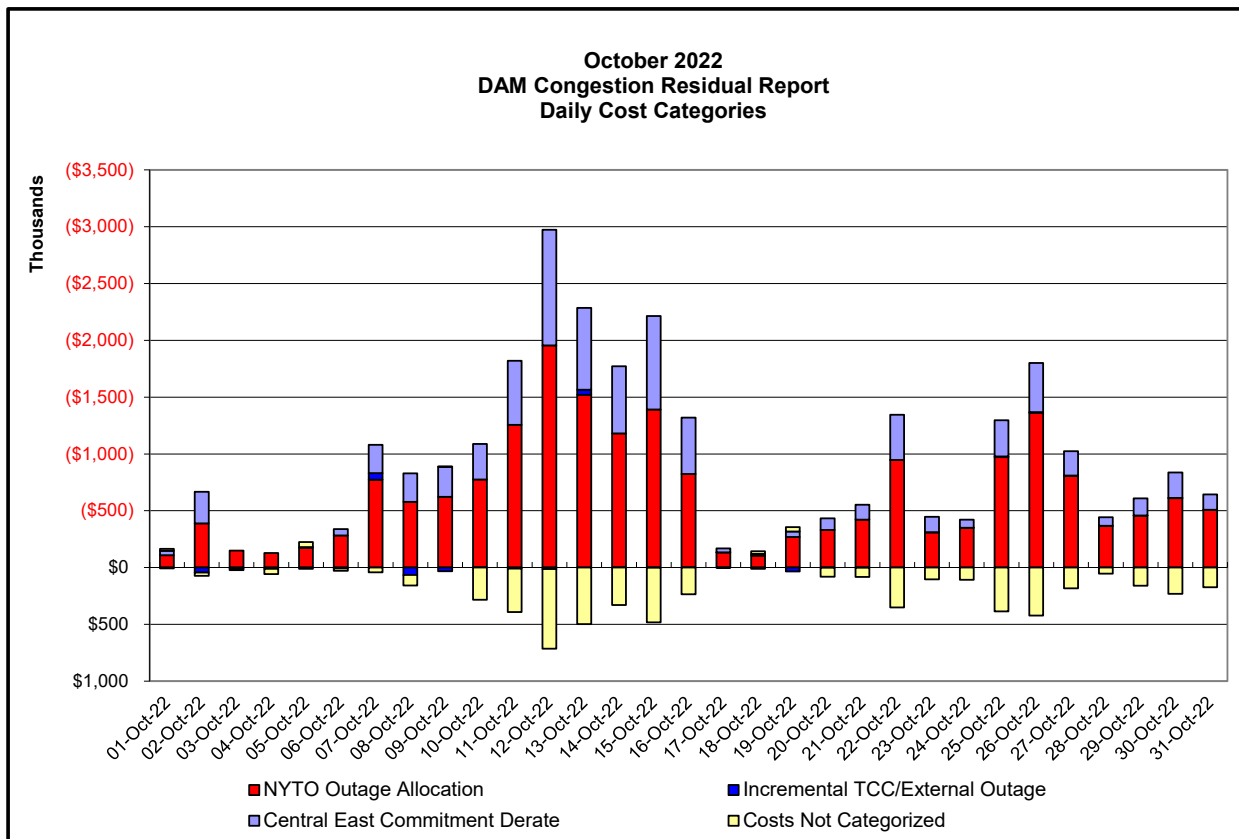
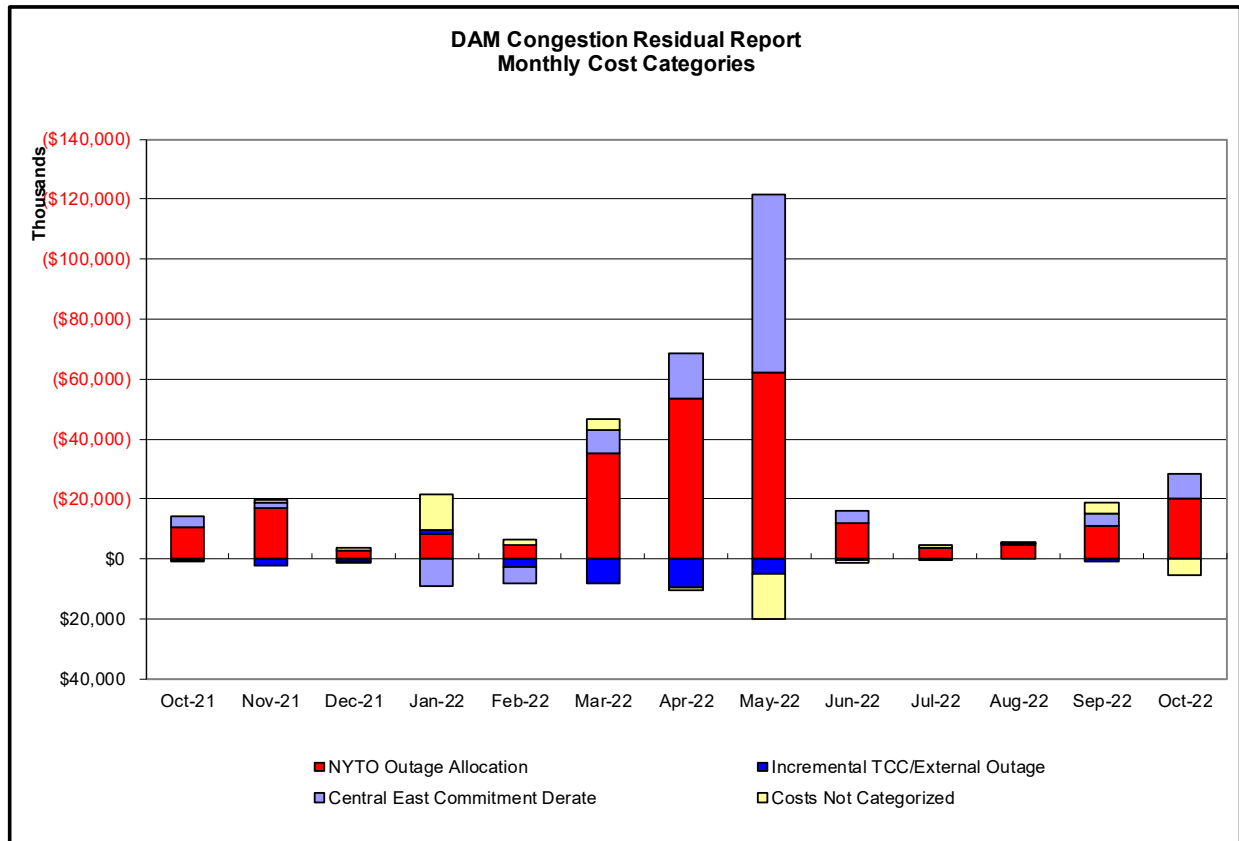
Day's investigated in December: 1,2,7,12,13,14,16,18,19,20,22,23,24,25,26,27,28,29		
Event	Description	December Dates
	Early return to service Coopers Corners-Middletown Tap-Rock Tavern 345kV (#CCRT34)	18
	Forced outage Hopatcon-Ramapo 500kV (#5018)	27-29
	Derate Carl Place-East Garden City 138kV (#361) I/o EGRDNCTY-ROSLYN 138kV (#362)	24,28
	Derate Central East	14,18,24,25,27
	Derate Coopers Corners-Middle Town Tap 345kV (#CCRT34) I/o Dolson Ave-RockTavern 345kV (#DART44)	23
	Derate Farragut-Gowanus 345kV (#42) I/o SCB:GOWANUS(2):41&42231&R4	28
	Derate Goethals-Gowanus 345kV (#26) I/o Goethals-Gowanus 345kV (#25)	29
	Derate Scriba-Volney 345kV (#20) I/o SCB:SCRIBA(R935):21&FS-10	27
	NYCA DNI Ramp Limit	2,12,14,18-20,23-29
	Uprate Central East	1,2,12-14,16,19,23-26
	Uprate Farragut-Gowanus 345kV (#42) I/o SCB:GOWANUS(2):41&42231&R4	28
	Uprate Meyer 230/115kV (BK4S) I/o MEYER -CANANDGA 230 60	25-27
	Uprate Meyer 230/115kV (BK4S) I/o SCB:STONYRDG(72/B102)72&BK1	18,19,22,25-27
	Uprate Meyer 230/115kV (BK4S) I/o SIN:CANANDGA-STONYRGE 230 68	22,25,26
	HQ_CHAT - NY Scheduling Limit	13,16,18,20,23,24
	HQ_CHAT ACTIVE DNI Ramp Limit	19,20,27
	IESO AC ACTIVE DNI Ramp Limit	20,25
	IESO AC Scheduling Limit	25
	NE AC - NY Scheduling Limit	1,13,14,16,19,20,22,23
	NE AC ACTIVE DNI Ramp Limit	1,2,12-14,16,18-20,23-29
	NE_NNC1385-NY Scheduling Limit	19
	PJM AC ACTIVE DNI Ramp Limit	12,20,23-25,27,29
	PJM AC-NY Scheduling Limit	20,23,24,27
	Lake Erie Circulation, DAM-RTM exceeds +/-125MW; Central East	1,2,12-14,18,22-29
	Lake Erie Circulation, DAM-RTM exceeds +/-125MW; West	1,2,12,14,18,19,22-29

#### **Real-Time Balancing Market Congestion Residual (Uplift Cost) Categories**

<b><u>Category</u></b>	<b><u>Cost Assignment</u></b>	<b><u>Events Types</u></b>	<b><u>Event Examples</u></b>
Storm Watch	Zone J	Thunderstorm Alert (TSA)	TSA Activations
Transmission Outage Mismatch	Market-wide	Changes in DAM to RTM transfers related to transmission outage mismatch	Forced Line Outage, Unit AVR Outages Early Line Return from Outage
Interface/Facility Rerate - NYISO Security	Market-wide	Changes in DAM to RTM transfers not related to transmission outage	Interface/Facility Rerates due to RTM voltages
Interface Rerate - External Security	Market-wide	Changes 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	

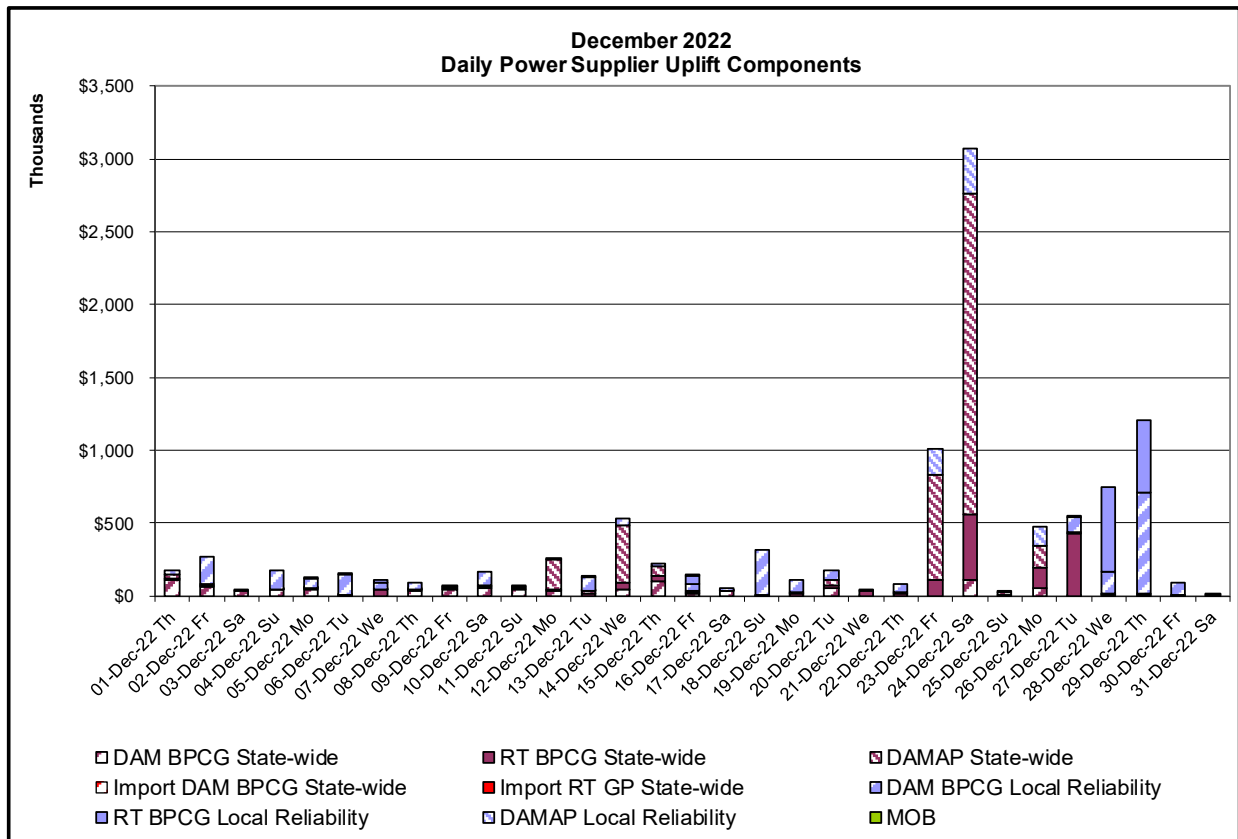
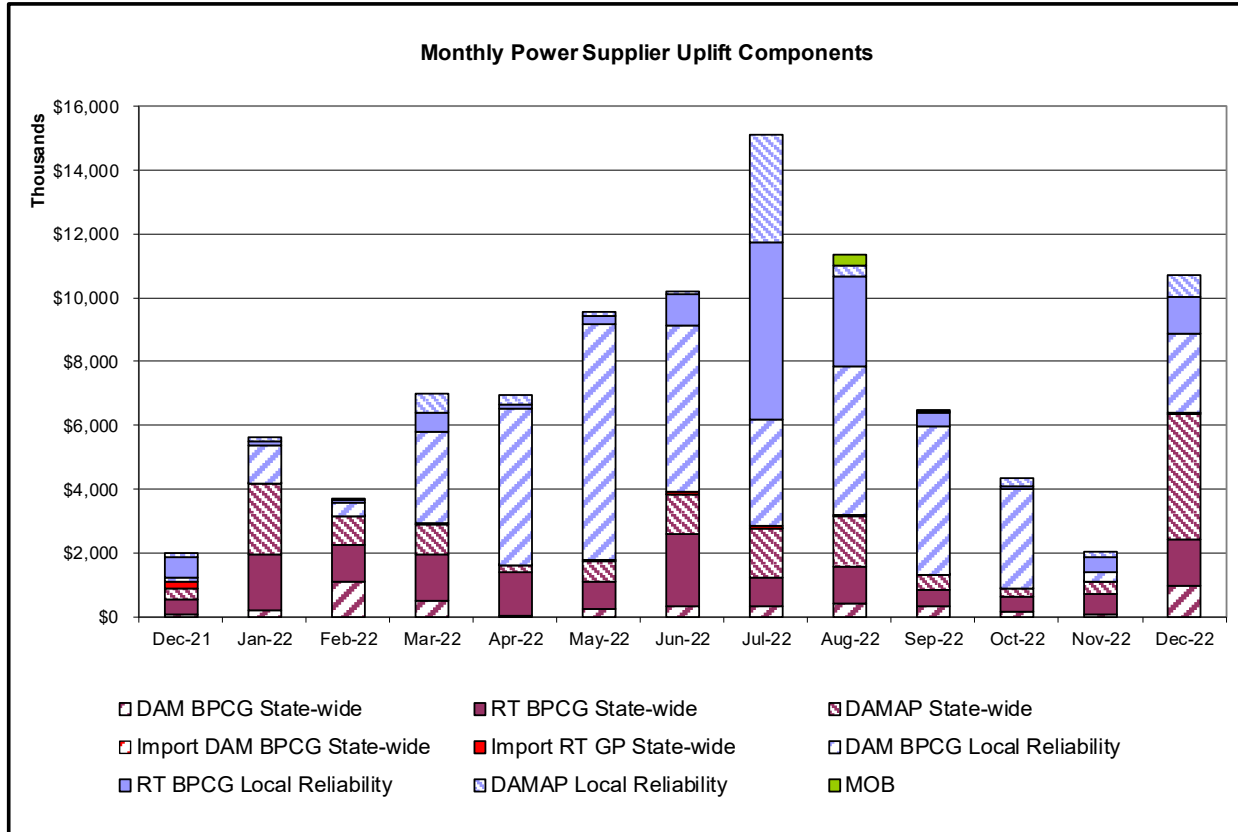
#### **Monthly Balancing Market Congestion Report Assumptions/Notes**

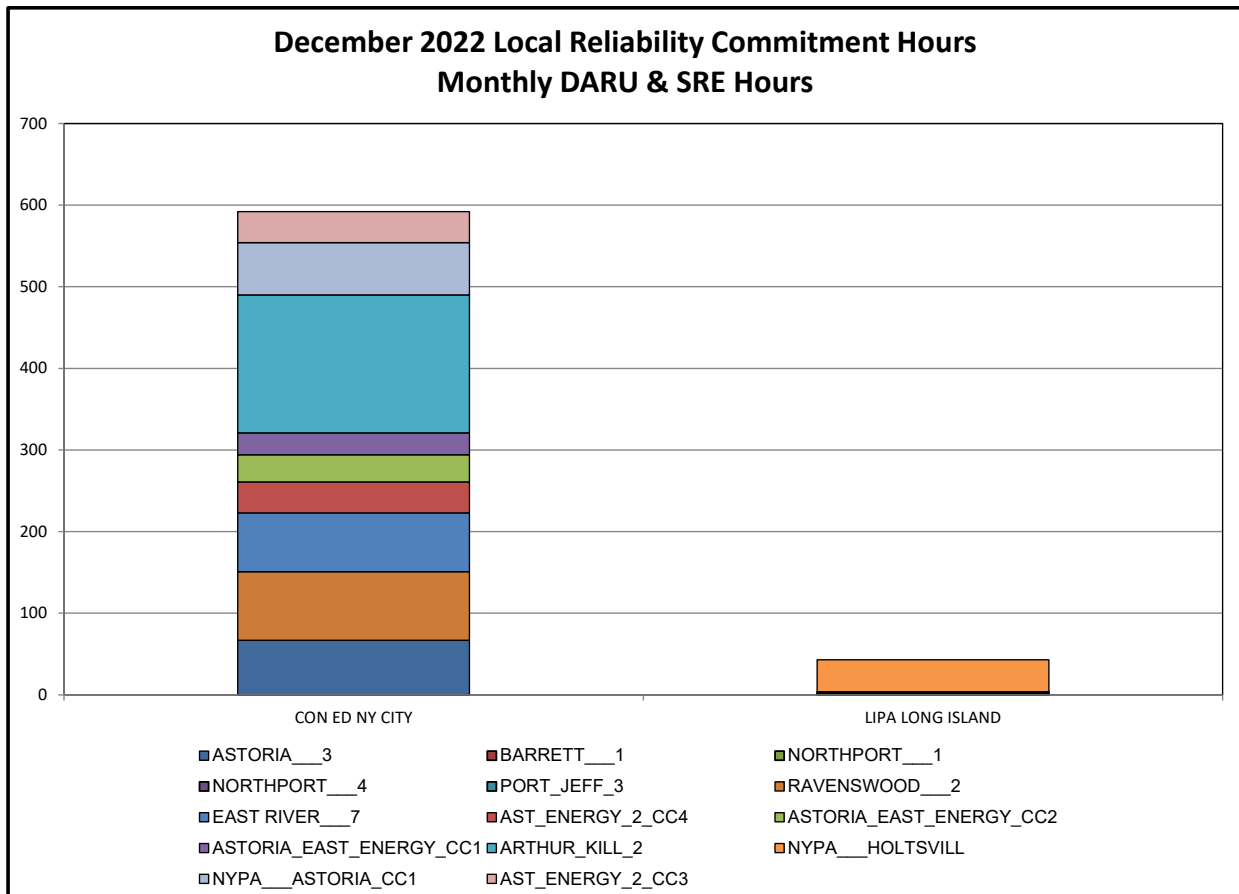
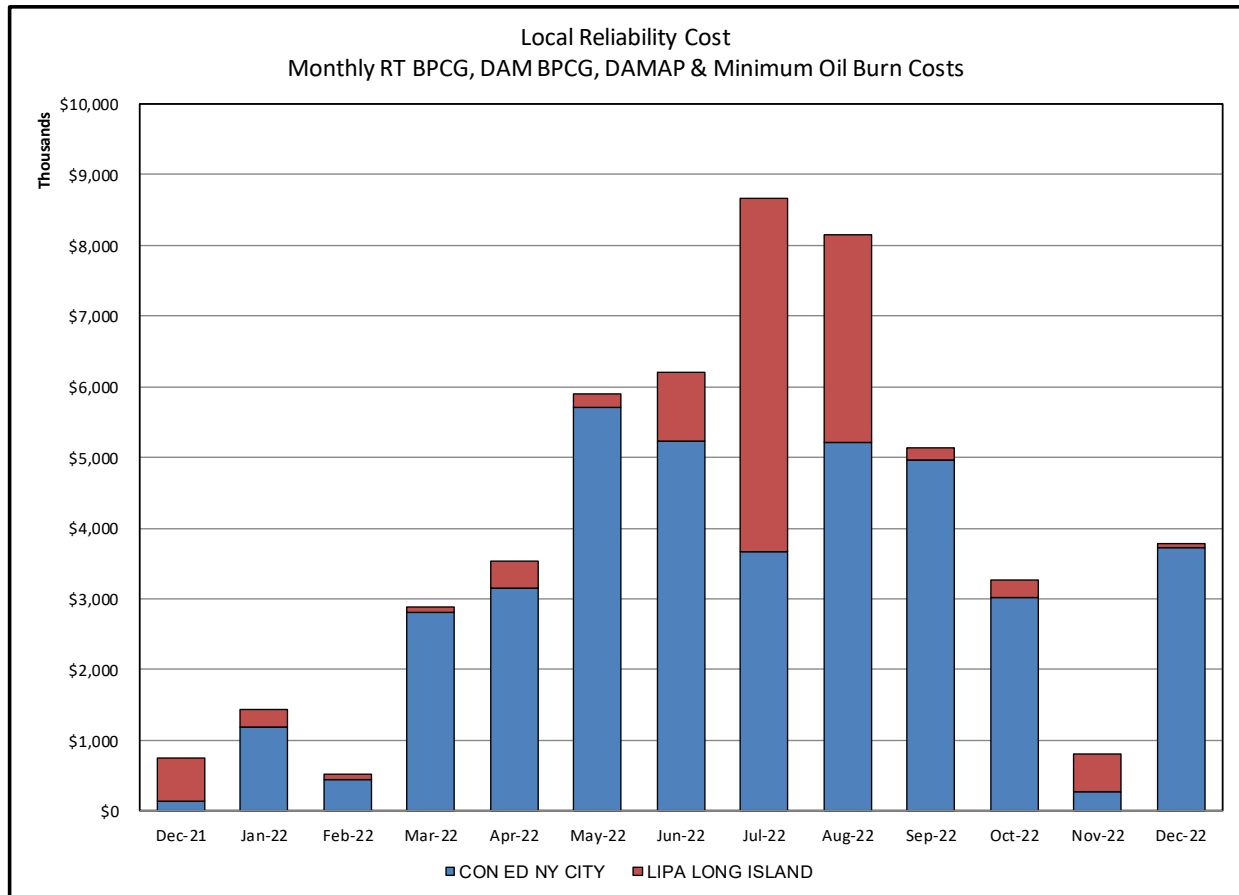
- 1) Storm Watch Costs are identified as daily total uplift costs
- 2) Days with a value of BMCR less M2M Settlement of \$100K/HR, shortfall of \$200K/Day or more, or surplus of \$100K/Day or more are investigated.
- 3) Uplift costs associated with multiple event types are apportioned equally by hour

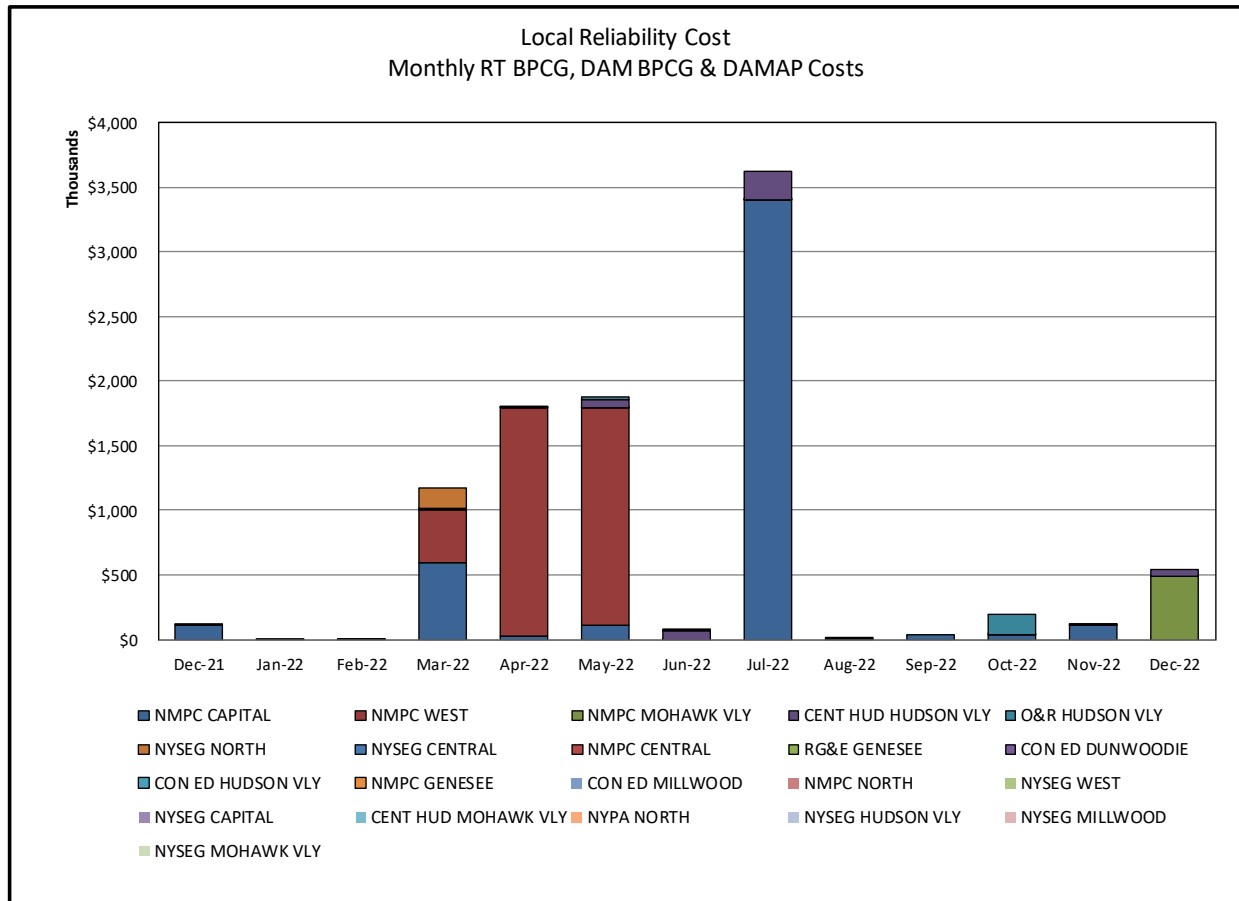


### Day-Ahead Market Congestion Residual Categories

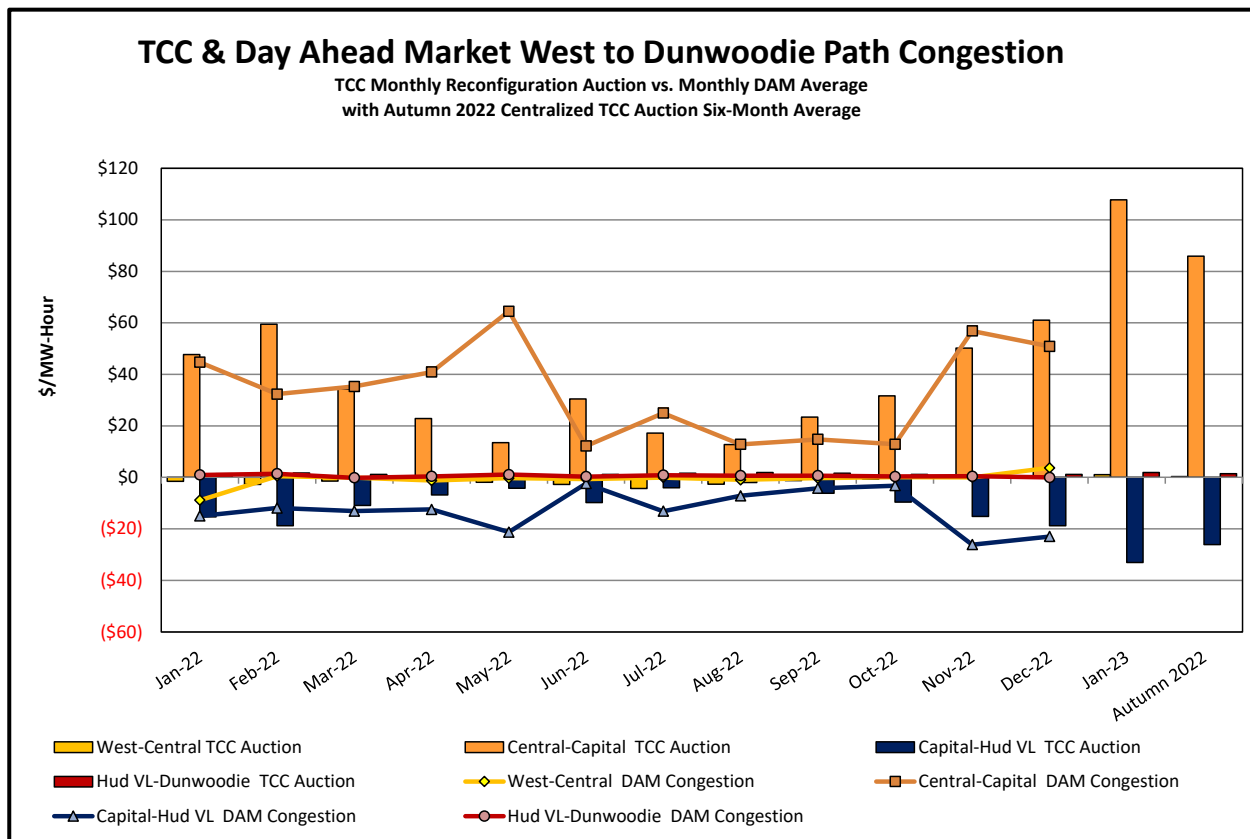
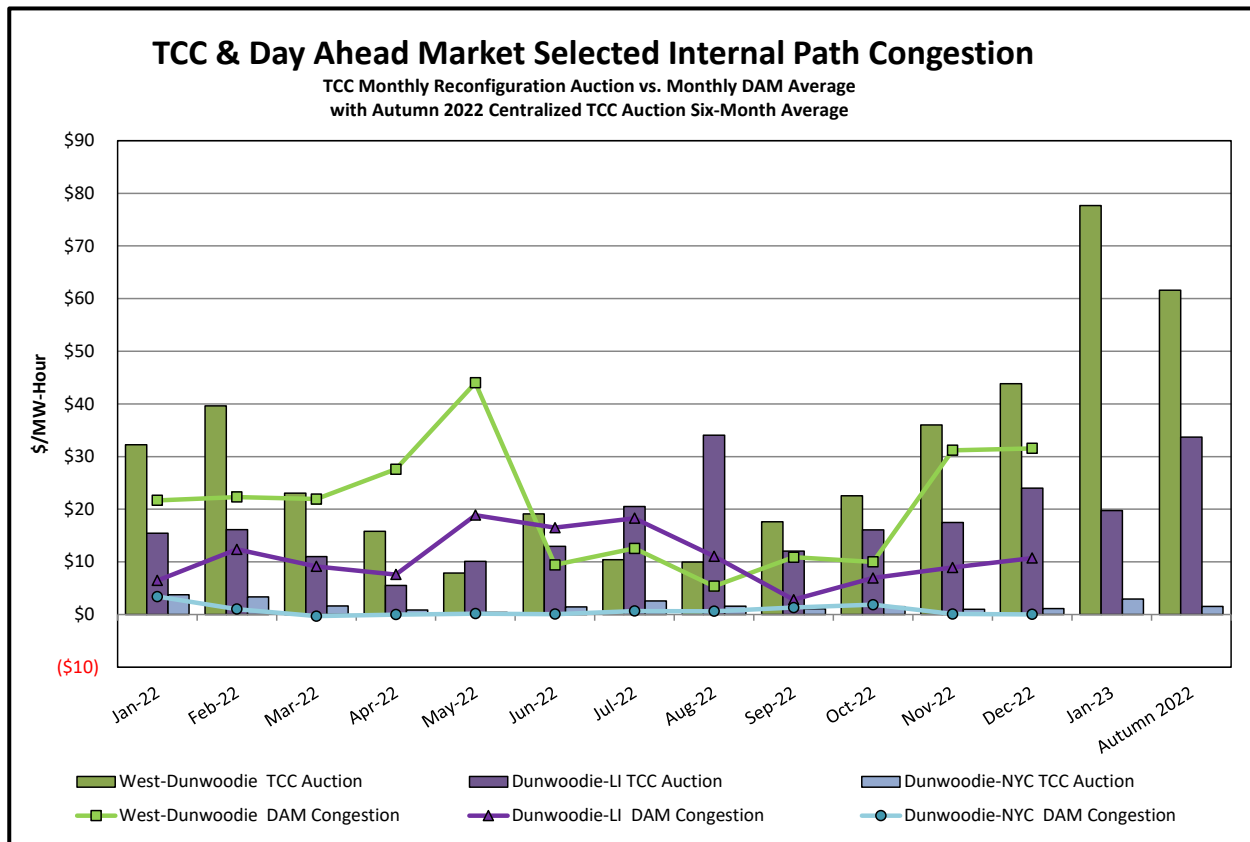
<u>Category</u>	<u>Cost Assignment</u>	<u>Events Types</u>	<u>Event Examples</u>
NYTO Outage Allocation	Responsible TO	Direct allocation to NYTO's responsible for transmission equipment status change.	DAM scheduled outage for equipment modeled in-service for the TCC Auction.
Incremental TCC/External Outage Impacts	All TO by Monthly Allocation Factor	Allocation associated with transmission equipment status change caused by change in status of external equipment or change in status of equipment associated with Incremental TCC.	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.	

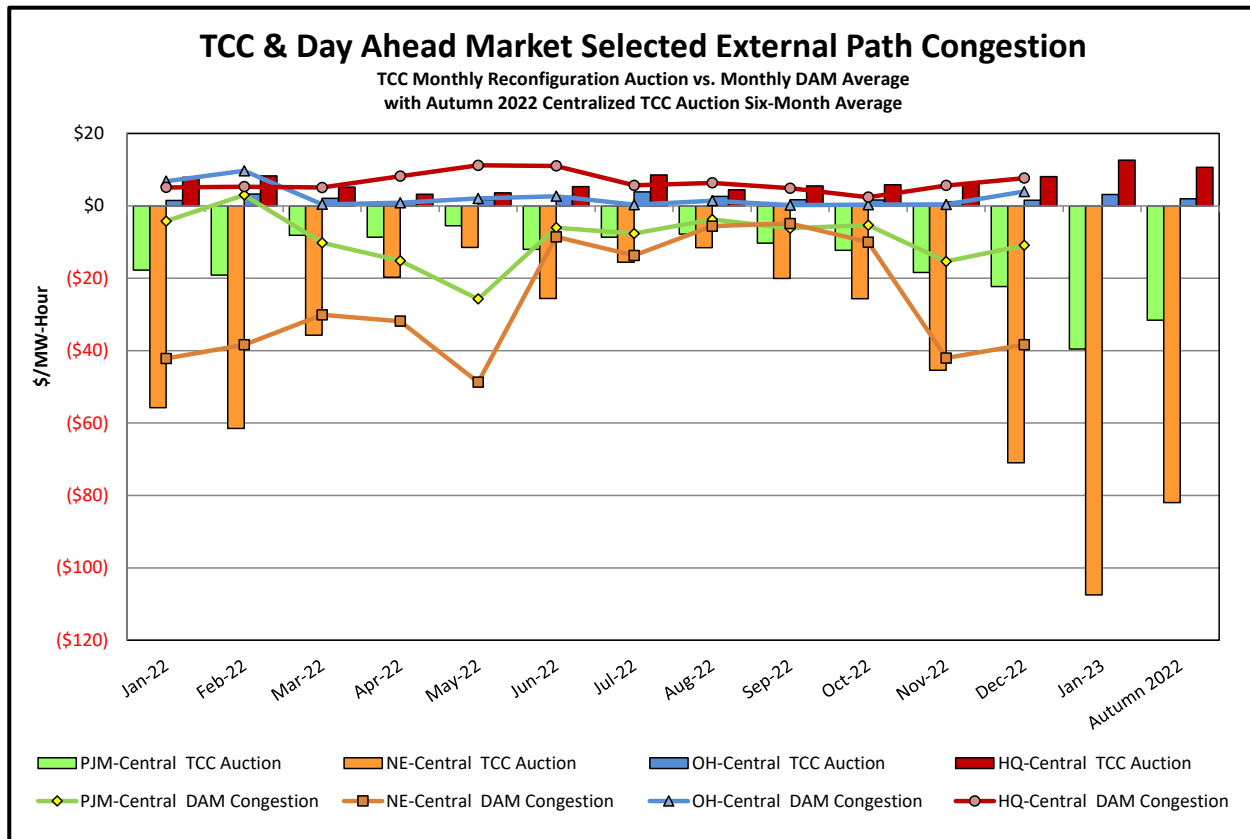


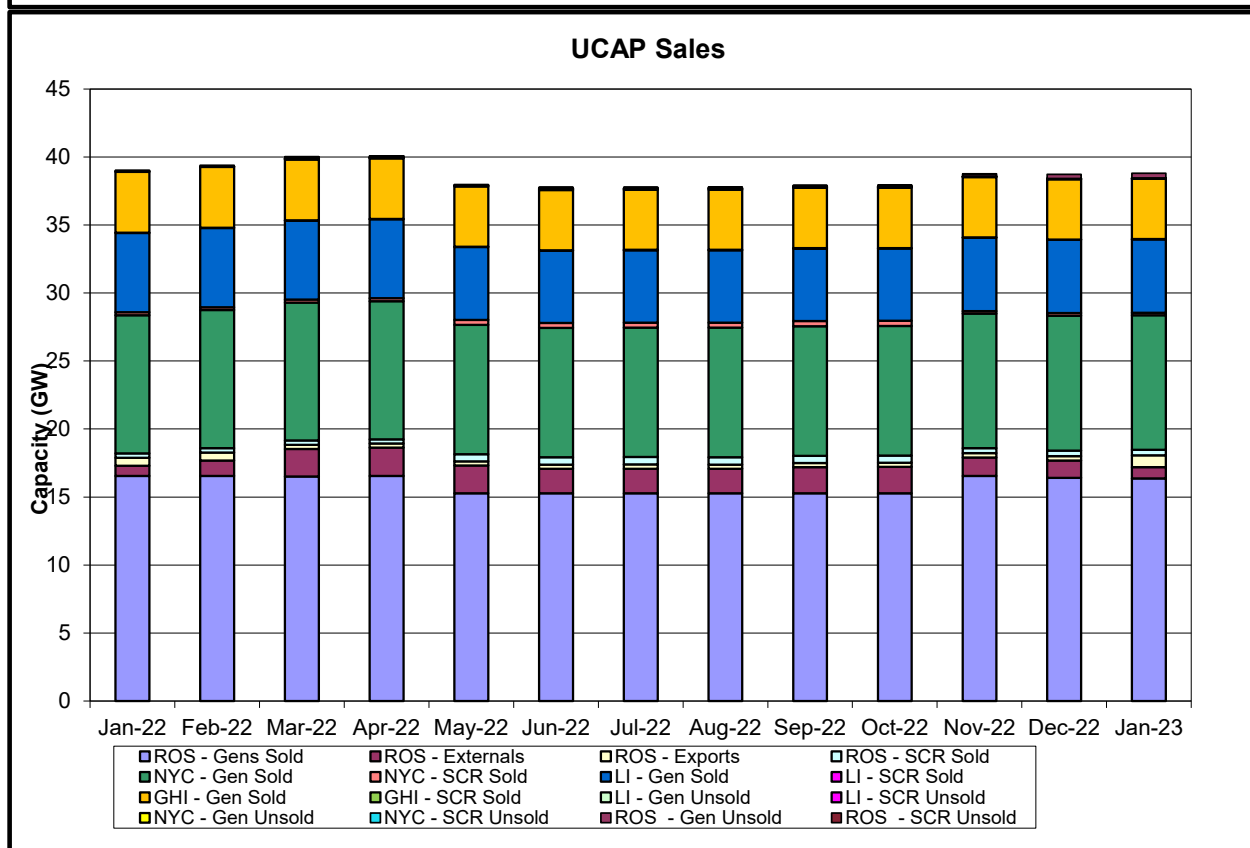
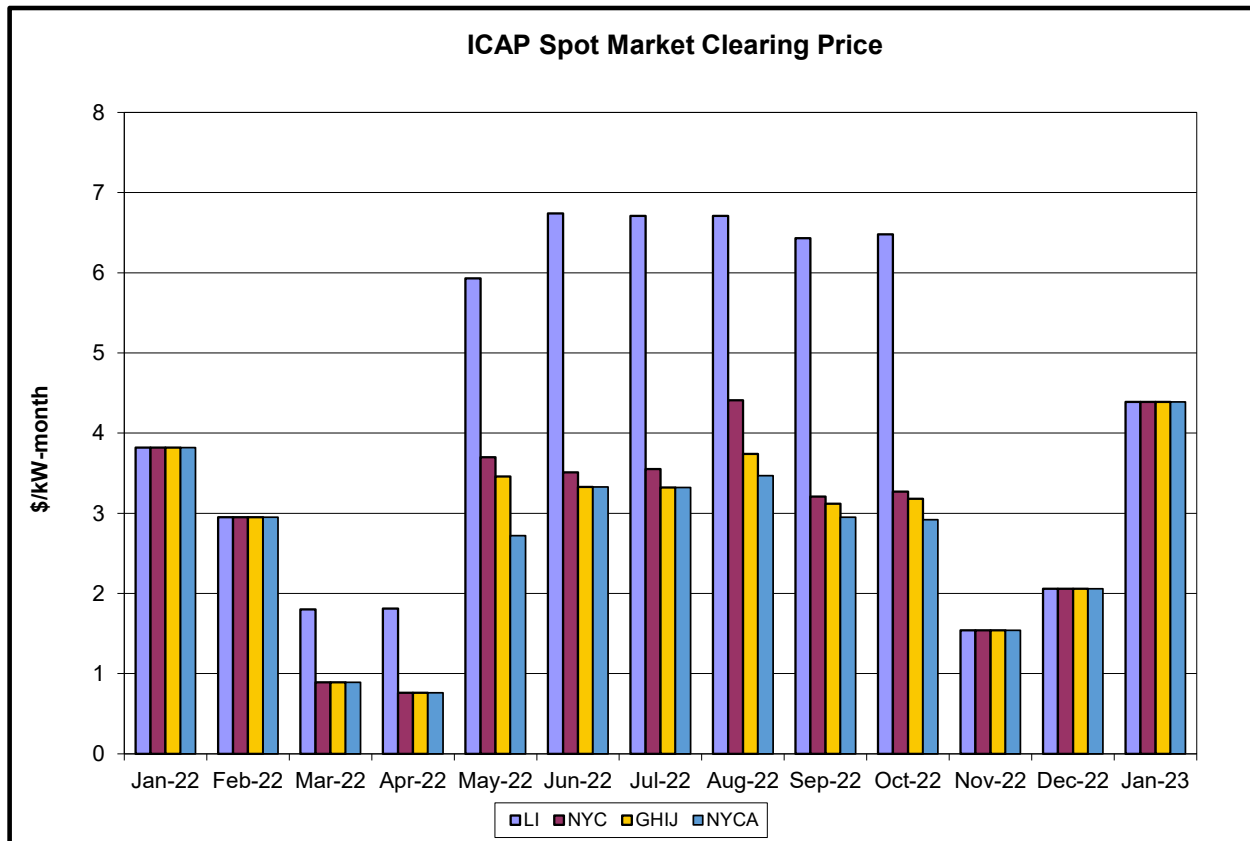










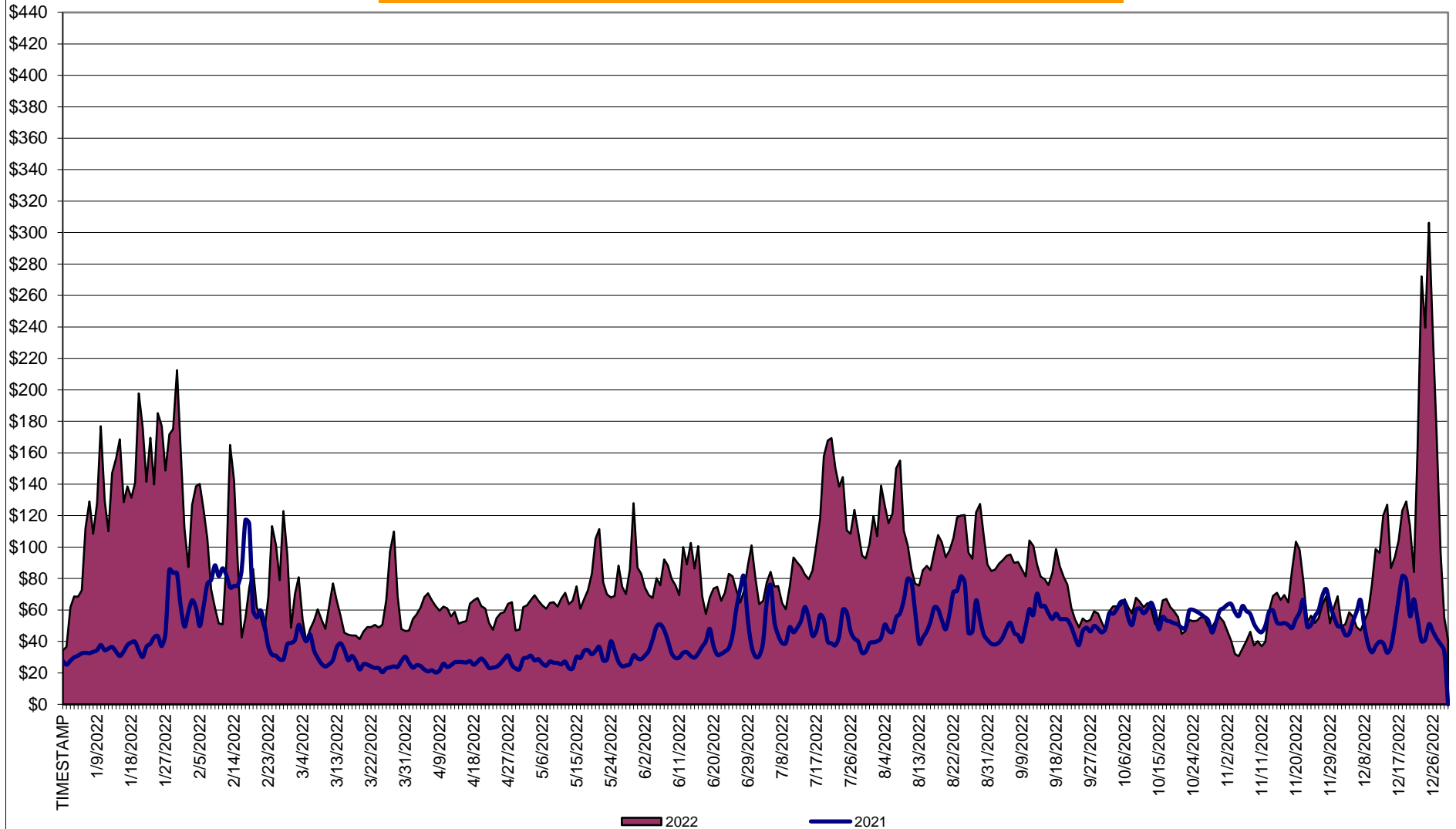


# Market Performance Highlights

## December 2022

- LBMP for December is \$110.17/MWh; higher than \$52.47/MWh in November 2022 and \$47.99/MWh in December 2021.
  - Day Ahead Load Weighted LBMPs and Real Time Load Weighted LBMPs are higher compared to November.
- December 2022 average year-to-date monthly cost of \$89.23/MWh is an 88% increase from \$47.59/MWh in December 2021.
- Average daily sendout is 421 GWh/day in December; higher than 382 GWh/day in November 2022 and 408 GWh/day in December 2021.
- Natural gas prices are higher and distillate prices are lower compared to the previous month.
  - Natural Gas (Transco Z6 NY) was \$10.75/MMBtu, up from \$4.81/MMBtu in November.
  - Natural gas prices (Transco Z6 NY) are up 209.5% year-over-year.
  - Jet Kerosene Gulf Coast was \$21.38/MMBtu, down from \$23.64/MMBtu in November.
  - Ultra Low Sulfur No.2 Diesel NY Harbor was \$22.30/MMBtu, down from \$29.63/MMBtu in November.
  - Distillate prices are up 39.0% year-over-year.
- Uplift per MWh is lower compared to the previous month.
  - Uplift (not including NYISO cost of operations) is (\$0.77)/MWh; lower than (\$0.68)/MWh in November.
    - Local Reliability Share is \$0.25/MWh, higher than \$0.06/MWh in November.
    - Statewide Share is (\$1.02)/MWh, lower than (\$0.74)/MWh in November.
  - TSA \$ per NYC MWh is \$0.01/MWh.
  - Total uplift costs (Schedule 1 components including NYISO Cost of Operations) are lower than November.

**Daily NYISO Average Cost/MWh (Energy & Ancillary Services)\***  
**2021 Annual Average \$47.59/MWh**  
**December 2021 YTD Average \$47.59/MWh**  
**December 2022 YTD Average \$89.23/MWh**



\* Excludes ICAP payments.

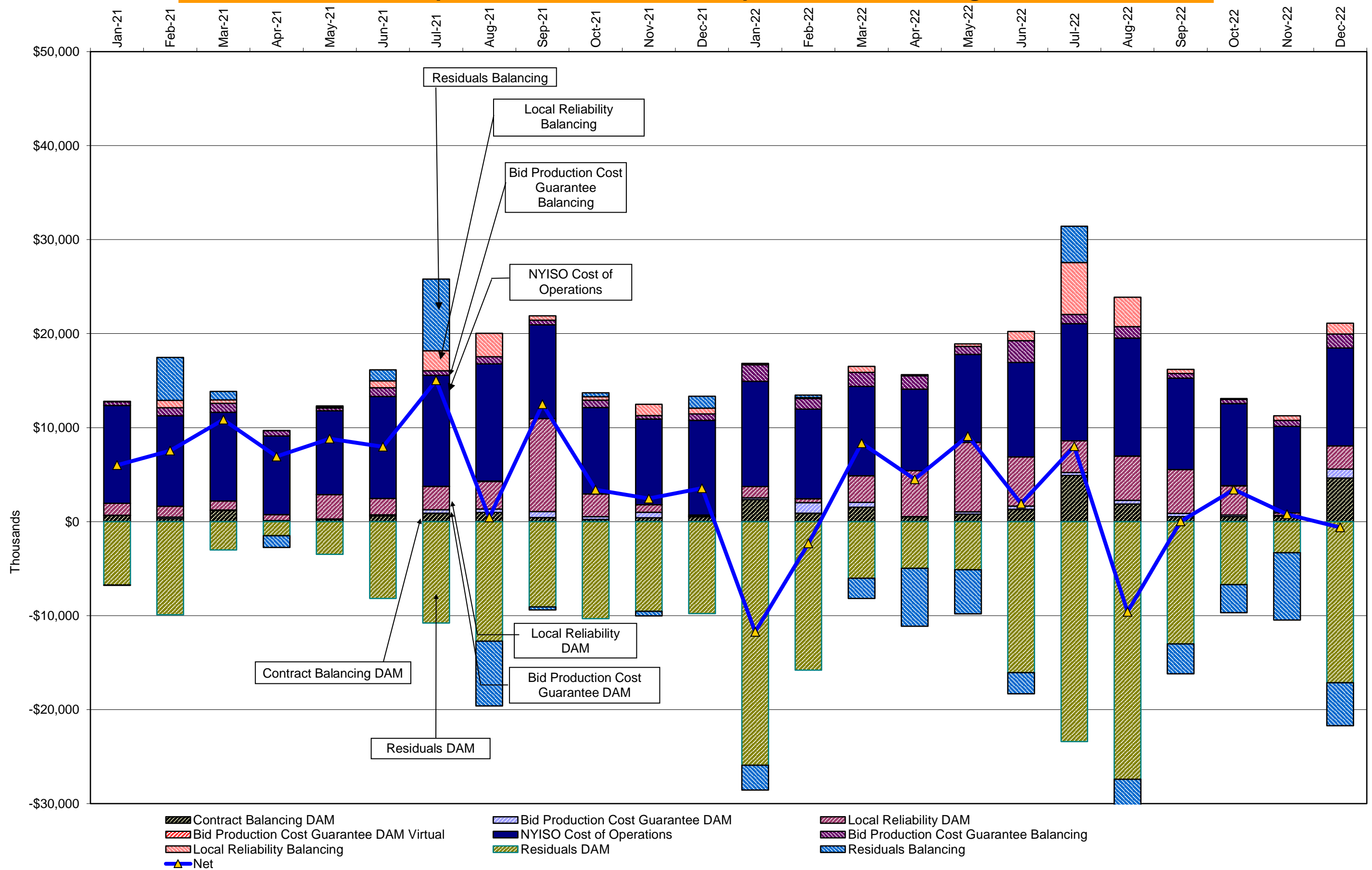
**NYISO Average Cost/MWh (Energy and Ancillary Services) \***  
**from the LBMP Customer point of view**

<b>2022</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	134.79	94.06	56.78	56.46	70.60	76.72	99.47	108.85	78.91	53.11	52.47	110.17
NTAC	1.43	0.95	1.48	1.17	2.46	2.07	3.65	1.69	1.44	3.21	3.91	2.23
Reserve	1.26	1.21	0.83	0.81	0.74	0.66	0.87	0.65	0.86	1.02	0.89	0.49
Regulation	0.27	0.19	0.17	0.12	0.13	0.15	0.12	0.13	0.18	0.18	0.15	0.12
NYISO Cost of Operations	0.73	0.72	0.74	0.74	0.74	0.75	0.76	0.76	0.76	0.73	0.74	0.73
FERC Fee Recovery	0.07	0.08	0.09	0.10	0.09	0.08	0.06	0.06	0.09	0.10	0.09	0.08
Uplift	(1.50)	(1.73)	(0.09)	(0.36)	(0.05)	(0.61)	(1.58)	(1.91)	(0.78)	(0.45)	(0.68)	(0.77)
Uplift: Local Reliability Share	0.09	0.04	0.27	0.43	0.60	0.46	0.54	0.47	0.39	0.27	0.06	0.25
Uplift: Statewide Share	(1.59)	(1.77)	(0.36)	(0.79)	(0.65)	(1.07)	(2.12)	(2.38)	(1.18)	(0.72)	(0.74)	(1.02)
Voltage Support and Black Start	0.42	0.41	0.43	0.43	0.43	0.43	0.43	0.43	0.44	0.42	0.42	0.42
<b>Avg Monthly Cost</b>	<b>137.41</b>	<b>95.82</b>	<b>60.34</b>	<b>59.38</b>	<b>75.07</b>	<b>80.17</b>	<b>103.73</b>	<b>110.61</b>	<b>81.81</b>	<b>58.26</b>	<b>57.91</b>	<b>113.40</b>
<b>Avg YTD Cost</b>	<b>137.49</b>	<b>118.36</b>	<b>100.65</b>	<b>91.92</b>	<b>88.82</b>	<b>87.37</b>	<b>90.31</b>	<b>93.42</b>	<b>92.27</b>	<b>89.47</b>	<b>86.97</b>	<b>89.23</b>
TSA \$ per NYC MWh	0.00	2.98	0.00	0.00	0.11	0.00	3.98	1.70	0.06	0.00	0.00	0.01
<b>2021</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	37.83	63.70	28.59	22.79	25.72	39.37	45.16	55.48	47.68	52.97	53.92	47.99
NTAC	1.35	1.20	1.26	1.54	2.09	2.05	2.01	1.37	1.23	1.67	2.03	1.40
Reserve	0.49	0.81	0.57	0.56	0.54	0.45	0.44	0.44	0.50	0.75	0.70	0.57
Regulation	0.07	0.13	0.09	0.10	0.08	0.07	0.06	0.05	0.09	0.13	0.15	0.11
NYISO Cost of Operations	0.74	0.74	0.74	0.74	0.76	0.76	0.76	0.76	0.75	0.74	0.75	0.73
FERC Fee Recovery	0.08	0.09	0.09	0.11	0.10	0.08	0.07	0.06	0.08	0.09	0.09	0.08
Uplift	(0.31)	(0.15)	0.11	(0.12)	(0.19)	(0.50)	(0.09)	(0.81)	0.00	(0.59)	(0.58)	(0.48)
Uplift: Local Reliability Share	0.09	0.15	0.11	0.06	0.22	0.17	0.30	0.33	0.78	0.23	0.16	0.05
Uplift: Statewide Share	(0.40)	(0.30)	0.00	(0.18)	(0.41)	(0.68)	(0.39)	(1.14)	(0.78)	(0.81)	(0.74)	(0.53)
Voltage Support and Black Start	0.43	0.43	0.43	0.44	0.44	0.44	0.44	0.44	0.44	0.43	0.44	0.42
<b>Avg Monthly Cost</b>	<b>40.61</b>	<b>66.87</b>	<b>31.81</b>	<b>26.06</b>	<b>29.45</b>	<b>42.65</b>	<b>48.79</b>	<b>57.73</b>	<b>50.70</b>	<b>56.11</b>	<b>57.43</b>	<b>50.76</b>
<b>Avg YTD Cost</b>	<b>40.69</b>	<b>52.99</b>	<b>46.57</b>	<b>42.41</b>	<b>40.10</b>	<b>40.59</b>	<b>42.05</b>	<b>44.63</b>	<b>45.34</b>	<b>46.35</b>	<b>47.29</b>	<b>47.59</b>
TSA \$ per NYC MWh	0.00	0.00	0.00	0.00	0.52	0.90	0.93	0.24	0.56	0.39	0.10	0.00

\* Excludes ICAP payments.  
Market Mitigation and Analysis  
Prepared: 1/13/2023 12:42 PM

As of Jan. 2016, the annual FERC fee is recovered separately from Cost of Ops.

# NYISO Dollar Flows - Uplift - OATT Schedule 1 components - Data through December 31, 2022



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

**2022**

	January	February	March	April	May	June	July	August	September	October	November	December
<b>Day Ahead Market MWh</b>	14,327,101	12,477,485	12,137,757	10,992,578	12,176,102	12,945,740	15,905,937	15,770,210	12,467,212	11,527,745	11,952,855	13,768,799
DAM LSE Internal LBMP Energy Sales	57%	56%	59%	56%	55%	60%	64%	63%	62%	58%	56%	56%
DAM External TC LBMP Energy Sales	7%	8%	3%	5%	6%	3%	3%	3%	2%	3%	4%	6%
DAM Bilateral - Internal Bilaterals	28%	28%	29%	31%	31%	29%	26%	26%	27%	30%	31%	29%
DAM Bilateral - Import/Non-LBMP Market Bilaterals	4%	4%	4%	5%	4%	4%	4%	5%	6%	5%	5%	5%
DAM Bilateral - Export/Non-LBMP Market Bilaterals	2%	2%	2%	2%	2%	2%	1%	1%	2%	2%	2%	2%
DAM Bilateral - Wheel Through Bilaterals	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
<b>Balancing Energy Market MWh</b>	942,823	742,449	758,386	772,666	378,503	464,231	567,602	785,464	361,883	379,932	519,117	528,939
Balancing Energy LSE Internal LBMP Energy Sales	88%	83%	76%	60%	65%	66%	72%	86%	66%	45%	38%	45%
Balancing Energy External TC LBMP Energy Sales	16%	19%	24%	33%	32%	36%	23%	14%	34%	55%	58%	56%
Balancing Energy Bilateral - Internal Bilaterals	1%	2%	2%	0%	5%	2%	1%	0%	1%	0%	2%	2%
Balancing Energy Bilateral - Import/Non-LBMP Market Bilaterals	0%	0%	0%	0%	2%	2%	2%	0%	0%	0%	0%	0%
Balancing Energy Bilateral - Export/Non-LBMP Market Bilaterals	4%	9%	8%	7%	9%	8%	6%	3%	5%	7%	7%	5%
Balancing Energy Bilateral - Wheel Through Bilaterals	-9%	-13%	-10%	-1%	-12%	-14%	-4%	-3%	-5%	-7%	-5%	-8%
<b>Transactions Summary</b>												
LBMP	67%	66%	65%	62%	63%	64%	68%	68%	65%	62%	62%	64%
Internal Bilaterals	26%	27%	27%	29%	30%	28%	25%	25%	27%	29%	29%	28%
Import Bilaterals	3%	4%	4%	4%	4%	4%	3%	4%	6%	5%	5%	5%
Export Bilaterals	2%	2%	2%	2%	2%	2%	2%	1%	2%	2%	2%	2%
Wheels Through	1%	1%	2%	2%	2%	2%	1%	1%	2%	1%	2%	2%
<b>Market Share of Total Load</b>												
Day Ahead Market	93.8%	94.4%	94.1%	93.4%	97.0%	96.5%	96.6%	95.3%	97.2%	96.8%	95.8%	96.3%
Balancing Energy +	6.2%	5.6%	5.9%	6.6%	3.0%	3.5%	3.4%	4.7%	2.8%	3.2%	4.2%	3.7%
Total MWH	15,269,924	13,219,933	12,896,143	11,765,244	12,554,605	13,409,971	16,473,538	16,555,674	12,829,095	11,907,677	12,471,972	14,297,738
Average Daily Energy Sendout/Month GWh	451	429	390	359	372	422	509	514	411	359	382	421

**2021**

	January	February	March	April	May	June	July	August	September	October	November	December
<b>Day Ahead Market MWh</b>	14,108,848	13,325,329	12,843,278	11,204,262	11,854,214	14,120,662	15,843,724	16,032,238	12,759,550	11,852,213	11,496,431	13,068,538
DAM LSE Internal LBMP Energy Sales	60%	59%	56%	55%	56%	61%	65%	64%	61%	59%	60%	57%
DAM External TC LBMP Energy Sales	5%	4%	3%	2%	2%	3%	2%	4%	3%	4%	3%	6%
DAM Bilateral - Internal Bilaterals	31%	30%	32%	35%	35%	29%	27%	26%	29%	30%	32%	30%
DAM Bilateral - Import/Non-LBMP Market Bilaterals	1%	4%	4%	5%	4%	4%	3%	3%	4%	4%	3%	3%
DAM Bilateral - Export/Non-LBMP Market Bilaterals	2%	2%	2%	2%	2%	1%	1%	1%	2%	2%	2%	2%
DAM Bilateral - Wheel Through Bilaterals	2%	2%	3%	2%	2%	2%	2%	2%	2%	2%	1%	2%
<b>Balancing Energy Market MWh</b>	29,179	-308,157	-70,279	30,603	-36,350	247,874	-367,232	454,982	543,392	511,553	639,571	675,223
Balancing Energy LSE Internal LBMP Energy Sales	-215%	-151%	-367%	-456%	-398%	53%	-135%	82%	65%	63%	74%	87%
Balancing Energy External TC LBMP Energy Sales	374%	59%	365%	578%	440%	60%	41%	34%	40%	39%	26%	18%
Balancing Energy Bilateral - Internal Bilaterals	49%	4%	27%	34%	0%	-1%	3%	3%	1%	2%	2%	2%
Balancing Energy Bilateral - Import/Non-LBMP Market Bilaterals	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%
Balancing Energy Bilateral - Export/Non-LBMP Market Bilaterals	50%	5%	32%	34%	21%	5%	3%	2%	4%	5%	7%	8%
Balancing Energy Bilateral - Wheel Through Bilaterals	-158%	-17%	-158%	-90%	-163%	-17%	-11%	-21%	-9%	-10%	-8%	-15%
<b>Transactions Summary</b>												
LBMP	65%	62%	59%	57%	58%	65%	66%	69%	66%	64%	65%	65%
Internal Bilaterals	31%	31%	33%	35%	35%	29%	28%	25%	27%	28%	30%	28%
Import Bilaterals	1%	4%	4%	5%	4%	3%	3%	3%	4%	4%	3%	3%
Export Bilaterals	2%	2%	2%	2%	2%	2%	1%	1%	2%	2%	2%	2%
Wheels Through	2%	2%	2%	2%	2%	1%	1%	1%	2%	2%	0%	1%
<b>Market Share of Total Load</b>												
Day Ahead Market	99.8%	102.4%	100.6%	99.7%	100.3%	98.3%	102.4%	97.2%	95.9%	95.9%	94.7%	95.1%
Balancing Energy +	0.2%	-2.4%	-0.6%	0.3%	-0.3%	1.7%	-2.4%	2.8%	4.1%	4.1%	5.3%	4.9%
Total MWH	14,138,027	13,017,172	12,772,999	11,234,865	11,817,864	14,368,536	15,476,492	16,487,220	13,302,943	12,363,765	12,136,001	13,743,761
Average Daily Energy Sendout/Month GWh	427	434	381	354	365	458	483	504	420	373	387	408

+ 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 2022 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 *	\$124.39	\$85.98	\$52.41	\$55.23	\$66.11	\$72.43	\$90.42	\$100.71	\$74.23	\$51.77	\$49.08	\$98.20
Standard Deviation	\$51.94	\$39.56	\$18.64	\$11.05	\$21.60	\$19.84	\$40.00	\$33.52	\$22.13	\$11.85	\$20.31	\$64.21
Load Weighted Price **	\$128.16	\$88.17	\$53.69	\$55.96	\$69.05	\$75.15	\$96.74	\$105.93	\$77.41	\$52.79	\$50.77	\$101.90
<b><u>RTC LBMP</u></b>												
Price *	\$127.16	\$85.48	\$57.58	\$57.33	\$68.27	\$78.66	\$92.25	\$104.69	\$70.59	\$48.87	\$45.91	\$109.15
Standard Deviation	\$77.62	\$55.20	\$38.62	\$21.09	\$42.87	\$49.85	\$49.28	\$51.96	\$28.06	\$13.16	\$24.06	\$190.04
Load Weighted Price **	\$130.45	\$88.33	\$59.03	\$58.49	\$72.67	\$82.33	\$98.61	\$111.42	\$73.81	\$49.76	\$47.58	\$115.16
<b><u>REAL TIME LBMP</u></b>												
Price *	\$130.43	\$83.85	\$57.00	\$54.45	\$65.07	\$74.01	\$90.23	\$105.61	\$71.11	\$49.26	\$48.62	\$114.54
Standard Deviation	\$93.35	\$57.99	\$44.52	\$20.46	\$33.01	\$41.27	\$54.20	\$69.83	\$30.72	\$17.89	\$37.20	\$216.43
Load Weighted Price **	\$133.98	\$86.99	\$58.64	\$55.57	\$68.60	\$77.40	\$96.79	\$113.16	\$74.57	\$50.30	\$50.78	\$122.49
Average Daily Energy Sendout/Month GWh	451	429	390	359	372	422	509	514	411	359	382	421

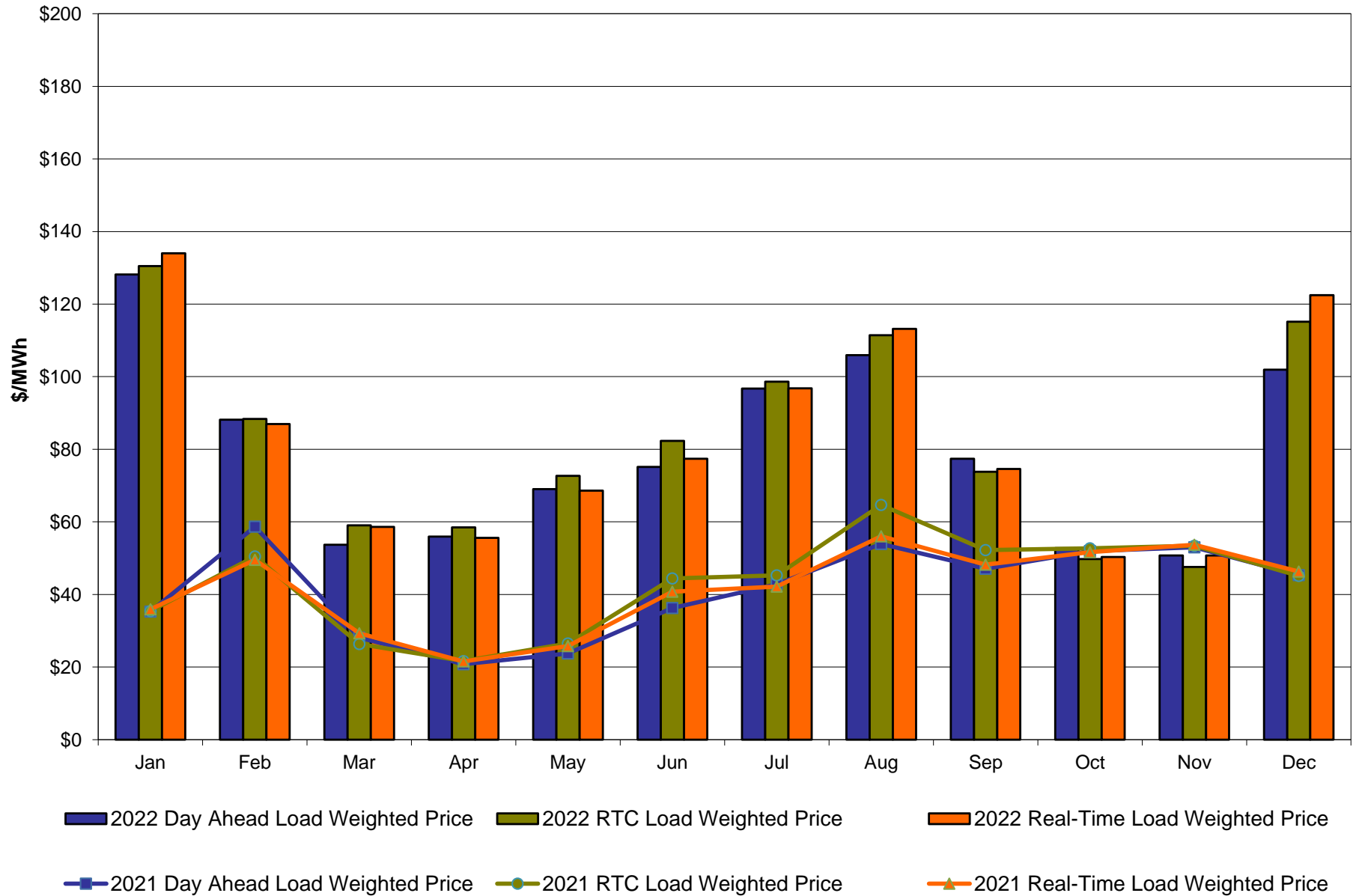
### **NYISO Markets 2021 Energy Statistics**

	<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 *	\$34.37	\$57.30	\$27.47	\$20.46	\$22.95	\$33.36	\$40.38	\$50.30	\$45.48	\$50.66	\$51.90	\$44.24
Standard Deviation	\$14.58	\$24.48	\$8.23	\$4.58	\$6.28	\$15.88	\$15.56	\$22.37	\$12.42	\$11.04	\$11.83	\$13.72
Load Weighted Price **	\$35.31	\$58.67	\$28.12	\$20.81	\$23.75	\$36.28	\$42.84	\$53.93	\$47.08	\$51.92	\$52.98	\$45.33
<b><u>RTC LBMP</u></b>												
Price *	\$34.32	\$49.25	\$25.59	\$21.30	\$25.36	\$39.69	\$42.25	\$58.87	\$50.07	\$51.41	\$52.37	\$44.16
Standard Deviation	\$20.93	\$23.34	\$12.67	\$7.91	\$11.17	\$34.08	\$47.97	\$47.79	\$22.24	\$13.96	\$16.97	\$17.49
Load Weighted Price **	\$35.40	\$50.48	\$26.37	\$21.67	\$26.50	\$44.41	\$45.27	\$64.66	\$52.21	\$52.71	\$53.44	\$45.12
<b><u>REAL TIME LBMP</u></b>												
Price *	\$34.59	\$48.22	\$28.06	\$21.10	\$24.62	\$36.58	\$39.61	\$51.46	\$46.37	\$50.41	\$52.52	\$45.13
Standard Deviation	\$29.47	\$26.46	\$26.13	\$10.07	\$10.91	\$25.43	\$26.73	\$37.53	\$18.08	\$14.93	\$20.97	\$23.65
Load Weighted Price **	\$35.89	\$49.57	\$29.33	\$21.55	\$25.78	\$40.76	\$42.20	\$56.04	\$48.21	\$51.66	\$53.68	\$46.29
Average Daily Energy Sendout/Month GWh	427	434	381	354	365	458	483	504	420	373	387	408

\* Average zonal load weighted prices.

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

# **NYISO Monthly Average Internal LBMPs 2021 - 2022**

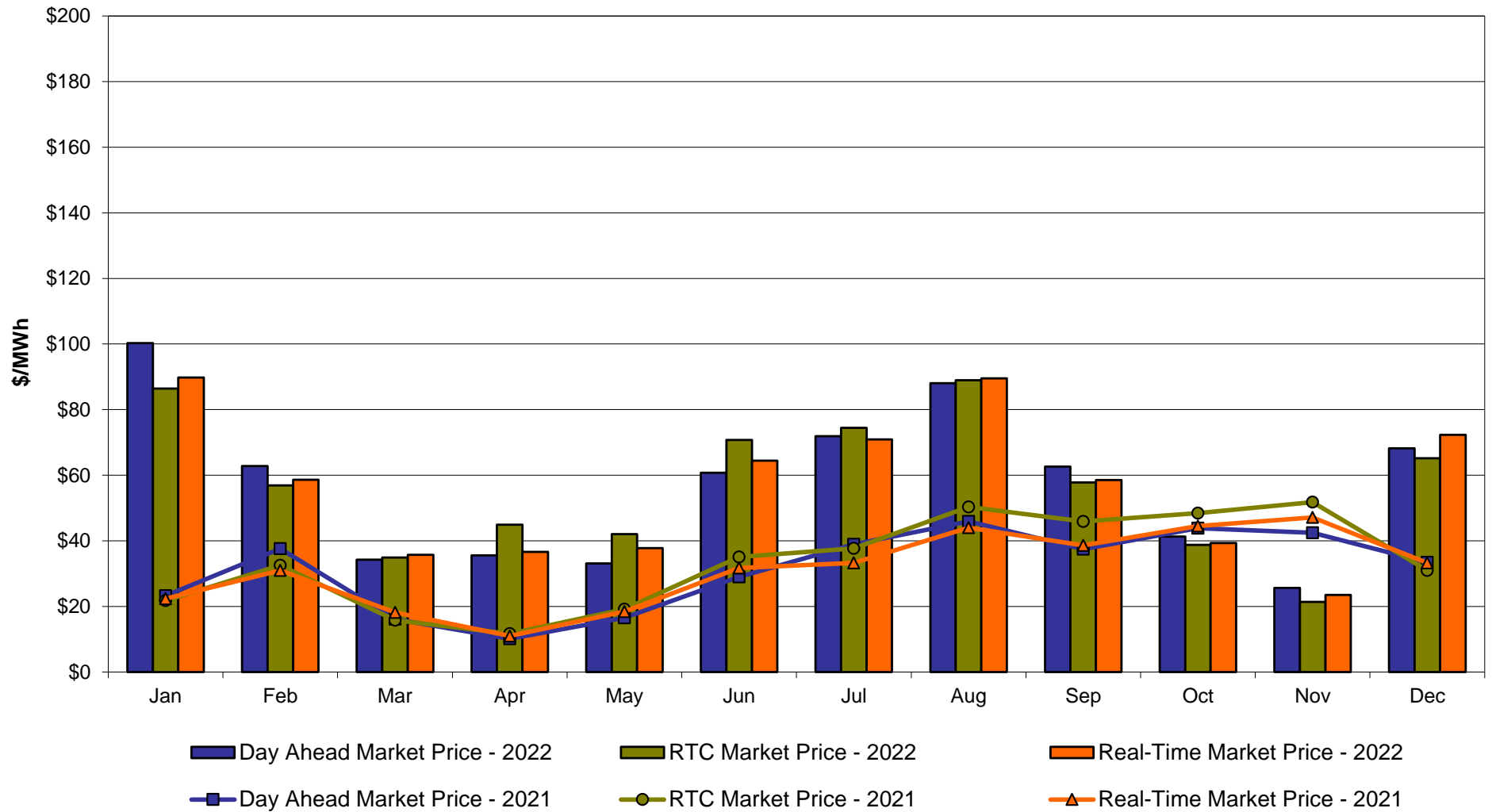


**December 2022 Zonal LBMP Statistics for NYISO (\$/MWh)**

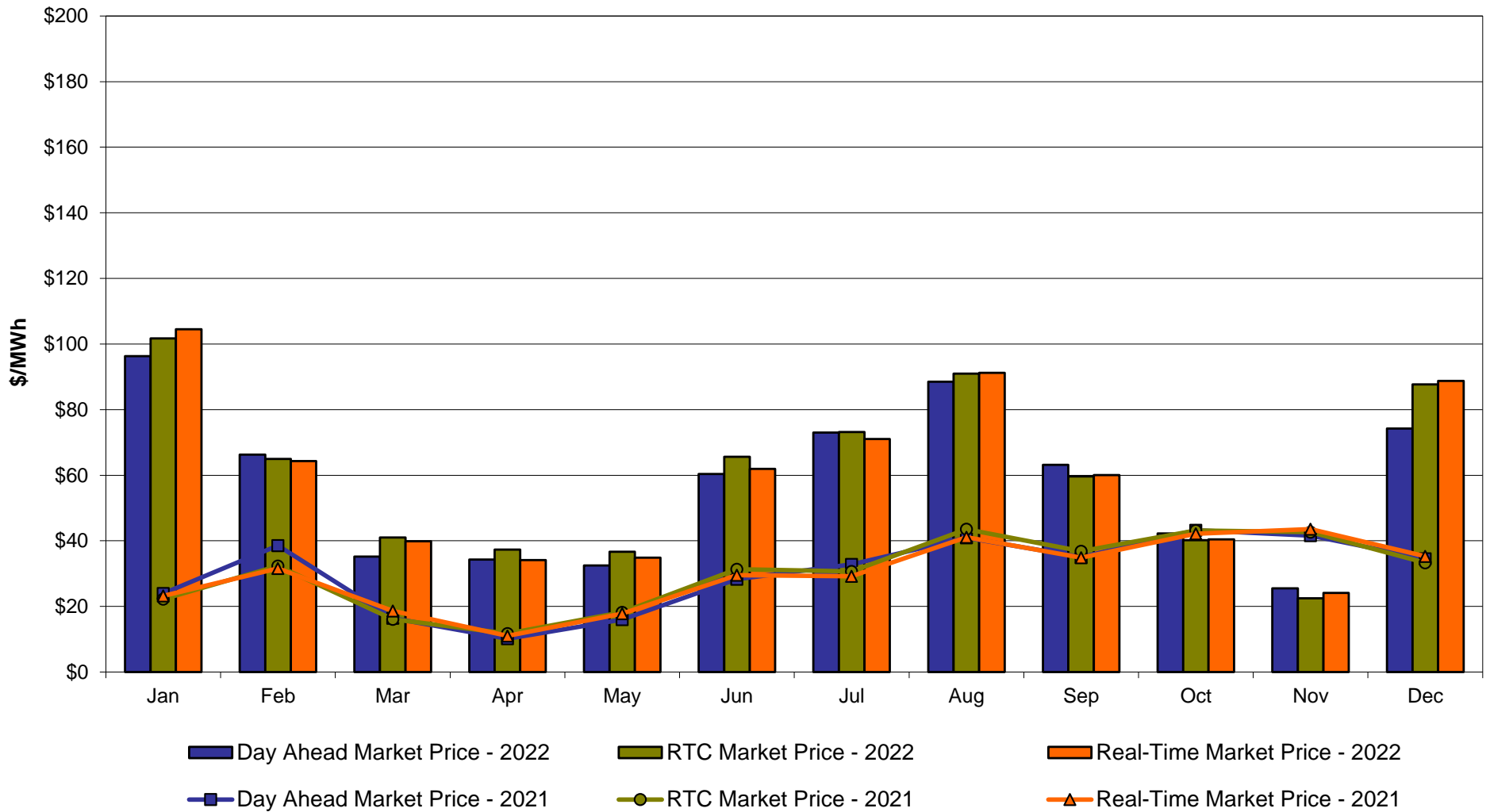
	<b><u>WEST Zone A</u></b>	<b><u>GENESEE Zone B</u></b>	<b><u>NORTH Zone D</u></b>	<b><u>CENTRAL Zone C</u></b>	<b><u>MOHAWK VALLEY Zone E</u></b>	<b><u>CAPITAL Zone F</u></b>	<b><u>HUDSON VALLEY Zone G</u></b>	<b><u>MILLWOOD Zone H</u></b>	<b><u>DUNWOODIE Zone I</u></b>	<b><u>NEW YORK CITY Zone J</u></b>	<b><u>LONG ISLAND Zone K</u></b>
<b><u>DAY AHEAD LBMP</u></b>											
Unweighted Price *	68.25	70.34	64.07	74.25	76.78	129.41	107.34	108.11	108.12	108.57	120.01
Standard Deviation	50.29	53.37	57.55	57.13	59.99	89.58	69.17	69.55	69.57	69.84	69.27
<b><u>RTC LBMP</u></b>											
Unweighted Price *	65.21	76.95	69.43	87.65	85.27	142.69	119.85	120.88	120.75	121.24	136.05
Standard Deviation	116.55	143.56	148.04	174.68	168.22	254.94	209.60	211.26	210.99	211.89	217.65
<b><u>REAL TIME LBMP</u></b>											
Unweighted Price *	72.35	80.83	71.67	88.76	88.31	148.19	125.85	126.90	126.79	127.27	143.27
Standard Deviation	152.00	173.28	176.38	194.93	193.48	256.58	238.18	239.86	240.33	241.41	257.96
	<b><u>ONTARIO IESO  Zone O</u></b>	<b><u>HYDRO QUEBEC (Wheel) Zone M</u></b>	<b><u>HYDRO QUEBEC (Import/Export) Zone M</u></b>	<b><u>PJM Zone P</u></b>	<b><u>NEW ENGLAND Zone N</u></b>	<b><u>CROSS SOUND CABLE Controllable Line</u></b>	<b><u>NORTHPORT- NORWALK Controllable Line</u></b>	<b><u>NEPTUNE Controllable Line</u></b>	<b><u>LINDEN VFT Controllable Line</u></b>	<b><u>HUDSON Controllable Line</u></b>	<b><u>Dennison Controllable Line</u></b>
<b><u>DAY AHEAD LBMP</u></b>											
Unweighted Price *	66.43	65.16	65.16	86.24	116.91	119.63	117.62	114.41	106.69	107.97	63.23
Standard Deviation	48.91	56.06	56.06	58.89	73.89	68.70	68.23	68.60	69.07	69.44	56.98
<b><u>RTC LBMP</u></b>											
Unweighted Price *	56.95	63.25	63.25	84.92	124.90	127.00	126.10	122.13	111.50	112.71	61.11
Standard Deviation	89.17	105.93	105.93	128.69	177.66	171.92	171.98	171.07	163.14	163.79	105.73
<b><u>REAL TIME LBMP</u></b>											
Unweighted Price *	69.05	63.53	63.53	89.95	125.84	139.65	136.76	127.19	115.07	116.50	68.91
Standard Deviation	134.16	99.23	99.23	142.88	172.12	241.30	241.68	194.42	170.17	171.39	159.06

\* Straight LBMP averages

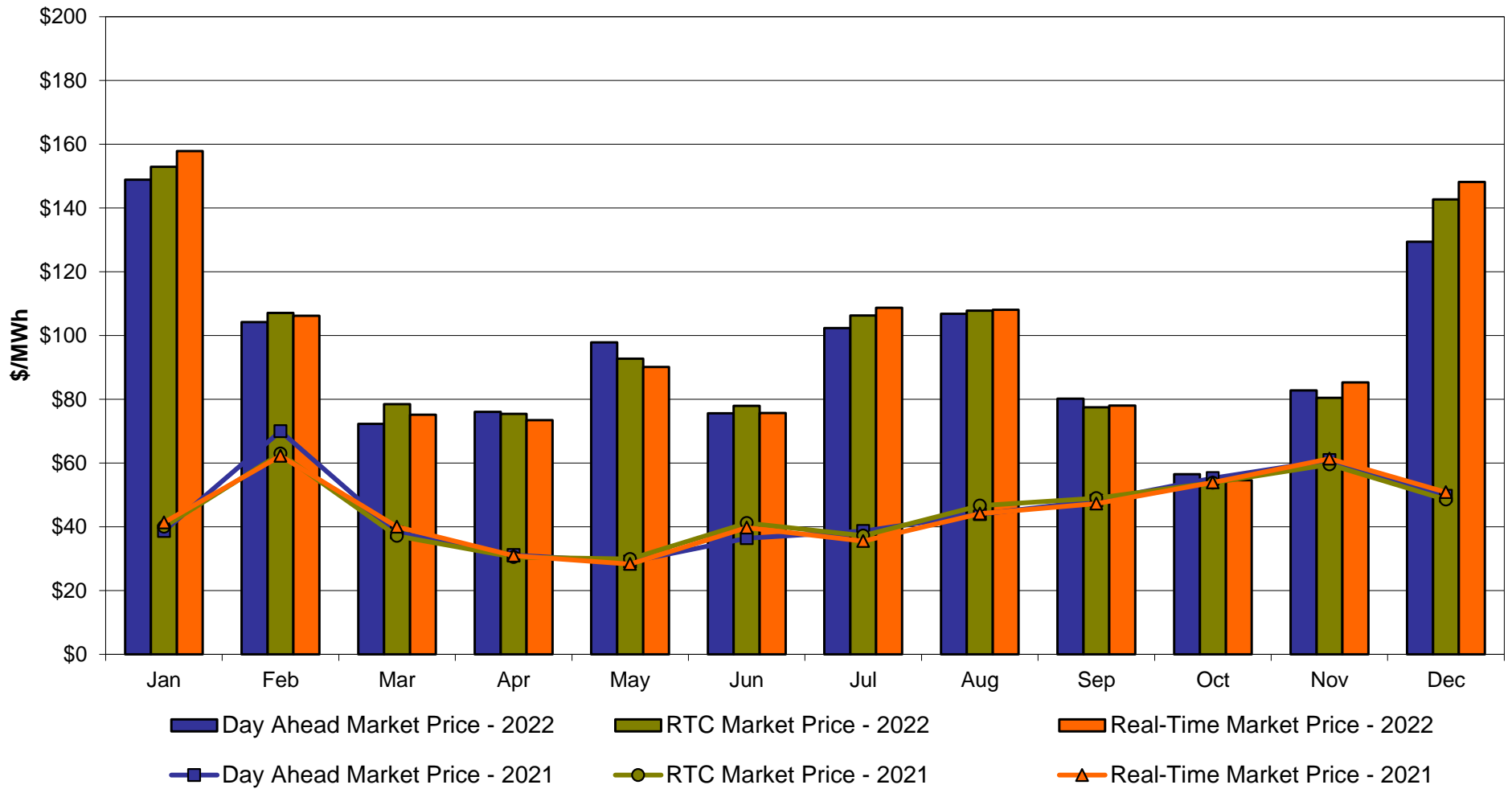
# West Zone A Monthly Average LBMP Prices 2021 - 2022



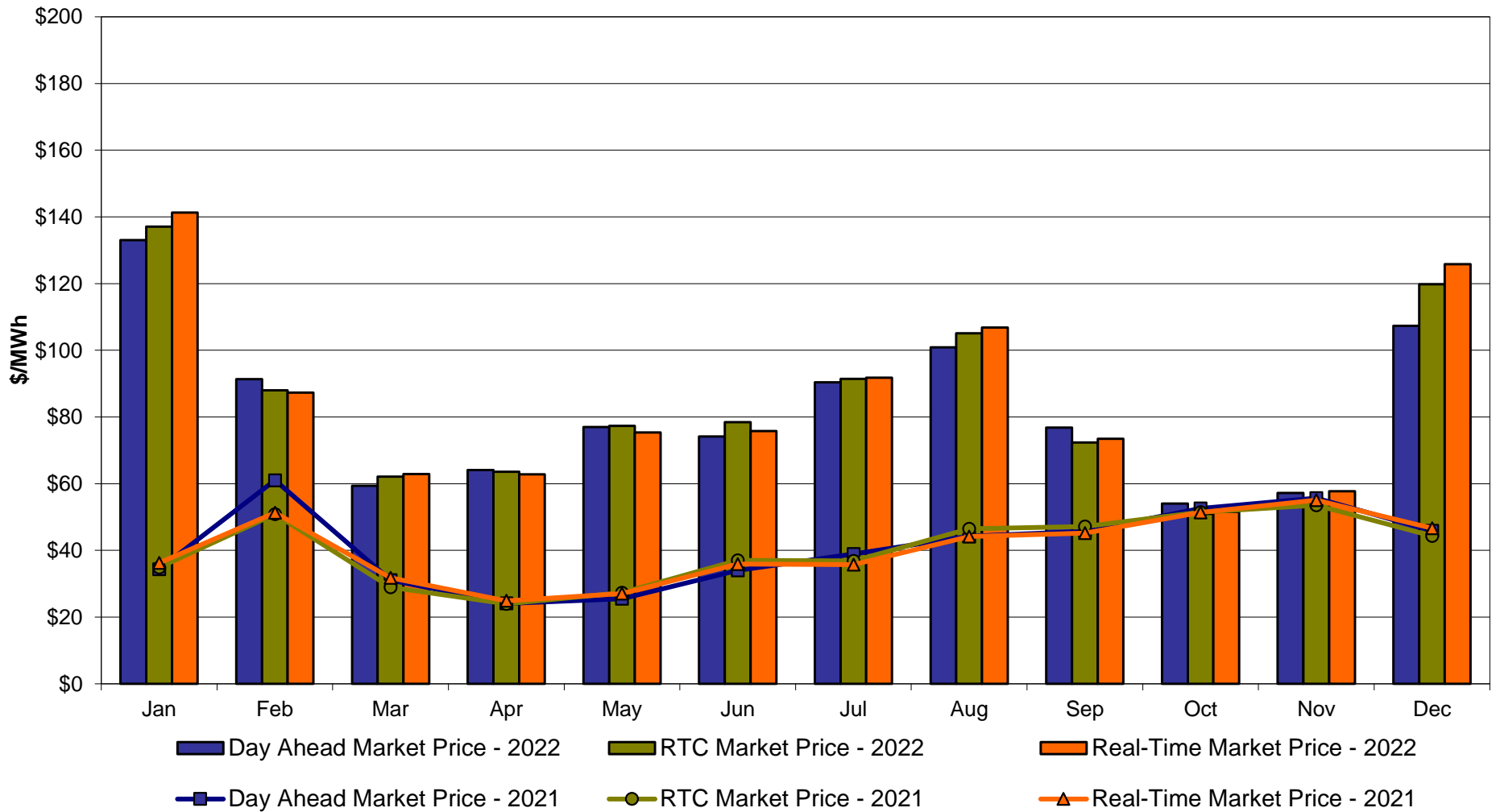
# Central Zone C Monthly Average LBMP Prices 2020 - 2021



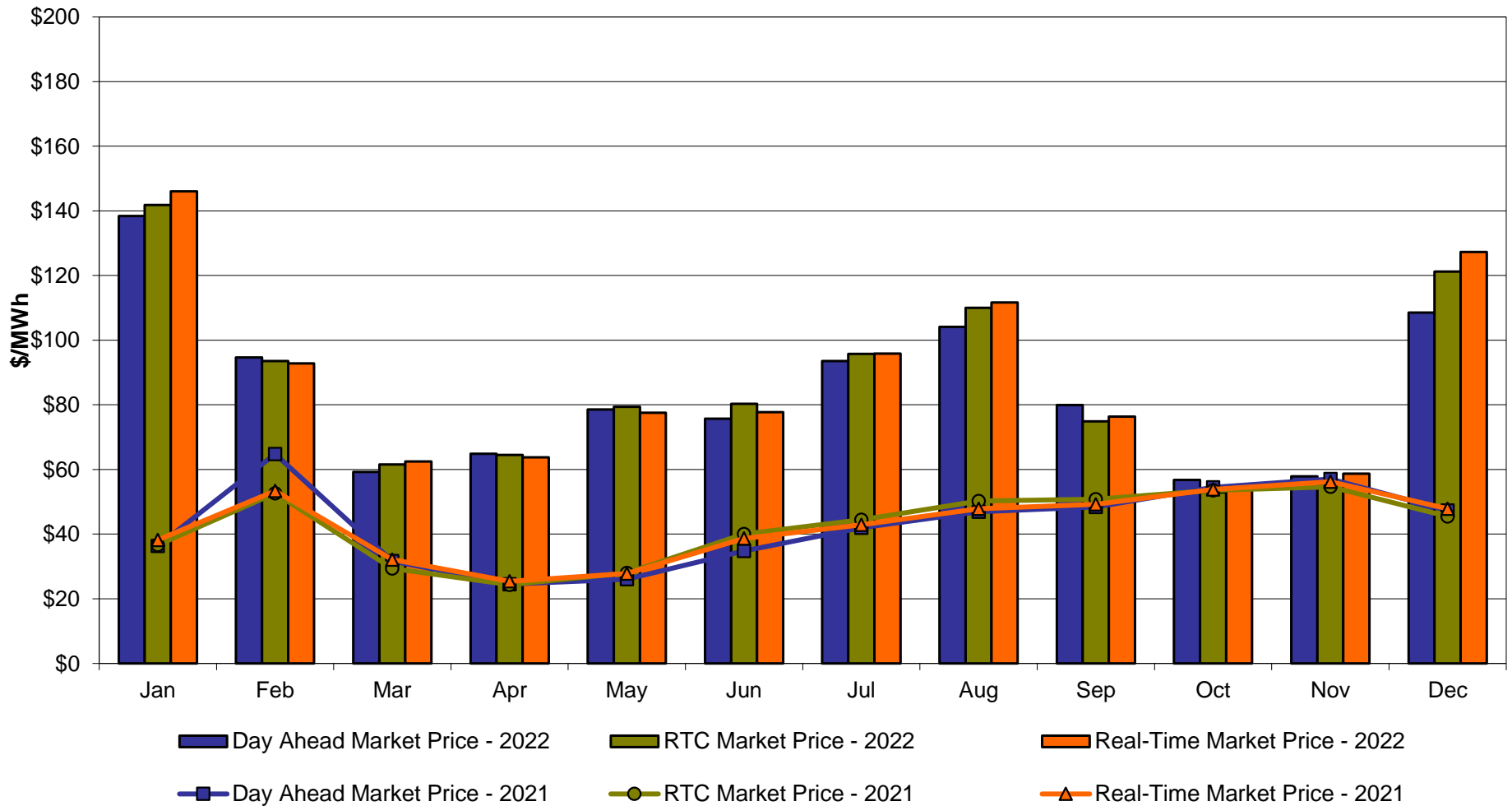
# **Capital Zone F** **Monthly Average LBMP Prices 2021 - 2022**



## Hudson Valley Zone G Monthly Average LBMP Prices 2020 - 2021

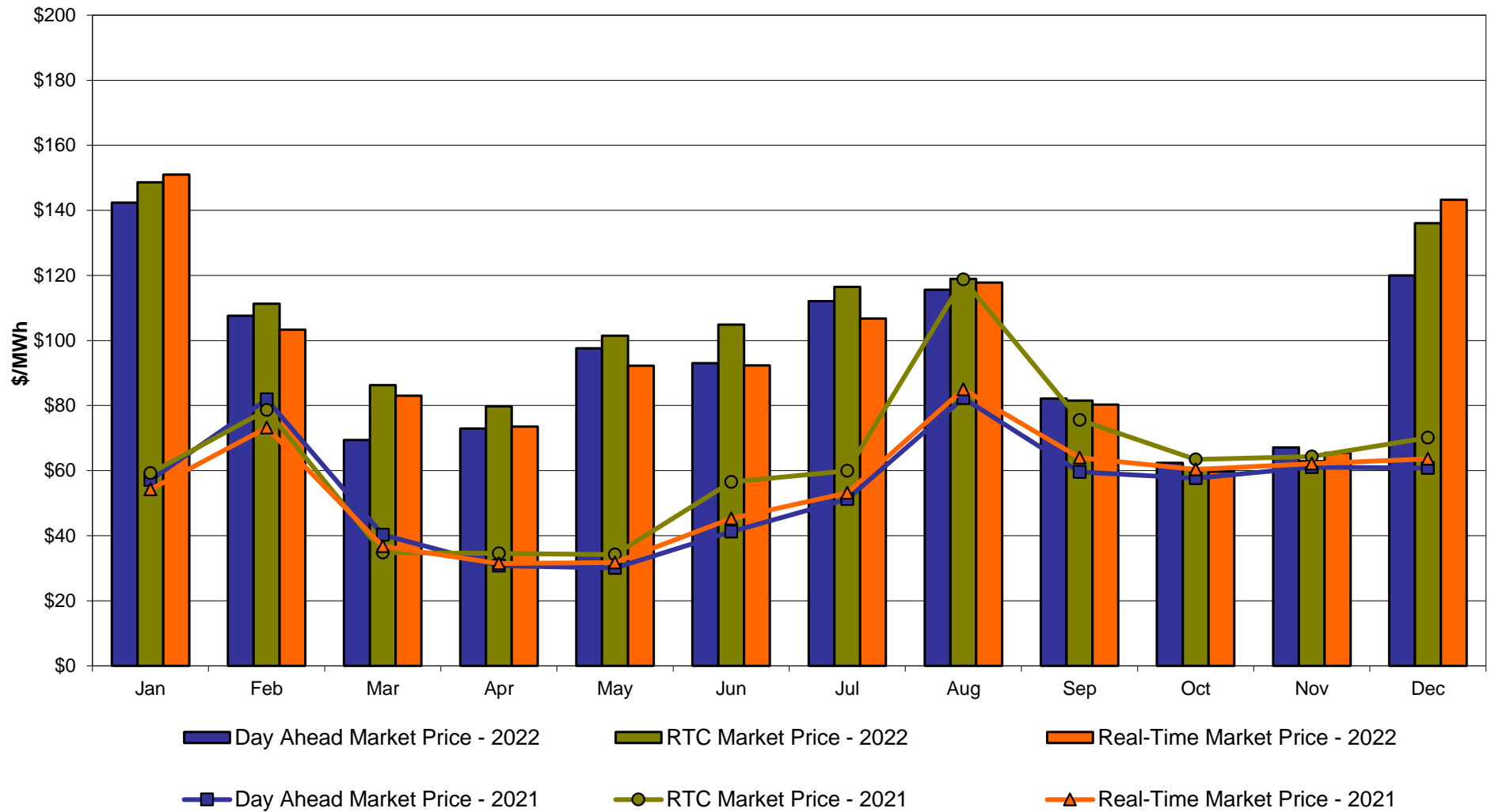


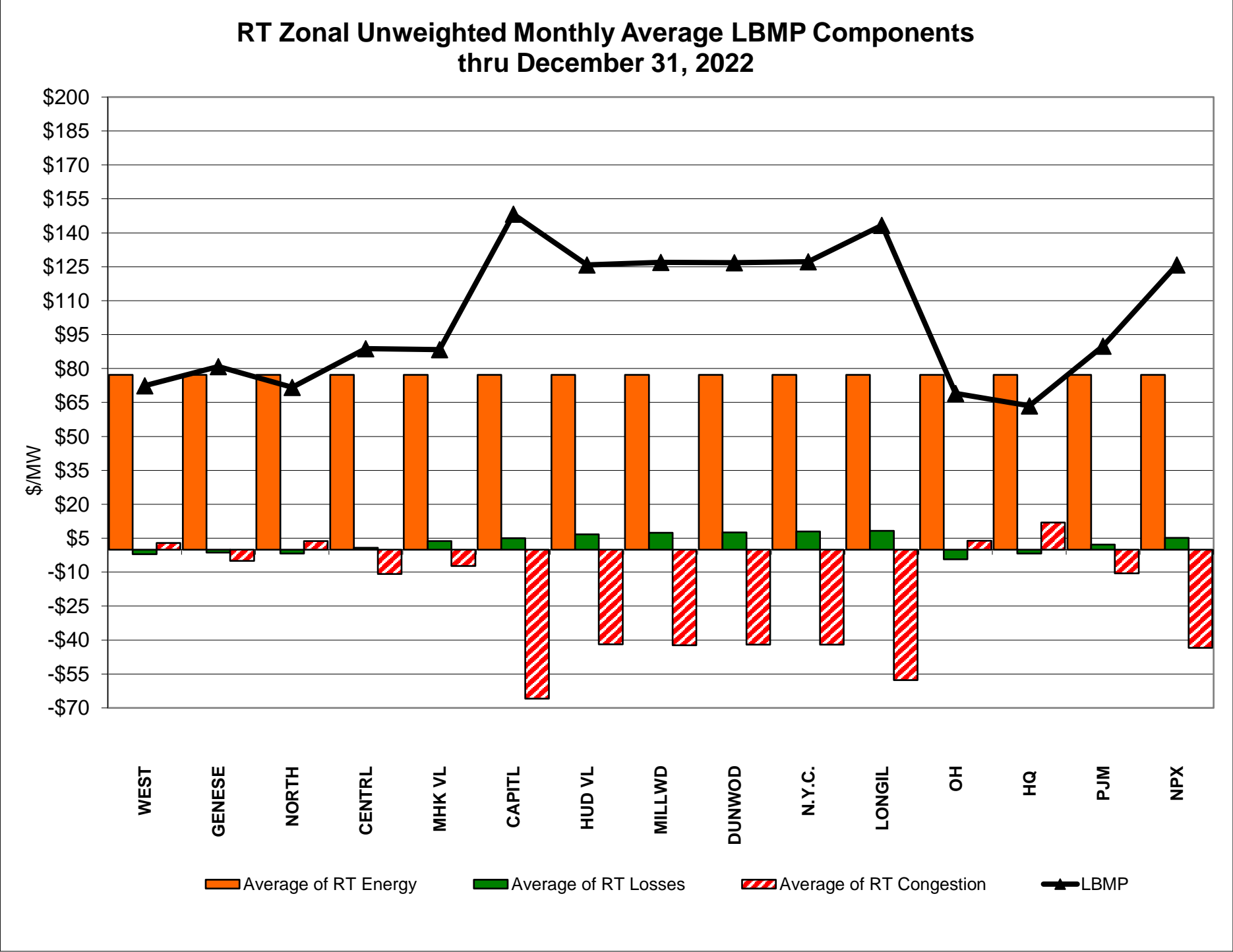
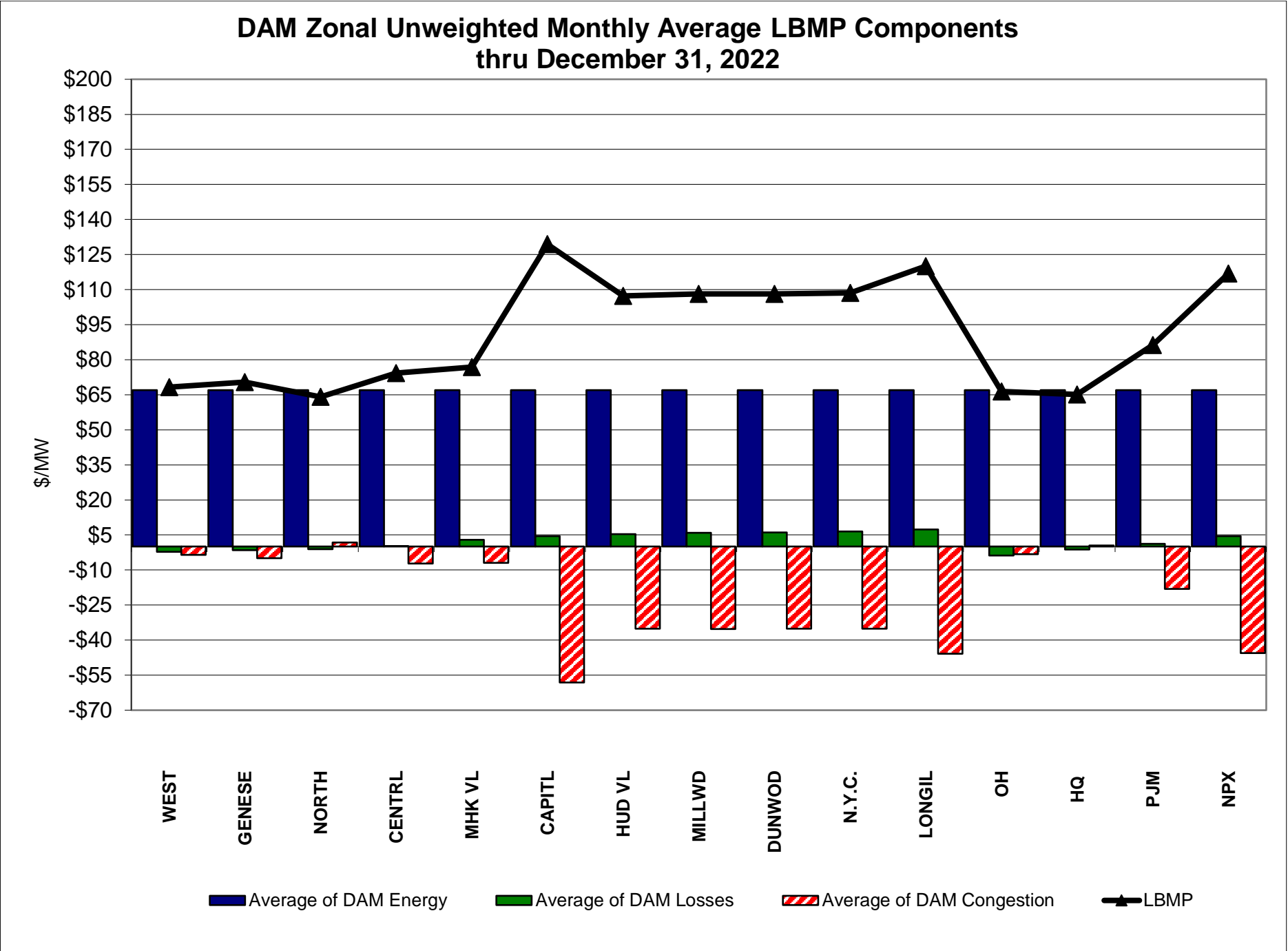
# **NYC Zone J** **Monthly Average LBMP Prices 2021 - 2022**



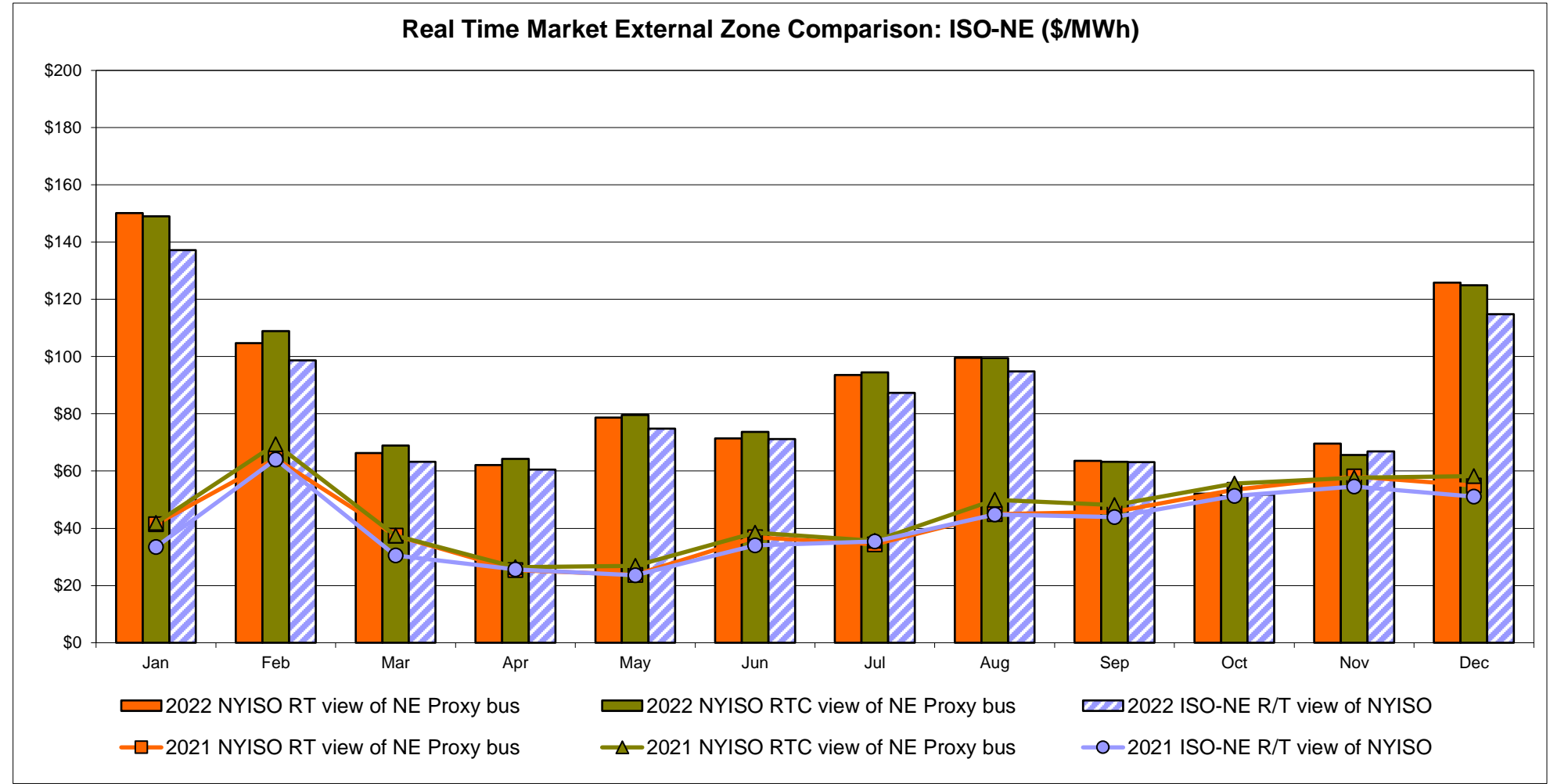
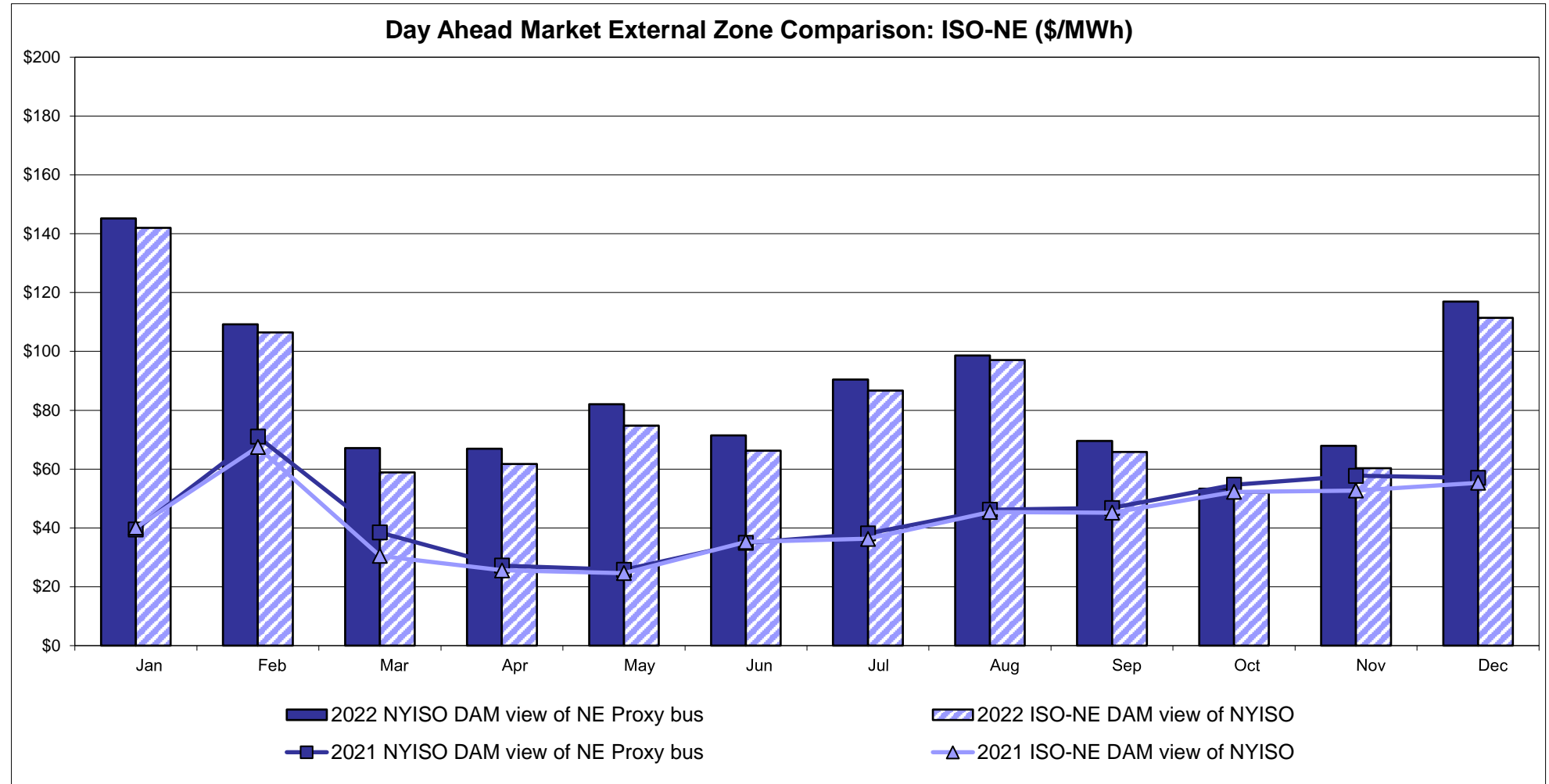


# Long Island Zone K Monthly Average LBMP Prices 2020 - 2021

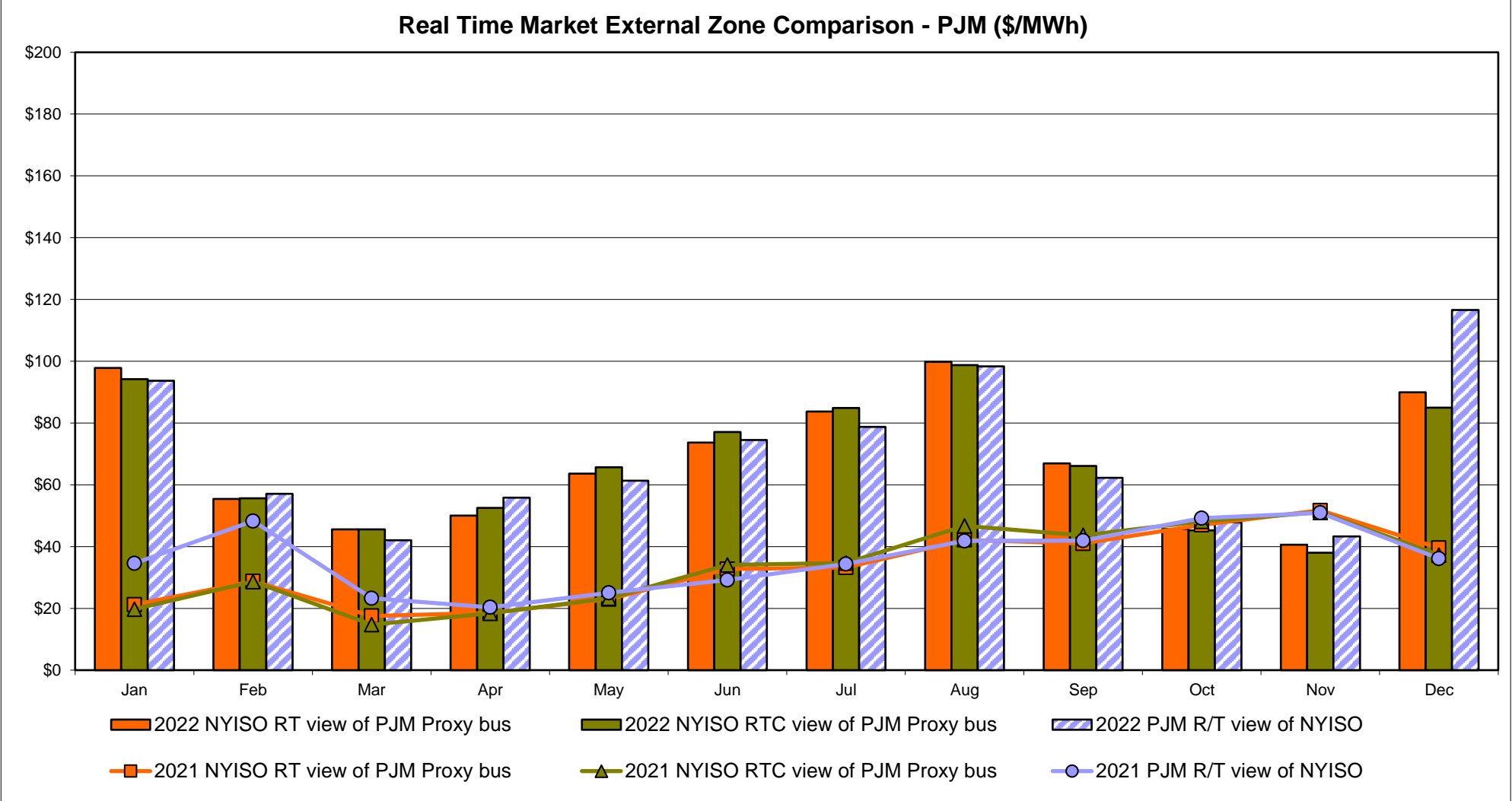
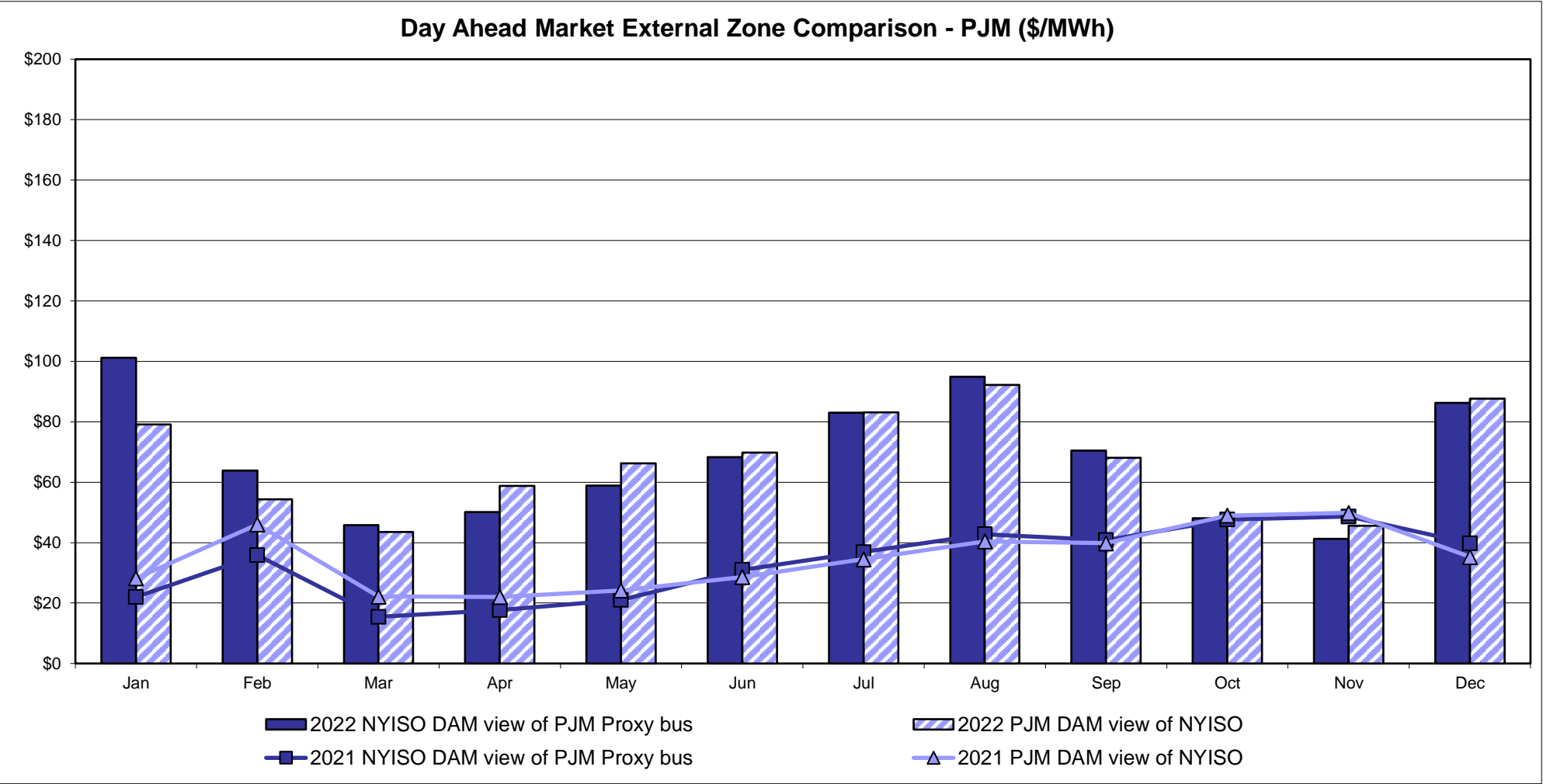




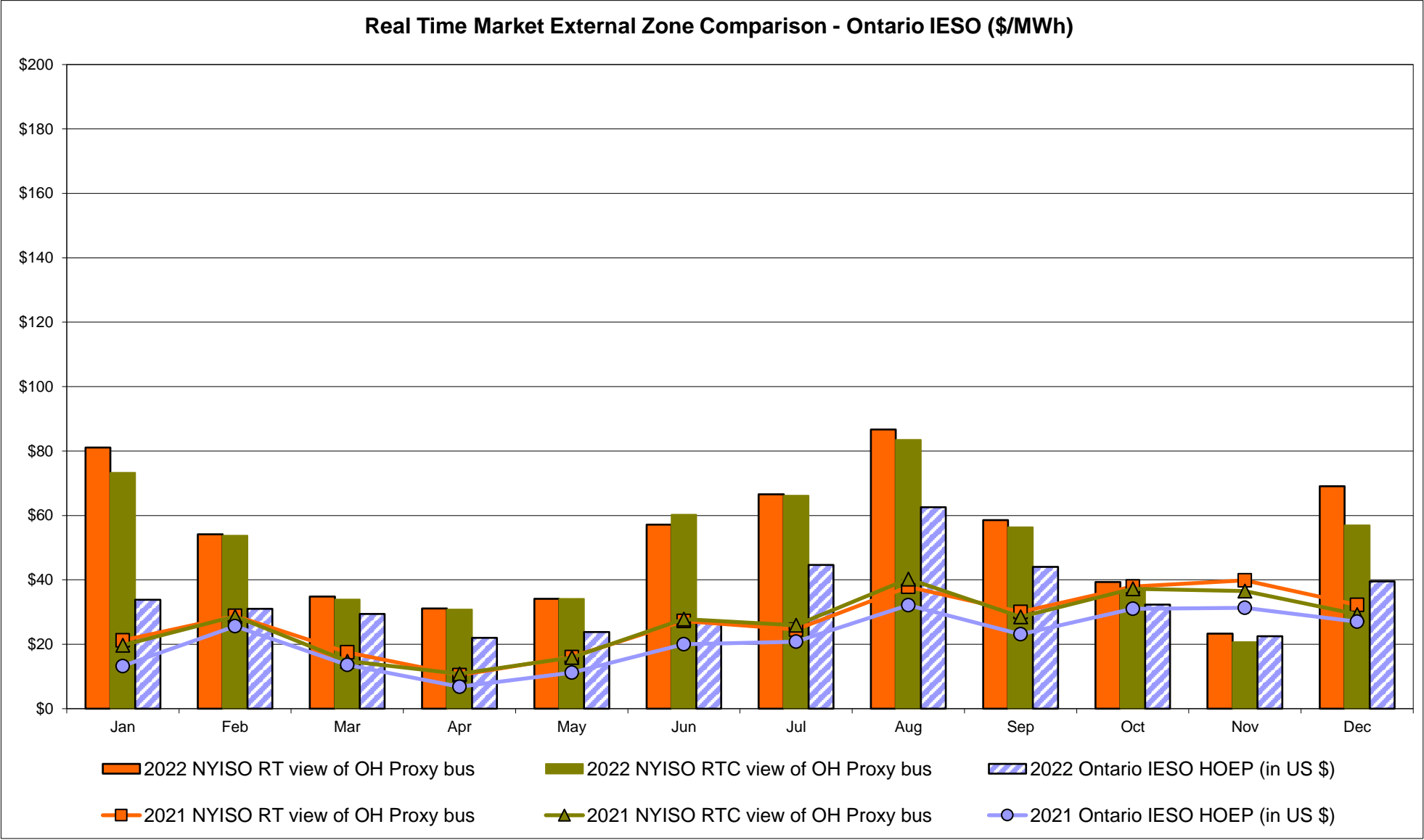
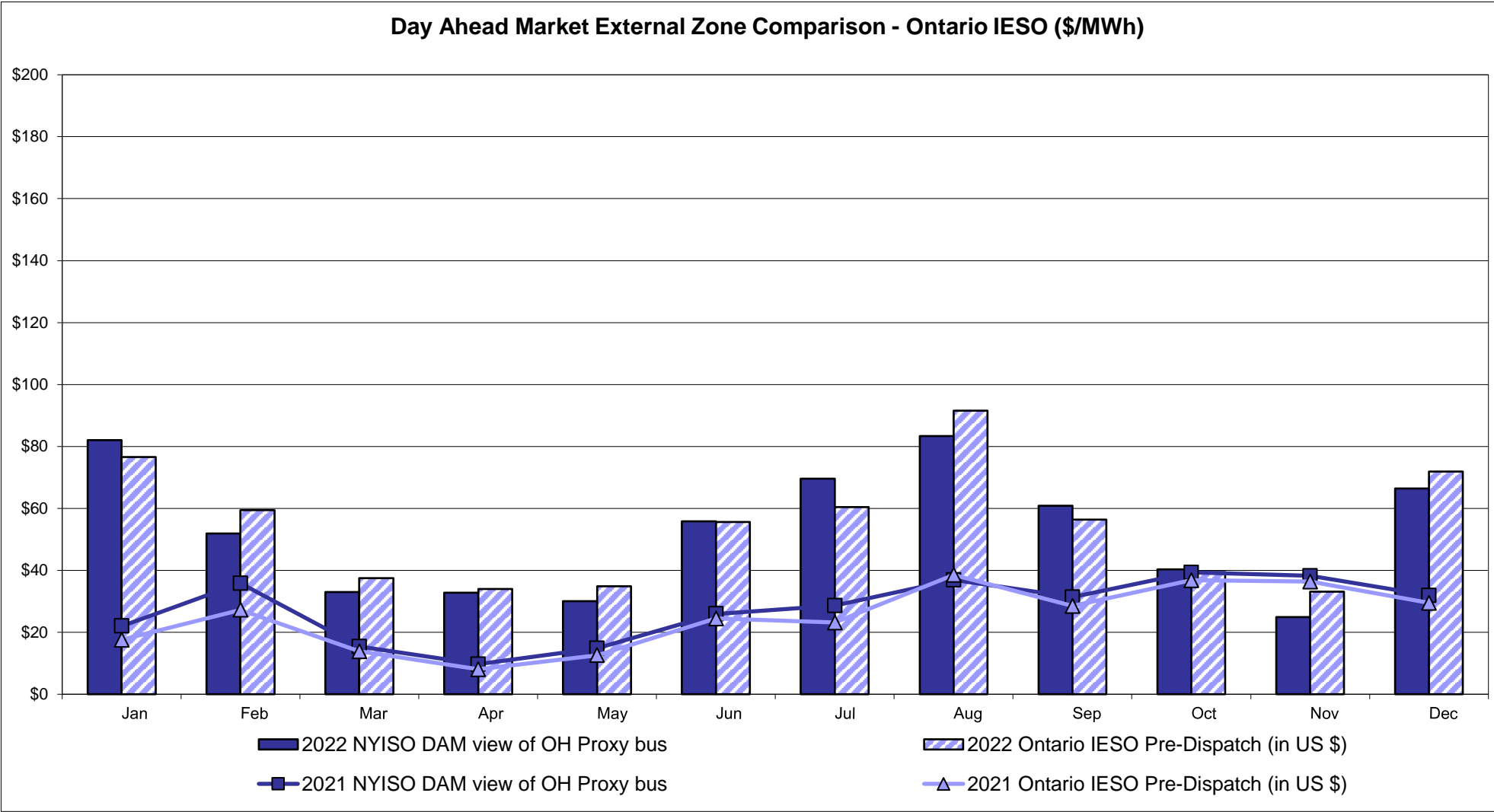
External Comparison ISO-New England



# External Comparison PJM

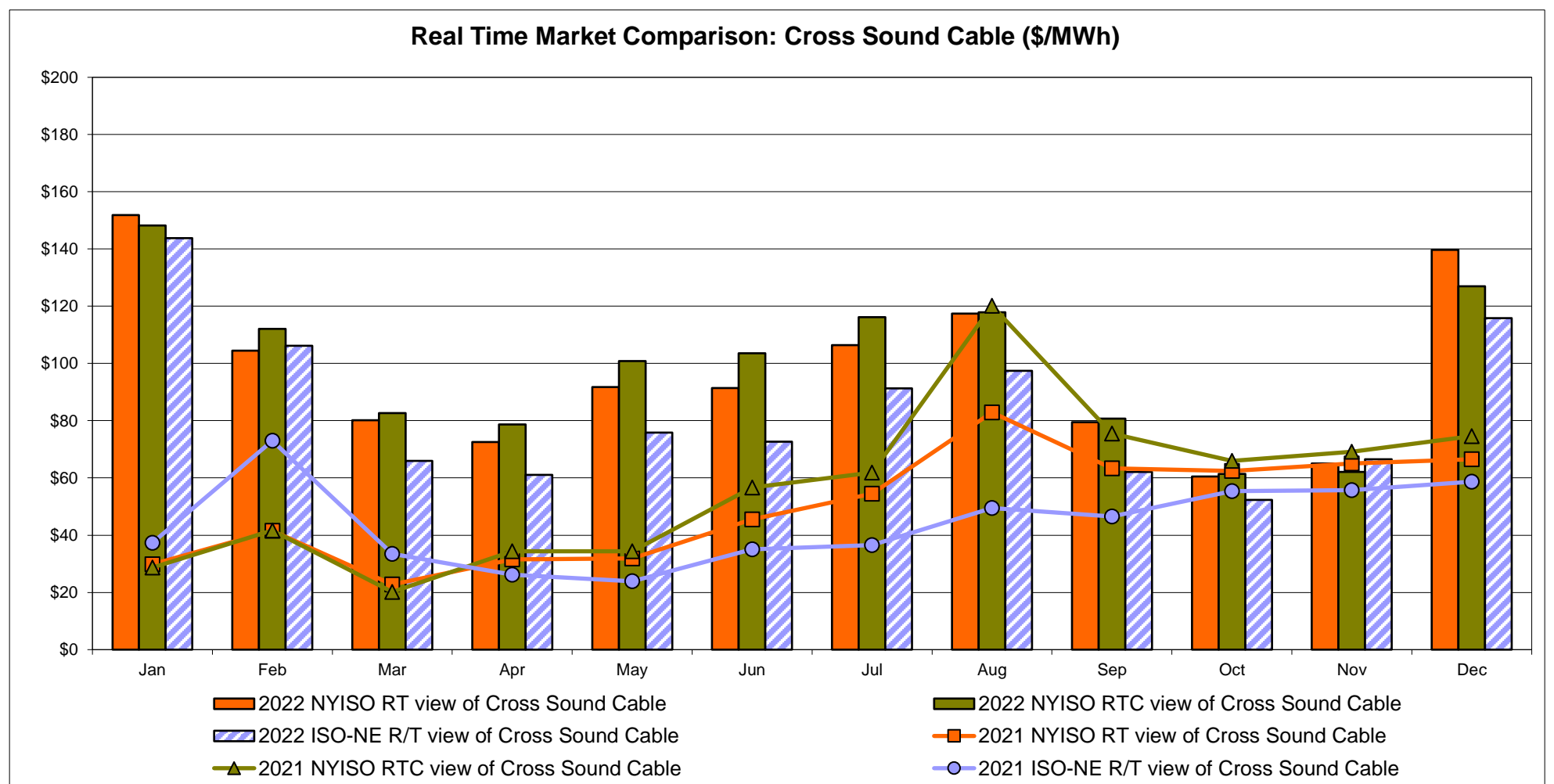
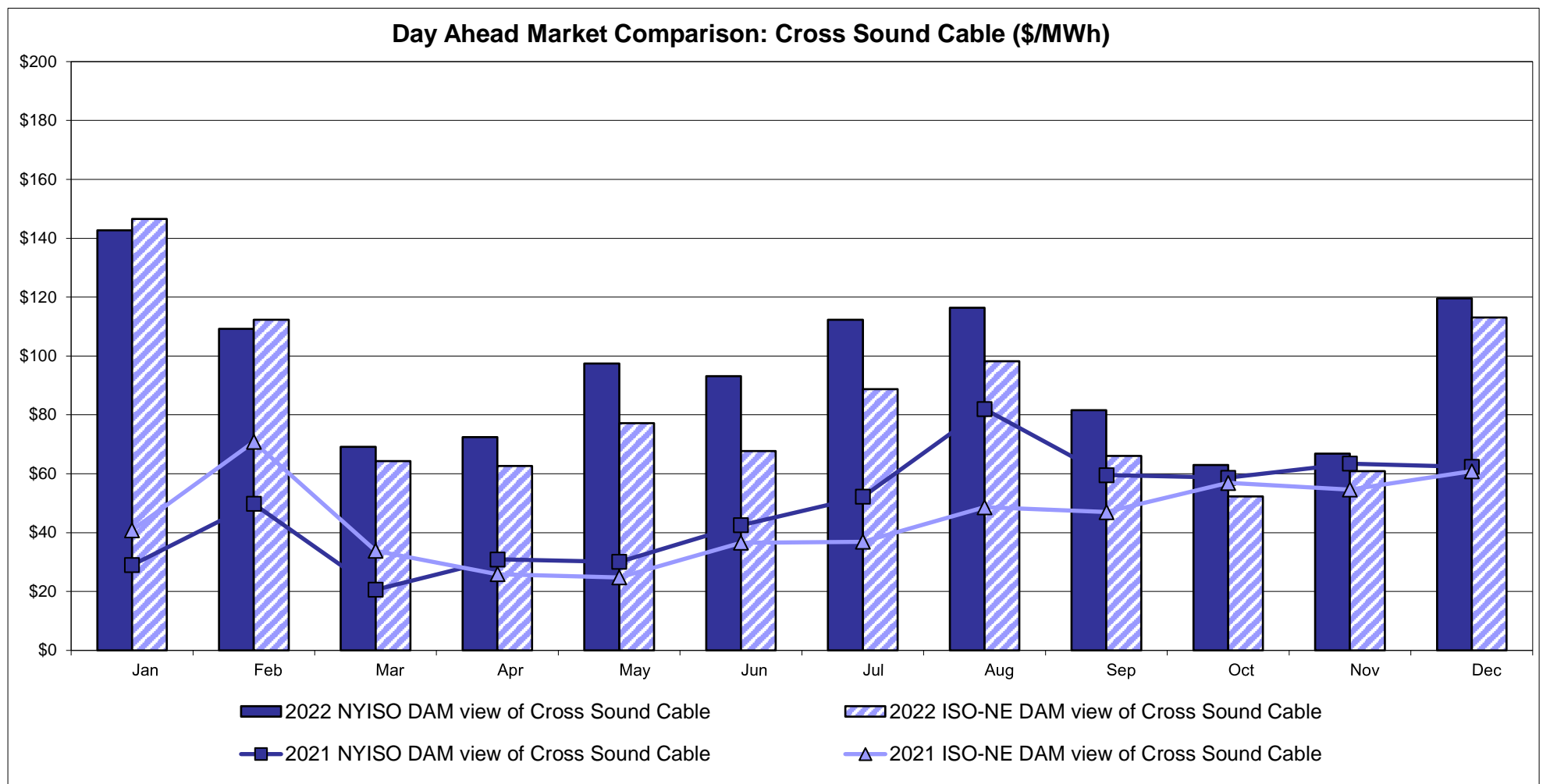


External Comparison Ontario IESO



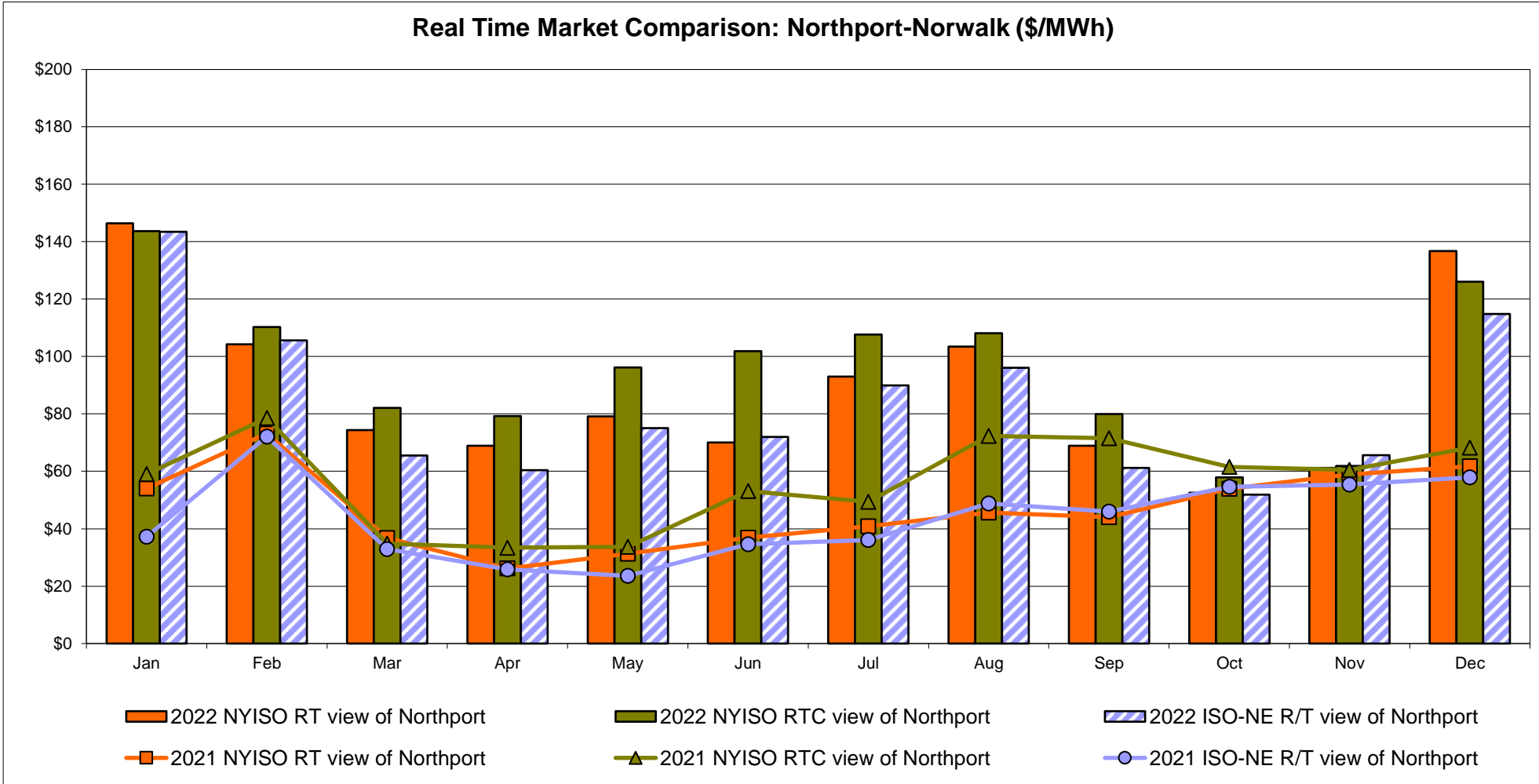
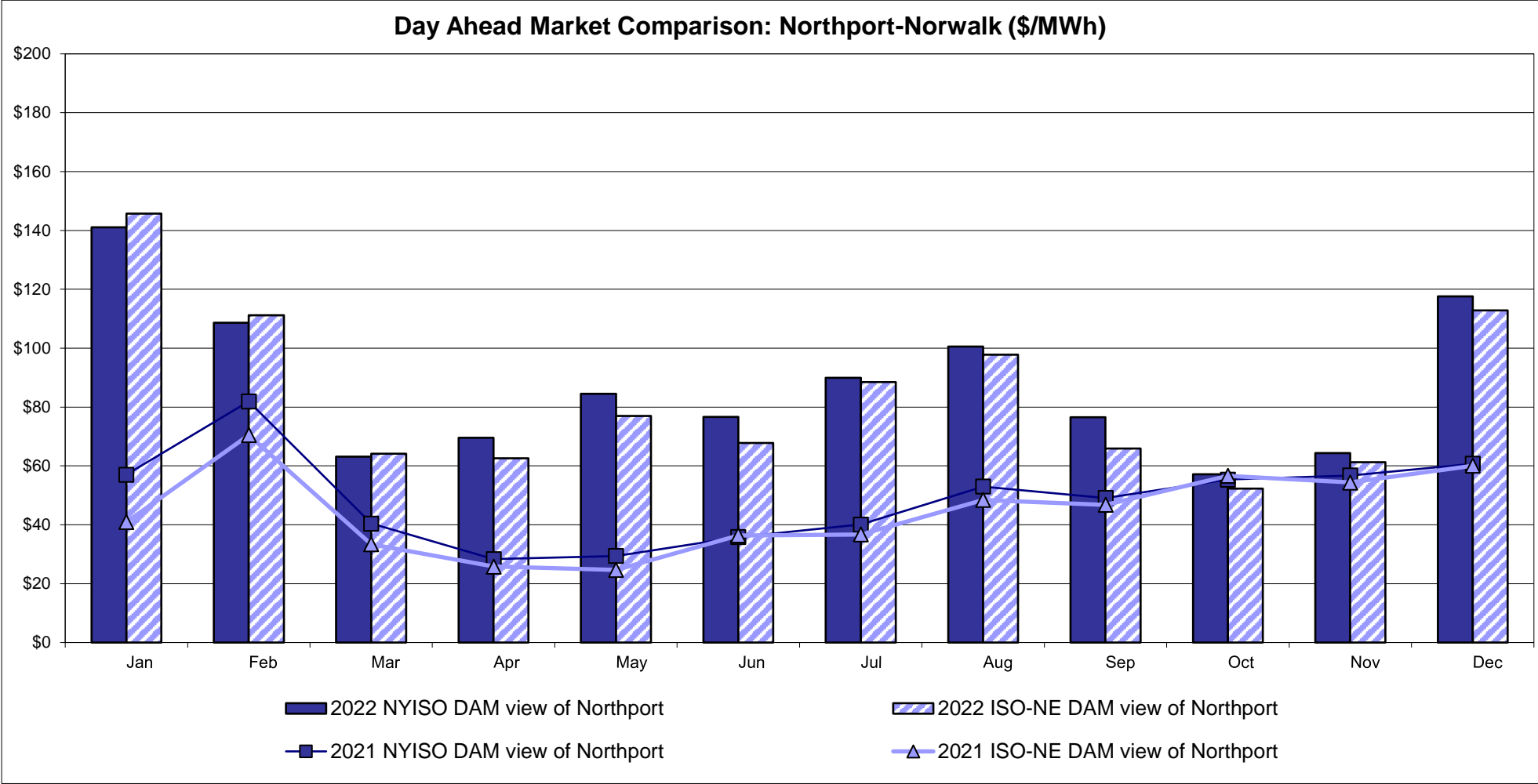
Notes: Exchange factor used for December 2022 was 0.736105999263894 to US  
HOEP: Hourly Ontario Energy Price  
Pre-Dispatch: Projected Energy Price

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



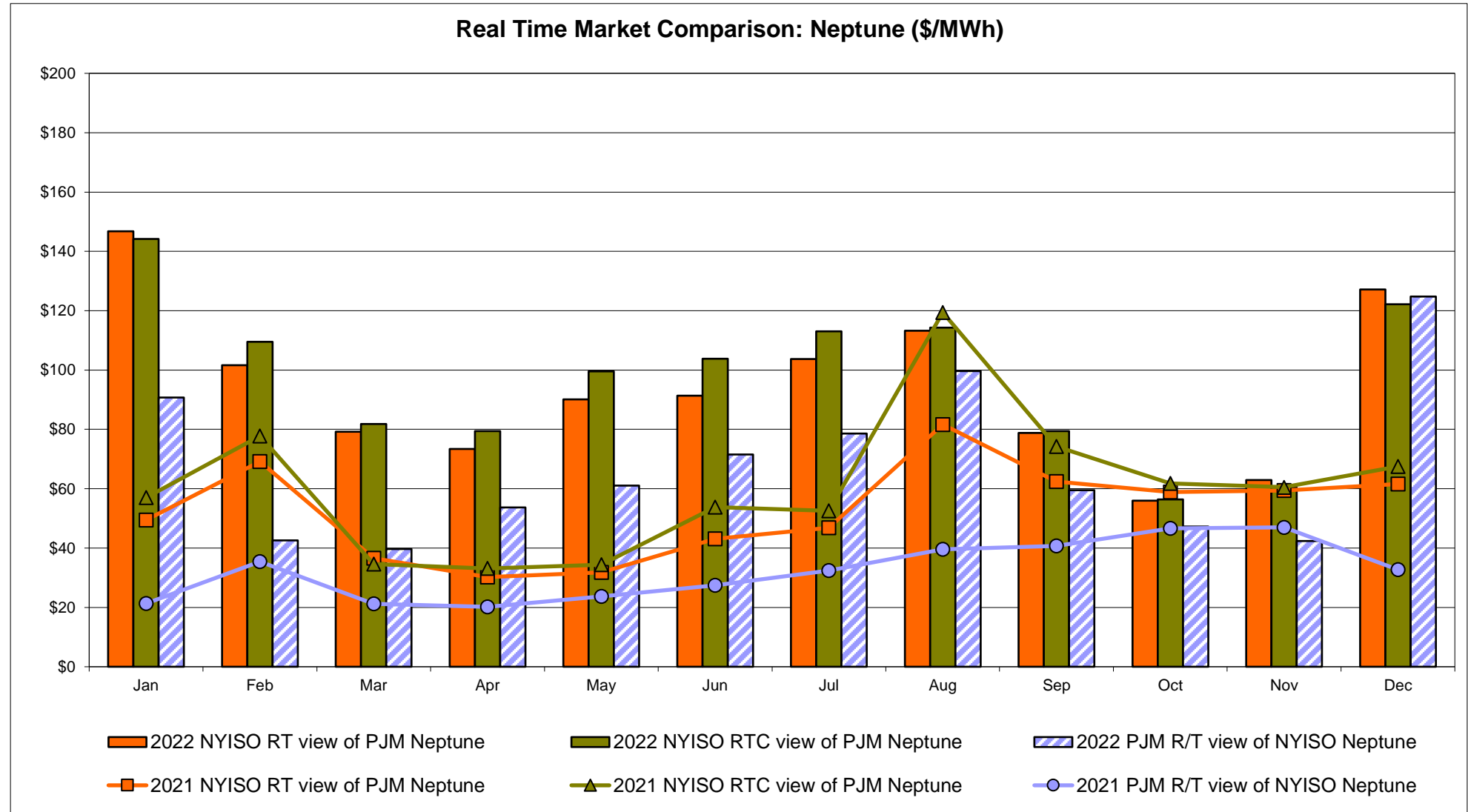
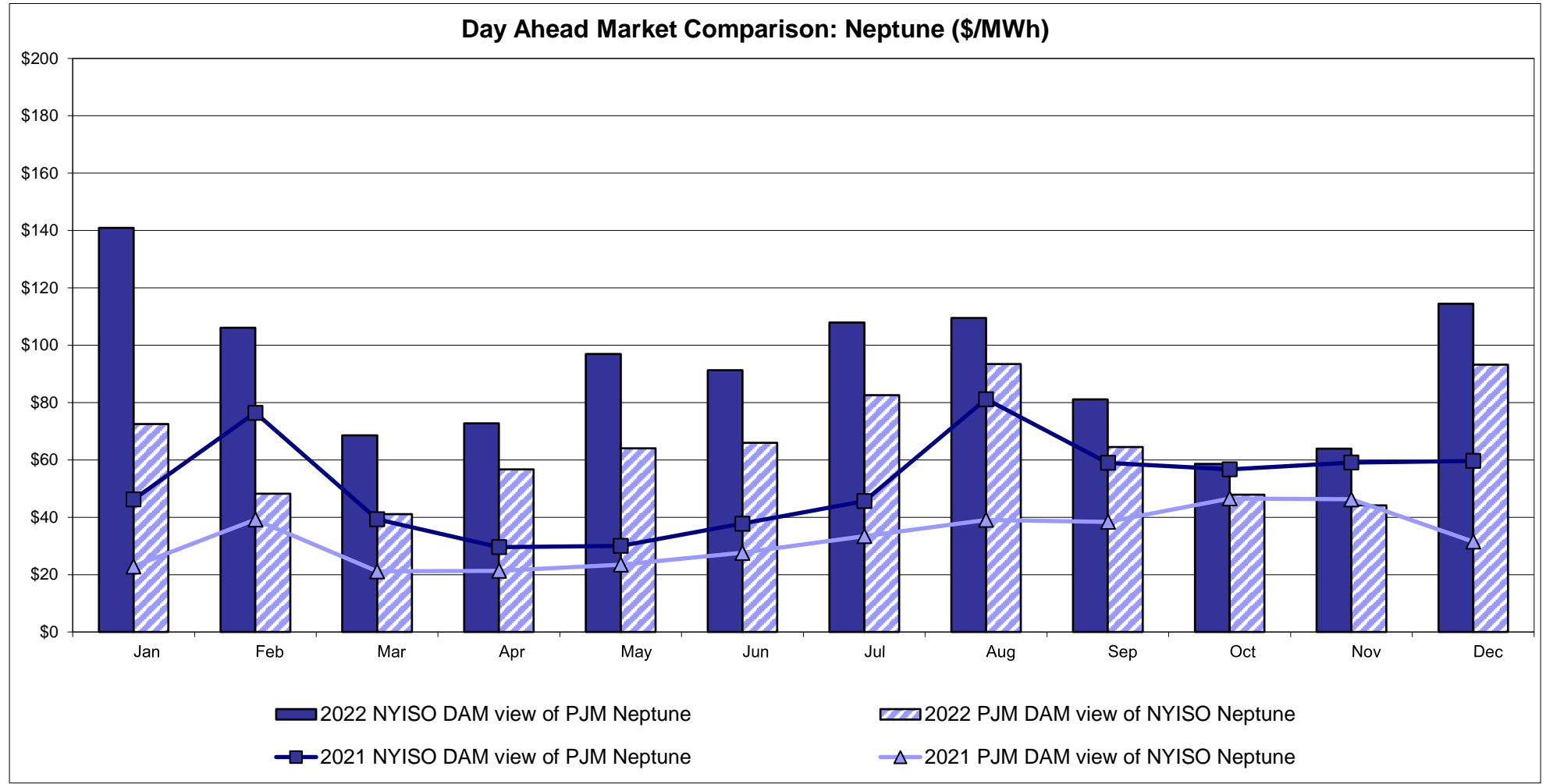
Note:  
 ISO-NE Forecast is an advisory posting @ 18:00 day before.  
 The DAM and R/T prices at the Shorham 13899 interface are used for ISO-NE.  
 The DAM and R/T prices at the CSC interface are used for NYISO.

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



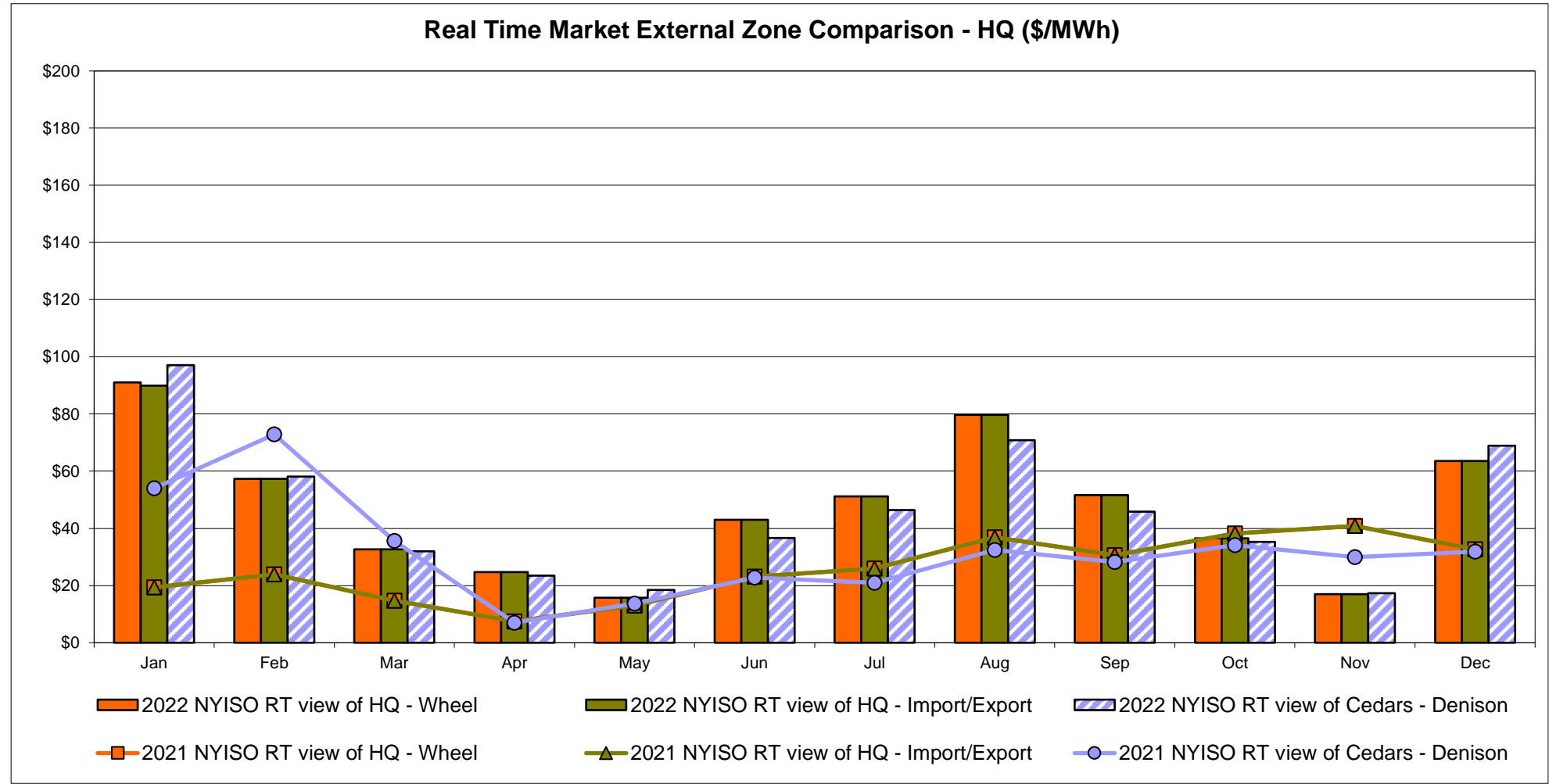
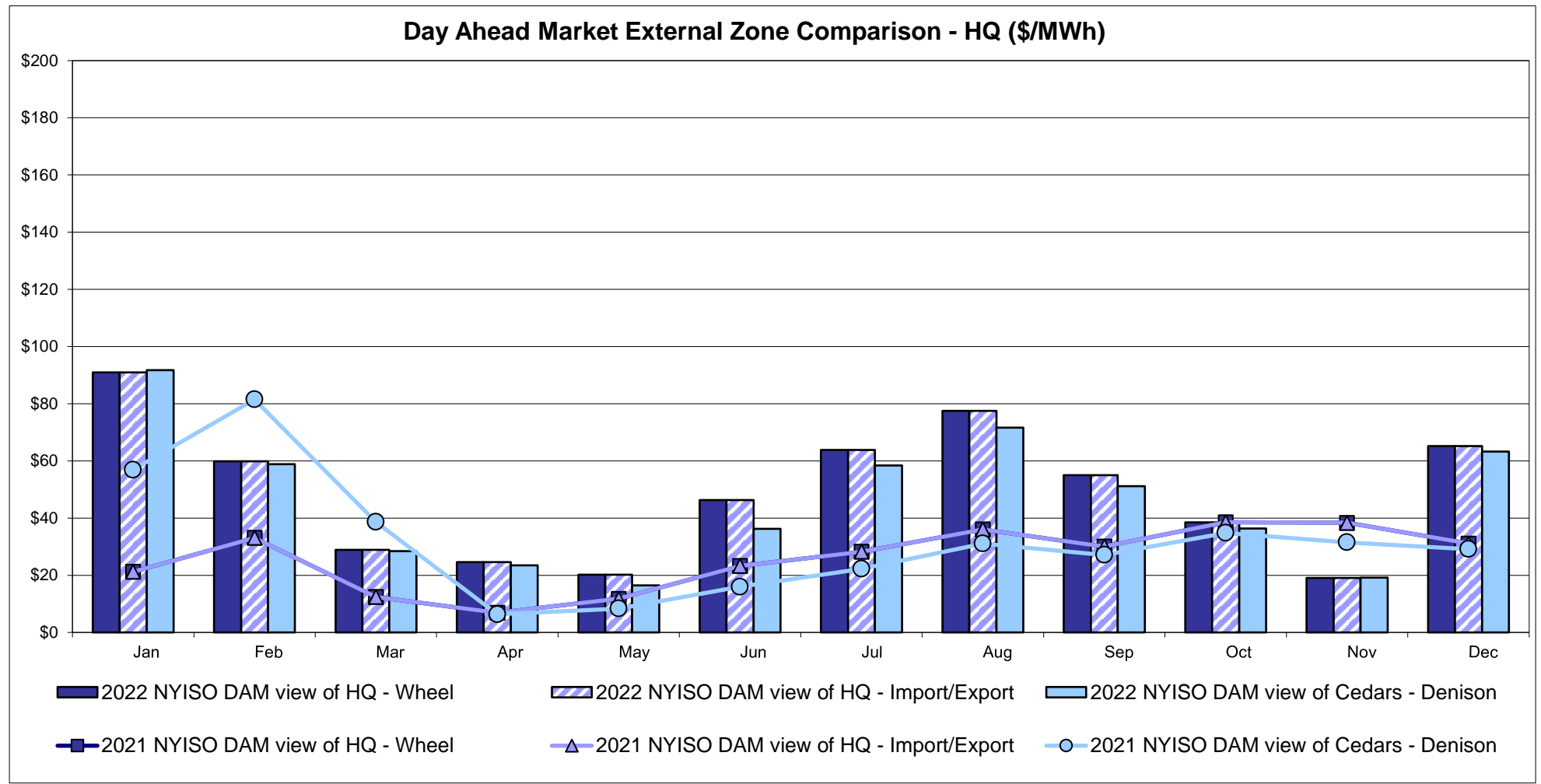
Note:  
ISO-NE Forecast is an advisory posting @ 18:00 day before.  
The DAM and R/T prices at the Northport 138 interface are used for ISO-NE.  
The DAM and R/T prices at the 1385 interface are used for NYISO.

External Controllable Line: Neptune (PJM)



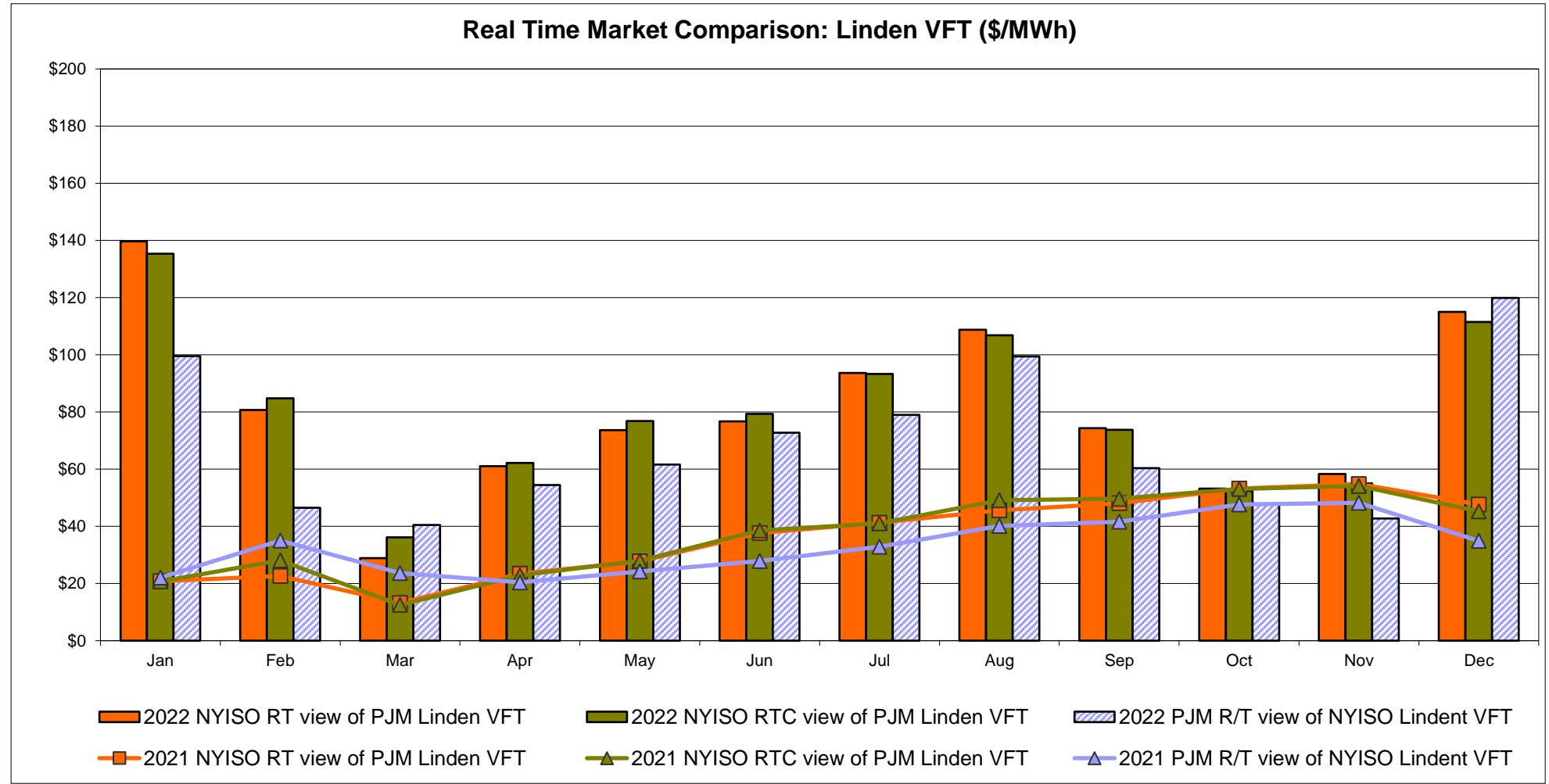
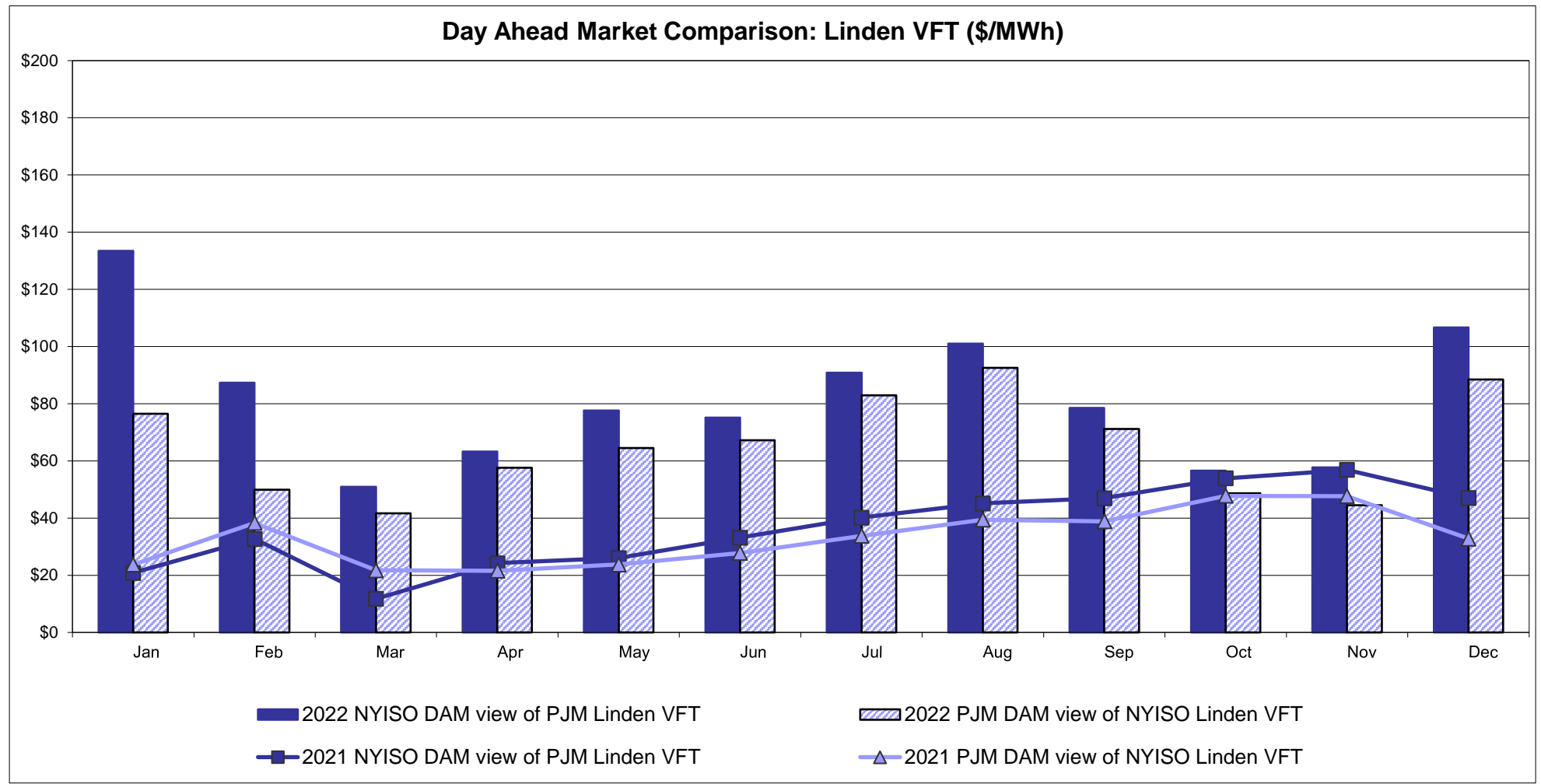


External Comparison Hydro-Quebec

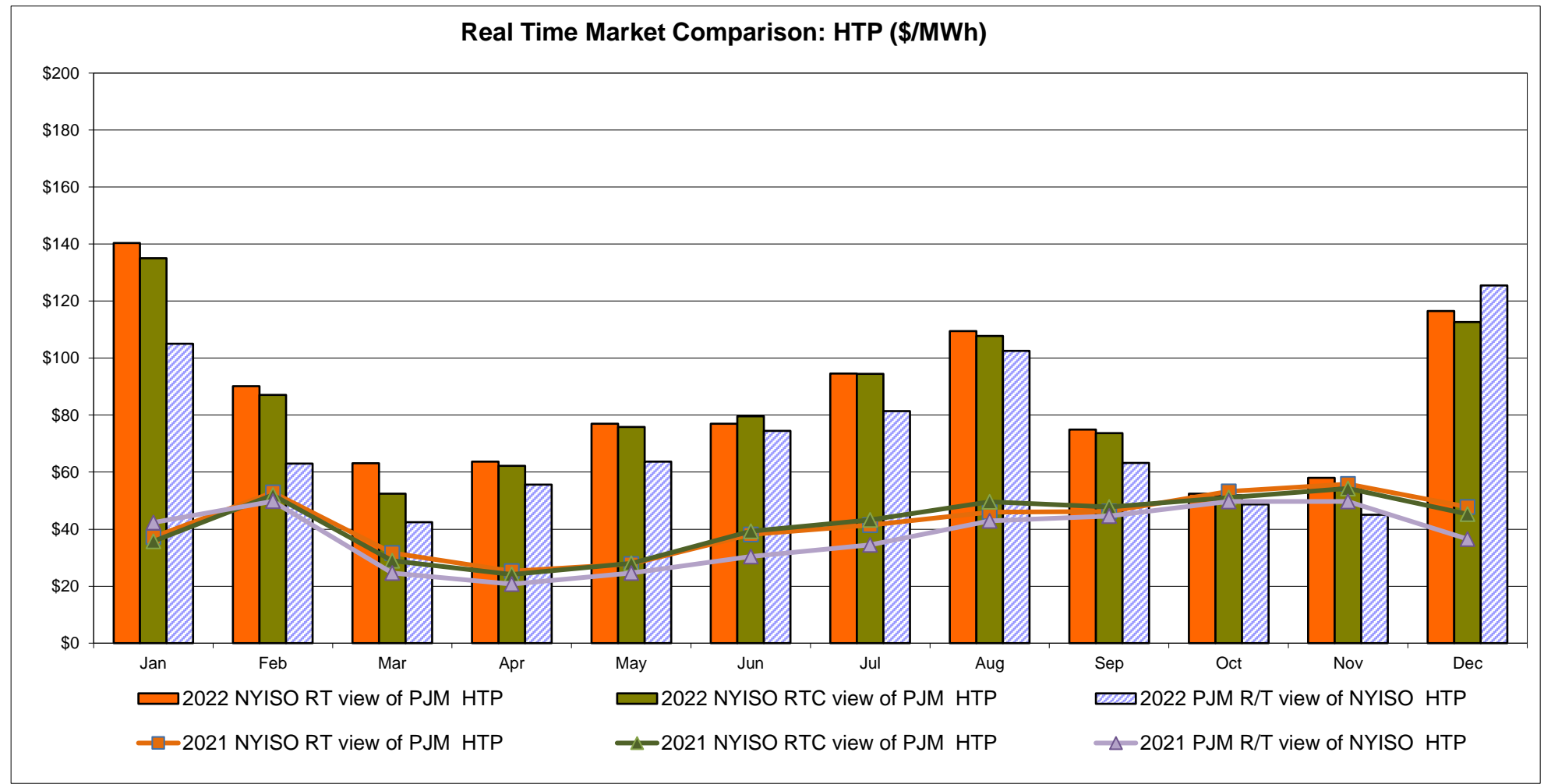
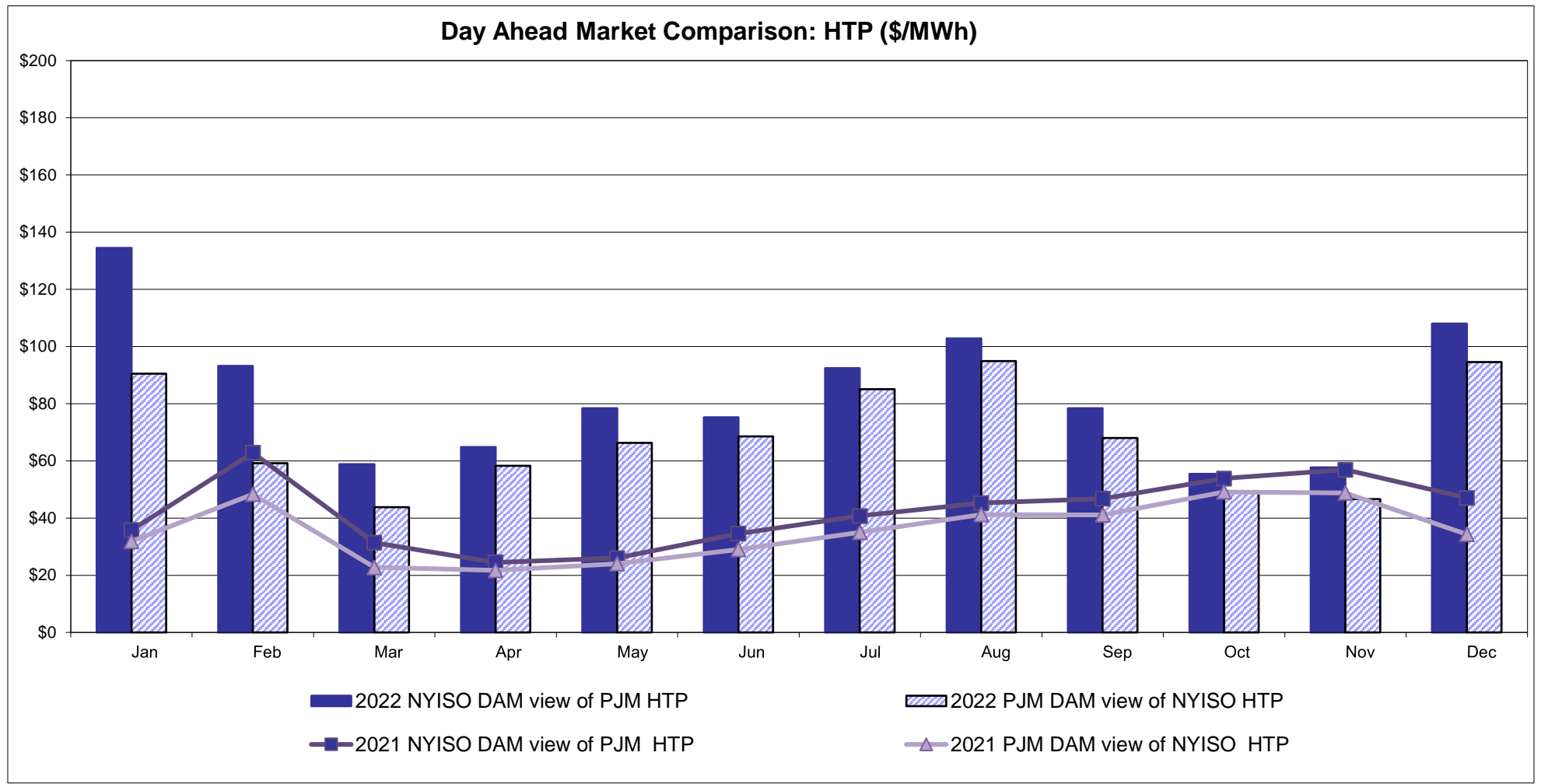


Note:  
Hydro-Quebec Prices are unavailable.

External Controllable Line: Linden VFT (PJM)



External Controllable Line: Hudson (PJM)

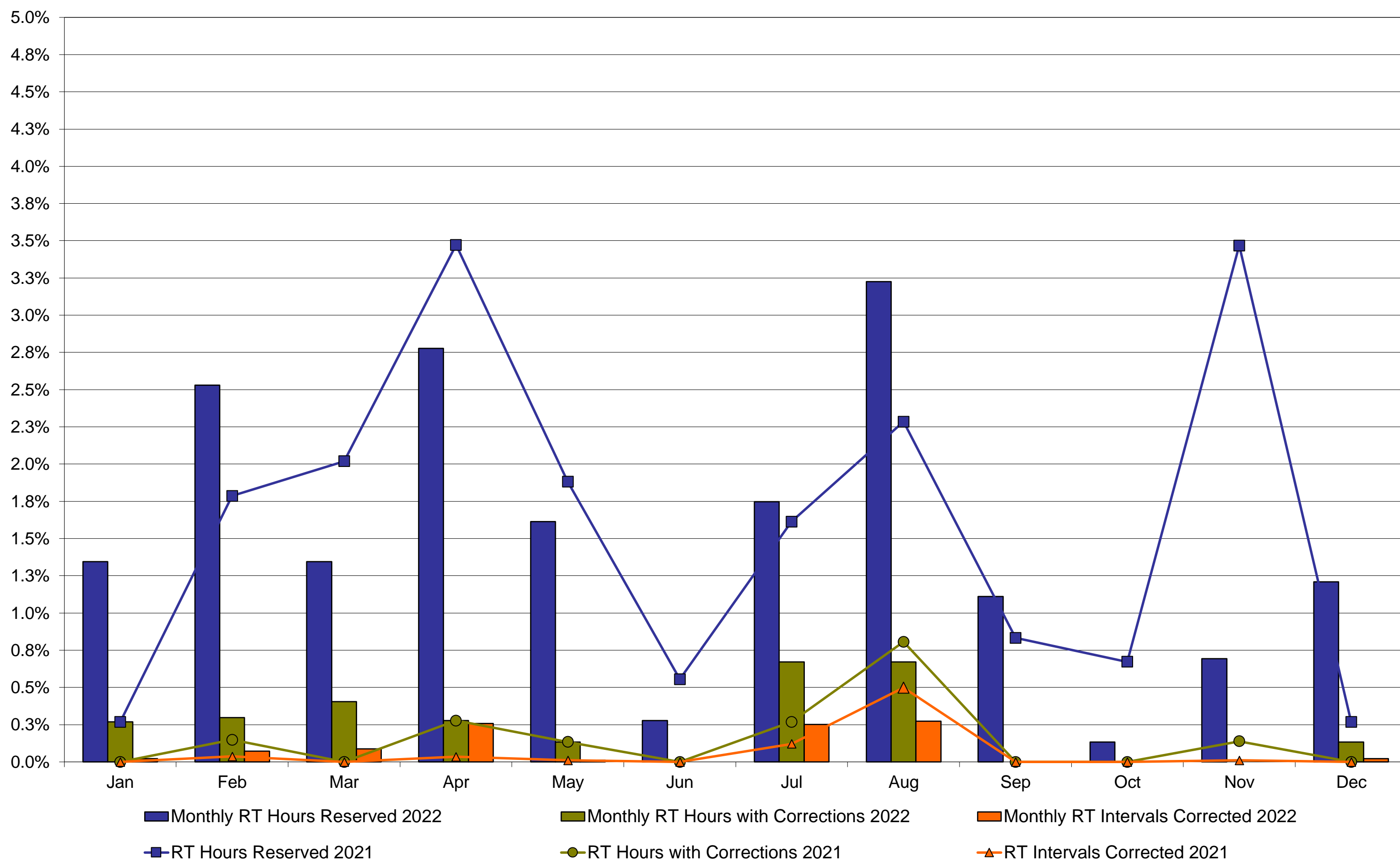


## NYISO Real Time Price Correction Statistics

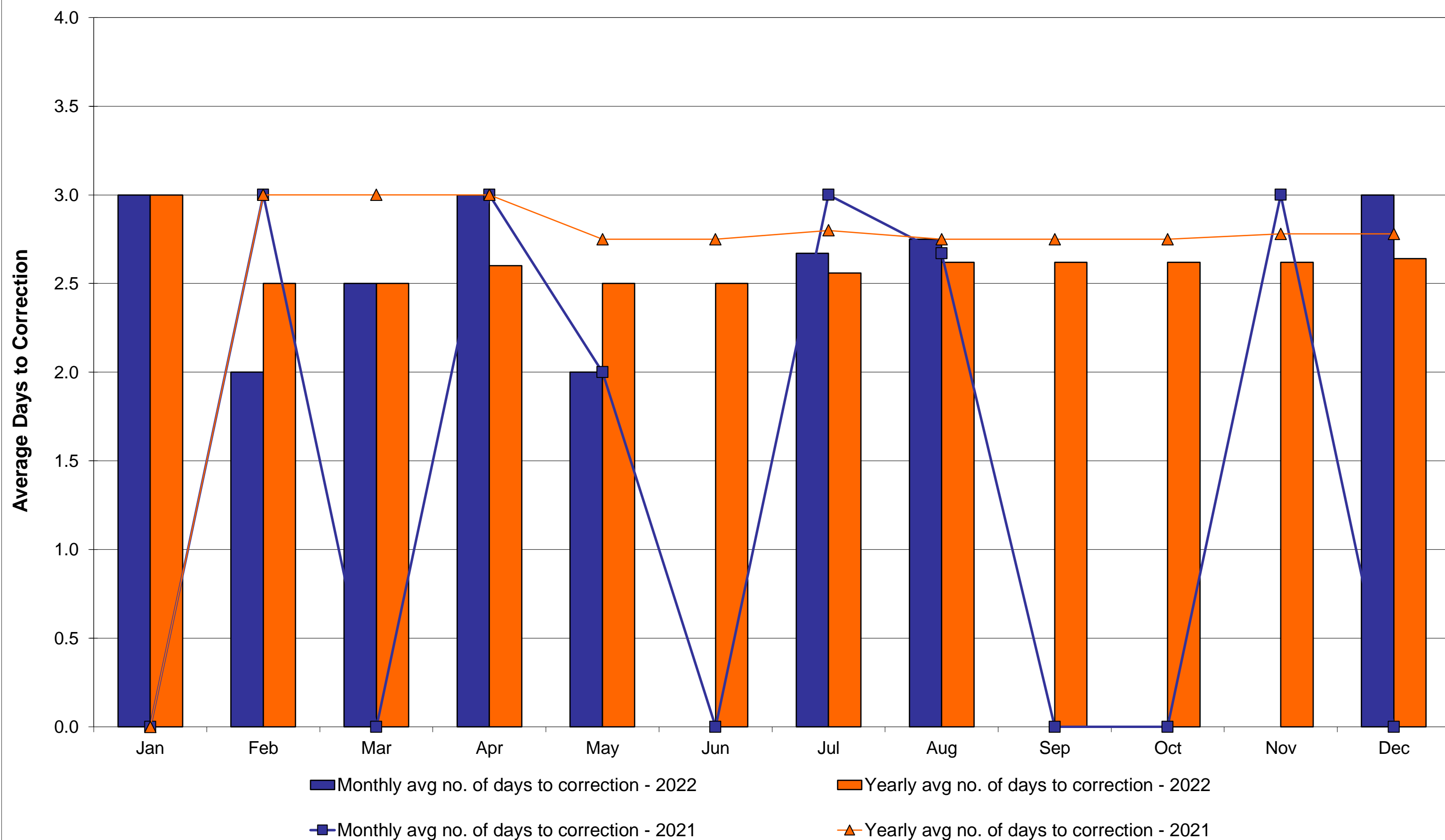
<b>2022</b>		<u>January</u>	<u>February</u>	<u>March</u>	<u>April</u>	<u>May</u>	<u>June</u>	<u>July</u>	<u>August</u>	<u>September</u>	<u>October</u>	<u>November</u>	<u>December</u>
<b>Hour Corrections</b>													
Number of hours with corrections	in the month	2	2	3	2	1	0	5	5	0	0	0	1
Number of hours	in the month	744	672	743	720	744	720	744	744	720	744	721	744
% of hours with corrections	in the month	0.27%	0.30%	0.40%	0.28%	0.13%	0.00%	0.67%	0.67%	0.00%	0.00%	0.00%	0.13%
% of hours with corrections	year-to-date	0.27%	0.28%	0.32%	0.31%	0.28%	0.23%	0.29%	0.34%	0.31%	0.27%	0.25%	0.24%
<b>Interval Corrections</b>													
Number of intervals corrected	in the month	2	6	8	23	1	0	23	25	0	0	0	2
Number of intervals	in the month	9,258	8,338	9,118	8,908	9,181	8,864	9,140	9,145	8,825	9,097	8,857	9,317
% of intervals corrected	in the month	0.02%	0.07%	0.09%	0.26%	0.01%	0.00%	0.25%	0.27%	0.00%	0.00%	0.00%	0.02%
% of intervals corrected	year-to-date	0.02%	0.05%	0.06%	0.11%	0.09%	0.07%	0.10%	0.12%	0.11%	0.10%	0.09%	0.08%
<b>Hours Reserved</b>													
Number of hours reserved	in the month	10	17	10	20	12	2	13	24	8	1	5	9
Number of hours	in the month	744	672	743	720	744	720	744	744	720	744	721	744
% of hours reserved	in the month	1.34%	2.53%	1.35%	2.78%	1.61%	0.28%	1.75%	3.23%	1.11%	0.13%	0.69%	1.21%
% of hours reserved	year-to-date	1.34%	1.91%	1.71%	1.98%	1.90%	1.63%	1.65%	1.85%	1.77%	1.60%	1.52%	1.50%
<b>Days to Correction *</b>													
Avg. number of days to correction	in the month	3.00	2.00	2.50	3.00	2.00	0.00	2.67	2.75	0.00	0.00	0.00	3.00
Avg. number of days to correction	year-to-date	3.00	2.50	2.50	2.60	2.50	2.50	2.56	2.62	2.62	2.62	2.62	2.64
<b>Days Without Corrections</b>													
Days without corrections	in the month	30	27	29	29	30	30	28	27	30	31	30	30
Days without corrections	year-to-date	30	57	86	115	145	175	203	230	260	291	321	351
<b>2021</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>Hour Corrections</b>													
Number of hours with corrections	in the month	0	1	0	2	1	0	2	6	0	0	1	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%	0.15%	0.00%	0.28%	0.13%	0.00%	0.27%	0.81%	0.00%	0.00%	0.14%	0.00%
% of hours with corrections	year-to-date	0.00%	0.07%	0.05%	0.10%	0.11%	0.09%	0.12%	0.21%	0.18%	0.16%	0.16%	0.15%
<b>Interval Corrections</b>													
Number of intervals corrected	in the month	0	3	0	3	1	0	11	45	0	0	1	0
Number of intervals	in the month	9,095	8,236	9,100	8,827	9,157	8,813	9,084	9,024	8,783	9,133	8,802	9,063
% of intervals corrected	in the month	0.00%	0.04%	0.00%	0.03%	0.01%	0.00%	0.12%	0.50%	0.00%	0.00%	0.01%	0.00%
% of intervals corrected	year-to-date	0.00%	0.02%	0.01%	0.02%	0.02%	0.01%	0.03%	0.09%	0.08%	0.07%	0.07%	0.06%
<b>Hours Reserved</b>													
Number of hours reserved	in the month	2	12	15	25	14	4	12	17	6	5	25	2
Number of hours	in the month	744	672	743	720	744	720	744	744	720	744	721	744
% of hours reserved	in the month	0.27%	1.79%	2.02%	3.47%	1.88%	0.56%	1.61%	2.28%	0.83%	0.67%	3.47%	0.27%
% of hours reserved	year-to-date	0.27%	0.99%	1.34%	1.88%	1.88%	1.66%	1.65%	1.73%	1.63%	1.54%	1.71%	1.59%
<b>Days to Correction *</b>													
Avg. number of days to correction	in the month	0.00	3.00	0.00	3.00	2.00	0.00	3.00	2.67	0.00	0.00	3.00	0.00
Avg. number of days to correction	year-to-date	0.00	3.00	3.00	3.00	2.75	2.75	2.80	2.75	2.75	2.75	2.78	2.78
<b>Days Without Corrections</b>													
Days without corrections	in the month	31	27	31	28	30	30	30	28	30	31	29	31
Days without corrections	year-to-date	31	58	89	117	147	177	207	235	265	296	325	356

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

Percentage of Real-Time Corrections



Annual average time period for making Price Corrections  
(from reservation date) \*



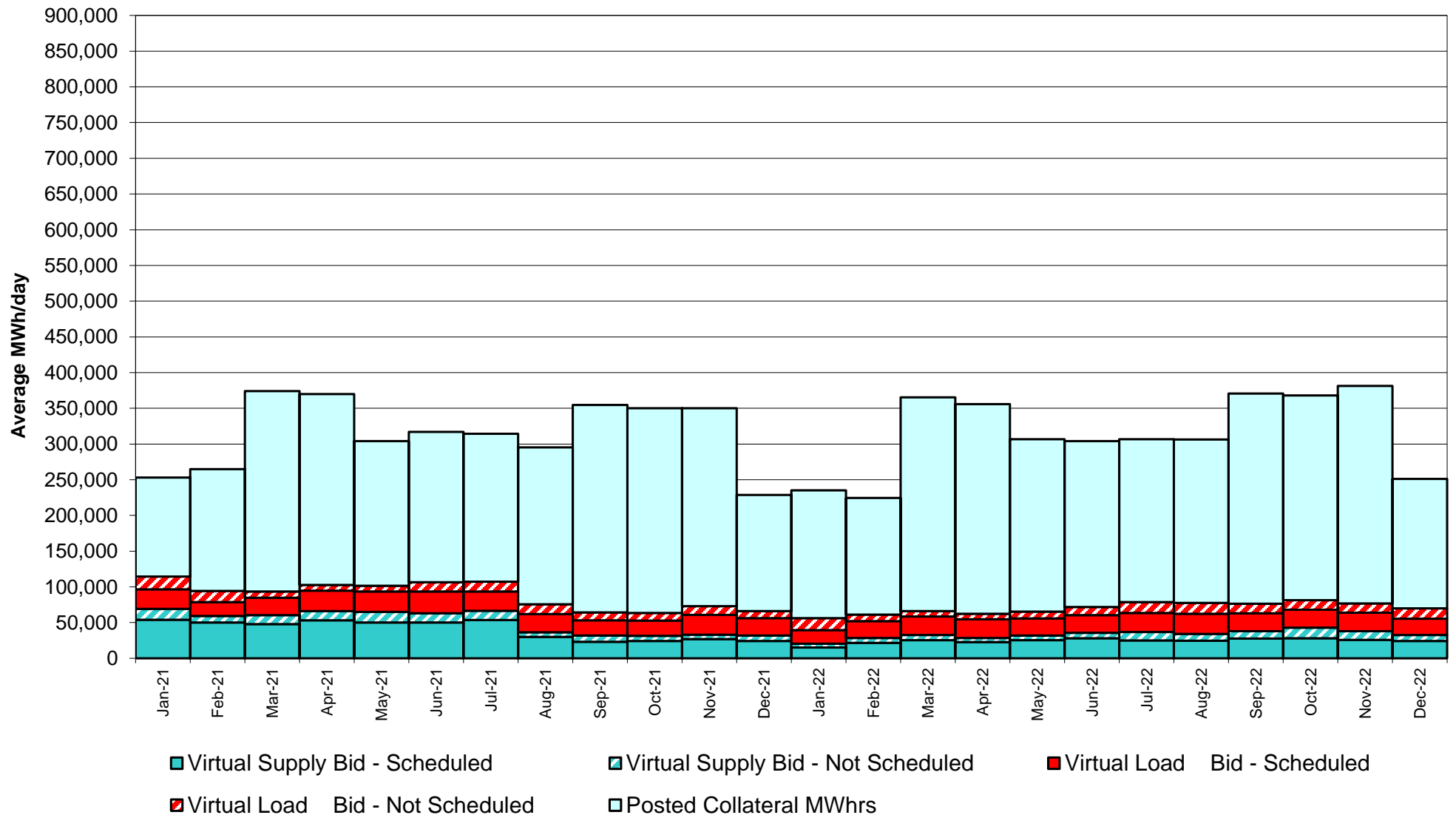
\*Calendar days from reservation date; for June 2018 forward, business days from market date

Market Mitigation and Analysis  
Prepared: 1/13/2023 10:36 AM

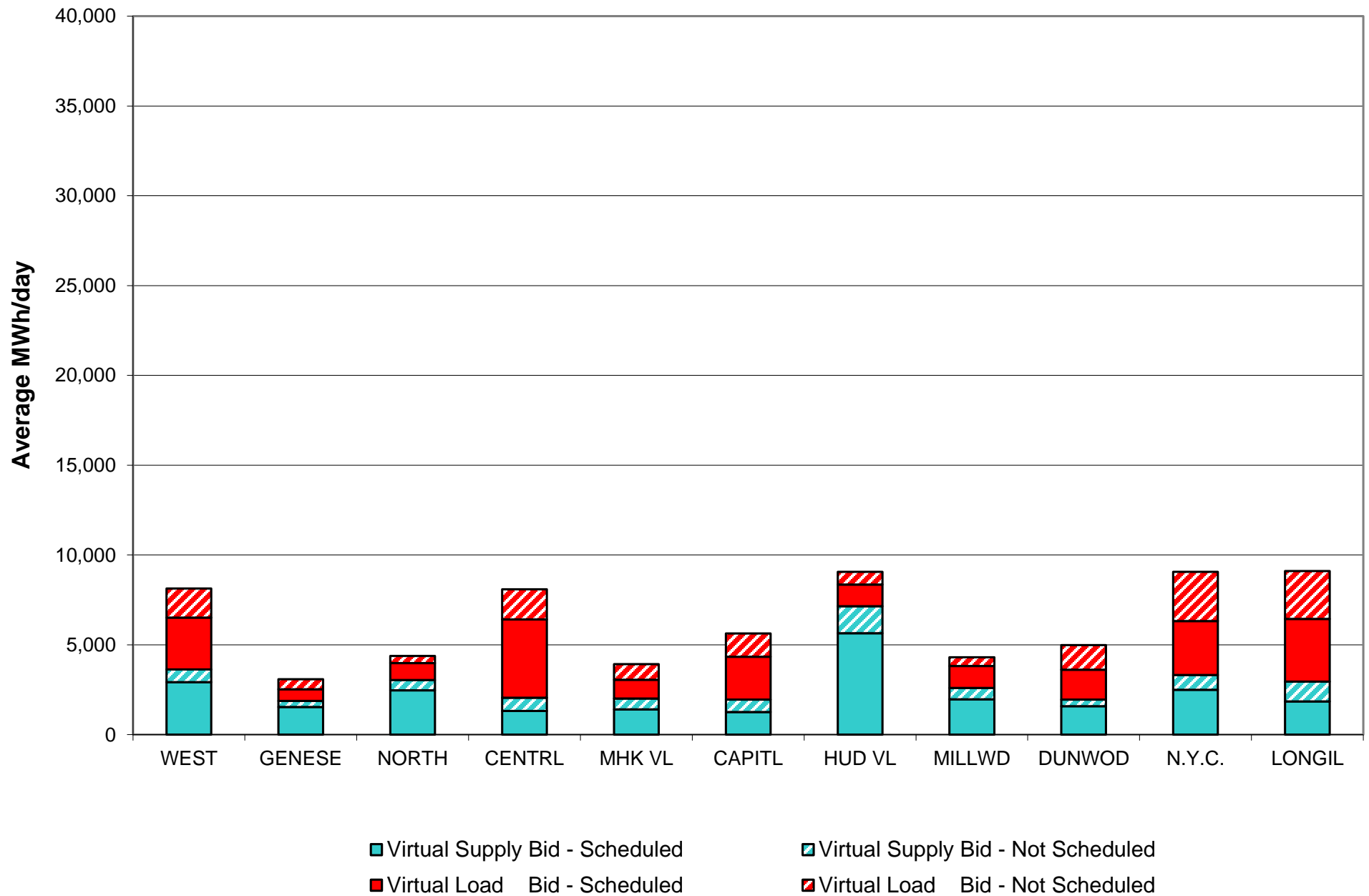
Y

May/June 2017 Hours Reserved data  
has been updated for the July 2017  
Monthly Market Operations Report.

# NYISO Virtual Trading Average MWh per day



## Virtual Load and Supply Zonal Statistics through December 31, 2022

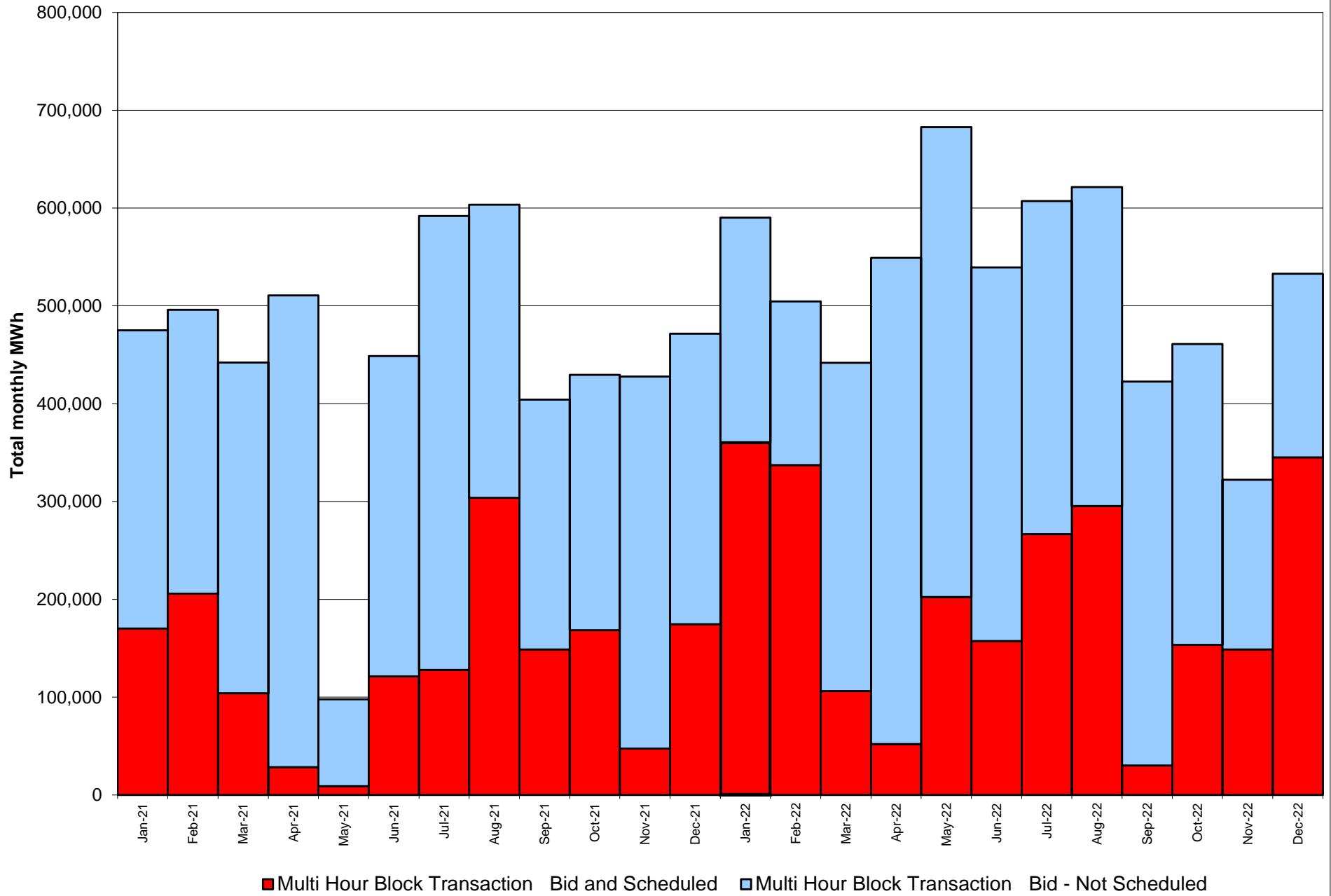


## Virtual Load and Supply Zonal Statistics (Average MWh/day) - 2022

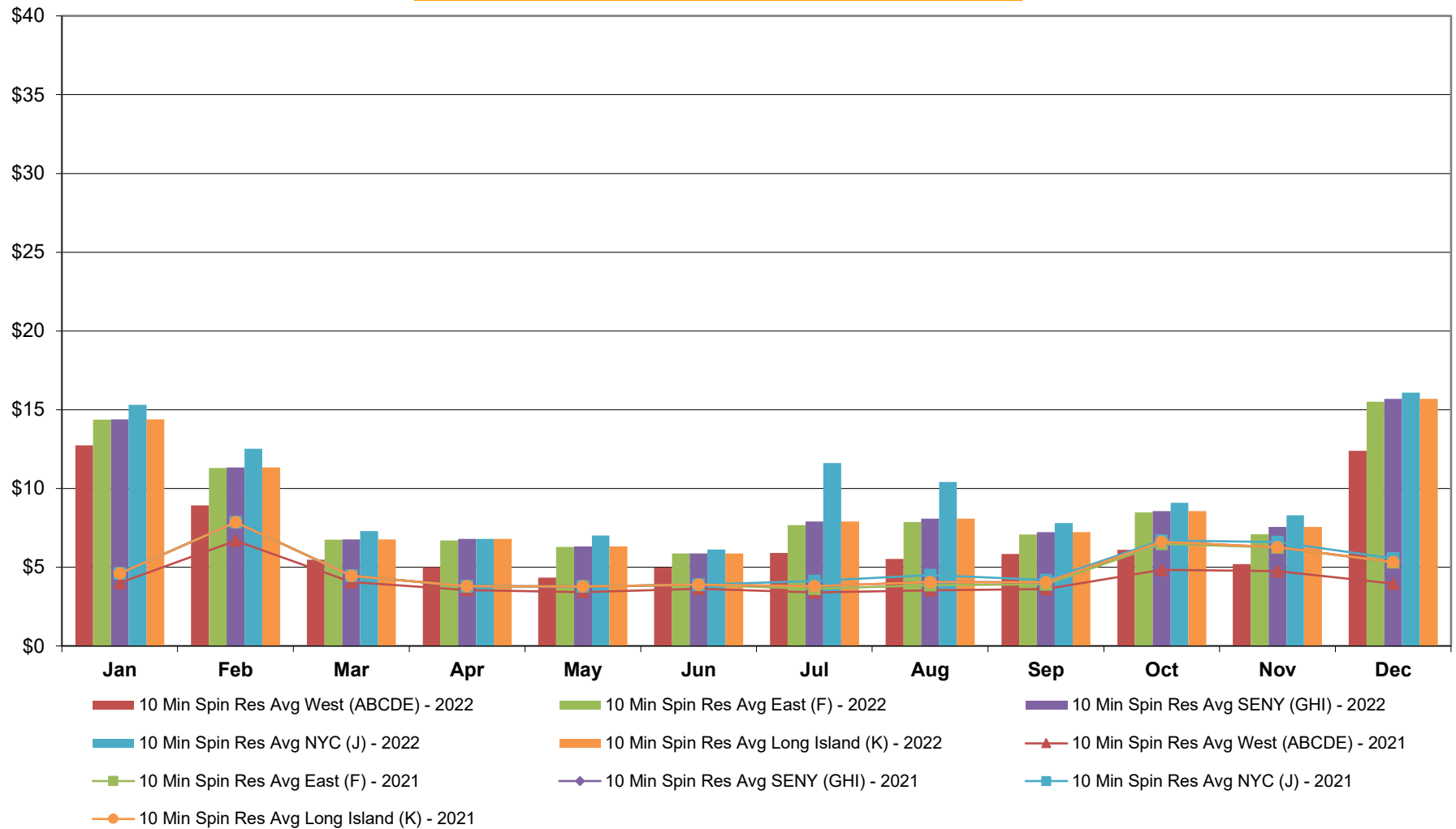
		Virtual Load Bid		Virtual Supply Bid				Virtual Load Bid		Virtual Supply Bid				Virtual Load Bid		Virtual Supply Bid	
Zone	Date	Scheduled	Not Scheduled	Scheduled	Not Scheduled	Zone	Date	Scheduled	Not Scheduled	Scheduled	Not Scheduled	Zone	Date	Scheduled	Not Scheduled	Scheduled	Not Scheduled
WEST	Jan-22	2,754	1,900	2,076	1,276	MHK VL	Jan-22	722	621	1,245	204	DUNWOD	Jan-22	1,376	1,851	652	54
	Feb-22	2,773	1,170	3,027	908		Feb-22	1,830	386	1,518	349		Feb-22	1,696	1,004	1,218	86
	Mar-22	3,702	830	2,480	526		Mar-22	2,263	131	1,506	371		Mar-22	1,427	954	1,944	68
	Apr-22	3,967	1,016	2,214	402		Apr-22	1,848	208	1,483	379		Apr-22	2,229	1,069	1,219	46
	May-22	5,740	1,247	1,473	670		May-22	1,108	254	2,338	538		May-22	1,752	1,335	1,505	58
	Jun-22	6,049	2,343	1,239	1,048		Jun-22	1,021	423	2,636	425		Jun-22	1,859	1,430	1,940	77
	Jul-22	4,521	2,537	1,837	945		Jul-22	316	824	2,895	547		Jul-22	2,607	2,043	1,316	491
	Aug-22	3,954	2,685	1,252	848		Aug-22	831	937	2,676	637		Aug-22	3,445	1,762	1,218	499
	Sep-22	3,586	2,483	1,848	907		Sep-22	770	1,023	2,924	408		Sep-22	2,309	1,182	1,694	413
	Oct-22	4,649	1,660	1,469	1,659		Oct-22	756	1,007	2,419	1,023		Oct-22	2,129	806	1,673	646
	Nov-22	4,311	851	1,133	1,425		Nov-22	1,259	553	1,774	981		Nov-22	1,982	1,724	1,855	554
	Dec-22	2,889	1,618	2,922	709		Dec-22	1,055	866	1,400	604		Dec-22	1,662	1,376	1,575	372
GENESE	Jan-22	722	464	1,058	319	CAPITL	Jan-22	2,536	2,157	749	695	N.Y.C.	Jan-22	2,341	3,279	1,155	349
	Feb-22	853	293	1,560	395		Feb-22	3,700	1,211	1,075	785		Feb-22	2,889	1,668	1,938	607
	Mar-22	1,615	190	1,176	265		Mar-22	2,660	1,045	1,450	879		Mar-22	1,769	1,526	2,728	629
	Apr-22	1,226	244	1,415	354		Apr-22	1,761	610	2,274	843		Apr-22	1,341	1,172	2,530	492
	May-22	994	302	2,104	636		May-22	2,118	868	2,609	669		May-22	2,215	1,517	2,425	405
	Jun-22	728	542	2,426	453		Jun-22	1,856	697	2,784	832		Jun-22	3,113	1,786	2,501	613
	Jul-22	670	463	2,060	346		Jul-22	1,621	1,170	2,543	731		Jul-22	6,842	2,441	1,795	1,265
	Aug-22	1,195	526	2,080	281		Aug-22	2,663	1,016	1,795	503		Aug-22	5,333	2,800	1,856	1,023
	Sep-22	1,207	531	1,224	356		Sep-22	2,104	739	1,874	893		Sep-22	3,294	1,702	3,151	1,077
	Oct-22	765	616	2,348	429		Oct-22	3,104	1,000	1,653	950		Oct-22	1,803	2,168	3,957	1,164
	Nov-22	994	475	1,953	706		Nov-22	2,433	1,765	1,960	611		Nov-22	2,934	2,279	3,173	1,201
	Dec-22	647	565	1,543	331		Dec-22	2,374	1,298	1,250	705		Dec-22	2,993	2,739	2,497	826
NORTH	Jan-22	938	469	1,778	643	HUD VL	Jan-22	1,062	1,130	3,738	1,083	LONGIL	Jan-22	4,217	2,685	601	241
	Feb-22	1,019	231	1,899	887		Feb-22	1,288	390	5,143	1,806		Feb-22	4,110	1,658	1,021	355
	Mar-22	1,192	148	2,020	699		Mar-22	960	308	7,017	2,760		Mar-22	5,091	1,935	1,581	408
	Apr-22	1,046	165	2,180	885		Apr-22	1,400	172	5,721	1,227		Apr-22	4,736	2,343	918	469
	May-22	1,501	233	1,889	1,039		May-22	1,035	300	5,637	889		May-22	3,361	2,766	2,045	554
	Jun-22	1,641	492	2,160	710		Jun-22	697	518	6,290	1,725		Jun-22	4,316	2,375	1,773	941
	Jul-22	1,483	489	1,987	477		Jul-22	1,107	1,052	5,336	4,490		Jul-22	4,125	2,505	1,735	1,385
	Aug-22	797	609	3,024	964		Aug-22	1,350	680	5,271	2,379		Aug-22	4,724	2,386	2,090	1,218
	Sep-22	1,585	613	2,564	1,027		Sep-22	1,250	596	6,145	2,671		Sep-22	5,125	2,515	1,787	1,257
	Oct-22	2,458	1,274	2,311	1,297		Oct-22	1,006	376	5,523	4,181		Oct-22	4,471	2,842	2,810	1,761
	Nov-22	1,493	299	2,157	1,357		Nov-22	1,399	634	5,969	2,096		Nov-22	5,016	3,426	1,909	1,447
	Dec-22	938	400	2,470	569		Dec-22	1,196	716	5,651	1,502		Dec-22	3,497	2,660	1,840	1,109
CENTRL	Jan-22	1,317	1,284	1,104	364	MILLWD	Jan-22	1,104	654	867	262	NYISO	Jan-22	19,089	16,494	15,023	5,489
	Feb-22	1,665	499	1,780	409		Feb-22	1,805	462	1,367	312		Feb-22	23,629	8,972	21,545	6,898
	Mar-22	3,731	251	1,490	338		Mar-22	1,413	234	2,038	338		Mar-22	25,823	7,554	25,430	7,281
	Apr-22	4,837	390	1,415	307		Apr-22	2,136	172	1,257	309		Apr-22	26,526	7,560	22,626	5,713
	May-22	2,265	267	1,845	543		May-22	2,011	277	1,628	269		May-22	24,099	9,366	25,500	6,269
	Jun-22	1,597	718	2,303	368		Jun-22	1,725	393	2,111	320		Jun-22	24,602	11,717	28,164	7,511
	Jul-22	1,108	1,071	2,051	464		Jul-22	2,248	909	1,315	688		Jul-22	26,648	15,506	24,870	11,830
	Aug-22	1,172	1,149	2,338	628		Aug-22	2,387	686	1,134	615		Aug-22	27,852	15,237	24,733	9,596
	Sep-22	1,809	1,280	2,915	663		Sep-22	1,966	661	1,527	800		Sep-22	25,005	13,325	27,652	10,472
	Oct-22	2,743	1,023	2,011	999		Oct-22	1,285	387	1,829	863		Oct-22	25,170	13,158	28,004	14,971
	Nov-22	2,769	568	1,641	1,260		Nov-22	1,236	503	2,102	775		Nov-22	25,826	13,075	25,625	12,412
	Dec-22	4,358	1,680	1,309	744		Dec-22	1,227	488	1,963	634		Dec-22	22,836	14,407	24,419	8,104



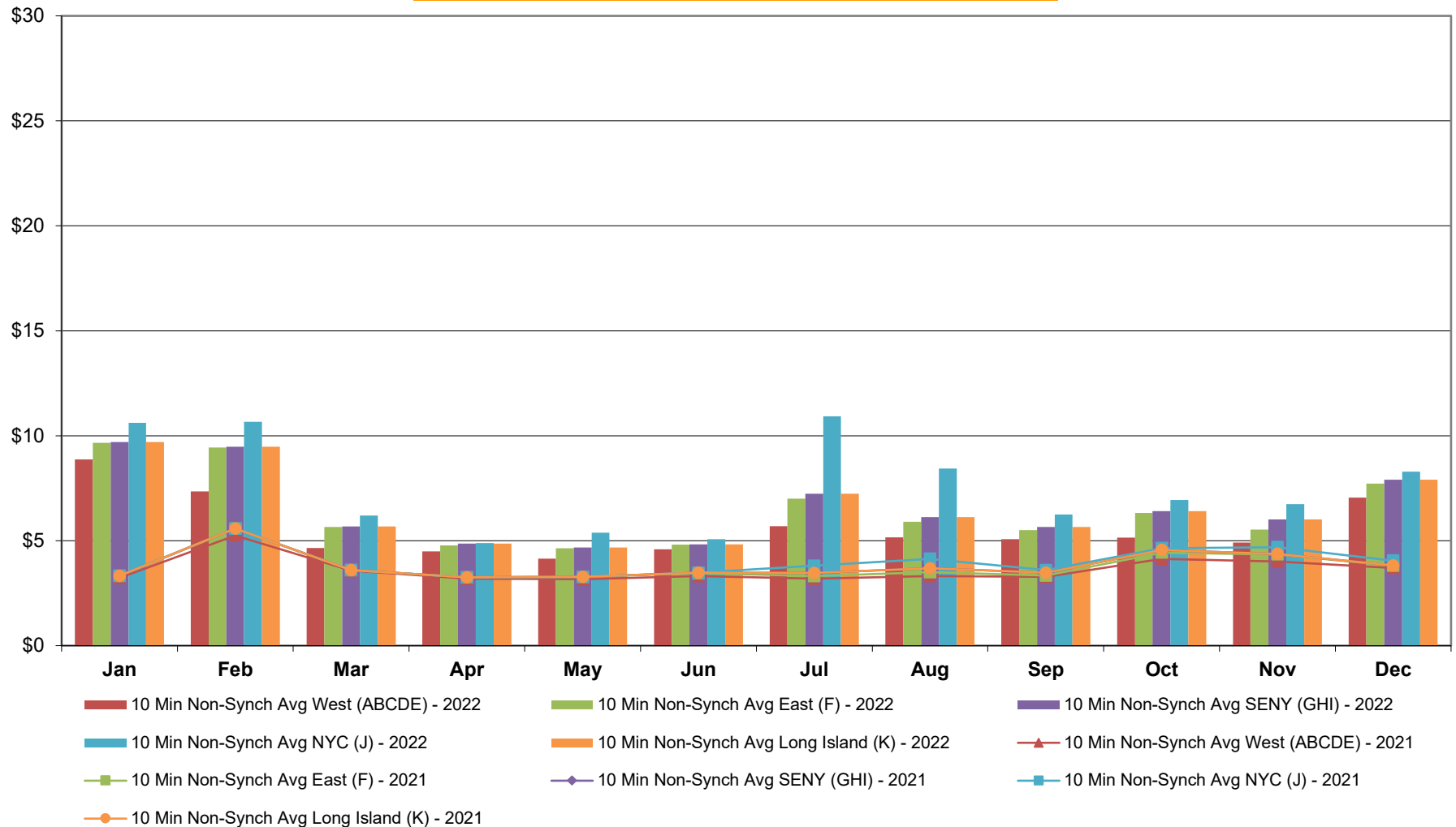
# NYISO Multi Hour Block Transactions Monthly Total MWh



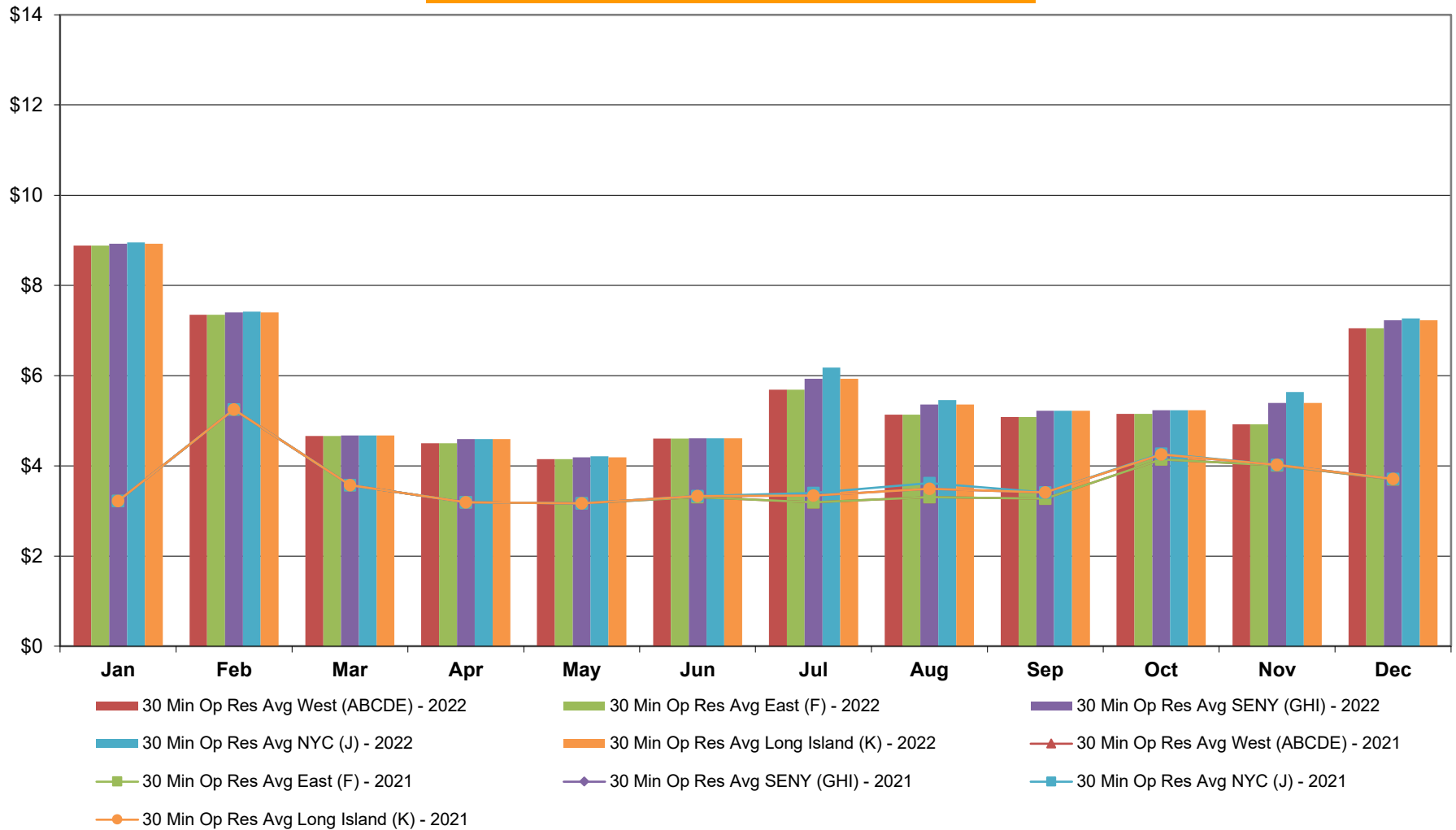
# **NYISO Monthly Average Ancillary Service Prices Day Ahead Market - 10 Min Spin 2021 - 2022**



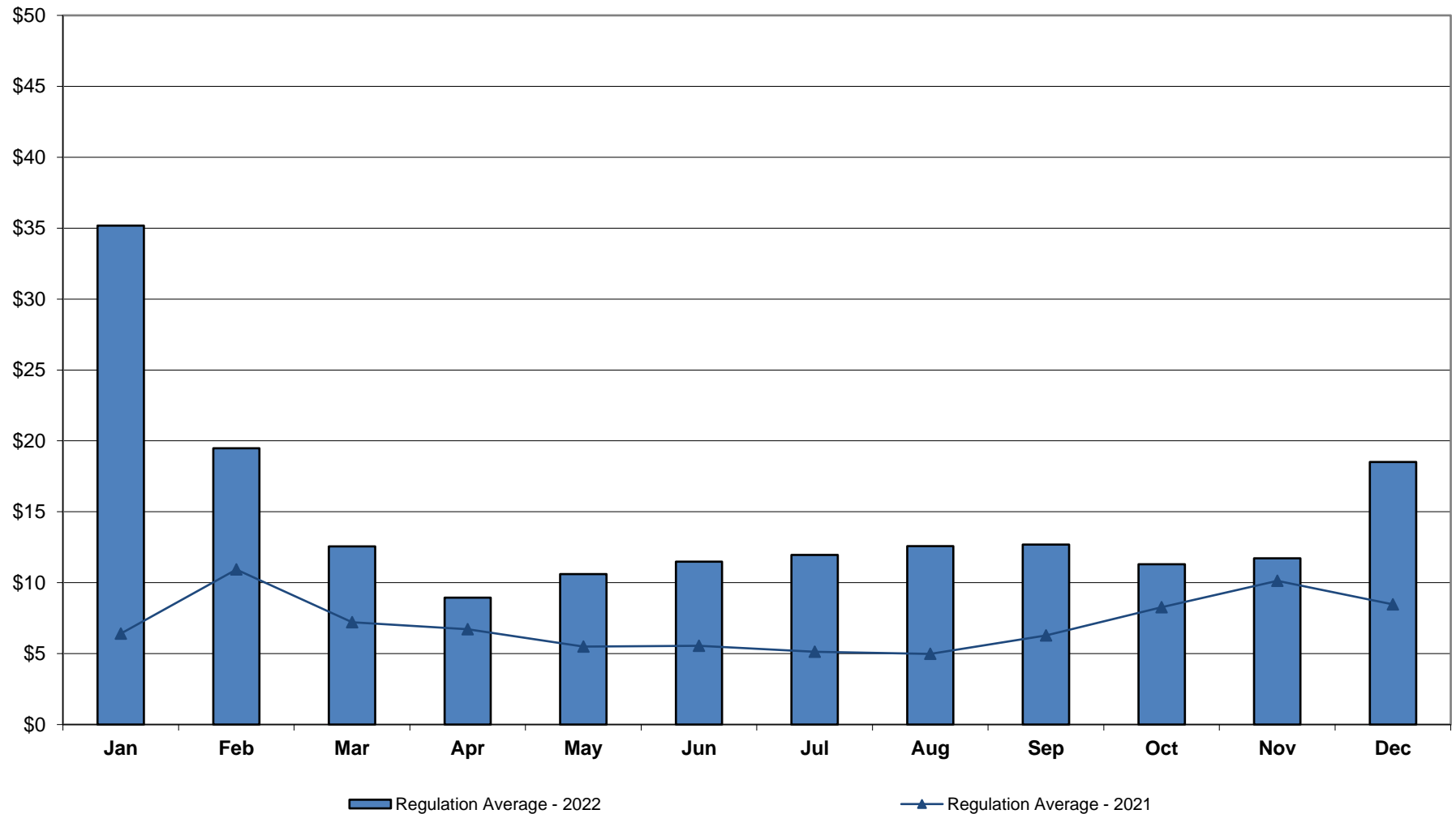
# **NYISO Monthly Average Ancillary Service Prices Day Ahead Market - 10 Min Non-Synch 2021 - 2022**



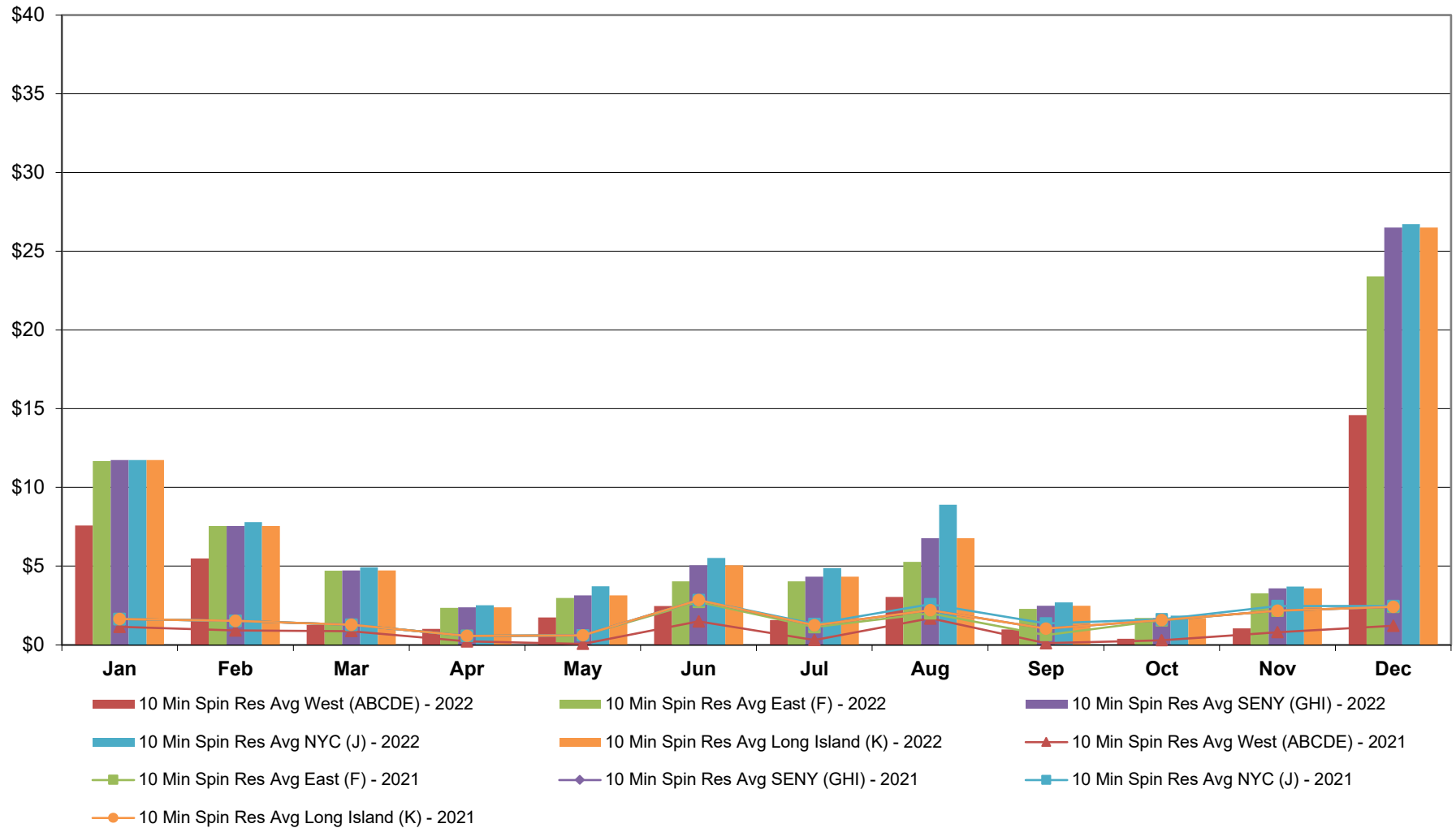
# **NYISO Monthly Average Ancillary Service Prices Day Ahead Market - 30 Min Op Res 2021 - 2022**



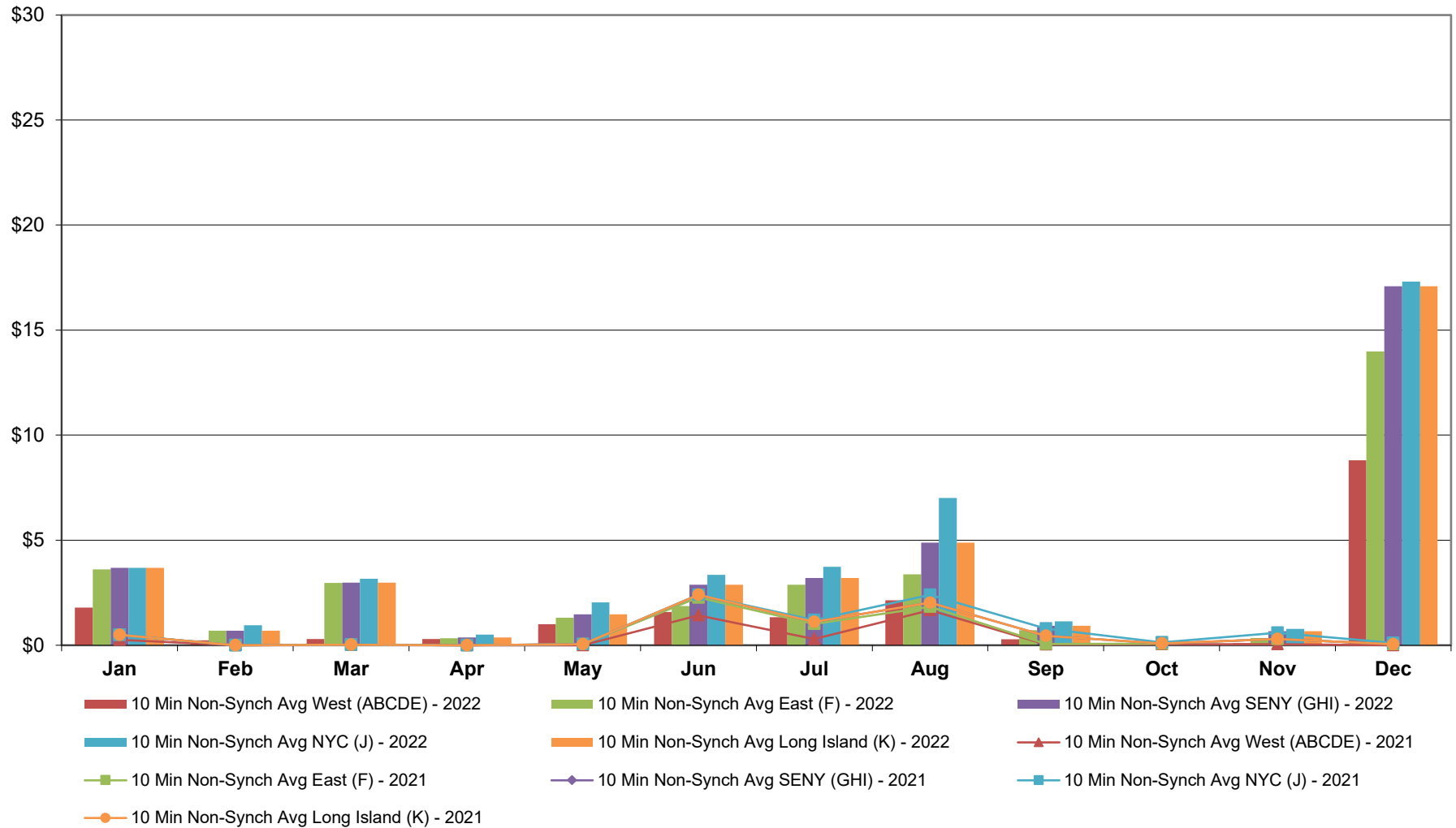
**NYISO Monthly Average Ancillary Service Prices  
Day Ahead Market - Regulation 2021 - 2022**



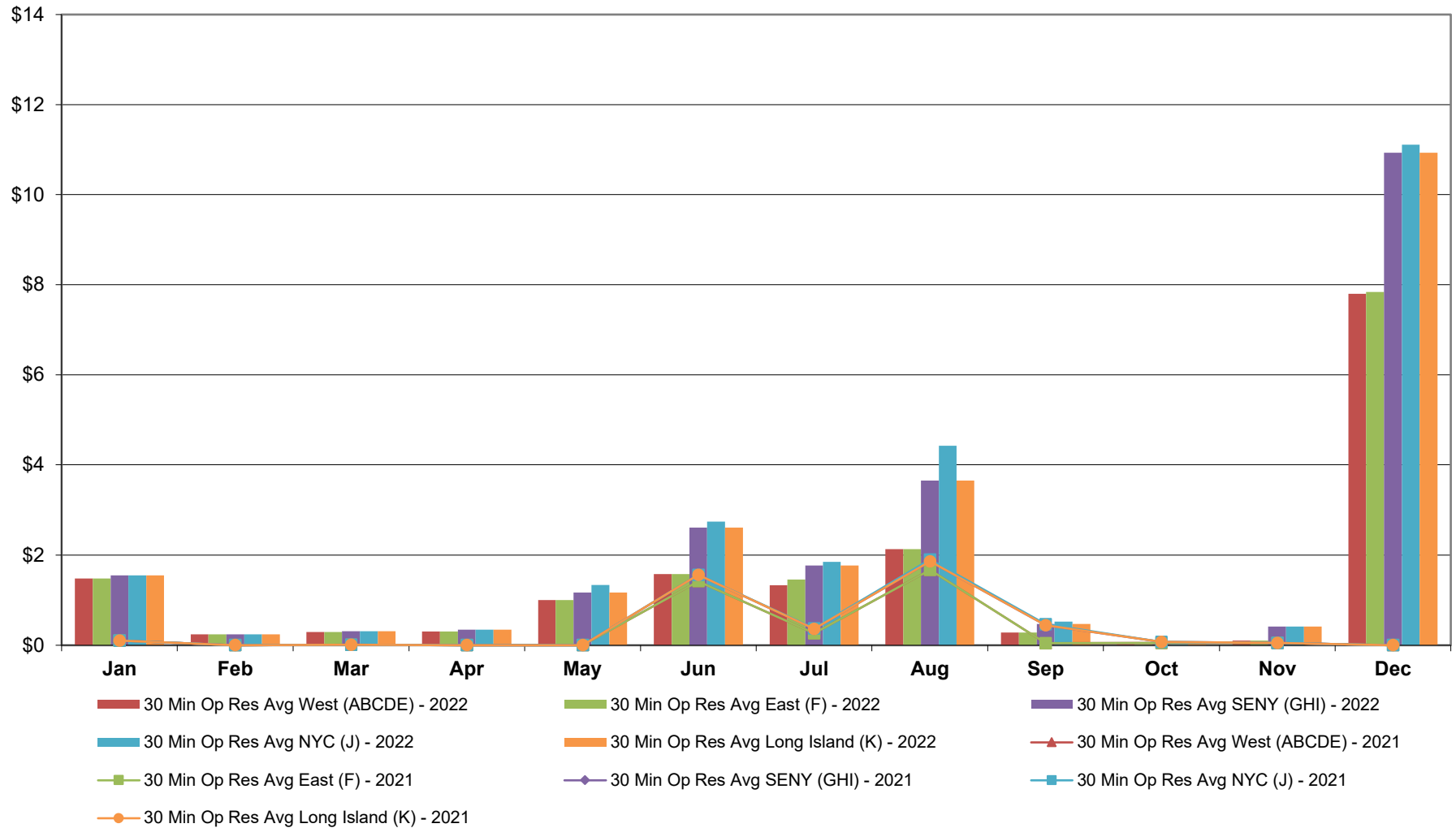
# **NYISO Monthly Average Ancillary Service Prices RTC Market - 10 Min Spin 2021 - 2022**



# NYISO Monthly Average Ancillary Service Prices RTC Market - 10 Min Non-Synch 2021 - 2022

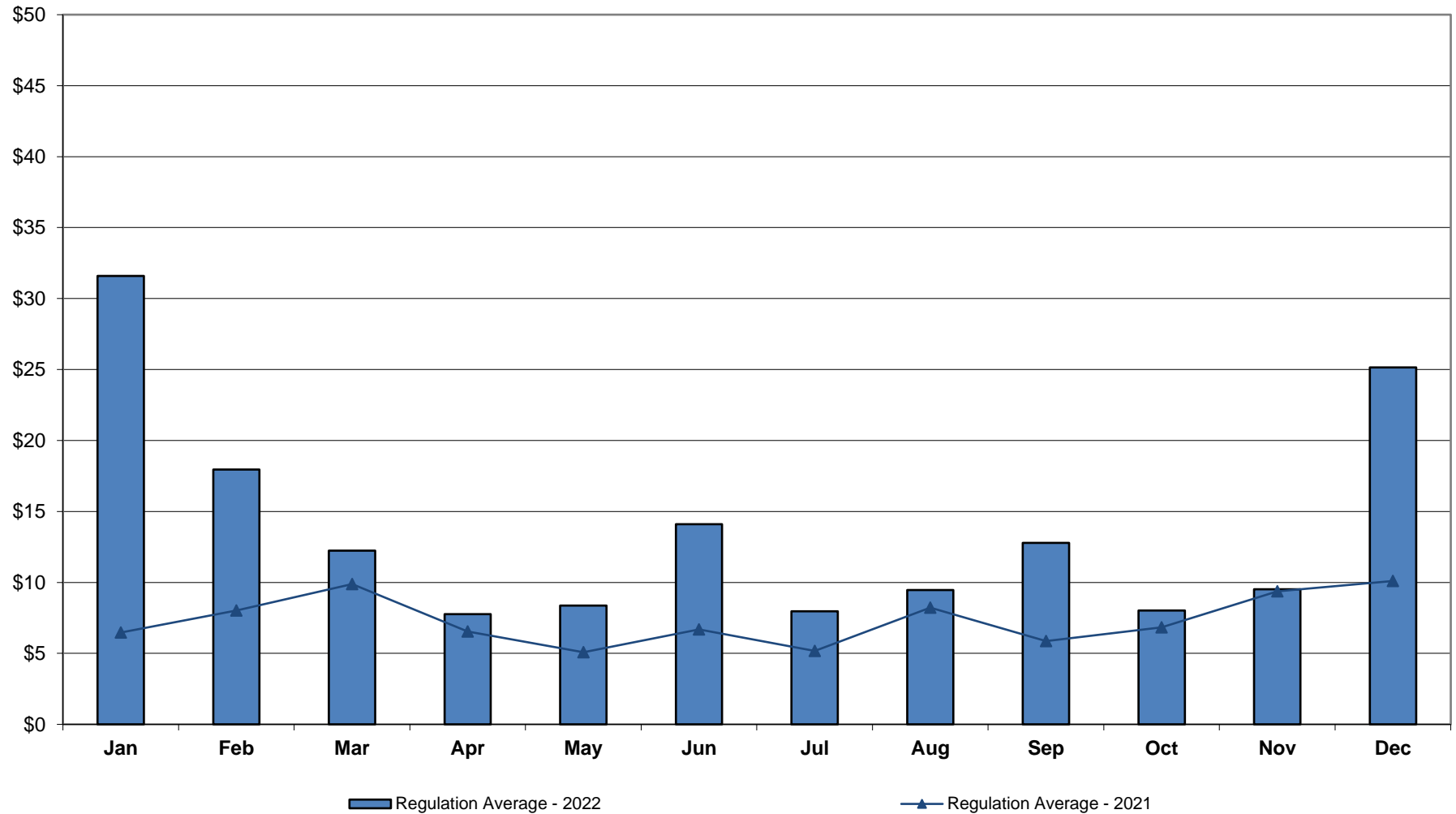


# NYISO Monthly Average Ancillary Service Prices RTC Market - 30 Min Op Res 2021 - 2022

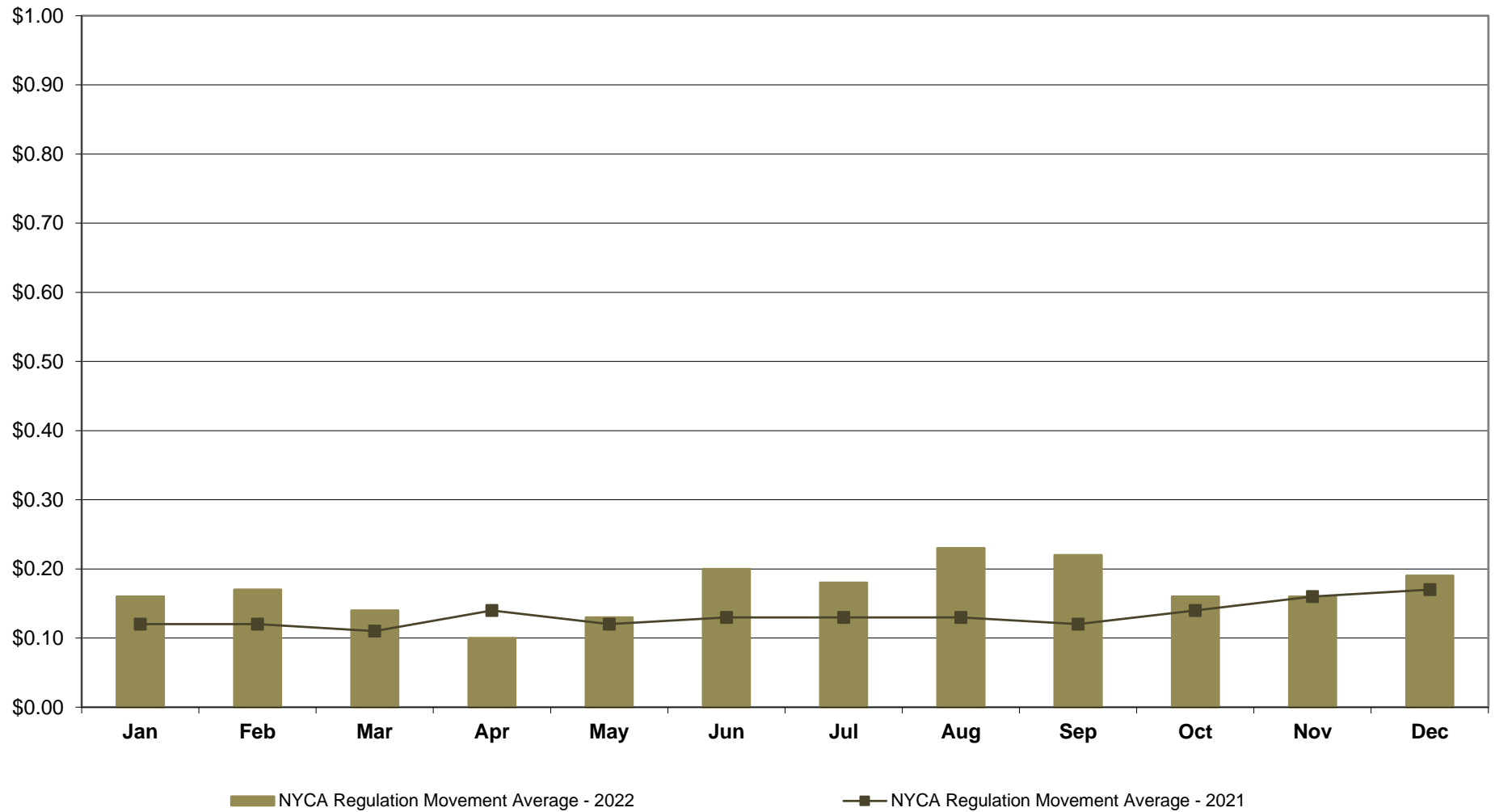




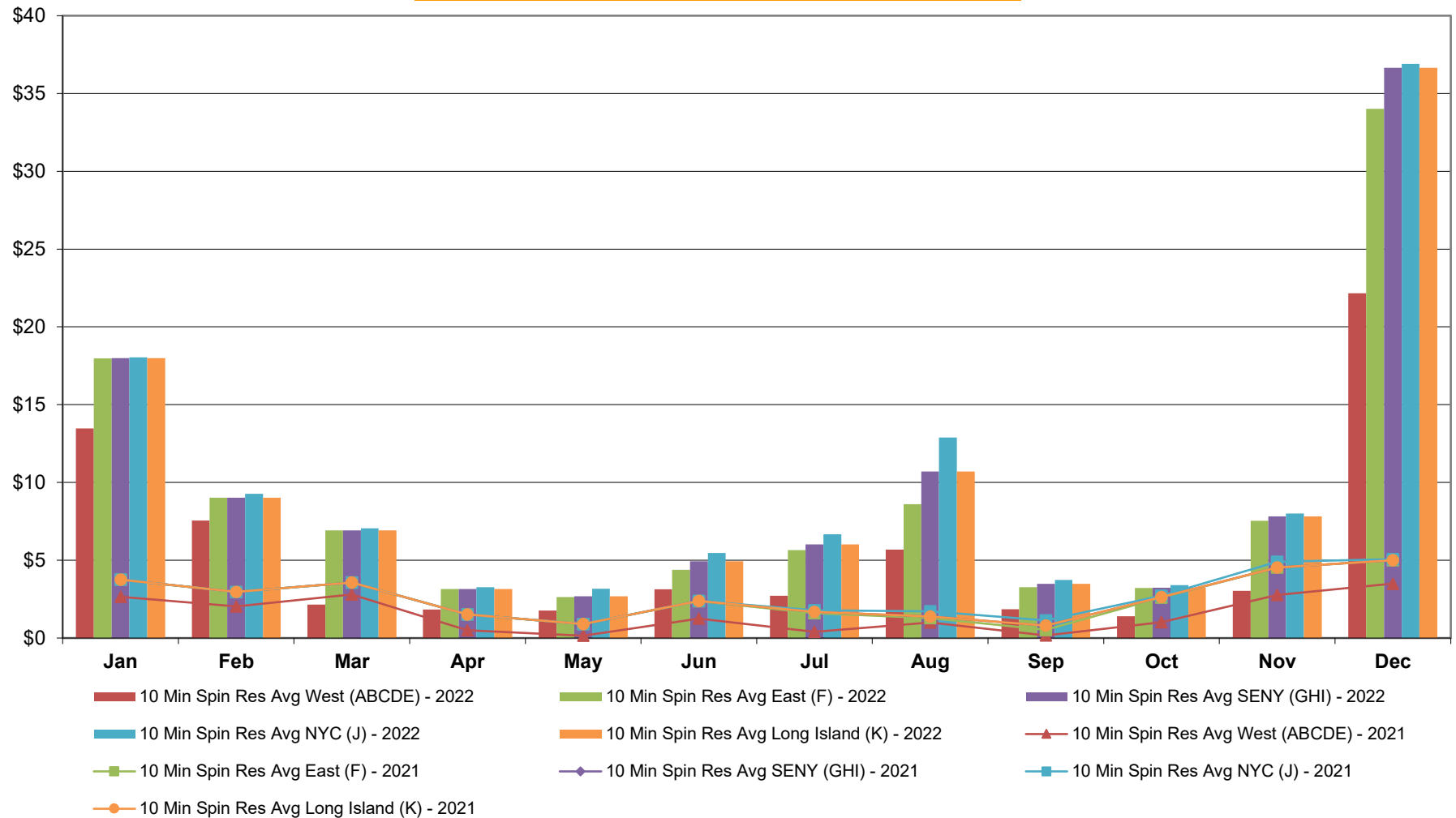
**NYISO Monthly Average Ancillary Service Prices  
RTC Market - Regulation 2021 - 2022**



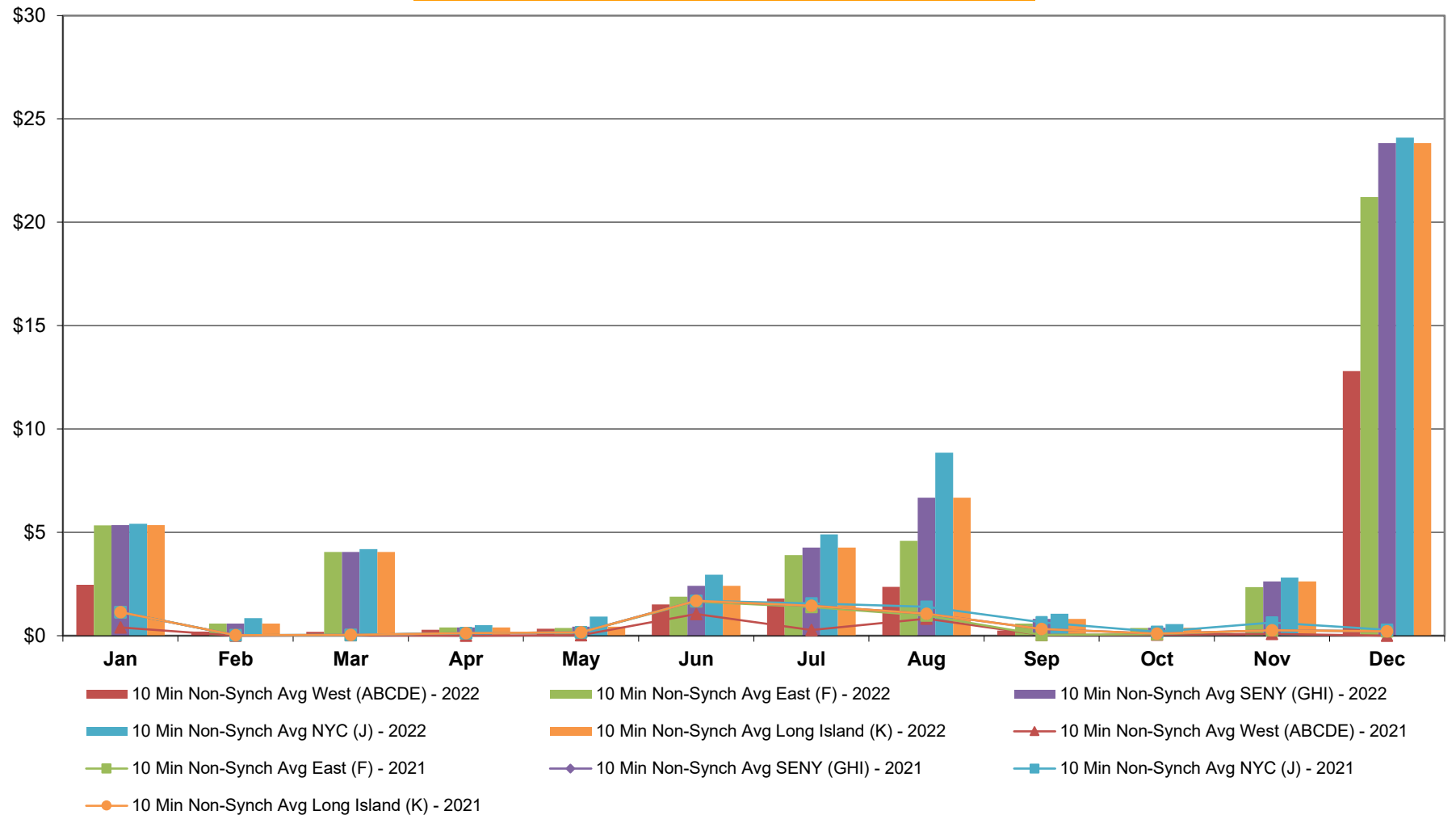
# **NYISO Monthly Average Ancillary Service Prices RTC Market - Regulation Movement 2021 - 2022**



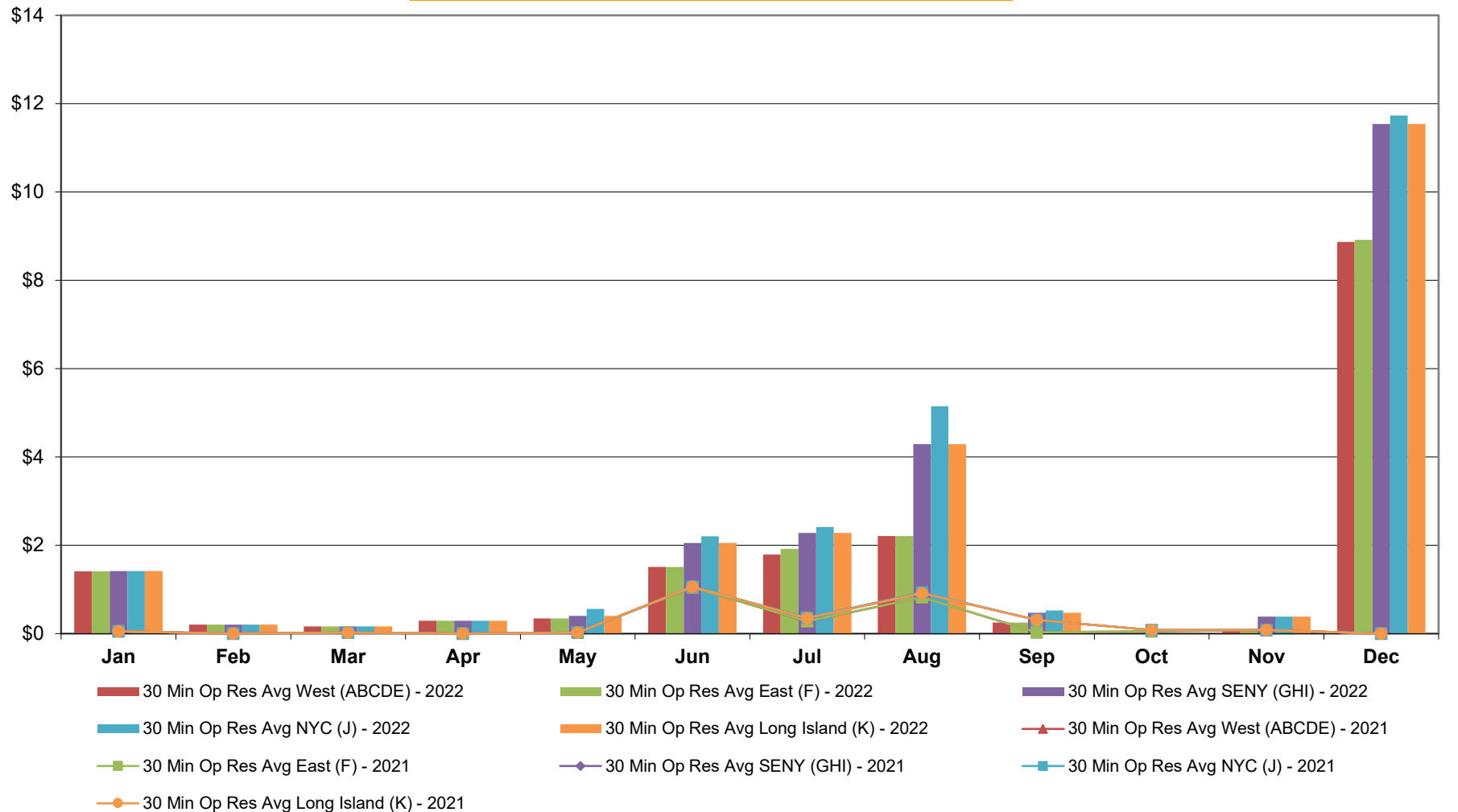
# **NYISO Monthly Average Ancillary Service Prices Real Time Market - 10 Min Spin 2021 - 2022**



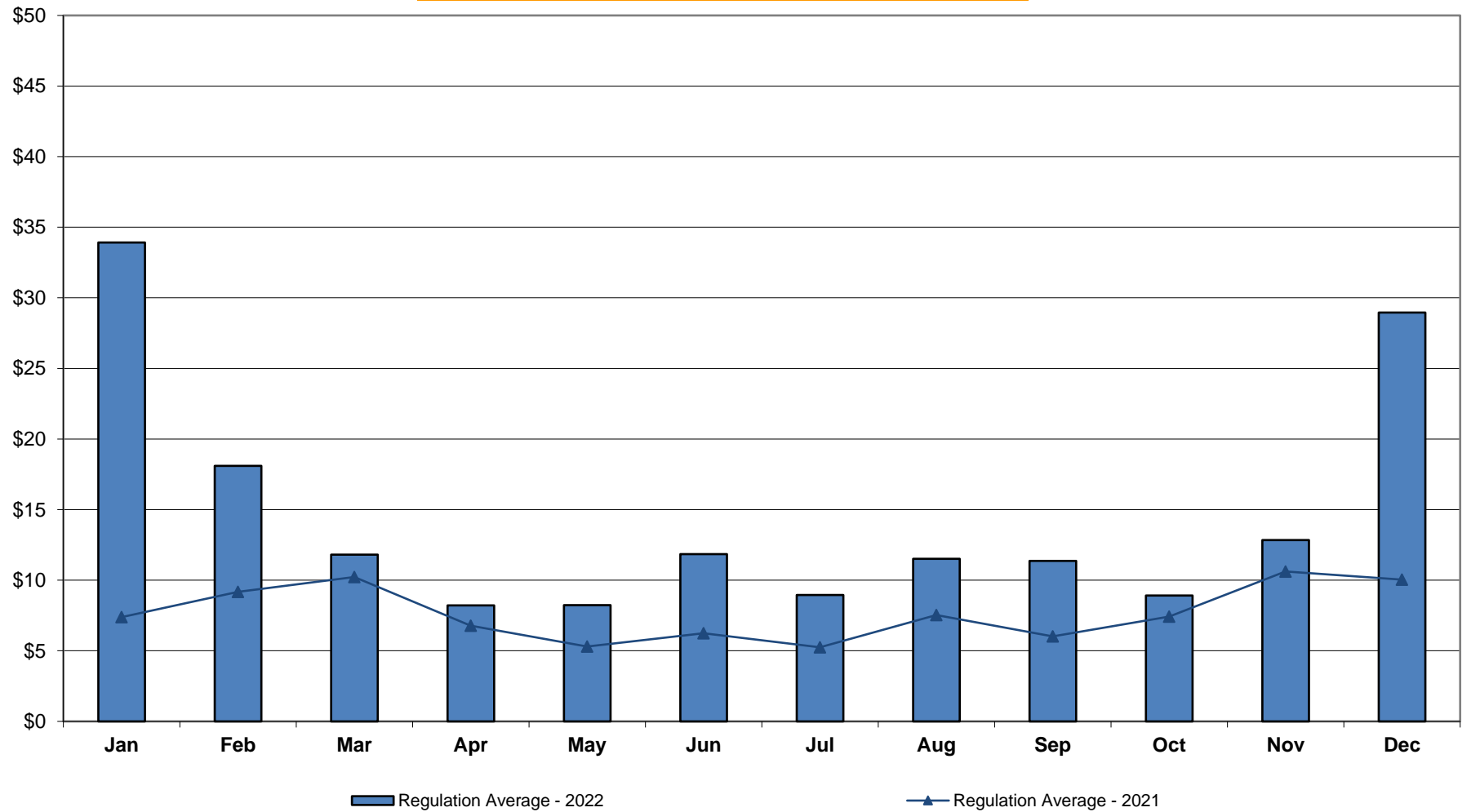
# **NYISO Monthly Average Ancillary Service Prices Real Time Market - 10 Min Non-Synch 2021 - 2022**



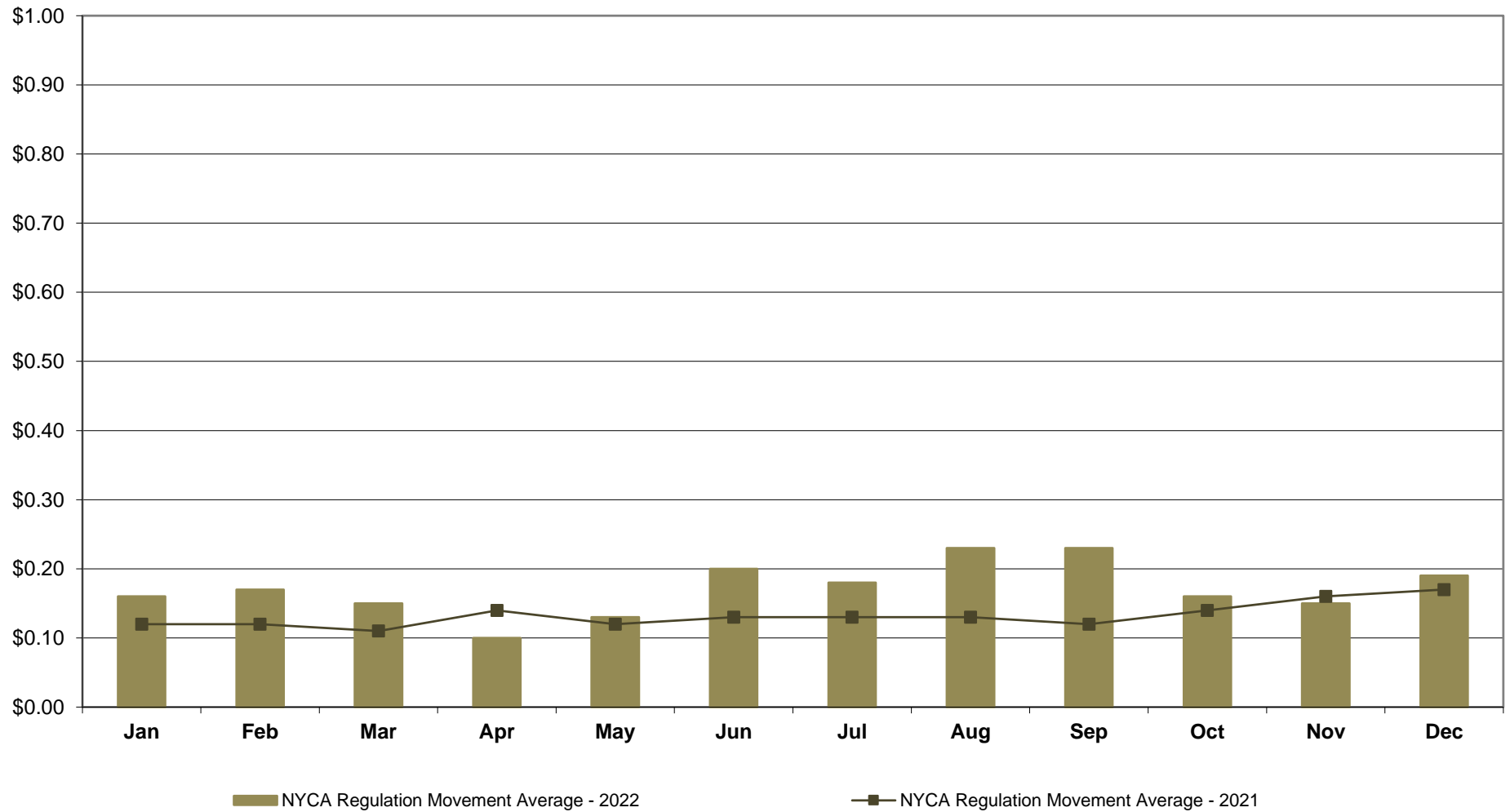
# **NYISO Monthly Average Ancillary Service Prices Real Time Market - 30 Min Op Res 2021 - 2022**



# **NYISO Monthly Average Ancillary Service Prices Real Time Market - Regulation 2021 - 2022**



# **NYISO Monthly Average Ancillary Service Prices Real Time Market - Regulation Movement 2021 - 2022**



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

<u>2022</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</u></b>												
10 Min Spin Long Island (K)	14.40	11.34	6.76	6.79	6.32	5.88	7.92	8.10	7.22	8.57	7.57	15.69
10 Min Spin NYC (J)	15.32	12.52	7.29	6.80	7.01	6.12	11.61	10.41	7.81	9.10	8.31	16.08
10 Min Spin SENY (GHI)	14.40	11.34	6.76	6.79	6.32	5.88	7.92	8.10	7.22	8.57	7.57	15.69
10 Min Spin East (F)	14.37	11.30	6.74	6.70	6.28	5.87	7.68	7.88	7.07	8.49	7.10	15.51
10 Min Spin West (ABCDE)	12.74	8.93	5.48	5.01	4.34	4.99	5.91	5.53	5.84	6.11	5.20	12.39
10 Min Non Synch Long Island (K)	9.70	9.48	5.68	4.87	4.68	4.83	7.24	6.13	5.65	6.41	6.01	7.90
10 Min Non Synch NYC (J)	10.61	10.66	6.20	4.89	5.38	5.07	10.93	8.44	6.25	6.94	6.74	8.29
10 Min Non Synch SENY (GHI)	9.70	9.48	5.68	4.87	4.68	4.83	7.24	6.13	5.65	6.41	6.01	7.90
10 Min Non Synch East (F)	9.66	9.44	5.66	4.78	4.64	4.82	7.00	5.90	5.51	6.32	5.53	7.72
10 Min Non Synch West (ABCDE)	8.88	7.35	4.66	4.50	4.15	4.60	5.69	5.16	5.08	5.15	4.92	7.05
30 Min Long Island (K)	8.92	7.40	4.67	4.59	4.19	4.61	5.93	5.36	5.22	5.23	5.40	7.23
30 Min NYC (J)	8.95	7.42	4.67	4.59	4.21	4.61	6.18	5.46	5.22	5.23	5.64	7.27
30 Min SENY (GHI)	8.92	7.40	4.67	4.59	4.19	4.61	5.93	5.36	5.22	5.23	5.40	7.23
30 Min East (F)	8.88	7.35	4.66	4.50	4.15	4.60	5.69	5.13	5.08	5.15	4.92	7.05
30 Min West (ABCDE)	8.88	7.35	4.66	4.50	4.15	4.60	5.69	5.13	5.08	5.15	4.92	7.05
Regulation	35.17	19.48	12.56	8.94	10.61	11.49	11.96	12.58	12.68	11.31	11.72	18.51
<u>2021</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</u></b>												
10 Min Spin Long Island (K)	4.61	7.85	4.46	3.80	3.78	3.91	3.80	4.06	4.05	6.61	6.27	5.33
10 Min Spin NYC (J)	4.68	8.01	4.46	3.81	3.80	4.38	4.14	4.51	4.19	6.69	6.60	5.56
10 Min Spin SENY (GHI)	4.61	7.85	4.46	3.80	3.78	3.91	3.80	4.06	4.05	6.61	6.27	5.33
10 Min Spin East (F)	4.61	7.85	4.46	3.80	3.78	3.89	3.64	3.87	3.92	6.49	6.26	5.32
10 Min Spin West (ABCDE)	4.01	6.68	4.07	3.56	3.43	3.64	3.40	3.54	3.62	4.84	4.75	3.97
10 Min Non Synch Long Island (K)	3.32	5.58	3.60	3.25	3.27	3.47	3.46	3.68	3.47	4.56	4.37	3.82
10 Min Non Synch NYC (J)	3.40	5.74	3.60	3.26	3.30	3.93	3.80	4.14	3.60	4.64	4.69	4.05
10 Min Non Synch SENY (GHI)	3.32	5.58	3.60	3.25	3.27	3.47	3.46	3.68	3.47	4.56	4.37	3.82
10 Min Non Synch East (F)	3.32	5.58	3.60	3.25	3.27	3.45	3.31	3.50	3.34	4.44	4.35	3.81
10 Min Non Synch West (ABCDE)	3.22	5.25	3.57	3.19	3.17	3.31	3.19	3.31	3.27	4.14	4.01	3.70
30 Min Long Island (K)	3.22	5.25	3.57	3.19	3.17	3.33	3.34	3.49	3.41	4.25	4.02	3.71
30 Min NYC (J)	3.23	5.25	3.57	3.19	3.18	3.53	3.40	3.62	3.41	4.27	4.02	3.71
30 Min SENY (GHI)	3.22	5.25	3.57	3.19	3.17	3.33	3.34	3.49	3.41	4.25	4.02	3.71
30 Min East (F)	3.22	5.25	3.57	3.19	3.17	3.31	3.19	3.31	3.27	4.14	4.01	3.70
30 Min West (ABCDE)	3.22	5.25	3.57	3.19	3.17	3.31	3.19	3.31	3.27	4.14	4.01	3.70
Regulation	6.40	10.93	7.21	6.72	5.50	5.55	5.13	4.98	6.29	8.27	10.13	8.47



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

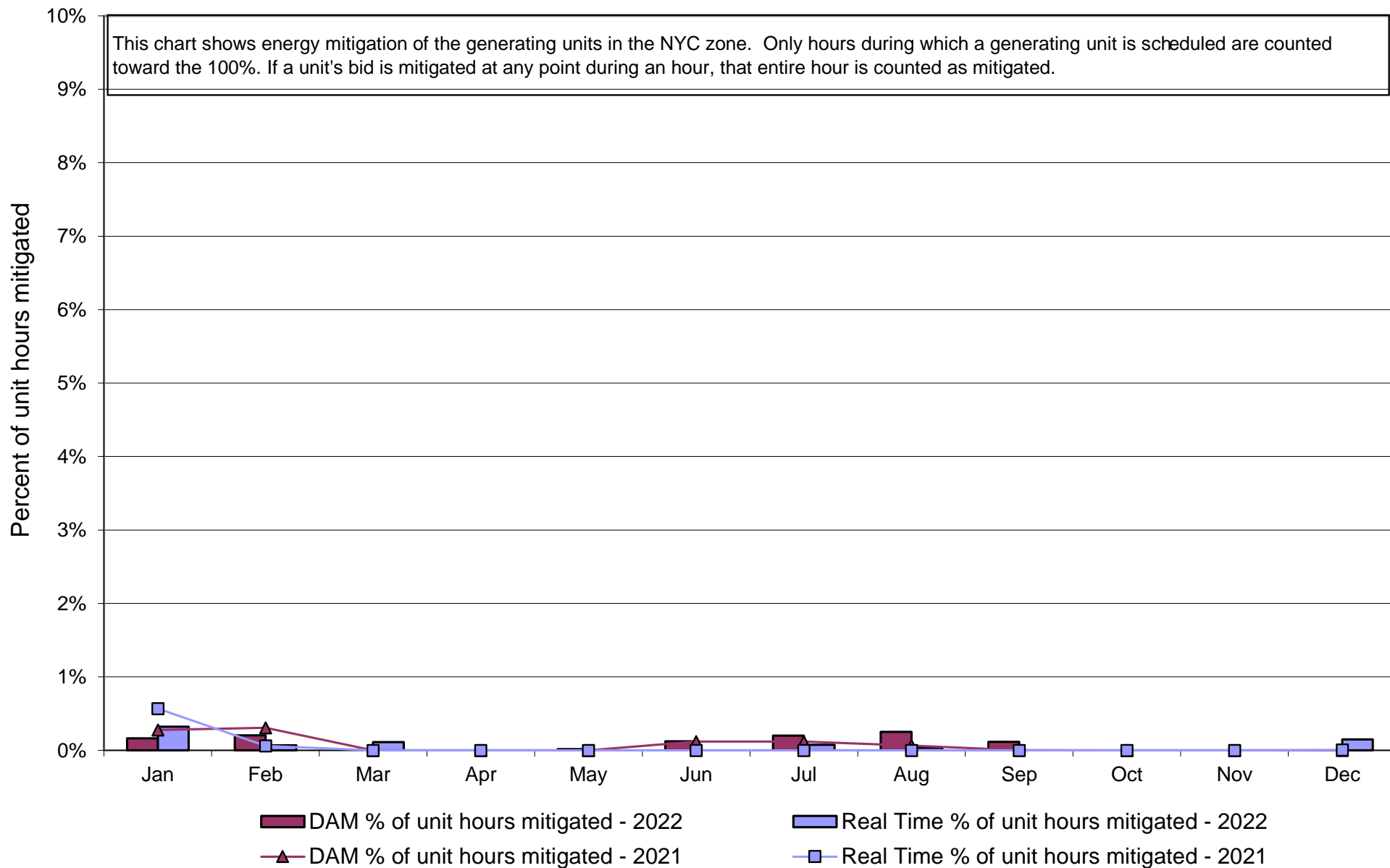
<b><u>2022</u></b>	<u>January</u>	<u>February</u>	<u>March</u>	<u>April</u>	<u>May</u>	<u>June</u>	<u>July</u>	<u>August</u>	<u>September</u>	<u>October</u>	<u>November</u>	<u>December</u>
<b><u>RTC Market</u></b>												
10 Min Spin Long Island (K)	11.75	7.55	4.73	2.39	3.15	5.06	4.34	6.79	2.49	1.72	3.59	26.50
10 Min Spin NYC (J)	11.75	7.81	4.92	2.53	3.72	5.51	4.88	8.90	2.71	1.87	3.71	26.72
10 Min Spin SENY (GHI)	11.75	7.55	4.73	2.39	3.15	5.06	4.34	6.79	2.49	1.72	3.59	26.50
10 Min Spin East (F)	11.68	7.55	4.71	2.36	2.98	4.03	4.03	5.27	2.29	1.72	3.28	23.41
10 Min Spin West (ABCDE)	7.59	5.49	1.27	1.03	1.75	2.47	1.58	3.05	0.99	0.40	1.06	14.59
10 Min Non Synch Long Island (K)	3.67	0.69	2.97	0.37	1.47	2.88	3.19	4.89	0.92	0.07	0.66	17.08
10 Min Non Synch NYC (J)	3.67	0.95	3.16	0.51	2.04	3.34	3.73	7.00	1.13	0.21	0.78	17.31
10 Min Non Synch SENY (GHI)	3.67	0.69	2.97	0.37	1.47	2.88	3.19	4.89	0.92	0.07	0.66	17.08
10 Min Non Synch East (F)	3.60	0.69	2.96	0.33	1.31	1.86	2.88	3.37	0.72	0.07	0.35	13.99
10 Min Non Synch West (ABCDE)	1.79	0.24	0.29	0.30	1.00	1.58	1.33	2.13	0.28	0.02	0.10	8.81
30 Min Long Island (K)	1.55	0.24	0.31	0.34	1.17	2.61	1.77	3.65	0.47	0.02	0.41	10.93
30 Min NYC (J)	1.55	0.24	0.31	0.34	1.34	2.74	1.85	4.43	0.52	0.02	0.41	11.11
30 Min SENY (GHI)	1.55	0.24	0.31	0.34	1.17	2.61	1.77	3.65	0.47	0.02	0.41	10.93
30 Min East (F)	1.48	0.24	0.29	0.30	1.00	1.58	1.46	2.13	0.28	0.02	0.10	7.84
30 Min West (ABCDE)	1.48	0.24	0.29	0.30	1.00	1.58	1.33	2.13	0.28	0.02	0.10	7.80
Regulation	31.59	17.95	12.23	7.77	8.36	14.11	7.96	9.46	12.79	8.03	9.52	25.14
NYCA Regulation Movement	0.16	0.17	0.14	0.10	0.13	0.20	0.18	0.23	0.22	0.16	0.16	0.19
<b><u>2021</u></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>RTC Market</u></b>												
10 Min Spin Long Island (K)	1.65	1.53	1.29	0.58	0.61	2.86	1.25	2.21	1.04	1.59	2.18	2.42
10 Min Spin NYC (J)	1.65	1.53	1.29	0.58	0.91	4.26	1.34	2.59	1.37	1.63	2.48	2.48
10 Min Spin SENY (GHI)	1.65	1.53	1.29	0.58	0.61	2.86	1.25	2.21	1.04	1.59	2.18	2.42
10 Min Spin East (F)	1.65	1.53	1.29	0.58	0.61	2.73	1.14	2.01	0.64	1.57	2.18	2.42
10 Min Spin West (ABCDE)	1.16	0.93	0.88	0.22	0.07	1.51	0.32	1.69	0.11	0.30	0.82	1.22
10 Min Non Synch Long Island (K)	0.49	0.00	0.02	0.00	0.05	2.40	1.11	2.02	0.45	0.09	0.29	0.05
10 Min Non Synch NYC (J)	0.49	0.00	0.02	0.00	0.35	3.80	1.20	2.40	0.79	0.13	0.59	0.11
10 Min Non Synch SENY (GHI)	0.49	0.00	0.02	0.00	0.05	2.40	1.11	2.02	0.45	0.09	0.29	0.05
10 Min Non Synch East (F)	0.49	0.00	0.02	0.00	0.05	2.27	1.01	1.83	0.06	0.07	0.29	0.05
10 Min Non Synch West (ABCDE)	0.26	0.00	0.01	0.00	0.00	1.42	0.30	1.67	0.04	0.05	0.05	0.00
30 Min Long Island (K)	0.10	0.00	0.01	0.00	0.00	1.56	0.36	1.86	0.44	0.07	0.05	0.00
30 Min NYC (J)	0.10	0.00	0.01	0.00	0.12	2.34	0.37	1.90	0.46	0.07	0.05	0.00
30 Min SENY (GHI)	0.10	0.00	0.01	0.00	0.00	1.56	0.36	1.86	0.44	0.07	0.05	0.00
30 Min East (F)	0.10	0.00	0.01	0.00	0.00	1.42	0.26	1.67	0.04	0.05	0.05	0.00
30 Min West (ABCDE)	0.10	0.00	0.01	0.00	0.00	1.42	0.26	1.67	0.04	0.05	0.05	0.00
Regulation	6.46	8.02	9.88	6.54	5.08	6.69	5.18	8.22	5.86	6.83	9.37	10.10
NYCA Regulation Movement	0.12	0.12	0.11	0.14	0.12	0.13	0.13	0.13	0.12	0.14	0.16	0.17

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

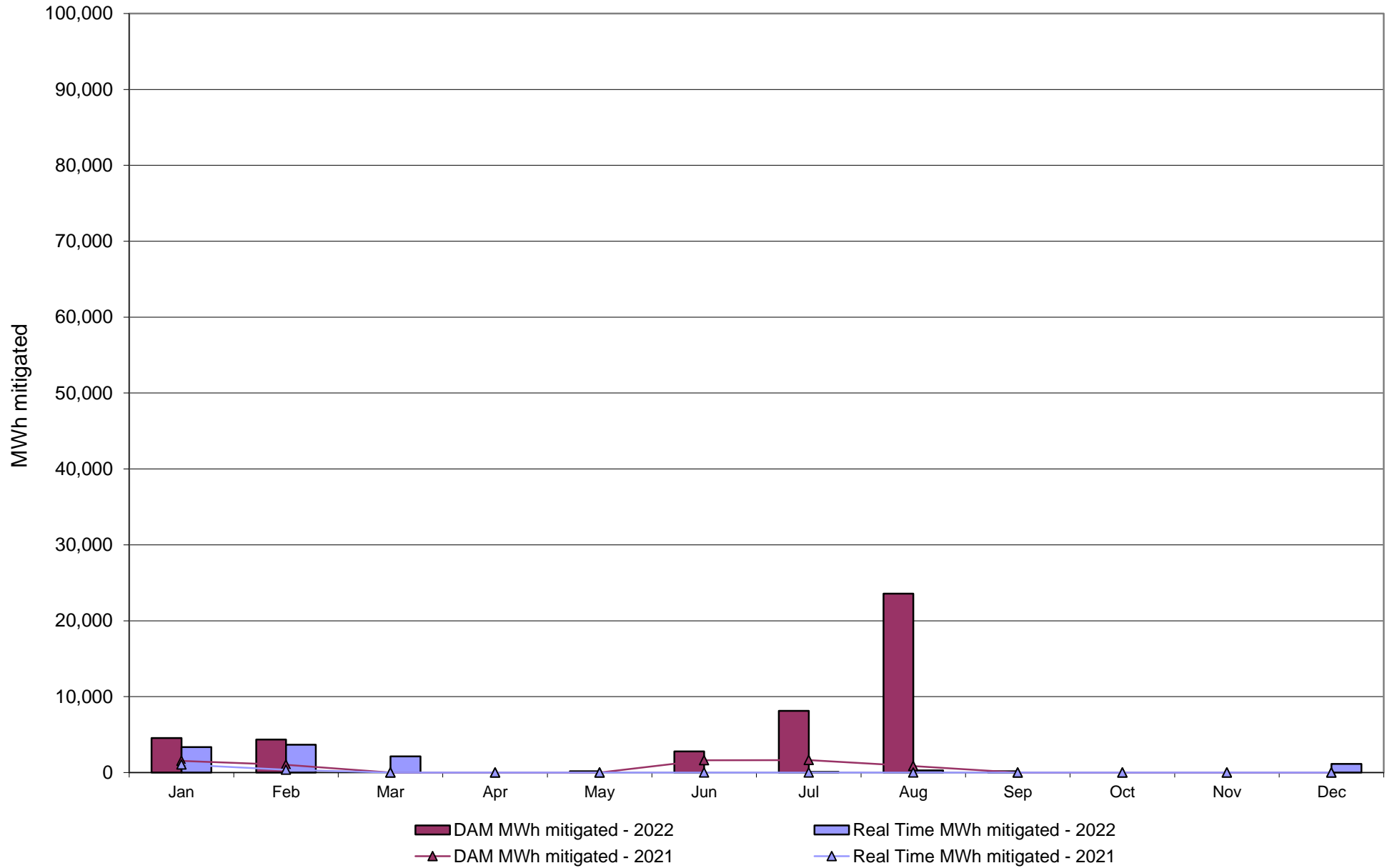
<b><u>2022</u></b>	<u>January</u>	<u>February</u>	<u>March</u>	<u>April</u>	<u>May</u>	<u>June</u>	<u>July</u>	<u>August</u>	<u>September</u>	<u>October</u>	<u>November</u>	<u>December</u>
<b><u>Real Time Market</u></b>												
10 Min Spin Long Island (K)	17.99	9.02	6.90	3.15	2.68	4.93	6.01	10.69	3.49	3.23	7.82	36.64
10 Min Spin NYC (J)	18.04	9.27	7.04	3.27	3.17	5.46	6.66	12.88	3.74	3.41	8.01	36.89
10 Min Spin SENY (GHI)	17.99	9.02	6.90	3.15	2.68	4.93	6.01	10.69	3.49	3.23	7.82	36.64
10 Min Spin East (F)	17.97	9.02	6.90	3.15	2.62	4.39	5.65	8.61	3.27	3.22	7.54	34.02
10 Min Spin West (ABCDE)	13.47	7.56	2.14	1.83	1.76	3.13	2.70	5.68	1.84	1.40	3.02	22.15
10 Min Non Synch Long Island (K)	5.34	0.59	4.05	0.40	0.43	2.42	4.26	6.67	0.81	0.38	2.63	23.83
10 Min Non Synch NYC (J)	5.40	0.84	4.19	0.51	0.92	2.95	4.90	8.85	1.06	0.56	2.81	24.09
10 Min Non Synch SENY (GHI)	5.34	0.59	4.05	0.40	0.43	2.42	4.26	6.67	0.81	0.38	2.63	23.83
10 Min Non Synch East (F)	5.33	0.59	4.05	0.40	0.37	1.88	3.90	4.58	0.59	0.37	2.35	21.21
10 Min Non Synch West (ABCDE)	2.46	0.20	0.19	0.29	0.34	1.51	1.79	2.37	0.25	0.01	0.10	12.80
30 Min Long Island (K)	1.42	0.20	0.16	0.29	0.40	2.05	2.28	4.29	0.47	0.01	0.38	11.54
30 Min NYC (J)	1.42	0.20	0.16	0.29	0.56	2.20	2.41	5.15	0.52	0.01	0.38	11.73
30 Min SENY (GHI)	1.42	0.20	0.16	0.29	0.40	2.05	2.28	4.29	0.47	0.01	0.38	11.54
30 Min East (F)	1.41	0.20	0.16	0.29	0.34	1.51	1.92	2.21	0.25	0.01	0.10	8.92
30 Min West (ABCDE)	1.41	0.20	0.16	0.29	0.34	1.51	1.79	2.21	0.25	0.01	0.10	8.87
Regulation	33.92	18.10	11.81	8.22	8.23	11.84	8.95	11.52	11.36	8.91	12.84	28.95
NYCA Regulation Movement	0.16	0.17	0.15	0.10	0.13	0.20	0.18	0.23	0.23	0.16	0.15	0.19
<b><u>2021</u></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>Real Time Market</u></b>												
10 Min Spin Long Island (K)	3.75	2.96	3.57	1.51	0.90	2.38	1.67	1.38	0.80	2.62	4.53	4.99
10 Min Spin NYC (J)	3.75	2.96	3.57	1.51	1.16	3.77	1.78	1.71	1.13	2.70	4.90	5.07
10 Min Spin SENY (GHI)	3.75	2.96	3.57	1.51	0.90	2.38	1.67	1.38	0.80	2.62	4.53	4.99
10 Min Spin East (F)	3.75	2.96	3.57	1.51	0.90	2.35	1.60	1.28	0.52	2.59	4.53	4.99
10 Min Spin West (ABCDE)	2.64	2.03	2.78	0.49	0.15	1.25	0.39	0.99	0.16	1.01	2.75	3.49
10 Min Non Synch Long Island (K)	1.13	0.02	0.03	0.12	0.16	1.68	1.44	1.06	0.32	0.10	0.26	0.21
10 Min Non Synch NYC (J)	1.13	0.02	0.03	0.12	0.42	3.07	1.56	1.39	0.64	0.18	0.63	0.29
10 Min Non Synch SENY (GHI)	1.13	0.02	0.03	0.12	0.16	1.68	1.44	1.06	0.32	0.10	0.26	0.21
10 Min Non Synch East (F)	1.13	0.02	0.03	0.12	0.16	1.65	1.38	0.97	0.04	0.07	0.26	0.21
10 Min Non Synch West (ABCDE)	0.40	0.00	0.02	0.00	0.02	1.04	0.27	0.82	0.03	0.05	0.08	0.00
30 Min Long Island (K)	0.05	0.00	0.02	0.00	0.02	1.06	0.35	0.91	0.31	0.08	0.08	0.00
30 Min NYC (J)	0.05	0.00	0.02	0.00	0.12	1.84	0.36	0.93	0.31	0.08	0.08	0.00
30 Min SENY (GHI)	0.05	0.00	0.02	0.00	0.02	1.06	0.35	0.91	0.31	0.08	0.08	0.00
30 Min East (F)	0.05	0.00	0.02	0.00	0.02	1.04	0.28	0.82	0.03	0.05	0.08	0.00
30 Min West (ABCDE)	0.05	0.00	0.02	0.00	0.02	1.04	0.27	0.82	0.03	0.05	0.08	0.00
Regulation	7.39	9.17	10.23	6.78	5.31	6.24	5.25	7.54	6.03	7.43	10.62	10.05
NYCA Regulation Movement	0.12	0.12	0.11	0.14	0.12	0.13	0.13	0.13	0.12	0.14	0.16	0.17

## NYISO In City Energy Mitigation - AMP (NYC Zone) 2021 - 2022

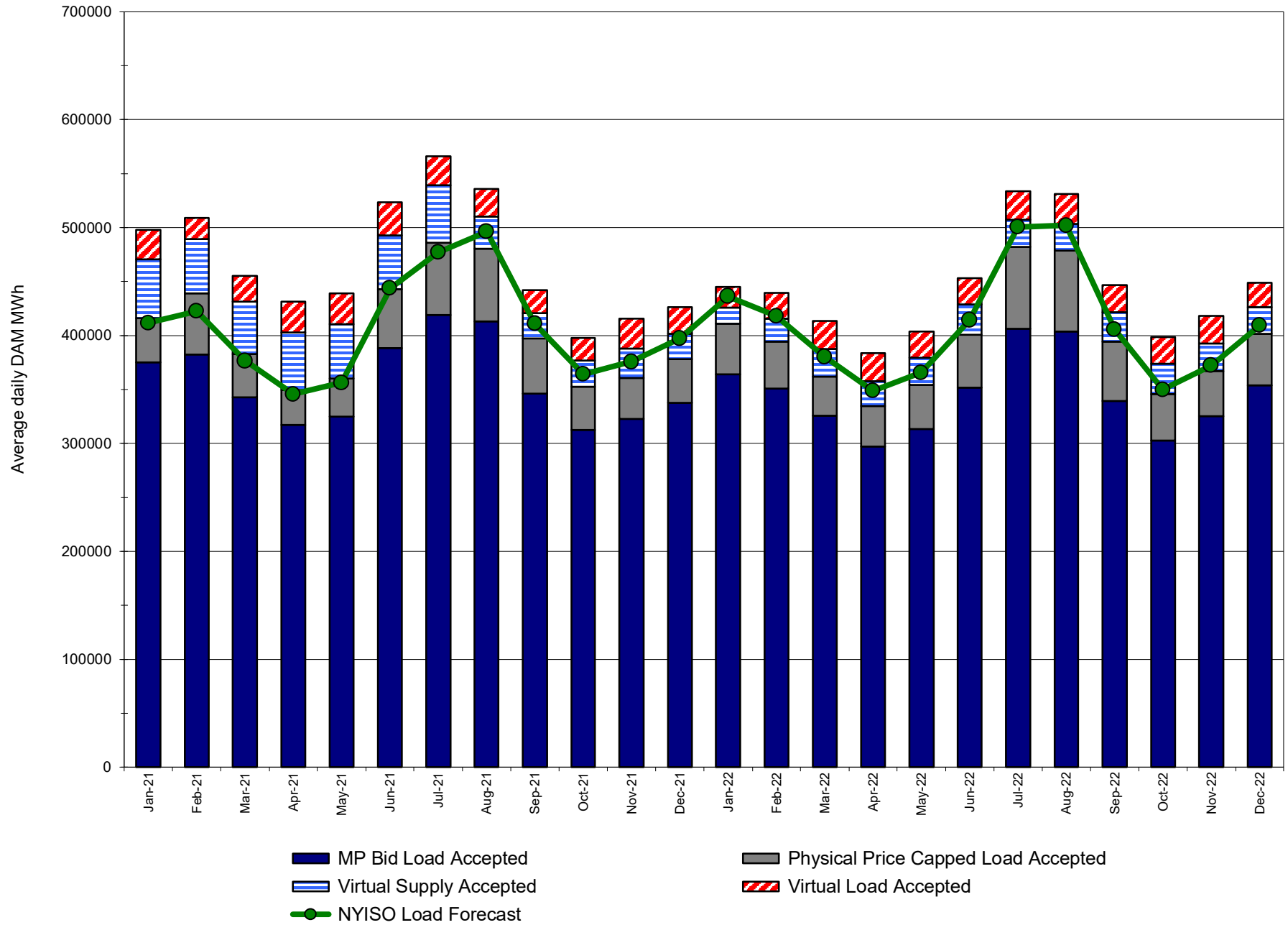
### Percentage of committed unit-hours mitigated



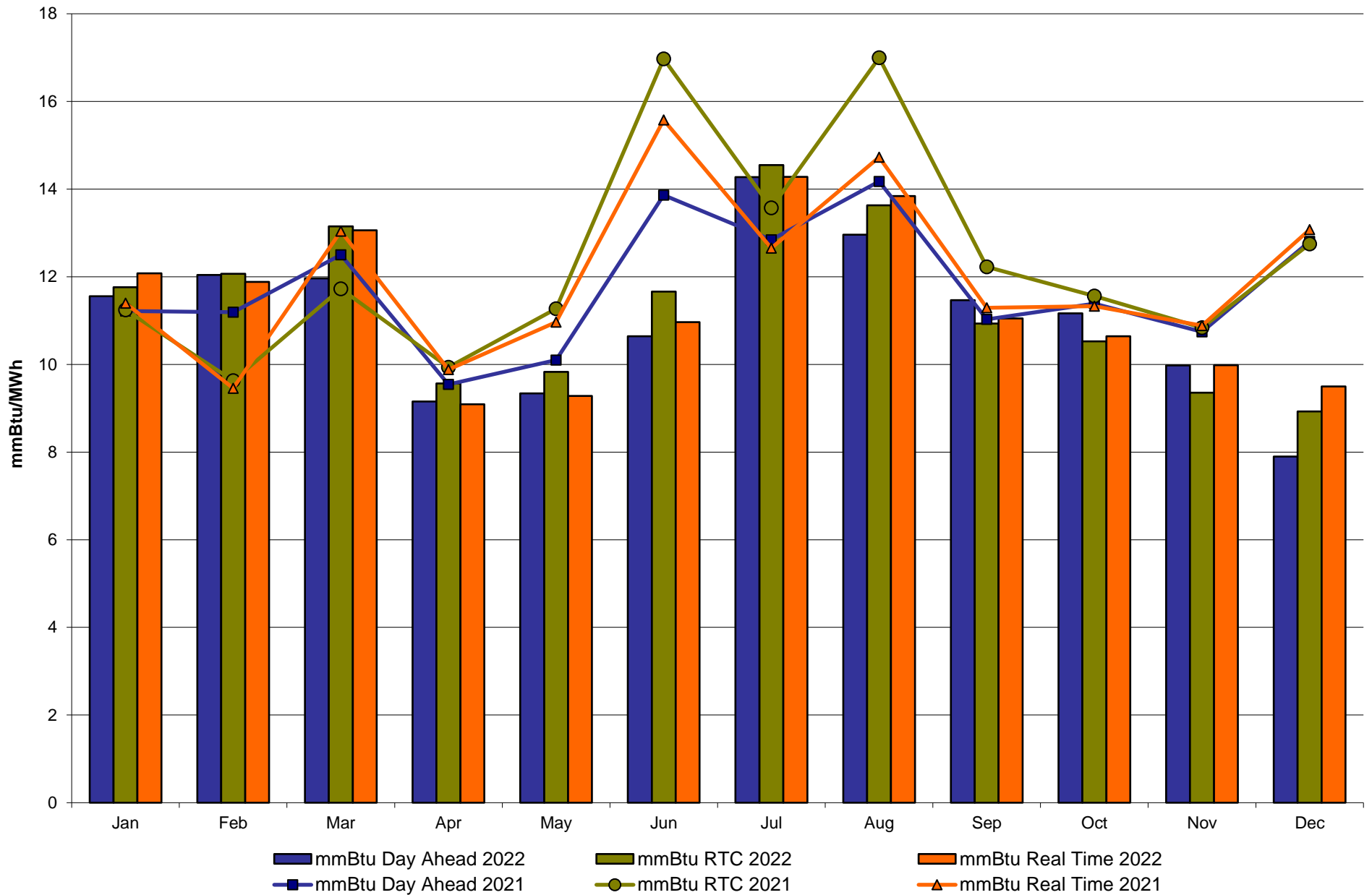
# **NYISO In City Energy Mitigation (NYC Zone) 2021 - 2022** **Monthly megawatt hours mitigated**



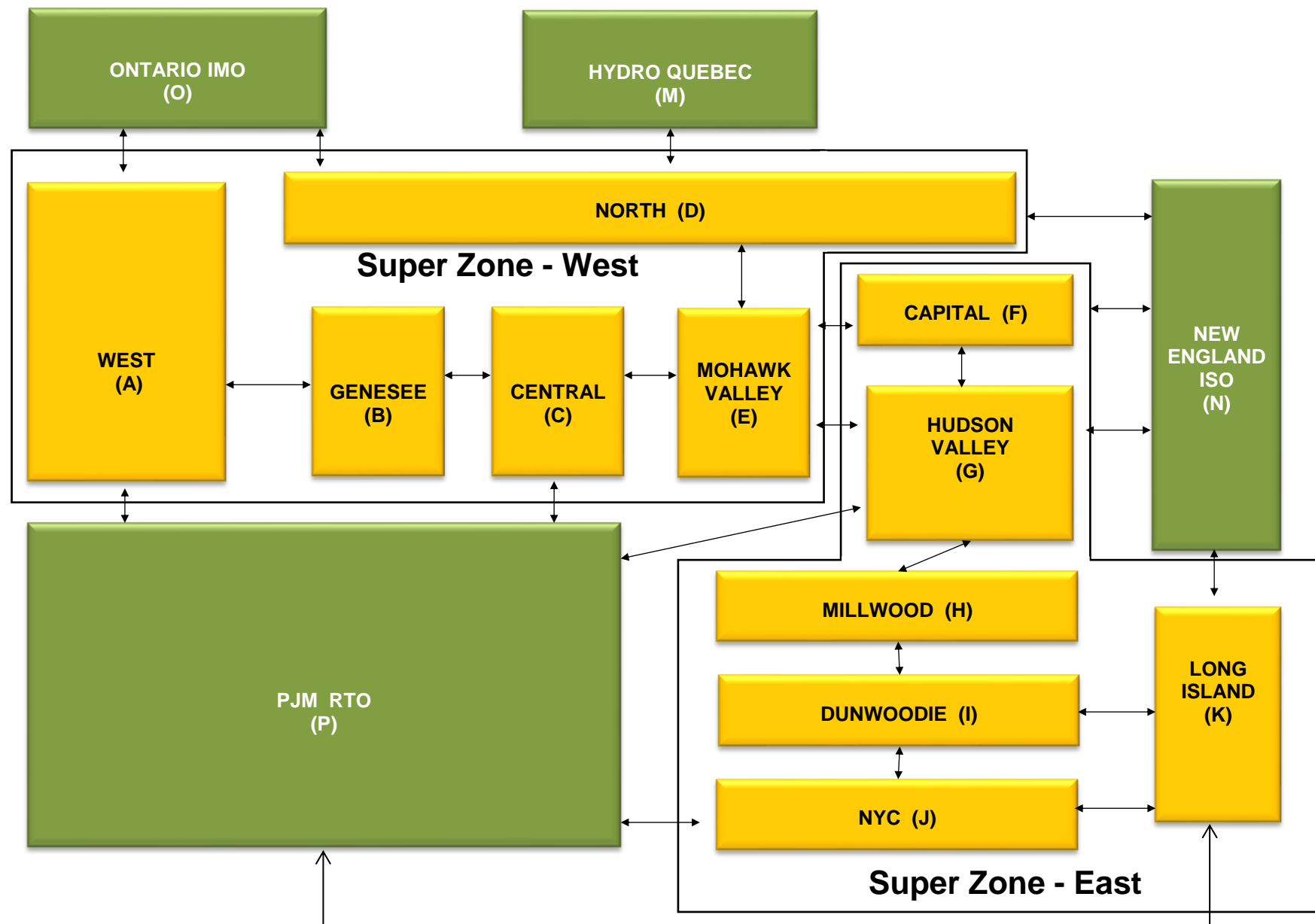
## NYISO Average Daily DAM Load Bid Summary



# Monthly Implied Heat Rate 2021-2022



# NYISO LBMP ZONES

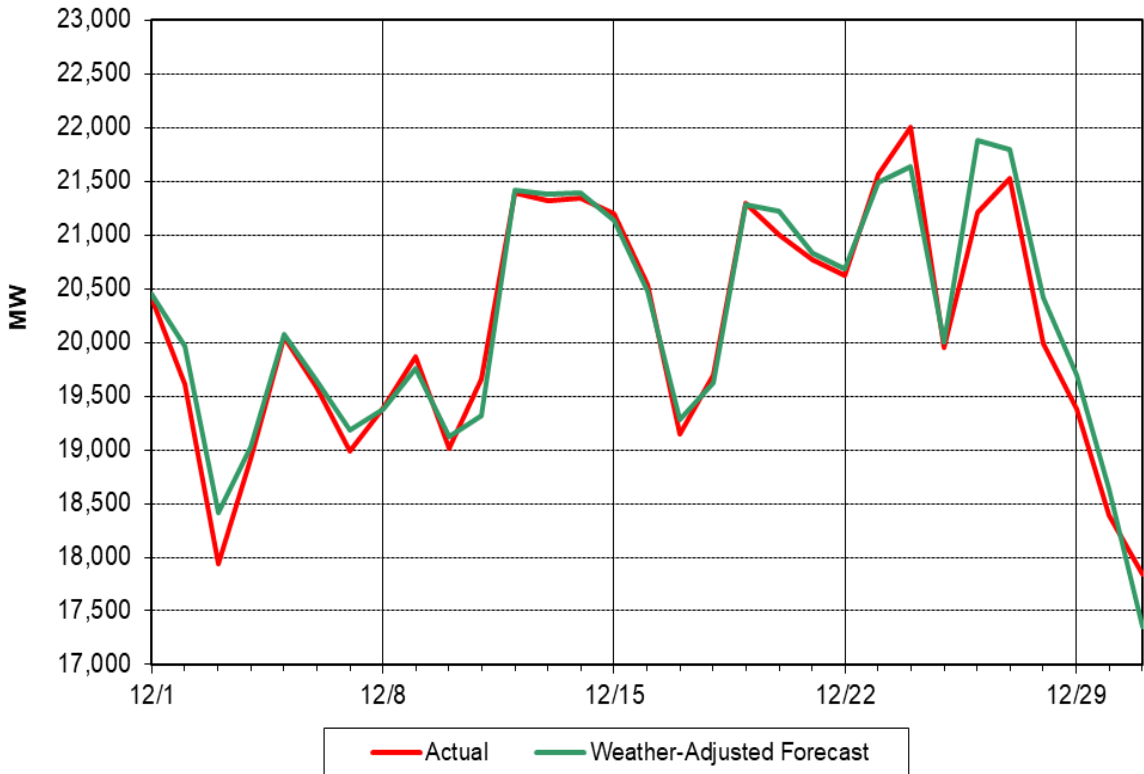


### Billing Codes for Chart C

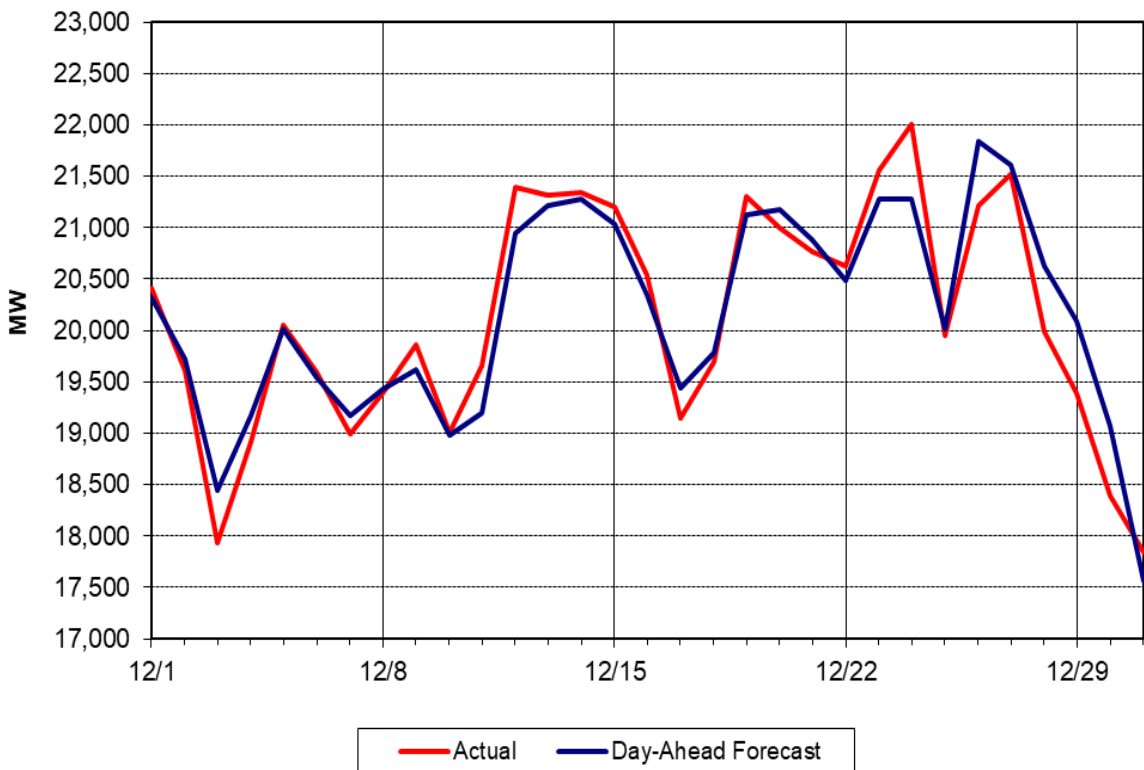
<u>Chart - C Category Name</u>	<u>Billing Code</u>	<u>Billing Category Name</u>
Bid Production Cost Guarantee Balancing	81203	Balancing NYISO Bid Production Cost Guarantee - Internal Units
Bid Production Cost Guarantee Balancing	81204	Balancing NYISO Bid Production Cost Guarantee - External Units
Bid 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



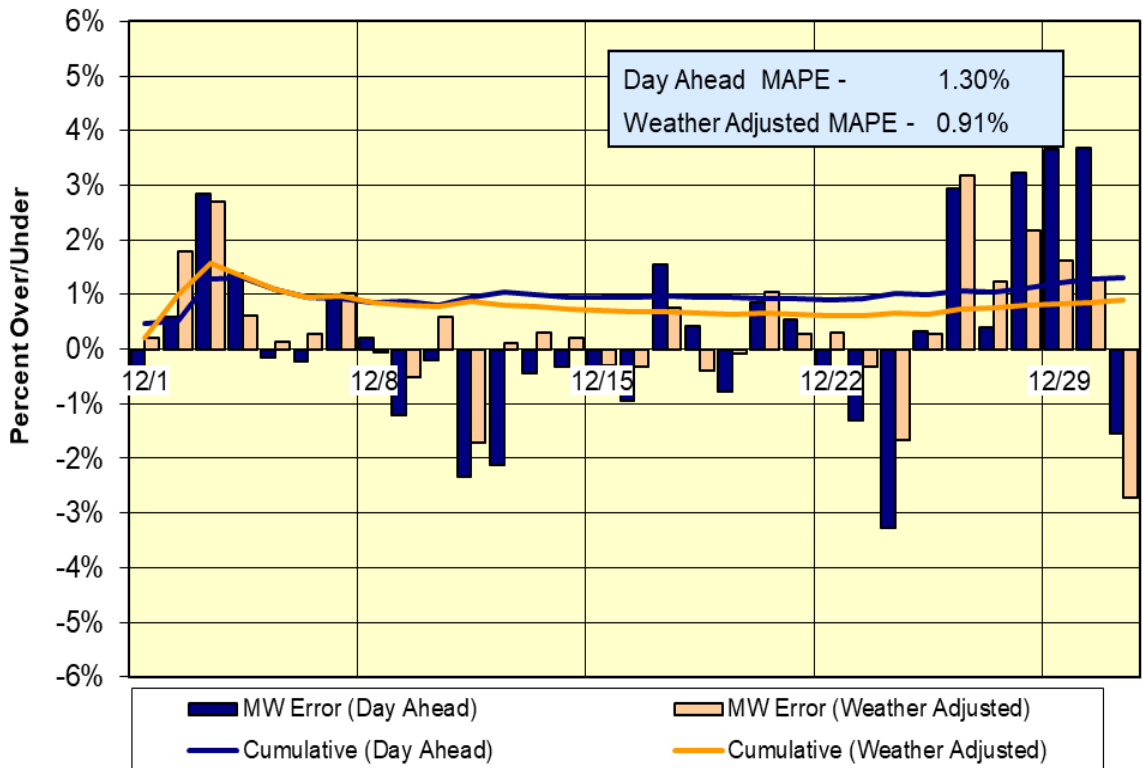
**NYISO Daily Peak Load - December 2022**  
**Actual vs. Weather-Adjusted Forecast**



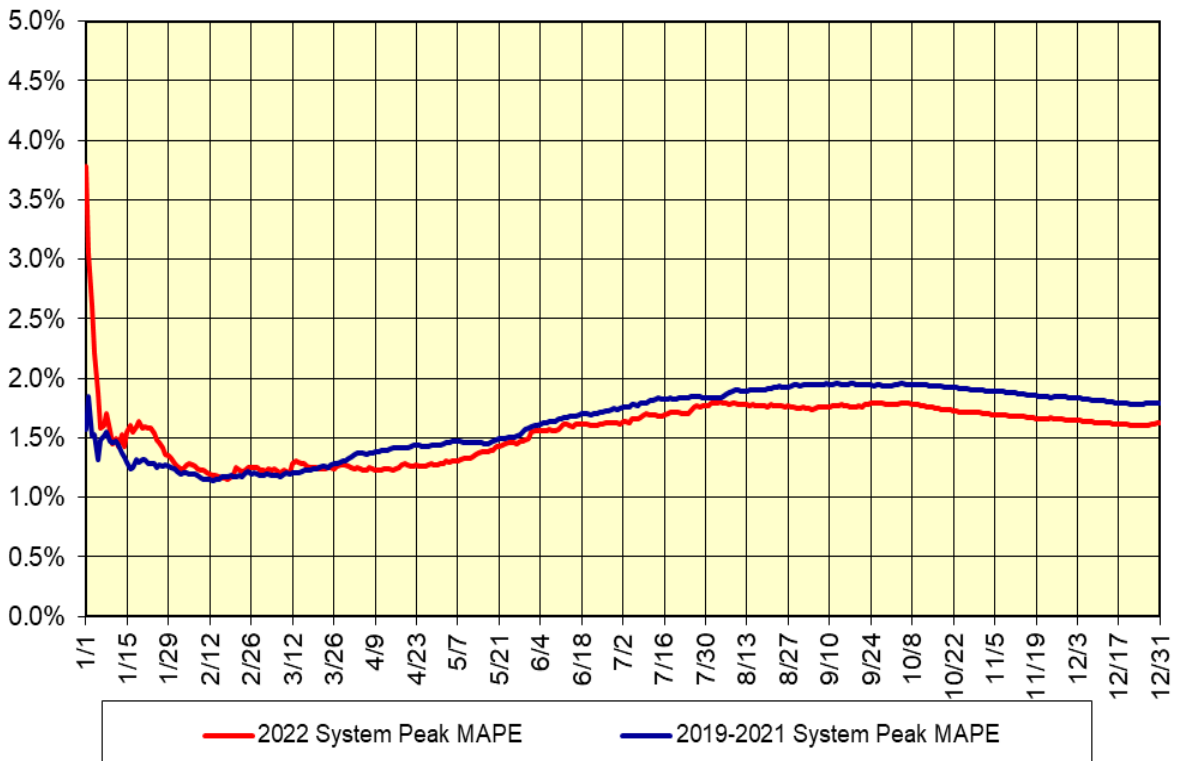
**NYISO Daily Peak Load - December 2022**  
**Actual vs. Forecast**



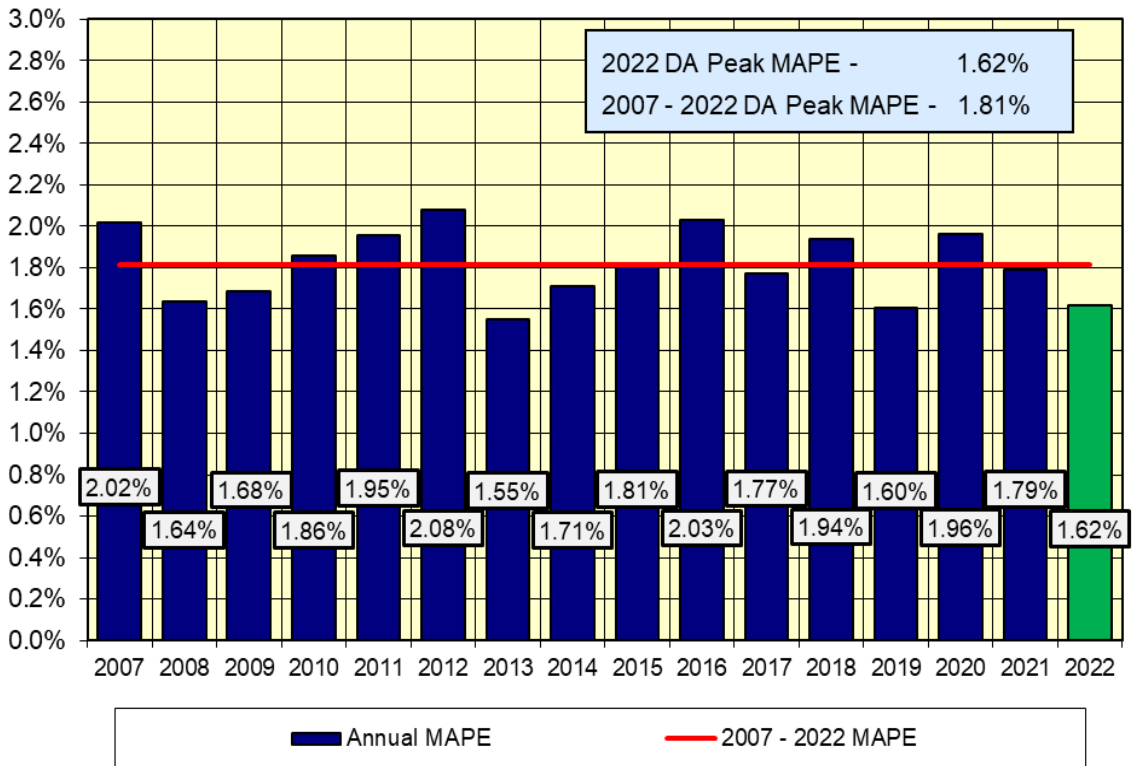
### Day Ahead Peak Forecast - December 2022 Percent Error - Actual & Weather-Adjusted



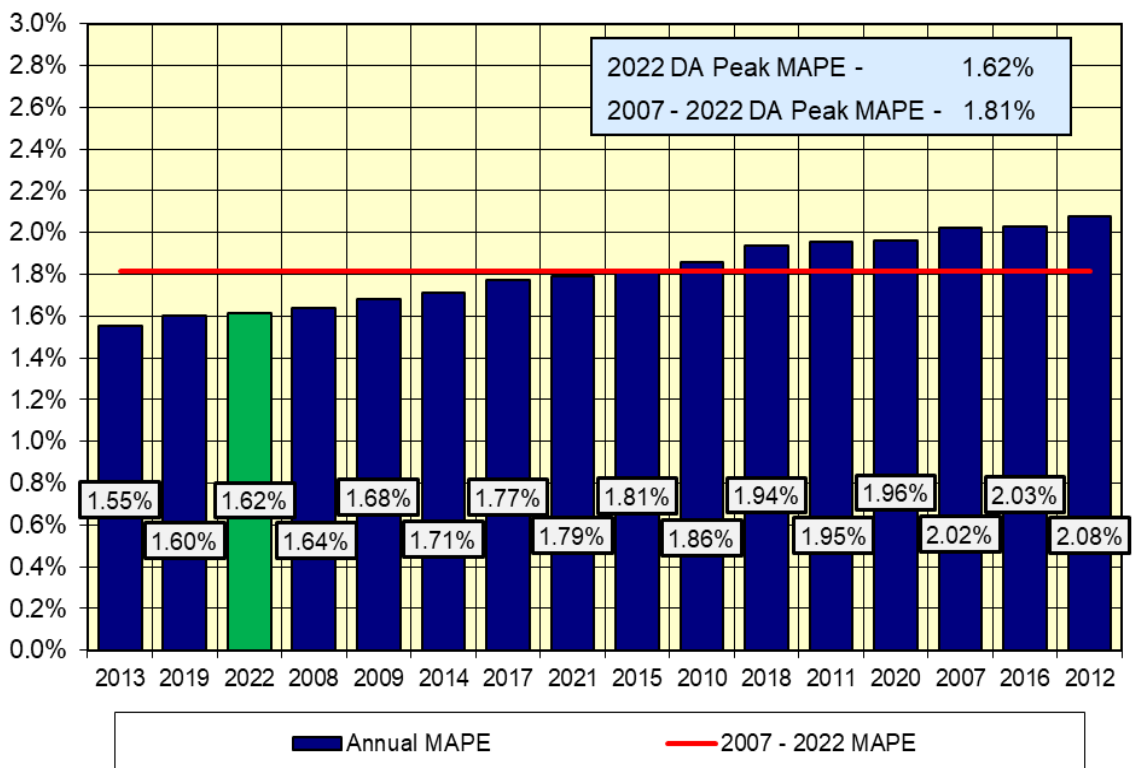
### Day-Ahead Forecast Accuracy - Cumulative Performance 2022 Year-to-Date



### NYISO Annual Peak Load Forecast MAPE Comparison (2007 - 2022)



### NYISO Annual Peak Load Forecast MAPE Rankings (2007 - 2022)



## Summary Description of Regulatory Filings, Investigations, Rulemakings and Related Orders in NYISO Matters – December 2022

Filing Date	Filing Summary	Docket	Order Summary	Order Date
10/11/2022	NYISO-NYSEG joint Section 205 filing to FERC of an executed Amended and Restated Small Generator Interconnection Agreement (SA No. 2546) among the NYISO, NYSEG, and SunEast Dog Corners Solar for the Dog Corners Solar project.	ER23-60-000	FERC Order accepted the Agreement effective September 27, 2022, as requested.	12/08/2022
6/30/2020	NYISO compliance filing to FERC, on behalf of NY Transco, in compliance with FERC Order No. 864 to address various income tax-related items relating to the effects of the Tax Cuts and Jobs Act of 2017.	ER20-2259-000	FERC Order on Compliance accepted the proposed changes and ordered a compliance filing within 60 days to reflect an effective date of January 27, 2020.	12/29/2022
10/11/2022	NYISO filing to FERC of comments in response to IPPNY's October 5, 2022 motion to FERC to request expedited action on remand directing that NYISO revise its tariffs to implement updated demand curves using a 17-year amortization period.	ER21-502-004	FERC Order on Remand affirmed its prior rejection of NYISO's proposed 17-year amortization period.	12/16/2022
10/13/2022	NYISO-NYSEG joint Section 205 filing to FERC of an executed Small Generator Interconnection Agreement (SA No. 2729) among the NYISO, NYSEG, and SunEast Valley Solar for the Valley Solar Project.	ER23-77-000	FERC order accepted the agreement, effective October 3, 2022, as requested.	12/06/2022
10/13/2022	NYISO-Central Hudson joint Section 205 filing to FERC of an executed Large Generator Interconnection Agreement (SA No. 2719) among the NYISO, Central Hudson, and KCE NY 2, LLC for the KCE NY 2 Project.	ER23-78-000	FERC Order accepted the agreement, effective September 30, 2022, as requested.	12/06/2022
10/27/2022	The NYISO filing to FERC, on behalf of LS Power Grid New York Corporation, ("LSPGNY"), proposed revisions to its depreciation rates.	ER23-218-000	FERC Order accepted the NYISO's revisions to LSPGNY's Formula Rate Template, effective December 27, 2022, as requested.	12/08/2022
11/02/2022	NYISO Section 205 filing to FERC of proposed tariff revisions to modify the time period used to calculate a Customer's share of a bad debt loss resulting from non-payment of money owed to the NYISO by another Customer.	ER23-349-000	FERC Order accepted the NYISO's proposed revisions, effective January 3, 2023, as requested	12/22/2022
11/14/2022	The NYISO filing to FERC of a request for an extension of time of the effective date for NYISO's Order No. 2222 compliance implementation date.	ER21-2460-004	FERC Order accepted the NYISO's motion to extend the effective date for its proposed tariff revisions in its compliance filing from the fourth quarter of 2022 to a flexible effective date no later than December 31, 2026.	12/01/2022
12/01/2022	Joint Section 205 filing to FERC of an Amended and Restated Small Generator Interconnection Agreement among NYISO, National Grid and Darby Solar for the Darby Solar Project (SA 2556).	ER23-538-000		

Filing Date	Filing Summary	Docket	Order Summary	Order Date
12/01/2022	Joint Section 205 filing to FERC of an Amended Small Generator Interconnection Agreement among NYISO, National Grid, and Branscomb Solar for the Branscomb Solar Project (SA 2557).	ER23-541-000		
12/02/2022	Letter informing FERC that the NYISO has successfully filed its Form 3-Q on December 2, 2022.	AC23-9-000		
12/02/2022	Joint NYISO-Con Edison Section 205 filing to FERC of an executed Transmission Project Interconnection Agreement (TPIA) among NYISO, Con Edison, and Transco for Dover PAR substation under the New York Energy Solution Project (SA2734).	ER23-549-000		
12/02/2022	NYISO Finance submitted 2022/Q3 Form 3Q to FERC on December 2, 2022.	FERC Form 3Q		
12/05/2022	Joint NYISO-National Grid Section 205 filing to FERC of an executed Amended and Restated Small Generator Interconnection Agreement (SGIA) for the Grissom Solar project, among NYISO, National Grid, and Grissom Solar (SA No. 2573).	ER23-560-000		
12/08/2022	The NYISO joined the IRC's 12/8/22 doc-less motion to intervene and comments to FERC regarding NERC's petition for approval of proposed Reliability Standards EOP-011-3 and EOP-012-1.	RD23-1-000		
12/13/2022	NYISO filing to FERC on behalf of Niagara Mohawk a notice of cancellation of a Cost Reimbursement Agreement (CRA) with the Village of Solvay (SA No. 1810).	ER23-614-000		
12/14/2022	NYISO filing to FERC of reply comments on FERC's NOPR proposing reforms to address interconnection and queue backlogs.	RM22-14-000		
12/14/2022	The NYISO joined the IRC's filing to FERC of reply comments to FERC's notice of proposed rulemaking ("NOPR") on interconnection queue reforms.	RM22-14-000		
12/15/2022	NYISO annual confidential compliance filing with PSC re: informational report on Infrastructure master plan filing for new facilities	PSC Case No. 12-E-0168		
12/20/2022	NYISO three-year Informational Filing to FERC re: the Simultaneous Import Limitation Study (SILS)	AD10-2-000		
12/22/2023	NYISO-NYSEG joint Section 205 filing of an executed Amended & Restated Large Generator Interconnection Agreement (SA No. 2452) among the NYISO, NYSEG, and Eight Point Wind, LLC for the Eight Point Wind Energy Center.	ER23-705-000		
12/23/2022	The NYISO joined the IRC's motion to leave for answer and limited answer in response to reply comments from NERC and Competitive Generators regarding NERC's proposed Cold Weather Standards.	RD23-1-000		